The Global Study on Indigenous Peoples Climate Contributions

Guardians of the Climate

Indigenous Peoples' Leadership in Climate Action

October 2025

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COP 28 Climate High-Level Champion Foreword

Two years ago, at New York Climate Week, I announced that the High-Level Champions would launch a Global Data Study on Indigenous Peoples' Climate Contributions. As High-Level Champion for COP28 and IUCN President, I spoke to Indigenous Peoples from across the seven socio-cultural regions who were leading climate action, yet often struggled to access the resources to scale up resilience, and adaptation efforts. The Study aimed to give a snapshot of global Indigenous-led efforts, and opportunities for governments, philanthropies, and civil society to better support these efforts.

The ELATIA Consortium (Indigenous Peoples' Global Partnership on Climate Change, Forests and Sustainable Development) has led this project, bringing together a rich tapestry of data, case studies and stories. For example, the Study considers water governance systems used by the Pidlisan tribe in the Philippines - Lampisa. for water distribution. The Pidlisan have long enforced rules to protect forests and regulate water sharing among villagers. With climate change now altering rainfall timing, the Pidlisan have leveraged this governance system to enforce stricter watershed protections and to mediate conflicts when water runs low. Their example underscores that secure land tenure and community enforcement of resource rules can significantly enhance resilience and by keeping their forest intact, they ensure continuous spring flows even during regional droughts.

The case for direct access to finance for Indigenous Peoples is clear. As noted in the Study, the COP26 IPLC Forest Tenure Pledge has been recognised as a turning point on inclusion of Indigenous Peoples in international climate fora, but initial reporting showed that in the first year of reporting (2022), only 7% of total funding went directly to organisations led by IPs or LCs, while around 50% was channelled via international non-governmental organisations. There has been a growing movement by IPs & LCs to increase direct access to financing, followed by improvements in finance disbursement. Around $55 million—representing 10.6% of total Pledge funds—reached IPs & LCs directly in 2023, a significant increase. We expect that the pathways for direct access to finance will continue to strengthen and expand, thanks to the efforts and campaigning by Indigenous Peoples' organisations.

Yet, other resources can too often be scarce. There is growing evidence of the vital role played by full legal ownership of land by indigenous peoples and local communities in preserving cultural diversity and in combating poverty and hunger, political instability and climate change. In recent years, there have been some notable gains. New legal frameworks are being developed to advance and secure tenure rights. The Democratic Republic of the Congo passed a bill on the rights of Indigenous Peoples, and Colombia is in the process of implementing a decree for Indigenous Territorial Entities, which will span as much as 16 million hectares in the Eastern Amazon region. Indonesia is making important advances in its social forestry program, and customary communities are being given the right to manage their traditional forest territories. Yet, the study shows that there are still big opportunities to strengthen land rights across the world, allowing communities to protect the forests they have managed sustainably for generations and to achieve self-determination. As the Study makes clear, when rights are ignored, projects flounder. This is why land rights and resources need to go hand in hand.

Razan Khalifa Al Mubarak
Climate High-Level Champion for COP28

COP 29 and COP 30 Climate High Level Champions' Foreword:

The climate crisis is unfolding at a pace and scale that threatens the very foundations of our societies. Yet, in every region of the world, Indigenous Peoples are already taking climate action. Their contributions are central to addressing climate change by reducing emissions, conserving nature, and maintaining biodiversity. Indigenous Peoples, who are at the forefront of forest protection, manage nearly a quarter of the Earth's land and safeguard over 40% of its last remaining large, intact ecosystems. These territories are among the planet's most effective climate stabilisers, buffering communities from floods, droughts, and storms, while locking away billions of tonnes of carbon. Indigenous Peoples' insights and knowledge are critical, should not be overlooked and they should have the resources to continue to lead the way.

This Global Study on Indigenous Peoples' Climate Contributions makes clear that when Indigenous Peoples are present and active, forests remain standing, biodiversity thrives, and ecosystems continue to sustain life. For instance, in Australia, Indigenous-led fire management systems are reducing emissions and restoring balance to the land using satellites. In the Amazon, the Kayapó Fund, designed and managed by Indigenous Peoples, protects millions of hectares of rainforest, preventing deforestation-driven emissions while sustaining community livelihoods. Across the Pacific, cyclone early-warning systems that combine Indigenous knowledge with data insights are giving communities more time to prepare for climate shocks, saving lives and livelihoods.

Financial systems are fundamental to support these efforts. Indigenous-led funds have already shown they can deliver powerful ecological and social returns, but despite some recent increases , this study shows that direct access to funding for Indigenous Peoples is still too low. The research in this study brings together strong evidence that clearly shows how important it is the leadership of Indigenous Peoples, the need to resource them effectively, and in doing so, unlock solutions that protect our planet and our common future.

Dan Ioschpe
Climate High-Level Champion, COP30

Nigar Arpadarai
Climate High-Level Champion, COP29

Foreword by the Advisory Committee.

The Global Study on Indigenous Peoples' Contributions to Climate Change is a landmark effort that captures, for the first time, the scale and depth of Indigenous Peoples' actions, innovations, and knowledge in responding to the global climate crisis.

We are honored to have accompanied this process, one that has been grounded in Indigenous Peoples leadership from inception to completion. This study is not merely a research output; it is a collective reflection of Indigenous Peoples collective wisdom, resilience, and the unbroken relationship they practice with the natural world and the associated struggle to access climate finance.

Across continents and ecosystems, Indigenous Peoples are protecting forests, rangelands, wetlands, and oceans that sustain life on Earth. Through traditional ecological knowledge, community governance systems, and adaptive practices honed over centuries, Indigenous Peoples continue to contribute significantly to climate mitigation, adaptation, and biodiversity conservation. Their diverse knowledge systems, while ancient, remains profoundly relevant to today's most urgent environmental challenges.

Equally critical is the recognition that achieving global climate goals requires not only valuing Indigenous knowledge but also ensuring that Indigenous Peoples have direct access to climate finance. Despite stewarding more than 80 percent of the world's biodiversity, Indigenous Peoples receive less than one percent of international climate finance directly. This inequity limits their ability to scale up solutions that work. Encouragingly, Indigenous-led climate funds are demonstrating that when resources flow directly to Indigenous communities, the results are transformative: strengthened land rights, revitalized cultures, empowered women and youth, and measurable gains in climate resilience and biodiversity conservation.
This study documents more than 700 case studies from Indigenous Peoples territories worldwide—living evidence of the immense contributions Indigenous Peoples make in safeguarding the planet's future. It also reveals the challenges they face: land dispossession, marginalization, and the persistent exclusion of their voices from global policy processes. The findings call for a paradigm shift—one that recognizes Indigenous Peoples as rights-holders, knowledge producers, and indispensable partners in shaping equitable and effective climate action.

The Study calls for a decisive paradigm shift toward Indigenous-led and co-governed financing mechanisms that uphold Free, Prior and Informed Consent (FPIC), support tenure security, and adopt culturally grounded accountability systems. Through equitable and direct access to climate finance, Indigenous Peoples can continue not only to protect the planet's ecosystems but also to lead the transition toward a just, sustainable, and inclusive future for all.

We commend the Indigenous Livelihoods Enhancement Partners (ILEPA) for spearheading this effort, and the regional teams and organizations who contributed their time, expertise, and community trust to this global undertaking. Their dedication ensured that the study remained true to Indigenous <Peoples methodologies and principles of knowledge and data sovereignty.
As the world prepares for COP30 in Brazil, this report stands as both a celebration and a call to action. It invites governments, institutions, and movements to embrace Indigenous-led solutions and to center justice, equity, and human rights in all climate responses.

This study will not only inform policy and advocacy but also serve as a living repository of Indigenous Peoples knowledge and a testament to our collective capacity to heal and protect the Earth.
With solidarity,

Ms. Hindou Oumarou Ibrahim, Ms. Myrna Cunninghum and Ms. Victoria Tauli Corpuz
The Advisory Committee
Global Study on Indigenous Peoples' Contributions to Climate Change

Indigenous Peoples Knowledge and Data Statement

This Chronicle recognizes the inherent rights of Indigenous Peoples to maintain, control, protect, and develop their cultural heritage, traditional knowledge, and data. All case-study materials and any interpretations derived from them are owned and governed by the respective communities. We commit to the CARE Principles for Indigenous Peoples Data Governance[1] and, where applicable, the First Nations principles of OCAP®[2].

Authorship and Contributions

The Chronicle was produced through an Indigenous Peoples-led and regionally networked process coordinated under the Elatia Consortium, drawing on contributions from the seven socio-cultural regions recognized by the UNPFII. The regional chapters were prepared based on the leadership of Indigenous Peoples researchers with deep roots in their respective communities. Regional focal points convened participatory consultations and validation meetings to identify case studies and priorities that met the Chronicle's open-call criteria, ensuring that the analysis reflected Indigenous Peoples knowledge systems, governance structures, and locally defined climate priorities. This regionalized process provided the evidentiary base for the global synthesis and ensured that Indigenous Peoples voices and epistemologies remained at the centre of both data collection and interpretation.

The drafting and consolidation of the Chronicle were managed through a distributed authorship model combining regional coordination, thematic expertise and editorial synthesis.
The Secretariat coordinated inputs and compliance, while the Authors collected and reviewed case studies, prepared the Chronicle and integrated regional findings into the global narrative. The method and drafts were reviewed by an Indigenous Project Advisory Committee, supported by an External Expert Review Group of Indigenous Peoples rights and climate specialists. Collectively, this structure grounded the Chronicle in Indigenous Peoples methodologies and data sovereignty principles, while ensuring coherence, rigour, and accountability across all regional contributions.

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Roles: Writing; Analysis; Data curation; Review and Editing.

[1] https://www.gida-global.org/care

[2] https://fnigc.ca/ocap-training/

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Executive Summary

Introduction

Indigenous Peoples are indispensable leaders in climate action – they safeguard biodiversity, steward lands and waters, and drive mitigation and adaptation. With Indigenous Peoples managing ~25 % of global land[3], over a third of the irrecoverable carbon stocks[4], and ~40% of the last large, intact ecosystems[5] - areas that underpin carbon storage, water regulation and biodiversity – their stewardship functions as a planetary stabiliser.

Yet data gaps[6] and chronic underfunding still hide much of their work. This Chronicle brings together more than 700 Indigenous-led or Indigenous-partnered initiatives across the seven UN socio-cultural regions to make those contributions more visible. Our aim is to improve the quality and availability of evidence generated by Indigenous Peoples, elevate Indigenous leadership, and direct finance to effective, equitable, and scalable Indigenous Peoples-led climate solutions.

The COP28 High-Level Champion, Razan al Mubarak, launched a process to document Indigenous Peoples' leadership in climate action to strengthen the inclusion of Indigenous Peoples' data in international climate discourse and decision-making. Grounded in a rights- and responsibilities-based approach, the Chronicle examines Indigenous Peoples-led climate adaptation, mitigation, ambition, and finance across the globe, while also documenting loss and damage, and centring climate justice.

The Chronicle assembles one of the most comprehensive cross-regional datasets of Indigenous-led or Indigenous-partnered climate action to date. It references cases where Indigenous Peoples lead or are genuine partners, examines contributions across the full policy cycle, and tracks how approaches, governance models and outcomes are evolving.

A regional snapshot of climate impacts and responses; and key insights and recommendations to guide governments, funders, and partners are summarised below.

Further information about the Chronicle is available at *https://tebtebba.org/index.php/subpages/guardians-of-the-climate*

Impacts

Africa

Climate change is disrupting Indigenous Peoples livelihoods by intensifying droughts, eroding food and water security, spreading disease, and threatening cultural survival. At the same time, some climate mitigation measures – such as large-scale renewables, carbon offset/afforestation schemes, and "fortress conservation" – can increase the risk of dispossession when land tenure is insecure and FPIC is not upheld. Indigenous Peoples in Africa respond to climate pressures by weaving Indigenous Peoples' knowledge with science, securing land and resource rights, revitalising mobility for pastoralists, empowering women leaders, and co-managing ecosystems to foster both resilience and peace. Although recognition of Indigenous Peoples' knowledge has improved over the past decade, escalating climate extremes and mitigation-related land pressures make Indigenous Peoples' rights, funding, and a real seat at the table more urgent than ever.

Arctic

Rapid Arctic warming is making hunting, travel and food storage far less predictable for Indigenous Peoples. Consequently, climate impacts have intensified (e.g., village relocations, rampant wildfires, rapid permafrost thaw) over the past decade. In response, Arctic Indigenous Peoples have expanded both traditional and innovative adaptations while simultaneously asserting their rights against disruptive tourism, shipping, resource extraction, and poorly sited renewable-energy projects.

[3] Garnett, S.T. et al. "A spatial overview of the global importance of Indigenous lands for conservation." Nature Sustainability 1 (2018): 369–374.
[4] Noon, M.L. et al. Mapping the irrecoverable carbon in Earth's ecosystems. Nature Sustainability 5, 37–46 (2022). *https://doi.org/10.1038/s41893-021-00803-6*
5Fa, J.E. et al. "Importance of Indigenous Peoples' lands for the conservation of Intact Forest Landscapes." Frontiers in Ecology and the Environment 18 (2020): 135–140;

[6] Moggridge, B. et al. Include Indigenous Knowledge systems in climate reports.

Asia

From melting glaciers to erratic monsoons and rising seas, Indigenous Peoples in Asia struggle to secure food and water across a diversity of environments and cultures. Communities are mobilising Indigenous Peoples' knowledge and innovative practices to build resilience, yet large-scale dams, biofuel plantations, and exclusionary conservation schemes often dispossess them or ignore their expertise. Persistent land-tenure insecurity and top-down "green" projects continue to undermine equitable, rights-based climate responses inthe region.

Central and South America and the Caribbean

Indigenous Peoples across Central and South America and the Caribbean face accelerating climate threats – from Andean glacier loss and Amazonian drought-driven fires to intensifying hurricanes and coastal erosion – endangering water supplies, food security, and cultural heritage. Leveraging ancestral knowledge and new alliances, they are leading innovative, community-driven adaptations, while successfully defending land rights and embedding Indigenous Peoples' worldviews in national climate policies. New forms of adaptation include Indigenous-planned relocation, women- and youth-led resilience initiatives, and gender-responsive finance mechanisms. From Mexico's cenote guardians and mangrove restoration collectives to Colombia's biodiversity credits and Peru's recognition of climate's mental-health toll on Indigenous women, these initiatives expand the region's adaptive capacity. Regional networks, women-led initiatives, and landmark legal victories now place Indigenous Peoples at the forefront of climate resilience and mitigation, even as deforestation, extractive pressures, and funding gaps remain persistent challenges.

Eastern Europe, Russian Federation, Central Asia and Transcaucasia

Indigenous Peoples in the Eastern Europe, Russian Federation, Central Asia and Transcaucasia region are experiencing severe, place-specific climate impacts – glacier retreat in the Altai, intensified wildfires in southern Siberia, and erratic weather in the Carpathians – that undermine traditional hunting, pastoralism, and food sovereignty.

Rain-on-snow events, permafrost-linked landscape change, and wildfire regimes disrupting reindeer herding and river/forest livelihoods from Yamal to Yakutia. Indigenous Peoples are countering these threats by revitalising Indigenous Peoples' knowledge, renewed mobility/education models, partnering in participatory mapping and monitoring, and diversifying livelihoods, yet large-scale development projects, weak land-tenure recognition and limited respect for rights continue to heighten their vulnerability.

North America

Indigenous Peoples in North America are confronting rapidly intensifying climate impacts –from extreme heat, drought, wildfires, and storms to shrinking ice roads and eroding coasts –that undermine food sovereignty, water security, health, and infrastructure. At the same time, they are leading innovative, self-determined adaptation initiatives that braid Indigenous Peoples' knowledge with Western science, even as chronic barriers like inadequate funding, land loss, and colonial decision-making persist. Communities have moved from resisting harmful projects to spearheading renewable energy, restoration, and policy advocacy on national and global stages.

Pacific

Climate change impacts across the Pacific have rapidly intensified, bringing higher temperatures, sea-level rise, extreme weather, and ecosystem disruptions that threaten Indigenous Peoples' lands, livelihoods, and cultural heritage. In response, Indigenous Peoples in the Pacific are leading adaptive actions – from community-managed relocations and revived cultural burning to nature-based solutions and the formal integration of traditional knowledge into disaster planning and national climate strategies – while also advancing climate-justice litigation and global advocacy.

Key Insights and Actions

1. Indigenous stewardship is a planetary climate stabiliser

Insights

- Indigenous Peoples manage ~25 % of global land and ~40 % of the last large, intact ecosystems.
- The Chronicle identifies quantifiable emissions reductions in several case studies. For example, Australia's Indigenous fire management programs alone reduce emissions by over 1 million tonnes CO_2e annually, using satellite-based methods accepted under national carbon standards.
- Where Indigenous Peoples' tenure rights are recognised, forests remain standing, grasslands stay healthy, and wildfire rates plummet.
- These areas lock away billions of t CO_2e and buffer communities against floods, droughts, storms.

Strategic Actions

- Put Indigenous Peoples' land and water stewardship at the heart of Nationally Determined
- Contribution Strategies (NDCs) and Nature-based Solution (NbS) programmes
- Recognise Indigenous Peoples' customary ownership and governance over their
- identified ancestral territories and resources.
- Fast-track legal recognition and titling of Indigenous Peoples' territories, in line with the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).
- Scale Indigenous Peoples' conservation and/or resource management initiatives (including guardian and ranger programmes) as part of national mitigation and adaptation budgets.
- Require, at a minimum, Indigenous Peoples' co-governance and Free, Prior and Informed Consent (FPIC) for every land and water-based initiative.

2. Rights are the hinge between success and failure

Insights

- Case studies show dramatic drops in land and sea country degradation and deforestation once tenure is secure.
- Projects that bypass rights provoke conflict, stall, or collapse – costing time, carbon emission reductions, money and lives. For example, Indigenous Peoples impacted by oil-palm plantation expansion in Asia with secured tenure have been able to halt destructive deforestation practices and undertake successful restoration and carbon sequestration initiatives.

Strategic Actions

Enforce the "no rights – no deal – no data" principle

- Make rigorous land-tenure due-diligence mandatory for all public- and private-sector climate finance, grounded in protocols of free, prior, and informed consent (FPIC).
- Embed grievance, benefit-sharing and protector-security clauses into carbon, conservation and renewable-energy contracts.
- Tie multilateral funding disbursements to demonstrable progress on IndigenousPeoples' rights reform.

3. Indigenous Peoples' climate leadership is surging, but finance rarely reaches them

Insights

- Indigenous Peoples-led funds, though tiny, have already moved more than US$30m to over 2,000 projects with high ecological and social return on investment (ROI).

Strategic Actions

Prioritize money to Indigenous Peoples directly, for long-term and at scale

- Set a hard target: ≥ 25 % of climate finance to Indigenous Peoples-controlled channels by 2027, rising thereafter.
- Capitalise Indigenous Peoples-governed funds; let them set priorities.
- Streamline grant rules (oral applications, flexible overheads) and provide multi-year
- core support.
- Guarantee Indigenous Peoples seats on public-private finance decision-making arrangements.
- Public–private finance platforms should publish annual "direct Indigenous Peoples
- finance" scorecards to track progress and accountability.

4. Indigenous Peoples' Knowledge + Western Science = Innovation + Transformation

Insights

- Indigenous Peoples combine Indigenous Peoples' knowledge with other scientific methods to create more robust forecasting, adaptation and mitigation strategies. Indigenous Peoples-led knowledge co-production results in more accurate predictions, lower losses, and high community buy-in. For example:

  * Pacific cyclone early-warning systems integrate elders' environmental indication (bird calls, cloud formations) with satellite data to significantly improve forecasting lead times.

  * Sámi communities pioneered the use of internet-connected reindeer tracking systems, blending their Indigenous Peoples' knowledge with technology for real-time pasture monitoring to enhance their adaptive capacity. Evenki reindeer herders also integrate their Indigenous Peoples' knowledge with scientific mapping techniques, adapting migration and pasture management in response to climate-driven landscape changes

  * Maasai Indigenous Peoples' climate forecasting allows pastoralist communities to prepare effectively for droughts, adapt herd sizes and secure local livelihoods in increasingly variable climate conditions.
- Quantitative and qualitative integration in research allows for better understanding of global trends and local specificities.

Strategic Actions

- Fund Indigenous Peoples-led knowledge co-production as a core adaptation and mitigation activity
- Support Indigenous Peoples' data sovereignty platforms so communities own and govern climate-related data.
- Encourage research institutes and meteorological services to formally engage with Indigenous Peoples and indicators in their models.
- Ring-fence lines in climate budgets for Indigenous Peoples/Western science partnerships led by Indigenous Peoples and their knowledge holders.
- Dedicate consistent space in IPCC for insights on data related to Indigenous Peoples'
- knowledge in the context of climate change.

5. Indigenous Peoples women and youth are force multipliers for climate resilience

Insights

- Indigenous women's groups run successful seed banks, drought-resistant gardens, forest-care enterprises, usually on shoestring (< US$ 100 k) budgets. Indigenous women's networks lead disaster preparedness and community-based adaptation initiatives across the globe, significantly improving local climate resilience, safeguarding biodiversity, and enhancing food security at the grassroots level.
- Indigenous youth fuse tech (GPS, drones, solar) with tradition to build micro-grids, monitor ice routes, map fires and create other innovative solutions.
- Projects led by Indigenous women and youth consistently report stronger food security, faster innovation uptake, and higher cultural transmission.
- Strategic Actions
- Build gender- and youth-responsive climate finance, governance and programming
- Dedicate grant windows for Indigenous women-led and youth-led projects; set minimum spends in every major fund.
- Guarantee Indigenous women and youth seats on climate-decision bodies (national
- task forces, GCF boards, project steering committees).
- Fund leadership pipelines (scholarships, fellowships, peer-exchange networks) that combine climate science, finance skills and Indigenous Peoples' knowledge.

6. Self-determined solutions stick and scale better

Insights

- Indigenous Peoples-designed endowment funds deliver sustained financial resources explicitly for climate adaptation and ecosystem stewardship, safeguarding critical carbon sinks and biodiversity hotspots from climate threats (e.g., Thaidene Nëné Trust in Canada).
- Indigenous Peoples-led conservation protects large-scale ecosystems, significantly reducing deforestation-related emissions and enhancing carbon storage (e.g. Kayapo Fund in the Amazon).
- Indigenous Peoples-managed restoration initiatives rehabilitate ecosystems degraded by climate stress, increasing carbon sequestration and strengthening resilience through sustainable local economies (e.g. Xingu Seed Network in Brazil).
- Microgrant schemes offer rapid and flexible funding directly to Indigenous Peoples facing immediate climate impacts, effectively building grassroots resilience and enabling locally relevant climate responses (e.g. Ayni Fund).
- Indigenous Peoples-led funds have shown that adhering to UNDRIP, applying participatory mechanisms at each operational step, and employing differentiated modalities and size of grants promotes better response to climate change challenges.

Strategic Actions

Treat Indigenous Peoples as partners and lead implementers, not beneficiarie nor a social risk factor

- Establish co-design with Indigenous Peoples and their governance authorities as a mandatory criterion for all climate project approval.
- Invest directly in Indigenous Peoples institutional capacity (project and financial management, legal defence, negotiation and monitoring) as a core part of climate budgets – not peripheral "capacity-building" add-ons.
- Prioritise peer-to-peer learning grants to enable successful Indigenous Peoples'
- models to scale across regions.
- Allocate sufficient resources and time for meaningful and robust application of FPIC
- to reinforce Indigenous Peoples' self-determination and decision-making power.
- Invest direct finance in Indigenous Peoples-led funds to scale impact.

1. Methodology

The methodology aimed to ensure a thorough and respectful exploration of Indigenous Peoples' climate contributions, sharing their essential role in addressing global climate challenges.

1. Objective of the Project

This global chronicle of Indigenous Peoples' Leadership in Climate Action ('the Chronicle') aims to examine the experiences, understandings, and responses of Indigenous Peoples to climate variability and change.

The Chronicle emphasises a rights- and responsibilities-based approach, highlighting Indigenous Peoples as agents of change in climate action from local to global. It focuses on case studies from the seven UN socio-cultural regions of Indigenous Peoples, illustrating their contributions to climate ambition, mitigation, adaptation, and finance.

The Chronicle showcases Indigenous Peoples' knowledge systems as vital for climate actions while also documenting the impacts of loss and damage experienced by Indigenous Peoples, despite their low carbon footprints. It shows why climate justice matters – Indigenous Peoples' livelihoods depend on fair control over their lands.

2. Definition of Indigenous Peoples

For the purposes of this Chronicle, the definition of Indigenous Peoples that is used by UNDRIP, ILO 169 and most multilateral donors has been applied in a broad manner. Under these definitions, Indigenous Peoples are a distinct social and cultural group possessing the following characteristics in varying degrees: (a) Self-identification; (b) Collective attachment areas and natural resources; (c) Distinct cultural, economic, social, or political systems; and
(d) Distinct language.

3. Indigenous Peoples' knowledge

Indigenous Peoples' knowledge – also referred to as Traditional Knowledge or Traditional Ecological Knowledge – is a body of observations, oral and written knowledge, innovations, practices, and beliefs that promote reciprocity and the responsible stewardship of cultural and natural resources through relationships between humans and their landscapes. Indigenous Peoples' knowledge cannot be separated from the people inextricably connected to that knowledge. It applies to phenomena across biological, physical, socio-political, cultural, and spiritual systems. Indigenous Peoples have developed their knowledge systems over millennia and continue to do so based on evidence acquired through direct contact with the environment, long-term experiences, extensive observations, lessons, and skills.

4. Key principles Guiding the Chronicle

The Chronicle draws upon the principles developed for the For Our Future: Indigenous Resilience Report, which include the following:

1.Agency:

As rights- and title-holders, Indigenous Peoples play an integral role in research and climate policy decision-making. Indigenous Peoples have always held and continue to hold critical knowledge and expertise necessary for observing, understanding, assessing and responding to climate change. Indigenous Peoples are leaders in research, monitoring and developing comprehensive approaches to address climate change, despite experiencing disproportionate impacts.

2.Diversity:

The Chronicle recognises and celebrates the many languages, histories, governance, gender, cultures and worldviews of Indigenous Peoples.

3.Indigenous Peoples' knowledge and lived experience:

Indigenous Peoples recognise and honour the knowledge and lived experience of Indigenous Peoples, handed down over millennia, as equal to academic training. Indigenous Peoples seek every opportunity to elevate Indigenous Peoples expertise, wisdom and knowledge systems to a level equal to western science. This includes recognizing Indigenous Peoples' languages as carriers of Indigenous Peoples' knowledges, and every opportunity to honour, preserve, revitalise and promote Indigenous Peoples' languages. Indigenous Peoples' knowledge systems embrace diverse ways of learning and knowing—through observation, oral traditions, storytelling, ceremony, song, art, lived practice on the land, and intergenerational transmission. These approaches highlight that knowledge is not only intellectual but also embodied, experiential, and relational. Spirituality is inseparable from Indigenous Peoples' knowledge: teachings are deeply rooted in relationships with ancestors, the natural world, and the sacred. Spiritual worldviews guide responsibilities to care for land, waters, and all beings, and form the foundation of Indigenous Peoples' resilience and adaptation to change. Recognising these dimensions is essential to respecting the full integrity of Indigenous Peoples' knowledge systems and their contribution to addressing climate change.

4. Indigenous-led approaches:
Indigenous Peoples are active drivers, leaders and innovators in approaches to addressing climate change.

5.Legacy of colonization and dispossession:
Indigenous Peoples' responses to today's crises are still constrained by colonial legacies, land dispossession, assimilation policies, chronic underfunding, and other inequities. Indigenous Peoples acknowledge that bold action is crucial to address justice and equity issues for Indigenous Peoples. It is also vital to provide

the necessary tools and support to advance decolonization and decarbonization.

6. Rights-holders and Lands:

Indigenous Peoples have rights and responsibilities within the context of their own systems (e.g., Indigenous Peoples laws, legal orders, legal traditions, customs, etc.). There are also complex constellations of rights expressed in mainstream systems, including local, national and international laws. Indigenous Peoples acknowledge this plurality of laws to ensure that these systems are appropriately considered in all that they do.

7. Self-determination and governance:

While diverse, Indigenous Peoples governance systems are founded on long-standing, place-based relationships with their lands and waters, as well as with human and more-than-human relations. Indigenous Peoples honour these relationships and recognise the interconnectedness between Indigenous Peoples and their land and seas as one entity. Self-determination is the ability to freely determine their political status and pursue their economic, social and cultural development.

8. Urgency:

Indigenous Peoples see effects of climate change piling onto other daily emergencies they already face. Climate-related crises are wide-ranging, from failing physical infrastructure, such as clean drinking water and housing, to criminalisation of human rights defenders, ongoing colonisation, marginalisation and racism. The crises call for urgent and significant action, that plans for the long-term.

9. Intergenerational Stewardship:

Indigenous Peoples are the guardians of their ancestral lands and resources, with a profound responsibility to protect these for future generations.
This principle emphasises the importance of maintaining knowledge, practices, and cultural values that have been passed down through generations. It highlights a worldview where the actions of the present are directly linked to the well-being of future generations, fostering a deep relationship to the natural world and its cycles. This stewardship is not merely about preservation; it involves active, relational stewardship practices that honour the relationships between people, Land, and all living beings.

10. Gender Equity:

In many Indigenous Peoples cultures, gender roles and responsibilities are often fluid, and there is a strong recognition of the integral roles that both women and men play in community life and environmental stewardship. Gender equity is also essential to climate justice, as both genders contribute unique knowledge and perspectives. Emphasizing gender equity involves advocating for the rights and voices of Indigenous Peoples women, who often face multiple layers of oppression. Women's experiences are not uniform—they are shaped by the intersectionality of race, socio-economic status, and colonial histories that continue to structure access to resources, decision-making, and recognition. Empowering Indigenous Peoples women in decision- making processes related to land management and community governance can therefore lead to more holistic and effective stewardship practices, while also addressing structural inequities and recognising the vital contributions of all members of the community.

11.Collective Stewardship:

Collective stewardship underscores the importance of community and shared responsibility for the land and resources. Indigenous Peoples often manage their territories through communal practices that reflect deep interconnectedness with one another and the environment. This principle challenges individualistic approaches to land use and encourages collaboration among community members, fostering a sense of belonging and shared identity. Collective stewardship also highlights the need for Indigenous Peoples to assert their rights and governance structures in managing their resources, ensuring that decisions are made collectively and reflect the needs and aspirations of the entire community.

12.Connection between Biodiversity and Climate Change:

Indigenous Peoples possess a deep understanding of the intricate relationships between biodiversity and climate change, often rooted in Indigenous Peoples' knowledge. They recognise that the health of ecosystems is directly tied to the well-being of communities. Biodiversity loss can exacerbate climate change impacts, leading to food insecurity and loss of livelihoods, while Indigenous Peoples practices—such as sustainable agriculture, controlled burns, and conservation of sacred sites—can enhance resilience to climate change. Advocacy for the protection of biodiversity is crucial not only for environmental health but also for the cultural and spiritual well-being of Indigenous Peoples.

13.Indigenous Peoples Suffering and Pain and Solastalgia:

Indigenous Peoples suffering is often rooted in a history of colonization, dispossession, and ongoing marginalization. This pain is compounded by environmental degradation, loss of traditional lands, and cultural dislocation. It may also encompass mental and psychological anguish associated with climate-related loss and damage – such as persistent anxiety, hyper-vigilance, and grief triggered by hazards (for example, feeling anxious every time it rains for fear of another landslide like the one that previously took family members). The term solastalgia, coined by philosopher Glenn Albrecht[7], refers to the distress experienced when one's home environment is harmed or altered, leading to feelings of loss and disconnection. For many Indigenous Peoples, solastalgia encapsulates the grief associated with witnessing the degradation of sacred lands and traditional ways of life. Recognizing this suffering is essential for healing and reconciliation, as it underscores the need for restorative justice, cultural revitalization, and the reclamation of Indigenous Peoples rights and sovereignty. These principles reflect a holistic worldview that integrates social, cultural, and environmental dimensions. They emphasise the interconnectedness of all living beings and the need for sustainable practices rooted in respect, relationality, reciprocity, and responsibility.

5. Selection of Case Studies

For inclusion in the Chronicle, case studies were selected in accordance with the following criteria, based on criteria used for the 2010 *Advance Guard* report[8]. These include the following:

(a) Relevance to climate change

Case studies need to contain observations or responses that are identified by the Indigenous Peoples participating in the project

[7]Albrecht et al (2007). 'Solastalgia: The Distress Caused by Environmental Change'. Australasian Psychiatry 15 Suppl 1(1):S95-8.
[8] Galloway McLean, K. (2010). Advance guard: Climate change impacts, adaptation, mitigation and Indigenous Peoples—A compendium of case studies. United Nations University – Traditional Knowledge Initiative.

or process as deliberate responses to climate triggers.

For the purpose of the Chronicle, large scale (typically international) projects that include response to climate change as at least a secondary objective will be included; while for the more numerous small-scale projects, only those that included response to climate change as a primary objective will be included.

Nevertheless, in practice Indigenous Peoples initiatives that address or report on climate change are embedded within broader sectoral initiatives such as sustainable development, conservation of biodiversity, diversifying livelihoods, and disaster management planning. Therefore, many of the observations and interpretations given in the case studies reflect an interaction between climate change and other factors, rather than being the result of climate change in isolation.

(b) Indigenous Peoples-led and engaged

Case studies must demonstrate either full engagement by Indigenous Peoples (i.e. projects that were either implemented by an Indigenous Peoples organization or designed exclusively to benefit Indigenous Peoples) or strong involvement of Indigenous Peoples (i.e. distinct components or sub-projects benefiting and targeting Indigenous Peoples or carried out by an Indigenous Peoples organization).

(c) Lessons Learned' cases

A selection of projects that may be considered "failures" by Indigenous Peoples (for example, projects that were intended to involve full engagement but did not do so) were also sought to highlight lessons learned from such activities - the emphasis being on systemic learning, not attribution of blame.

The aim of the Chronicle is to be as comprehensive as possible and include as many case studies as is feasible with the resources available for this Chronicle. Where possible the case studies seek to contain a representative and illustrative survey of current effects and responses.
Case studies were initially drawn from the following publications:

Advance Guard:

Climate Change Impacts, Adaptation, Mitigation and Indigenous Peoples; For Our Future: Indigenous Resilience Report; Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation; Indigenous Knowledge for Climate, Change Assessment and Adaptation; Climate Change Mitigation with Local Communities and Indigenous Peoples: Practices, Lessons Learned and Prospects; Indigenous Carbon Case Studies; Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities; Traditional Knowledge and Climate Change: An environmental impact on landscape and communities; The Traditional Knowledge Advantage: Indigenous Peoples' Knowledge in Climate Change Adaptation and Mitigation Strategies; GCF projects database; IPBES reports; various awards databases; and UNFCCC and IPCC reports.

These case studies were supplemented with further examples provided by coordinators from the seven UN socio-cultural regions, and drawn from published and peer reviewed literature, grey literature, informational websites, multimedia, online works, art and personal stories.

An open call was placed for case studies to promote engagement and allow for the greatest possible coverage (see: https://research.ilepa-kenya.org/wp/). To mitigate potential self-selection bias toward well-resourced communities, the regional coordinators organised workshops and other crowdsourcing opportunities to invite additional submissions from under-represented regions and thematic gaps. Where practical, case studies are checked and supplemented by direct communication with the relevant communities and organisations.

7. Format of the Case Studies

Each case study includes information about the primary country or region in which the activity is implemented, a few key words, a one- or two-paragraph summary of the initiative and its outcomes, and reference details for further information focusing on either the impacts of climate change on Indigenous Peoples, or activities being taken by them to address the effects of climate change.

This Chronicle incorporates material from different disciplines and covers a diversity of approaches to data collection and project reporting drawn from the literature. Because of the wide variety of sources, the studies include a mixture of published and peer reviewed literature, grey literature, informational websites and videos. The nature of data, indicators and analyses used range from population ecology, vegetation analysis, climate modeling, and economic analyses, to interviews, inventories and cultural domain analysis. It therefore includes both quantitative and qualitative reporting. The projects from which the case studies are drawn have, in most cases, produced a separate report or reports elsewhere, which contain more thorough discussions of methods, approaches, and results. References are provided to allow a more detailed examination of each of these activities than is possible in this overarching review.

A selection of earlier (pre-2010) case studies was deliberately retained in the collection so that the analysis could offer a longitudinal lens on Indigenous-led climate action. Cross-case meta-analysis draws on both the full dataset and the post-2015 subset to confirm robustness over time. Key findings have been stress-tested by re-running cross-case statistics using only post-2015 cases. Comparing earlier initiatives with contemporary activities lets us track how strategies, technologies, governance models, and funding landscapes have evolved, and to see which approaches endured, adapted, or fell away. This retrospective baseline assists in identifying long-term success factors, spotting recurring obstacles, and highlighting shifts in community priorities and/or external drivers.

8. Evidence and Indigenous Peoples methodologies

The Chronicle and the case studies draw on published and peer-reviewed literature, interviews with Elders, public project documents, videos, multimedia, online works, art and personal stories. It is broadly situated within an Indigenous Peoples research paradigm to empower Indigenous Peoples' research that is culturally relevant and accountable. Indigenous Peoples methods of gathering knowledge were selected and adapted by regional coordinators and community partners. Consistent with this research paradigm, listening, story, and collective reflection and validation through regional workshops were used to surface cases and insights that were not previously published or documented. In doing so, the Chronicle adopts a decolonial methodology that

[8] Galloway McLean, K. (2010). Advance guard: Climate change impacts, adaptation, mitigation and Indigenous Peoples—A compendium of case studies. United Nations University – Traditional Knowledge Initiative.

actively provides space for Indigenous Peoples and voices. This research paradigm informs the Chronicle's understanding of "evidence." To support transparency and cross-paradigm dialogue, we supply direct links to the original materials, enabling readers who rely on conventional Western evidence hierarchies to locate, verify, and engage with the same sources.

The relationship between evidence and Indigenous Peoples methodologies highlights the importance of recognizing and valuing diverse ways of knowing. While traditional Western approaches emphasise empirical data and reproducibility, Indigenous Peoples methodologies offer holistic, community-centred, and contextually relevant perspectives. Acknowledging this diversity can lead to more inclusive and effective practices in research, policy-making, and environmental stewardship, ultimately benefiting both Indigenous Peoples and broader society. This analytic stance aligns with the Two-Eyed Seeing (Etuaptmumk) approach: to "see from one eye with the strengths of Indigenous Peoples knowledge and ways of knowing and from the other eye with the strengths of Western knowledge and ways of knowing[9]", and similar bridging frameworks that position Indigenous Peoples as an equal, leading partner in knowledge co-production.

A significant share of Indigenous-led climate knowledge lives in so-called "grey literature" – community project reports, workshop slide decks, grant evaluations, and temporary websites that seldom make it into peer-reviewed journals. These materials are often hosted on short-lived URLs, hidden behind expired funding pages, or circulated only within regional networks, meaning they can vanish from the public domain just as the lessons they contain become most relevant. The Chronicle also attempts to catalogue and archive these transient sources here, to safeguard hard-won Indigenous Peoples insights that might otherwise be lost; honour the communities who produced them; and ensure future researchers can trace the full arc of practice, not just the subset that survives in academic repositories. Each grey-literature entry was appraised using a four-point rapid quality-assessment checklist (authorship, date, methodological transparency, triangulation). Entries scoring below 2/4 were retained only if corroborated by primary testimony.

The final dataset comprises n = 730 cases, distributed across regions as shown below. Each region met a minimum of at least 30 cases, with a balance across adaptation, mitigation and finance themes to allow for a robust analysis.

- Africa: 121
- Arctic: 91
- Asia: 116
- Eastern Europe, Caucasus, Central Asia: 39
- Central and South America and the Caribbean: 128
- North America: 83
- Pacific: 111
- Global: 41

9. Regional studies

The seven regional studies formed the empirical backbone of the Chronicle. Each regional process—covering Africa, Asia-Pacific, Arctic, North America, Latin America and the Caribbean, Central and Eastern Europe, and the Russian Federation/Central Asia/Transcaucasia—generated place-based evidence of Indigenous leadership in mitigation, adaptation, and climate finance. Through consultations, validation meetings, and field inputs, the regional reports identified case studies that met the global study's open-call criteria: Indigenous-led or strongly Indigenous-partnered initiatives that demonstrate climate ambition, action, and innovation across ecological, cultural, and governance contexts. The regional teams applied Indigenous Peoples methodologies such as storytelling, collective reflection, and community-based monitoring to ensure authenticity and to highlight Indigenous Peoples knowledge systems as valid and rigorous sources of climate evidence

Synthesizing these diverse regional perspectives enabled the global analysis to identify cross- cutting patterns and lessons. Common threads include the centrality of rights-based approaches, secure tenure, gender and youth leadership, and the use of Indigenous knowledge alongside Western science. At the same time, the regional studies revealed distinct challenges—such as language barriers, risks of knowledge appropriation, uneven access to climate finance, and region-specific exposure to climate hazards. Together, they provided the comparative depth needed for the Chronicle's evidence base, linking hundreds of localized initiatives to global policy debates and confirming that Indigenous Peoples' actions are not isolated projects but a coherent and globally significant climate strategy grounded in stewardship, equity, and self-determination.

10. Data Governance

Any content designated as sacred or restricted is excluded from the Chronicle. The Chronicle adheres to the CARE Principles for Indigenous Data Governance[10], the OCAP standards of the First Nations Information Governance Centre[11], and the AIATSIS Code of Ethics for Aboriginal and Torres Strait Islander Research[12]. Regional Indigenous Peoples advisors (one representative per UN socio-cultural region) and an Indigenous Peoples advisory panel were appointed to oversee data handling, publication clearance, and dispute resolution.

The case-study database will be deposited in an Indigenous-governed local hub.

10. Limitations

The Chronicle acknowledges several limitations relating to

(i) resource-driven sampling bias,
(ii) uneven quality and availability of archival grey literature, and
(iii) language accessibility. Mitigation measures included the participation of experts from each of the UN regions and regional crowdsourcing updates.

[9] Greggain, Joshua (June 2023). "Etuaptmumk: Two-Eyed Seeing". British Columbia Medical Journal. 65 (5): 155.
[10] https://www.gida-global.org/care
[11] https://fnigc.ca/ocap-training/
[12] https://aiatsis.gov.au/research/ethical-research/code-ethics

Africa

Climate change is disrupting Indigenous Peoples livelihoods by intensifying droughts, eroding food and water security, spreading disease, and threatening cultural survival. At the same time, some climate mitigation measures – such as large-scale renewables, carbon offset/afforestation schemes, and "fortress conservation" – can increase the risk of dispossession when land tenure is insecure and FPIC is not upheld. Indigenous Peoples in Africa respond to climate pressures by weaving Indigenous Peoples' knowledge with science, securing land and resource rights, revitalising mobility for pastoralists, empowering women leaders, and co-managing ecosystems to foster both resilience and peace. Although recognition of Indigenous Peoples' knowledge has improved over the past decade, escalating climate extremes and mitigation-related land pressures make Indigenous Peoples' rights, funding, and a real seat at the table more urgent than ever.

Across Africa, climate change impacts on Indigenous Peoples are severe, multifaceted cumulative. Traditional livelihoods tied to natural cycles are under strain as weather patterns become more extreme and unpredictable. Prolonged droughts in arid regions have led to water scarcity, pasture loss, and resource conflicts – for example, pastoralists like the Turkana in northwest Kenya report more frequent, longer droughts that heighten competition over shrinking water sources {AF68}. In the Sahel, intensified drying has forced nomadic peoples such as the Tuareg in Mali to abandon their traditional migrations and settle, as recurring droughts undermine their nomadic way of life {AF95}.

A watershed-scale effort in Abreha We Atsbeha, Ethiopia restored 6,000 ha of degraded highlands and tripled crop output through exclosures, terraces and small wells {AF46}, a model now spreading across the Tigray drylands. These environmental disruptions directly threaten food security across Africa. Indigenous Peoples farmers observe that previously reliable rainy seasons and planting times no longer align with known indicators – for instance, communities in Kenya note that customary signs in animal behaviour and plant phenology can no longer predict rainfall as they once did {AF60}.

Across West Africa, farming peoples such as the Dagomba of northern Ghana have documented changing rainfall patterns and land degradation that reduce crop yields and exacerbate hunger {AF51}. The decline of wild resources and biodiversity also diminishes hunting, herding, and gathering opportunities, causing loss of traditional foods and medicinal plants. Moreover, climate change is contributing to new health challenges; diseases like malaria are appearing in areas that were previously too cool or dry, increasing health risks for communities already coping with other stresses {AF58}. All these challenges – from food and water insecurity to displacement and disease – are eroding Indigenous Peoples' livelihoods and threatening cultural survival, intertwining climate impacts with human rights issues such as the rights to food, water, health, land, and self-determination.

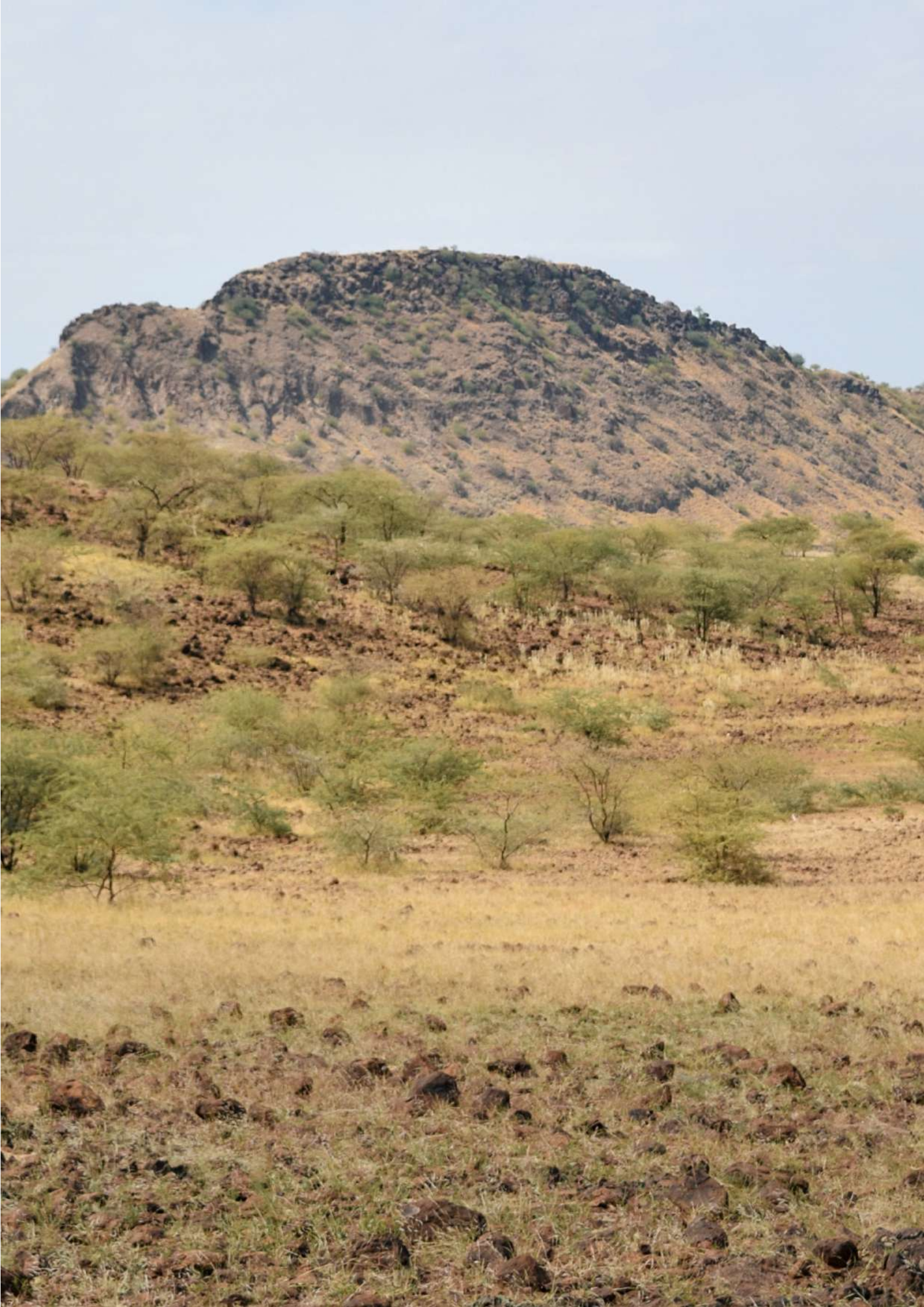
In response, Indigenous Peoples across Africa are drawing on their knowledge and resilience to adapt, supported by emerging policies that recognise human rights, Indigenous Peoples' rights, and Indigenous Peoples expertise as central to climate solutions. Many national and local initiatives now emphasise a rights-based approach to climate adaptation and mitigation involving Indigenous Peoples. This includes securing land and resource rights as a foundation for resilience. For example, a coastal fishing clan in South Africa recently won a legal victory to protect their sacred coastal waters from external exploitation, affirming their rights and enabling them to steward those resources under changing climate conditions {AF100}.

A key strategy in the region is engaging Indigenous Peoples' knowledge ethically with scientific methods. Communities are actively preserving and applying Indigenous Peoples' knowledge – often weaving it with modern science – to cope with climate variability. Pastoralists, for instance, combine time-tested weather forecasting techniques (such as reading animal behaviour, plant cues, and celestial observations) with meteorological data to better anticipate and plan for droughts {AF60}. In Ethiopia's Afar region, herders have worked with scientists to merge Indigenous Peoples climate forecasts with satellite information, improving the accuracy of predictions and preparedness for extreme events {AF37}.

Maintaining mobility for pastoral groups is another crucial adaptation strategy. Given that many African Indigenous Peoples are pastoralists who historically move across vast landscapes following seasonal cycles, there are efforts to restore and protect migratory routes and grazing areas. In Niger, for example, pastoral communities have revitalised traditional land management practices – like improved tassa rainwater harvesting pits and fallow rotations – to rehabilitate degraded drylands and support continued seasonal grazing, thereby enhancing their ability to cope with erratic rainfall {AF89}. Likewise, the Maasai of East Africa illustrate the importance of mobility through their customary rotational grazing system that optimally use diverse micro-climates; this practice is now being recognised and supported as a sustainable way to manage rangelands under climate stress {AF35}.

Indigenous Peoples women are increasingly at the forefront of adaptation efforts, leading community-based initiatives that strengthen livelihoods and social cohesion. Across the continent, empowering Indigenous Peoples women has proven vital for building resilience – women often possess detailed knowledge of agriculture, water, and medicinal resources, and they are innovating within their communities to address climate challenges. For instance, in South Africa's KwaZulu-Natal, women in the village of Mcitsheni organised cooperative vegetable gardens and rainwater storage projects that have reduced food insecurity despite irregular rains {AF103}. In the Sahel region, pastoral women from Cameroon's Mbororo community have taken on leadership roles in managing cattle and household incomes, diversifying into drought-tolerant crops and new enterprises to buffer their families against climate shocks {AF20}. These gender-informed adaptations not only improve resource management but also elevate the status and decision-making power of Indigenous Peoples women.

Finally, African Indigenous Peoples are implementing strategies to encourage peaceful coexistence and flexible land use in the face of scarcer resources. Rather than seeing conservation and development as competing with Indigenous Peoples land use, many initiatives seek a balance that benefits both people and ecosystems. In Kenya, for example, the introduction of sand dams in drought-prone areas has brought formerly rival pastoralist groups together: tribes like the Turkana and Samburu worked side by side to build water- storage sand dams, an effort that not only provided a reliable water supply but also fostered inter-community cooperation and peacebuilding over shared resources {AF68}.



Similarly, community conservancies in parts of southern Africa enable Indigenous Peoples to manage wildlife and grazing lands jointly – San peoples in Namibia, for instance, co-manage conservancies that support both biodiversity and traditional livelihoods, blending wildlife conservation with sustainable hunting, gathering, and herding practices {AF88}. These diverse strategies – securing rights, leveraging Indigenous Peoples' knowledge, enabling mobility, empowering women, and co-managing resources – demonstrate a robust, culturally grounded response to climate change across Africa's Indigenous Peoples.

Changes since 2010:

Climate change impacts have accelerated in many parts of Africa over the past decade, confirming trends anticipated in the 2010 regional analysis. Indigenous Peoples report that conditions once considered extreme are becoming the new normal. In East Africa and the Sahel, droughts have grown even more frequent and intense than they were a decade ago, and when rains do come they are often unpredictable and torrential, contributing to flash floods and severe soil erosion {AF38}{AF51}. Farmers in regions like southeastern Zimbabwe and northern Ghana have observed further shifts in climate patterns, noting shorter rainy seasons, longer dry spells, and new pest infestations – trends which complicate farming and necessitate continual adaptation {AF113}{AF51}.

Compared to 2010, there is greater acknowledgment of Indigenous Peoples' adaptation knowledge in national policies and global forums on adaptation, and more projects now actively involve Indigenous Peoples leadership. However, many of the fundamental challenges remain: African Indigenous Peoples still face acute resource insecurity, and their coping capacity is continually tested by the worsening climate stresses. The need to strengthen land rights, improve access to adaptation funding, and ensure inclusion in decision-making – issues highlighted in 2010 – is even more urgent today as climate pressures mount.

Arctic

Rapid Arctic warming is making hunting, travel and food storage far less predictable for Indigenous Peoples. Consequently, climate impacts have intensified (e.g., village relocations, rampant wildfires, rapid permafrost thaw) over the past decade. In response, Arctic Indigenous Peoples have expanded both traditional and innovative adaptations while simultaneously asserting their rights against disruptive tourism, shipping, resource extraction, and poorly sited renewable-energy projects.

Climate change is accelerating in the Arctic, warming about three to four times faster than the global average. This rapid environmental shift has severely impacted Indigenous Peoples, threatening fundamental practices like hunting, herding, fishing, and traditional food storage. Wildlife migrations are changing, and weather has become far less predictable, undermining food security and cultural resilience. For example, unseasonable rain-on-snow events have encased pastures in ice, causing reindeer to starve and disrupting the Sámi reindeer herding cycle in northern Sweden {AR80}. In coastal Alaska, earlier spring sea-ice break-up now ends the seal hunting season several weeks sooner for Iñupiat hunters {AR18}. These disruptions jeopardise the availability of country foods and even the transmission of intergenerational knowledge – with fewer opportunities for youth to learn subsistence skills from Elders on the land. Arctic Indigenous Peoples also report new safety hazards: thinning sea ice and unpredictable weather make travel treacherous, and the loss of ice cellars to thawing permafrost has spoiled stored foods, prompting Nunavut in parts of Canada to consider community freezers as an alternative {AR31}. Such changes pose not only practical challenges for day-to-day living, but also deep emotional and spiritual strains as the familiar environment transforms dramatically.

In response, Indigenous Peoples are pursuing diverse adaptation strategies to safeguard their livelihoods and maintain their cultural traditions. In Alaska and Canada's North, hunters are adjusting the timing of hunting and travel to accommodate later freeze-ups and increasingly erratic seasons. Some communities are reviving old practices like cache-sharing and communal hunts to ensure everyone has food even when individual harvests falter. Others are innovating new solutions: in Nunavut, local teams pilot high-tech sea-ice monitoring networks that blend Indigenous Peoples ice knowledge with sensors (as in the SmartICE program, now spread across dozens of Inuit communities) to identify safe routes and dangerous ice conditions in real time {AR38}. In Greenland, Inuit communities have led participatory mapping initiatives like the Sikusilarmiut Place-Name Project, documenting traditional place names and travel routes on sea ice to strengthen community-based navigation under increasingly unpredictable conditions {AR40}. Inuit are also reshaping research governance - 'Research by Inuit for Inuit' sets standards for Inuit-determined priorities, methods and data stewardship, strengthening adaptation planning and ethics across Nunangat {AR28}.

Meanwhile, economic changes such as the growth in Arctic tourism, shipping, and resource extraction are a double-edged sword. They have brought new income opportunities to certain areas, but often at the cost of environmental disturbance and reduced access to hunting and herding territories. Indigenous Peoples leaders stress the need to manage these activities carefully – for example, by establishing Indigenous-controlled protected areas and shipping guidelines – so that development does not trample on their rights or the fragile Arctic ecosystems. Communities on the front lines of climate change, like Shishmaref in Alaska, have even been forced to plan full village relocations due to coastal erosion and collapsing permafrost – a painstaking process hindered by funding gaps and policy delays {AR88}.

These realities underscore the urgent need for more robust adaptation support, infrastructure suited to thawing ground, and disaster planning tailored to remote Arctic villages. Inuit-led fisheries co-management initiatives in Pangnirtung, Nunavut, have demonstrated that meaningful Inuit participation enhances adaptation to rapid ecological changes in marine environments, benefiting local livelihoods and resource management {AR35}.

Renewable energy projects remain contentious in the Arctic when Indigenous Peoples rights are not respected. Sámi communities in Norway have increasingly mobilised against wind energy projects, such as the Fosen Wind Farm, which infringed on their traditional reindeer grazing lands. The Norwegian Supreme Court's landmark ruling affirming Sámi rights underscored the importance of securing Indigenous Peoples consent and ensuring equitable benefit-sharing in the green transition {AR60}, although the farm continued to operate despite the ruling. This case highlights the ongoing tension between urgent climate mitigation efforts and the rights of Indigenous Peoples whose lands are often central to such developments.

Changes since 2010:

Climate-related impacts in the Arctic have unquestionably intensified since the 2010 regional overview. A decade ago, Indigenous Peoples observers were already noting less stable sea ice and unusual seasons; now those trends have become extreme, with unprecedented wildfires sweeping boreal forests and rapid permafrost degradation threatening homes and water supplies. Where the 2010 summary highlighted emerging concerns (like coastal erosion forcing one Alaskan village to consider relocation), today multiple Arctic communities have had to begin relocating, and vital species such as caribou and polar bears face even greater stresses from habitat loss and shifting ice. At the same time, Indigenous Peoples have taken on greater leadership in climate response. Community-driven adaptation projects – from successful relocations of at-risk settlements to the co-production of climate knowledge with scientists – are becoming more common. Indigenous Peoples' knowledge is increasingly being integrated into research and policy; for example, Inuit and Sámi representatives now advise on Arctic climate assessments, ensuring their expertise guides regional planning. Arctic Indigenous Peoples voices are also more prominent in global fora, advocating for climate justice and for the protection of their lands from unconsented development. These developments mark a significant shift toward stronger Indigenous Peoples self-determination in climate adaptation and governance. Compared to the 2010

Arctic summary, which warned of future warming and ice loss, the current reality is one of accelerated change and urgent adaptation, confirming the worst projections yet also showcasing the resilience and agency of Arctic Indigenous Peoples in the face of these challenges.

Asia

From melting glaciers to erratic monsoons and rising seas, Indigenous Peoples in Asia struggle to secure food and water across a diversity of environments and cultures. Communities are mobilising Indigenous Peoples' knowledge and innovative practices to build resilience, yet large-scale dams, biofuel plantations, and exclusionary conservation schemes often dispossess them or ignore their expertise. Persistent land-tenure insecurity and top-down "green" projects continue to undermine equitable, rights-based climate responses in the region.

Asia is home to an estimated 260 million Indigenous Peoples – roughly three-quarters of the world's Indigenous Peoples population – encompassing a vast diversity of cultures and environments. From the high Himalayas to the Pacific Islands, Indigenous Peoples across Asia are observing dramatic shifts in climate. Rising temperatures are altering monsoon cycles and melting glaciers, while changing rainfall patterns bring both intense floods and prolonged droughts. At the same time, sea levels around Asia are rising faster than the global average, causing coastal erosion and saltwater intrusion into low-lying lands. These climate stressors compound the vulnerabilities of Indigenous Peoples, who often depend directly on local ecosystems for water, food, and livelihood security. The last decade has seen a sharp uptick in climate-related disasters across the continent, causing widespread loss and damage, with Asia among the hardest-hit regions and Indigenous Peoples facing heightened food and water insecurity. This overall context underscores the urgency of addressing climate impacts in partnership with Indigenous Peoples' knowledge and leadership.

Unpredictable weather is disrupting livelihoods across Asia. In rain-fed farming and pastoral regions, irregular rainfall and extended dry spells have led to crop failures, livestock stress, and dwindling water sources. Severe multi-year droughts in parts of South Asia and Central Asia have strained pastoral communities, drying up pastures and forcing difficult herd management decisions. Meanwhile, glacial retreat and erratic precipitation in mountainous areas have contributed to more frequent landslides and flash floods. In Nepal's Mustang region of the Himalayas, intense rainfall events have triggered landslides that isolate remote Indigenous Peoples settlements and destroy fields and roads {AS74}.

Likewise, unprecedented flood events have hit Indigenous Peoples in the Chittagong Hill Tracts of Bangladesh – for example, in 2006 torrential rains caused floods lasting over two weeks, devastating crops and homes of the Chakma and other groups {AS11}. Along Asia's extensive coastlines, Indigenous Peoples in local coastal communities are contending with stronger storms and shifting seasonal patterns. On Maheshkhali Island in Bangladesh, for instance, cyclones pose a constant danger and have become less predictable; storm surges and erratic monsoons now frequently damage crops, fisheries, and freshwater supplies {AS6}. In low-lying areas like the Sundarbans delta of India and Bangladesh, sea-level rise and more intense cyclones are salinizing soils and mangrove forests, undermining fishing and farming livelihoods {AS43}.

Across forested landscapes, communities report changes in plant and animal life – from shifts in the flowering and fruiting times of wild foods to the emergence of new pests affecting staple crops. In northern Indonesia, farmers in Lombok have had to battle unfamiliar insect infestations in their rice and corn fields, which local experts link to changing temperature and rainfall patterns {AS57}. Collectively, these impacts are eroding food security and cultural traditions. Many Indigenous Peoples are experiencing the loss of wild foods, medicinal plants, and other biodiversity that their communities have relied on for generations. The spiritual and cultural practices tied to seasonal events – such as the timing of migratory bird arrivals or the blooming of particular flowers that signal festival seasons – are also at risk as climate change alters these natural cycles.

Confronted with these challenges, Indigenous Peoples in Asia are drawing on their deep reservoirs of Indigenous Peoples' knowledge and adaptive practices to build resilience. Across the region, communities have long observed subtle natural indicators to forecast weather and climate events, and this knowledge remains a vital early warning system. For example, elders of Maheshkhali Island in Bangladesh recall how they predict approaching cyclones by reading environmental signs – shifts in wind direction and ocean temperature, the colour and shape of clouds, the appearance of halos or rainbows, and even the unusual behaviour of birds fleeing inland {AS6}. Such Indigenous Peoples early warning methods have proven life-saving, especially in areas where official meteorological alerts may not reach or be trusted by local people. In the western Himalayas, communities similarly rely on traditional forecasting; farmers note cues like the timing of flowering in alpine plants and the calls of certain birds to anticipate monsoon rains or winter snow {AS24}{AS30}. These time-tested observations help them decide when to sow seeds or move livestock to higher pastures. Modern climate science is now affirming the value of this knowledge – the IPCC's latest reports highlight that integrating Indigenous Peoples' knowledge with scientific data can improve adaptation strategies.

Indigenous Peoples are also innovating within their agricultural and resource management systems to cope with climatic changes. Many are reviving or reinforcing traditional diversified farming practices that are more climate resilient. For instance, in India, Adivasi farmers in the dryland areas of Telangana have returned to cultivating a diversity of hardy native millet varieties after years of relying on water-intensive cash crops. The revival of millet biodiversity in Telangana's Medak district has improved drought tolerance and food security, as these native grains thrive despite erratic rainfall and poor soils {AS26}. In the uplands of Southeast Asia, some communities practice rotational agroforestry and mixed cropping (often in swidden fields) to maintain soil moisture and protect against both drought and pest outbreaks. In the highlands of Thailand, Indigenous Peoples villagers have revived the practice of maintaining communal water buffalo herds as a form of "insurance" for rice farming – the buffalo are integral to traditional paddy cultivation and can assist in field recovery after floods {AS101}.

Across South and Southeast Asia, coastal Indigenous Peoples are restoring ecosystems to buffer climate impacts: along the Bay of Bengal coast, groups like the Munda and Malayali are actively replanting mangroves to protect against storm surges and erosion {AS43}. Water management is another area of adaptive innovation. In the Trans-Himalayan Ladakh region of India, communities have pioneered the creation of "ice stupas" – artificial conical glaciers built by channelling winter meltwater into ice mounds that slowly release water in spring for irrigation {AS35}. This ingenious technique, inspired by traditional water harvesting practices and combined with engineering know-how, addresses seasonal water shortages caused by glacial retreat. Similarly, farmers in the Himalayas continue to maintain centuries-old terraced rice paddies, through intricate Indigenous Peoples irrigation terraces and canals that not only conserve water but also prevent slope erosion during heavy rains {AS25}. In the Cordillera region of the Philippines, communal water allocation practices (lampisa) ensure crops are protected from increasing droughts {AS85}.

In China's Ailao Mountains, Hani communities use rice-terrace agrobiodiversity- multi-variety landraces, forest-terrace-village water governance, and ritual calendars-as a living adaptation system to buffer erratic rainfall and pests {AS110}. In Northern Thailand, Lahu agroforestry blends traditional swidden mosaics with perennial tree crops to stabilize soils and diversify climate-resilient incomes {AS99}. In arid West Asia, Indigenous Peoples have rehabilitated ancient underground water tunnels (qanats) and cistern systems to adapt to worsening droughts {AS63}. These diverse community-driven adaptations – from sustainable agriculture and agroforestry to innovative water storage – have reduced risks and bolstered livelihoods in the face of climate stress.

While Indigenous Peoples strive to adapt, they also confront external pressures exacerbated by climate change responses and unsustainable development. In many Asian countries, large-scale climate mitigation or resource exploitation projects have encroached on Indigenous Peoples lands, often without Indigenous Peoples' consent, leading to dispossession. A prominent example is the aggressive expansion of oil palm plantations in Southeast Asia as a source of biofuel and economic development. In parts of Malaysia and Indonesia, corporate oil palm projects have cleared vast swaths of forest, evicting Indigenous Peoples and their communities or severely restricting their access to customary lands and resources {AS3}.

The Indigenous Peoples in Borneo and Sumatra have protested the loss of forests that are not only their livelihood base (for hunting, gathering, and smallholder farming) but also critical for regional carbon sequestration. Similarly, ambitious hydropower development plans threaten Indigenous Peoples territories in the Mekong and Salween River basins. Along the Salween River – one of Asia's last free-flowing great rivers – proposed mega-dams in Myanmar (backed by foreign investors) endanger the homes and subsistence of Karen, Shan, and other Indigenous Peoples who depend on the river's natural flow and fisheries. These communities have voiced concerns that altering the river will submerge sacred sites and fertile valleys, and disrupt the seasonal flood cycles that sustain their agriculture {AS4}. In Northeast India as well, Indigenous Peoples such as the Lepcha in Sikkim have opposed dozens of hydropower dam projects, fearing the destruction of their riverine ecosystems and cultural heritage amid worsening climate instability. One-Health dialogues convened with Indigenous Peoples knowledge holders in Lao PDR demonstrate that everyday environmental heritage - customary water, food and forest practices - is pivotal for climate-linked health resilience {AS111}.

Beyond these direct land takeovers, some well-intentioned climate initiatives have inadvertently marginalised Indigenous Peoples practices. In China's Yunnan province, the establishment of a major protected area (the Three Parallel Rivers World Heritage Site, aimed at conserving an ecologically critical watershed) imposed new restrictions on the traditional resource use of local Indigenous Peoples, without full consultation. Policies a decade ago banned customary practices like controlled burning and required grazing lands to be fenced, in an effort to regenerate forests. However, excluding Indigenous Peoples land management knowledge backfired: with the end of traditional burning, alpine shrubs expanded and degraded the grasslands – an unintended outcome now worsened by climate-driven changes {AS17}. Conversely, co-designed policy processes in Thailand—piloting inclusive forest and land-use rules with Indigenous Peoples participation—illustrate workable routes to rights-respecting conservation {AS112}. This illustrates how top-down measures which ignore Indigenous Peoples expertise undermine both cultural and environmental resilience.

Changes since 2010: In 2010, analyses of climate change and Indigenous Peoples in Asia were only beginning to document the severity of emerging impacts and the richness of community responses. Since then, the situation has grown more urgent, but also more visible. Climate impacts that were once projected are now a lived reality: Indigenous Peoples from the Himalayas to the Pacific coasts are grappling with intense droughts, super storms, and ecosystem shifts that confirm many of the IPCC's earlier projections. On the positive side, Indigenous Peoples adaptation efforts have expanded and gained recognition. Strategies noted in 2010 – such as sustainable agriculture, small-scale energy projects, and ecosystem restoration (e.g. coral reefs and mangroves) – have been put into practice across Asia, and newer initiatives like glacier water harvesting have emerged. Indigenous Peoples' voices are increasingly present in climate forums; some governments and institutions are beginning to embrace more inclusive, rights-based approaches.

For instance, pilot programs for payments for ecosystem services have been trialled in countries like the Philippines, Indonesia, and Nepal to reward communities for stewardship of forests and watersheds. Japan's new laws to support Ainu culture in 2019 and Taiwan's progressive Indigenous Peoples rights laws also reflect slowly improving recognition. However, many fundamental challenges identified in 2010 persist into 2025. Land tenure insecurity, which was a major issue in 2010, continues to impede resilience – without the clear recognition of rights, structural impediments mean communities struggle to invest confidently in long-term adaptation on their lands. Moreover, while climate policies now frequently acknowledge the important role of Indigenous Peoples, implementation on the ground lags behind. Ensuring genuine co-management and power- sharing in climate initiatives is an ongoing struggle. An accelerating push for "green" infrastructure (like large dams or biofuel plantations) sometimes repeats old patterns of exclusion and dispossession. The past decade in Asia has underscored both the indispensable contributions of Indigenous Peoples to climate solutions and the need for far stronger support to address the disproportionate risks they face.

Central and South America and the Caribbean

Indigenous Peoples across Central and South America and the Caribbean face accelerating climate threats – from Andean glacier loss and Amazonian drought-driven fires to intensifying hurricanes and coastal erosion – endangering water supplies, food security, and cultural heritage. Leveraging ancestral knowledge and new alliances, they are leading innovative, community-driven adaptations, while successfully defending land rights and embedding Indigenous Peoples' worldviews in national climate policies. New forms of adaptation include Indigenous-planned relocation, women- and youth-led resilience initiatives, and gender-responsive finance mechanisms. From Mexico's cenote guardians and mangrove restoration collectives to Colombia's biodiversity credits and Peru's recognition of climate's mental-health toll on Indigenous Peoples women, these initiatives expand the region's adaptive capacity. Regional networks, women-led initiatives, and landmark legal victories now place Indigenous Peoples at the forefront of climate resilience and mitigation, even as deforestation, extractive pressures, and funding gaps remain persistent challenges.

Indigenous Peoples across the region are experiencing increasingly severe and diverse climate impacts – from melting glaciers in the high Andes to intensifying droughts in the Amazon, and more frequent extreme weather events in Central America and the Caribbean {LA15} {LA4} {LA34}.

In the Andes, communities such as the Aymara in Bolivia have watched sacred mountain glaciers like Illimani shrink dramatically (losing over 40% of their volume since the 1970s) and rainfall become erratic, undermining reliable water supplies for drinking and irrigation {LA15}. Amazonian Indigenous Peoples are likewise confronting harsher dry seasons and widespread forest fires that imperil their rainforests and traditional livelihoods {LA4}. Coastal and island Indigenous Peoples face stronger hurricanes, rising seas, and coastal erosion: for example, the Guna community of Gardi Sugdub in Panama, after repeated flooding of their low-lying island, initiated one of the world's first Indigenous- planned climate relocations – a collective decision to move their entire village to higher ground while striving to preserve cultural traditions (an effort documented by Indigenous Peoples leaders themselves) {LA90}. These compounding stresses – drought, wildfire, glacial retreat, floods, and storms – threaten food security, health, and the cultural heritage of Indigenous Peoples throughout the region.

In response, Indigenous Peoples are leveraging their traditional knowledge and innovative practices to adapt to changing conditions. Across the Peruvian Andes, Quechua and Aymara farmers (engaged in programs like Sierra Sur) have built thousands of small reservoirs and earthen ponds to capture scarce rainfall and glacial meltwater. They have reintroduced resilient native crops (such as quinoa and tarwi alongside potatoes) and constructed stone terraces and windbreaks to protect fields from frost and erosion, reviving ancestral techniques to safeguard agriculture in a shifting climate {LA107}. Throughout Mesoamerica, time-tested agroecological systems are bolstering climate resilience. Mayan milpa intercropping – planting diverse crops together in the same field – maintains soil fertility and stable yields even as weather becomes less predictable.

In Honduras, Lenca communities revitalizing the traditional Quezungal farming method (planting under scattered tree cover and mulching to retain soil moisture) suffered only minimal crop losses during a major recent hurricane, in stark contrast to neighbouring areas {LA82}{LA79}. Beyond fire and forests, communities are piloting biodiversity-crediting (e.g., Savimbo's indicator-species credits {LA124}) and youth-led energy autonomy (e.g., Aylluq Q'anchaynin {LA128}), signalling a broader palette of Indigenous-defined mitigation instruments aligned with territorial plans. Recent initiatives such as Women Caregivers of the Amazon see Indigenous Peoples women's associations designing and running their own anti-deforestation and Indigenous Peoples' knowledge revival projects that sequester carbon while expanding women's influence over forest governance {LA42}.

In the Brazilian Amazon, Indigenous Peoples fire brigades are combining customary controlled-burning techniques with modern firefighting methods to prevent catastrophic wildfires during severe droughts, successfully protecting forests and villages from recent intense fire seasons {LA4}. Some groups are also adapting through mobility and livelihood shifts; for instance, in response to recurrent drought, Indigenous Peoples families in Guyana temporarily move from parched savannas into forested areas and shift their cassava fields to wetter lowlands – an adaptive nomadic strategy to safeguard their staple food supply {LA75}. These community-driven measures – spanning water management, sustainable agriculture, fire stewardship, and climate-triggered relocation – have reduced risks, safeguarded resources, and reinforced food security in many Indigenous Peoples territories.

In Mexico's Yucatán, community-driven adaptation combines water-governance and agroecology: Sustainable Communities for Climate Action (ACCIÓN) links mangrove, cenote and milpa stewardship across municipalities {LA117}; Guardians of the Cenotes secure legal recognition of sacred water bodies to curb contamination and over-extraction {LA118}; Chelemeras women's collectives restore mangroves as surge barriers {LA119}; and milpa resilience and native seed initiatives strengthen food sovereignty under erratic rains {LA120, LA121}. Wider capacity building and village-level resilience programs have scaled across Oaxaca and other states {LA115, LA122}. Carbon finance pilots like Scolel'te add diversified livelihoods where safeguards and FPIC are respected {LA116}. At national scale, Chile's Indigenous Peoples vulnerability and risk study fed directly into its climate plan (PNACC), providing a model for formal inclusion of Indigenous Peoples risk analysis in state policy {LA123}.

Indigenous Peoples consistently emphasise that preserving their knowledges, cultures, and rights (affirmed in the UN Declaration) is fundamental to enduring climate change. Grassroots Indigenous Peoples women's networks across the region have been crucial in this regard: they train women in sustainable agriculture, water management, seed saving, and community risk mapping, turning previously vulnerable villages into active agents of resilience prepared for floods, droughts, and hurricanes {LA1}. At broader scales, Indigenous-led alliances are strengthening capacity and amplifying Indigenous Peoples voices in governance. Notably, the Amazon Regional Platform for Indigenous Peoples – spanning eight countries – was established to integrate Indigenous Peoples' knowledge and rights into national climate strategies and to ensure Indigenous Peoples' participation in policy decisions under the Paris Agreement {LA2}.

The Kichwa and Achuar philosophy of Alli Kawsay/Buen Vivir has likewise reframed climate policy debates around reciprocity with Pachamama, halting several large-scale mining projects and embedding rights-of-nature clauses in constitutions {LA52}. Securing land tenure and resource rights remains a high priority, as exemplified by the Waorani people of Ecuador, who achieved a landmark court victory in 2019 that halted oil drilling on 202,000 hectares of their ancestral rainforest – keeping vast carbon stocks in the ground and setting a precedent for upholding Indigenous Peoples consent {LA66}. In Colombia's Amazon, CAPSIDE trains communities as eDNA guardians and artists to monitor biocultural health and assert rights-of-nature claims {LA124}, while Savimbo has piloted indicator-species biodiversity credits that financed community restoration in Putumayo {LA46}.

Many finance mechanisms are also gender-responsive – for example, ACOMUITA channels resources to Indigenous Peoples women's climate priorities {LA126}- and Nueva Trinidad is reinventing livelihoods with a community bio-fertilizer plant reducing input costs and emissions {LA127}. Peru is surfacing climate's mental-health burdens on Indigenous Peoples and rural women, a critical but often unseen dimension for adaptation planning {LA128}. Youth-led energy autonomy in Alto Mishagua adds decentralized power and skills {LA129}. By strengthening territorial governance, reviving ancestral practices (such as seed conservation and traditional medicine), and forging partnerships from the community level to the international arena, Indigenous Peoples of Latin America and the Caribbean are not only adapting to climate impacts but also enhancing the region's overall resilience and capacity to mitigate climate change.

Changes since 2010:

The climate challenges outlined in 2010 for Latin America and the Caribbean have intensified, but Indigenous Peoples responses have also become more organised and prominent. A decade ago, concerns were raised about Andean glacier retreat, Amazonian drought, and Caribbean storms – all of which have since become more acute.

Indeed, what were once early warnings are now visible realities: there has been unprecedented glacier melt in the Andes leading to water shortages, repeated Amazon droughts contributing to massive fires, and a parade of record-breaking hurricanes and extreme weather events battering the Caribbean and Central America. Indigenous Peoples, who in 2010 were noted for emphasizing Indigenous Peoples' knowledge and calling for education and capacity-building, have advanced those agendas. Since 2010, Indigenous Peoples climate activism and leadership in Latin America have grown significantly. There are new regional alliances (like the Amazon Indigenous Platform) and more success stories in asserting Indigenous Peoples rights to combat climate threats (such as the Waorani legal victory and the Guna planned relocation).

Indigenous Peoples' knowledge is increasingly being recognised by others and incorporated into adaptation projects – for example, revival of terrace farming, rainwater harvesting, and agroforestry that were highlighted as needs in 2010 are now being implemented widely through community-led initiatives. At the same time, persistent issues remain. Deforestation and extractive industries, often driving climate vulnerability, continue to encroach on Indigenous Peoples lands in parts of the Amazon and Mesoamerica, echoing the concerns from 2010 about needing sustainable alternatives for mitigation. Capacity gaps also endure: while awareness has risen, many Indigenous Peoples still lack adequate funding and technical support for their climate-related projects. Overall, compared to 2010, there is greater recognition of Indigenous Peoples as key partners in climate action across Latin America and the Caribbean, and a stronger collective Indigenous Peoples voice pushing for climate justice, even as the underlying climate impacts have grown more severe.

Eastern Europe, Russian Federation, Central Asia and Transcaucasia

Indigenous Peoples in the Eastern Europe, Russian Federation, Central Asia and Transcaucasia region are experiencing severe, place-specific climate impacts – glacier retreat in the Altai, intensified wildfires in southern Siberia, and erratic weather in the Carpathians – that undermine traditional hunting, pastoralism, and food sovereignty. Rain-on-snow events, permafrost-linked landscape change, and wildfire regimes disrupting reindeer herding and river/forest livelihoods from Yamal to Yakutia. Indigenous Peoples are countering these threats by revitalising Indigenous Peoples' knowledge, renewed mobility/education models, partnering in participatory mapping and monitoring, and diversifying livelihoods, yet large-scale development projects, weak land-tenure recognition and limited respect for rights continue to heighten their vulnerability.

Indigenous Peoples in the Eastern Europe, Russian Federation, Central Asia and Transcaucasia region face significant impacts from climate change, though they often remain less visible within international climate discussions. This region includes diverse Indigenous Peoples such as the Altai and Evenki of southern Siberia, the Sakha (Yakut) communities outside of the Arctic circle, and pastoralist groups like the Hutsul of the Carpathian Mountains in Ukraine. Although geographically varied, these communities share common challenges including rapid climate-driven environmental change, land degradation, and threats to traditional livelihoods and cultural heritage.

Recent community-science collaborations deepen this picture. Rain-on-snow (ROS) events that encase pastures in ice are being tracked and planned for with Sakha reindeer herders (AROSS) {EE11}. Evenki Atlas initiatives map place-names, travel routes and hazards to support safer hunting amid warming-driven landscape change {EE14}. Around Lake Baikal, biocultural assessments link fishery resilience and sacred spring protection to climate adaptation {EE18}. On the Yamal and Taymyr-Evenkiya tundras, herding communities document vulnerability and run adaptation planning with partners to reduce ROS and wildfire risks and safeguard migration corridors {EE22}, {EE31}. In Central Asia, village-scale micro-hydropower in Murghab reduces winter energy insecurity and pressure on slow-growing shrubs while stabilizing clinics and schools {EE9}. Transboundary Aleutian initiatives link food security and youth-led monitoring across Russian and U.S. communities, highlighting cross-border adaptation pathways {EE8}.

In the Altai Mountains of Central Asia, Altai Peoples have observed increasingly erratic weather patterns, reduced snowpack, and glacier retreat. These changes have negatively affected traditional agriculture, hunting, and pastoral activities. To adapt, Altai communities are reviving Indigenous Peoples' knowledge in combination with participatory mapping and collaborative resource management initiatives, enhancing resilience to climate impacts while reinforcing cultural practices and territorial governance {EE3} {EE6}. Evenki Peoples and Sakha (Yakut) Peoples in southern Siberia have similarly experienced profound landscape transformations driven by climate variability. Changes include more frequent wildfires, shifts in animal migration patterns, and alterations in seasonal river flow, disrupting traditional hunting, fishing, and forest-based livelihoods. In response, these communities are employing adaptive strategies such as diversified economic activities, strengthened community-based resource management, and blending Indigenous Peoples practices with scientific monitoring methods to improve early warning systems and enhance resilience against climate-induced changes {EE10}, {EE4}.

Observed hazards include permafrost slump, unstable river and lake ice, and wildfire-smoke impacts on health and mobility {EE4}, {EE5}. Projects on Indigenous Peoples health under warming extremes, mobile nomadic camps, and practical survival knowledge ('Thread of Life' self-rescue) round out the region's adaptation portfolio {EE19}, {EE16}, {EE8}. In parallel, community-run meteorological sampling and health indicators co-developed with local universities strengthen locally led early-warning efforts {EE15}. Rights-based campaigning is an active strategy, for example Aborigen Forum's push to hold Nornickel's supply chains to account {EE34}, and the growing leadership of Sámi women in monitoring and policy engagement {EE35}.

However, challenges persist. Across the Russian Arctic, Indigenous Peoples communities report compounding risks to food security, transport access, economic activity, and health - underscoring needs for impact assessment, legal reforms, and participatory environmental monitoring {EE33}. Large-scale economic development projects, including extractive industries and infrastructure expansion, continue to threaten Indigenous Peoples territories and amplify climate vulnerabilities. Additionally, some national adaptation measures have marginalised Indigenous Peoples' perspectives, illustrating a persistent gap between policy rhetoric and practical implementation.

Change since 2010:

In 2010, climate impacts in this region were primarily reported as potential threats. Today, these impacts are active realities. Indigenous Peoples across the region are proactively adapting Indigenous Peoples' knowledge, livelihoods and ecosystem management strategies to meet the realities of accelerating climate change. However, the enduring lack of formal recognition and land tenure security remains a significant obstacle, highlighting an urgent need for inclusive policy reforms that meaningfully integrate Indigenous Peoples' knowledge and rights into climate governance. Compared with 2010, more initiatives are co-designed with communities – for example, ROS early-warning with herding brigades {EE11}, ecological calendars with Pamiri farmers {EE12}, and atlas-based mobility planning {EE14}.

North America

Indigenous Peoples in North America are confronting rapidly intensifying climate impacts – from extreme heat, drought, wildfires, and storms to shrinking ice roads and eroding coasts – that undermine food sovereignty, water security, health, and infrastructure. At the same time, they are leading innovative, self-determined adaptation initiatives that braid Indigenous Peoples' knowledge with Western science, even as chronic barriers like inadequate funding, land loss, and colonial decision-making persist. Communities have moved from resisting harmful projects to spearheading renewable energy, restoration, and policy advocacy on national and global stages.

Indigenous Peoples across North America are experiencing intensifying climate impacts, as confirmed under the latest climate science assessments. The most recent Status of Tribes and Climate Change (STACC) Report emphasises the interconnectedness of these challenges, documenting numerous cases such as intensified droughts, severe wildfires, and disruptions to traditional food systems[13].

[13] Status of Tribes and Climate Change Working Group. (2025). Status of Tribes and Climate Change, Vol. 2 (B. M. Panek, Ed.). Institute for Tribal Environmental Professionals, Northern Arizona University. *http://nau.edu/staccreport*

Average temperatures in this region have risen faster than the global mean, contributing to more frequent extreme events such as heat waves, wildfires, and heavy storms. These changes are disrupting ecosystems and traditional lands, threatening Indigenous Peoples' livelihoods that depend on seasonal patterns and natural resources. For example, northern First Nations in Canada report that winter ice roads – critical for supplying remote communities – are now open for far shorter durations, making winter travel hazardous and forcing expensive air transport of goods to isolated villages {NA31}. Coastal and island communities are witnessing rising sea levels and erosion encroaching on their lands, alongside thawing permafrost and disappearing lake and river ice that hinder travel and hunting routes. This rapidly changing climate has introduced new stresses, including unfamiliar diseases affecting wild foods and greater safety risks on the land. Each of these impacts undermines Indigenous Peoples' food security, health, and cultural well-being in their territories.

One of the most immediate concerns outlined in the case studies is the threat climate change poses to traditional food sources and food sovereignty. Many Indigenous Peoples note declines in key plant and animal species they rely on for subsistence. In boreal Canada, the Black River First Nation has documented how milder winters, early thaws, and drier summers have reduced the availability of wild berries and medicinal plants – some berries now dry up before ripening – and worsened pest infestations (for example, spruce budworm outbreaks) that harm important forest resources {NA5}. In forested and alpine zones, Indigenous Peoples hunters observe valued cultural keystone species changing their ranges or becoming scarcer. Even culturally sacred species like the caribou and grizzly bear are increasingly at risk in some areas due to habitat shifts and diminishing ice and snow cover. Along the Pacific Northwest coast, First Nations have witnessed alarming declines in salmon runs, which they attribute in part to warming rivers and altered stream flows from diminished snowpack and hydroelectric development {NA6}.

Extreme river temperatures led to a mass die-off of salmon in the Columbia River, devastating a resource central to the cultures and economies of Columbia Basin Tribes {NA65}. These kinds of changes threaten not only nutrition and livelihoods, but also cultural practices and intergenerational knowledge transfer tied to fishing, hunting, and harvesting. Indigenous Peoples' food sovereignty initiatives are responding by re-localising food systems through community gardens, monitoring ecosystems closely and by advocating for stronger climate action to protect and restore these resources.

Climate change is also exacerbating water insecurity and health risks facing Indigenous Peoples. Prolonged droughts and shifting precipitation patterns have dried up lakes and streams in some territories, while elsewhere unprecedented flooding and erosion are occurring. Many communities in arid or remote regions struggle with water quality and access to traditional water sources becomes less reliable. For example, diminished snowmelt and summer rains in some Coast Salish territories have reduced stream flows, impacting both human water supplies and salmon habitats – a trend that communities link to climate change and deforestation {NA81}. At the same time, heavy rainfall events and spring ice-jam floods are increasingly severe in certain regions, causing repeated evacuation emergencies. These environmental changes have direct consequences for health: heatwaves and wildfire smoke have led to respiratory and heat-related illnesses, and warming temperatures at higher latitudes are enabling disease vectors (like ticks or mosquitoes) to spread into areas they never existed before {NA27}.

Mental health strains are also growing as traditional lifestyle activities become harder to practice, undermining community cohesion {NA19}. The strain on infrastructure is evident as well – from raging wildfires that threaten remote settlements to coastal storms that damage homes. In the western Canadian interior, a massive wildfire in 2023 devastated the East Prairie Métis Settlement, destroying dozens of Indigenous Peoples' homes and displacing families {NA11}. And in Inuit communities of the eastern Canadian Arctic, unprecedented storm winds (over 110 km/h) have been recorded, tearing off roofs and forcing adaptations in housing and emergency response plans {NA19}. These examples underscore that climate impacts on Indigenous Peoples span everything from the loss of traditional foods and clean water to the very safety of homes and settlements.

In response to these growing challenges, Indigenous Peoples in North America are actively developing adaptation strategies and leading community resilience efforts. A common strength across these initiatives is the ethical engagement of Indigenous Peoples' knowledge with scientific approaches. For instance, the Blue Ecology framework in British Columbia – first advanced by Indigenous Peoples water experts – reframes water management with a "water-first" approach that blends Indigenous Peoples wisdom and Western science in watershed governance {NA15}. By honouring water as a living entity and using traditional indicators (such as knowledge of seasonal snow, ice, and rainfall patterns) alongside hydrological data, this approach guides more holistic climate adaptation plans for floods and droughts. Across the continent, Indigenous Peoples nations are also strengthening community resilience through sustainable energy and land management projects. The Tribal Campus Climate Challenge, for example, mobilised Indigenous Peoples youth on U.S. and Canadian college campuses as far back as 2007 to push for renewable energy adoption and to reduce campus carbon footprints – fostering a new generation of Indigenous Peoples climate leaders {NA2}.

Such early actions have evolved into broader capacity-building programs: the Assembly of First Nations (AFN) in Canada launched a dedicated National Climate Strategy to outline urgent actions to support First Nations with community-based research, adaptation planning, and youth engagement in climate initiatives {NA4}. More recently, Indigenous-led funding mechanisms have emerged to support community-driven solutions. Since 2020, the Indigenous Peoples Resilience Fund in Canada has provided direct grants to First Nations, Métis, and Inuit communities for projects like food sovereignty gardens, water security initiatives, and climate-related health services {NA13}. These efforts are grounded in self-determination – communities decide their own priorities and incorporate cultural practices (e.g. ceremonies and Elder storytelling) into adaptation work. By leveraging Indigenous Peoples' knowledge, community solidarity, and strategic external partnerships, Indigenous Peoples are finding adaptive pathways to protect their ways of life amid the climate crisis.

Nevertheless, it is widely recognised that many barriers persist – notably insufficient funding, ongoing loss of lands, and exclusion from mainstream decision-making due to colonialism – which limit the scale of adaptation that Indigenous Peoples can implement on their own.

Changes since 2010:

Climate impacts have intensified dramatically for Indigenous Peoples in North America since 2010. Extreme events that were once rare – catastrophic wildfires, record-breaking heat domes, powerful hurricanes and storms – have struck with increasing frequency, often hitting Indigenous Peoples hardest due to their geographic exposure and cultural ties to vulnerable environments. The need for community relocation has become a pressing reality for some. An example is the Isle de Jean Charles band of Louisiana (Biloxi- Chitimacha-Choctaw), which has lost 98% of its ancestral island land to coastal erosion and rising seas and recently initiated a federally supported resettlement inland {NA84}.

Despite such grave challenges, Indigenous Peoples leadership in climate action has grown substantially. Indigenous Peoples activists and organizations are now prominent on national and international stages, pushing for policy change and climate justice. In Canada, Indigenous Peoples climate advocacy groups have published critiques of federal climate policies, calling for decolonizing approaches and greater Indigenous Peoples authority in climate strategy and action (as seen in the 2019 Landback and climate justice movements) {NA14}. Political participation has also advanced: First Nations, Inuit and Métis representatives participated in the signing of the first, Pan-Canadian climate plan; and Indigenous Peoples representatives helped establish the Local Communities and Indigenous Peoples Platform under the UN Climate Convention, creating space for Indigenous Peoples' knowledge in global climate dialogues.

At recent UN climate summits, Indigenous Peoples youth from North America have delivered powerful testimonies – for instance, Métis and Inuit youth delegates in 2022–23 highlighted the destruction of their communities by wildfires and Arctic storms, demanding stronger climate commitments {NA11}{NA19}. Notably, the 2010 North America overview emphasised Indigenous Peoples opposition to false solutions like nuclear energy or "clean coal" and highlighted wind energy as a positive opportunity. Today, that stance has broadened into a proactive leadership role: Indigenous Peoples nations are not only opposing harmful projects (such as pipelines routed through sacred lands, as protested at Standing Rock in 2016) but are also spearheading renewable energy projects, ecosystem restoration, and innovative climate policy initiatives grounded in their self-determination and governance. In comparison to 2010, when the focus was on vulnerabilities and resistance to imposed solutions, Indigenous Peoples of North America are now central protagonists in designing and leading climate responses – all while continuing to fight for the recognition of rights and resources that underpin their resilience.

Pacific

Climate change impacts across the Pacific have rapidly intensified, bringing higher temperatures, sea-level rise, extreme weather, and ecosystem disruptions that threaten Indigenous Peoples' lands, livelihoods, and cultural heritage. In response, Indigenous Peoples in the Pacific are leading adaptive actions – from community-managed relocations and revived cultural burning to nature-based solutions and the formal integration of traditional knowledge into disaster planning and national climate strategies – while also advancing climate-justice litigation and global advocacy.

Climate change impacts across the Pacific have intensified in the past decade, confirming many projections that seemed distant in 2010. According to the latest IPCC assessments {PA1}, the region is experiencing higher temperatures, shifting rainfall patterns, and rising sea levels that are already affecting daily life. From the low-lying atolls of Polynesia and Micronesia to the vast lands of Melanesia and Australia, Indigenous Peoples face more frequent extreme events and chronic environmental stress. Sea-level rise is accelerating coastal erosion and saltwater intrusion, threatening freshwater supplies, agricultural lands, and even sacred sites. These changes pose profound risks to Indigenous Peoples' livelihoods and cultural heritage, as communities witness ancestral lands and resources being lost or transformed. In some coral atoll nations, what were once occasional king tide floods are now regular occurrences, foreshadowing the existential threat that climate change poses to entire cultures.

One of the most urgent challenges is the displacement of communities by sea-level rise. In Papua New Guinea, the Carteret Islanders launched one of the world's first Indigenous-led climate relocation efforts, moving families from their low-lying atolls to higher ground on Bougainville Island {PA76}. Similarly, the government of Kiribati has developed a "Migration with Dignity" policy – including internal relocation planning and even the purchase of land abroad in Fiji – to prepare for the day its atoll populations may need to resettle {PA54}. What were once considered last-resort measures are fast becoming reality as ancestral homes are increasingly inundated. Many Pacific communities are striving to relocate on their own terms, aiming to maintain dignity and cultural continuity through the process. For example, some villages are relocating en-masse nearby (keeping community ties intact), while ensuring that ceremonial sites and graveyards are moved and reestablished to honour their ancestors.

These relocations, however, face challenges such as funding shortfalls, land availability, and legal complexities over sovereignty and rights in new locations. The Pacific is also facing more intense storms, flooding, and droughts that test the resilience of Indigenous Peoples. Recent tropical cyclones and unusually high king tides have inundated villages and damaged infrastructure, but communities are drawing on their knowledge systems to adapt. In Solomon Islands, a government–Red Cross program has worked with rural villages to integrate customary environmental knowledge into disaster preparedness plans, reviving elders' teachings about signs of approaching cyclones and safe refuge areas {PA92}. This collaboration has bolstered preparedness for severe storms in isolated islands. On Namdrik Atoll in the Marshall Islands, local leaders formed a resources management committee to safeguard freshwater, staple crops, and coastal areas against droughts and storms {PA55}.

By instituting traditional practices like rainwater harvesting, food preservation, and protecting mangrove belts, alongside scientific measures, they have strengthened their community's resilience to climate extremes. These kinds of grassroots initiatives blend Indigenous Peoples and scientific approaches, empowering communities to cope with disasters on their own terms. Climate change is disrupting ecosystems and food systems that Pacific Indigenous Peoples have managed for generations.

Changing ocean temperatures and weather patterns have led to coral reef bleaching, shifts in fisheries, and declines in agricultural productivity in many areas. For example, on the Carteret Islands of PNG, saltwater intrusion from rising seas has poisoned once-productive taro gardens, forcing residents to rely more on imported food and prompting efforts to cultivate salt-tolerant crops {PA77}. In Samoa, communities are rehabilitating coastal mangrove forests to restore an ecosystem that protects villages from storm surges and supports local fisheries {PA85}. Such nature-based solutions, rooted in Indigenous Peoples stewardship, are helping to sustain livelihoods and safeguard biodiversity as environmental conditions deteriorate. Across Micronesia and Polynesia, many Indigenous Peoples are reviving traditional poly-cropping and wild food gathering to reduce reliance on cash crops, since diversified traditional gardens better withstand extreme weather.

Likewise, in Australia's interior, Traditional Owners are redeploying bush foods and water-harvesting tactics used in past droughts, integrating them with modern farming to buffer remote communities against climate swings. Region-scale engineering is also underway: Tuvalu's TCAP elevates shorelines, reclaims land and safeguards atoll infrastructure against sea-level rise {PA95}. In Vanuatu, the Lateu village relocation on Tegua Island demonstrates community-led retreat {PA97}, while wider programs strengthen Indigenous Peoples resource management and Indigenous Peoples forest-dependent livelihoods {PA96} {PA98}. In Fiji, Nagigi village showcases participatory coastal adaptation - rebuilding food systems, elevating homes and redesigning drainage in response to recurrent flooding {PA107}.

In larger land areas of the Pacific region, climate change is intensifying wildfire risks and land degradation. First Nations in Australia, for instance, have been reviving cultural burning (traditional controlled fire management) to cope with hotter, drier conditions that fuel dangerous bushfires. In northern Australia, Indigenous Peoples ranger groups use controlled burns early in the dry season to prevent massive late-season wildfires – an approach exemplified by the long-running Arnhem Land Fire Abatement program {PA17}. This practice not only reduces the risk of catastrophic fires, but also supports biodiversity and provides economic benefits (through carbon credit revenues) to Indigenous Peoples and their communities. The resurgence of cultural burning highlights the value of Indigenous Peoples' knowledge in adapting to contemporary climate stresses.

In New Zealand, Māori communities are also addressing emerging risks: severe floods and storms in recent years have damaged Māori marae (community meeting grounds) and farms, spurring efforts to build resilience through both infrastructure upgrades and the revival of Indigenous Peoples' knowledge about planting and harvest times. In Hawaii, Lāhainā wildfire recovery is centering cultural preservation – protecting iwi kūpuna, restoring loi systems, and designing land-back housing to keep ohana rooted in place {PA109}. Governments and institutions are gradually responding by incorporating Indigenous Peoples' knowledge and rights into climate action. Indigenous Peoples are increasingly active in shaping policies and adaptation plans across the Pacific.

In New Zealand, the Te Arawa iwi (tribal confederation) launched its own climate change strategy in 2021, guided by mātauranga Māori (traditional knowledge), to protect its lands and educate youth as climate leaders {PA70}.

Indigenous Peoples leadership extends into global science and assessment: examples include Māori enhancing mātauranga Māori participation in Antarctic science to guide polar research ethics and priorities {PA108}; and Aboriginal and Torres Strait Islander experts reshaping IPCC engagement pathways for Indigenous Peoples knowledge {PA106}. Across the region, Indigenous Peoples activists are also pushing for climate justice through legal avenues: Torres Strait Islander communities brought a landmark human rights complaint that in 2022 resulted in a ruling which affirmed that government inaction on climate change violates their rights. This decision has set an important precedent, pressuring the Australian government to increase protections for Torres Strait communities from sea- level rise. Such developments underscore that Pacific Indigenous Peoples are not passive victims but frontline leaders in the fight for climate accountability.

Changes since 2010:

There has been a notable shift toward recognizing Indigenous Peoples leadership in climate governance, from local resource-management agreements to national climate strategies. Since 2010, climate trends in the Pacific have grown more severe, and Indigenous Peoples have mobilised accordingly. Many changes that were once predicted – such as frequent tidal flooding of atoll villages, long droughts, and unprecedented wildfire seasons – are now observable realities. In response, Indigenous-led adaptation has expanded: more communities are relocating to safer ground or fortifying their villages, more traditional practices (like yam storage techniques or ceremonial rain dances) are being revived as adaptive measures, and more partnerships for resilience are being forged between Indigenous Peoples groups, governments, and NGOs.

The 2010 Pacific overview emphasised the vulnerability of small islands and the importance of local food production; those themes remain, but today we also see tangible examples of Indigenous Peoples innovation addressing those vulnerabilities, from taro nurseries in Fiji to community cyclone shelters in Vanuatu built with local knowledge of site selection. Compared to 2010, when Pacific Indigenous Peoples were bracing for projected impacts, today they are actively responding on multiple fronts – relocating where necessary, reshaping development plans, and leading global advocacy (such as Pacific Island leaders campaigning for a fossil fuel non-proliferation treaty) to secure a liveable future for their islands.

3. Global Case Studies: Trends, Innovations and Gaps

Emerging Global Trends in Indigenous Peoples Climate Action
UNDRIP establishes the normative foundation for Indigenous Peoples' rights. Global climate policy increasingly echoes its language, yet practical implementation still lags.

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[14] (UNGA, UNDRIP 2007) affirms the inherent, interrelated, and indivisible rights that Indigenous Peoples already hold. These rights encompass the full spectrum of political, cultural, social, and environmental dimensions of Indigenous Peoples life. Within this framework, self-determination, land tenure, and free, prior and informed consent (FPIC) are not isolated provisions but integral elements that flow from, and give expression to, the broader recognition of Indigenous Peoples' inherent rights. Since its adoption, these minimum standards have slowly permeated national climate frameworks and international climate frameworks as they move perceptibly toward rights-based language.

For example, the Paris Agreement acknowledges the rights of Indigenous Peoples in its preamble and references Indigenous Peoples' knowledge in Article 7.[15] By 2022, over one-third of countries' Nationally Determined Contributions (NDCs) referenced Indigenous Peoples – a marked increase from less than a quarter during the first NDC round[16]. Guidelines such as UNEP's Core Human Rights Principles for Private Conservation Organizations and Funders[17] (developed through a two-year, multi-stakeholder consultation process that explicitly included Indigenous Peoples as rights-holders) require projects to obtain free, prior, and informed consent (FPIC), respect land rights, and offer grievance redress mechanisms, at least on paper.

Other Indigenous-led currents are also shaping the global landscape, such as coordinated guardianship pledges that mobilise mass volunteer stewardship, like the 8 Billion Hours Pledge {GL40}, and a fast-growing rights-of-nature movement seeking universal recognition of ecosystems as rights-bearing entities {GL41}.
Parallel advances (and caveats) can be seen in opportunities in international finance and networking. The Green Climate Fund's US$162 million Amazon Basin programme centres Indigenous Peoples leadership {LA114}, although no Indigenous-led organisations are listed among GCF's Accredited Entities. The Climate Investment Funds created a Dedicated Grant Mechanism to channel resources directly to Indigenous Peoples and local initiatives, acknowledging that empowering communities drives better results {GL29}. Alliances like Many Strong Voices link Arctic and Small-Island communities in a global advocacy web {GL6}, building solidarity and capacity to influence global climate negotiations.

Global platforms such as the UNDP Equator Initiative {GL8} have spotlighted Indigenous Peoples solutions, awarding and sharing community innovations worldwide. This reflects growing global awareness that Indigenous Peoples' knowledge and leadership improve climate outcomes: the IPCC's Sixth Assessment, for instance, finds that collaboration with Indigenous Peoples strengthens policy effectiveness[18]. These shifts indicate a trend toward grounding climate action in human rights principles and show a growing (if belated) appreciation that Indigenous Peoples stewardship is global in scope and impact. Nonetheless, progress is uneven. Only a minority of climate policies treat Indigenous Peoples as true partners rather than stakeholders, and many references remain symbolic. Recognition of Indigenous Peoples rights is increasing on paper, but translating it into practice is an ongoing struggle. Overall, the global case studies reveal a momentum toward greater inclusion of Indigenous Peoples' knowledge and rights in climate action, tempered by persistent gaps in implementation and respect.

Political Participation and Governance

Indigenous Peoples are significantly impacted by climate change, yet too often included only superficially in climate initiatives, and projects frequently proceed without honoring their rights – leading to conflicts, exclusion, and lost opportunities. Structural inequalities, from insecure land tenure to underfunding, continue to undermine equitable climate action. Specific vulnerabilities and effects being reported by Indigenous Peoples, as synthesised in the Chronicle, threaten the continuation of Indigenous Peoples cultures and lifeways.

These impacts are experienced across all regions and all sectors, including cultural and spiritual impacts; coerced demographic changes, including displacement from their traditional lands and territories; economic impacts and loss of livelihoods; land and natural resource degradation; impacts on food security and food sovereignty; health and well-being issues; water shortages; and loss of Indigenous Peoples' knowledge. Impacts are felt across all sectors, including agriculture and food security; biodiversity and natural ecosystems; animal husbandry (particularly pastoralist lifestyles); housing, infrastructure and human settlements; forests; transport; energy consumption and production; and fundamental human rights.

One glaring challenge is the tokenistic nature of much Indigenous Peoples participation. At both national and international levels, Indigenous Peoples activists report that their involvement is frequently "marginal, symbolic, and instrumental"[19]. Governments and institutions may invite Indigenous Peoples representatives to consultations, but real power- sharing is rare[20].

[14] UNGA (2007). United Nations Declaration on the Rights of Indigenous Peoples . *https://www.un.org/development/desa/indigenouspeoples/wp- content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf*
[15] UNFCCC, Paris Agreement, 2015. *https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf*
[16] Carmona, R., Reed, G., Ford, J. et al. (2024). Indigenous Peoples' rights in national climate governance: An analysis of Nationally Determined Contributions (NDCs). Ambio 53, 138–155 (2024). *https://doi.org/10.1007/s13280-023-01922-4*
[17] UNEP (2024). Core Human Rights Principles for Private Conservation Organizations and Funders. *https://doi.org/10.59117/20.500.11822/46756*
[18] IPCC (2022). Impacts, Adaptation and Vulnerability. Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva: IPCC; IPCC (2022). Mitigation of Climate Change. Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva: IPCC.
[19] Biskupovic, C., & Carmona, R. (2025). The participation of activists and Indigenous peoples in climate governance in Chile. Dados: Revista de Ciências Sociais, 68(2), e20230056. *https://doi.org/10.1590/dados.2025.68.2.363*
[20] Indigenous Climate Action et al (2024). Strategies for Decolonizing Climate Policy Strategies for Decolonizing Climate Policy. https://debatesindigenas.org/wp-content/uploads/2024/11/Indigenous-Debates- November-2024-Climate-Change.pdf

A study of climate governance in Chile found that non-state actors (including Indigenous Peoples leaders) were relegated to the sidelines of decision-making, their input treated as a mere formality[21].
A pan-European review finds Sámi perspectives almost absent from EU adaptation policy despite decades of consultation[22].

This reflects a broader pattern: while frameworks like the UNFCCC's Local Communities and Indigenous Peoples Platform (LCIPP) exist, actual influence of Indigenous Peoples delegates in climate negotiations remains limited by state dominance. State-recognition, generally, is still a challenge (not only in the climate context) and many states still do not recognise Indigenous Peoples as rights-holders with a say over climate policies – in fact, most countries have yet to grant Indigenous Peoples nations any formal role in designing their NDCs[23]. The result is that Indigenous Peoples' knowledge and priorities, though celebrated in rhetoric, are often sidelined in practice. Even when invited to the table, Indigenous Peoples participants may face patronizing attitudes or see their proposals cherry-picked to align with government agendas. Across the board, experts are calling for a shift to rights-based, inclusive climate governance that gives Indigenous Peoples a seat at the decision-making table – not as a token presence, but as equal partners.

Moving beyond documentation, governments and cities are mainstreaming Indigenous Peoples knowledge through formal co-management that reconciles state standards with community rules—for example, Māori-led design in Te Auaunga/Oakley Creek urban water planning {PA67}, Skolt Sámi salmon co-governance {AR53}, and Indigenous-governed protected/managed areas such as Łutsël K'é's Thaidene Nëné IPA {NA25} and the Cheakamus Community Forest {NA24}. Regionally, the Amazon Indigenous Platform advances this harmonisation across NDC processes {LA2}. Government-led examples of processes working to fix these issues include Australia's inclusion of Aboriginal and Torres Strait Islander experts in IPCC processes {PA106}, national vulnerability studies that centre Indigenous Peoples in Chile {LA123}, and reforms to forest/land-use policy in Thailand that embed participation from the outset {AS112}.

Other structural inequalities are explored in more depth issue-by-issue below. One critical gap is the failure to consistently uphold Indigenous Peoples rights. Too many climate mitigation and adaptation projects proceed in ways that violate the fundamental rights affirmed in the UNDRIP. Free, prior, and informed consent is frequently bypassed. Another gap is the insecure tenure, with many governments still showing reluctance to acknowledge Indigenous Peoples land ownership and self-determination, seeing it as a threat to state sovereignty. This reluctance persists even though respecting Indigenous Peoples land rights is widely recognised as a prerequisite for effective climate action on those lands. A troubling consequence of this is the risk faced by Indigenous Peoples land and environmental defenders. Around the world, Indigenous Peoples activists who oppose extractive or renewable projects imposed on their lands face harassment, violence, and criminalization and of course, limited access to finance compounds all these problems. While new funds exist, only a tiny fraction of climate finance reaches Indigenous-led projects on the ground. Bureaucratic hurdles, lack of access to information, and bias in funding institutions mean Indigenous Peoples remain under-resourced relative to the scale of their contributions. Many of the global case studies note that Indigenous Peoples initiatives are hampered by insufficient funding or technical support, even as billions flow into top-down projects. Where dedicated funds do exist, they are often pilot programs with limited reach. Until mainstream climate finance fully integrates Indigenous Peoples – not as beneficiaries but as leaders – this gap will persist. These issues are a stark reminder that strong paper commitments (like those in UNDRIP) have yet to be fully realised on the ground. Bridging the gap between principle and practice – by securing land rights, ensuring true joint decision-making, and protecting Indigenous Peoples defenders – remains an urgent task as the climate crisis intensifies.

Indigenous Peoples' Knowledge

Without Indigenous Peoples' place-based knowledge systems, the world would lose a quarter of its land stewards, 40 % of its remaining large intact ecosystems, and some of the planet's most reliable carbon sinks. Despite the significant impacts of climate change, Indigenous Peoples also have a variety of successful adaptive and mitigation strategies to share. Across regions, communities are operationalising "bridging frameworks" that place Indigenous Peoples knowledge on equal footing with Western science - pairing Elders' indicators with satellites, sensors and models in co-produced tools such as Sila qanuippa? (Inuit–scientific forecast integration), SmartICE and SIKU for sea-ice safety, Blue Ecology for watershed governance, and Australia's Our Knowledge, Our Way and "parallel knowledge" programs. {AR33}{AR38}{AR49}{NA15}{PA14}{PA21}{AR11}{AR32}

The Chronicle shows that a common thread running through every successful adaptation pathway documented – each draws on place-based Indigenous Peoples' knowledge. Core strategies include:

- Revitalising and adapting traditional practices such as low-intensity cultural burning, rotational harvesting and polyculture agro-forestry.
- Shifting resource bases for food security – for instance, re-establishing Indigenous Peoples seed crops to ensure resilient local diets, or re-wetting peatlands to restore ancestral food webs and sustain traditional harvesting practices.
- Blending knowledge systems – such as pairing remote-sensing data with Indigenous Peoples' knowledge and indicators (snow feel, bird calls, moon cycles) to fine-tune early-warning systems.
- Governance innovation that embeds customary law in contemporary policy.
- Designing Indigenous Peoples-led finance mechanisms – including community- controlled carbon projects, ecosystem services payments, or trust funds that channel resources into long-term resilience.

Yet despite this track record, less than one percent of climate and biodiversity finance flows directly to Indigenous Peoples organisations.

Closing that gap is not only an ethical imperative but also a pragmatic one: when Indigenous Peoples nations are resourced and their rights upheld, deforestation drops, carbon stocks rise, and communities deploy solutions refined over millennia. Anything less leaves the world's best climate allies on the sidelines.

[21] Biskupovic, C., & Carmona, R. (2025). The participation of activists and Indigenous peoples in climate governance in Chile. Dados: Revista de Ciências Sociais, 68(2), e20230056. *https://doi.org/10.1590/dados.2025.68.2.363*
[22] Ziebarth, D. (2024). EU-Sámi Cooperation in Climate Change Adaptation in the Arctic. The Arctic Institute Arctic Extractivism Series 2024. *https://www.thearcticinstitute.org/eu-sami-cooperation-climate-change- adaptation-arctic/*
[23] Carmona, R., Reed, G., Ford, J. et al. Indigenous Peoples' rights in national climate governance: An analysis of Nationally Determined Contributions (NDCs). Ambio 53, 138–155 (2024). *https://doi.org/10.1007/s13280- 023-01922-4*

Indigenous Peoples Evidence Ecosystem

Across regions, Indigenous Peoples' data remains unevenly visible – particularly from under-represented geographies and languages. Evidence points to the value of a durable, region-led and Indigenous-governed pipeline for ongoing case-study gathering and curation that is accessible to (and guided by) decolonising Indigenous Peoples data methodologies. In practice, such pipelines would use Indigenous Peoples governance systems, territorial priorities, and customary knowledge/language protocols; be overseen by regional Indigenous Peoples advisory/ethics panels; and deposit materials in Indigenous-governed repositories with persistent identifiers to ensure attribution, provenance, and long-term access. This aligns with the Indigenous Peoples Knowledge and Data Statement and with established standards (CARE, OCAP®, AIATSIS), and is emerging as the most reliable way to make Indigenous Peoples-led evidence globally available without compromising data sovereignty.

4. Global Issues Analysis

4.1 Rights, Tenure and Data Governance

Land and Sea Tenure and Access Rights

Secure Indigenous Peoples' land tenure is foundational to climate resilience; ignoring rights frequently leads to project failures and conflicts. Conversely, securing tenure delivers substantial climate and social benefits, driving a global policy shift toward rights-based climate action – though unresolved tenure remains a persistent gap. Secure tenure underpins Indigenous Peoples' climate resilience. When rights are ignored, projects founder, sometimes violently. Kenya's Water Towers conservation campaign forcibly evicted Sengwer families, burning homes and prompting the EU to halt funding {AF67}. DR Congo's Mai-Ndombe REDD+ programme omitted community titling and transparent benefit-sharing, leaving villagers poorer and forests still at risk {AF34}. Large-scale renewables replicate the pattern: Lake Turkana Wind Power {AF55} and Norway's Fosen turbines {AR60} both hinged on contested land deals later annulled.

Conversely, strengthening tenure yields climate and social dividends. Legal recognition of Maya guardianship over Yucatán cenotes strengthened water tenure and climate resilience in municipal land-use decisions {LA117}. Colombia's COAMA programme secured collective titles for Amazon Indigenous Peoples territories, cutting deforestation rates {LA43}. Brazil's Apiwtxa Asháninka restored degraded forest on demarcated land, boosting carbon storage and cultural revival {LA24}. Altai community protection of freshwater springs illustrates customary tenure safeguarding critical climate-buffer resources {EE6}. In British Columbia, the Cheakamus Community Forest grants the Squamish Nation co-management authority, balancing timber revenue with carbon and biodiversity gains {NA24}. Newer climate initiatives are learning, with Green Climate Fund requiring projects like the Heritage Colombia landscape plan to embed FPIC and Indigenous Peoples governance from inception {LA41}.

Tenure is not only about property but also about jurisdiction and authority. Secure tenure provides the legal and political foundation for Indigenous Peoples to exercise self- determination, govern their territories, and enforce stewardship rules. This interconnection explains why unresolved tenure so often undermines climate projects: it denies the very authority required for lasting governance.

Change since 2010:

Advance Guard identified insecure tenure as a significant issue; today, its consequences continue to be explicit. The global policy shift toward "rights-based climate action" stems from these failures and successes. Yet many climate investments still launch before tenure is resolved, suggesting the chief lesson remains unfinished business.

Data Sovereignty and Research Ethics

Indigenous Peoples data sovereignty – articulated in the OCAP principles and reinforced by the CARE guidelines – demands that communities, not external researchers or institutions, retain authority over how climate-related data are collected, stored, shared and reused. When culturally grounded data-governance agreements give Indigenous Peoples partners granular control, knowledge co-production becomes more ethical and scientifically robust rather than extractive. Indigenous Peoples have repeatedly stressed that the right to own, control, access and possess (OCAP)[24] data about their lands, knowledges and lifeways is inseparable from self-determination.
Yet much climate-related research still follows extractive logic: sensors are 'deployed', knowledge is 'harvested', and the resulting datasets and models circulate in academic or corporate repositories with little benefit – or even visibility – to the Indigenous Peoples who generated them. Recent scholarship warns that such "data colonialism" merely reproduces historic patterns of exploitation in digital form[25] and calls for the decolonisation of global data law so that Indigenous Peoples legal orders, rather than Western intellectual-property regimes, set the terms of use[26]. In practice this means that research teams must negotiate culturally grounded data-governance agreements before fieldwork begins, articulate community authority over review, storage and dissemination, and ensure that any secondary use of data (including AI training) is explicitly re-authorised. These ethical expectations are reinforced by international norms such as the CARE Principles for Indigenous Peoples Data Governance[27].

[24] First Nations Principles of OCAP®, which stand for Ownership, Control, Access, and Possession. *https://fnigc.ca/ocap-training/*
[25] Roberts & Montoya (2023). In Consideration of Indigenous Data Sovereignty: Data Mining as a Colonial Practice. arXiv. *https://arxiv.org/abs/2309.10215*
[26] Roberts & Montoya (2022). Decolonisation, Global Data Law, and Indigenous Data Sovereignty. arXiv. https://arxiv.org/abs/2208.04700
[27] *https://www.gida-global.org/care*

WALFA Ranger Ray Nadjamerrek demonstrates early dry season burning techniques in West Arnhem Land, Australia. Photo: Warddeken Land Management.

When Indigenous Peoples partners exercise this authority, the benefits extend beyond ethical safeguards: data sovereignty creates the conditions for decision-making power. Communities that control how their data are collected, classified and shared are better positioned to set research priorities, shape adaptation strategies, and decide which climate interventions align with their social and cultural values. In this way, data governance becomes both a shield against extractive practices and a foundation for Indigenous Peoples self-determination in climate governance. An example of respectful, OCAP-aligned practice is SmartICE – an Inuit-designed sea-ice monitoring network – places sensors and data dashboards directly under community control; Inuit partners decide which indicators are shared publicly and which remain restricted to hunters' councils {AR38}. The SIKU Indigenous Peoples' knowledge App extends that model, allowing Inuit contributors to tag observations of wildlife and weather while retaining granular control over visibility and licensing – data can be kept within a single community, shared with regional Inuit associations, or released under Inuit-defined open licences {AR49}.

Rights and Legal Redress

Climate change threatens Indigenous Peoples' fundamental rights, prompting them to increasingly turn to litigation and human rights frameworks for justice. Legal strategies now prominently include protecting Indigenous Peoples rights against harmful conservation or "green" projects, and advocating for the recognition of rights of nature. While landmark rulings at international and national levels now enforce state accountability and FPIC compliance, significant gaps and legal challenges remain.

Climate change is eroding Indigenous Peoples' rights to culture, health, food, water, housing, self-determination, and ultimately, life itself. Early efforts to frame climate impacts as human rights violations began with the Inuit petition to the Inter-American Commission on Human Rights in 2006 {AR13}. Although dismissed, this petition established the legal logic later adopted by Torres Strait Islanders, whose 2022 victory at the UN Human Rights Committee confirmed that inadequate adaptation by States (in this case, Australia) can breach treaty obligations {PA40}. However, the subsequent 2025 Australian Federal Court ruling demonstrates a dual-track reality, where domestic courts remain reluctant to impose broad duties of care for climate protection to Indigenous Peoples. Climate-oriented investments have also trampled rights when they bypass Free, Prior, and Informed Consent (FPIC). Large-scale renewable energy projects illustrate the danger: the 310 MW Lake Turkana Wind Power project was built on Turkana and Samburu grazing lands without proper consultation and consent, leading Kenya's courts to void its land title {AF55}. In Norway, the Fosen wind complex violated Sámi reindeer herding rights, prompting the Supreme Court to strip its licenses {AR60}. Conservation and carbon projects can be equally problematic. The Water Towers (Embobut Forest) program in Kenya funded armed evictions of Sengwer families {AF67}, while the Mai Ndombe REDD+ program in DR Congo restricted forest access yet delivered few benefits {AF34}. In every case, ignoring land tenure and cultural ties provoked resistance and undermined climate goals.

A parallel legal-political frontier is the movement for rights of nature; for example, the Rights of Nature NOW! campaign advances a Universal Declaration to strengthen Indigenous Peoples guardianship claims in climate litigation {GL41}. Indigenous Peoples climate litigation has advanced rapidly in recent years. Domestically, courts are increasingly upholding Indigenous Peoples rights against so-called "green" projects, exemplified by Norway's Supreme Court quashing Fosen wind licenses {AR60} and Kenyan judges nullifying Lake Turkana land leases {AF55}. Beyond mitigation disputes, Indigenous Peoples have used legal action to halt conservation-linked abuses (e.g., the Sengwer eviction case {AF67}) and demand remedies for stalled relocations (e.g., Kashechewan {NA23}).Indigenous Peoples are also extending litigation to protect nature itself through "rights of nature" cases. Maya guardians in Mexico sued to grant legal personhood to Yucatán's cenotes (sacred sinkhole lakes) to prevent industrial contamination {LA118}. Similarly, Aboriginal Traditional Owners in Australia formed the Martuwarra Fitzroy River Council to enshrine their river's status as a living ancestral being with rights, pressing for formal recognition of Indigenous Peoples guardianship {PA33}. While litigation remains slow and resource-intensive, these precedents reshape policy: governments and investors increasingly weigh legal risks when projects lack FPIC or adequate adaptation support.

Change since 2010:

Fifteen years ago, human rights claims and litigation were largely aspirational strategies; today, court rulings and treaty body decisions have given them practical teeth. Indigenous Peoples have moved from petitioning to winning, demonstrating that courts can compel stronger climate action. Litigation has become a central strategy for Indigenous Peoples seeking climate justice, with successes driving government and investor behaviour towards more rights-compliant practices.

4.2 Community Well-being, Safety and Place

Health and Safety

What once sounded like a future climate-induced risk is now a daily health-and-safety crisis for Indigenous Peoples, with extreme weather injuries, new disease outbreaks, ecological grief, and gender-based violence overwhelming emergency systems. Indigenous Peoples are responding with culturally grounded innovations that combine traditional knowledge and modern public-health tools to support Indigenous-led resilience.

The State of the World's Indigenous Peoples: Climate Crisis report links rising ecological grief and gender-based violence to climate-driven resource stress, confirming trends noted in the Chronicle's regional reviews[28]. Climate change is directly threatening the health and safety of Indigenous Peoples through more frequent extreme events, shifting disease patterns, and environmental degradation. Heatwaves, wildfires, and storms are hitting many communities with unprecedented intensity, leading to injuries, illness, and loss of life. In northern regions, where such extremes were once rare, Indigenous Peoples now report heat- related illnesses and respiratory issues from wildfire smoke during unusually hot, dry summers – although living in Indigenous Peoples Territories is associated with measurable health benefits[29].

[28] E.g. DESA (2025). State of the World's Indigenous Peoples: Climate Crisis (Volume VI).
https://social.desa.un.org/sites/default/files/IPDB/State%20of%20the%20Worlds%20Indigenous%20Peoples%2 0Vol%20VI%20Climate%20Crisis.pdf

[29] See, for examples, Barreto, J.R. et al. (2025). Indigenous Territories can safeguard human health depending on the landscape structure and legal status. Communications Earth & Environment; Prist, P.R. et al. (2023). Protecting Brazilian Amazon Indigenous territories reduces atmospheric particulates and avoids associated health impacts and costs. Communications Earth & Environment.

For example, Inuit elders in subarctic Canada have experienced summer heat above 30 °C for the first time, causing respiratory stress, and have noted increased injuries due to dangerously unpredictable ice conditions and stormier weather disrupting travel safety. In more arid climates, severe droughts are creating water insecurity and sanitation challenges that heighten health risks. At the same time, heavy rainfall and flooding events are becoming more intense in some regions, undermining community safety. Kashechewan First Nation in subarctic Canada, for instance, has faced spring flood emergencies almost every year for over a decade, forcing evacuations each time. Yet efforts to relocate the low-lying community to safer ground have stalled for years, leaving residents in harm's way and causing deep trauma from the continual cycles of displacement {NA23}. This illustrates how climate-related disasters are straining emergency response systems and inflicting psychological stress on Indigenous Peoples who must repeatedly flee their homes, reproducing similar impacts as when European settlement first began[30].

Shifting climatic conditions are also leading to the spread of diseases and other health threats in Indigenous Peoples territories. Warmer temperatures at higher latitudes and elevations are allowing disease vectors like mosquitoes and ticks to survive in places they never could before. In northern Russia, Indigenous Peoples health teams track climate linked respiratory and zoonotic risks among Nenets and other small numbered peoples, underscoring the need for culturally grounded health surveillance {EE15}. Indigenous Peoples observers in Alaska and northern Canada have noted the emergence of insect-borne illnesses previously unseen in their communities, alongside worrying signs of mental health stress as the land changes so rapidly. In the Great Lakes region, Ojibwe communities such as the Walpole Island First Nation have linked hotter summers and expanding mosquito populations to outbreaks of West Nile virus and other illnesses, compounding existing health burdens {NA51}.

In West Africa, climate shifts combined with deforestation have been connected to outbreaks of diseases like meningitis in rural areas where such illnesses facing Indigenous Peoples were not common before {AF23}. These examples show that as traditional ecosystems are disrupted, Indigenous Peoples face a dual health challenge: rising exposure to unfamiliar pathogens and the erosion of medicinal resources. In boreal Canada, the Black River First Nation has documented how milder winters and drier summers are diminishing wild medicinal plants and berries that members rely on for nutrition and remedies {NA5}.

Such losses undermine community resilience to health issues at a time when they are needed most. Evidence also underscores mental-health burdens and gendered harm, such as Indigenous Peoples women in Peru reporting climate-linked anxiety, grief and caregiving stress that existing services rarely address {LA127}. Despite these growing threats, Indigenous Peoples are actively developing culturally grounded health adaptations. Many are drawing on Indigenous Peoples' knowledge of the land as an early warning system for environmental hazards, while also embracing modern tools. For example, Indigenous Peoples leaders in Canada have begun setting up cooling centers and community check-ins during heatwaves, blending Western public health measures with Indigenous Peoples practices of collective care {NA18}.

Some Arctic communities have improved safety training and monitoring of ice travel routes to prevent accidents as conditions become less predictable. In the Pacific, island communities are revitalizing ancestral approaches to sanitation and water storage to curb waterborne diseases as higher tides and drought threaten freshwater supplies. Indigenous Peoples health organizations are also working to incorporate climate change into their services – from deploying mobile clinics after climate disasters to supporting intergenerational knowledge transfer about healing plants and trauma coping mechanisms. These initiatives illustrate a key theme across the data: Indigenous Peoples resilience builds on combining Indigenous Peoples' knowledge, innovations, and practices.

For instance, after observing increasing heat stress and dehydration cases, some communities are planting shade trees around homes and reviving water-harvesting techniques to keep drinking water accessible. Others are forging partnerships with researchers to monitor vector populations and co-develop localised disease forecasting, ensuring interventions are tailored to cultural and ecological contexts. Other cases emphasise ritual- and calendar-based governance of ecosystems (such as Northern Thailand's tree ordination {AS106)} and Pamiri ecological calendars {EE9}) and transdisciplinary 'One Health' framing that links everyday environmental heritage with health security {AS111}.

Comparison with 2010: In 2010, Indigenous Peoples health and safety in the climate context was largely discussed in terms of vulnerabilities and anticipated risks – analysts warned that rising temperatures could introduce new diseases and that extreme weather would challenge remote communities' emergency response.

Those concerns have since become a lived reality. By 2025, what were once projections (e.g. increased heat-related illness, vector-borne disease spread, routine evacuations) are now regular occurrences backed by numerous case studies. The past 15 years have thus shifted the focus from forecasting problems to documenting them: we now have concrete examples such as Kashechewan's perennial floods and entire Alaskan villages facing novel diseases, underscoring the immediacy of the threat to Indigenous Peoples health and safety is immediate. Approaches have also evolved. In 2010 there were relatively few documented adaptation responses beyond community warnings, whereas today Indigenous Peoples are pioneering responses such as heatwave action plans and integrated health monitoring that marries Indigenous Peoples' knowledges alongside scientific knowledge. Another shift is greater recognition of mental health and cultural loss as climate-related health dimensions, which 2010 discussions only hinted at. Still, many challenges persist: inadequate healthcare access, underinvestment in resilient infrastructure, and slow government action on relocation mirror issues noted in 2010, but now with a greater sense of urgency. The difference is that Indigenous Peoples voices in 2025 are much more central in framing the solutions, whereas in 2010 the emphasis was on their vulnerability. The sector has moved from warning of potential crises to learning from ongoing ones, with Indigenous-led strategies increasingly informing health and safety resilience.

[30] Whyte (2017). Indigenous Climate Change Studies: Indigenizing Futures, Decolonizing the Anthropocene. English Language Notes 55:1-2 Fall 2017.

Traditional Forecasting and Early Warning Systems

Indigenous Peoples maintain place-based forecasting systems that read the sky, waters, winds, ice, flora and fauna to anticipate hazards and seasonal shifts. These customary indicator sets operate through trusted local institutions and social networks and, when linked with scientific tools, strengthen early warnings and decision-making. Such systems are documented widely in all seven socio-cultural regions and demonstrate that bridging frameworks that pair Indigenous Peoples indicators with satellites, sensors and models enhance safety and planning.

Communities interpret suites of indicators – like cloud morphology, wind direction and strength, moon halos, sea temperature and colour, animal movement and vocalisations, flowering and fruiting times, insect emergences, river levels and ice sounds – to anticipate cyclones, floods, droughts, cold snaps, storms, and sea-ice danger. For example, Maheshkhali Island knowledge holders in Bangladesh read cloud forms, wind shifts, halos and bird behaviour to anticipate cyclones {AS6}{AS8}; farmers in the Western Himalayas and Gujarat track plant phenology and bird calls to time sowing and grazing {AS24}{AS28}{AS30}; and in Sri Lanka farmers blend meteorological cues and animal behaviour to forecast rain on which planting depends {AS91}{AS93}.

In East Africa, pastoralists and farming communities similarly combine plant, animal and atmospheric indicators to anticipate rain and droughts (e.g., Luo/Abasuba/Akamba in Kenya {AF60} and Samburu {AF65}); Borana pastoralists in Ethiopia and Kenya maintain sophisticated seasonal outlooks to guide mobility and herd management {AF38}; and Mossi farmers in Burkina Faso have long predicted rainfall using temperature, plant and animal signs {AF12}{AF15}.

In the Arctic, community science tools blend Inuit and Sámi ice-safety knowledge with sensors, remote sensing and forecasts to reduce travel risk {AR33} {AR38} {AR44}. In the Pacific, Indigenous Peoples site-selection knowledge underpins community cyclone shelters (e.g., Vanuatu), and sea-people such as the Moken have used ocean and animal cues to move to higher ground before extreme waves—illustrating how culturally grounded warnings can save lives {AS100}.

Human Settlement, Infrastructure and Transport

Indigenous Peoples worldwide are being pushed to relocate or radically redesign homes, roads, and utilities as sea-level rise, permafrost thaw, storms, and droughts outpace conventional support systems. While Indigenous-led planning emphasises cultural continuity and has yielded successes like Newtok (Alaska) and the Guna move (Panama), most efforts remain hamstrung by funding gaps and bureaucratic delays. The physical habitations and infrastructure of Indigenous Peoples are under intense pressure from climate change. Villages that have stood for generations in certain locations are now being forced to relocate, and critical infrastructure like roads, bridges, and water systems are failing under extreme conditions. Low-lying coastal and island communities are among the most visibly affected. In the Pacific, the Carteret Islanders of Papua New Guinea have become known as one of the world's first Indigenous Peoples to undertake forced climate relocation. Facing relentless sea-level rise and storm surges that made their atoll nearly uninhabitable, the Carteret community began a relocation to higher ground on Bougainville in 2009.

This Indigenous-led effort (organised by the local NGO Tulele Peisa) embodies "migration with dignity," aiming to move families while preserving their culture. Yet progress has been painfully slow – after 15 years, only a small fraction of families have relocated. Funding shortfalls, land disputes, and the difficulties of integrating into new communities have stalled the project, leaving most Carteret Islanders still in precarious conditions on their shrinking atoll. Traditional foods are growing scarce and each passing cyclone brings the risk of what local leader Ursula Rakova calls "a catastrophic genocide… being washed away". The Carteret case is often cited in global climate justice debates as both an early example of planned relocation and a cautionary tale of an adaptation effort hampered by inadequate support – a "well-intended adaptation plan" only partially implemented and viewed as a failure by the community. Meanwhile, on the Atlantic side of the world, the Guna people of Gardi Sugdub in Panama similarly made the difficult decision to relocate their entire island community. After enduring repeated flooding and erosion on their Caribbean island, the Guna in 2010 secured a mainland site and carefully planned a new village that would retain their cultural layout and traditions.

However, bureaucratic delays meant that the actual physical move only began in 2024. The Gardi Sugdub relocation, one of the first Indigenous-planned relocations, highlights how community leadership and cultural considerations can guide resettlement – the Guna negotiated for housing that accommodates extended families and space for their congress house (traditional meeting hall) in the new settlement.
As of 2025, the Guna relocation is finally underway, illustrating both the persistence of Indigenous Peoples in pursuing safety and the sluggish pace at which outside systems respond to looming displacement[31]. In the Arctic and sub-Arctic, entire villages are quite literally falling into the sea or sinking into thawing ground. The state of Alaska has identified dozens of Indigenous Peoples villages at imminent risk from coastal erosion, flooding, and permafrost thaw. Because these changes occur gradually (not as one-time "disasters"), U.S. federal aid mechanisms have been ill-suited to help – a policy gap that has left communities struggling to fund their own moves.

Shishmaref, an Inupiaq village on a barrier island, voted as early as the 2000s to relocate after losing significant chunks of shoreline to the absence of protective sea ice and stronger fall storms. Yet as of 2024, Shishmaref's relocation remains stalled: an initially selected site turned out unsuitable due to permafrost thaw, and obtaining the enormous funds for new infrastructure has proven very difficult. In contrast, the Yup'ik village of Newtok, Alaska has made notable progress. Newtok also decided to relocate in 2009, and over the past decade, with a patchwork of state and federal support, they constructed a new village called Mertarvik on higher ground inland. By late 2024, the majority of Newtok's 340 residents had moved to Mertarvik, with only a final few families preparing to relocate. Newtok's largely successful relocation (the first of its kind in Alaska) stands as a testament to community perseverance and early planning, even as it underscores the immense logistical and financial hurdles involved. The difference between Shishmaref and Newtok also shows how critical consistent support and coordination are; one community managed to navigate the system, while the other is still waiting despite equally urgent threats.

In Canada's Arctic, Inuit hamlets face parallel issues: thawing permafrost is cracking foundations and infrastructure, while coastal erosion endangers fuel tanks and airports. Some communities are having to redesign houses and utility systems to be more flexible or mobile on unstable ground – for example, experimenting with adjustable foundations or seasonal water supply systems

[31] Wallace (2025). "In Panama, Indigenous Guna prepare for climate exodus from a second island home". MongaBay. https://news.mongabay.com/2025/04/in-panama-indigenous-guna-prepare-for-climate-exodus-from- a-second-island-home/

that can handle freeze-thaw cycles. These technical adaptations are often guided by Indigenous Peoples' knowledge of the land's dynamics, combined with engineering input. Beyond the settlement sites themselves, infrastructure that connects and services Indigenous Peoples is being strained. Transportation is a big concern: in tundra and boreal regions, winter ice roads that many remote Indigenous Peoples depend on for supplies are now unreliable or unsafe because they don't freeze solid for long enough. This forces expensive air transport or dangerous trips over thinning ice.

The {AR38} mentioned earlier has been one life-saving adaptation for travel in such regions, allowing communities to make informed decisions about when and where it is safe to traverse sea ice. In mountainous terrains, heavier rainfall and glacial melt are washing out roads and bridges. Indigenous Peoples villages in the Himalayas report that landslides triggered by unseasonal downpours have cut off road access for weeks, delaying vital supplies and medical aid.

In Nepal, community-built footbridges on trekking routes used by Indigenous Peoples traders are increasingly destroyed by flash floods, requiring constant rebuilding on higher ground. Some Andean communities have resorted to ancient modes of transport – like using llamas or walking long distances – when roads become impassable, demonstrating resilience and innovation, but also the regressive impact of climate change on mobility. Meanwhile, water and energy infrastructure are under duress. Prolonged droughts are emptying shallow wells and drying rainwater tanks in Australian Aboriginal outstations, prompting emergency water trucking. In the Amazon, more frequent drought has made river travel (the primary transport in rainforest regions) more difficult as water levels drop; Indigenous Amazonians find their boats grounded in once-navigable rivers, isolating communities for months. Conversely, in low-lying areas, stronger storms are knocking out power lines and contaminating water supplies. Coastal Indigenous Peoples have responded by elevating critical infrastructure – for instance, the Quinault Nation in Washington raised and reinforced the seawall protecting its village and is relocating essential buildings like schools to higher ground after suffering repeated flood damage.

Despite these challenges, Indigenous Peoples are proactively pursuing infrastructure adaptations and community relocations as necessary. What sets Indigenous-led efforts apart is the emphasis on cultural continuity and community consent in these processes. The case studies show that Indigenous Peoples approach relocation not just as moving physical assets but relocating a way of life. This means designing new settlements to include space for ceremonial activities, ensuring sacred sites are cared for (sometimes by commuting back to original territories for rituals), and fighting for land rights in relocation areas so that history does not repeat itself in the form of dispossession. For instance, the Guna of Panama made it a point to secure land title for their new village site and negotiated the layout to mirror their island's social fabric. In Fiji and Vanuatu, some village relocations have been preceded by traditional ceremonies seeking spiritual permission to move ancestral spirits to the new location. When it comes to infrastructure, Indigenous Peoples' knowledge often guides more sustainable solutions.

In the Solomon Islands, villagers built their new school on stilts and using local bush materials after the old one was destroyed by a cyclone, reasoning that flexible, elevated structures fare better against both earthquakes and floods – a wisdom borne out by experience. Increasingly, Indigenous Peoples are not only also engaging with external expertise on their terms: hiring engineers or partnering in research to design infrastructure that aligns with their environment and values (for example, energy-efficient homes that resemble traditional houses, or evacuation routes that follow traditional trails), but they are also increasingly filling these expert roles themselves.

Comparison with 2010:

The difference between 2010 and 2025 in this sector is starkly illustrated by the movement from acknowledging future risks to grappling with present realities. In 2010, reports on Indigenous Peoples' settlements and infrastructure under climate change were filled with warnings – that Arctic villages would face thawing ground, that coastal communities might need relocation soon. By 2025, those predictions have manifested: multiple Indigenous Peoples' communities have actively relocated or are urgently seeking to relocate, and ample evidence of infrastructure failures due to climate events. The conversation has shifted from "if" to "how to" relocate and fortify infrastructure. One notable shift is in learning and approach. Early relocations (like initial plans for Shishmaref or Carteret) struggled with insufficient frameworks and scant support, often treated as ad-hoc crises. Since then, Indigenous Peoples and supporters have distilled lessons: the importance of securing land rights and funding early, the need for community-led planning, and the integration of cultural preservation into relocation.

The Guna's carefully culturally-informed plan or Newtok's phased move led by a tribal relocation committee demonstrate these lessons applied, something largely absent in 2010 when few precedents existed. Another development since 2010 is a growing call in policy arenas for institutional funding mechanisms for climate displacement – influenced in part by high-profile Indigenous Peoples cases, there are now pilot programs and international funds discussing support for community relocation (whereas in 2010 it was barely on the policy radar). However, many challenges remain strikingly similar to those noted in 2010: funding is still patchwork, government processes still move slowly compared to the accelerating impacts, and many communities are effectively stranded in unsafe locations years after recognizing the need to move. For infrastructure, 2010's emphasis was on vulnerability (e.g. warnings that ice roads or coral atolls were vulnerable); in 2025 emphasis is more on adaptation measures (like SmartICE, seawalls, stilt housing) that have been implemented to address those vulnerabilities.

We also see more intra-Indigenous Peoples' knowledge sharing by 2025 – communities that have relocated or rebuilt after disasters are advising others facing the same, something that was just beginning around 2010. In summary, while the urgency and damage to Indigenous Peoples settlements and infrastructure have escalated since 2010, so too has the body of experience on how to respond, albeit hard-won. The current period is one of transition from reactive emergency measures to proactive, planned resilience-building, a shift that was only envisioned in broad terms back in 2010.

[31] Wallace (2025). "In Panama, Indigenous Guna prepare for climate exodus from a second island home". MongaBay. https://news.mongabay.com/2025/04/in-panama-indigenous-guna-prepare-for-climate-exodus-from- a-second-island-home/

Displacement and Relocation

More Indigenous Peoples are being forced to move due to changing climates, yet plans often falter for three clear reasons: short-term funding, unclear land rights and little thought for new livelihoods. Successful cases highlight the importance of Indigenous Peoples leadership, sustained financing, and cultural integrity.

Indigenous Peoples at climate front lines are increasingly forced to consider – or enact - relocation. In Alaska, Shishmaref {AR98} and Kivalina {AR97} remain on eroding barrier islands decades after voting to move, stalled by a US $ billion-scale funding gap. By contrast, the Yup'ik village of Newtok has relocated more than half its residents to Mertarvik through a tribal relocation committee and patch-work federal support {AR94}. Tuvalu's Coastal Adaptation Project is buying time by reducing coastal risk on Funafuti and outer islands, complementing national 'migration with dignity' pathways {PA95}. In the Pacific, the Carteret Islanders' Operation Resettlement has struggled since 2006: only a fraction of families have moved to Bougainville, citing finance shortfalls and land-sharing tensions {PA76}. Fiji's Narikoso relocation was announced in 2012 but sat idle for years, exposing villagers to repeated storm surges until renewed funding arrived in 2022 {PA49}.

Kiribati's "Migration with Dignity" policy purchased Fijian farmland as a possible refuge but has yet to relocate any community {PA54}. Vanuatu's Lateu Village relocation on Tegua demonstrates community-led, small-scale planned retreat with cultural continuity at its core {PA97}. Mainland displacements mirror island cases. Panama's Guna Yala people are moving from the flood-prone San Blas islands to new mainland settlements {LA90}. Canada's Kashechewan First Nation awaits relocation after flood evacuations stretching back to 1976 {NA23}. Nagigi village in Fiji links coastal setbacks to livelihood restoration, illustrating how staged, in-place adaptation can delay or avoid permanent displacement {PA107}.

Displacement settings multiply climate hazards while straining food and water systems. However Indigenous Peoples adaptation is creating initiatives that strengthen nutrition amid heat and flood risk, such as in the Sahrawi camps near Tindouf, Algeria, where refugees run low-water hydroponics and family gardens to buffer heat, drought, and flood shocks while improving access to fresh protein {AF116}. Common obstacles include fragmented funding, contested host-land tenure, and inadequate livelihood planning. Consequently, international bodies now urge comprehensive, community-led relocation frameworks. Fiji's 2018 Planned Relocation Guidelines, for example, were shaped by Narikoso's delays and Vunidogoloa's earlier move.

Change since 2010: Advance Guard flagged potential "climate refugees"; fifteen years on, the threat has materialised, yet institutional support remains patchy. Successes like Newtok show relocation can work when Indigenous Peoples leadership, long-term finance and cultural integrity guide the process – conditions still absent in many stalled projects.

Urban Indigenous Peoples Experiences

More than half of the world's Indigenous Peoples now live in cities, where colonial assumptions render them "invisible" even as they suffer disproportionate climate threats. Yet by mobilising traditional knowledge, women-led social networks, and co-governance models, urban Indigenous Peoples are demonstrating effective climate adaptation, highlighting a need for city plans to formally recognise their rights and expertise. Today, more than half of Indigenous Peoples globally live in cities[32], yet these communities face a dual challenge of visibility – colonial legacies often treat cities as non-Indigenous spaces – and heightened vulnerability to urban climate impacts like heatwaves, floods, and pollution.

At the same time, they draw on rich cultural knowledge and social networks to adapt. City governments are beginning to acknowledge this reality, collaborating with Indigenous Peoples leaders to address shared risks. Still, many urban adaptation plans have yet to fully recognise Indigenous Peoples' rights and knowledge, highlighting a significant gap in climate policy[33]. Urban Indigenous Peoples' adaptation strategies often mirror those proven in rural homelands, with necessary adjustments for the city context. In Auckland, co-governance of the Te Auaunga Creek operationalises that principle – Māori knowledge (mātauranga) shapes flood-control design, turning a hard-engineered drain into a living wetland and teaching tool {PA67}. In Seattle, the Daybreak Star Indian Cultural Center's park restoration re-weaves Coast Salish stewardship into Discovery Park's bluffs {NA75}, while in the Cook Islands, Kuki Airani communities applied Tivaevae values to design a cyclone-resilient community centre prototype that weaves Oraanga Meitaki (holistic well-being) into its very form {PA44}.

Women's leadership and social networks remain cross-cutting strengths. Rural cases such as the Mcitsheni women's gardens {AF103} and Latin American women's DRR coalitions {LA1} show how gendered knowledge translates into resilience. Accra's Ga communities {AF53} demonstrate the same dynamic in dense urban quarters – using compound gardens, communal water storage and intergenerational climate signs to buffer heat and floods. These neighbourhood-scale actions echo rural seed-sovereignty movements {AS33}, illustrating how Indigenous Peoples women adaptively transfer stewardship practices from homeland to city. Indigenous Peoples networks bring traditional warning systems, healing practices, and solidarity economies into city communities – enhancing urban preparedness in ways conventional systems can miss.

4.3 Livelihoods and Stewardship

Agriculture and Food Security

Harsher and more erratic weather patterns, new pests, and shifting ecosystems are undermining Indigenous Peoples agriculture, pastoralism, fisheries, and wild-food harvesting. Indigenous Peoples are countering with ancestral strategies, like diversified cropping, seed banks, agroforestry, and mobile grazing, to buffer yields and sustain food security.

[32] E.g. In Canada, 45 % of Registered First Nations people, 50 % of Inuit and 70 % of Métis reside in urban areas. Indigenous Services Canada (2020). Annual Report to Parliament 2020. https://www.sac- isc.gc.ca/eng/1602010609492/1602010631711

[33] Indigenous Climate Hub (2023). Urban Indigenous-led Climate Adaptation Pathways. https://indigenousclimatehub.ca/2023/02/urban-indigenous-led-climate-adaptation-pathways/

Climate change is disrupting Indigenous Peoples agriculture and food systems worldwide, challenging both cultivated farming and traditional food harvesting. Many Indigenous Peoples farmers report that seasonal patterns have become erratic, with rains arriving too late or in downpours that damage crops, followed by prolonged dry spells. In the West African Sahel and savannahs, for instance, early or unseasonal rains sometimes trigger crops to germinate only to have seedlings die when expected rains fail, leading to repeated crop failures. Improved zaï/tassa pits in Burkina Faso and Niger buffer yields against erratic rains while rebuilding soils {AF16}{AF89}. Across Asia's Indigenous Peoples farming communities, similar patterns are evident: in the Himalayas and Southeast Asia, shifting monsoons and unpredictable weather have caused both droughts and floods that devastate fields.
In Nepal's Mustang region, intense rainfall events now trigger landslides that wipe out terraced fields and mountain roads, isolating villages and destroying harvests. Likewise, unprecedented flooding in 2006 inundated the Chittagong Hill Tracts of Bangladesh for over two weeks, ruining homes and swidden fields of Indigenous Peoples like the Chakma. These incidents, once considered rare, show how climate extremes are undermining food production and access for many Indigenous Peoples. And across Mesoamerica and mainland Southeast Asia, communities are doubling-down on agrobiodiversity - revitalising milpa and native seed networks in Mexico {LA119} {LA121} and maintaining mountain rice agro-ecosystems like the Hani terraces {AS112} to buffer shocks and stabilise yields.

Another major challenge is the emergence of pests and diseases that threaten crops and livestock under changing climate conditions. Indigenous Peoples farmers in tropical regions note that warmer temperatures and altered rain patterns are facilitating new infestations. In northern Indonesia, for example, Sasak communities on Lombok Island have had to battle unusual swarms of insects attacking their rice and maize – outbreaks linked by local experts to the changing climate. Across forested landscapes in Asia, Indigenous Peoples report that staple crops are suffering from pests appearing out of season or in greater numbers than before. These trends erode food security and put centuries-old agricultural practices under strain. In response, Indigenous Peoples are leveraging their deep agroecological knowledge to adapt.

A common theme in the case data is a return to traditional, diversified cropping systems that can better withstand climate volatility. In Burkina Faso's drylands, farmers in Aribinda have long planted both short-cycle and long-cycle millet varieties together on the same plots, a strategy that hedges against unpredictable rainfall – if rains cut short, at least the fast-maturing millet yields, and if rains last longer, the slower sorghum also produces grain. This intercropping of multiple varieties, while not geared to commercial monocrops, has proven vital for household food security by ensuring something can be harvested under erratic conditions. Replicable storage and preservation techniques are buffering shocks, for example flood-safe seed selection and storage in Mozambique's Xai-Xai {AF87}, pest-proof granaries in Egypt's Dakhla oases {AF36}, dry-grain processing in Tamil Nadu {AS45}, and Andean waru waru raised-field systems that store water and blunt frost–drought cycles {LA108}.

Across the world, Indigenous Peoples are revitalizing resilient crops and farming techniques that had declined during the push for cash crops. In India, Adivasi farmers in Telangana have revived a broad spectrum of hardy native millets after years of reliance on water-intensive commercial crops. Through community seed banks led by Indigenous Peoples women, they reintroduced sorghum, foxtail millet, pearl millet and other traditional grains known for drought tolerance. These crops thrive in poor soils with erratic rain, and during recent crises – including a pandemic lockdown and severe floods in 2020 – these farming communities were not only food secure but even shared surplus grain with neighbours.

By maintaining seed diversity and sovereignty, they buffer their families against climate shocks and reduce dependence on external food markets. Similar stories come from Mesoamerica: Mayan farmers are bolstering the age-old milpa system (intercropping maize, beans, squash and more) to keep soils fertile and yields stable under shifting rainfall, while Lenca communities in Honduras credit their traditional Quezungal agroforestry method (planting crops under perennial trees and mulching) with saving their harvests. In one case, a Honduran village using Quezungal techniques suffered only minimal crop losses during a recent category-4 hurricane, in stark contrast to neighboring non-Indigenous farms that were devastated. These examples highlight how agroecological knowledge – terracing, mulching, mixed cropping – is enabling Indigenous Peoples farmers to adapt at the grassroots level.
Studies affirm that Indigenous Peoples farmers who adjust planting times or soil management based on ancestral knowledge are better weathering multiple climate stressors.

For pastoral societies, maintaining food security often means protecting their herds and grazing lands under harsher conditions. Mobility is key: in East Africa, the Maasai have demonstrated the value of their customary rotational grazing (alalili) in a changing climate. By moving cattle, goats, and sheep across different microclimates seasonally, and reserving certain pastures for drought periods, they prevent overgrazing and ensure forage even in dry years. This practice, once seen as antiquated by outsiders, is now recognised as a sustainable rangeland management system under climate stress. There are initiatives to formally support such Indigenous Peoples strategies; for example, in Niger, pastoral communities have rehabilitated degraded drylands by digging "improved tassa" rainwater harvesting pits (an enhanced form of their traditional planting pits) and enforcing fallow rotations, allowing vegetation to recover and providing fodder during droughts. These measures enhance herd survival and thus safeguard food and income from livestock.

Indigenous Peoples are not only adapting how they produce food, but also fighting to protect wild foods and fisheries that are integral to their diets. Along Canada's Pacific Northwest coast, First Nations have observed dramatic declines in salmon runs due to warming rivers and altered stream flows. In 2015, extreme river temperatures (above 21 °C) led to a mass die-off of salmon in the Columbia River, a loss that struck at the heart of Coast Salish cultures that depend on salmon. Tribal monitors have since documented diseased, lesion-covered salmon struggling in overheated waters, and projected that climate change will drastically reduce freshwater flows for salmon nurseries. In response, Indigenous Peoples nations are ramping up watershed

restoration—replanting riverbanks, removing barriers, restoring estuaries—to sustain fisheries. Some have combined traditional salmon knowledge with hydrological modeling to advocate for measures like cool-water releases and habitat protection. On land, many Indigenous Peoples report the loss of wild food species (game animals, edible plants, roots) as climates shift.

Hunters notice animals like caribou and deer altering their migration routes or declining, while gatherers find once- abundant berries drying up on the vine. These trends threaten food sovereignty and nutritional health. Indigenous Peoples' food sovereignty initiatives documented in the cases are tackling this by monitoring ecosystem changes and pushing for stronger climate action to protect these resources. They are also preserving traditional food processing and storage techniques (e.g. smoke-drying fish, seed banking) to ensure some reserve in times of scarcity.

Comparison with 2010:

The situation in 2025 shows both continuity and intensification of trends noted in 2010. Fifteen years ago, Indigenous Peoples farmers and harvesters were already observing unusual weather and warning that climate change could upend planting and hunting calendars. The 2010 sector summary highlighted concerns about drought frequency and food insecurity, and encouraged leveraging traditional farming knowledge. Those early concerns have been borne out by the data: what were once occasional anomalies (such as a failed rainy season or a pest outbreak) have become regular challenges in many communities. However, the post-2010 period has also validated the effectiveness of Indigenous Peoples adaptive practices.

In 2010, examples of solutions like millet diversification or agroforestry were often presented conceptually; by 2025 there is robust documentation of these solutions in action across regions, and their success in buffering yields during climate extremes is better understood (e.g. milpa systems surviving hurricanes, seed banks sustaining communities through disasters). Another shift is the scale of implementation. Traditional practices that were locally maintained in 2010 have since been scaled up or revived across wider networks – witness the thousands of Andean families building water ponds or the large women-led seed exchange networks in South Asia, which were not as prominent before.
There's also more policy support now: some national adaptation plans recognise millets and other Indigenous Peoples crops for enhancing climate resilience, a validation that was lacking in 2010. Nonetheless, enduring issues remain. Indigenous Peoples still contend with marginalization from markets and extension services, meaning many struggle without adequate support – a point also made in 2010.

And while climate impacts on food systems have intensified (glacier melt now critically undermining Andean irrigation, ocean warming bleaching reef fisheries, etc.), funding and research devoted to Indigenous Peoples agriculture adaptation are still limited. In summary, since 2010 the urgency around Indigenous Peoples' food security under climate change has grown, alongside a clearer picture of how Indigenous Peoples' knowledge offers solutions. The narrative has shifted from raising awareness of potential impacts to sharing lessons from concrete adaptation successes, even as calls for greater support and rights (e.g. to land, water, seeds) echo those from 2010 but with renewed force.

Sustainable Livelihoods and Social Systems

Indigenous Peoples have moved from being framed mainly as vulnerable to becoming recognised leaders in climate adaptation, with women and youth spearheading community-driven solutions that weave traditional knowledge and modern technology to diversify livelihoods, reinforce social cohesion, and assert self-determination. While these culturally grounded innovations are measurably boosting food security, income, and conflict resolution, persistent gaps in funding and political inclusion still temper their full transformative potential.

Climate change touches every aspect of Indigenous Peoples' societies, not just the biophysical environment. Indigenous Peoples case studies since 2010 reveal how climate stresses are intertwined with livelihoods, cultural practices, and social cohesion – and how Indigenous Peoples are responding in innovative, community-driven ways. A key theme is the leadership of Indigenous Peoples women in adapting livelihoods and strengthening social systems. Across Africa, women are increasingly at the forefront of local adaptation initiatives.

In South Africa's KwaZulu-Natal, for example, women of Mcitsheni village organised cooperative vegetable gardens and rainwater storage projects to combat food insecurity amid irregular rains. By leveraging their traditional networks of friendship and trust, they managed to diversify diets and even generate income from surplus produce, all while reinforcing social ties in the community. Their grassroots project has reduced the village's reliance on a single climate-vulnerable crop (maize) by introducing hardier vegetables like potatoes, and it sparked an entrepreneurial ripple effect – some women secured grants to formalise other traditional skills like dressmaking, creating new livelihood streams. Similarly, in Cameroon's North-West, Indigenous Peoples Mbororo Fulani women have emerged as key agents of climate adaptation within their pastoral society. Traditionally marginalised both as women and as Indigenous Peoples herders, they have drawn on intimate environmental knowledge (of fodder plants, weather signs, wild foods) to maintain their households during worsening droughts. While Mbororo men travel farther in search of pasture, women have innovated by harvesting water, conserving fodder, and planting household gardens to sustain families.

With support from NGOs providing training in climate-smart agriculture, these women are diversifying incomes (for instance, selling vegetables or dairy products) and have gained a stronger voice in community decisions, even challenging taboos around girls'

education and economic roles. Recent cases show women- and youth-led climate enterprises coupling income with restoration – from gender-responsive finance in the Colombian Amazon {LA125}, to Amazigh women-run Argan tree cooperatives {AF82}, to village bio-factories in El Salvador {LA126}. Such gender-informed adaptations not only bolster food security and income, but also elevate women's status and decision-making power – a transformative social change catalysed by climate necessity.

Another prominent trend is the mobilisation of Indigenous Peoples youth and intergenerational knowledge exchange as a response to climate threats. Indigenous Peoples youth, often tech-savvy and globally connected, are bridging traditional wisdom with new ideas. One early example was the Tribal Campus Climate Challenge (2007–2010) which engaged students from over 30 tribal colleges in the United States and Canada.

These young leaders launched recycling programs, planted community gardens, and installed solar panels on campuses, effectively jumpstarting a new generation of Indigenous Peoples climate leaders. The initiative's legacy is evident years later: many participating colleges maintained sustainability programs, and alumni have gone on to lead community climate projects.
Building on such efforts, Indigenous Peoples youth networks today use social media and community workshops to spread climate awareness and push for action, while also learning from Elders about resilience. In the Canadian Arctic, for instance, youth have partnered with Elders to document travel hazards on thinning sea ice and then used smartphone apps to share safe routes. This fusion of Indigenous Peoples' knowledge and technology is a recurring motif in the case data. The SmartICE initiative is a standout example: developed by Inuit in Greenland and Canada, SmartICE pairs Inuit ice knowledge with GPS-linked ice sensors to map sea-ice thickness in real time. Now active in dozens of communities, it enables safe travel for hunters and travellers even as climate change renders ice conditions unreliable.

By coupling age-old observational skills with modern tech, SmartICE has saved lives and livelihoods (hunting, fishing) and also created local jobs (Inuit youth are trained to manufacture and deploy the sensors). It exemplifies how Indigenous Peoples are leading with innovation grounded in culture – an approach being replicated in other sectors (e.g. Māori and Aboriginal communities developing apps for seasonal knowledge, Amazon tribes using drones to monitor forests, etc.). Climate change has also tested and, in some cases, strengthened social cohesion and conflict resolution mechanisms among Indigenous Peoples. In areas where resource scarcity risked fueling conflict, Indigenous Peoples have turned to cooperation rooted in customary laws. A powerful example comes from Kenya's drought-prone north, where Turkana and Samburu pastoralists historically competed (sometimes violently) over water and pasture.

With drying rivers and receding wetlands increasing tensions, an initiative introduced sand dam projects to harvest water in the dry season. Crucially, these dams were built by mixed teams from both tribes – a condition of the project was equal participation of Turkana and Samburu men and women working side by side. The process of labouring together to construct the dams helped rebuild trust and foster dialogue. As a result, not only did the communities gain reliable clean water and restored grazing land from the sand dams, but they also experienced a notable decline in resource-based conflicts. The project reports fewer livestock thefts and smoother dispute resolution, as the shared investment in the dams created a sense of mutual custodianship.

This underscores how Indigenous Peoples conflict resolution and peace- building can be integrated into adaptation projects – in this case, blending engineering with social healing. Similarly, in Namibia's Nyae Nyae Conservancy, San communities managing wildlife and grazing through communal conservancy rules have found that sustaining the environment (e.g. rotating hunting areas, protecting water holes) also requires sustaining social agreements. Their community governance structure has successfully balanced the needs of people and ecosystem, reducing poaching and overuse, and distributing benefits like tourism income to all families.

By ensuring everyone has a stake, they have strengthened internal social systems against the stresses of drought and economic shifts. Underpinning many of these efforts is a reclamation of self-determination and cultural values in climate responses. Indigenous Peoples emphasise that their adaptation initiatives work best when they align with cultural practices – whether it's ceremonies to bless a new planting season, or storytelling with Elders to educate youth about past climate extremes. The case studies show multiple instances of Indigenous Peoples' values shaping adaptation: the "Blue Ecology" framework in western Canada reframes climate action through an Indigenous Peoples water-centric worldview, treating water as a sacred living entity and integrating spiritual respect into watershed planning.

This approach has influenced local water management plans, showing that Western science alone is not enough without the guidance of Indigenous Peoples ethics. In Latin America, Indigenous Peoples women's groups have organised community climate workshops that begin with traditional songs and circles to ground participants in shared identity before tackling disaster preparedness, blending emotional resilience with practical training. Meanwhile, new Indigenous-led funding platforms are enabling communities to set their own priorities. In 2020, First Nations in Canada established the Indigenous Peoples Resilience Fund, which by 2023 had provided around US$4 million directly to community-designed projects like food sovereignty gardens, youth/Elder knowledge camps, and local emergency response plans. This decolonised funding model trusts Indigenous Peoples to decide how to strengthen their livelihoods and social systems, and supports everything from cultural revival initiatives to solar panel installations – all under the umbrella of resilience. The fund's success is inspiring similar models elsewhere, a notable evolution since 2010 when most climate funding for Indigenous Peoples was top-down.

Comparison with 2010:

The landscape of Indigenous Peoples' livelihoods and social adaptation has broadened significantly since 2010. At that time, analyses often portrayed Indigenous Peoples as vulnerable populations in need of external support, with some acknowledgment of their coping strategies. In 2025, we see a narrative shift to Indigenous Peoples as leaders and innovators in climate adaptation. Many of the themes present today – women's leadership, youth activism, blending of Indigenous Peoples' knowledge alongside scientific knowledge – were only nascent or advocated in principle in 2010. Now there is concrete evidence: e.g. women-run adaptation projects with measurable outcomes, youth-led campaigns that have grown into lasting programs. The scope of livelihood adaptation has expanded from predominantly land-based activities (farming, herding) to include new economic and capacity-building dimensions (community enterprises, education, advocacy).

One important shift is the greater prominence of rights-based

and network-based approaches. In 2010, issues like land rights and self-determination were acknowledged as important for adaptation, but the past decade has seen more Indigenous Peoples successfully asserting those rights (court victories, co-management agreements, direct action) and building networks (regional Indigenous Peoples climate alliances, funds) to support each other. The result is that Indigenous Peoples and their social systems are more organised and vocal in climate discourse than they were in 2010.

Nevertheless, many challenges identified in 2010 persist: inadequate funding, marginalization from decision-making, and conflicts over resources remain obstacles in 2025. What has changed is that Indigenous Peoples have accumulated a wealth of experience and documented successes to draw upon. This learning – about what works (e.g. culturally-grounded projects, empowering women and youth, TEK-science synergies) and what pitfalls to avoid (e.g. one-size-fits-all programs, exclusion of community voices) – marks a maturation of the sector since 2010. In summary, the focus has shifted from simply coping with climate impacts to actively transforming livelihoods and social relations in ways that strengthen Indigenous Peoples' self-determination and resilience for the long run.

Stewarding Water, Land and Natural Resources

Indigenous Peoples worldwide are blending time-tested knowledge with innovative techniques to secure water, protect ecosystems, and sustain livelihoods. These initiatives succeed only when they rest on robust Indigenous Peoples governance, resource rights, and land tenure systems that allow Indigenous Peoples to regulate resource use.

Indigenous Peoples have long stewarded water, land, and natural resources through relational, reciprocal and sustainable practices, and these skills are proving crucial in the face of climate change. The case studies illustrate a spectrum of Indigenous-led initiatives aimed at ensuring water security, protecting ecosystems, and sustaining natural resources under increasingly variable conditions. In many regions, water has become a central concern – some communities face too little (drought), others too much (floods), often in the same year. Indigenous Peoples' adaptation strategies accordingly focus on water management innovations that blend Indigenous Peoples' knowledge with new techniques.

Communities built thousands of small earthen dams and ponds to capture scarce rainfall and glacial meltwater for use in the dry season. They also revived ancestral water distribution systems – small canals and spring-fed irrigation – to maximise efficiency. This massive effort, grounded in Indigenous Peoples community organization, successfully expanded water storage capacity in a region grappling with shrinking glaciers, and allowed farmers to irrigate fields when rains faltered. Combined with reintroducing native crops and constructing stone terraces, these water measures have helped buffer these Andean communities against droughts and frosts. In Ladakh, India, villagers facing dwindling glaciers took inspiration from Indigenous Peoples' knowledge of ice and snow: they started creating "ice stupas," artificial glaciers made by piping winter water into conical ice mounds that slowly melt in spring to provide irrigation.

This innovation, essentially a modern implementation of traditional winter water storage, has been life-saving for agriculture in several Ladakhi villages and is spreading to other Himalayan communities. Meanwhile, in the Philippines' Cordillera, Igorot communities continue to maintain their famous rice terrace irrigation systems, some over 2,000 years old, adjusting planting schedules as needed. These terraces not only ensure efficient water use but also prevent landslides by stabilizing mountain slopes. Such examples show how Indigenous Peoples' water management systems – from the Andes to the Himalayas – are being bolstered and adapted to new climate extremes, often with minimal external investment but deep local knowledge.

Beyond technical measures, governance of water and land through Indigenous Peoples institutions is a powerful tool for climate adaptation. The Pidlisan tribe in the Philippines demonstrates this through their customary law system called Lampisa for water distribution. Comprising four villages in Sagada, their territory includes vital montane watersheds feeding terraced farms. The Pidlisan, led by elders (amam-a) in ward councils (dap-ay), have long enforced rules to protect forests and regulate water sharing among villagers. In the late 1990s, when an outside threat emerged (a dispute over their watershed), the community even resorted to armed defense of their water source – a testament to how integral their water governance is to survival. With climate change now altering rainfall timing, the Pidlisan have leveraged this governance system to enforce stricter watershed protections (e.g. banning logging on steep slopes) and to mediate conflicts when water runs low. Their example underscores that secure land tenure and community enforcement of resource rules can significantly enhance resilience: by keeping their forest intact, they ensured continuous spring flows even during regional droughts.

Similarly, in Kenya, the enactment of legal rights for a coastal Indigenous Peoples clan to manage their marine area (after a court victory in 2019) has empowered them to revive traditional sea tenure practices (such as rotational harvesting of fisheries and mangrove stewardship) to combat climate stresses like coastal erosion. Legal recognition of Indigenous Peoples guardianship over sacred waters (e.g., cenotes in Yucatán, {LA117}) and revived customary conservation (e.g., rāhui in Aotearoa, {PA105}) demonstrate that tenure-plus-tradition is a practical climate-water strategy. These cases highlight that recognizing Indigenous Peoples' governance and rights is not just a justice issue but a practical climate strategy, as it enables time-tested governance systems to function in a changing environment.

Forest and biodiversity management by Indigenous Peoples emerges in the data as a major factor in climate resilience. In the Amazon Basin, multiple studies have confirmed that Indigenous Peoples territories serve as strongholds against deforestation and environmental degradation. Several studies have demonstrated that areas under Indigenous Peoples tenure have significantly lower deforestation and incidence of wildfires compared to surrounding lands – effectively curbing carbon emissions and preserving water cycles[34]. For instance, the presence of the Xingu Indigenous Park and other territories in Mato Grosso has helped maintain a forest corridor that mitigates regional drought by generating rainfall.Moreover, Indigenous Peoples activists are linking forest protection with livelihood development.

The Xingu Seed Network in Brazil is an an Indigenous-led nature-based enterprise founded by the Kisedje people in 2007. The network trains Indigenous Peoples and local participants (many of them women) to sustainably gather seeds from dozens of native tree species in their territories. These seeds are then sold to reforestation projects and governments for restoring degraded lands. By 2023, the network had grown to around 600 collectors from multiple tribes and rehabilitated thousands of hectares of forest in the Xingu basin, while injecting income into communities. This model not only sequesters carbon and revives ecosystems, but it also strengthens Indigenous Peoples economies and inter-community cooperation which improves climate resilience. Indigenous Peoples are also engaging in co-management of natural resources with state or scientific partners, ensuring that adaptation measures respect Indigenous Peoples' knowledge. In Finland, the Skolt Sámi people initiated a co-management plan for their salmon river in 2011 after noticing climate impacts on fish populations. By combining Sámi traditional knowledge of salmon spawning and river ecology with scientific monitoring, they successfully advocated for restoring spawning grounds and adjusting fishing practices to bolster salmon resilience. This collaboration addressed novel issues like warmer waters and even microplastic pollution while reinforcing Sámi fishing rights. In Canada's Northwest Territories, Denésoline (Chipewyan) communities near Great Slave Lake have partnered in managing caribou herds stressed by climate change, bringing Indigenous Peoples tracking knowledge into wildlife management plans. These partnerships can yield creative solutions: some Inuit communities co-designed ice cellars that use permafrost to store traditional foods as natural ice conditions change, ensuring food security while keeping cultural practices.

Underpinning many of these resource management efforts is the philosophy of respect, relationality and reciprocity that Indigenous Peoples have toward the natural world. This worldview is being increasingly recognised as a guiding principle for climate adaptation. For instance, Māori and Pacific Islander communities emphasise concepts of kinship with the land and ocean (e.g., treating rivers as ancestors or mangroves as kin), leading to innovative legal approaches like granting legal personhood to rivers and forests to strengthen their protection. In New Zealand, tribes have successfully advocated for laws that acknowledge the Whanganui River as a living being with rights, aligning legal frameworks with Indigenous Peoples stewardship—an approach now influencing climate resilience by ensuring rivers are kept healthy for future generations. Similarly, the Yurok Tribe in California declared rights of the Klamath River, bolstering efforts to remove dams and restore salmon runs in the face of climate-induced droughts.

Comparison with 2010:

In 2010, discussions of Indigenous Peoples' resource management in the climate context were often hopeful notes about the potential of traditional practices to aid adaptation and mitigation. By 2025, those hopes are backed by substantial evidence and on-the-ground examples. One clear shift is the level of recognition and support for Indigenous-led conservation. In 2010, only a few pioneering cases (like Amazon Indigenous Peoples reserves or community forestry in Asia) were highlighted; now, a much broader array of cases – from water innovations to global advocacy for Indigenous Peoples land rights – demonstrate that Indigenous Peoples resource management is central to climate resilience strategies. International bodies like the IPCC and IPBES have now explicitly acknowledged that securing Indigenous Peoples lands and knowledge is one of the best ways to protect forests and biodiversity, but this affirmation wasn't as pronounced in 2010. Additionally, the past decade and a half have seen more ethical engagement of Indigenous Peoples' knowledge with scientific knowledge systems. In 2010, a common refrain was the need to bridge these knowledge systems; now there is concrete outcomes of such bridges – whether it's ice stupas or co-managed fisheries and fire programs. The concept of nature- based solutions championed globally often draws from Indigenous Peoples' practices proven over this period. However, persistent challenges temper these advances. Many of the issues flagged in 2010 remain issues today: lack of formal land rights in many places, which undermines long-term resource management, or when rights are recognised, an absence of enforcement; encroachment by mining, logging, or agribusiness (now sometimes under the guise of "green" projects like biofuels or renewable energy installations) that can sideline Indigenous Peoples stewardship; and insufficient financial support for scaling up Indigenous Peoples adaptations.

have been some positive shifts in policy – more countries now have laws recognizing Indigenous Peoples conservation areas or granting land titles (e.g. Brazil's continued demarcation of Indigenous Peoples lands until recently, or the expansion of Indigenous Protected Areas in Australia). These changes since 2010 have provided better footing for Indigenous Peoples resource management in certain regions. In essence, the period since 2010 has confirmed that Indigenous Peoples management of water, land, and biodiversity is not a nostalgic idea but a living, evolving set of solutions to the climate crisis. The 2025 sectoral picture is one of broader adoption and validation of Indigenous Peoples' strategies that were previously undervalued. The challenge ahead, as noted in comparisons, is to remove the remaining barriers (like insecure tenure, funding gaps, and exclusion from decision-making) that 2010's analyses already pinpointed – these barriers are better understood now, and addressing them is increasingly recognised as a prerequisite for effective climate adaptation and sustainable resource management.

Pastoralism

Climate change severely disrupts Indigenous Peoples pastoralists, shrinking rangelands and devastating livestock, which in turn threatens livelihoods and cultural traditions. Pastoralists adapt best when they can draw on their knowledge, keep migration routes open, and count on laws that respect their rights.

Indigenous Peoples pastoralists from the Sahel to the steppe, the Andes and the Arctic face a common reality: climate change, compounded by colonial restrictions in movement, is shrinking rangelands, upsetting migration calendars and decimating herds. Across these regions, climate-driven shocks threaten not just income but the cultural fabric of mobile pastoral life. In Africa's drylands, Turkana herders now endure drought cycles so severe that livestock crowd ever-smaller rivers and wells, fuelling conflict {AF68}. On the high Altiplano of Peru, sudden friaje cold snaps freeze grazing grounds and kill alpacas – Quechua and Aymara families lost up to 70 % of their herds in the 2003 event alone {LA106}. In Mongolia's grasslands, after parching summer drought, a frigid dzud winter can wipe out half a household's animals in weeks {AS72}.

Sakha herders in Yakutia are co-producing rain-on-snow knowledge to reroute migrations and reduce winter mortality, evidencing adaptive planning in continental snow-ice systems {EE24}. Comparative evidence shows transhumance and rotational

[34] Camino, M. et al. (2023). Indigenous Lands with secure land-tenure can reduce forest-loss in deforestation hotspots. Global Environmental Change 81: 102678 *https://doi.org/10.1016/j.gloenvcha.2023.102678;* Baragwanath, K. & Bayi, E. (2020). Collective property rights reduce deforestation in the Brazilian Amazon. PNAS 117: 20495-20502 *https://doi.org/10.1073/pnas.191787411*

mobility reduce reliance on purchased feed, spread climate risk and sustain rangelands - but mobility is constrained by blocked corridors, sedentarisation and contested water points. Cases from Maasai and Borana systems (East Africa), High Atlas Amazigh, Raika camel herders (India), Kazakh/Uyghur herders (China) and Mongolia's mountain grasslands point to corridor protection and water investments as decisive enablers. {AF35} {AF39} {AF83} {AS38} {AS18} {AS72} {AF90} {AF30}

Innovative application of Indigenous Peoples' knowledge remains the basis of adaptation. In Chad, a community-built 3-D landscape model allowed Mbororo herders to map wells, corridors and sacred groves, helping local authorities broker peaceful migration agreements {AF26}. The Mbororo mapping–rights sequence in Chad {AF27} shows how locally generated evidence can unlock legal recognition of corridors and lower conflict costs.

In Cameroon's Mbororo Fulani society, women now manage household gardens, fodder banks and small dairies that feed families when cattle fail, simultaneously challenging gender norms and diversifying incomes {AF20}. These successes underscore four policy imperatives: (1) protect pastoralist corridors and communal tenure so herders can move with the climate; (2) financially support Indigenous Peoples early-warning and water-harvesting innovations that are proving effective at local scale; (3) embed gender-responsive, rights-based approaches that recognise women's and elders' knowledge in national adaptation plans, and (4) These successes underscore four policy imperatives: (1) protect pastoralist corridors and communal tenure so herders can move with the climate; (2) financially support Indigenous Peoples early-warning and water-harvesting innovations that are proving effective at local scale; (3) embed gender-responsive, rights-based approaches that recognise women's and elders' knowledge in national adaptation plans, and (4) . Where such enabling conditions exist, pastoral systems can actively prepare themselves for a hotter, more volatile future. Where such enabling conditions exist, pastoral systems can actively prepare themselves for a hotter, more volatile future.

4.4 Mitigation and Energy

Climate Change Mitigation Measures

Indigenous Peoples' mitigation efforts have transformed from mostly secondary effects of adaptation (community forestry, traditional burning, and modest renewable projects), to large-scale intentional Indigenous-led fire-management programs, forest restoration, renewable-energy microgrids, and rights-based land protection that deliver quantifiable emissions cuts while advancing cultural and livelihood goals. Beyond fire and forests, communities are piloting biodiversity-crediting and youth-led energy autonomy, signalling a broader palette of Indigenous-defined mitigation instruments aligned with territorial plans.

A decade and a half ago, Indigenous-led climate change mitigation was not the primary focus of most Indigenous Peoples' climate initiatives – adaptation to immediate impacts tended to take precedence. However, early Indigenous-led mitigation efforts included community forestry and agroforestry projects that incidentally sequestered carbon, the revival of traditional fire management to reduce wildfire emissions, and a few forays into renewable energy (often framed as sustainable development rather than carbon reduction). For example, one of the earliest and most cited projects was Scolel'te in Chiapas, Mexico, where Maya farmers were planting trees and improving fallows to capture carbon {LA116}. Likewise, in Australia, Aboriginal ranger groups had just piloted controlled burning programs to prevent massive late-season wildfires, demonstrating measurable emissions cuts (the West Arnhem Land Fire Abatement project, {PA26}). These early cases showed that Indigenous Peoples' knowledge could contribute to mitigation goals, even if in 2010 the concept of "Indigenous mitigation" was nascent and debates about REDD+ and carbon markets were intensifying. The baseline then was cautious engagement – few Indigenous Peoples were explicitly pursuing mitigation for climate's sake, but many traditional practices had direct mitigation and carbon reduction benefits.

However, Indigenous Peoples' role in mitigation measures has grown both in practice and recognition. Indigenous-led utility-scale renewables can pair decarbonization with workforce development and fiscal dividends. Kayenta Solar on the Navajo Nation ties decarbonization to local prosperity through paid training, wages, and ongoing tax revenues during a coal-to-solar transition {NA92}. Another significant development is the scaling up of Indigenous Peoples land management as a climate solution. The burning practices of Indigenous Peoples in Australia have become a cornerstone of national emissions reduction in savanna regions. The Arnhem Land Fire Abatement program {PA17} expanded on earlier pilots {PA26}, now spanning multiple Aboriginal-managed areas and preventing the release of millions of tons of CO_2 by reducing destructive wildfires. This success has not only provided jobs and income (through carbon credit payments) for Indigenous Peoples rangers but also garnered international attention as a model where Indigenous Peoples' knowledge directly yields climate mitigation outcomes. Similar controlled burning initiatives have begun in other regions – for instance, pilot projects in Botswana and Namibia, inspired by Australian experience, where communities burn early and cool to save their grasslands.

In the realm of forestry and ecosystem restoration, many Indigenous Peoples have launched or enhanced reforestation and afforestation projects that align with mitigation. In the Amazon and Andes, Indigenous Peoples nations like the Asháninka of Apiwtxa in Brazil have undertaken large-scale tree planting on degraded lands {LA24}. Their reforestation initiative not only stores carbon, but also restores watersheds and culturally important forest species, exemplifying "holistic mitigation" – the project is as much about livelihood and cultural resilience as it is about carbon sequestration. In Guatemala, Maya Q'eqchi' communities around the Sierra de las Minas have combined traditional agroforestry with modern conservation, creating communal forest reserves that act as carbon sinks while providing water regulation {LA69}. These kinds of efforts have multiplied with support from climate funds and NGOs, especially after the Paris Agreement emphasised natural climate solutions. Notably, the Green Climate Fund's first approved project {LA100} was in the Peruvian Amazon, empowering Indigenous Peoples to protect and restore vast peatland forests in Datem del Marañón – a critical move since peatlands store immense carbon. That project has demonstrated how securing Indigenous Peoples land rights and providing resources for indigenous-led management can avoid emissions (by preventing peat fires/drainage) while bolstering community well-being.

Another area of growth is renewable energy projects in Indigenous

Peoples territories. Many of these projects serve dual purposes: they mitigate emissions by replacing fossil fuels and also strengthen community resilience. For example, the installation of solar microgrids in remote Sámi villages in Sweden reduces diesel generator use (mitigation) and ensures reliable power during winter storms (adaptation). While such energy initiatives are covered later, it's worth noting here that they reflect a broader trend: Indigenous Peoples are increasingly proactive in solutions that have mitigation co-benefits, whether that's restoring ecosystems or adopting clean technology.

In parallel, the rapid growth of external mitigation efforts (large-scale renewables, conservation set-asides and carbon markets) has increased interactions with Indigenous Peoples territories, making tenure security, FPIC and benefit-sharing decisive for whether outcomes are protective or harmful. Externally developed mitigation efforts can threaten lands, territories and resources even as they reduce emissions – for example by displacing communities, restricting resource access, fragmenting rangelands and severing mobility routes if designed without FPIC and co-planning.

Indigenous Peoples activism has also contributed positively to mitigation by protecting carbon-rich resources from exploitation. A striking case was the Yasuní-ITT initiative in Ecuador {LA67}, where Indigenous Peoples groups and the government proposed leaving a major oil reserve under Yasuní National Park unexploited in exchange for international compensation. While global funding fell short and the plan was eventually shelved, the concept influenced global discourse on "keeping fossil fuels in the ground," a mitigation approach that Indigenous Peoples worldwide (from the Amazon to the Arctic) continue to champion through movements against pipelines, oil drilling, and coal mining on their lands[35]. Scrutiny is increasing on how transition minerals are sourced for clean-energy supply chains. For example, Russian Indigenous Peoples organisation Aborigen Forum created a campaign urging buyers to avoid Norilsk-sourced nickel until cleanup and restitution, aligning mitigation minerals with Indigenous Peoples rights {EE34}. Such advocacy, though not always quantified in CO_2 terms, has been a critical contribution by Indigenous Peoples to mitigation – effectively preventative mitigation by resisting high-emission projects.

Design and support for Indigenous Peoples' mitigation initiatives continues to evolve. For example, climate finance mechanisms evolved to include Indigenous-driven mitigation. The Forest Carbon Partnership Facility {GL32} and the Dedicated Grant Mechanism {GL29} started directing funds to build Indigenous Peoples' capacity for forest management – essentially enabling communities to partake in national mitigation plans on their own terms.
Governments are recognising that empowering Indigenous Peoples land stewards is among the most cost-effective ways to curb deforestation emissions. Research showing that deforestation rates are significantly lower in indigenous-titled forests added impetus to involve Indigenous Peoples in national REDD+ strategies (seed section on REDD+ specifics). We also see new hybrid knowledge approaches: scientists and Indigenous Peoples experts co-producing mitigation methods.

While there is clear progress, Indigenous-led mitigation efforts face challenges. One is land rights and tenure security – a prerequisite for any long-term mitigation project. Many communities cannot commit to preserving a forest for carbon benefits if their land rights are disputed. Thus, securing land tenure has emerged as a foundational mitigation strategy itself. Where rights are strong (e.g., in Mexico's community forests or U.S. tribal lands), mitigation projects like tree planting or carbon storage tend to have more longevity and success. In contrast, where rights are insecure, external mitigation projects have sometimes harmed Indigenous Peoples. A cautionary tale comes from Uganda: a forestry carbon offset project on Mount Elgon {AF110} led to the displacement of the Benet people from their ancestral lands, repeating colonial conservation injustices under a climate banner. Such cases in the early 2010s fuelled Indigenous Peoples scepticism toward top-down mitigation schemes and underscored that "no rights, no results" – mitigation must be built on a rights-based approach.

Another challenge is balancing mitigation with local priorities. Indigenous Peoples often prioritise food security, water, and cultural survival. A mitigation project that, say, restricts traditional farming or resource use can be seen as undermining those priorities. Over time, there has been a shift toward integrated objectives: today's mitigation initiatives usually pair emissions goals with adaptation and development goals. For example, the Borana pastoralists in Kenya who shifted partly from cattle herding to crop farming due to drought {AF39} reduced methane emissions (fewer livestock) but the project's framing was about livelihood adaptation, not carbon. Now, projects are starting to explicitly acknowledge both: e.g., an initiative in Ethiopia's highlands {AF44} aims to restore forests (mitigation) and improve climate resilience and incomes for Indigenous Peoples, treating carbon as one of multiple benefits.

Mitigation measures may combine with climate change impacts to aggravate land pressure, raising the risk of losing Indigenous Peoples' lands, territories and resources. A tiered approach can help alleviate this risk through (1) securing collective tenure and FPIC so projects cannot displace Indigenous Peoples or sever mobility corridors and access to sacred and harvesting sites; (2) resourcing Indigenous-led adaptation actions (such as early warning, water and seed systems, and rangeland restoration) to expand choices under stress; (3) co-designing mitigation measures that do no harm and include co-benefits and co-monitoring; and (4) building shared governance through guaranteed representation in climate bodies, landscape platforms and carbon-market oversight. Sequenced, the tiers form a causal chain: rights prevent dispossession; resourcing builds resilience; co-design delivers emissions cuts while avoiding new harms; and shared governance ensures accountability.

Since 2010, the thematic emphasis has evolved. Back then, mitigation involving Indigenous Peoples was often discussed in the context of global mechanisms (like carbon markets or REDD+). It was somewhat external to communities, driven by outsiders seeking emission reductions. Today, there's a discernible shift toward community-driven mitigation – Indigenous Peoples designing and leading actions that happen to mitigate climate change, often funded by climate programs that value the co-benefits. Indigenous Peoples voices are also more influential in climate policy now: at UNFCCC meetings, Indigenous Peoples' representatives advocate for urgent and transformative overall emission cuts (as a matter of climate justice) and promote their

[35] E.g. Oil Change International (2021). Indigenous Resistance Against Carbon. Washington, DC. https://www.ienearth.org/indigenous-resistance-against-carbon/

own conceptualisation of climate solutions, such as Indiegnous Peoples-led nature-based solutions[36]. This contrasts with 2010, when they were mainly cautioning about being excluded or harmed by mitigation schemes.

What remains consistent is Indigenous Peoples' message that their ancestral practices, grounded in their knowledge systems, practices, and values – protecting forests, using fire wisely, sustainably managing game and fisheries – are not archaic, but rather vital strategies for climate action that supports the health of people and the planet. While recognition from the world's climate community is growing,[37] Indigenous Peoples increasingly caution that mitigation efforts risk advancing without full protection of their rights, potentially triggering a new wave of carbon colonialism. A continuing challenge is ensuring adequate rights-based support: even as praise for Indigenous Peoples mitigation efforts grows, the financial and technical support they receive is often small compared to big technological mitigation projects. Innovations like direct access funding for Indigenous Peoples entities and collaborative research are addressing this gap slowly.

Indigenous Peoples have shown that mitigation can be synergistic with adaptation and cultural resilience when rooted in Indigenous Peoples' knowledge. The past decade's new initiatives and partnerships hint that the next frontier is scaling these efforts while safeguarding Indigenous Peoples rights. Many of the themes first noted in 2010 – like the promise of traditional fire management or community forestry – have proven their worth, and the focus now is on expansion and replication, led by the Nations and communities themselves.

Indigenous Peoples Fire Stewardship

Cultural burning programs have been developed across Australia to prevent severe wildfires, cutting emissions and preserving carbon, and also show community co-benefits, often supported by carbon credits. Indigenous Peoples brigades in the Amazon/ African savannas are demonstrating similar results.

Cultural burning is the application of fire by Indigenous Peoples to care for land and water in line with Indigenous Peoples law, seasonal calendars, and place-specific objectives (food, habitat, ceremony, and protection of cultural places). As mitigation, cultural burning lowers emissions primarily by preventing high-intensity late-season wildfires. Early, cooler, fine-scale mosaic burns reduce the area and severity of destructive fires that release far more CO_2, CH_4 and N_2O; they also protect large trees and soils, maintaining carbon stocks over time.
Australia's Indigenous Peoples fire management programs alone reduce emissions by over 1 million tonnes CO_2e annually, using satellite based methods accepted under national carbon standards[38]. Aboriginal ranger groups in Australia's Arnhem Land established the WALFA controlled burning program in 2006 {PA26}, which applies traditional fire management across savanna landscapes. By setting small fires early in the dry season (as Indigenous Peoples Australians did for millennia), they prevent massive late-season wildfires, reducing greenhouse emissions. In return, they earn carbon credits that fund their ranger livelihoods. Beyond carbon, cultural burning delivers co-benefits that strengthen long-term stewardship, including biodiversity enhancements, more reliable food and medicine plants, reduced disaster losses, and intergenerational knowledge transfer. Crediting where used relies on transparent baselines built from historical late-season fire, verification through remote sensing and field monitoring, and safeguards for permanence and leakage.

In Australia's savanna regions, Aboriginal-led programs have expanded over the past 15 years from early pilots into multi-landscape initiatives {PA17}, with almost 40 Indigenous- owned carbon farming projects now operational {PA16}. These projects have been credited with substantial abatement and steady ranger employment. Similar community-led approaches are now being piloted in African savannas, adapted to local ecologies and governance[39]. In other parts of the world, Amazonian communities have responded to new threats like mega-fires during droughts by forming Indigenous Peoples fire brigades that blend traditional controlled burning techniques with modern firefighting. In Brazil, these brigades have prevented catastrophic wildfires in recent dry seasons by doing early-season burns (a practice of many rainforest peoples) to clear flammable underbrush, thereby protecting both villages and biodiverse forests.

Energy Sovereignty and Just Transition

A decade ago, most clean-energy projects for Indigenous Peoples were small, outside-run pilots; today many Indigenous Peoples are building and owning solar, wind and micro-grids that deliver both power and sovereignty. Yet large commercial renewables continue to spark conflicts when imposed without FPIC.

In the early 2010s, access to clean energy by Indigenous Peoples was a development issue with clear climate co-benefits, but it was not yet front and centre in climate discussions. Many remote Indigenous Peoples worldwide relied on diesel generators or had no electricity, so small pilot projects introduced solar panels, wind turbines, or micro-hydro systems to fill this gap. For example, the Bushlight program in Australia {PA13} brought solar power and battery storage to several Aboriginal outstations, improving livelihoods and incidentally reducing carbon emissions. In North America, tribes were exploring wind power: the Sioux nation erected a single modern wind turbine in South Dakota – the Alex "Little Soldier" turbine {NA80} – as a demonstration of tribal renewable energy potential. There were also instances of micro-hydropower in mountainous areas (e.g. a micro-hydro for Pamir villages in Tajikistan, {EE9}) and biogas projects (a Maasai community in Kenya used livestock manure to produce biogas for cooking, cutting wood use, {AF72}).
These were pioneering but isolated examples. In 2010, the narrative around Indigenous Peoples and energy centred on energy access and self-sufficiency; climate mitigation was a secondary framing. Still, these early projects laid the groundwork by showing that clean energy could thrive in Indigenous Peoples contexts and that communities were interested in developing their own energy resources.

Over the last decade, Indigenous Peoples involvement in the energy sector has accelerated in two significant and somewhat divergent ways: small-scale community energy projects for local benefit, and large-scale renewable projects on Indigenous Peoples lands driven by national climate goals or corporate interests. On the community side, there has been an explosion of off-grid solar installations, wind turbines, and hybrid systems

[36] Reed, G., Brunet, N. D., McGregor, D., Scurr, C., Sadik, T., Lavigne, J., & Longboat, S. (2024). There is no word for 'nature' in our language: rethinking nature-based solutions from the perspective of Indigenous Peoples located in Canada. Climatic Change, 177(2), 32.
[37] CIEL (2025) – in press
[38] Australian Government Clean Energy Regulator (2024). Traditional knowledge and modern science combine to reduce emissions. *https://cer.gov.au/news-and-media/case-studies/traditional-knowledge-and-modern- science-combine-to-reduce-emissions*
[39] International Savanna Fire Management Initiative, https://www.isfmi.org/

in Indigenous Peoples villages. For instance, many Pacific Island and Amazonian Indigenous Peoples, once dependent on costly diesel fuel shipped in from afar, now have solar micro-grids (often with battery storage) providing reliable power. An example is in Panama, where Guna women spearheaded a project to install solar panels and efficient cookstoves in remote villages {LA87}.

This not only cut carbon emissions and deforestation (less wood burning) but empowered women with new technical skills and income streams. In the Ecuadorian Amazon, a program known as "Amazonian Solar Villages" {LA65} equipped several Achuar and Shuar communities with solar units for lighting and water purification, improving health and reducing diesel use. New community energy exemplars - from youth-run micro-grids in the Peruvian Amazon {LA128} to micro-hydro in the Pamirs {EE9}—show clean power as both mitigation and self-determination." Such initiatives have scaled up due to falling solar panel costs and targeted.

In the Arctic and sub-Arctic, where diesel generators were once the norm, Indigenous Peoples villages are adopting wind and solar despite harsh climates. Alaska's Yup'ik and Inupiat communities, for example, have installed wind turbines and experimented with solar during long summer days. The federal government in Canada launched a Clean Energy for Rural and Remote Communities initiative {AR48} that funded dozens of First Nations and Inuit-led energy projects – from solar farms in Northern Ontario reserves to micro-hydro for Tlingit villages in the Yukon. These projects reduce greenhouse gas emissions and also bring energy sovereignty. The concept of energy sovereignty – Indigenous Peoples controlling their energy generation and distribution – has really taken hold. Tribes and First Nations see local renewable energy as a path to self-determination, economic development, and resilience.

The Blue Lake Rancheria Tribe in California, who built a resilient solar-powered microgrid for their reservation {NA64}, were able to keep the lights on during California's 2019 wildfire power outages, protecting vulnerable community members and local emergency services, while annually offsetting a significant amount of CO_2 by replacing grid power. Similarly, the Pueblo of Jemez in New Mexico invested in a 1-megawatt solar array {NA79}, becoming one of the first tribes to develop a utility-scale solar project – an effort that has reduced electricity costs and generated revenue by selling power back to the grid.

These successes have emboldened other Indigenous Peoples nations to pursue projects; as of 2025, dozens of tribes across the U.S. and Canada have solar farms, wind installations, or are exploring geothermal energy on their lands. On the larger scale, many nations' push for renewable energy has directly impacted Indigenous Peoples territories – for better and for worse. Large wind farms, hydropower dams, and mining for transition minerals (like lithium, copper) often occur on Indigenous Peoples lands. When done with Indigenous Peoples partnership, these projects can bring benefits. For example, the Jepirachi Wind Farm in La Guajira, Colombia {LA48} was one of Latin America's first wind projects, built on Wayúu Indigenous land. In the early 2000s it provided some community benefits (like jobs and investment in social projects) in return for using their land and wind resources.

It also served as a Clean Development Mechanism project, selling carbon credits, linking Indigenous Peoples land to global carbon markets. However, the benefits were limited and many Wayúu felt consultation was inadequate – a pattern repeated in various forms since. In Kenya, the massive Lake Turkana Wind Power project (310 MW) was constructed on ancestral land of pastoral communities; it promised local development but instead became a flashpoint: community members protested that it was established without proper consent and compensation for lost grazing lands. The courts ultimately ruled that the land procurement was illegal {AF55}, underscoring that even green energy can violate rights if not done properly. Likewise, in Scandinavia, the rush to build wind turbines in Sámi reindeer herding areas led to high-profile conflicts. The Fosen wind farm in Norway, built on Sámi winter pasture without full consent, was declared a human rights violation by Norway's Supreme Court in 2021 {AR60}. Sámi activists labelled such projects "green colonialism," as they impose environmental solutions at the cost of Indigenous Peoples' livelihoods, prompting calls for "Just Transition" principles that include Indigenous Peoples consent and benefit. An agreement reached in 2024 required the operator to provide annual compensation, which illustrates how FPIC failures carry material operational and legal costs[40].

Indigenous Peoples have responded to these challenges by asserting more agency in energy development. In some cases, they have become equity partners or owners of large renewable projects. For instance, in Canada, First Nations formed partnerships to build grid-scale battery facilities in Ontario {NA30} that contribute to cleaner energy and also benefit the local community through jobs, revenue and long-term economic growth. There's also a trend of community-driven impact assessments: Indigenous Peoples are leveraging their own environmental monitoring to influence project design or to legally challenge projects that threaten their rights.

At the same time, support for community-scale energy solutions has grown. Various climate funds and government programs now channel support for Indigenous Peoples clean energy projects as a climate strategy. The GCF, for example, approved a project to build solar- pumped water systems in pastoralist drylands of Ethiopia {AF43} which empowers Indigenous Peoples Afar and Somali communities with both water access and clean energy infrastructure.

Such integrated projects recognise that climate adaptation and mitigation can go hand in hand in Indigenous Peoples settings – here, solar energy mitigates emissions and supports adaptation to drought.

Shifts Since 2010:

The overall narrative has shifted from simply providing energy access to Indigenous Peoples to Indigenous Peoples leadership in clean energy. In 2010, projects were often pilot/demonstration and externally driven. By 2025, there's an emphasis on Indigenous Peoples ownership, whether at micro or macro scale. Indigenous Peoples are no longer just beneficiaries of rural electrification – many are now developers, entrepreneurs, and decision- makers in energy projects. The number of Indigenous Peoples energy organizations and coalitions has grown (for example, in the U.S., the Tribal Clean Energy Coalition was formed to share best practices, and in 2019 an international Indigenous Solar Summit was held, bringing together practitioners from dozens of nations; the Indigenous-led First Nations Clean Energy Network in Australia

[40] Norway ends dispute with reindeer herders over wind farm (2024).
https://www.reuters.com/sustainability/norway-ends-fosen-wind-farm-dispute-2024-03-06/

WALFA Ranger Ray Nadjamerrek demonstrates early dry season burning techniques in West Arnhem Land, Australia. Photo: Warddeken Land Management.

was launched in 2021).
This indicates a thematic broadening: energy initiatives are seen as part of climate justice and self-determination. What remains a challenge is ensuring that large climate-motivated energy projects, often developed by state governments (wind farms, dams, mines for renewables), uphold Indigenous Peoples rights. The last decade has shown both positive change and enduring conflicts in that arena. On one hand, global standards like the IFC Performance Standards now demand FPIC (Free, Prior and Informed Consent) for projects impacting Indigenous Peoples, and some governments have started to incorporate these principles. On the other hand, actual practice lags; many Indigenous Peoples still find themselves having to protest or litigate to have their voices heard. The Fosen case {AR60} is a landmark that will likely influence future wind projects in Sápmi (Sámi territory) and beyond – companies now face legal precedent that ignoring Indigenous Peoples rights can halt a "green" project.

Overall, the energy sector illustrates a dual reality for Indigenous Peoples: remarkable progress in community-driven renewable energy securing local benefits and reducing emissions, and ongoing struggles with externally driven energy developments that infringe on Indigenous Peoples lands. Compared to 2010, far more Indigenous Peoples have access to clean power and are participating in the energy transition, which is a positive, transformative change. At the same time, the principle that climate action must also be just action has come to the fore. Indigenous Peoples advocates today stress that the world's push for decarbonization cannot replicate the injustices of the fossil fuel era. This message, born from their experience, is now influencing the broader discourse on sustainable energy.

4.5 Markets and Accountability

Economic Resilience

Indigenous-led climate initiatives deliver the most durable economic and well-being gains when communities retain control, marry cultural frameworks with modern markets, and embed transparent, legally protected governance. Aligning community well-being and livelihood gains with climate action is now standard practice, yet outcomes vary. Community-driven enterprises thrive where Indigenous Peoples leadership is central. For example, the Mbororo women's vegetable-garden cooperatives in Cameroon strengthened drought resilience while diversifying diets and improving incomes{AF20}.

Ghana's Sunkpa Shea Cooperative linked climate-resilient shea trees to global cosmetic markets, boosting household earnings {AF54}. Kenya's TWENDE project marries rangeland restoration with fodder businesses and climate-smart value chains, providing income and ecosystem recovery {AF64}. Challenges arise when initiatives inadequately reflect Indigenous Peoples frameworks of economic development. Indonesia's Sicanang mangrove ecotourism venture stalled when externally imposed market expectations failed to align with local realities {AS53}. Similarly, externally driven carbon market mechanisms, such as East Kalimantan's REDD+ pilot promised but failed to deliver cash to Indigenous Peoples {AS55}. These cases underscore the importance of community ownership, transparent processes and culturally appropriate capacity-building.
Climate mitigation initiatives can effectively support Indigenous Peoples economies when communities retain control over resources and are legally protected. For instance, Tribes in California and British Columbia have used forest stewardship and carbon trading revenues to finance social programmes {NA83}. Indigenous-led renewable energy projects, such as the solar microgrid at Blue Lake Rancheria {NA64}, demonstrate how localised solutions can enhance community autonomy and provide sustainable resources.

The Paiter-Suruí Forest Carbon Project originally generated significant revenue from voluntary carbon credits, directing funds toward education, cultural programs and forest patrols {LA28}. However, inadequate legal protections and external market dynamics led to conflicts and early shuttering of the project. By contrast, two more recent Indigenous-designed carbon initiatives illustrate how stronger governance arrangements and culturally grounded planning can secure lasting economic gains.

In Australia, First Nations ranger groups apply customary early-dry-season burning to curb intense late-season wildfires across 80,000 km^2 of savanna. The practice lowers greenhouse-gas emissions and generates Australian Carbon Credit Units whose proceeds pay ranger salaries, fund bilingual education and support on-country youth camps - re-coupling cultural fire knowledge with modern carbon finance {PA17}. In Peru, the Awajun use Community Life Plans as the basis for entering into Tajimat Pujut ('well-being') commitments that will restore degraded areas and generate carbon credits to support community priorities {LA97}.

Change since 2010:

Economic co-benefits were peripheral in Advance Guard; today they are core metrics. Major financiers demand livelihood indicators, and Indigenous Peoples advocates insist on them. Evidence shows climate projects are more successful and lasting longer when they tangibly improve Indigenous economies and respect cultural values. REDD+ Reducing Emissions from Deforestation and Forest Degradation

REDD+ is a framework under the UNFCCC for reducing emissions from deforestation and forest degradation plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks. Several Indigenous-led projects faced challenges arising from governance issues and external pressures. Experiences have varied globally, prompting Indigenous Peoples advocacy for stronger rights protections, improved safeguards, dedicated funding streams, and Indigenous-led monitoring initiatives. Over time, REDD+ is evolving into a more nuanced, rights-centered approach, recognising that Indigenous Peoples leadership and land rights are essential for achieving lasting forest conservation. However, without Indigenous Peoples' authority in design, monitoring, and benefit-sharing – and secure land rights – the approach risks re- centralising control rather than realising rights.

REDD+ was formally established through the Warsaw Framework for REDD+, adopted at the UNFCCC COP19 in December 2013. Many Indigenous Peoples inhabit tropical forests targeted by REDD (a mechanism to pay for reduced deforestation emissions),

so naturally Indigenous Peoples were identified as crucial stakeholders. Some Indigenous Peoples cautiously engaged in pilot REDD projects hoping for benefits, while others were sceptical or outright opposed, coining slogans like "No REDD without Indigenous Peoples Rights." Originally, a few pioneering projects set the stage. One prominent example was the Suruí Forest Carbon Project in the Brazilian Amazon – widely hailed in its early years as the first Indigenous Peoples'-led REDD project. The Paiter Suruí partnered with environmental organizations to quantify carbon in their Amazon rainforest and sell credits for not logging it {LA28}. This was initially seen as a trailblazer – illegal logging in their territory plummeted from 2009 to 2012, and the Suruí sold 120,000 credits to international buyers. However, these early gains proved difficult to sustain.

Elsewhere, pilot projects under the UN-REDD Programme and the Forest Carbon Partnership Facility started in countries like Indonesia, Cambodia, Kenya, and Tanzania, some involving Indigenous Peoples' territories. However, there were also alarm bells: Indigenous Peoples activists at the Cancun climate summit (2010) raised concerns that REDD could become a "carbon grab" leading to land dispossession or restrictions on traditional forest use. Essentially, the 2010 picture was one of high hopes and high fears – REDD+ was untested, and its relationship with Indigenous Peoples was being negotiated in real time. Over the past 15 years, REDD+ moved from idea to implementation, with mixed outcomes for Indigenous Peoples. Many countries implemented REDD+ readiness programs, creating policies and pilot projects.

Some positive stories emerged:

In the Brazilian Amazon, the Suruí project initially achieved notable milestones – in 2013, the Suruí earned carbon credits for preserving Suruí land, and funds went into community programs like education and sustainable farming. It proved that an Indigenous Peoples community could meet rigorous carbon standards. Yet despite its promising start, by 2018 the project was suspended indefinitely due to mounting challenges, including a surge of illegal gold miners and loggers, and internal community divisions over carbon revenue sharing. In Bolivia, Indigenous Peoples and the government charted a different course: they rejected the carbon market approach and created an "Indigenous REDD+" program {LA14} focused on grants for community forest management and combining mitigation with adaptation. This reflected Bolivia's critique of commodifying forests; their approach funded Indigenous Peoples initiatives to protect forests for multiple benefits, not just carbon – an innovation in expanding REDD+ beyond carbon-only metrics.

In countries like Peru and Colombia, Indigenous Peoples federations engaged with REDD+ pilot projects and negotiations, extracting commitments for respect of territorial rights. For example, in Peru, Indigenous Peoples in the Amazon (e.g., Shipibo and Asháninka) participated in designing subnational REDD+ projects ensuring they have a say in benefit- sharing. Some communities formed their own NGOs to manage REDD funds, ensuring transparency. In Tanzania, a notable pilot saw the Hadzabe and Datoga communities in Yaeda Valley agree to protect forests and reduce fires in exchange for payments via a carbon project {AF108}. By 2020, this project was selling verified credits from Indigenous Peoples lands, and the income helped fund local patrols and livelihood projects – a case where REDD-like mechanisms supported Indigenous Peoples self-governance rather than undermining it.
However, there were also significant challenges and pushbacks. Several early REDD projects faltered or faced conflict. In Cambodia, the Southern Cardamom REDD+ project {AS15} aimed to conserve a vast forest inhabited by Khmer Daeum (Indigenous Pear people) and others. While it generated carbon credits, reports emerged that communities saw little benefit and faced stricter enforcement on using forest resources. Outsiders gained most of the revenue. By the late 2010s, some villagers viewed the project as a "green land grab," validating initial fears. In Colombia, the "Pachamama" REDD+ initiative in the highlands of Cumbal {LA44} collapsed amid mistrust – local Indigenous Peoples authorities felt the project was imposed without proper consent and potentially infringed on their autonomy, so they pulled out. These experiences spread caution: by 2015, slogans like "No REDD+" were frequently heard at Indigenous Peoples gatherings, reflecting disillusionment where projects were top-down or opaque. The once-celebrated Suruí project was shuttered.

In response to these mixed outcomes, REDD+ frameworks evolved. The Cancun Safeguards (2010) and subsequent UNFCCC decisions mandated protections for Indigenous Peoples rights, knowledge, and full participation in REDD+. Countries had to develop Safeguard Information Systems to show they weren't harming communities. This was a direct result of Indigenous Peoples advocacy.

Moreover, global programs like the World Bank's FCPF introduced the Dedicated Grant Mechanism {GL29} – a special fund granting Indigenous Peoples and granting local communities money to design their own forest initiatives, parallel to the main REDD+ readiness funding. This was an innovation acknowledging that empowering communities directly might achieve more than top-down approaches. By 2025, over US$80 million had gone through the DGM to dozens of Indigenous-led projects in countries such as Peru, Brazil, Burkina Faso, and Indonesia, building capacity and confidence for Indigenous-directed climate action.

Another shift was the rise of jurisdictional REDD+ (state- or province-wide programs) in the 2020s. These larger programs often bundle many communities and conservation areas together to reduce deforestation at scale. For instance, the GCF backed program in the Amazon basin is one such multi-country effort to improve forest protection and water security, including working with Indigenous Peoples across Bolivia, Brazil, and others {GL1}. The benefit is potentially larger impact and more robust financing; the drawback is that communities on the ground can be lost in the bureaucracy. Indigenous Peoples organizations have worked to insert community-level benefit-sharing into these big programs. In some cases, they have had success: e.g., in the Brazilian state of Acre, Indigenous Peoples territories are formally part of the state REDD program with defined shares of benefits for Indigenous Peoples based on their forest conservation performance. In Southeast Asia, Thailand's co-designed forest and land-use policy process shows how aligning REDD+ safeguards with customary tenure and Indigenous Peoples decision-making (Karen, Lahu and others) improves uptake and equity {AS112}.

More recently, in Colombia's Putumayo, Indigenous Peoples communities piloted the Savimbo indicator-species methodology to issue the first CBCP-certified biodiversity credits alongside community forest protection, signalling practical 'beyond-carbon'

complements to REDD+ {LA124}. Compared to 2010, the conversation has matured. Early on, it was "will REDD+ harm or help Indigenous Peoples?" Now it is more "under what conditions could REDD+ work for Indigenous Peoples?" There's broad consensus that without Indigenous Peoples land rights and leadership, REDD+ is unlikely to succeed in the long run. Seeing that deforestation rates remain lowest where Indigenous Peoples rights are strongest, contemporary REDD+ strategies often emphasise securing land tenure, strengthening community forest management, and engaging ethically with Indigenous Peoples' knowledge in monitoring forest health (community forest monitoring has become a big component – Indigenous Peoples rangers mapping deforestation with GPS and drones, feeding into REDD data).

Another emphasis is diversification of incentives. Indigenous Peoples have voiced that they value multiple benefits: not just cash for carbon, but support for education, healthcare, food security, and cultural initiatives. Many REDD+ agreements now include these aspects. One noteworthy development is Indigenous-led monitoring and verification. Initially, REDD+ relied on remote sensing and external audits. Now, projects like the one by the Wapichan people in Guyana use community drones and GPS mapping to document forest changes, which feed into carbon accounting. This not only builds local capacity but also ensures transparency. Additionally, some Indigenous Peoples coalitions are creating their own protocols – for instance, in 2021 a group of Amazon Indigenous Peoples organizations released guidelines for any climate finance in their territories, effectively asserting how REDD+ and similar schemes must operate to respect their rights (again, from outside the dataset but relevant context).

The role of Indigenous Peoples women in REDD+ has also gained attention. Women often hold key ecological knowledge and social roles in forest communities. Projects in Nepal's REDD+ pilots showed that when Indigenous Peoples women participated in decision-making, the community used funds in more equitable ways (like improving water systems benefiting everyone). Now programs encourage inclusion of women and youth for intergenerational continuity of forest stewardship.

But after a decade and a half, what's the scorecard? On one hand, REDD+ did channel more attention and some resources to Indigenous-managed forests. A few communities have benefitted with new income, stronger land tenure, or improved forest governance through the REDD+ process. On the other hand, global deforestation hasn't markedly decreased at the pace hoped, meaning REDD+ hasn't been a silver bullet. Additionally, REDD+ excludes vast areas of Indigenous-managed forests that do not qualify as REDD+ eligible, notably in regions such as North America, the Arctic, the Pacific Islands, and Russia, effectively disregarding the extensive forest stewardship provided by Indigenous Peoples in these places. Many Indigenous Peoples advocates remain wary – some see REDD+ as a distraction from the deeper work of securing rights and changing the development paradigm that drives deforestation. Indeed, a constant refrain is that Indigenous Peoples have been protecting forests for generations without needing carbon payments; recognise our land rights and we will continue to do so, with or without REDD+. The best REDD+ initiatives have taken that to heart, essentially using REDD+ as additional support for Indigenous Peoples conservation, not as the reason for it.

Comparing now to 2010, one thing that changed little is the fundamental stance of Indigenous Peoples: their primary motivation is protecting their ancestral lands. REDD+ or other mechanisms are tools that can help if appropriately constrained, and/or proactive in rights protections. What has changed is that there are now many real case studies – successes, failures, and in-betweens – that inform policy. Indigenous Peoples voices are stronger in international policy forums; for instance, the Local Communities and Indigenous Peoples Platform was established under the UNFCCC in 2018, giving a formal voice in climate dialogues (indirectly influencing REDD+ discussions too).

REDD+ has evolved through a learning curve. It showed that any climate solution involving forests must involve the guardians of those forests – the direct participation of Indigenous Peoples and of local communities. Some REDD+ projects have adapted to this reality and built true partnerships, while others fell by the wayside when they did not.
The next decade will likely see a continuation of this trend: moving from project-based REDD+ to integrated landscape approaches with Indigenous Peoples leadership at the centre. If the initial Advance Guard was about testing the waters, the current phase is about refining and scaling what works, with Indigenous Peoples as co-creators of climate mitigation strategies in forests. This includes widening participation criteria for these schemes to better reflect the diverse contexts and realities of Indigenous Peoples across all seven UN socio-cultural regions.
REDD+ remains a contested but potentially useful tool.

Payment for Ecosystem Services and Carbon Trading

Carbon credits and ecosystem service payments have evolved from a handful of externally driven pilots to a recognised - though still uneven - finance pathway that can fund land buy-backs, guardianship programs, and cultural priorities when Indigenous Peoples hold secure rights and control project design and implementation. Yet challenges persist around equity, complexity, and the ethics of commodifying nature.

Twenty years ago, the idea of paying Indigenous Peoples for the ecosystem services their lands provide – be it carbon storage, biodiversity conservation, or water regulation – was relatively new. One famous early Indigenous Peoples Payment for Ecosystem Services (PES) case was the Scolel'te project in Mexico, where since the late 1990s Indigenous Peoples farmers had been earning small payments through voluntary carbon markets by planting trees and managing forests. Scolel'te has matured and expanded across Chiapas and Oaxaca— Maya farmers continue earning verified credits while strengthening agrobiodiversity and soil carbon {LA115}. Another was Ecuador's national Socio Bosque program which began in 2008, paying "Indigenous Peoples and local communities" an annual stipend per hectare of forest conserved. Similarly, Costa Rica's PES program, pioneering in the 1990s, included some Indigenous Peoples reserves receiving payments to protect forests.

These early examples suggested PES could align economic incentives with traditional stewardship. However, they were modest in scale and often externally designed. Carbon trading was just emerging as a mechanism accessible to communities. A few Indigenous Peoples carbon projects like the Nez Perce

Tribe's "Tramway" reforestation project in the USA {NA76} and the Māori-affiliated Permanent Forest Sink Initiative in New Zealand {PA65} were noted, showing Indigenous Peoples interest in carbon markets under Kyoto Protocol schemes. But in 2010, these were exceptions; the general state was exploratory. There was also underlying caution: Indigenous Peoples leaders warned against "selling the air" without guarantees that it would truly benefit communities and not commodify sacred relationships with land.

Over the past decade, PES and carbon trading involving Indigenous Peoples have grown from niche experiments to more mainstream components of climate and conservation finance – albeit with very mixed models and outcomes. On the carbon trading front, several Indigenous Peoples have successfully tapped into carbon markets to fund their self-determined priorities. One of the most notable is the Yurok Tribe in California {NA83}. Facing declining salmon fisheries and lacking federal support, the Yurok turned to managing their forest for carbon credits under California's cap-and-trade system.

Throughout the 2010s, the Yurok enrolled thousands of acres of redwood forest into carbon offset projects, generating millions of dollars. They used that revenue to buy back ancestral land and finance language revitalization and forest management jobs. The Yurok's success story exemplifies how carbon trading, when controlled by Indigenous Peoples Nations with secure tenure, can become a powerful tool for community goals. Inspired by Yurok, other tribes such as the White Mountain Apache and Cheyenne River Sioux also started exploring carbon offsets on tribal forests. In Canada, First Nations in British Columbia (e.g., the Great Bear Rainforest agreements) received carbon credit revenues through partnerships, which supported Indigenous Peoples Guardian programs patrolling and managing those forests. By 2025, Indigenous Peoples carbon projects are a recognised category in voluntary carbon markets; companies seeking high-integrity offsets often prefer projects on Indigenous Peoples lands due to their strong conservation record, provided the projects uphold Indigenous Peoples rights.

Beyond carbon, payment for ecosystem services schemes diversified. Water-related PES involving Indigenous Peoples gained traction. For instance, in Guatemala, the Sierra de las Minas Water Fund {LA73} expanded over the decade: downstream water users (like a beverage company and a municipal utility) pay into a fund that compensates upstream Q'eqchi' Maya communities for conserving cloud forests and managing land in ways that secure clean, sustained water flows. This arrangement has provided communities with alternative income (for patrolling forests or adopting agroforestry) while reinforcing their role as environmental service providers. Similarly, in the Andes of Peru, some community irrigation systems now receive payments from hydroelectric companies that rely on steady water, formalizing a traditional understanding that healthy páramos and forests maintained by Indigenous Peoples peasants benefit everyone. Community-issued biodiversity credits are emerging as a complementary revenue stream for Indigenous Peoples stewardship, such as the biodiversity credit pilot in Putumayo {LA124}.

There have also been biodiversity-oriented PES pilots. In northern Australia, as part of savanna burning carbon projects, co-benefits like biodiversity protection (for instance, saving habitat for fire-sensitive species) are being considered for future crediting schemes – effectively layering biodiversity payments atop carbon payments for Indigenous Peoples fire managers. In Yucatán, legal recognition of sacred cenotes has enabled Maya guardianship to anchor water-focused PES designs in customary law {LA117}.

Despite growth, PES and carbon trading with Indigenous Peoples are fraught with challenges. A pre-requisite is confirmation of carbon rights, and a fundamental issue is fair benefit- sharing. In some early carbon deals, communities only received a small fraction of the revenue. For example, the San Andrés de Sotavento project in Colombia {LA50} was a CDM reforestation project on Indigenous Resguardo land; it encountered community distrust partly because external developers and the government seemed positioned to take the lion's share of carbon credit profits while the community bore the restrictions on land use. Ensuring that Indigenous Peoples receive equitable payment (and not just "crumbs") is an ongoing battle.

Another issue is capacity and complexity. Engaging with carbon markets requires understanding technical concepts like baselines, leakage, verification, etc. Many communities depend on external intermediaries (NGOs, carbon firms) to navigate this, which can create power imbalances. Over the years, various capacity-building programs (like those under the UNDP or the DGM {GL29}) trained Indigenous Peoples representatives in these technical skills, aiming to level the playing field.

The philosophical, ontological and ethical debate also continues: many Indigenous Peoples question the premise of commodifying nature. They argue that ecosystems are relatives, not services, and that carbon trading can be a distraction from the hard work of reducing emissions at the source. Bolivia's stance epitomises this; by creating a non-market approach {LA14}, they influenced others to consider alternatives to standard PES. Some communities have chosen grants or philanthropic funding for conservation over selling carbon credits, to avoid the strings attached to markets. For example, the Kayapo in Brazil have a long-running conservation agreement funded by an NGO endowment – they patrol millions of hectares of rainforest and in return receive financial support with no carbon offset tied to it. This grant- based PES avoids the need to quantify carbon or transfer credits, aligning more with the values of some communities.

One interesting development is the exploration of "stacking" multiple ecosystem services for payments. Projects now talk about paying communities for carbon, biodiversity, and water together – since Indigenous Peoples territories often provide all at once. This could potentially increase income for communities (since they are rewarded for more than one service) and reflect the holistic way Indigenous Peoples view their environment. A case in point: in Kenya's Maasai Mara, conservancies of Maasai landowners receive tourism lease payments (for wildlife habitat), and there is discussion about adding a carbon payment since those grasslands store soil carbon and avoid land conversion. If successful, Maasai could earn dual income for the same stewardship actions.

Shifts Since 2010:

Initially, PES and carbon finance were viewed almost as a panacea – a way to make forests "pay for themselves" and help communities. The experience since then has been humbling. It's clear that PES

is just one tool and not a substitute for strong governance and rights. Many early projects overestimated how easy it would be to implement PES in rural, traditional contexts. Over time, practitioners learned that community trust, cultural alignment, and simplicity are key. Programs today try to be more flexible – for example, some PES schemes allow communities to decide collectively how to use funds (mirroring traditional consensus practices) rather than imposing individual cash payments that can disrupt community cohesion.

What has remained consistent is Indigenous Peoples' inherent relational ethic – they were living in relationship with ecosystems before PES, and continue to do so. PES has sometimes helped by providing resources for that stewardship (e.g., funds for patrols, better equipment, schools, etc.), but it hasn't fundamentally changed why communities protect land.

What has changed is the external recognition of that value: governments and markets now talk about paying Indigenous Peoples because it's understood they have been subsidizing global environmental health all along. This rhetorical shift is significant – it bolsters Indigenous Peoples claims for compensation and partnership. Another change is scale. Where there were once scattered projects, now entire regions have multiple overlapping PES initiatives. This raises coordination issues (a community might be in a national PES program, a REDD+ project, and a water fund simultaneously). Some countries, like Mexico, evolved institutions to coordinate this — Mexico created a dedicated unit for its climate and PES programs with Indigenous Peoples, ensuring consultation at a national level and trying to streamline efforts. Internationally, there's talk of "Global PES" schemes (for example, paying Amazon nations to keep a certain percentage of forest intact, with funds trickling to communities), but there are questions regarding how efficient this would be.

Looking Forward:

As of 2025, payment for ecosystem services and carbon trading are at a crossroads. They are recognised in global frameworks (Article 6 of the Paris Agreement for carbon markets, for instance), and big new schemes are launching (the LEAF Coalition is one, promising large-scale finance for forest protection, including Indigenous Peoples territories). Indigenous Peoples are more organised now to engage or push back as needed. We see a dual approach: many Indigenous Peoples will continue to leverage PES/carbon projects to advance their vision for territorial protection (especially where they hold the cards in negotiations), while also advocating for non-market solutions and direct support as an alternative. The likely future is a hybrid of both.

In conclusion, PES and carbon trading have provided valuable lessons. When designed with Indigenous Peoples leadership, transparency, and respect for sovereignty and rights, they can reinforce Indigenous-led conservation and provide communities with much-needed resources. When done without those elements, they can fail or even cause harm. The last decade has seen both outcomes, guiding a refinement in approaches. Today's emphasis is on "empowerment through finance" – using PES not just to pay for a service, but to empower Indigenous Peoples guardians to continue their role as custodians of the earth. This aligns monetary incentives with age-old responsibilities. It's a delicate balance, but numerous case experiences now illuminate the path. Indigenous Peoples, for their part, remain the ethical compass in these discussions: continually reminding the world that the goal is living in harmony with nature, and money is merely one means to support that end, not an end in itself.

4.6 Equity and Knowledge Transfer

Information and Communication Technologies

Indigenous Peoples are co-designing sophisticated apps, IoT sensor networks, drones and AI tools that blend traditional knowledge with real-time data for monitoring, early warning and stewardship. This shift from "record and broadcast" to "manage and decide" is widening impact and visibility, yet it also foregrounds challenges such as connectivity gaps and the need for strong Indigenous Peoples data sovereignty so that technology amplifies – rather than overrides – cultural values and authority.

Fifteen years ago, Indigenous Peoples were just beginning to harness information and communication technologies (ICTs) to address climate change. The Advance Guard compendium noted initial efforts to document traditional knowledge and share climate observations via digital means. Early examples included GPS mapping of environmental changes and the use of community radio and video to raise awareness. For instance, the Igliniit project in Arctic Canada mounted GPS units on Inuit hunters' snowmobiles to record routes, weather, and wildlife observations, marrying traditional travel knowledge with modern mapping {AR32}. In the Congo Basin, handheld GPS devices helped Baka communities map sacred forest sites to negotiate with logging companies {AF25}. These pioneering initiatives demonstrated ICT's potential as a tool for Indigenous Peoples to monitor environmental changes and communicate their knowledge globally. Still, in 2010 such projects were novel, and the emphasis was on recording and sharing Indigenous Peoples' knowledge and climate impacts through technology.

In the past decade, ICT usage in Indigenous Peoples' climate responses has expanded dramatically, moving from pilot projects to widespread application. A key trend is the integration of cutting-edge tech with Indigenous Peoples' knowledge. For example, the SIKU platform {AR49} is a mobile app and web portal co-developed by Inuit in Canada that enables hunters and elders to post real-time observations of sea ice and wildlife, blending science (e.g. satellite data) with local expertise. Since its launch in 2019, SIKU has grown to thousands of users, illustrating how Indigenous Peoples are creating their own digital networks for knowledge sharing. Similarly, Sámi reindeer herders are using Internet-of- Things sensors and AI: GPS collars on reindeer herds transmit data on migrations and grazing {AR4}.

Across the Pacific and Amazon, Indigenous Peoples youth are deploying drones and smartphone apps for ecosystem monitoring – from Aboriginal rangers in Australia using drones to survey wildlife and bushfire impacts {PA36} to Amazonian communities installing solar-powered camera traps and acoustic sensors that detect illegal deforestation (as in the Rainforest Connection project, {LA29}). Indigenous-designed atlases {EE14}, safety curricula {EE19} and co-produced snow/ice knowledge provide tools that pair place-names, survival skills and snow forecasts with sensors and maps. These examples show an innovation boom: Indigenous Peoples are not just recipients of technology but are co- designers, ensuring tools serve community needs, and respect cultural contexts and Indigenous Peoples data sovereignty.

Indigenous Peoples-rooted early-warning systems are also being supercharged by ICT. Examples like community-coded apps, IoT and participatory mapping pair Elders' signs with real-time data – like SmartICE/SIKU and ELOKA for ice safety, Maheshkhali's cyclone indicators, Australia's Indigenous Weather Knowledge and field-to-Elder drone feeds, Sahelian weather-knowledge mapping and village-scale 3-D models. {AR38}{AR49}{AR11}{AS6}{AS8}{PA8}{PA23}{AF29}{AF26}{PA87}{AS84}{LA29}

Comparison with 2010:

The thematic emphasis of ICT in climate action has shifted significantly since 2010. Originally, ICT efforts focused on documentation and raising external awareness (e.g. participatory videos like the 2010 Conversations with the Earth initiative, which amplified Indigenous Peoples' voices on the global stage). Today, there is a stronger focus on practical, community-driven applications: ICTs are used for early warning systems, resource management, and inter-generational knowledge transfer. This shift comes with challenges. One is the digital divide – many remote Indigenous Peoples still struggle with limited internet or electricity, though initiatives like solar-powered Wi-Fi in Amazon villages are beginning to close this gap. Another challenge is ensuring Indigenous Peoples data sovereignty: as communities collect valuable environmental data, they seek to control how it is used and shared[41]. Projects like Kapital {LA46} show Indigenous Peoples are creating their own data platforms to not only retain ownership of information rather than handing it to outside entities (in that case, an Indigenous-designed collective payment system), but to develop technologies that reflect Indigenous Peoples ways of knowing.

There is also a cultural shift underway: elders and youth are working together so that modern tech augments rather than replaces Indigenous Peoples' knowledge. In Ethiopia, for instance, Afar pastoralists have worked with scientists to merge satellite forecasts with their traditional weather knowledge, improving accuracy of predictions {AF37}. As one Sámi herder noted, "we are still Sami, even though we are using technology" {AR4} – ICT tools are most effective when they support Indigenous Peoples ways of life, not supplant them.

Compared to 2010, the role of ICT in Indigenous Peoples climate action is far more prominent and sophisticated. What has remained consistent is the principle of knowledge co- production: just as early projects like the Igliniit GPS {AR32} sought to braid Inuit knowledge with geomatics, current initiatives continue to blend realms of knowing. What's new is the scale and accessibility – smartphones, apps, and affordable sensors have put advanced capabilities in the hands of villagers, herders, and fisherfolk. Indigenous Peoples' stories of climate impact now travel faster and wider via social media and online maps, building solidarity and prompting action (a far cry from 2010 when only a few web platforms existed for this purpose). Additionally, Indigenous Peoples are increasingly recognised as innovators in the tech space: they are developing solutions for climate monitoring that even scientists and governments learn from, such as the Great Barrier Reef Traditional Owner AI monitoring program (using drone imagery and AI for reef health {PA31}). ICTs have become indispensable in Indigenous-led climate strategies by enhancing observations, facilitating knowledge exchange, and empowering younger generations to engage in stewardship. However, technology itself is not the solution – rather, its effectiveness depends on being guided by the value systems and ontological frameworks of Indigenous Peoples. The past decade's developments illustrate a major innovation trajectory, tempered by efforts to ensure technology is used on Indigenous Peoples' own terms. With appropriate support and respect for Indigenous Peoples data governance, ICT will continue to be a force-multiplier for Indigenous Peoples climate resilience, bridging traditional wisdom and modern science in creative ways.

Gender Perspectives

Indigenous Peoples women and gender-diverse people often shoulder additional climate pressures – from longer, riskier work securing water, food and fuel to facing higher risks from disasters – yet these same place-based roles also position them as powerful first responders and key knowledge holders.

When women secure land rights, resources and voice, their leadership consistently boosts household nutrition, incomes, ecosystem health and community resilience. Climate change often impacts Indigenous Peoples women, girls, Two-Spirit and gender- diverse individuals in distinct and disproportionate ways. Social roles and inequalities mean Indigenous Peoples women are frequently responsible for securing water, food, and fuel for their families – tasks made more arduous by droughts, erratic rains, and ecosystem disruptions[42]. For example, when food and water become scarce, women must travel farther and work longer to meet basic needs, exposing them to greater physical stress and safety risks[43]. Additionally, Indigenous Peoples women tend to be on the frontlines of climate disasters; worldwide analyses have found women suffer higher mortality in extreme events due to social restrictions on mobility and information[44].

Gender-diverse and Two-Spirit individuals lacking recognition and inclusion face intersecting marginalisation that can compound climate impacts. The cultural and spiritual dimensions of climate impacts also carry gendered weight. Many Indigenous Peoples women hold roles as custodians of seeds, medicinal plants, and traditional food knowledge, so the loss of biodiversity and decline of wild foods directly threaten their identities and livelihoods. Evidence from Peru documents the uneven mental-health toll of climate stress on Indigenous Peoples and rural women, underscoring the need for culturally grounded services ({LA127}. Yet vulnerability does not equal passivity; it is precisely these daily interactions and kinship with land and water that position Indigenous Peoples women as first responders and knowledge keepers in a changing climate.

[41] See the First Nations Principles of OCAP®, which stand for Ownership, Control, Access, and Possession. *https://fnigc.ca/ocap-training/*

[42] Roy, Chandra (2004). Indigenous Women: A Gender Perspective. Aboriginal Policy Research Consortium International (APRCi) . 194. *https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1250&context=aprci*

[43] Tantoh, Ebhuoma & Leonard (2022). Indigenous Women's Vulnerability to Climate Change and Adaptation Strategies in Central Africa: A Systematic Review. In: Ebhuoma, E.E., Leonard, L. (eds) Indigenous Knowledge and Climate Governance. Sustainable Development Goals Series. Springer, Cham. *https://doi.org/10.1007/978- 3-030-99411-2_5*

[44] Neumayer & Plümper (2007). The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981–2002. Annals of the Association of American Geographers, 97(3), 551–566. *https://doi.org/10.1111/j.1467-8306.2007.00563.x;* IPCC (2018). Summary for Policymakers. In: Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre- industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change. Geneva: IPCC.

Collective agency "allows Indigenous women to transform vulnerability into power by anchoring climate action in place-based relationships and moral responsibility".[45] Across regions, Indigenous Peoples women-led adaptation demonstrates how cultural knowledge can be mobilised for collective resilience. In Kenya, the Paran Women's Group responded to deforestation-driven water shortages around the Mau Forest {AF63}. They established nursery sites on forest slopes to plant indigenous, medicinal and fruit trees; manufactured charcoal from forest waste to replace firewood; created water-efficient ecological gardens; and installed rainwater collection systems. These actions restored watershed health, guaranteed food security and generated income, while workshops they held across the county spread these practices to other communities. Pastoral Mbororo women in northern Cameroon diversified herds, set up fodder cooperatives and cut dry-season livestock losses by two-thirds {AF20}. In the Colombian Amazon, the Mujeres Cuidadoras de la Amazonía initiative channels climate funds directly to Indigenous Peoples women's organisations, enabling them to run forest-care and carbon-sink projects {LA42}. In coastal Yucatán, the Chelemeras - Maya women mangrove restorers - pair blue-carbon recovery with food and income security after storms {LA118}.

Collectively, cases such as these show that when women control knowledge, inputs and micro-finance, household nutrition, income and ecosystem health improve in tandem. Securing land and governance rights further amplifies women's climate agency. The "Dream Map" initiative in Odisha, India illustrates how participatory cartography led by Adivasi women won legal recognition of 1,100 ha of community forest and unlocked state funds for native-tree regeneration – reducing dry-season fire incidence as well as women's daily fuel-wood walks {AS52}.
In South America, Indigenous Peoples Guaraní women in the Chaco have led drought-resilience efforts by developing sustainable water-management systems that buffer families against severe dry seasons and strengthen social cohesion through shared oversight {LA94}. In the Ecuadorian Amazon, Waorani women's legal activism halted oil concessions and set a precedent for Indigenous Peoples consent that protects both territory and carbon stocks{LA1}. Such victories underline a consistent pattern: land tenure security and political voice are mutually reinforcing foundations for gender-responsive adaptation. Indigenous Peoples women are also effective at scaling solutions through horizontal networks. The Andes Women's Climate-Preparedness Workshops blend ritual song, hazard drills and seed-exchange fairs across Peru, Bolivia and Ecuador; attendance has tripled since 2019, and women now hold seats on 11 municipal emergency committees {LA9}.

Youth and Intergenerational Knowledge Transfer

Indigenous Peoples youth are stepping into leadership roles that blend digital innovation with ancestral knowledge, from ice monitoring in the Arctic to land-based climate camps and community energy projects across the Americas and Pacific. Youth–Elder partnerships not only safeguard cultural knowledge but also strengthen food security, mental health, and resilience, showing that intergenerational collaboration is itself a powerful adaptation strategy.

Indigenous Peoples consistently point to youth as the critical bridge between ancestral knowledge and contemporary innovation[46]. Across regions, young people are taking on technical, organisational, and advocacy roles that amplify community resilience. In Arctic Canada, Inuit youth trained through the SmartICE programme now manufacture and deploy sea-ice sensors while Elders interpret the data, pairing digital skills with generations of ice lore {AR38}. In Saskatchewan, the 2024 Local Land-based Indigenous Climate Camp brought Cree Elders and teens together for hands-on lessons in medicine gathering, biodiversity monitoring and climate advocacy {NA7}.

Further south, the Tribal Campus Climate Challenge mobilised students at over 30 Tribal colleges to plant gardens, install solar arrays, and create recycling schemes, fostering a new generation of Indigenous Peoples climate leaders to embed cultural values in local policy {NA2}. Parallel patterns emerge in the Pacific, where a Christchurch pilot used Māori and Pasifika pūrākau (story-work) to build youth leadership for flood adaptation {PA69}. At the international level, the creation of the International Indigenous Youth Forum on Climate Change provides a dedicated space for young Indigenous Peoples leaders to shape global climate policy, connect regional experiences, and ensure youth perspectives are embedded in UNFCCC negotiations. Cases like these illustrate how youth-led or youth-centred projects can accelerate the uptake of climate tools while protecting the cultural logic that guides their use.

At the same time, inter-generational exchange emerges as an adaptation strategy in its own right. Where Elders and youth collaborate on the land, communities report higher food security, stronger mental health and more cohesive social relations.
In addition to cultural pathways of intergenerational knowledge transfer, new pathways of knowledge exchange vary but share a common inter-generational logic. Examples include (i) mentorship intensives (immersive culture camps and subsistence trips where Elders rebuild skills and confidence for youth who have been physically or culturally distanced from their territories, such as Saskatchewan's local land-based Indigenous Peoples climate camp {NA7}; (ii) tech-enabled co-production that pairs digitally fluent youth with Elder knowledge holders, as in SmartICE and Turkana–Samburu sand-dams {AF68}; and (iii) Story-based pedagogy – as seen in Māori and Pasifika pūrākau – creates cultural narratives that root adaptation planning in Indigenous Peoples values {PA68}. Across these examples, the continuity of knowledge underpins successful adaptation, underscoring that programmes which safeguard land access, fund youth leadership, and value Elders' experience yield the durable climate-resilience dividends.

Indigenous Peoples in Voluntary Isolation (PIACI)

Climate change threatens PIACI, particularly intensifying wildfires and sea-level rise that devastate their already limited territories and resources. Since direct contact is ethically prohibited, impacts and adaptation responses are inferred indirectly through satellite monitoring and neighbouring community actions to safeguard their territories. Climate change poses a severe threat to Indigenous Peoples in Voluntary Isolation (Pueblos Indígenas en Aislamiento y Contacto Inicial, or PIACI), who primarily reside in remote, forested areas, particularly in the Amazon basin, and also in parts of Asia and Oceania.

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[45] Whyte, KP (2014). Indigenous Women, Climate Change Impacts, and Collective Action. Hypatia. 2014; 29(3):599-616. *https://doi.org/10.1111/hypa.12089*

[46] E.g. Status of Tribes and Climate Change Working Group. (2025). Status of Tribes and Climate Change, Vol. 2 (B. M. Panek, Ed.). Institute for Tribal Environmental Professionals, Northern Arizona University. http://nau.edu/staccreport

Intensifying environmental pressures such as wildfire and sea-level rise are endangering their already precarious survival. However, because direct contact with these communities is prohibited for ethical and legal reasons, the impacts of climate change and adaptation activities undertaken are understood only indirectly through inference from satellite imagery, remote monitoring, and accounts from neighbouring communities.

In Latin America, drought-driven megafires have devastated vast areas of forest relied upon by isolated groups such as the Ayoreo-Totobiegosode in Paraguay {LA93} and the Ayoreo in Bolivia {LA19}. Similarly, across Bolivia, Brazil, and Paraguay, PIACI territories experienced unprecedented spikes in wildfire incidents, burning millions of hectares and posing existential threats to groups like the Ayoreo, Toromona, and Kawahiva {LA7}.

Adaptation strategies that have emerged in response typically prioritise territorial protection and proactive risk management. For example, Indigenous Peoples organizations and NGOs are employing near-real-time satellite monitoring systems (such as MAAP and GLAD alerts) to detect and rapidly respond to fire outbreaks {LA7}. Community-led initiatives represent the primary documented adaptive actions aimed at safeguarding isolated peoples' territories.

4.7 Insights from Unsuccessful Approaches

Climate projects will falter unless FPIC, land security, real benefits and comprehensive relocation planning are embedded from the start. The Chronicle identifies more than 20 climate initiatives from which important lessons can be drawn. Across regions and sectors, four recurring lessons emerge:

1. No FPIC, no project. The importance of obtaining FPIC was underscored by projects such as Lake Turkana Wind {AF55}, Fosen Wind {AR60}, and Rönnbäck mining {AR81}. Future projects must embed meaningful FPIC processes from the outset.
2. Land rights matter. Experiences with Embobut evictions {AF67} and Mai-Ndombe REDD+ {AF34} demonstrate that dispossession is not only a human rights violation, but it also means that conservation and carbon goals will not be met. Project design must prioritise tenure security before implementation. This is not only a question of present-day tenure – it is also about recognising how climate initiatives are embedded in (and often reproduce) long histories of colonial dispossession. Without confronting these structural injustices, efforts to mitigate or adapt to climate change risk reinforcing the dynamics that undermined Indigenous Peoples stewardship in the first place
3. Benefits must be real and timely. Projects like East Kalimantan REDD+ {AS55} and Sicanang ecotourism {AS53} lost local support when promised revenues never arrived. Clearly defined, equitable benefit-sharing mechanisms should be pre-defined up-front.
4. Relocation demands whole-of-life planning. Experiences from forced relocation of communities such as Shishmaref {AR98}, Carteret Islands {PA76} and Narikoso {PA49} reveal the limitations of fragmented funding and cultural neglect; Newtok's incremental, community-led move offers a more robust model {AR94}.

These experiences have informed significant reforms: EU and World Bank safeguards toughened after Embobut and Mai-Ndombe; Fiji issued national relocation guidelines in response to Narikoso delays; major climate funds now require Indigenous Peoples Plans; and Indigenous Peoples networks actively share cautionary tales, turning hard-won experience into collective wisdom.

Key lesson:

Climate initiatives succeed when Indigenous Peoples lead planning, have secure land tenure, receive tangible benefits, and have clear avenues for recourse if things go wrong. Failures have been costly, but they have accelerated a shift toward rights-based, community-driven climate action.

5. Indigenous-Led Climate Finance

Indigenous-led climate financing ensures global climate goals are met effectively, equitably, and sustainably. Despite increased global attention and funding commitments, substantial gaps persist in ensuring direct financial flows to Indigenous Peoples. Prioritising direct, inclusive and culturally appropriate funding, and building capacity to receive funds are critical steps forward.

Why Indigenous Peoples-Led Financing Matters

Unlike conventional top-down climate finance, Indigenous-led funds emphasise local governance, low transaction costs, social justice, and culturally attuned processes to empower communities on the frontlines of climate change. As UN and scientific bodies continue to emphasise, recognising Indigenous Peoples rights and supporting Indigenous Peoples' knowledge-based solutions is critical for effective climate action[47]. Yet historically, climate finance reaching Indigenous Peoples has been grossly disproportionate to their importance. A 2021 analysis by Rainforest Foundation Norway found that Indigenous Peoples receive less than 1% of international climate funding intended to reduce deforestation[48]. Even funding that is earmarked specifically for Indigenous Peoples frequently struggles to reach them directly[49].

However, this is beginning to change. Indigenous Peoples are increasingly forging their own financing mechanisms to channel resources directly to their communities. Indigenous-led climate funds differ from conventional top-down aid in the ways that they emphasise local governance, operate with low transaction costs, and employ culturally attuned processes that empower communities on the frontlines of climate change. Indigenous-led financing is fundamentally about self-determination – it enables communities to set priorities and strategies according to their values and knowledge systems, aligning funding with on-the- ground realities. Indigenous-led funds tend to support an integrated spectrum of goals: from land rights and territorial governance to climate resilience, biodiversity conservation, Indigenous Peoples women's leadership, intergenerational knowledge transmission, and community well-being. By investing in Indigenous-defined priorities, these funds simultaneously advance climate mitigation, adaptation and social justice. Early evidence of impact is compelling. Over the past decade, a growing ecosystem of Indigenous-led climate funds has collectively mobilised and disbursed upwards of US$30 million, supporting over 2,000 Indigenous-led projects across 80+ countries.

[47] E.g. Climate Change 2022: Impacts, Adaptation and Vulnerability. Working Group II Contribution to the IPCC Sixth Assessment Report https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_TechnicalSummary.pdf
[48] Rainforest Foundation Norway (2021). Falling Short. https://dv719tqmsuwvb.cloudfront.net/documents/Publikasjoner/Andre-rapporter/RFN_Falling_short_2021.pdf
[49] For example, Ford Foundation focused on providing direct support to Indigenous Peoples and local community organisations and networks under the COP26 pledge to support the tenure rights and forest guardianship of Indigenous Peoples and local communities. In 2022, 17% of funding was provided as direct support, increasing to 24% in 2023, and 51% by 2024.
[49] For example Ford Foundation (2024). https://www.fordfoundation.org/news-and-stories/stories/fulfilling-our-commitment-third-annual-update-on- our-pledge-for-tenure-rights-and-forest-guardianship-of-indigenous-peoples-and-local-communities/

These projects have strengthened climate resilience, conserved biodiversity, defended land rights, and revitalised Indigenous Peoples' knowledge and languages, directly benefiting millions of Indigenous Peoples and protecting millions of hectares of forests and territories. Every dollar invested through Indigenous-led channels can yield multifaceted returns – environmental, social, and cultural – that top-down programs struggle to achieve.

Evolution of Climate Finance for Indigenous Peoples

International climate finance pledges targeting Indigenous Peoples have grown substantially post-COP26, yet a persistent gap remains between pledged funds and Funds directly controlled and managed by Indigenous Peoples. Achieving transformative change requires redirecting resources from intermediaries to Indigenous-led mechanisms.

After years of neglect, international climate finance for Indigenous Peoples is finally on an upward trajectory[50]. According to the Path to Scale dashboard[51], average annual donor flows targeted to Indigenous Peoples, Afro-descendant Peoples and local communities reached roughly US $517 million per year (2020-23) – a 36 % jump over the previous four-year period. However, most of this increase is directed toward forested landscapes, leaving Indigenous Peoples in non-forested regions – such as North America, the Arctic, and parts of the Pacific – largely excluded from these benefits.

Much of this is attributable to a turning point at the 2021 UN Climate Conference (COP26) in Glasgow, where a coalition of governments and philanthropies pledged US$1.7 billion over five years to support Indigenous Peoples land tenure and forest guardianship,[52] significantly raising the global profile of Indigenous-led climate solutions. Analysis by the Rights and Resources Initiative (RRI) and Rainforest Foundation Norway shows that annual donor funding for Indigenous Peoples and community forest tenure has significantly increased since 2020, reflecting these new commitments[53]. However, in practice, only a small fraction of this funding has reached Indigenous Peoples organizations directly – less than 3% annually in the early years of the pledge[54].

However, alongside this growth lies a persistent gap: only a small fraction of climate funds is reaching Indigenous Peoples directly. Most pledged money still flows through international NGOs or other intermediaries, with limited control by Indigenous Peoples and their organisations. In the COP26 pledge's first couple of years (2021-2022), less than 3% of the funding was channelled directly to Indigenous-led organisations each year, while roughly half went through large national and international NGOs[55].
In fact, in absolute terms, although the amount of direct funding increased modestly in the second year, indirect flows grew faster, so the percentage going directly to Indigenous Peoples actually fell. Although direct funding improved to 10.6% in 2023, the figures remain troubling: despite donors' public commitment to increase direct support, progress has been slow.

Many well-meaning donors continue relying on traditional, top-down aid delivery methods that often send money for Indigenous Peoples through third parties, resulting in funds "evaporating" before they ever reach the communities on the ground. Investments in gender equality are on the decline, and Indigenous and Afro-descendant women remain severely underfunded[56]. Regional distribution of funds even in forested areas also remains uneven. The Forest Tenure Funders Group shows Latin America still receiving the single largest share (~58 % of 2023 disbursements), followed by Africa (~33 %) and Asia-Pacific ~9 %)[57]. Even so, more countries are benefitting: 47 nations each received ≥ US $1 million in 2021-23, compared with 38 in the previous cycle. But the expansion masks persistent under-funding for Indigenous Peoples in Asia, North America, the Arctic, Australasia and small-island states.

Nevertheless, there are signs of improvement and innovation. Encouraging developments include philanthropic leaders such as the Ford Foundation, which increased direct funding to Indigenous-led organizations from 17% to 51% within three years, demonstrating a viable model for change[58]. Including re-grants through Indigenous Peoples intermediaries, Ford estimates about 65% of its recent climate funding is now reaching Indigenous Peoples as well as local communities in ways those communities influence or control. Other donors are following suit with philanthropic initiatives such as the Bezos Earth Fund also directly investing in Indigenous Peoples-led organisations. At the multilateral level, the Global Environment Facility launched the Heart of Conservation Initiative[59] to fund Indigenous Peoples-led conservation, and is preparing a second phase (2025–2030, ~US$25 million) aimed at increasing resources and recognition for Indigenous Peoples stewardship of lands and forests.

In the Global North, the Government of Canada has established a national mechanism to channel finance directly to Indigenous Peoples stewardship through its Nature-Smart Climate Solutions Fund (NSCSF) – a 10-year, US$8 million programme that has set aside US$5.6 million specifically for Indigenous-led natural-climate-solution projects[60]. The fund is co-governed with First Nations, Inuit and Métis bodies via an Indigenous Peoples Guardians Secretariat, offering a model of distinctions-based governance and direct capital transfer. Comparable national-level programs do not yet exist in other Global North countries, where Indigenous Peoples access is generally limited to fragmented or project- specific schemes. These efforts therefore indicate both a trajectory of growth in climate finance for Indigenous Peoples, and highlight the significant work ahead.

[50] RFN (2025). State of Funding for Tenure Rights. *https://rightsandresources.org/wp-content/uploads/2025- State-of-Funding_v5.pdf*
[51] Path to Scale Dashboard: *https://dashboard.pathtoscale.org*
[52] IPLC Forest Tenure Donor Pledge *https://landportal.org/library/resources/glimpse-iplc-forest-tenure-donor- pledge*
[53] RRI (2024). State of Funding for Tenure Rights and Forest Guardianship. *https://rightsandresources.org/wp- content/uploads/2023-State-of-Funding_Brief-EN.pdf*
[54] Forest Climate Leaders (2025). Indigenous Peoples and Local Communities Forest Tenure Pledge Annual Report 2023-2024. *https://forestclimateleaders.org/wp-content/uploads/2025/01/FTTG-Annual-Report-2023- 2024-EN.pdf*
[55] Forest Climate Leaders (2025). Indigenous Peoples and Local Communities Forest Tenure Pledge Annual Report 2023-2024. *https://forestclimateleaders.org/wp-content/uploads/2025/01/FTTG-Annual-Report-2023- 2024-EN.pdf*
[56] RRI & WiGSA (2025). Is Global Funding Reaching Indigenous, Afro-descendant, and Local Community Women? *https://rightsandresources.org/publication/wigsa-funding-report-2025/*
[57] Forest Climate Leaders (2025). Indigenous Peoples and Local Communities Forest Tenure Pledge Annual Report 2023-2024. *https://forestclimateleaders.org/wp-content/uploads/2025/01/FTTG-Annual-Report-2023- 2024-EN.pdf*
[58] Ford Foundation (2024). Pledge Progress Report. *https://www.fordfoundation.org/news-and- stories/stories/fulfilling-our-commitment-third-annual-update-on-our-pledge-for-tenure-rights-and-forest- guardianship-of-indigenous-peoples-and-local-communities/*
[59] *https://inclusiveconservationinitiative.org/*
[60] *https://www.canada.ca/en/environment-climate-change/services/environmental-funding/programs/nature- smart-climate-solutions-fund.html*

Even if the overall climate finance pie is growing, making the funding direct, accessible, and controlled by Indigenous Peoples remains a central challenge

A Gender Lens on Indigenous Climate Finance

Indigenous Peoples Women's Organisations run on shoestring annual budgets (typically under USD 100,000) with more than half of funding locked into short-term, project-based grants and less than 20% available as flexible core support. IWOs are left scrambling to self-finance and fund-raise locally. Despite comparatively small asset bases, Indigenous-led funds are the primary funders of IWOs.

Indigenous Peoples Women's Organisations (IWOs) receive only a tiny slice of the resources flowing to Indigenous Peoples overall, and the profile of those funds is markedly different from the wider climate-finance landscape. A 2024 global survey of 286 IWOs found that the overwhelming majority operate on annual budgets below USD 100,000 and rely on short-term, project-specific grants that make long-term planning almost impossible[61].

The survey reported that the average grant size is smaller (42 % fall in the USD 25 – 50 k band; only 7 % ever receive a grant above USD 500 k), and the modalities are different (61 % of reported income is tied to project/programme deliverables, while unrestricted core funding accounts for just 17 %). The survey also documented acute geographic inequities. Despite housing more than 85 % of the global Indigenous-women population, Asia and Africa remain under-served by philanthropic flows, a pattern rooted in legal-status barriers and "traditional charity" models that prioritise short-term aid over social-change finance.

Facing persistent funding gaps, IWOs adopt a mosaic of survival tactics that include:

- Self-contribution of resources, grassroots fundraising, entrepreneurship are the three most common strategies to keep the lights on.
- Diversifying income, by applying to open calls for proposals, relying on personal or community funds, and international donations or cooperation agreements.
- Indigenous-controlled philanthropies that are rising as a lifeline: 32 % of IWOs cite FIMI/AYNI and 25 % cite Pawanka as a top funding source (conventional foundations account for only 15 %).

These figures reinforce the earlier point that a healthy ecosystem of Indigenous-led funds is essential: despite their comparatively small asset bases, they already rank among the most significant backers for women-led groups.

Global and Regional Indigenous-Led Fund Models

Indigenous-led climate funds demonstrate effective community-driven approaches that deliver significant environmental, social, and cultural impacts. These mechanisms provide valuable insights and replicable models for scaling up Indigenous-controlled financing.

G1. Ayni Indigenous Women's Fund | Global (registered in Peru), est. 2009

The Ayni Indigenous Women's Fund under the International Indigenous Women's Forum (FIMI) is a global mechanism by and for Indigenous Peoples women, supporting grassroots women's groups on projects ranging from climate resilience and land rights to eliminating gender-based violence.

Its mission is to promote the recognition and protection of their individual and collective rights, empowering them as key actors and drivers of a world based on the principles of buen vivir – a holistic and inclusive vision of well-being and harmony.

Model:

- Seed programs: Supports projects led by Indigenous Peoples Women's organizations from all regions, particularly those that have never received funding before. It includes IPAF projects in partnership with IFAD in Latin America and the Caribbean, designed to improve economic, social, and cultural well-being.
- Leading from the South program: Supports initiatives led by women and diverse groups in the Global South, strengthening human rights, gender equity, and social justice through feminist and community-based projects.
- Dignity Program: The Elder Women's Dignity Fund supports elder Indigenous Peoples Women in vulnerable situations, particularly related to health. This fund recognises their life's work and provides support to improve their quality of life.

Capitalisation:

- Instruments: Small Grants: 5,000 - <25,000 USD (Community Projects); Medium Grants: 25,000 - <85,000 USD (National/ Subregional Coverage); Large Grants: 85,000 - 200,000 USD (Regional and Subregional Network Organizations).
- Investment: Issued US$2.5m in grants per year since 2022.
- Illustrative projects: {AF63} {LA94} {PA50}

Insights: Prioritising marginalised groups (women, youth) within Indigenous Peoples can yield cross-cutting benefits. By empowering Indigenous Peoples women as key actors, Ayni not only advances gender justice but also strengthens climate adaptation and community well-being. Ayni's success also shows that even relatively small grants (often US$5k–$25k for community projects) coupled with capacity-building can catalyse significant community action. Many beneficiary groups had never received funding before; through Ayni's "seed funds" and training, they have been able to launch local sustainable development initiatives for the first time.

G2. Pawanka Fund | Global (registered in Nicaragua), est. 2014

Pawanka is global and grassroots, reaching Indigenous Peoples in all seven socio-cultural regions of the world. Over ten years, it has distributed over US$23 million to IP initiatives. It has supported a diverse range of initiatives, committed to Indigenous Peoples' self- determined development. Pawanka uses a set of cultural due diligence indicators and themes to guide its grant making. Values of trust, flexibility, mentoring and accompaniment and mutual learning drive its work and partnerships with both Indigenous Peoples and donors. Pawanka's partners universally appreciate that Pawanka is Indigenous-led and what that means in practice: greater trust, stronger relationships and flexibility to implement initiatives that they need. Over a decade, it evolved into a broad Indigenous-led grant-making fund supporting self- determined development and intercultural philanthropy. Pawanka is governed by a Guiding Committee of Indigenous Peoples representatives from seven global regions, who collectively decide on grants and strategy by consensus. It prioritises projects that centre on knowledge revitalization, inter-generational learning, and cultural strengthening.

[61] IFIP & FIMI (2024). Leaders and Stewards: Global Analysis of Funding to Indigenous Women. *https://internationalfunders.org/wp-content/uploads/2024/07/Leaders-and-Stewards-Global-Analysis-of- Funding-to-Indigenous-Women-_compressed.pdf*

Ian Leshan of ILEPA picture

Model:

Pawanka operates as a re-granting fund supported by a coalition of donors who share its values. Initial seed funding came from philanthropies like Tamalpais Trust, Novo, Christensen Fund, and contributions from Indigenous-led organizations themselves. Pawanka raises funds on an ongoing basis and pools them to make annual grant cycles. It does not solicit open applications; rather, committee members work directly with grassroots organizations in their regions to identify and invite proposals in a spirit of partnership.

Capitalisation:

- Instruments: US$10k-$50k grants, as well as smaller microgrants.
- Investment: The Pawanka Fund's Guiding Committee awards more than 120 grants each year across its seven sociocultural regions.
- Illustrative Projects: {AS68}, {LA84}, {PA102}

Insights:

Trust-based funding and intercultural approaches can transform power dynamics. Pawanka explicitly aims to "transform power relations through ancestral values," practicing a form of philanthropy that respects Indigenous Peoples worldviews and decision-making processes. By not requiring competitive bidding for grants, Pawanka avoids pitting communities against each other and instead fosters collaboration and sharing of knowledge.

Further information: *https://pawankafund.org/*

G3. Tebtebba: Indigenous Peoples' International Centre for Policy Research and Education | Global (registered in the Philippines), est. 1996

Tebtebba acts as the secretariat for Elatia (ELATIA Indigenous Peoples' Global Partnership on Self Determination, Reciprocity and Resilience), and is a global Indigenous Peoples network composed of 18 Indigenous Peoples' organizations, networks and IP-NGOs in 13 countries: Tebtebba and Silingang Dapit sa Sidlakang Mindanao (SILDAP-SE) - Philippines; Institut Dayakologi (ID) - Indonesia; Maleya Foundation - Bangladesh; Center for Indigenous Peoples' Research and Development (CIPRED) - Nepal; Lelewal - Cameroon; Mainyoito Pastoralist Integrated Development Organisation (MPIDO) and Indigenous Livelihoods

Enhancement Partners (ILEPA) - Kenya; Pastoralists Indigenous Non Governmental Organizations (PINGO's Forum) - Tanzania; Centro de Culturas Indígenas el Perú (CHIRAPAQ) - Peru; Centro para la Autonomía y Desarollo de los Pueblos Indígenas (CADPI) - Nicaragua; Conselho Indígena de Roraima (CIR) - Brazil; Dignité Pygmée (DIPY) and Union Pour L'Emancipation De La Femme Autochtone (UEFA) - Democratic Republic of Congo; Federación por la Autodeterminación de los Pueblos Indígenas (FAPI) - Paraguay.

Model:

Tebtebba advocates and works on the elaboration and operationalisation of Indigenous Peoples' right to sustainable and self-determined development.

Capitalisation:

- Tebtebba is a regional grant recipient and implementer under the World Bank's Forest Carbon Partnership Facility (FCPF) Readiness Fund, delivering Indigenous Peoples capacity grants in East Asia–Pacific and South Asia. During FCPF Phase 2, it managed six regional sub-grants through the Small Recipient-Executed Trust Fund mechanism, providing funding and technical support directly to Indigenous Peoples' Organisations in areas like REDD+, forest stewardship, and climate resilience.
- Since 2011, Tebtebba has co-managed the Indigenous Peoples Assistance Facility (IPAF) (hosted by IFAD), which provides small grants to Indigenous Peoples for self-determined development projects – often with thematic links to land rights, climate adaptation, and sustainable livelihoods. In the 5th cycle (2018–2021), IPAF funded 12 projects across Asia–Pacific (including Bangladesh, Cambodia, Nepal, Indonesia, Philippines, etc.), supporting work on climate resilience, food security, and resource management
- Illustrative projects: {AS13}, {AS105}, {PA46}

Insights:

Combine support with advocacy. By co-managing globally recognised mechanisms such as IPAF and the World Bank's FCPF, Tebtebba has effectively bridged international funding institutions with grassroots Indigenous Peoples priorities. Its regional sub-grants highlight how carefully targeted support, rooted in Indigenous Peoples governance and self-determination, can drive meaningful local outcomes in climate resilience, forest management, and sustainable livelihoods.

Further information: *https://www.tebtebba.org*

G4. Fondo Territorial Mesoamericano (FTM) | Mesoamerica (registered in Panama), est. 2020

FTM is an alternative financial mechanism created "by and for Indigenous Peoples and Local Communities" to deliver rights-based, direct investments to community initiatives. FTM's purpose is to facilitate culturally appropriate grants that strengthen community livelihoods, tenure rights, and forest stewardship while keeping transaction costs low and accountability high.

Model:

FTM was co-designed by the Mesoamerican Alliance of Peoples and Forests (AMPB) and is governed by a seven-person Board of Directors comprised of Indigenous Peoples leaders from AMPB member organizations alongside allied experts. This governance model ensures decision-making by those rooted in the territories, including representation of Indigenous Peoples women and youth. The Board includes prominent Indigenous Peoples leaders from Mexico, Costa Rica, Guatemala, and Panama, as well as experienced supporters from NGOs and philanthropy. Grants are guided by a rights-based approach, supporting community solutions that integrate environmental and social goals such as landscape restoration, food security, women's leadership, and youth engagement in conservation.

Capitalisation:

- Instruments: Small grants (US$10k - $50k), large grants (US$50k+) and rapid response micro-grants for emergencies.
- Investment: Issued US$2.3m in grants from 2021-2025, supporting 16,952 people (40% women).
- Illustrative projects: {LA53} {LA55} {LA77}

Insights: Co-design and Indigenous Peoples governance are key to legitimacy and effectiveness. Because FTM's decision-makers are rooted in the territories, grants align with community-defined priorities and come with built-in trust. FTM's early results demonstrate that community-driven projects can effectively contribute to climate and biodiversity goals while also strengthening land tenure and food security.

Further information: *https://fondomesoamericano.org*

G5. Indigenous Peoples of Asia Solidarity Fund (IPAS) | Asia (registered in Indonesia), est. 2022

The IPAS Fund is envisioned by Indigenous Peoples organizations, networks and movements across Asia as a regional Indigenous-led funding mechanism. It has a secretariat with 4 full- time team members.

Model:

The Country Steering Committees (CSCs) and Sectoral Committees (SCs) consist of representatives from grassroots Indigenous Peoples organizations. Within the IPAS Fund, these committees play a crucial role in overseeing on-the-ground initiatives, ensuring that funds are utilised effectively to address the specific needs and challenges faced by Indigenous Peoples in each country.

Capitalisation:

- Instruments: US$5k grassroots grants, sectoral grants (Indigenous Peoples Youth, Indigenous Peoples Women and Indigenous Peoples Persons with Disabilities), and emergency grants. US$10k subnational/national grants for IPOs and institutions working at higher levels. US$7k-$12k capacity-strengthening grants per country/sector.
- Investment: US$125k disbursed in 21 grants across 6 countries in Asia in 2024.

Insights: Decentralised, country-level participation can enhance impact and ownership. By involving Indigenous Peoples leaders from each country (e.g. Indonesia, Nepal, Philippines, etc.) in funding decisions, IPAS tailors its support to diverse national contexts and strengthens regional solidarity. Early implementation revealed practical lessons: IPAS had to navigate complex fund transfer restrictions and work with a fiscal sponsor, which delayed disbursements in 2024.

Further information: *https://www.ipasfund.org*

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Further information: *https://www.ipasfund.org*

Local and National Indigenous-Led Funding Examples

Indigenous-led climate funds demonstrate effective community-driven approaches that deliver significant environmental, social, and cultural impacts. These mechanisms provide valuable insights and replicable models for scaling up Indigenous-controlled financing.

L1. Podáali Fund | Brazil, est. 2019

Podáali was founded by COIAB (the Coordination of Indigenous Organizations of the Brazilian Amazon) to enable Indigenous Amazonians to receive and manage funding for their own priorities. Its mission is to empower Indigenous Peoples to protect their forests and livelihoods by financing their own projects, acting as an intermediary that channels donor funds directly to Indigenous Peoples associations in the Amazon.

Mechanism:

By funding across eight holistic themes (from food sovereignty to women's leadership), Podáali supports Brazil's climate and biodiversity targets while advancing Indigenous Peoples rights. Podáali is managed and staffed predominantly by Indigenous Peoples; its council includes representatives from across the Amazon, ensuring broad buy-in. In 2023–24, Podáali successfully raised about $1.6 million from philanthropic donors.

Further information: *https://fundopodaali.org.br*

L2. Great Bear Rainforest Project Finance for Permanence | Canada, est. 2007

A Project Finance for Permanence (PFP) model combining government and philanthropic funds to secure a vast conservation agreement. Mechanism: In 2007, a $120 million package (co-funded by Canada, BC, and private foundations) created two funds managed by an entity called Coast Funds. One is a perpetual endowment for stewardship; the other is a spend-down fund for sustainable economic development. Revenues from carbon credits also support participating First Nations. This PFP underpins the historic Great Bear Rainforest agreements, which protect 85% of the region's forests and support Indigenous Peoples' livelihoods.

Further information: *https://ourgreatbearsea.ca/*

L3. Thaidene Nëné Trust Fund | Canada, est. 2019

A permanent conservation trust fund providing annual income for managing the Thaidene Nëné Indigenous Protected Area in Canada. The trust was capitalised through a partnership between the Łutsël Ké Dene First Nation, the federal government, and an NGO.

Mechanism:

The Łutsël K'é Dene First Nation (LKDFN) created the Thaidene Nëné Trust Fund to finance the management of the Thaidene Nëné Indigenous Protected and Conserved Area (IPCA) in the Northwest Territories, Canada. This permanent trust fund was established according to the First Nation's vision for protecting their "Land of the Ancestors" (Thaidene Nëné) and provides long-term funding for stewardship. The trust was capitalised through a partnership between LKDFN, Nature United (the Canadian affiliate of The Nature Conservancy) who raised approximately CAD $15 million, and the Government of Canada (Parks Canada) who contributed matching funds, doubling the endowment. The trust's capital is managed by trustees appointed by the LKDFN, and annual interest earnings finance the First Nation's operational costs of managing the IPCA.

Further information:
https://www.landoftheancestors.ca/thaidene-nene-fund.html

L4. Kayapó Fund | Brazil, est. 2011

A financial mechanism to provide long-term grant financing for Indigenous-led conservation, climate mitigation, and sustainable livelihoods projects in the Amazon, led by the Kayapó (Mebêngôkre), Indigenous Peoples in the southeastern Amazon of Brazil.
Mechanism: Created in 2011 with an initial US$8 million endowment from Conservation International and Brazil's BNDES/Amazon Fund, the Kayapó Fund is governed by Kayapó leaders and managed by FUNBIO. Interest earnings (~US$400 k / yr) finance patrols, community enterprises and forest-monitoring across 11 million ha of Kayapó territories, keeping deforestation rates near zero inside their lands.
Further information:
https://www.funbio.org.br/en/programas_e_projetos/kayapo-fund/

L5. First Australians Capital Catalytic Impact Fund | Australia, est. 2023

A First Nations-controlled fund manager offering patient debt finance to support Indigenous- led enterprises in sectors such as native foods and renewables.

Mechanism:

The First Australians Capital Catalytic Impact Fund is a financing mechanism structured as a closed-ended unit trust, offering patient, affordable debt finance tailored to Indigenous Peoples businesses. It targets wholesale investors to raise AUD $30 million over a 10-year term, providing concessional loans and technical support to Indigenous Peoples enterprises across sectors such as renewable energy, regenerative agriculture and sustainable land management. Governed by a majority Indigenous Peoples board and executive, it prioritises impact outcomes – including economic self-determination, wealth creation, community and cultural benefits, and racial equity – while targeting modest financial returns of around 1-4%.

Further information: *https://firstaustralianscapital.org/*

L6. Saweto Dedicated Grant Mechanism (DGM) | Peru, est. 2016
An Indigenous-led funding mechanism set up in 2016 under the World Bank's Forest Investment Program (FIP). Managed by WWF-Peru, it operates through a community- governed model, providing direct financial support and technical assistance to Indigenous Peoples across the Peruvian Amazon.

Mechanism:

With a grant of US $5.5 million, DGM is executed by WWF-Peru and governed by a National Steering Committee. It provides targeted financial and technical support for Amazonian Indigenous Peoples to secure land titles, implement sustainable livelihood projects (such as agroforestry and women-led enterprises), and strengthen local governance and forest management capacities. Decision-making is governed by a National Steering Committee composed of representatives from Indigenous Peoples federations (AIDESEP and CONAP), ensuring community-led control and alignment with national climate and forest conservation goals.

Further information: *https://www.dgmglobal.org/peru*

L7. Rio Negro Indigenous Fund (FIRN) | Brazil, est. 2020

A fund initiated by the Federation of Indigenous Organizations of the Rio Negro (FOIRN), with support from partners including the Socio-Environmental Institute (ISA) and the Norwegian government. Its mission is to promote self-determination, territorial/ environmental governance, and well-being of 23 distinct Indigenous Peoples in the Upper and Middle Rio Negro region of Amazonas, Brazil.

Mechanism:

The fund is "by Indigenous Peoples, for Indigenous Peoples", managed through FOIRN's internal governance systems with oversight by Indigenous Peoples leadership. Resources are allocated via open calls and editais (public notice), enabling local associations to propose culturally rooted, territory-aligned projects drawn from their Territorial and Environmental Management Plans (PGTAs). Initial capital of US$200k supported ~15 projects in 2021, and US$500k supported 25 projects in 2023.

Further information: *https://firn.foirn.org.br*

Challenges in Scaling Up Indigenous-Led Finance

International climate finance pledges targeting Indigenous Peoples have grown substantially post-COP26, yet a persistent gap remains between pledged funds and direct Indigenous Peoples control. Achieving transformative change requires redirecting resources from intermediaries to Indigenous-led mechanisms.

Despite the clear benefits of Indigenous-led climate finance, significant challenges continue to impede its expansion. On the demand side, needs far outstrip current funding – Indigenous Peoples funding mechanisms report being overwhelmed with worthy proposals they cannot support due to limited funds. This puts pressure on Indigenous Peoples funds to continually raise more capital, a task made harder by donors' slow systems. At the same time, the largest pools of climate finance remain largely out of reach.

Structural barriers within multilateral mechanisms such as the Green Climate Fund (GCF), Global Environment Facility (GEF), World Bank climate windows, the Loss and Damage Fund, and the Global Biodiversity Framework Fund (GBFF) make it extraordinarily difficult for Indigenous Peoples to access resources directly. Accreditation processes are lengthy, costly, and geared toward national governments and large international agencies. Even where Indigenous Peoples' priorities are referenced in policies, direct access windows are rare, and proposals from Indigenous Peoples organizations are often filtered through intermediaries. At the community level, many Indigenous Peoples' organizations still struggle with administrative and legal barriers that hinder access to finance. Government restrictions in certain countries block direct funding to unregistered groups, or require onerous approvals, and criminalisation of activism is a significant concern in many regions. Language and literacy barriers also persist – many Indigenous Peoples leaders are not fluent in the languages or technical jargon of international finance, so without translation and intercultural brokerage they remain excluded.

Even within the philanthropic sphere, some donors and governments have yet to be convinced of the "value-add" of Indigenous-led funds, continuing to channel financing through large international NGOs by default. This can reflect implicit biases or a lack of understanding of how Indigenous Peoples mechanisms work. The result is that innovative Indigenous Peoples funds, while proven effective, often operate at the fringes of both multilateral and philanthropic finance systems, rather than being central to them.

A concerted effort by donors, governments, and Indigenous Peoples stakeholders is needed to address these challenges and scale up Indigenous-led finance in an effective, equitable, and culturally aligned way. The following recommendations emerge from the Chronicle.

1. Increase direct funding commitments and set targets. Global climate finance institutions, including donors, the Green Climate Fund, the Global Environment Facility, the World Bank climate funds, the Loss and Damage Fund, and philanthropic groups, should explicitly commit to directing significant funds to Indigenous Peoples, setting clear targets (e.g., 25% by 2026, 75% by 2030) from the current low baseline. Donors should also commit qualitatively by supporting direct access and tenure rights, recognising the vast carbon and biodiversity stores managed by Indigenous Peoples.
2. Adapt donor requirements to Indigenous Peoples realities: Mainstream donors should streamline application processes, offer translation services, accept alternative documentation like oral histories, and align timelines with community decision- making. Multilateral funds in particular should reform accreditation pathways so that Indigenous-led entities can access funding directly, not only via government or large NGO intermediaries. Adopting principles championed by I__ndigenous Peoples platforms like Shandia – such as co-creating projects, culturally appropriate budgeting, and context-specific accountability – will increase fund accessibility and effectiveness. Delegating funding decisions to Indigenous-led committees or funds can enhance capacity and ensure more appropriate allocation. Additionally, funding timelines should accommodate the pace of community decision-making – for instance, aligning disbursements with seasonal calendars or allowing extensions if communities need to resolve internal consensus processes. The Path to Scale Funding with Purpose report[62] lays out elements of how systems should change to be more appropriate for the realities faced by local organisations.
3. Invest in capacity building, and long-term unrestricted funds. Expanding direct funding requires strengthening Indigenous Peoples' financial capacities, addressing historical exclusions. Donors should offer institutional development grants supporting financial management, legal registration, and administration training. Long-term or renewable funding commitments stabilise organisations, fostering trust and enabling more significant finance flows in the future. Capacity-building should respect Indigenous Peoples definitions and values, such as traditional governance alongside Western administrative skills.
4. Prioritise flexible and funding. Increasing climate threats necessitate flexible emergency response funding mechanisms directly controlled by Indigenous Peoples entities, modelled on successful Indigenous-led approaches. Donors should integrate flexible emergency windows into existing programs, and allow culturally appropriate spending, including Indigenous Peoples' knowledge transfer, ceremonies, and community cohesion activities, acknowledging their role in effective climate outcomes.

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5. Support women, youth, and marginalised groups. Climate finance must intentionally support Indigenous Peoples women, youth, and marginalised groups, creating dedicated streams or quotas. Initiatives by funds like Ayni and Pawanka demonstrate effective inclusion strategies. Donors should proactively fund grassroots collectives and less visible community groups, ensuring broader distribution of benefits and addressing intersectional vulnerabilities.
6. Foster partnerships with governments and private sector. Governments should collaborate directly with Indigenous Peoples, as seen in Canada's federal Indigenous Peoples climate fund. Private sector and carbon finance partnerships must involve Indigenous Peoples from inception to ensure respect for rights, FPIC adherence, and equitable benefit-sharing. Indigenous-led funds can serve as aggregators, strengthening community bargaining power and ensuring responsible finance practices.
7. Empower Indigenous Peoples networks. Indigenous Peoples coalitions should play central roles in climate finance discussions and governance structures, including decision-making bodies of global funds. Establishing Indigenous Peoples advisory councils and funding Indigenous-led research ensures Indigenous Peoples' knowledge and expertise informs and evaluates finance strategies effectively, overcoming entrenched bureaucratic barriers to meaningful participation.

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[62] RRI & RFN (2022). Funding with Purpose: A Study to Inform Donor Support for Indigenous and Local Community Rights, Climate, and Conservation. https://www.pathtoscale.org/resources/funding-with-purpose

6. Conclusions and Recommendations

Conclusions

The evidence from across this Chronicle highlights lessons that can be grouped into six overarching themes:

1. Indigenous Peoples' stewardship is a planetary stabiliser. Indigenous Peoples-led climate action is delivering measurable results in adaptation, mitigation, and resilience. Indigenous Peoples' territories are essential global carbon sinks and buffers against climate extremes. When their tenure rights are secure, ecosystems remain intact, and emissions are reduced.
2. Rights are the hinge between success and failure. Where Indigenous Peoples' tenure is secure, and governance systems and rights are respected, climate outcomes are more durable, equitable, and impactful.
3. Indigenous Peoples' climate leadership is surging, but finance rarely reaches them. Indigenous Peoples-led funds and institutions are already demonstrating high ecological and social returns, but they remain vastly under-resourced relative to need. Persistent structural barriers – especially financing gaps, lack of recognition in national and global policy, and limited technical support – continue to constrain scaling.
4. Knowledge co-production is driving innovation and transformation. When Indigenous Peoples' knowledge systems and Western science are integrated under Indigenous Peoples' leadership, forecasts improve, adaptation strengthens, and uptake is higher.
5. Women and youth are force multipliers. Indigenous Peoples women and youth bring unique innovation, resilience, and transmission of knowledge, yet they face systemic under-investment.
6. Self-determined solutions are the most durable. Indigenous Peoples-led and designed approaches scale better, deliver sustained impacts, and strengthen both ecosystems and governance when backed by appropriate finance and recognition. Peer-to-peer collaboration and knowledge exchange are proven accelerators of innovation and systemic change.

Recommendations Part I: Improving the Finance Flow

We need a concerted effort by donors, governments, and Indigenous Peoples stakeholders to scale up Indigenous-led finance in an effective, equitable, and culturally aligned way. The following recommendations emerge from the Chronicle

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Recommendations Part II: Insights for Key Actors

Building on these conclusions, the following recommendations translate insights into action for key actors.

For Indigenous Peoples Organisations and Networks

- Continue strengthening and scaling Indigenous Peoples' conservation, resource management, and restoration initiatives (e.g. guardian programmes, Indigenous Peoples-led funds, microgrant schemes).
- Prioritise peer-to-peer learning grants to enable successful Indigenous Peoples' models to scale across regions.
- Build gender- and youth-responsive governance and leadership structures that ensure intergenerational resilience.
- Play a central role in climate finance governance, including advisory councils, fund boards, and decision-making bodies.
- Lead research and evaluation of finance strategies to ensure Indigenous Peoples' knowledge informs global climate finance.

For Governments

- Put Indigenous Peoples' land and water stewardship at the heart of Nationally Determined Contribution Strategies (NDCs) and Nature-based Solution (NbS) programmes.
- Recognise Indigenous Peoples' customary ownership and governance over their identified ancestral territories and resources.
- Fast track legal recognition and titling of Indigenous Peoples' territories, line with the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).
- Scale Indigenous Peoples' conservation and/or resource management initiatives (including guardian and ranger programmes) as part of national mitigation and adaptation budgets.
- Require, at a minimum, Indigenous Peoples' co-governance and Free, Prior and Informed Consent (FPIC) for every land and water-based initiative.
- Enforce the "no rights – no deal" principle.
- Make rigorous land tenure due diligence mandatory for all public and private sector climate finance, grounded in protocols of FPIC.
- Embed grievance, benefit sharing and protector security clauses into carbon, conservation and renewable energy contracts.
- Tie multilateral funding disbursements to demonstrable progress on Indigenous Peoples' rights reform.
- Guarantee Indigenous Peoples women and youth seats on climate-decision bodies (national task forces, GCF boards, project steering committees).
- Foster partnerships with Indigenous Peoples in climate finance, collaboratingdirectly through national Indigenous Peoples climate funds, and ensuring private sector and carbon finance partnerships respect rights, adhere to FPIC,and deliver equitable benefit-sharing.

For Donors and Investors

- Prioritize money to Indigenous Peoples directly, for long-term and at scale.
- Set a hard target: ≥ 25 % of climate finance to Indigenous Peoples-controlled channels by 2027, rising thereafter.
- Commitments should also recognise tenure rights and ecological value of lands and waters managed by Indigenous Peoples.
- Capitalise Indigenous Peoples-governed funds; let them set priorities.
- Streamline grant rules and provide multi-year core support. Consider oral applications, flexible overheads, translation services, alternative documentation, community-aligned timelines. Apply principles championed by Indigenous Peoples platforms such as Shandia – co-creation, culturally appropriate budgeting, and context-specific accountability – and delegate funding decisions to Indigenous-led committees or funds where possible.
- Public–private finance platforms should publish annual "direct Indigenous Peoples finance" scorecards to track progress and accountability.
- Dedicate grant windows for Indigenous Peoples women-led and youth-led projects; set minimum spends in every major fund.
- Fund leadership pipelines (scholarships, fellowships, peer-exchange networks) that combine climate science, finance skills and Indigenous Peoples' knowledge.
- Invest directly in Indigenous Peoples' institutional capacity (financial management, legal registration, administration training, legal defence, negotiation, and monitoring) as a core part of climate budgets – not peripheral "capacity building" add-ons.
- Long-term or renewable funding commitments should stabilise organisations, respecting Indigenous Peoples governance values alongside Western administrative skills.
- Prioritise flexible emergency response funding mechanisms directly controlled by Indigenous Peoples entities, allowing culturally appropriate spending including Indigenous Peoples' knowledge transfer, ceremonies, and community cohesion activities.
- Proactively fund grassroots collectives and less visible community groups, ensuring climate finance reaches women, youth, and marginalised Indigenous Peoples and addresses intersectional vulnerabilities.
- Strengthen an Indigenous Peoples-led case study pipeline and evidence base.

For Researchers and Knowledge Institutions

- Fund Indigenous Peoples-led knowledge co-production as a core adaptation and mitigation activity.
- Support Indigenous Peoples' data sovereignty platforms so communities own and govern climate-related data.
- Encourage research institutes and meteorological services to formally engage with Indigenous Peoples and indicators in their models.
- Ring-fence lines in climate budgets for Indigenous Peoples/Western science partnerships led by Indigenous Peoples and their knowledge holders.
- Dedicate consistent space in IPCC for insights on data related to Indigenous

Peoples' knowledge in the context of climate change.

For Allies (civil society, NGOs, advocacy networks, and technical partners)

- Support Indigenous Peoples' institutional capacity (project and financial management, legal defence, negotiation, monitoring) as a core part of climate budgets, not as peripheral "capacity building" add-ons.
- Provide targeted support to Indigenous Peoples' networks, grassroots collectives, and marginalised groups to strengthen representation and equity in finance
- Uphold and advocate for "no rights – no deal – no data" standards in partnerships, ensuring FPIC and co-design are respected at every stage.
- Act as amplifiers in global fora by supporting Indigenous Peoples' calls for guaranteed seats in climate-decision bodies and for direct access to climate finance.

For Industry and Corporate Actors

- Adopt a "no rights – no deal – no data" standard across all corporate climate and biodiversity finance, ensuring FPIC and equitable benefit-sharing in every project, supply chain, and investment.
- Redirect a meaningful share of corporate climate finance (including net-zero offsetting, biodiversity credits, sustainability-linked bonds, and ESG) directly through Indigenous Peoples-governed funds.
- Guarantee Indigenous Peoples' seats in industry climate and sustainability platforms, standard-setting initiatives, and certification Publish annual disclosure reports on Indigenous Peoples' participation and benefits in corporate climate action portfolios, including carbon markets and nature-based solutions.
- Support Indigenous-led innovation partnerships, covering technology co- design, value-chain development, and long-term procurement agreements that strengthen community economies.
- Invest directly in protector security, grievance mechanisms, and tenure due diligence to mitigate corporate risks and uphold Indigenous Peoples rights in landscapes of operation.

For Global Climate Processes

- Invest direct finance in Indigenous Peoples-led funds to scale impact.
- Establish co-design with Indigenous Peoples and their governance authorities as a mandatory criterion for all climate project approval.
- Allocate sufficient resources and time for meaningful and robust application of FPIC to reinforce Indigenous Peoples' self-determination and decision.

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Case study details and references are provided in the companion case study data set.

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See accompanying database for detailed case studies.

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Uganda	AF110	Mount Elgon Carbon Offset Plantation and the Displacement of the Benet People	Benet (Ndorobos)
Zimbabwe	AF113	Climate change impacts on agriculture, adaptation and resilience: insights from local farmers in South-East Zimbabwe	Local Indigenous farmers, Chiredzi District
Zimbabwe	AF112	Indigenous Knowledge and Disaster Risk Reduction in Zimbabwe	Indigenous communities in rural Zimbabwe
Zimbabwe	AF119	Development of IKS in Bikita Community, Zimbabwe	Karanga
Zimbabwe	AF114	Tsholotsho CAMPFIRE Project: Community-Led Ecotourism and Climate Resilience	Ndebele (Tsholotsho District)
		Arctic	
__Regional Overview (IPCC)	AR1	Arctic Climate Change Update 2021: Key Trends and Impacts	Arctic Indigenous Peoples
_Regional	AR2	Climate Impacts, Adaptation and Vulnerability in the Arctic	Arctic Indigenous Peoples
_Regional	AR3	Inuit Knowledge in Weather and Sea Ice Safety	Inuit
_Regional	AR59	Sámi Indigenous Youth report to UNFCCC COP-28	Sámi

_Regional (Norway/Sweden /Finland)	AR4	Sámi IoT Reindeer Collars 2.0	Sámi herders (various siidas)
_Regional (Arctic)	AR8	Arctic Borderlands Ecological Knowledge Co-op (ABEKC)	Arctic peoples
_Regional (Arctic)	AR9	Community Adaptation and Vulnerability in Arctic Regions (CAVIAR)	Arctic Region
_Regional (Arctic)	AR11	Exchange for Local Observations and Knowledge of the Arctic (ELOKA)	Arctic Indigenous Peoples
_Regional (Arctic)	AR5	Heterogeneity and Resilience of Human-Rangifer Systems	Arctic caribou herders
_Regional (Arctic)	AR7	Reindeer Herders and the Polar View Initiative	Arctic peoples
_Regional (Arctic)	AR13	Seeking compensation for violations of human rights	Inuit
_Regional (Arctic)	AR10	Sustaining Arctic Observing Networks (SAON)	Arctic Indigenous Peoples
_Regional (Arctic)	AR6	Traditional Knowledge for Adaptation among Arctic peoples	Arctic peoples
_Regional (Finland, Sweden, Norway)	AR14	Just Transition or 'Green Colonialism'	Sámi
_Regional Arctic	AR15	Climate change impacts on food security	Inuit
_Regional Overview	AR106	Adaptation Successes Underpinned by Inuit Knowledge	n/a
_Regional Overview	AR102	Arctic governance, indigenous knowledge, science and technology in times of climate change	Arctic peoples
_Regional Overview	AR104	Arctic Vulnerability Study	n/a
_Regional Overview	AR99	Changing climate–walrus–human relationships in the Beringian region	Arctic peoples
_Regional Overview	AR103	Indigenous Youth, Food Knowledge and Arctic Change (EALLU)	Arctic peoples
_Regional Overview	AR107	Putting people first in the Arctic	Indigenous Peoples of the Arctic
_Regional Overview	AR101	Reindeer Herders Vulnerability Network Study (EALÁT)	Arctic peoples
_Regional Overview	AR100	Sea Ice Knowledge and Use: Assessing Arctic Environmental and Social Change (SIKU)	Arctic peoples
Arctic region	AR16	Holistic effects of climate change on the culture, well-being, and health of the Sámi	Sámi
Arctic region	AR17	Indigenous Ice Dictionaries: Sharing Knowledge for a Changing World	Yupik
Canada	AR21	Adaptation to health impacts of climate change by Inuit Tapiriit Kantami (ITK)	Inuit
Canada	AR48	Clean Energy for Rural and Remote Communities Program	n/a
Canada	AR47	Climate Change Preparedness in the North (CCPN) Program	n/a
Canada	AR35	Co-management in Pangnirtung fisheries	Inuit (Pangnirtung)
Canada	AR20	Coexistence between people and polar bears	Cree, Dene, Métis, and Inuit peoples
Canada	AR34	Drinking water threats to human health	Inuit (Nunavut)
Canada	AR105	Global Positioning Systems and Inuit Wayfinding	Inuit
Canada	AR39	How can co-management support adaptation to climate change? The case of co-existing fisheries from Pangnirtung, Nunavut, Canada	Inuit communities, Nunavut
Canada	AR32	Igliniit GPS project (Nunavut)	Inuit (Nunavut)
Canada	AR27	Impacts on traditional food security in Canadian Inuit communities	Inuit
Canada	AR24	Innovative Methods for Sharing Inuit Observations on Climate Change	Inuit
Canada	AR26	Inuit Assessing Vulnerability to Sea Ice Change: An example from Igloolik, Nunavut	Inuit
Canada	AR19	Inuit knowledge and Climate Change Multimedia	Canadian Indigenous communities

Canada	AR43	Inuit Qaumjimajatuqangit, climate and caribou (Nunavut)	Kitikmeot region, Nunavut
Canada	AR30	Inuit Scientists Adapt as Climate Change Threatens Sea Life and Food Security	Inuit (Nunatsiavut)
Canada	AR22	Inuit Sea Ice Use and Occupancy Project (ISIUOP)	Inuit
Canada	AR29	Inuit social connections and caribou declines	Inuit (Labrador)
Canada	AR12	Inuit traditional knowledge incorporated in study of changing Arctic weather persistence	Inuit
Canada	AR44	Mittimatalik siku asijjipallianinga (sea ice climate atlas)	Mittimatalik, Nunavut
Canada	AR111	Monitoring climate change impacts, Indigenous livelihoods and adaptation: Hopedale, Nunatsiavut (Inuit, Canada)	Inuit (Nunatsiavut)
Canada	AR31	Nunavut observations of climate and environmental change	Inuit (Nunavut)
Canada	AR23	Qapirangajuq: Inuit Knowledge and Climate Change Documentary	Inuit
Canada	AR41	Reflections on weather, Inuit food systems and our way of life	Inuvialuit
Canada	AR28	Research by Inuit for Inuit	Inuit
Canada	AR36	Sanikiluaq AI Fisheries	Inuit (Sanikiluaq community)
Canada	AR40	Sikusilarmiut Place-Name Project	Inuit, Kinngait
Canada	AR33	Sila qanuippa? (how's the weather?): Integrating Inuit and Scientific Weather Forecasts	Inuit (Nunavut)
Canada	AR38	SmartICE – Inuit Sea-Ice Monitoring for Adaptation	Inuit
Canada	AR46	The Taste of Caribou	n/a
Canada	AR25	Voices from the Bay: Documenting and Communicating Indigenous Ecological Knowledge from the Hudson Bay Bioregion	Inuit
Canada	AR42	When the caribou do not come	Inuvialuit, Gwich'in, and Sahtú (Northwest Territories)
Canada	AR45	Yukon First Nations Climate Change Forum Observations	Yukon
Canada	AR109	"Happening to Us" – Inuvialuit Youth Confront Thawing Permafrost	Inuvialuit
Canada (Nunavut, etc.)	AR49	SIKU (Indigenous Knowledge Social Network)	Inuit (Arctic Canada and beyond)
Canada, USA, Greenland	AR50	Inuit uses of weather, water, ice, and climate indicators to assess travel safety	Inuit
Canada, USA, Greenland	AR51	Siku-Inuit-Hila project, "The Dynamics of Human-Sea Ice Relationships: Comparing Changing Environments in Alaska, Nunavut and Greenland"	Inuit, Inughuit, Iñupiat (Nunavut, Greenland, Alaska)
Finland	AR52	Climate Change Impacts on Sámi Women	Sámi
Finland	AR54	Käsivarsi Mineral Exploration	Sámi Indigenous community
Finland	AR53	Skolt Sámi Salmon Co-Management	Sámi
Greenland	AR55	Adaptive capacity through Indigenous knowledge in Northern Greenland	Greenlandic Inuit
Greenland	AR58	Ice and Climate Change in Qeqertaq	Qeqertarmiut
Greenland	AR56	Local indicators, adaptation actions, and resilience efforts for a warming climate in North Greenland	Inughuit of Qaanaaq, Greenland
Greenland	AR57	Sila-Inuk project - A Study of The Impacts of Climate Change in Greenland	Inuit (Greenland)
Norway	AR60	Fosen Wind Farm Conflict	Sámi reindeer herders (Fosen region)
Norway	AR108	Tromsø reindeer husbandry adaptation to future climate	Sámi
Sweden	AR81	Rönnbäck Nickel Mine project	Sámi Indigenous community
Sweden	AR80	Shifting Strategies between Generations in Sámi Reindeer Husbandry	Sámi
Sweden	AR112	Understanding adaptation landscapes: Decision-making in Sámi reindeer herding	Sámi

USA	AR88	Alaskan communities falling into the ocean (Shishmaref and Newtok)	Alaska Natives
USA	AR18	Sea Ice and Weather Monitoring	Alaska Natives
USA	AR92	Arctic Ice Geoengineering Trial	Inuit and Sámi (Arctic); Global coalition
USA	AR96	Changes in Hunting	Qikiqtaġruk
USA	AR90	Connections between Arctic Peoples and their Environment	Athabascan people, Alaska
USA	AR91	Decreasing caribou herds, seal pups and polar bears	Gwich'in, Alaska
USA	AR87	Insights from Coastal Arctic Indigenous Observers	Alaska Natives
USA	AR95	Iñupiaq and Environmental observations of the Qikiktagrugmiut in Northwest Alaska	Qikiktagrugmiut
USA	AR89	National Wildlife Refuges in Alaska and the Central Flyway	Alaska Natives
USA	AR94	Newtok Relocation – Resilient New Village of Mertarvik	Newtok Village (Yup'ik), Alaska
USA	AR110	Nunakut naguatun atugluu/Co-stewardship: Co-production through the lens of SEARCH's Human Wellbeing Team	Inupiaq
USA	AR85	Observations from hunters of the Native Village of Gambell, Alaska	Alaska Natives
USA	AR86	Reduced walrus hunting in Alaska and changes to boat fabrics	Alaska Natives
USA	AR83	Spruce bark beetles and increased wildfire risk in Alaska	Alaska Natives
USA	AR84	The Aleutian and Pribilof Islands region in Alaska	Alaska Natives
USA	AR93	Wales Inupiaq Sea Ice Dictionary (Kingikmiut)	Kingikmiut
USA	AR82	Walrus decline in Alaska	Alaska Natives
USA	AR97	Kivalina Relocation Efforts	Kivalina Inupiaq community
USA	AR98	Shishmaref Relocation	Shishmaref Inupiat community and others
		Asia	
__Regional Overview (IPCC)	AS1	Climate Impacts, Adaptation and Vulnerability in Asia	Asian Indigenous Peoples
_Regional (Afghanistan/Tajikistan)	AS2	Linking Indigenous Knowledge Holders (Pamir)	Wakhi (Afghanistan) and Pamiri (Tajikistan)
_Regional (Indonesia/Malaysia)	AS3	Oil-palm plantations evict Indigenous Peoples from their traditional lands in Indonesia	Indigenous peoples in Malaysia and Indonesia
_Regional (Myanmar, China, Thailand)	AS4	Hydro-power Dams on Salween Threaten Indigenous Groups	Karen, Shan, and other indigenous peoples along the Salween River
_Regional (South-East Asia)	AS90	Hydro-meteorological disaster risk reduction and climate change adaptation in coastal and small island communities	n/a
_Regional Asia	AS5	Programme for developing mechanisms to reward the upland poor of Asia for environmental services they provide (RUPES)	n/a
Bangladesh	AS6	Indigenous Forecasting in Maheskhali, Bangladesh	Maheshkhali Island communities
Bangladesh	AS10	Bangladesh Indigenous Youth report to UNFCCC COP-28	Indigenous peoples of Bangladesh
Bangladesh	AS7	Flooding and the role of local knowledge in Bangladesh	Communities in Sunamganj, Sirajganj, Satkhira
Bangladesh	AS11	Floods in the Chittagong Hill Tracts	Chakma and other Jumma peoples of Khagrachari (CHT)

Bangladesh	AS8	Indigenous forecasting in Maheshkhali, using meteorological indicators and animal behaviour to predict cyclones	Maheshkhali Island communities
Bangladesh	AS9	Indigenous Munda people adopt their ancestral knowledge to overcome the effects of climate change	Munda People
Bangladesh	AS12	The Taungya Project	Forest/farming communities
Bhutan	AS13	Capacity building on REDD+ readiness for forest dependent communities	Various communities including Bumthang, Chhukha, Sarpang, Zhemgang districts
Cambodia	AS16	Biodiversity and Protected Areas Management	Kuy and Phnong
Cambodia	AS15	Southern Cardamom REDD+ Project	Chong Indigenous communities
China	AS112	Agrobiodiversity as a tool for adaptation: The case of the Hani Rice Terraces	Hani (Yunnan)
China	AS22	Ecological restoration of degraded watershed on the upper reaches of the Minjiang River; Integration of Qiang ethno-botanical knowledge and practices into a reforestation project	Qiang
China	AS18	Gansu and Xinjiang Pastoral Development Project	Kazakh and Uyghur pastoralists
China	AS19	Livelihoods Improvement	Lepcha and Limbu
China	AS21	The Naxi Mountain Villages Coalition: A Model of Biocultural Conservation	Naxi
China	AS17	Three Parallel Rivers of Yunnan Protected Area	Deqin people
China	AS20	Faith, reciprocity, and balance: Inner Mongolian Ovoo offering ritual and its contribution to climate change adaptation	Dukha
East Timor	AS23	Experiences of climate change in East Timor	Fataluku
Himalayan region (India, Nepal, Bhutan, China (including Tibet), and Pakistan)	AS24	Indigenous Forecastting in the Western Himalayas	Indigenous communities in the Himalayas
Himalayan region (India, Nepal, Bhutan, China (including Tibet), and Pakistan)	AS25	Terracing in the Himalayas	Indigenous communities in the Himalayas
India	AS46	Adaptation practices among the Tangkhul Naga Community in the North Eastern Region of India	Tangkhul people in Naga
India	AS48	Building the capacity of indigenous peoples to cope, adapt or mitigate the effects of climate change on their livelihoods and environments	Tribal communities in Madhya Pradesh and Odisha, India
India	AS50	Carbon Sinks, Carbon Trade, and the Indigenous Peoples of North-East India	Tribal communities of Northeast India
India	AS41	Climate Change and Food Adaptation Among the Santhal and Other Indigenous Communities in West Bengal	Santhal, Munda, Oraon, Lodha
India	AS31	Climate change vulnerability and adaptation among farmers practicing shifting agriculture in the Indian Himalayas	Indigenous Himalayan communities
India	AS42	Climate threats to the Sentinelese	Sentinelese
India	AS43	Community-Led Mangrove Restoration in the Sundarbans	Sundarbans coastal communities (incl. Munda and other forest peoples)
India	AS44	Cropping System in Tamil Nadu, India	Tamil Nadu communities
India	AS45	Dryland Grain Processing Traditions in Tamil Nadu	Tamil Nadu villagers
India	AS40	Ecosystem-Based Adaptation with Bamboo-Based Livelihoods in Manipur	Rongmei (Naga)

India	AS49	Ground Water Recharge and Solar Micro Irrigation to Ensure Food Security and Enhance Resilience in Vulnerable Tribal Areas of Odisha	Tribal communities in Odisha, India
India	AS35	Ice Stupas: Artificial Glaciers in Ladakh	Ladakhi communities
India	AS51	Impact of Climate Change on the Endemic Medicinal Plants of Indian Sundarbans	Various Indigenous Communities in Sundarbans
India	AS28	Indigenous Forecasting in Gujarat, India	Gujarat communities
India	AS30	Indigenous forecasting in India using meteorological indicators, plant features and animal behaviour	Indigenous famers in Western Himalayas and Gujarat
India	AS36	Indigenous Method of Curing Pulmonary Disorders Using Mangrove Fruit	Lodha Peoples
India	AS37	Indigenous women in the villages of Khuti District in Jharkand, India	Munda and Oraon
India	AS29	Job's tear, Coix lacryma-jobi Linn	Indian communities
India	AS27	Khazan Agro-Aquatic Systems of Goa	Goa villagers
India	AS52	Odisha "Dream Map" Land-Mapping Initiative	Gadaba and Paroja Adivasi women
India	AS38	Raika Bio-cultural Community Protocol	Raika
India	AS47	Resilient Architecture in Kashmir	Traditional builders of Kashmir Valley
India	AS26	Reviving Millet Biodiversity in Medak	Dalit
India	AS34	Rotational Cropping in the Cold Deserts	Ladakh and Lahaul-Spiti (Himalayas)
India	AS32	Treasures from shifting cultivation in the Himalayan's evergreen forest	Khasi people of Meghalaya
India	AS39	Vulnerability and Adaptation Experiences from Rajasthan and Andhra Pradeshl	Rajasthan and Andhra Pradesh communities
India	AS33	Women-Led Community Forest Protection in Odisha	Kondh Adivasi
India	AS117	Snehakunja Trust	Indigenous communities in Uttara Kannada
Indonesia	AS14	Dayak forbidden forests climate change video brief	Dayak communities of West Kalimantan
Indonesia	AS62	Bamboo Biomass Enterprise in Toraja	Toraja
Indonesia	AS56	Customary Iban Community	Iban
Indonesia	AS55	East Kalimantan REDD+ Pilot	Dayak Bahau community (Long Isun)
Indonesia	AS58	Integration of Traditional Knowledge and Local Wisdom in Climate Change Mitigation	Javanese and Balinese communities
Indonesia	AS54	Land-based Mitigation and Adaptation through a Jurisdictional Approach in West Kalimantan	Dayak
Indonesia	AS59	Mentawai Community Disaster Preparedness (Siberut)	Mentawai Indigenous people of Siberut
Indonesia	AS57	New pests in Northern Lombok, Sulawesi	indigenous Peoples of Lombok
Indonesia	AS60	Orang Rimba indigenous people of Makekal Hulu, Jambi, and the Toro indigenous people of Kulawi	Orang Rimba of Jambi and Toro people of Lore Lindu (Sulawesi)
Indonesia	AS61	Rehabilitating coral reefs in Serangan Denpasar,Bali	Serangan and Les
Indonesia	AS53	Sicanang Mangrove Ecotourism Project	Belawan Sicanang villagers (coastal Malay community)
Indonesia	AS118	Bujang Raba	Bujang Raba communities
Iran	AS116	Unlocking Lock-ins to Climate Adaptation in Khuzestan Province, Iran	Indigenous Peoples of Iran

Iran	AS110	Aligning Trends in Climatic Parameters and Nomads' Indigenous Knowledge about Climate Change	Qashqai
Iran	AS64	Pastoralism of the Qashqai communities and managing livestock in droughts (CENESTA)	Qashqai
Iran	AS63	Qanats in Iran	Iranian communities
Iraq	AS109	Where war once raged in Iraq, Yezidi women plant hope	Yezidi
Israel	AS65	Solar Bedouin Village	Bedouin community of Darajat
Japan	AS115	Toyohira River - Urban Salmon Stewardship	Ainu
Lao PDR	AS113	Everyday environmental heritage is key to unlocking the social dimensions of One Health (Lao PDR workshop)	Hmong, Karen
Lao PDR	AS67	Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management	Ethnolinguistic minority communities in Lao PDR
Lao PDR	AS68	Indigenous Women at the forefront of climate change in Laos	Hmong and Khmu Peoples
Lao PDR	AS66	Scaling up the implementation of the Lao PDR Emission Reductions Programme (Project 2)	Ethnic minority communities in Lao PDR (project identifies indigenous peoples as beneficiaries)
Malaysia	AS69	Dayak-Bidayuh-Jagoi village of Duyoh in Sarawak	Indigenous peoples in Sarawak and Sabah
Malaysia	AS71	Guardians of the Highlands: Semai Indigenous Stewardship and Artistic Activism for Climate Resilience	Semai
Malaysia	AS70	Indigenous perceptions of climate anomalies in Malaysian Borneo	Penan
Mongolia	AS72	Adaptation Strategies for Pastoral Communities of Mongolia's Central Mountainous Region	Mongol herder communities
Mongolia	AS106	Mongolian herder nomadism provides resilience to climate hazards	Dukha herders
Nepal	AS73	Building a Resilient Churia Region in Nepal (BRCRN)	Indigenous communities in Nepal's Churia region
Nepal	AS77	Climate change impacts in the Himalayas	Sherpa, Tamang, Kiranti, and Dolpali
Nepal	AS74	Landslides isolate communities in the Himalayas	Indigenous mountain communities (Nepal)
Nepal	AS78	Livelihoods in Koshi Tappu Wetlands	Tharu and other wetland communities, Koshi Tappu
Nepal	AS76	Nepal Network of Indigenous Peoples with Disabilities climate change initiatives	Nepal Indigenous Peoples
Nepal	AS75	The Upper Mustang Biodiversity Project	Loba (Lo) people of Upper Mustang
Pakistan	AS79	Climate Change Impacts on Pakistan's Mountain Agriculture	Burusho farmers
Pakistan	AS108	Plant Use Adaptation in the Pamir	Wakhi and Sarikoli agropastoralists
Palestine	AS80	Use of sheep wool wastes to produce art pieces	Traditional Bedouin weavers, Bani Suheila
Philippines	AS82	Adapting Philippine Agriculture to Climate Change	Indigenous peoples and local communities in climate-vulnerable rural areas of the Philippines
Philippines	AS107	Higaonon youth revive panlaoy: ancestral forest stewardship for watershed protection in Mindanao	Higaonon Indigenous communities

Philippines	AS86	Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction: Case study of Taloctoc tribe in Northern Philippines	Taloctoc people of Kalinga
Philippines	AS83	Kaingin: rotational agriculture	Kalinga Tribes
Philippines	AS84	Multi-Hazard Impact-Based Forecasting and Early Warning System for the Philippines	Mandaya
Philippines	AS81	Securing resources through the lampisa practice of communal water management in times of drought, Philippines	Cordillera Indigenous Peoples Groups
Philippines	AS85	The Lampisa water distribution practice of the Pidlisan tribe	Pidlisan peoples in Sagada
Philippines	AS87	Coastal bleaching and the community of the Tagbanua in Coron, Palawan	Calamian Tagbanua
Philippines	AS89	Ikalahan community - Forest title in Imugan, Nueva Vizcaya	Ikalahan (Kalanguya) indigenous people of Imugan
Philippines	AS88	Increasing the resilience of tropical hillside communities	Camalandaan Agroforestry Farmers' Association (upland community)
Sri Lanka	AS93	Indigenous Forecasting in Sri Lanka	Sri Lankan traditional farmers
Sri Lanka	AS91	Indigenous forecasting in Sri Lanka: Farmers use meteorological indicators and animal behaviour to predict the weather	Sinhala farmers
Sri Lanka	AS92	The bethma practice: promoting the temporary redistribution of lands during drought periods	Sinhalese paddy farmers
Thailand	AS96	Climate change adaptation in Ban Hak-kia	Karen community of Ban Hak-kia
Thailand	AS98	Indigenous Karen People's Ways of Climate Change Adaptation and Mitigation	Karen People
Thailand	AS97	Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction: Case study of indigenous Karen community of Hak-kia village in Northern Thailand	Karen People
Thailand	AS94	International Alliance of Indigenous and Tribal Peoples of the Tropical Forests (IAITPTF)	Karen
Thailand	AS99	Lahu Agroforestry – Blending Tradition and Innovation in Northern Thailand	Lahu community (Chiang Mai Province)
Thailand	AS114	Towards an Inclusive Approach to Forest Conservation and Land Use Policy in Thailand	Hmong, Karen
Thailand	AS100	Traditional Knowledge that Saved the Sea Gypsies	Moken
Thailand	AS95	Tree Ordination: Ritual-Based Forest Stewardship in Northern Thailand	Karen and Hmong
Thailand	AS101	Water Buffalo Conservation for Community	Thai Isaan farmers
Timor-Leste	AS111	SGP Timor-Leste: CBA through Indigenous agroforestry practices	Suco Gariuai
Viet Nam	AS102	RECAF: Achieving Emission Reductions in Vietnam's Central Highlands and South-Central Coast	Ethnic minority communities of the Central Highlands (e.g. Ba Na, Êđê, Xơ Đăng, Jarai) and South-Central Coast
Vietnam	AS103	Capacity building for ethnic minorities to participate in REDD+ as independent stakeholders	Ethnic minorities including Tay, Nung, Zao, H'Mong in Thai Nguyen and Thanh Hoa provinces
Vietnam	AS105	Collaborative forest management approach to reduce carbon emissions	Thai, Muong, Mong peoples in Thanh Hoa and Van Kieu people in Quang Tri

Vietnam	AS104	Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam	Ethnic minority smallholder farming communities in Vietnam's Central Highlands and South-Central Coast regions
Eastern Europe, Russian Federation, Central Asia and Transcaucasia			
Russia	EE3	Altai Cultural Heritage and Climate Resilience	Altai Indigenous communities
Russia	EE11	AROSS: Co-producing Arctic Rain-on-Snow Knowledge with Sakha Herders	Sakha (Yakut)
Russia	EE18	Biocultural assessment: Lake Baikal	Buryat and Evenki
Russia	EE25	Climate Change, Nomadic Lifestyles and Preservation of Traditions	Yukaghir Council of Elders
Russia	EE10	Community-Based Environmental Monitoring	Evenk, Sakha
Russia	EE1	Community-Led Climate Resilience in Chukotka	Chukchi and Siberian Yupik
Russia	EE14	Evenki Atlas	Evenki
Russia	EE4	Evenki Topography and Climate Change	Evenki
Russia	EE23	Fire and Water: Indigenous Ecological Knowledge and Climate Challenges in the Republic of Sakha (Yakutia)	Sakha (Yakut), Even, other Indigenous peoples of the Republic of Sakha (Yakutia)
Russia	EE15	Impact of Climate Transformation on the Health of Indigenous Small-Numbered Peoples of the North	Nenets, Khanty, Selkups
Russia	EE20	Indigenous science of climate change impacts on the Siberian Landscape	Evenki, Siberia
Russia	EE33	Problems of indigenous peoples of the Russian Arctic in the context of climate change	Indigenous peoples of the Russian Arctic
Russia	EE34	Indigenous communities protest against nickel mining	Indigenous peoples of the Russian Arctic
Russia	EE28	Integrated Ecosystem Approach to Conserve Biodiversity and Minimize Habitat Fragmentation in the Russian Arctic (ECORA)	n/a
Russia	EE21	Local observations of climate change and impacts on livelihoods in Kamchatka, Russia	Koryak, Chukchi, and Even peoples
Russia	EE27	Monitoring of Development of Traditional Indigenous Land Use Areas in the Nenets Autonomous Okrug, NW Russia	n/a
Russia	EE22	Nenets Adaptive Strategies on Yamal	Nenets
Russia	EE6	Protection of freshwater springs in the Altai	Telengits and Tubalar Peoples
Russia	EE7	Rediscovering Altai's human-nature relationships videobrief	Telengit people of the High Altai (Türkic Indigenous community)
Russia	EE29	Reindeer herders nomadic school (Nutlendli)	Nutlendli
Russia	EE2	Reindeer Herding as Climate Adaptation	Dolgan, Nenets, Chukchi
Russia	EE24	Shifting weather conditions in Russia	Yakutia, Yukaghir peoples
Russia	EE26	Status and perspectives of the application and use of indigenous knowledge in the Russian Federation	n/a
Russia	EE31	Taymyr–Evenkiya Climate Adaptation Planning with WWF	Taymyr and Evenki
Russia	EE17	The preservation of Arctic ecosystems and climate change adaptation of Indigenous Peoples of the North	n/a
Russia	EE19	Thread of Life: Self-rescue if lost in the forest	Evenki
Russia	EE30	Vulnerability and Adaptation Among Nenets Reindeer Herders	Nenets
Russia	EE5	"Fire and Water" – Yakutia Adaptation	Sakha (Yakut) and other Indigenous peoples of Yakutia
Russia	EE35	Climate Change Adaptation Strategy for Lovozero Village	Sámi

Russia	EE36	Cloudberries in Russia	Sámi
Russia	EE37	Indigenous Women's Leadership in Climate Action	Sámi
Russia	EE38	Kola observations from the Sámi community of Lovozero (SnowChange)	Sámi
Russia	EE39	Reindeer Herders and Fisherfolk Resilience (Barents Region)	Sámi and Komi-Izhemtsy reindeer herders
Russia	EE40	Siberian silk moth (Dendrolimus superans sibiricus)	Sámi
Russia / Mongolia	EE16	Nomadic Camps	Tuvinian People
Russia / USA	EE8	Climate, Food and Health in Aleutian Communities	Aleutian Communities
Tajikistan	EE12	Ecological Calendars and Climate Adaptation in the Pamirs	Wakhi and Shugni
Tajikistan	EE9	Pamir Micro-Hydropower for Remote Villages	Pamiri (Badakhshon)
Uzbekistan	EE32	Greening the Aralkum	Karakalpak
		Central and South America and the Caribbean	
_Regional	LA1	Indigenous Women's Groups in Disaster Risk Reduction	Indigenous Peoples of Latin America and Caribbean
_Regional (Amazon)	LA3	CANOA – Transboundary Indigenous Climate Corridor in Northwest Amazon	Indigenous Peoples of the Amazon
_Regional (Amazon)	LA4	Droughts and fires in the Amazon	Kamayurá people
_Regional (Amazon)	LA2	Regional Amazon Platform for Indigenous Peoples	Indigenous Peoples of the Amazon
_Regional (Andes)	LA5	Climate change impacts in the Andes and adobe houses to protect from low temperatures	Indigenous Peoples of the Andes
_Regional (Antigua and Barbuda; Chad; Cambodia; Ecuador; Ethiopia; Fiji; Somalia)	LA6	Advancing Early Warnings for All – Multi-Country Project	n/a
_Regional (Bolivia, Brazil, Paraguay)	LA7	Impacts of Wildfires and Deforestation on Indigenous Peoples in voluntary isolation	Indigenous Peoples in Isolation (including Ayoreo, Pacahuara, Yuqi and others)
_Regional (Bolivia; Brazil; Colombia; Ecuador; Peru; Suriname)	LA114	Improving Climate Resilience by Increasing Water Security in the Amazon Basin	Indigenous peoples of the Amazon Basin (e.g. Quechua, Achuar, Tikuna, Siona, Kali'na)
_Regional (Nepal and Peru)	LA8	Ecosystem-Based Adaptation and Water Resources in Nepal and Perú	n/a
_Regional (Peru, Bolivia, Ecuador)	LA9	Andes Women's Climate-Preparedness Workshops	Quechua, Aymara and Kichwa women's networks
_Regional (South America)	LA10	Indigenous Fire Management in South America	Pemón
_Regional (Venezuela, Brazil, Guyana)	LA11	Indigenous Wildfire Management	Indigenous Peoples of the Amazon
Argentina	LA12	Biocultural strategies and lithium mining conflicts in Argentine Puna	Kolla-Atacameños
Belize	LA13	Belize Community Managed Sarstoon-Temash Conservation Project	Mayan Q'eqchi' and Garifuna
Bolivia	LA16	Ancestral irrigation system to protect against floods	Indigenous farmers in Beni
Bolivia	LA15	De-glaciation of Mount Illimani and new crops	Aymara

Bolivia	LA14	Indigenous Bolivian Amazon REDD+ Program	Amazonian Indigenous territories
Bolivia	LA17	Qhuthañas in Bolivia: Collecting and storing rainwater in small dams	n/a
Bolivia	LA20	ACCESOS-ASAP: Participatory Climate Adaptation with Indigenous Peoples	Quechua and Aymara communities (implicit in Bolivian highlands)
Bolivia	LA18	Agrobiodiversity and Traditional Food Systems in Bolivia	Aymara and Quechua
Bolivia	LA22	Integration of local and indigenous knowledge into climate-resilient rural water management in the Bolivian Altiplan	n/a
Bolivia	LA19	Megafires threaten Ayorei in Bolivia	Ayoreo
Bolivia	LA21	Uru Murato Adaptation After Lake Poopó's Disappearance	Uru Murato people of Llapallapani
Brazil	LA33	Agro-extractive Cooperative/Cooperativa Agro-extrativista Yawanawa (COOPYAWA)	n/a
Brazil	LA26	Amazon Culture Withers as Food Dries Up	Kamayurá
Brazil	LA24	Apiwtxa Asháninka Reforestation and Cultural Resilience	Asháninka
Brazil	LA30	Brazil Indigenous Youth report to UNFCCC COP-28	Terena Nation, Pantanal
Brazil	LA25	Indigenous-Led Conservation in Paraná's Metropolitan Forest	Kaingang, Guarani Ñandeva, Tukano, and Terena
Brazil	LA32	Inhibition of Amazon Deforestation by Indigenous Lands threatened by deforestation	n/a
Brazil	LA27	Kayapó Peoples – Protecting 11 Million Hectares of Amazon Rainforest	Mẽbêngôkre (Kayapó) and Panará peoples
Brazil	LA29	Rainforest Connection: Acoustics for Biodiversity Monitoring and Threat Detection	Tembé Tribe
Brazil	LA23	Social-Environmental Perception of Artisanal Fishermen on Climate Change	Artisanal Fishermen Communities
Brazil	LA28	Suruí Forest Carbon Project	Paiter-Suruí
Brazil	LA31	Xingu Seed Network: Indigenous Reforestation Enterprise	Xingu Basin tribes
Caribbean	LA34	Caribbean Community Climate Change Centre	Traditional owners in the Caribbean
Chile	LA123	Chile: National vulnerability and risk study of Indigenous Peoples (input to PNACC)	Aymara; Quechua; Lickanantay/Atacameño; Chango; Diaguita; Colla; Rapa Nui; Mapuche; Kawésqar; Yagán
Chile	LA36	Mapuche Agroecology and Cultural Traditions	Mapuche
Chile	LA35	Mapuche Communities restore native and resilient forests in Chile	Mapuche
Chile	LA37	The colonial roots of climate vulnerability. Analysing the case of the Mapuche-Pehuenche People in Southern Chile	Mapuche-Pehuenche
Colombia	LA40	Association of Indigenous Producers and Farmers of Riosucio, Caldas (ASPROINCA)	Embera-Chamí
Colombia	LA124	CAPSIDE (Casilla Naira, Leticia): community eDNA guardianship & bio-art for rights-of-nature	Casilla Naira Indigenous community
Colombia	LA43	Consolidation of the Amazon (COAMA) Programme – Indigenous Territorial Governance in the Colombian Amazon	Indigenous Peoples of Amazonian Colombia
Colombia	LA49	Guajiro bean cultivation: The Wayúu community's path to adaptation	Wayúu
Colombia	LA41	Heritage Colombia (HECO): Maximizing impact through the conservation of biodiversity and climate resilience	Indigenous Peoples and local communities in Colombia's protected forest landscapes (Amazon, Caribbean, Andes regions)
Colombia	LA48	Jepirachi windpower project in Colombia	Wayuu

Colombia	LA46	Kapital: An Indigenous-designed collective payment system	Savimbo (Putumayo Amazon, multi-tribal)
Colombia	LA38	Músesi Restoration Project	Arhuaco
Colombia	LA44	Pachamama Cumbal REDD+ Project	Pastos (Gran Resguardo de Cumbal)
Colombia	LA47	REDD+ Matavén	Sikuani, Piaroa, Puinave, Curripaco, Cubeo and Piapoco
Colombia	LA45	Renacer para las comunidades indígenas en Natagaima Tolima – adaptación al cambio climático y seguridad alimentaria	Pijao peoples in Natagaima
Colombia	LA50	San Andrés de Sotavento clean development mechanism project	Zenú
Colombia	LA39	Santa Rosa project	Cofan nation
Colombia	LA125	Savimbo Indicator-Species Biodiversity Methodology + first CBCP-certified biodiversity credits (Putumayo)	Putumayo Indigenous Peoples communities
Colombia	LA51	Scaling Up Climate Resilient Water Management Practices for Vulnerable Communities in La Mojana	Zenú (Zenúes) Indigenous Peoples communities of La Mojana (e.g. Pital, Montegrande, Santo Domingo Vidal, Jeguita–Takasuan)
Colombia	LA42	Women Caregivers of the Amazon	Indigenous Peoples from the Colombian Amazon
Colombia and Ecuador	LA52	Sumak Kawsay - Alli Kawsay (Buen Vivir): Epistemology in the Indigenous Communities of Ecuador and Colombia	Kichwa and Achuar Peoples
Costa Rica	LA126	ACOMUITA: Financing with a Gender Focus	Bribri, Cabécar
Costa Rica	LA56	Asociación de Mujeres Indígenas del Territorio Cabécar Kábata Könana	Indigenous Peoples communities in Talamanca
Costa Rica	LA53	ASOETEBRI: Indigenous Knowledge to Protect the Forest Bribri elders of Amubri (ASOETEBRI)	Bribri
Costa Rica	LA55	Nairi Awari: A Territory that Recovers and Grows	Cabécar
Costa Rica	LA54	Recovery of local Indigenous Traditions for Food Security Support in the Face of Climate Change in the Talamanca-La Estrella Valley Territory	Bribrí and Cabécar
Dominica	LA57	Kalinago Climate Resilience and Traditional Housing	Kalinago (Carib) people
Ecuador	LA60	Agroecology and Climate Resilience through Cocoa in Zamora Chinchipe	ASOPROMÁS
Ecuador	LA65	Amazonian Solar Villages: Clean Energy for Indigenous Communities	Sápara Nation
Ecuador	LA59	Coordinadora Nacional para la Defensea del Ecosistema Manglar (C-CONDEM)	Afro-Indigenous communities of Ecuador
Ecuador	LA64	Federation for Ecuadorian Community Tourism (FEPTCE)	Kichwa, Shuar, Achuar, Afro-Ecuadorian, Montubio, etc.
Ecuador	LA61	Priming Financial and Land-Use Planning Instruments for Climate Change in Ecuador	Indigenous Peoples communities in Ecuador's Amazon (supported through the development of territorial "Life Plans")
Ecuador	LA62	The Chakra Group as a community mechanism for sustainable conservation in Napo	Kichwa (Napo)
Ecuador	LA63	Union of Farming and Indigenous Organizations of Cotacachi (UNORCAC)	Kichwa (Quichua)
Ecuador	LA66	Waorani Legal Victory – Keeping Fossil Fuels in the Ground	Waorani
Ecuador	LA67	Yasuni-ITT Proposal	Waorani and Kichwa peoples of Yasuní
El Salvador	LA68	Upscaling climate resilience measures in the dry corridor of El Salvador (RECLIMA)	Cacaopera, Nahuatl Pipil, Lenca, and others

Guatemala	LA71	Building livelihood resilience and food security in the upper basins of Guatemala's highlands	Maya
Guatemala	LA69	Communal Forests for Water and Climate	K'iche' Maya
Guatemala	LA72	Guatemala Indigenous Youth report to UNFCCC COP-28	Maya Kaqchikel
Guatemala	LA127	Nueva Trinidad: Community-led reinvention via organic fertilizer biofactory	Comunidad Indígena Nueva Trinidad
Guatemala	LA70	RELIVE – Resilient LIVElIhoods of vulnerable smallholder farmers in the Mayan landscapes and the Dry Corridor of Guatemala	Maya
Guatemala	LA73	Sierra de Las Minas Water Fund	Q'eqchi' Maya
Guyana	LA75	Adopting a nomadic lifestyle and crop changes	Wapichan
Guyana	LA76	Guyana and REDD+	Wapichan, Macushi, Wai-Wai
Guyana	LA74	National Protected Areas System (gNPAS) Project	Wai Wai, Makushi, Wapichan
Honduras	LA78	Comité de Emergencia Garífuna (CEGAH, Garífuna Emergency Committee)	Garifuna communities
Honduras	LA80	Community Water Management in Ibans Lagoon (La Mosquitia, Honduras)	Miskito, Pech, and Tawahka
Honduras	LA77	FEPROAH: Living from the Forest While Protecting the Future	Federation of Agro-forestry Producers of Honduras (FEPROAH)
Honduras	LA79	Using traditional techniques to protect watersheds	Lenca
Latin America region	LA81	Climate Change Impact on Pollinators in	Various Latin American Indigenous Peoples Communties
Mexico	LA115	Capacity Building for NRM – Oaxaca (SAO, Mexico)	Indigenous Peoples communities (Zapotec, Chinantec, Mixe in Oaxaca)
Mexico	LA122	Community-based actions for climate resilience in Mexico	Various Indigenous Peoples communities (incl. Maya, Zapotec, Purépecha, and others)
Mexico	LA120	Enhancing Mayan Milpa Resilience (Yucatán)	Maya farming communities in the Puuc Biocultural Region, Yucatán
Mexico	LA121	Growing Resilience with Native Seeds in Mexico	Multiple Indigenous Peoples communities across Mexico
Mexico	LA118	Guardians of the Cenotes: Legal Recognition for Sacred Water Bodies	Maya community in Homún, Yucatán
Mexico	LA83	Hama Kia: Times have changed	Mixtec people
Mexico	LA82	Heritage of the milpa	Mayan communities
Mexico	LA116	Scolel'te Carbon Sequestration Project (Chiapas and Oaxaca)	Maya communities (Chiapas highlands)
Mexico	LA117	Sustainable Communities for Climate Action in the Yucatán Peninsula (ACCIÓN)	Maya communities of the Yucatán Peninsula (Campeche, Yucatán, Quintana Roo)
Mexico	LA119	The Chelemeras: Maya Women Mangrove Restorers	Maya community of Chelem, Yucatán
Nicaragua	LA85	Bio-CLIMA Integrated Project	Miskito and Mayangna communities (Caribbean)
Nicaragua	LA86	Indigenous adaptation measures in the Nicaraguan Caribbean	Miskitu, Sumumayangna, Mestizos and Garifunas people
Nicaragua	LA84	Rising After the Storm, nursery management	Haulover and Wawabar
Panama	LA87	Empower Natives: Sustainable Rural Energy for the Guna	Guna (Dule) People

Panama	LA90	Guna Yala Relocation: An Indigenous Community Adapts to Sea-Level Rise	Guna (Kuna) people of Gardi Sugdub island
Panama	LA89	Kuna Yala Conversations with Mother Earth video	Guna (Kuna)
Panama	LA91	Organización de Mujeres Indígenas Unidas por la Biodiversidad de Panamá (OMIUBP)	Guna and Embera communities
Panama	LA92	Panama-Atlantic Mesoamerican Biological Corridor Project	Ngäbe, Naso, Guna, and Emberá communities (
Panama	LA88	Recovery of the traditional knowledge of the Kunas women of Panama	Guna (Kuna)
Paraguay	LA93	Defending uncontacted relatives from cattle onslaught in the Gran Chaco	Ayoreo-Totobiegosode
Paraguay	LA95	Protection of Wildlife Areas of Paraguay	Mbya Guaraní
Paraguay	LA94	Water recovery in the Chaco	Guaraní communities, Gran Chaco region (Qom and other Indigenous Peoples groups in Paraguayan Chaco)
Peru	LA96	Amarakaeri Communal Reserve Co-Management	Amarakaeri collective
Peru	LA111	Association for the Integrated Development and Research (AIDER) System	Shipibo-Conibo and Cacataibo communities
Peru	LA129	Aylluq Q'anchaynin - Indigenous youth driving energy autonomy in Alto Mishagua	Quechua, Yine, Matsiguenga, Ashaninka, Yine Yame, Nahua
Peru	LA104	Aylluq Q'anchaynin: Indigenous Youth Driving Energy Autonomy	Quechua
Peru	LA100	Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru	Indigenous Peoples wetlands communities of Datem del Marañón Province, Peruvian Amazon (Achuar, Wampis, and others)
Peru	LA109	Forecasting El Niño influence on Andean rainfall and crop yield with the Pleiades	Quechua communities
Peru	LA98	Indigenous Management of Protected Areas in the Peruvian Amazon	Harakbut (Amarakaeri Communal Reserve) and other Amazon Indigenous Peoples
Peru	LA101	Native Cotton Revival by Women Artisans of Mórrope	Muchik
Peru	LA113	Peru's Potato Park – Agrobiodiversity for Climate Adaptation	Quechua communities of Parque de la Papa (Andean Highlands, Cusco Region)
Peru	LA102	Potato Park Biocultural Heritage Territory	Quechua
Peru	LA103	Quechua Values Guiding Climate Adaptation	Quechua
Peru	LA105	Recovery of traditional knowledge on biodiversity for food and medicine Quechuas and Ashanika communities	Quechua and Ashaninka
Peru	LA99	Resilient Puna: Ecosystem based Adaptation approach to promote climate resilience in the Peruvian High Andes	Indigenous Peoples communities (Quechua and Aymara pastoralists) in the high-altitude Puna region of Peru
Peru	LA107	Sierra Sur – Indigenous Livelihood Diversification in the High Andes	Quechua and Aymara
Peru	LA106	Surviving the 'Friaje': Andean Alpaca Herders Adapt to Cold Snaps	Quechua and Aymara
Peru	LA97	Tajimat Pujut	Awajun
Peru	LA128	Unseen scars: Mental health burdens of climate change on Indigenous and rural Peruvian women	Quechua, Aymara, Yine, Shipibo
Peru	LA112	Wampís Autonomous Climate Governance	Wampís Nation
Peru	LA108	Waru waru ancient irrigation and drainage system	Quechua and Aymara farmers

Peru	LA110	'Not like it used to be': contending with the altered agricultural calendar in Andean Peru's Colca Valley	Quechua descendant farmers, Colca Valley
		North America	
__Regional Overview (IPCC)	NA1	Climate Impacts, Adaptation and Vulnerability in North America	Indigenous Peoples of North America
_Regional	NA2	Tribal Campus Climate Challenge	Indigenous Peoples of North America
Canada	NA25	Łutsël K'é Dene First Nation IPA	Łutsël K'é Dene (Northwest Territories)
Canada	NA32	ANCAP "Energy Pathfinders" and First Nations View (CIER)	Multiple First Nations (Canada's North)
Canada	NA3	Anishinaabe Perspectives on Environmental Displacement and Health	Anishinaabe Nations
Canada	NA4	Assembly of First Nations (AFN) Climate Change Program	Assembly of First Nations (First Nations across Canada)
Canada	NA20	Beaufort Sea Climate Change Impact & Adaptation Project (Fish and Marine Mammals)	Inuvialuit of the Beaufort Sea region (NWT, Canada)
Canada	NA22	Building climate resilience and adaptation in the Kainai First Nation	Kainai
Canada	NA9	Canadian Indigenous Campaign Against Tar Sands	Dene, Cree, and Métis communities (Fort Chipewyan, Alberta)
Canada	NA24	Cheakamus Community Forest	Lil'wat Nation, Squamish Nation
Canada	NA86	Climate atlas in Nitassinan de Pessamit	Innu (Quebec)
Canada	NA18	Climate Change, Health, and Vulnerability in Northern Indigenous Communities	Inuit of Nunavik (QC) and Nunatsiavut (Labrador)
Canada	NA14	Decolonizing Climate Policy: An Indigenous Climate Action Project	Indigenous Climate Action (organisation)
Canada	NA93	Reserve Shoreline Adaptation on səl̓ilw̓ət (Burrard Inlet)	Coast Salish (Tsleil-Waututh Nation)
Canada	NA6	Decrease in Wild Salmon	Coastal First Nations
Canada	NA10	Drinking Water Safety and Source Water Protection	Driftpile Cree Nation, Yellow Quill First Nation
Canada	NA41	Emergency Preparedness in Seabird Island	Seabird Island Band (Sq'éwqel), British Columbia
Canada	NA44	Enhancing the Reintroduction of Plains Bison in Banff National Park	Stoney Nakoda Nations
Canada	NA40	Environmental Assessment Resource Handbook (Saskatchewan First Nations)	Saskatchewan First Nations (Prince Albert Model Forest)
Canada	NA50	First Nations Market Housing Fund	Various First Nations (Canada)
Canada	NA85	Hishuk ish ts'awalk governance	Tla-o-qui-aht First Nation
Canada	NA21	Identifying Climate Change Impacts in Saskatchewan First Nations	James Smith Cree, Shoal Lake Cree
Canada	NA45	Impacts on traditional food security on Indigenous Peoples in Canada	sub-Arctic and southern First Nations
Canada	NA5	Impacts on Traditional Foods in Manitoba	Black River First Nation
Canada	NA31	Impacts on Winter Roads and Ice Conditions in Manitoba	Multiple First Nations
Canada	NA47	Indigenous Climate Atlas	Various Canadian Indigenous Peoples Communities
Canada	NA16	Indigenous Climate Knowledge of the Inuit and Cree in Hudson Bay	Inuit and Cree
Canada	NA94	Métis Nation Climate Change Strategy	Métis Nation
Canada	NA28	Indigenous law in action: The Listuguj Mi'gmaq Fishery	Mi'gmaq

Canada	NA13	Indigenous Peoples Resilience Fund (IPR Fund)	First Nations, Métis and Inuit communities across Canada
Canada	NA19	Inuit Indigenous Youth report to UNFCCC COP-28	Inuit, Nunavut
Canada	NA23	Kashechewan Relocation Delays	Kashechewan First Nation (Cree)
Canada	NA7	Local Land-Based Indigenous Climate Camp (LLICP)	Cree Nation
Canada	NA29	Mohawk Community Facing Adaptation Limits	Mohawk
Canada	NA35	Mushkegowuk Council Climate Strategy	Mushkegowuk Cree communities, Ontario
Canada	NA11	Métis Indigenous Youth report to UNFCCC COP-28	East Prairie Métis Settlement, Alberta
Canada	NA37	Northern Tutchone Climate Change and Traditions	Northern Tutchone, Selkirk First Nation
Canada	NA30	Oneida Energy Storage Project	Mohawk, Oneida, Onondaga, Cayuga, Seneca, and Tuscarora
Canada	NA38	Pictou Landing First Nation and Environmental Displacement	Pictou Landing First Nation (PLFN)
Canada	NA12	Pine Beetles Destroy Forests in British Columbia	First Nations in BC interior (Carrier, Shuswap, etc.)
Canada	NA8	Protected Areas and Local Knowledge in James Bay (Wemindji Cree)	Cree Nation of Wemindji, Eeyou Istchee (Quebec)
Canada	NA39	Riel and Resilient: The Impact of Climate Change on Red River Métis Health	Red River Métis
Canada	NA33	Salmon Vision	Multiple First Nations (e.g., Gitanyow) in British Columbia
Canada	NA52	Seed Sowing – Indigenous Relationship-Building as Processes of Environmental Action	Wisahkotewinowak Collective, Ontario
Canada	NA49	SevenGen: Empowering Indigenous Youth in Energy	Various Canadian Indigenous Peoples youth groups
Canada	NA36	Signals from the Forest Video	Northern Canadian First Nations (Yukon and NWT; four cultural groups)
Canada	NA34	Silaup Aistjpallianinga: Access to Territory and Resources in Northern Quebec and Nunavik	Multiple Inuit Communities
Canada	NA43	Squamish Nation – Forest & Land Management Plans	Squamish Nation (Skwxwú7mesh Úxwumixw), British Columbia
Canada	NA46	Tahltan Nation's Environmental Stewardship Program	Tahltan Nation, BC
Canada	NA27	The connection between climate action and the protection of Métis rights	Métis Nation
Canada	NA48	The Eyes and Ears for the Land and Water - Indigenous Guardians Programs in Canada	Various Canadian Indigenous Peoples Communities
Canada	NA26	Tracking Change in the Mackenzie River Basin	McKenzie River Basin communities
Canada	NA42	Unnatural Disasters – Colonialism, Climate Displacement, and Indigenous Sovereignty in Siksika Nation's Disaster Recovery	Siksika Nation (Blackfoot Confederacy, Alberta)
Canada	NA51	Walpole Island First Nation Climate Change Evaluation	Walpole Island First Nation (Bkejwanong Territory, Ontario)
Canada	NA54	Yunesit'in First Nation Fire Stewardship	Yunesit'in First Nation
Canada	NA15	"Blue Ecology" – Interweaving Cultural Perspectives on Water	Intertribal (Secwepemc and others in BC)

Canada	NA53	"Land Unlocked" Documentary Film	Yukon First Nations and Bolivia (cross-cultural)
Canada	NA17	"Weather Report" Documentary Film	Inuit in Arctic Canada
USA	NA91	13 Moons Curriculum - First Foods Education as Climate Adaptation	Swinomish
USA	NA78	Aanji-bimaadiziimagak o'ow aki	Ojibwe Trive
USA	NA64	Blue Lake Rancheria's Low-Carbon Resilience Initiative	Blue Lake Rancheria Tribe (Wiyot), California
USA	NA92	Navajo Nation utility-scale solar for energy sovereignty	Diné
USA	NA68	Crow Canyon Archaeological Center Collaboration	Hopi Tribe, Crow Canyon
USA	NA75	Ecological Restoration at Daybreak Star Cultural Center	Native American community in Seattle
USA	NA70	Indigenous Environmental Network – Native Energy & Climate Program	Indigenous Environmental Network (IEN) – network of US tribes
USA	NA71	Indigenous Remote Sensing Collaborative (IRSC)	Indigenous Mapping Network (IMN) members (USA-based)
USA	NA73	Karuk Tribe's Cultural Burns for Wildfire Resilience	Karuk Tribe, Klamath River Basin, California
USA	NA66	Loss of Freshwater in Pacific Northwest (Salmon Lesions)	Coast Salish Tribes (e.g. Tulalip, Pacific NW USA)
USA	NA74	Menominee Tribe's Sustainable Forest Management	Menominee Tribe
USA	NA76	Nez Perce "Tramway" Carbon Sequestration Project	Nez Perce Tribe (Nimiipuu), Idaho, USA
USA	NA87	Offshore Wind Planning in Humboldt County - Equitable Pathways for Tribal Inclusion	Multiple Tribes in Humboldt County, California
USA	NA88	Po' Who Geh Owinge (Where the Water Cuts Through)	Pueblo de San Ildefonso, New Mexico
USA	NA79	Pueblo of Jemez Solar Project	Pueblo of Jemez, New Mexico
USA	NA67	Rethinking Resilience: Towards holistic approaches to drought management on Tribal lands	Confederated Salish and Kootenai Tribes
USA	NA90	Shawnee White Corn (lokhaana taami) - Seed Sovereignty under Climate Stress	Shawnee Tribe, Oklahoma
USA	NA80	Sioux Wind Project – Alex "Little Soldier" Turbine	Rosebud Sioux Tribe (Sicangu Oyate), South Dakota
USA	NA89	Status of Tribes and Climate Change (STACC) Report, Volume 2	Indigenous Peoples communities across the US
USA	NA81	The Swinomish Indian Tribal Community Prepares for Climate Change Impacts	Swinomish Indian Tribal Community (Coast Salish)
USA	NA65	Tribes address salmon declines in the US Pacific Northwest	Chehalis, Colville, and Yakama
USA	NA77	Tribes and Climate Change (Institute for Tribal Environmental Professionals)	Numerous U.S. tribes (through ITEP, NAU)
USA	NA82	Tulalip Tribes Climate Adaptation Plan	Tulalip Tribes
USA	NA83	Yurok Tribe Forest Management, Carbon and Land Buy-back Program	Yurok Tribe
USA (Louisiana)	NA84	Isle de Jean Charles Resettlement	Jean Charles Choctaw Nation
		Pacific	
__Regional Overview (IPCC)	PA1	Climate Impacts, Adaptation and Vulnerability in Australasia and Oceania	n/a
_Regional	PA3	Capacity Building to enable the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC)	Communities in 4 Pacific Islands (Cook Islands, Fiji, Samoa, Vanuatu)
_Regional	PA6	Indigenous Peoples perspectives project	Indigenous Peoples in Fiji and Papua New Guinea

_Regional	PA2	Pacific Adaptation to Climate Change Project (PACC)	Communities in 14 Pacific Islands
_Regional	PA5	Pacific Mangroves Initiative (PMI)	Communities in 6 Pacific Islands (Fiji, Vanuatu, Papua New Guinea, Samoa, Solomon Islands and Tonga)
_Regional	PA4	Sharing Community Stories: The Pacific Climate Change Film Project	Communities in 5 Pacific Islands (Fiji, Kiribati, Tonga, Tuvalu, Vanuatu)
Australia	PA42	"Walking on Country With Spirits" Wujal Wujal	Wujal Wujal (QLD)
Australia	PA106	Aboriginal and Torres Strait Islander Peoples' voices and engagement in the IPCC	Aboriginal and Torres Strait Islander communities
Australia	PA35	Ancient Wisdom Dreaming a Climate Chance	Nyikina Warrwa (Martuwarra Fitzroy River)
Australia	PA17	Arnhem Land Fire Abatement	Arnhem Land Traditional Owners
Australia	PA15	Biosequestration and Natural Resource Management, Far North Queensland	Aboriginal communities (Northern Australia)
Australia	PA13	Bushlight	Aboriginal communities (Central and Northern Australia)
Australia	PA101	Coastal urban and peri-urban Indigenous peoples' adaptive capacity to climate change	Boon Wurrung; Wathaurong; Kaurna Nation; Jagera Ganay-Magil ; Quandamooka
Australia	PA37	Community-based fire management in the Tanami Desert region of central Australia	Tanami Desert communities (Northern Australia)
Australia	PA12	Cultural Licence to Operate	Aboriginal communities
Australia	PA19	Factors enabling fire management outcomes in Indigenous Savanna fire management projects in Western Australia	Balanggarra, Dambimangari, Wilinggin, Wunambal Gaambera Traditional Owners, WA
Australia	PA41	Fighting fire with carbon in Arnhem Land videobrief	Warddeken (NT)
Australia	PA36	Fireproofing Koalas	Quandamooka People (QYAC)
Australia	PA9	First Nations Clean Energy Network	Aboriginal and Torres Strait Islander Communities
Australia	PA23	Gidarjil and MobileCorp streaming drones to elders	Gidarjil
Australia	PA31	Great Barrier Reef AI Monitoring	Mandubarra Traditional Owners (MALASI)
Australia	PA25	Human Rights Implications of Climate Change for Indigenous Australians	Indigenous Australians (general)
Australia	PA24	Ikuntji Cool Community	Ikuntji (NT)
Australia	PA11	Impacts of climate change on health of Indigenous Australians	Aboriginal communities
Australia	PA27	Indigenous fire management and carbon in the Kimberley	Kimberley Traditional Owners
Australia	PA8	Indigenous Weather Knowledge Website Project	Aboriginal and Torres Strait Islander communities
Australia	PA39	Inundation in Torres Strait	Torres Strait Islanders (Australia)
Australia	PA22	K'gari Climate Adaptation Plan (Fraser Island)	Butchulla Traditional Owners
Australia	PA16	Land Management Practices in Australia and carbon offsets	Aboriginal communities (Western Australia)

Australia	PA32	Marlinja Community Solar Microgrid (NT)	Marlinja
Australia	PA103	MLDRIN: First Nations–led cultural flows and basin water governance in the Southern Murray–Darling	Murray Lower Darling Rivers Indigenous Nations
Australia	PA14	Our Knowledge Our Way	Aboriginal communities (Northern Australia)
Australia	PA7	People on Country, Healthy Landscapes and Indigenous Economic Futures	Aboriginal and Torres Strait Islander communities
Australia	PA33	Regenerative Learning: Hearing Country and Music for Healing	Martuwarra Fitzroy River Council
Australia	PA20	Science, Indigenous knowledge and AI weave environmental magic	Bininj (NT)
Australia	PA38	Sea level rise and the Torres Strait islands	Torres Strait Islanders
Australia	PA28	Sea level rise in Kowanyama, Cape York	Kowanyama (Cape York)
Australia	PA10	Seed Indigenous Youth Climate Network	Aboriginal and Torres Strait Islander youth
Australia	PA34	SpaceCows	Multiple Aboriginal communities (NAILSMA alliance)
Australia	PA29	Talking in Arrernte about climate change	Ltyentye Apurte (NT)
Australia	PA40	Torres Strait Islanders' Climate Justice Case	Torres Strait Islanders (Saibai, Boigu, Masig, Warraber)
Australia	PA21	Understanding and Connecting Parallel Climate Knowledge of Western Systems and Ancient Lore	Butchulla (QLD)
Australia	PA30	Understanding Indigenous Perspectives of Climate Risk in Shark Bay	Malgana (WA)
Australia	PA26	West Arnhem Land Fire Abatement Project (WALFA)	Indigenous Peoples clans in West Arnhem Land (NT, Australia)
Australia	PA43	Yorta Yorta weaving	Yorta Yorta
Australia	PA18	Youth Verdict	Australian and Torres Strait Islander Communities
Chile	PA102	Rainwater storage and distribution for land humidification	Rapanui People, Easter Island
Cook Islands	PA45	Kia Vai Teateamamao (Be Prepared): Traditional climate forecasting in the Cook Islands video	Traditional owners in the Cook Islands
Cook Islands	PA44	Regenerative design for Oraanga Meitaki in Rarotonga	Kuki Airani Tangata
Fiji	PA107	Adaptive capacity in Pacific Islands: Responding to coastal and climatic change in Nagigi village, Fiji	iTaukei
Fiji	PA47	Autonomous and planned adaptation synergies in iTaukei communities	iTaukei
Fiji	PA46	Building capacity for Fiji's forest-dependent indigenous men and women	Forest-owning communities near Emalu and Drawa
Fiji	PA48	Climate change adaptation in Fiji: local adaptation strategies to enhance national policy	iTaukei (Indigenous Fijians)
Fiji	PA49	Narikoso Village Relocation	Narikoso community (Ono Island, Kadavu)
French Polynesia	PA99	Contemporary Rāhui in community-led conservation	Mā'ohi (Indigenous Tahitian/Polynesian) communities
French Polynesia	PA110	Indigenous rāhui to rebuild a climate-stressed reef	Mā'ohi (Tahiti)
Guam	PA50	Island Girl Power – Guam	CHamoru women
Kiribati	PA100	Community Resilience in Betio, South Tarawa	I-Kiribati
Kiribati	PA54	Kiribati "Migration with Dignity" Plan	I-Kiribati
Kiribati	PA53	The Island of my Ancestors video	I-Kiribati
Marshall Islands	PA56	Ad Jolet: Anikien RiMajol Kon Climate Change (Marshall Islands video)	Marshallese people

Marshall Islands	PA55	Namdrik Atoll Local Resources Committee	Marshall Islands communities
Micronesia	PA57	Heritage loss and climate change	Moch Island community
New Caledonia	PA111	Kanak customary fire rules for forest and water resilience	Kanak
New Zealand	PA62	Consultation with Māori on Climate Change: Hui Report	Māori
New Zealand	PA59	Cultural Health Index for Streams and Waterways (CHI)	Māori
New Zealand	PA108	Enhancing mātauranga Māori and Māori participation in Antarctic science (Aotearoa New Zealand–Antarctica)	Māori
New Zealand	PA61	Indigenous-led Climate Change Knowledge and Response: Indigenous Perspectives on Risk	Māori
New Zealand	PA58	Māori environmental knowledge of local weather and climate change in Aotearoa	Māori
New Zealand	PA63	Motu Economic and Public Policy Research: Carbon Sequestration on Māori Land	Māori
New Zealand	PA69	Māori & Pasifika Youth Storytelling for Climate Adaptation	Māori and Pasifika communities
New Zealand	PA64	NZ Emissions Trading Schemes	Māori
New Zealand	PA65	Permanent Forest Sink Initiative / Afforestation Grant Scheme	Māori
New Zealand	PA68	Pūrākau-driven stream restoration at Te Awa Kairangi	Māori
New Zealand	PA60	Synergising biocultural restoration by indigenous knowledge and science partnership	Māori
New Zealand	PA70	Te Arawa Climate Change Strategy (New Zealand)	Te Arawa iwi (Rotorua Lakes District)
New Zealand	PA67	Te Auaunga / Oakley Creek Urban Stream Restoration	Māori
New Zealand	PA66	Vision Mātauranga: Coastal Māori Adaptation Strategies	Māori
New Zealand	PA71	Ngāti Kuri's Climate-Driven Species Protection	Ngāti Kuri iwi (Te Hiku o Te Ika, Far North)
New Zealand	PA72	Māori Maramataka Calendar and Science Partnership	Māori
Pacific Islands	PA73	The Concept of Indigenous Knowledge and Climate Resilience in the Pacific	Various Pacific Islander communities
Pacific Islands Region	PA74	Indigenous Peoples perspectives project in the Pacific	Pacific peoples
Palau	PA75	Palau – Documenting Traditional Coping Strategies	Ngarchelong community (Babeldaob)
Papua New Guinea	PA80	An uncertain future video	Takuu (Mortlock) Atoll community
Papua New Guinea	PA76	Carteret Islands Relocation	Carteret Island community
Papua New Guinea	PA78	Integrating Indigenous and scientific knowledge bases for disaster risk reduction in Papua New Guinea	Community in Papua New Guinea (DRR project)
Papua New Guinea	PA77	mmm...missing...taro video	Carteret Islands community (Papua New Guinea)
Papua New Guinea	PA79	Tulele Peisa	Indigenous Peoples of the Carteret Islands
Papua New Guinea	PA81	Wanang Conservation Area	Wanang Community
Papua New Guinea and Vanuatu	PA82	Adaptation of small island societies in Papua New Guinea and the Torres Islands	Indigenous Peoples communities in PNG and Torres Islands
Samoa	PA84	A Climate of Change in Samoa	Samoan traditional communities
Samoa	PA85	Conservation of the mangrove ecosystems as storm surge protection	Samoan traditional owners
Samoa	PA83	Samoan Seasonal Calendar & Climate Forecasting	Matai and farming communities
Solomon Islands	PA88	Customary laws to protect resources in a changing climate in the Solomon Islands	Mugava and Mungiki (Rennell and Bellona)

Solomon Islands	PA93	Forests, Climate Change, and Indigenous Knowledge	Various Indigenous Peoples communities
Solomon Islands	PA86	Increasing Community Resilience to Natural Disasters through the Use of Traditional Coping Strategies on the Weather Coast Guadalcanal Communities in the Solomon Islands	Babanakira and Kolina communities
Solomon Islands	PA92	Increasing Community Resilience to Natural Disasters through the Use of Traditional Knowledge	Traditional communities in Solomon Islands
Solomon Islands	PA90	Mugava and Mungiki customary laws of the sea	Rennell and Bellona people
Solomon Islands	PA87	Participatory Three-Dimensional Modeling in BoeBoe, Solomon Islands	BoeBoe villagers
Solomon Islands	PA89	Relocation of atoll islanders	Ontong Java atoll community
Solomon Islands	PA91	Solomon Islands Knowledge-to-Action Climate Resilience Project (SOLKAS)	Solomon Islands communities
Tuvalu	PA94	Sea level rise and environmental migration	Communities in Tuvalu
Tuvalu	PA95	Tuvalu Coastal Adaptation Project (TCAP)	Tuvaluan communities (Funafuti and outer islands)
USA	PA104	Hui Maka'āinana o Makana near-shore fisheries	Hui Maka'āinana o Makana (Hawai'i)
USA	PA105	Keawanui Aloha 'Āina Keawanui Scholarship Program	Indigenous Peoples of Hawaii
USA	PA109	Native Hawai'i - Lāhainā Wildfire Recovery & Cultural Preservation	Kānaka Maoli
Vanuatu	PA96	Building the capacity of the Vanuatu indigenous forest-dependent population	Communities on Santo, Malakula, Efate, Erromango, Tanna, Epi, Aneityum
Vanuatu	PA98	Facilitating and strengthening local resource management initiatives of traditional landholders and their communities to achieve biodiversity conservation objectives	Traditional landholder communities
Vanuatu	PA97	Lateu Village Relocation (Tegua Island)	Lateu community (Torres Islands)
		Global	
Cameroon, DRC, ROC, Ghana, Liberia, Peru, Ivory Coast	GL2	ForestLink: Unlocking the potential of forest guardians	n/a
China, Kenya, Bolivia	GL3	Interlinkages between traditional knowledge and genetic resources in adaptation to climate variability in China, Bolivia and Kenya	n/a
Kenya, Nicaragua, Indonesia	GL4	Land tenure policies impacting on traditional forest management in Kenya, Nicaragua and Indonesia	n/a
n/a	GL1	Abundant Intelligences	n/a
n/a	GL7	UNFCCC | Local Communities & Indigenous Peoples Platform (LCIPP)	n/a
n/a	GL39	Despite Repeated Warnings: The Shortcomings of Numbers in Indigenous Knowledge	n/a
n/a	GL8	EQUATOR INITIATIVE | Equator Initiative, Equator Knowledge, Equator Prize and Community Knowledge Service	n/a
n/a	GL9	FAO | Communication for Sustainable Development Initiative (CSDI)	n/a
n/a	GL10	FAO | Globally Important Agricultural Heritage Systems initiative (GIAHS)	n/a
n/a	GL11	IIPFCC | Global Indigenous Peoples Caucus in UNFCCC Negotiations	n/a

n/a	GL12	GAIA FOUNDATION | Community Ecological Governance	n/a
n/a	GL13	GEF | Community Management of Protected Areas for Conservation (COMPACT)	n/a
n/a	GL14	GEF/UNDP | Small Grants Programme	n/a
n/a	GL15	ICSM | Intangible cultural heritage, diverse knowledge systems and climate change	n/a
n/a	GL16	Indigenous Peoples observations at COP29	n/a
n/a	GL38	Indigenous Peoples, Intellectual Property and Sustainability	n/a
n/a	GL37	Indigenous/Endogenous Sea Peoples: Climate Change Adaptation and Environmental Regeneration Prospects	n/a
n/a	GL17	International Court of Justice (ICJ) climate change case	n/a
n/a	GL40	International Environmental Guardianship 8 Billion Hours Pledge	n/a
n/a	GL18	International Tribunal for the Law of the Sea (ITLOS) Climate change case	n/a
n/a	GL35	IPBES Global Assessment on Biodiversity and Ecosystem Services	n/a
n/a	GL34	IPCC Sixth Assessment Report (AR6) – Indigenous Knowledge Contributions	n/a
n/a	GL19	IPCCA | The Indigenous Peoples Biocultural Climate Change Assessment	n/a
n/a	GL5	IUCN | Indigenous and Traditional Peoples and Climate Change	n/a
n/a	GL36	Local Indicators of Climate Change Impacts project	n/a
n/a	GL6	MSV | Many Strong Voices	n/a
n/a	GL41	Rights of Nature NOW! – campaign for a Universal Declaration of Rights of Nature	n/a
n/a	GL20	Special Rapporteur on the human rights of Indigenous Peoples | Report on Green Financing	n/a
n/a	GL21	Tebtebba | Indigenous Peoples Tracker on GCF Projects	n/a
n/a	GL22	UNDESA | Policy Brief #101: Challenges and Opportunities for Indigenous Peoples' Sustainability	n/a
n/a	GL23	UNESCO-LINKS | Climate Frontlines	n/a
n/a	GL24	UNFCCC | Adaptation Knowledge Portal	n/a
n/a	GL25	UNPFII | State of the World's Indigenous Peoples, Volume VI – Climate Crisis	n/a
n/a	GL26	UNPFII | Report on the twenty-second session (17–28 April 2023)	n/a
n/a	GL27	UNU | Indigenous Perspectives on Climate Change Video Brief Series	n/a
n/a	GL28	UNU | Traditional Knowledge Initiative	n/a
n/a	GL29	WORLD BANK | Climate Investment Funds (CIF) / Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (DGM)	n/a
n/a	GL30	WORLD BANK | Community-Driven Development (CDD)	n/a
n/a	GL31	WORLD BANK | Development Marketplace (DM)	n/a
n/a	GL32	WORLD BANK | Forest Carbon Partnership Facility (FCPF)	n/a
n/a	GL33	WORLD BANK | Indigenous-Specific Climate Resilience Frameworks	n/a

Annex Details of the Case Studies

Africa

ID	Title	IP	Country	Region	Keywords	Summary	Further Information
AF001	**Indigenous Climate Forecasting by Smallholder Farmers**	Indigenous farming communiti es	__Regional Overview (IPCC)	Africa	adaptation, observations & impacts, impacts, land use	Many rural smallholder farmers across Africa rely on Indigenous knowledge for weather forecasting (e.g. observing clouds, animal behavior) in the absence of access to formal meteorological services. These community-led practices guide farming decisions (e.g. timing of planting, building temporary water barriers) and enhance resilience. Researchers suggest integrating such Indigenous-led forecasting methods into official adaptation strategies	PCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability . Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG).
AF002	**Adaptations to climate change amongst natural resource-dependant societies in the developing world: across the Southern African climate gradient (ADAPTIVE)**	Southern African Indigenous Peoples	_Regional - Southern Africa	Africa	adaptation, climate impacts, indigenous knowledge, agriculture, pastoralism	The ADAPTIVE research project (2005) examined how different rural communities in Southern Africa responded to historical climate variability. Using social surveys in drought- and flood-prone areas, it documented local knowledge of climate trends, livelihood shifts, and community institutions enabling adaptation. Common adaptation traits included diversi fied livelihoods, knowledge transfer via formal and informal institutions, and collective practices for community bene fit. The study found high adaptive capacity based on past experience, but unequal distribution of bene fits due to social structures. It suggested that while communities have coped with climate shifts, internal inequities may limit inclusive resilience.	David Thomas, Henny Osbahr, Chasca Twyman, Neil Adger and Bruce Hewitson (2005): ADAPTIVE: Adaptations to climate change amongst natural resource-dependant societies in the developing world: across the Southern African climate gradient Tyndall Centre for Climate Change Research Technical Report 35, November 2005
AF003	**Indigenous forecasting by the Maasai**	Maasai	_Regional (Kenya & Tanzania)	Africa	Local observations & impacts, disaster preparedness, forecasting, traditional knowledge, animal husbandry	Maasai pastoralists use traditional knowledge for climate change forecasting by closely observing celestial movements and plant emergence, such as Ole Kitolya, to predict droughts and weather-related diseases. Other Indigenous indicators to anticipate droughts include milk yield, dung condition, and animal coats. Traditional ecological monitoring is being adapted to shifting climate conditions. Maasai practice everyday monitoring of their resource base to determine the trend of range condition and to detect early signs of deterioration. To ensure reliability of evaluation they have developed various sampling and surveying techniques. They observe forage types, quality, quantity and condition as used by livestock and wildlife. Common indicators used are: daily milk yield, animal coat texture and colour, consistence of cow and wildlife dung, and the extend of bush encroachment. None of these indicators is used in isolation, rather a combination of all of them provides the experienced pastoralist with early indications of the condition of the range land and its likely changes. Based on the observations, the herders decide how to manage the situation or to apply coping strategies in case of an impending drought.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23411
AF004	**Indigenous Knowledge in Disaster Management in Africa**	Communiti es in Kenya, Tanzania, South Africa, Swaziland	_Regional Africa	Africa	adaptation, disaster preparedness, indigenous knowledge, forecasting, education	Implemented by UNEP and partners, this project documented and and used Indigenous environmental knowledge for disaster preparedness in Kenya, Tanzania, South Africa, and Swaziland. Local elders and experts were engaged to gather data on traditional climate forecasting and natural resource management, which informed the development of educational training materials for primary to tertiary institutions. The project was sponsored by UNEP and carried out by the IGAD Climate and Applications Centre (Kenya), the Of fice of the Disaster Preparedness in Africa at the University of Witwaters (South Africa), the University of Swaziland (Swaziland), and the Tanzania Meteorological Agency (Tanzania).	UNEP (2013). Indigenous Knowledge in Disaster Management in Africa. https://www.humanitarianlibrary.org/sites/default/files/2013/07/AppendixIndigenousBookletUNEP.pdf
AF005	**Traditional Knowledge in Education**	Communiti es in Niger, Kenya and Central African Republic	_Regional Africa	Africa	adaptation, traditional knowledge, education	UNESCO, with the support of the Japanese Funds in Trust, recently completed a project engaging indigenous communities from Niger, Kenya and the Central African Republic in a dialogue on the ways in which their cultural heritage and traditional knowledge can be applied to education for a sustainable future, within the framework of the UN Decade of Education for Sustainable Development (2005-2014).	UNESCO, http://www.un.org/esa/socdev/unp fii/documents/UNESCO_report_8th_session_en.pdf
AF006	**Desert Voices**	Communiti es in Sudan and Ethiopia	_Regional Africa	Africa	observations & impacts, database, multimedia, deserti fication	A collection of first-person stories and testimonies from men and women in Sudan and Ethiopia illustrates how deserti fication and climate change are affecting daily life. Compiled by journalists into radio broadcasts and print media, these narratives highlight consequences ranging from resource con flicts and migration to shifts in traditions and gender roles. The project ampli fies Indigenous voices on climate impacts through radio and online platforms, preserving local observations for wider awareness.	Panos London, https://www.panos.org.uk/oral-testimonies/ethiopia

AF007	**Soil and water conservation**	Farming communities in arid regions	_Regional Africa	Africa	adaptation, agriculture, soil conservation, water management	Indigenous soil and water techniques being used in Africa include earth bunds, bench terraces, stone bunds, step terraces, planting pits, micro-basins, contour ridges, mulching, raised-bed cultivation, mounds, strip cultivation, vegetation barriers, drainage ditches, ridge cultivation and basin irrigation. The major crops that are cultivated using these techniques are sorghum, pearl millet, maize and cassava. These cases cover a wide range of agro-climatological zones with annual rainfall varying from less than 200 mm in the Red Sea area of the Sudan to more than 2000 mm in Tanzania, Nigeria and Cameroon. Successful interventions were found to require a conducive policy environment, effective institutional setting, access to a range of participatory methods, and changes in approaches among researchers and development workers.	Reij, C., Scoones, I., & Toulmin, C. (Eds.). (1997). Sustaining the soil: Indigenous soil and water conservation in Africa . Earthscan.
AF008	**Climate Impacts, Adaptation and Vulnerability in Africa**		_Regional Africa	Africa	observations & impacts, adaptation, food security, forecasting,land use	African Indigenous communities are disproportionately affected by climate change due to their reliance on natural resources and limited access to adaptive resources. In West Africa, Indigenous farmers are adjusting sowing dates and diversifying crops to cope with altered rainfall patterns and extended dry seasons. In East Africa, communities like the Boorana utilize traditional weather forecasting methods, observing animal behavior and celestial patterns to predict droughts and plan resource use accordingly. These adaptive strategies underscore the value of Indigenous knowledge in building resilience. However, challenges such as land tenure insecurity, socio-economic marginalization, and inadequate inclusion in decision-making processes impede effective adaptation. The AR6 highlights the necessity of integrating Indigenous knowledge with scientific research and ensuring participatory governance to enhance adaptive capacities in African Indigenous communities.	https://orgprints.org/8289/1/Ramert_Mixed_species_pests_diseases.pdf
AF009	**Strengthening biodiversity protection, community resilience and sustainable livelihoods in Africa**		_Regional Africa	Africa	adaptation, biodiversity, livelihoods, policy		ABN, http://www.africanbiodiversity.org/
AF010	**AIWO – African Indigenous Women's Organization**		_Regional Africa	Africa	adaptation, leadership, networks, women	AIWO links Indigenous women across Africa to defend land rights and strengthen climate resilience via seed-saving and reforestation. Their leadership training enhances local stewardship, amplifying voices in environmental policy.	FIMI (2023). Semillas de Fortaleza: Historias de Empoderamiento. https://fimi-iiwf.org/iDocs/FIMI_ESPANOL-revista_v06_Semillas_Historias.pdf
AF011	**Clues from landraces: Positioning local knowledge on plant management of climate uncertainty at the heart of adaptive agricultural strategies**		_Regional: West Africa	Africa	adaptation, climate impacts, agriculture	The "Clues from Landraces" initiative (ICRISAT) highlighted the value of locally preserved crop varieties (landraces) for climate adaptation in the semi-arid tropics of West Africa. Through field projects in Ghana, Mali, and Niger, researchers demonstrated how traits in traditional varieties (e.g., drought tolerance) are crucial for resilience in variable climates. Indigenous farmers' knowledge of managing diverse crop mixtures helped define sound adaptive strategies. The project positioned local seed systems and knowledge at the heart of climate-smart agriculture planning, influencing broader agricultural adaptation policy.	UNDP http://content.undp.org/go/news-room/2009/may/indigenous-groups-bear-witness-to-climate-change-damage-.en; Youtube, 'Baka People: Facing Change in African Forests', http://www.youtube.com/watch?v=AgerTDO4r6M;Conversations with the Earth, http://www.conversationsearth.org
AF116	**Low-water hydroponics in Algeria**	Sahrawi	Algeria	Africa	adaptation, refugees, water security, extreme weather	In the Sahrawi refugee camps near Tindouf (Algeria), climate pressures are acute, with extreme heat (recent records near 49 °C), long droughts, and episodic flash-flooding that has repeatedly damaged shelters and infrastructure. In response, led by Sharawi refugee Taleb Brahim, the community has co-developed and runs low-water hydroponics in the camps (a WFP-supported initiative piloted since 2017 to produce green fodder and improve access to fresh animal protein), alongside a growing network of small family gardens - practical, water-saving food measures for a hyper-arid environment. The effort is led by the refugees who organize most camp affairs, and households and cooperatives are the primary implementers and stewards of these adaptation measures.	Growing Food in the Desert (2018). Oxfam. https://www.oxfamamerica.org/explore/stories/sahrawi-refugees-hydroponics-program/

AF012	**Indigenous Forecasting by Farmers of Burkina Faso**	Burkina Faso farming communitiies	Burkina Faso	Africa	adaptation, traditional knowledge, water, forecasting	Farmers in Burkina Faso use traditional knowledge to predict rainfall and plan agricultural activities. They interpret intense cold during the dry season as an indicator of abundant rainfall, while intense heat from February to April also predicts good rain. Observations of local tree fruit production, such as abundant yields from taanga (Butyrospermum parkii) and sibga (Anogeissus leiocarpus), indicate favorable rainy seasons, whereas abundant fruit from nobga (Schlerocarya birrea) and sabtuluga (Lannea acida) signal drought conditions. Animal behavior, including the nesting heights of small quail-like birds and the nest- filling activities of certain insects, further guides farmers' decisions.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23421 Carla Roncoli, Keith Ingram, Paul Kirshen, and Christine Jost (2001). Burkina Faso: Integrating indigenous and scienti fic rainfall forecasting. In IK Notes Vol.39.
AF013	**Mixed cropping in Burkina Faso: mixing long and short growth cycle crops**	Farmers in Aribinda	Burkina Faso	Africa	adaptation, rainfall, food security, agriculture	Mixed cropping is the growing of two or more plant species in the same field at the same time. Mixed species is often perceived as a viable tool to increase on-farm biodiversity in organic agriculture and is a potentially important component of any sustainable cropping system. Apart from increasing total farm productivity, mixed species cropping can bring many important bene fits such as improvement of soil fertility management and suppression of pests and diseases. Mixed cropping also ensures food security by reducing the risk of mass crop failure, due to its different water and nutrient requirements. In Aribinda, and in most other areas of Burkina Faso with limited precipitation, farmers seek optimal crop yield by growing both long and short growth cycle crops on the same plot, such as millet and sorghum. This practice allows spreading the risk over a large number of varieties and therefore to increase the probability for a successful yield. Millet seeds of various cycles are mixed and sown in the same plot. Harvesting is performed during the staggered ripening period. Combining growing cycles allows these farmers to ensure food security by reducing risks linked to fluctuation in precipitation. This risk reduction strategy, while useful to ensure household food security, is incompatible with the planting of most commercial seeds.	UNFCCC Database on local coping strategies, Case Study 99 [archived]. Birgitta Rämert, Margi Lennartsson, Gareth Davies (2002), The use of mixed species cropping to manage pests and diseases – theory and practice. In Powell et al. (eds), UK Organic Research 2002: Proceedings of the COR Conference, 26-28th March 2002, Aberystwyth, pp. 207-210. http://www.organic.aber.ac.uk/library/Mixed%20species%20cropping%20for%20pests%20and%20diseases.pdf
AF014	**Zaï, an indigenous water harvesting and soil fertility management practice in Burkina Faso**	Mossi farmers	Burkina Faso	Africa	adaptation, indigenous knowledge, water management	Zaï is an indigenous method of water harvesting practised by Mossi farmers in Yatenga Province in the northern part of Burkina Faso, in sub-Saharan Africa. The Zaï method of water harvesting is seasonal, practised each year as necessary. The method is used to rehabilitate strongly degraded land known as zï -peele, which is usually found on relatively flat land on which no crops can be grown. Local knowledge about soil conditions and about the use of organic materials is essential. The practice has been documented in writing, and is discussed on radio programmes for farmers, which are broadcast in local languages. Other community members have progressively integrated a number of indigenous practices into their farms and improved their pastoral systems. A non-governmental organization, Association Internationale des Six, was involved in implementing this project.	Roose, E., Kabore, V., & Guenat, C. (1999). Zaï practice: A traditional technique for the rehabilitation of degraded lands in the West African Sahel. Ambio , 28(8), 617–623.
AF015	**Indigenous forecasting by farmers of Burkina Faso: Predicting rainfall using temperature, plant and animals as indicators**	Mossi farmers	Burkina Faso	Africa	climate impacts, drought, food security, disaster preparedness, forecasting, indigenous knowledge	Farmers in Burkina Faso formulate forecasting expectations from observation of natural phenomena. Cultural and ritual spiritualists also predict rainfall from divination, visions, and dreams. Farmers believe that intense cold (below 15°C) during the dry season (November-January) corresponds to abundant rainfall during the rainy season and that if this cold period begins early or ends late, the rain will do likewise. Intense heat during the hot-dry period (February- April) is believed to predict good rainfall as well. When the sibga begins fruiting and the sabtuluga loses its leaves, the farmers prepare for planting. Farmers plant water-demanding crops where the kankanga, a fig-like tree, grows because it grows where the water table is close to the soil surface. Observing animals is also a source of forecasting knowledge. Herders believe that when the nests of small quail-like birds (known as koobre in More) hang high on trees, the rains will be heavy, while low hanging nests predicts scarce rainfall. Women predict the farming season based on their observations of bugvare, black insects of the Orthoptera variety that dig concave nests in rubbish heaps outside compounds. After the first rains, larvae emerge and fill the nests with dirt. If the bugvare fill their nests to the brim with dirt, a good farming season is expected. As climate change occurs, these traditional forecasting indicators are changing and locals are interested in receiving	UNFCCC Database on local coping strategies, Case Study 105 [archived]. Roncoli, C., Ingram, K. and Kirshen, P., 2002. Reading the rains: Local knowledge and rainfall forecasting in Burkina Faso. Society & Natural Resources, 15(5), pp.409-427. Kabore, P.N., Zon, A.O., Bambara, D., Koussoubé, S. and Ouedraogo, A., 2024. Farmers' Perception of Indigenous Seasonal Forecast Indicators in North Central Burkina Faso. Sustainable Agriculture Research, 13(1), pp.28-39.

AF016	**Zaï Pits – Rejuvenating the Sahel with Traditional Dryland Farming**	Mossi farmers (Yatenga region) and broader Sahelian communities	Burkina Faso	Africa	land use, water, Dryland restoration, Drought adaptation, Soil conservation, Deserti fication, Food security	Zaï is a centuries-old technique involving small pits dug into hardened soil, filled with compost/manure to capture rain and nutrients. Popularized in the 1980s by farmer Yacouba Sawadogo, zaï pits have restored degraded land across Burkina Faso and Niger, increasing crop yields and even regrowing forests. This low-cost practice is a critical climate adaptation, improving food security and combatting deserti fication amid worsening drought in the Sahel. This has led to large-scale adaptation outcomes, with the success of zaï pits fueling broader "regreening" efforts in the Sahel, often combined with farmer-managed natural tegeneration.	"Burkinabe farmer wins 'alternative Nobel' for drought-fighting technique" – Thomson Reuters Foundation (2018) news.trust.org/item/20180924151625-xmyrg/
AF017	**Cameroon Biodiversity Conservation and Management Project**	Bagyeli (Baka) peoples	Cameroon	Africa	Local observations & impacts; Indigenous knowledge; biodiversity conservation; forest-dependent livelihoods; traditional institutions, lessons learned	Establishment of protected areas places strict controls on indigenous community access to forest and natural resources. Projects restrict the Indigenous Peoples' traditional use of forest resources without providing adequate compensation and viable alternatives. Restrictions imposed on their customary resource use were unjust, as Indigenous Peoples consider their traditional livelihood activities sustainable. One of the most delicate and frustrating issues for Indigenous Peoples is the establishment of protected areas within their ancestral territories and the enforcement of new rules that affect and restrict their livelihoods. The Cameroon Biodiversity Conservation and Management (BCM) project was initiated with funding from the GEF, with contributions from the Government of Cameroon and several European governments. The BCM project aimed to consolidate and upgrade the management of protected areas in Cameroon, and this included the identi fication of core conservation zones and external boundaries of the six Priority Project Sites. Campo Ma'an was one of the Priority Sites. In 1999, Campo Ma'an Reserve became a national park, and in 2000 the government of Cameroon demarcated the area as part of an environmental offset to mitigate the impacts from the Chad-Cameroon oil-pipeline project. Indigenous Bagyeli lands used for traditional hunting and gathering were affected since they overlapped with the new national park. The Chad-Cameroon oil pipeline	WORLD BANK (2008): Sobrevila, Claudia. The Role of Indigenous Peoples in Biodiversity Conservation. Friends of the Earth in Working Group on Climate Change and Development, 2005. Africa - Up In Smoke? http://www.iied.org/pubs/display.php?o=9560IIED
AF018	**Baka of Cameroon participatory video**	Baka Pygmies	Cameroon	Africa	climate impacts, food security, indigenous knowledge, forests, multimedia	Participatory video made by the Baka hunter-gatherers near Bertoua, Eastern Cameroon, to record the impacts of climate change on their community. Their film shows diminished fishing catches due to drought and elders stressing the need to learn from traditions to protect the forest. Young people re flect on the necessity to learn from the elders, preserve traditions and protect the forest as it is strongly tied to the Baka's identity. Through their own storytelling, the Baka link the drying streams and poor harvests to broader environmental changes and emphasize preserving traditional knowledge for resilience.	Baka Conceptions of Climate Change [2021] https://youtu.be/okvT4jBktNM?si=gno8XJBXO0dgraOY Okani (2009). "Knowledge for the young generation" Participatory Video [archived]
AF019	**Tropical Forest and Rural Development**	Dja Forest People	Cameroon	Africa	land use, mitigation, forests, food security, finance	A community-based enterprise operating around the Dja Biosphere Reserve in southern Cameroon, Tropical Forest and Rural Development is empowering Indigenous communities through cocoa-based agroforestry value chains and the collection of moabi, wild mango and other fruits. The group has planted over 70,000 trees for production and provides training in collection quality standards to obtain higher prices for food and cosmetic products. Agreements between Indigenous women collectors and government agencies secure access and use rights in the Reserve. The model's viability is proven through the avoidance of deforestation and a reduction in poaching in the communities. The initiative focuses on the economic inclusion of several Indigenous groups, some of them pursuing traditional semi-nomadic lifestyles, through access to education, the registration of community businesses, and jobs for 500 women collectors and 300 cacao producers. TF-RD estimates that its community agroforestry systems contribute to avoiding deforestation across more than 181 hectares.	Equator Prize 2021. https://www.equatorinitiative.org/2021/07/11/tropical-forest-and-rural-development/ TF-RD. https://www.tropicalforest–rd.org/
AF020	**Pastoral women leading climate adaptation in Cameroon**	Mbororo (Fulani) women	Cameroon	Africa	gender, pastoralism, traditional knowledge, empowerment, adaptation	In Cameroon's North-West region, Indigenous Mbororo Fulani women are emerging as key agents of climate adaptation in their pastoral communities. Historically marginalised in both gender and ethnicity, Mbororo women possess rich environmental knowledge (e.g. on livestock care, wild food gathering and weather signs) that has proven vital during droughts and resource con flicts	L'Étudiant Africain (2023). Indigenous Mbororo women in climate change adaptation: Insights from the North West Region, Cameroon. https://letudiantafricain.com/blog-l%C3%A9tudiant-africain/indigenous-mbororo-women-in-climate-change-adaptation-insights-from-the-north-west-region-cameroon

AF021	**Promotion and preservation of indigenous ethno-veterinary practices among the Mbororos**	Mbororo nomadic herders	Cameroon	Africa	adaptation, livestock, indigenous knowledge	This project was carried out by the Society for the Protection of Animal Life and the Environment (SPALE) to promote preservation of indigenous ethno-veterinary practices among Mbororo nomadic herders of Wum (Upkwa) in the north-western provinces of Cameroon. The project addresses issues such as the marginalization of the Mboroor, poverty, poor animal health and low livestock productivity. The project aims at facilitating the transfer of traditional ethno-veterinary skills and practices. It supports the documentation, assessment and promotion of local health traditions and the conservation and sustainable use of medicinal plants.	IFAD IPAF Grants 2008 [archived, In Advance Guard, case study #89]
AF022	**Ankara system in Cameroon: Gathering and burning organic matter**	Ndop Plain farming communities	Cameroon	Africa	adaptation, floods, food security, agriculture, indigenous knowledge	Farmers of the Ndop plain in Cameroon have a traditional method for maintaining and increasing soil fertility and increasing crop production on small portions of flooded lands. They produce and apply green manure to approximately 30-60 kg of nitrogen per hectare. They use the ankara system, which consists of gathering and burying organic matter in ridges followed by burning which increases the potash and phosphorous content in the soil. Applying organic matter is paramount in enhancing bacterial activity, which ensures high soil fertility. Organic matter is broken down to carbon dioxide, ash, and other residues. This provides carbonic acid in the soil water, and the solvent effect of this acidi fied water on calcium, potassium, magnesium, phosphates, and other minerals in rock form is many hundreds of times greater than that of rain water. At the same time the complex constituents of the organic matter are simpli fied, and nitrogen in the ammonia is released and converted into the nitrate form. Cover crops are grown to suppress weeds in fallow lands. To bene fit from the rich flooded zones farmers manage multiple crop cycles per year, cash crops before and after rice cultivation. To maintain mineral plant nutrients, farmers apply weathered volcanic sediments. The flooded areas can also be used for fishing.	UNFCCC Database on local coping strategies, Case Study 95 [archived]. In Advance Guard (2010), Case Study #90. Büttner, U. and Hauser, S., 2003. Farmers' nutrient management practices in indigenous cropping systems in southern Cameroon. Agriculture, Ecosystems & Environment, 100(2-3), pp.103-110.
AF023	**The Baka Pygmies and Bambendzele develop new fishing methods, and meningitis outbreaks are linked to climate change**	Baka Pygmies & Bambendzele peoples	Cameroon & Congo	Africa	Adaptation, local observations & impacts, forests, wildfire, food security, precipitation, drought, health	The Baka Pygmies of South East Cameroon and the Bambendzele of Congo have had to develop new fishing and hunting methods to adapt to the decrease in precipitation and increase forest fires. Rainfall has become less regular and harder to predict. Women who normally catch fish in barriers built in small streams in the dry season are often unable to achieve traditional fish catches as flood patterns of the rivers are changing. Fire has occurred in forest areas where it has not been observed in the past. The el Niño years of 1983, 1987 and 1997 all coincided with droughts in the forest zone and fires occurred in forests that had not previously burned in the living memory of these peoples. Crop failures occur when early or dry season rains provoke the germination of seeds, but dry periods in the traditionally wet months cause the seedlings to die. In West Africa deforestation linked at least in part to climate change has led to outbreaks of diseases in areas where they had not earlier caused problems. In parts of the Upper Guinea savannas of Ghana and neighbouring countries meningitis outbreaks amongst rural people have been linked to climate change.	International Union for Conservation of Nature (2008). Indigenous and Traditional Peoples and Climate Change. [archived, in Advance Guard Case #87]
AF024	**Resilience of artisanal fishing in Cape Verde**	Tarrafal Island	Cape Verde	Africa	food security, impacts, adaptation	Traditional fishing communities are vulnerable to climate change due to increasing uncertainty of resource availability and access. A fishing community in Tarrafal Island reports its vulnerability to inter-generational loss of knowledge, as well as the adaptive activities or coping strategies implemented by the community, such as changing the scale of fishing activities, altering target species depending on season and availability, employing a variety of fishing techniques, income diversi fication and out-migration.	Ilic (2011) in Nakashima et al (2012). Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. P61.

AF025	**Center for Social Excellence of the Congo Basin Forests**	Pygmies	Central Africa	Africa		The Congo Basin in Central Africa contains the second largest forest in the world. It is home to a mainly rural population, estimated to number 29 million people, including approximately 500,000 Pygmies and semi-nomadic peoples grouped into nine communities. These communities are entirely dependent on the forest for their livelihood. It provides them with their habitat, food, medicines and places of worship. Through the Center for Social Excellence (CSE), an Earthworm Foundation project, Indigenous leaders and community representatives gain the skills, knowledge, and con fidence to assert their rights and perspectives effectively in local, regional, and international decision-making processes to lead solutions that protect their ancestral lands and enhance their resilience against climate impacts. CSE emphasises participatory approaches, ensuring that Indigenous voices remain at the forefront of climate mitigation and adaptation initiatives. CSE has been designed to address issues related to deforestation and its implication for the communities of local and indigenous people who live in the Congo Basin – focusing on improving the understanding and linkages between forestry companies and indigenous communities, thereby encouraging dialogue and sustainable forestry management practices. GPS mapping technology has recently been introduced to the Congo Basin with a handheld mapping device that has made it possible for the Pygmy communities to communicate to timber	Earthworm Foundation: CSE. https://earthworm.org/news-stories?solution=cse
AF026	**3D participative mapping in Chad**	Mbororo	Chad	Africa	adaptation, land use, con flict, biodiversity	This pilot trained Mbororo herders and activists to construct a georeferenced 3 -D model of the Baïbokoum landscape that overlays Indigenous ecological knowledge (water points, migration corridors, sacred tree species). The community -owned map now underpins local adaptation planning and has been used by authorities to mediate farmer–herder disputes heightened by climate stress.	AFPAT (2016). Les éleveurs nomades cherchent à accéder à l'eau et à la paix. https://afpat.net/blogposts/les-eleveurs-nomades-cherchent-a-acceder-a-leau-et-a-la-paix-au-tchad-recit-dun-exercice-de-cartographie-participative-au-sahel/
AF027	**Indigenous Rights Training**	Mbororo	Chad	Africa	legal, pastoralism	Between 2010 and 2013 AFPAT trained community paralegals on Indigenous rights across three regions and worked with local authorities to reopen blocked transhumance corridors. The initiative reduced farmer–herder con flict and reinforced mobility systems that are crucial buffers against erratic rainfall and shrinking grazing lands.	AFPAT (2013). Campagne de formation sur les droits des peuples autochtones. https://afpat.net/campagne-de-formation-sur-les-droits-des-peuples-autochtones/
AF028	**Mbororo Fulani Pastoralists: Indigenous Forecasting in the Sahel**	Mbororo Fulani	Chad	Africa	observations & impacts; adaptation; forecasting; biodiversity	Semi-nomadic Mbororo Fulani rely on ancestral knowledge of animals, plants, wind, and stars for seasonal migration timing and water/pasture location. A participatory research project documented these forecasting practices (e.g. insect behaviour, sky colour), now threatened by climate stress. Combining an innovative mapping initiative, the study showcases how indigenous knowledge guides them across diverse landscapes, from the Sahel's climatic zones to the more tropical regions of Central Africa. The study revealed that the Mbororo decision-making process is in fluenced by various factors, such as the availability and quality of pasture, and the reliance on the seasonal calendar and star observations to predict rainfall trends and seasonal changes, employing over 2000 indicators across their seven distinct seasons. The study also emphasizes the transdisciplinary dialogue between Indigenous knowledge and meteorologists to enhance climate forecasts, presenting a collaborative approach crucial for sustainable policies to enhance communities' resilience. The study highlighted the richness of the knowledge systems of the Mbororo Fulani communities on weather and climate. Through their observations and interactions with their environment, these nomadic communities have developed speci fic and operational	UNESCO, 2024. Climate Change and Indigenous Peoples' Knowledge in the Sahel: A Case Study on the Mbororo Fulani of Chad. UNESCO. Paris. 56 p. unesdoc.unesco.org/ark:/48223/pf0000389568
AF029	**Sahel weather knowledge mapping for climate adaptation**	Mbororo Fulani (pastoralists)	Chad	Africa	traditional knowledge, weather forecasting, pastoralism, adaptation, two-eyed seeing	In the arid Sahel of Chad, the Mbororo Fulani community is blending ancestral weather knowledge with modern tools to adapt to climate change. A community-led study documented how Fulani herders use environmental cues (e.g. animal behavior, wind patterns, stars) to predict weather and guide seasonal migration across changing landscapes	UNFCCC Local Communities and Indigenous Peoples Platform (2024). Climate change and Indigenous Peoples' knowledge in the Sahel: a case study on the Mbororo Fulani of Chad. https://lcipp.unfccc.int/node/1164
AF030	**PROHYPA: Pastoral Water and Resource Management in the Sahel**	Mbororo Peul	Chad	Africa	adaptation, water, pastoralism, traditional knowledge, policy & governance, displacement	This IFAD-supported project aimed to strengthen the resilience of Mbororo Peul pastoralists to climate change by improving access to water and preserving transhumance systems. It adopted a community-led approach, using participatory diagnostics and involving tribal chiefs in the creation of pastoral water infrastructure and con flict resolution mechanisms. It helped secure migration routes, protect ecosystems, and uphold traditional grazing practices in a region facing extreme climate variability.	IFAD (2016). Pastoralism Case Study: Chad. In: The Traditional Knowledge Advantage.

AF031	**Women's Adaptation to Climate Change (PISCCA)**	Pulan	Chad	Africa	adaptation, women, food security	Under the French PISCCA fund, AFPAT equipped women with peanut mills, tools and training so households could diversify income as droughts and floods shrink pastoral earnings. Early results show reduced workload, new cash flows and stronger bargaining power for women, positioning them as key actors in community adaptation.	AFPAT (2018). Le projet PISCCA "Adaptation des femmes au changement climatique" en vidéo. https://afpat.net/blogposts/le-projet-piscca-adaptation-des-femmes-au-changement-climatique-en-video/
AF032	**Balega Indigenous knowledge and climate change**	Belega People	Democratic Republic of Congo	Africa		The Balega people promote and perpetuate indigenous knowledge, claim ancestral knowledge for forest biodiversity management to strengthen the resilience of indigenous forest farmers to climate change in the territory of Mwenga (Democratic Republic of Congo). Traditional and modern techniques that support biodiversity restoration, traditional seeds and climate change resilient foods were taught, as well as the valuation of harvest and indigenous foods through open markets and indigenous agricultural fairs that strengthened the livelihoods of the indigenous Balega, sharing indigenous knowledge that restore the biodiversity of the communities' forests and thus strengthen resilience.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
AF033	**The Batwa of the Democratic Republic of Congo**	Batwa	Democratic Republic of Congo & Uganda	Africa	lessons learned; displacement; forests; policy & governance; legal action	The Batwa Indigenous peoples of the Democratic Republic of Congo and Uganda have faced severe human rights violations resulting from conservation practices that exclude Indigenous participation and consent. In the DRC, the Batwa were forcibly evicted from their ancestral lands around Mounts Kahuzi and Biega when the government established the Parc National de Kahuzi-Biega (PNKB) in the 1970s. These evictions led to decades of severe impoverishment, landlessness, discrimination, and violence, including recent incidents of murder, rape, and forced displacement. In a landmark 2024 decision, the African Commission on Human and Peoples' Rights condemned these actions, af firming that the fortress conservation model—predicated on removing humans from protected areas—is ineffective for biodiversity conservation and violates Indigenous rights. Similarly, in Uganda, the Batwa have suffered exclusion and displacement from the Bwindi, Mgahinga, and Echuya forests, their traditional homes, due to the establishment of protected areas without their participation or consent. This displacement disrupted their socio-economic wellbeing, cultural practices, and inter-generational transfer of traditional knowledge. In response, the Batwa are establishing an inter-generational platform to document and share Indigenous knowledge between elders and youth. Through workshops, the initiative aims to empower	Samuel Ade Ndasi and Stefania Carrer (2024). "Justice Served: The Batwa of Kahunzi-Biega and the Failure of Fortress in Conservation Minority, Group International 2024, http://minorityrights.org Koné, L. (2023). Land Rights of Indigenous Peoples and Local Communities in the context of REDD+ in the Republic of Congo. In: Jegede, A.O. (eds) Implementing REDD+ in Africa. Springer, Cham. https://doi.org/10.1007/978-3-031-39397-6_3 Sinafasi Makelo Adrien (2006), The Impacts of the Carbon Sinks of the Ibi-Batéké Project on the Indigenous Pygmies of the Democratic Republic of the Congo, International Alliance of Indigenous and Tribal Peoples of Tropical Forests, http://www.international-alliance.org/cop12_unfccc.htm PawankaFund (2021). Reviving Batwa Indigenous knowledge to build their resilience against climate change. https://pawankafund.org/ano/2020/
AF034	**Mai-Ndombe REDD+ "Laboratory"**	Various forest communities (incl. Batwa)	DR Congo	Africa	Land use, Finance, Mitigation, REDD+, Land tenure, lessons learned	The Mai-Ndombe REDD+ program in DRC – a flagship jurisdictional carbon initiative covering 12 million ha – fell short for local Indigenous communities. Despite over $90 million invested, a 2020 study found it "failing to uphold social safeguards, deliver local bene fits, or prevent deforestation," and a 2024 review noted that "efforts to improve the security of land tenure have been insuf ficient, leaving local communities vulnerable," with "details of revenue distribution ... not fully transparent, and the share transferred to communities is unclear." Many villages were not properly consulted; promised livelihood projects and bene fit-sharing either never materialized or left people dissatis fied. Land tenure was not secured, leaving communities vulnerable. In effect, the program's climate goals are undermined by ongoing forest loss, and locals see it as a top-down initiative that hasn't improved their lives – a stark example of REDD+ not meeting either environmental or social objectives in practice. The government and World Bank face pressure to revamp the approach with genuine community leadership. DRC's Mai-Ndombe is often called a "REDD+ laboratory", accounting for 92% of all voluntary carbon market credits issued in DRC, but deforestation rates remain very hig h.	RFUK & APEM (2020) : REDD-MINUS - The Rhetoric and Reality of the Mai Ndombe REDD+ Programme https://www.rainforestfoundationuk.org/media.ashx/redd-minus.pdf UNCTAD: The least developed countries report (2024). https://unctad.org/system/ files/official-document/ldc2024_en.pdf

AF035	**Pastoralism of the Maasai: Optimal utilization of rangelands, including grasses and shrubs**	Maasai people	East Africa	Africa	Land Use, Livestock, Conservation science, Wildlife, Grazing, Tanzania, Biodiversity, Sustainability science	Traditional pastoral systems preserve natural ecosystems through extensive ranching and rotational grazing and by using a variety of livestock. The pastoral Maasai of East Africa keep cattle, goats and sheep and move their herds throughout the year to optimize the utilization of rangeland resources for maximum meat and milk production. The Alalili system is one among the fewest remnant African indigenous and local knowledge systems that is traditionally practiced by Maasai pastoral communities to conserve certain portions of rangeland resources such as pastures and water for subsequent grazing during dry seasons. The strategy of mobile grazing allows their animals to utilize a wide variety of forage vegetation types that are wildly dispersed. This increases seasonal grazing and the carrying capacity of the land. Maasai distinguish between those plants that are good for increasing milk and those that fatten livestock and improve their condition. This knowledge is particularly important during exceptionally dry years when decisions have to be made by the Maasai about where to graze, which grasses recover faster than others and, based on the availability of resources, what stock should be culled first.	UNFCCC Database on local coping strategies, Case Study 91, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=91; Isaac Sindiga (1994): Indigenous (medical) knowledge of the Maasai. In: IK Monitor Vol. 2(1) UNESCO, Rangelands Utilizaton Strategy: utilization of arid and semi-arid rangelands by African pastoralists. UNESCO Best practices on Indigenous Knowledge BP.12, http://www.unesco.org/most/bpik12.htm Hezron, E., Ngondya, I.B. and Munishi, L.K., 2024. Sustaining indigenous Maasai Alalili silvo-pastoral conservation systems for improved community livelihood and biodiversity conservation in East African rangelands. Plos one, 19(5), p.e0303649.
AF036	**Food storage methods to protect food from pests**	Oasis farming community of Mut (Dakhla Oasis)	Egypt	Africa	adaptation, pests, agriculture, food security, indigenous knowledge	For farmers in Mut, Egypt, rodents are the most serious pests followed by Sus (red or black insects, e.g. beetles). Many of the traditional indigenous storage technologies are excellent for helping to prevent or control pest infestation. One of the most ef ficacious storage methods involves burying grain in the sand. The grain's moisture content is reduced by the sand and solar heat which eliminates some insect pests and inhibits the movement of others. Unfortunately, change is affecting the farmers' ability to use these traditional methods - in Mut, for example, winds have caused the sand dunes to shift so that sand is no longer available near the houses, and the sand has become saturated with water from increased irrigation. Many indigenous practices have been replaced by newly introduced methods of control following the introduction of new approaches to pest management, including the free distribution of pesticides. According to some farmers, these changes have made pest problems worse and created environmental problems as well. However, farmers are finding ways to pick and choose from both traditional and introduced methods	UNFCCC adaptation case study, Project 128 [archived]. In Advance Guard (2010), case study #93. Anne M. Parrish (1994): Indigenous post-harvest knowledge in an Egyptian oasis. In: IK Monitor Vol. 2(1), http://www.iss.nl/ikdm/IKDM/IKDM/21/articles/parrish.html
AF037	**The Afar Indigenous people of Ethiopia (forecasting)**	Afar	Ethiopia	Africa	observations & impacts; adaptation; forecasting; policy & governance	In Ethiopia's northeastern Afar region, Indigenous pastoralists are coupling traditional climate knowledge with modern science to adapt to harsher droughts. The Afar have long observed natural indicators - such as wind patterns, stars, and animal behavior - to predict weather and manage water in their desert landscape	Indigenous and local knowledge dialogue workshop on scenarios and the Nature Futures Framework: Africa Knowledge Systems, p. 46. https://ipbes.net/sites/default/files/2023-02/IPBES_ILK-Scenarios_Dialogue2021_Report_ForWeb.pdf Balehegn, M., & Balehey, S. (2019). The role of customary institutions in climate change adaptation among Afar pastoralists in north-eastern Ethiopia. In A. Ahearn, M. Oelz, & R. K. Dhir (Eds.), Indigenous peoples and climate change: Emerging research on traditional knowledge and livelihoods (pp. 37-48). Geneva, Switzerland: International Labour Organization. https://doi.org/10.1186/s13570-019-0143-y Leal Filho, W. et al. (2021). Impacts of climate change to African indigenous communities…Nature Communications, 12:6224. DOI: 10.1038/s41467-021-26540-0

AF038	**The Borana of Kenya and Ethiopia (forecasting)**	Borana	Ethiopia & Kenya	Africa		In Borana, Ethiopia, IK weather forecasting is the main source of weather information. When the morning stars appear in the west 70 days after their appearance from the east, it is an indication of a very bad drought. Flowering patterns of Acacia tortilis and aloe tree are used for seasonal weather forecasting. The study revealed further that the Borana use a combination of meteorological, biological, and astrological IK indicators to forecast seasonal weather conditions and make important crop and livestock production decisions. Various indicators are used to predict climatic conditions, including speci fic plants and animals. Astrological IK indicators are more pronounced in Borana, with pastoralists using the indigenous knowledge to forecast and plan livestock mobility and sharing among relatives and friends to minimize drought losses. Another study about the Borana investigated the types of indigenous weather forecasting systems, mechanisms of climate information exchange, and how traditional forecasts have been integrated with contemporary forecasts to strengthen adaptation to climatic hazards in Borana pastoralists of southern Ethiopia. This study indicated that four major indigenous weather forecasting systems were used by Borana pastoralists for centuries. These include Ayantu, Uchu, Waragu, and Arga-Dhageti. They varied in the kind of indicator used to predict weather events.	Radeny M, Desalegn A, Mubiru D, Kyazze F, Mahoo H, et al. (2019) Indigenous knowledge for seasonal weather and climate forecasting across East Africa. Climatic Change 156: 509-526. Iticha, B. & Husen, A. Adaptation to climate change using indigenous weather forecasting systems in Borana pastoralists of southern Ethiopia. Clim. Dev. 11, 564–573 (2019).
AF039	**Resilient drought governance in Borana rangelands**	Borana (Oromo pastoralist s)	Ethiopia	Africa	pastoralism, customary institutions, weather forecasting, social resilience, adaptation	The Borana pastoralists of southern Ethiopia have strengthened drought resilience through enduring customary institutions and forecasts. For generations, Borana communities have managed their semi-arid rangelands via collective governance systems (such as the Gadaa system) and communal resource-sharing arrangements. A 2020 analysis notes that the Borana rely on traditional social safety nets (e.g. "buusaa gonofaa"mutual aid) and weather forecasting methods based on animal behavior, star movements, and even reading animal entrails	Leal Filho, W. et al. (2021). Impacts of climate change to African indigenous communities…Nature Communications, 12:6224. DOI: 10.1038/s41467-021-26540-0
AF040	**Daldals - building checkdams to trap silt and water**	Irob people (Tigray, Ethiopia)	Ethiopia	Africa	Adaptation, drought, water resources, adaptation, traditional knowledge systems.	Daldals were developed by the Irob in northern Tigray in Ethiopia where the landscape is very rugged and stony, with steep slopes and deep narrow valleys carved out of the plateau by flash floods. Over four decades, the Irob developed site-appropriate methods to capture soil and water for cropping. They built a series of checkdams in the seasonal watercourses and raised and lengthened the walls every year. In this way, they created step-like terraces that are now about 8 m wide and up to 10 m high, with about 20 m between dams. Not only has new farmland been created where there had been only rock before, but well- filtered water can now be collected from the foot of the lowest dam during most of the year. Although building and maintaining the dams and cropping in the small pockets is very labour-intensive, it ensures the livelihood of the Irob in the rugged area.	UNESCO, Daldal - dams to trap silt and water. An Irob innovation in northern Ethiopia, UNESCO Best Practices on IK. Database on local coping strategies, Case Study 88, [archived]. In Adcance Guard (2010). Case study #96. "Behailu, B. M., Pietilä, P. E., & Katko, T. S. (2016). Indigenous Practices of Water Management for Sustainable Services: Case of Borana and Konso, Ethiopia. SAGE Open, 6(4). https://doi.org/ 10.1177/2158244016682292"
AF041	**The Nuer of Ethiopia (drought adaptation)**	Nuer	Ethiopia	Africa	observations & impacts; adaptation; food security	In Gambella region, western Ethiopia where the Nuer indigenous people reside, when the Nuer experiences "tarkew" (cold wind that moves from South to the North in April to May), this is an indication that the community will experience drought . The researcher adds that the Nuer have increasingly adopted small ruminants to cope with frequent droughts. The Nuer also practice other indigenous knowledge systems, such as indigenous social safety nets, which are important adaptation and disaster risk reduction measures essential for responding to the changing climate. In indigenous social safety practice, the community would lend the most vulnerable segment of their community cattle or food to enable them to rebuild their homes and cultivate their farms.	Bol GK and Van Niekerk D (2023). African Indigenous Knowledge of Climate Change and Disaster Risk Management in Changing Climate. Journal of Ethology & Animal Science.
AF042	**Nyangatom livelihoods under threat**	Nyangato m	Ethiopia	Africa	Livelihoods	The Nyangatom, a small agropastoralist group in Southwest Ethiopia, report that their livelihoods are highly impacted by climate change and changing environmental patterns, namely failing Belg rains and increasing temperature. People perceive this change as irreversible, naming such environmental indicators as disappearing plants and animals, and discuss having to rename their seasonal calendar. The social capital necessary for community resilience (captured in rules and regulations, 'ceremonies' of sharing and reciprocal support) is threatened as elements of social cohesion and identity fade away. Examples of this degradation include formerly cattlerich pastoralists becoming poor, women becoming more dependent on their husbands, leather skirts as attributes of clan affiliation and family status being replaced by cotton skirts, and ceremonies such as Akunumnum and Ekomar falling out of sync as a result of changes in the timing of seasonal indicators.	Troeger (2011) in Nakashima et al (2012). Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. P56.

AF043	**Climate-Resilient Community Access to Safe Water Powered by Renewable Energy in Ethiopia**	Pastoralist and agro-pastoral communities in drought-prone Ethiopian regions (all communities considered indigenous in context)	Ethiopia	Africa	Adaptation; Water; Energy; Pastoralism	A project bringing solar-powered water solutions to vulnerable rural communities in Ethiopia's arid regions. It addresses chronic water scarcity exacerbated by climate change by installing off-grid solar pumps and distributing water to villages and grazing areas. Importantly, it targets traditional pastoralist groups – treating all local communities as indigenous – ensuring their participation and knowledge guide interventions. For example, pastoral clan leaders help site boreholes along migratory routes, and farmers using agro-ecology and indigenous water managementtechniques are supported	Green Climate Fund (2023). https://www.greenclimate.fund/project/fp243
AF044	**Resilient Landscapes and Livelihoods Project**	Rural farming and pastoral communities in vulnerable watersheds (no specific indigenous group identified)	Ethiopia	Africa	Adaptation; Mitigation; ecosystems; land use; agriculture; water security; livelihoods	This large-scale project in Ethiopia works with local communities to restore degraded lands, improve water availability, and diversify rural livelihoods in climate-vulnerable watersheds. It scales up community-led watershed management and sustainable agriculture practices, blending traditional land-use knowledge with climate-smart innovations to boost crop productivity and carbon storage. Local community institutions are engaged in planning soil and water conservation measures, reforestation, and climate-resilient farming. Traditional ecosystem management practices are documented and integrated with modern techniques such as climate-smart agriculture and agroforestry. The project also supports tenure security and Indigenous elders and women are involved in decision-making committees to co-manage resources and share in benefits. These measures aim to strengthen community resilience to droughts and land degradation while delivering co-benefits like improved incomes and carbon sequestration. Under implementation 2020–2026, with GCF financing of USD $165.3 million.	World Bank (2024), 2023 Annual Performance Report for FP136: Resilient Landscapes and Livelihoods Project. https://www.greenclimate.fund/document/2023-annual-performance-report-fp136-resilient-landscapes-and-livelihoods-project GCF FP136: https://www.greenclimate.fund/project/fp136
AF045	**Farmer to Farmer Learning in a Changing Climate video**	Smallholder farmers (Borana zone, Ethiopia)	Ethiopia	Africa	adaptation, agriculture, multimedia	This participatory video, produced with the Netherlands Red Cross, showcases Ethiopian farmers sharing adaptation techniques for climate change. Through peer-to-peer learning on camera, farmers demonstrate new practices like water harvesting, crop diversification, and improved soil management to cope with unpredictable weather. The video format enabled knowledge exchange across communities more rapidly than traditional extension, enhancing the credibility of adaptation messages as farmers see their peers successfully implementing changes.	International Federation of Red Cross and Red Crescent Societies, http://www.ifrc.org/what/disasters/climate-change/index.asp; Youtube video, http://www.youtube.com/watch?v=UKKo0dHmplk&feature=PlayList&p=73D398F50E67A1B6&index=13
AF115	**Haregu's Organic Farm — Land Restoration & Agroforestry (Mereb Leke, Tigray)**	Tigrayan	Ethiopia	Africa	adaptation, mitigation, agroforestry, food security, water security, wome; submission	A women-led farm shifted from annual vegetables to a 12-ha organic, tree-based system across ~12 ha (>6,000 mango, avocado, and citrus trees). Adaptation actions include replacing infertile topsoil, cement-lined irrigation canals to reduce losses, gully reclamation with soil banks, and rebuilding soil health via compost and targeted bio-slurry use from a household biogas digester. Mitigation co-benefits include extensive tree planting, elimination of synthetic inputs, methane capture for cooking/lighting, and local green jobs/seedlings that strengthen value chains.	Gebregziabher, Dawit & Gobezay, Haregu (c2024). "A woman who Transformed Stones into Fruits in the Lowlands of Tigray, Northern Ethiopia: Haregu's Organic Farm at Mereb Leke, Tigray, Ethiopia"
AF046	**Landscape Restoration in the Abreha We Atsbeha Watershed**	Tigrayan People	Ethiopia	Africa	adaptation, drylands, food security, youth; submission	Facing chronic water scarcity and soil loss, villagers rejected government resettlement in 1998 and instead mobilised mass community labour to restore 6,766 ha of degraded highlands. They set aside 4,644 ha as strictly protected exclosures, built 55 stone check-dams, 650 hand-dug wells and terraces, and planted or naturally regenerated 1,500 ha of forest. Ground-water depth fell from 50 m to ~5 m, enabling irrigation on 450 ha and triple-cropping that raised cereal and horticultural output by 300 %. Soil loss dropped 80 %, fodder availability doubled, and women and girls now collect water and fuelwood near their homes. Youth cooperatives earn income from nurseries and beekeeping, and neighbouring towns receive piped drinking water. The initiative earned the UNDP Equator Prize 2012 and is cited as a scalable model for AFR100 dryland commitments.	Haile M. & Gebregziabher D. (2020) Successful Landscape Restoration in Abreha We Atsbeha Watershed, Tigray, Ethiopia. ETFRN News 60 – https://library.unccd.int/Details/fullCatalogue/600000104

AF047	**Homestead Agroforestry in Tigray**	Tigrayan People	Ethiopia	Africa	adaptation, forestry, food security, con flict; submission	When the 2020 -2022 con flict made watershed -level planting impossible, the Relief Society of Tigray and Mekelle University helped 32 model households pilot homestead agroforestry - small, family -managed plots integrating trees (eucalyptus, mango, Ziziphus spina -christi), vegetables, livestock and beehives. Farmers selected species, installed moisture -conserving pits, and fenced plots; workshops with district leaders secured policy buy -in and a proposed regional strategy. During siege conditions, the plots generated average cash revenues of ETB 33,882 /yr (~US$678) from firewood, charcoal and fruit sales; provided emergency food (Ziziphus fruit became a staple and earned the nickname "the tree that saved lives"); and supplied biomass energy that reduced pressure on community exclosures. Households also reported improved soil fertility, micro -climate moderation and carbon sequestration bene fits. The model is now promoted as a post -war livelihood and restoration pathway across Tigray.	Haile M. et al. (2024) "Contributions of Homestead Agroforestry during the War in Tigray, Ethiopia." Tropical Forest Issues 62: Agroforestry at Work. Tropenbos International, Ede, the Netherlands (pp. 91–96). http://doi.org/10.55515/OEQC4236
AF048	**From cattle to crops for the Boran**		Ethiopia	Africa	Adaptation Options, Barriers, Resilience, Smallholder Agriculture, Vulnerability	Ethiopia's Boran people once enjoyed a diet of milk and butter supplied by their plentiful herds of cattle. Repeated droughts and deserti fication since the 1980s have decimated their herds (up to 80% mortality) and dried water sources. Many Borana have been forced to begin farming crops, a practice alien to their culture, simply to survive. Elders perform rituals to explain to the Creator that they till soil out of necessity, hoping for a return to the "meat-and-milk" day - many believe they are being forced to grow crops for food today because the Creator became angry, not with the Boran themselves, but with the Land.Others draw a connection between the lack of trees and the lack of water. Every morning, women set out on a five-hour walk to fetch water for their families. Thirst has become a constant companion for people in the district.	Panos London, http://www.panos.org.uk/?lid=19809; http://www.panos.org.uk/?lid=19810 Debela, N., McNeil, D., Bridle, K. and Mohammed, C., 2019. Adaptation to climate change in the pastoral and agropastoral systems of Borana, South Ethiopia: Options and barriers. American Journal of climate change, 8(1), pp.40-60.
AF049	**Organisation Écologique des Lacs et de l'Ogooué (OELO, Gabon)**	Fisherfolk communiti es of Bas Ogooué (Gabon)	Gabon	Africa	freshwater conservation, fisheries, sustainable livelihoods	OELO, an NGO working with local communities around Gabon's Bas Ogooué wetlands (the country's largest Ramsar site), developed the first community-written sustainable fisheries management plan in Gabon. Signed into law in 2018, the plan regulates fishing practices based on Indigenous knowledge and scienti fic input, ensuring fish populations are harvested sustainably. The initiative created alternative livelihoods (e.g., ecotourism, fish processing) for fisherfolk to reduce pressure on the ecosystem. OELO's community-driven governance model has improved freshwater biodiversity, bolstered local incomes, and is a replicable example of Indigenous leadership in aquatic resource management under climate change. The initiative makes the community more resilient to disasters and has already survived an outbreak of Tilapia Lake Virus that decimated fisheries in the region, COVID epidemic, and more frequent flooding from climate change.	OELO Gabon. Equator Prize 2021. OELO Gabon. https://www.equatorinitiative.org/2024/11/12/oelo-2/
AF050	**Community-Based Integrated Bush fire Management and Biodiversity Conservation in the Jaman District**	Communiti es in Jaman District (Dwenem-Awaso traditional areas)	Ghana	Africa	mitigation, indigenous knowledge, fire management	In Jaman District of Ghana, local communities integrated indigenous knowledge into forest fire management to protect biodiversity. Through a GEF Small Grant, two traditional areas (Dwenem Awaso) dedicated 100 hectares as a Community Resource Management Area (CREMA. Community stakeholders were identi fied to form Collaborative Forest Management Groups to undertake fire management, forest protection, and resource management. By blending customary timing of burns with modern techniques, the communities successfully reduced destructive wild fires, aiding forest regeneration and conserving local species while sustaining livelihoods.	GEF Small Grants Programme GHA/04/074:http://sgp.undp.org/web/projects/8003/community_based_integrated_bush fire_management_and_biodiversity_conservation_in_the_jaman_district.html
AF051	**Changing terrain: evidence of climate change impacts and adaptive responses of Dagbani Indigenous communities, northern Ghana**	Dagbani, Kumbungu district	Ghana	Africa	Land use; Water; Cross-cutting: Finance, adaptation, food security, barriers	Dagbani farmers perceive stronger dry seasons, intensi fied floods, and unpredictable rain. Adaptation options include adjusting planting schedules, soil fertility measures, and searching for off-farm income. Despite awareness of climate trends, they face financial and infrastructural barriers that limit effective adoption of new strategies.	Attoh, E. M. N. A. N., Afriyie, R., Kranjac-Berisavljevic, G., Bessah, E., & Ludwig, F. (2024). In V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 244–258). Routledge.

AF052	**The Fulani of Ghana (adaptation strategies)**	Fulani	Ghana	Africa	adaptation; land use; food security	This case presents research findings drawn from a on qualitative study conducted to identify and categorize the various indigenous adaptation strategies of herdsmen in cattle production . The results reveal multiple indigenous strategies of climate change adaptation in cattle herding among the Fulani. These include mobility-based strategies, diversi fication of sources of feed, labour division for meeting differentiated needs of cattle, and stress management in cattle. The results suggest that the integration of indigenous knowledge in climate change adaptation planning is imperative for developing socially acceptable and sustainable adaptation strategies. This will require a bridge of the differences between formal and informal stakeholders in adaptation planning by creating a common platform for dialogue at all levels in arid environments.	Napogbong, L. A., Ahmed, A., & Derbile, E. K. (2021). Fulani herders and indigenous strategies of climate change adaptation in Kpongu community, North-Western Ghana: implications for adaptation planning. Climate and Development, 13(3), 201–214.
AF053	**Community Knowledge Strengthening Climate Resilience in Accra**	Ga Mashie	Ghana	Africa	adaptation, urban locations, traditional knowledge	In Accra's historic coastal quarters, Ga residents mobilise kin networks and ancestral climate knowledge —such as rain-cloud reading, tidal cues and drought-coping seed selection—to tackle heat, flooding and food insecurity. Backyard gardens using salt-tolerant vegetables and communal rain-storage pots buffer households against water shocks. These grassroots measures, largely invisible to formal planners, have reduced flood losses and reinforced food sovereignty in some of the city's most climate-vulnerable neighbourhoods.	Codjoe et al. 2014. Perception, Experience and Indigenous Knowledge of Climate Change and Variability: the case of Accra, a sub-Saharan African City. https://doi.org/10.1007/s10113-013-0500-0
AF054	**Sunkpa Shea Women's Cooperative**	Shea community	Ghana	Africa	adaptation, finance	The Sunkpa Shea Women's Cooperative is an Indigenous-women-led shea butter cooperative in the savannah region of Northern Ghana. This cooperative has been able to take a community-led approach to creating a sustainable and inclusive shea butter value chain that has provided economic opportunity to over 800 women within the cooperative. Shea agroforestry systems are threatened by multiple issues, including population growth, land-use change, insecure land tenure, development, energy demands, and climate change, making initiatives like CREMA cooperatives paramount for protecting them.	Equator Prize 2022. https://www.equatorinitiative.org/wp-content/uploads/2022/08/Sunkpa-Shea-Case-Study-En-r2-UPDATED.pdf
AF055	**Lake Turkana Wind Power Project**	Elmolo, Turkana, Samburu communities	Kenya	Africa	Energy, Land use,Mitigation, Human rights, lessons learned	The 310 MW Lake Turkana Wind Power project, Africa's largest wind farm, was established on ancestral lands in Marsabit County. Local pastoralist communities were not adequately consulted or compensated	IWGIA Report 28 (2019): The Impact of Renewable Energy Projects on Indigenous Communities in Kenya - The cases of the Lake Turkana Wind Power project and the Olkaria Geothermal Power Plants. https://iwgia.org/en/news/4562-the-cost-of-ignoring-human-rights-and-indigenous-peoples.html
AF056	**The Endrois (agroecology)**	Endorois	Kenya	Africa	adaptation; land use; biodiversity; food security; cultural practices	A case study on the Endorois people indicated that this indigenous community has turned to climate-smart agroecological production systems such as the cultivation of drought-tolerant cereals, tubers, and vegetables . This shift in production systems has led to more sustainable land management, minimized water usage, reduced human–wildlife conflict, and enhanced food security among the Endorois. The study disclosed further that owing to their close cultural connection to their environment, the Endorois have also embraced nature-based ecotourism enterprises, including medical, cultural, and geotourism in response to the climate-change-induced negative effects on the livelihoods. Other adaptations to climate-change effects among the Endorois people include livestock and crop diversi fication, herd adjustment by class, livestock destocking, and supplementary feeding of livestock.	Leal Filho, W., Matandirotya, N.R., Lütz, J.M. et al. Impacts of climate change to African indigenous communities and examples of adaptation responses. Nat Commun 12, 6224 (2021). https://doi.org/10.1038/s41467-021-26540-0

AF057	**Climate-smart livelihoods of the Endorois community**	Endorois (Kalenjin pastoralists)	Kenya	Africa	agroecology, sustainable livelihoods, ecotourism, biodiversity, adaptation	The Endorois, an Indigenous community around Lake Bogoria, Kenya, have spearheaded climate-smart livelihood changes after facing severe droughts and ecosystem shifts. Embracing agroecology, the Endorois have introduced drought-tolerant crops (like hardy cereals, tubers, vegetables) and improved land management practices, which reduced water use and enhanced food security	Leal Filho, W., Matandirotya, N. R., Lütz, J. M., et al. (2021). Impacts of climate change to African indigenous communities and examples of adaptation responses. Nature Communications, 12(6224). DOI: 10.1038/s41467-021-26540-0
AF058	**Malaria control in agriculture**	Farming community in Mwea division	Kenya	Africa	adaptation, health, agriculture	Indigenous knowledge plays a critical role in addressing health challenges exacerbated by climate change, such as malaria. A study of the links between malaria and agriculture that included participation and input from a farming community in Mwea division, Kenya facilitated identification of opportunities for long-term malaria control in irrigated rice-growing areas through the integration of agroecosystem practices aimed at sustaining livestock systems within a broader strategy for rural development.	IPCC. (2007). Climate change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-xccc.pdf; Mutero, C. M., Mūzè, D., et al. (2004). Links between malaria and agriculture in Kenya. Acta Tropica, 89(2), 171–183. https://doi.org/10.1016/j.actatropica.2003.09.012
AF059	**Adaptation to Climate Change in Arid and Semi Arid Lands Project**	Indigenous pastoralist communities	Kenya	Africa	adaptation, observations & impacts, food security, health, water, land use, transport, policy & governance, forecasting, women	The KACCAL project (2007-2017) aimed to strengthen climate resilience in Kenya's arid and semi-arid lands (ASALs), home to Indigenous pastoralist communities whose livelihoods rely on natural resource-based economies such as livestock herding and smallholder farming. These communities are particularly vulnerable to climate change impacts such as prolonged droughts, rangeland degradation, and increased water scarcity. The project integrated traditional practices, including local conflict resolution mechanisms and women's roles as peacemakers, into participatory community-driven planning and adaptation. Indigenous representatives were involved in local governance through District Steering Groups. It was funded through the GEF with a project grant of $6.5 million.	The GEF (2017). Adaptation to Climate Change in Arid Lands (KACCAL). https://www.thegef.org/projects-operations/projects/3249
AF060	**Indigenous forecasting in Kenya: Using meteorological, animal and plant indicators to predict rain and droughts**	Luo, Abasuba, Abaluya, Akamba	Kenya	Africa	Adaptation, traditional knowledge, forecasting, disaster preparedness,	Indigenous communities in Kenya have traditionally relied on local knowledge to forecast climate variability, particularly rainfall, which is critical for subsistence agriculture. Communities such as the Luo, Abasuba, Abaluya, and Akamba observe indicators from plants, animals, birds, insects, stars, moon phases, wind patterns, temperature, clouds, and lightning. For instance, plants shedding leaves or changing flower colors indicate approaching rain or drought; bird calls and frog behaviors signal seasonal shifts; and specific star constellations inform planting and harvesting decisions. Elders use these indicators to advise communities on preparing for climate extremes, recommending planting drought-resistant crops like pumpkin, cowpeas, cassava, sweet potatoes, millet, and sorghum to ensure food security. The Drought Monitoring Center in Nairobi collaborates with traditional forecasters to document these indicators and explore their scientific underpinnings, enhancing local resilience to climate change.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23429 GEF Small Grants Programme GHA/04/074:http://sgp.undp.org/web/projects/8003/community_based_integrated_bush_fire_management_and_biodiversity_conservation_in_the_jaman_district.html
AF061	**Indigenous Livelihoods Enhancement Partners (ILEPA)**	Maasai communities	Kenya	Africa	land use, traditional knowledge, policy & governance	The Indigenous Livelihoods Enhancement Partners (ILEPA) are united in a community-based, non-profit organization in Kenya, focusing on the Maasai pastoral community in Narok County. Established in 2008, ILEPA initially addressed land rights issues but has expanded to encompass environment, health, development, and livelihood support. Through innovative programs like tree nurseries, beekeeping initiatives, and hay production, ILEPA integrates Indigenous knowledge to foster sustainable livelihoods and climate resilience. Emphasizing women and youth empowerment, the organization ensures inclusivity in decision-making and sustainability practices, exemplifying a transformative approach to Indigenous rights and environmental stewardship.	Equator Prize 2024. https://www.equatorinitiative.org/2024/07/23/indigenous-livelihoods-enhancement-partners-ilepa/ ILEPA. https://www.ilepa-kenya.org/index
AF062	**The role of culture in climate change adaptation: insights from two mountain regions in Kenya**	Meru and Kikuyu people	Kenya	Africa	Land use; Water; Human settlements, adaptation, livelihoods	Interviews of Meru and Kikuyu farmers revealed commonalities in observations of climatic change and impact, facing drought cycles, soil erosion and new pests. Yet responses differ: some invest in irrigation, while others rely on traditional forecasting. Successful adaptation hinges on bridging local cultural frames with modern approaches, emphasizing synergy, not replacement.	Mwangi, B., Olaka, L. A., Zafra-Calvo, N., Klein, J. A., & Cuni-Sanchez, A. (2024). In V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 322–335). Routledge.

AF063	**Mau Forest regeneration**	Paran Women's Group (24 Indigenous women's groups of Narok, Kenya)	Kenya	Africa	Adaptation; mitigation; Forests	The Paran Women's Group of Kenya was created to solve the water shortage that was caused in the region by the deforestation of the Mau Forest and by climate change. Indigenous Women began to reforest the slopes of the Mau Forest where they live by establishing forest nurseries and by planting indigenous, medicinal and fruit trees. They also led activities to help preserve Mother Earth and mitigate climate change, such as manufacturing charcoal from forest waste to avoid cutting down trees for firewood; planting ecological and sustainable gardens with crops that use less water; and installing water collection systems to avoid wasting water. While serving the greater good, all these activities also guarantee the food security of Indigenous Women and their communities, and even contribute to their independence and economic empowerment. The Paran Group has also held workshops and training sessions throughout the county to educate Indigenous Women on the importance of protecting the land and fighting for their rights, sharing best practices with other Indigenous Communities and spreading change throughout the country.	FIMI blog (2025) https:// fimi-iiwf.org/en/how-to-obtain-funds-to-combat-climate-change FIMI news (2021) https:// fimi-iiwf.org/en/noticia/indigenous-women-at-the-front-in-the-fight-to-make-sure-forests-remain-forests-and-extractive-companies-stay-outside-their-territory
AF064	**TWENDE: Towards Ending Drought Emergencies: Ecosystem Based Adaptation in Kenya's Arid and Semi-Arid Rangelands**	Rangeland pastoralists in Kenya's arid and semi-arid lands	Kenya	Africa	Adaptation; ecosystems; land use; livelihoods; traditional knowledge	The TWENDE project uses a community-based approach for drought management – bringing under restoration 500,000 hectares for degraded rangelands. Climate resilient value chains are being supported through restoration of common grazing areas, development of grazing management plans, and supporting women's groups engaged in fodder and grass seed production. A Pastoral Field School model has created a platform for pastoralists to learn from each other best practices and various adaptation approaches to manage drought. These efforts aim to strengthen local livelihoods and biodiversity while building climate resilience. Under implementation 2019–2025, with GCF financing of USD $23.2 million.	International Union for Conservation of Nature (2023), 2023 Annual Performance Report for FP113: TWENDE: Towards Ending Drought Emergencies: Ecosystem Based Adaptation in Kenya's Arid and Semi-Arid Rangelands https://www.greenclimate.fund/sites/default/files/document/fp113-annual-performance-report-cy2023.pdf GCF FP113: https://www.greenclimate.fund/project/fp113
AF065	**The Samburu of Kenya (forecasting)**	Samburu	Kenya	Africa	observations & impacts; adaptation; forecasting; cultural practices	In this case study, it is reported that the Samburu of Kenya are famous for predicting whether events. The author adds that, in 2010, El Niño Southern Oscillation (ENSO) was forecasted by Kenyan Meteorological services, and communities were warned of the potential ENSO impacts. Upon receiving the warning, Samburu communities disputed the forecast. As time passed by, the Samburu were proven right –there was no ENSO. This indigenous community use bird migrations and the intestines of animals to predict certain natural climate factors, including ENSO. Moreover, the poor households are lent cows to keep during food crises. The communities share food to cushion from crises till the worst times are over. This collaborative culture underscores indigenous capability to self-dependency during the time of adversity. It also highlights community resilience and sustainability efforts.	Bol GK and Van Niekerk D (2023). African Indigenous Knowledge of Climate Change and Disaster Risk Management in Changing Climate. Journal of Ethology & Animal Science., Pg 1, 3.
AF066	**Revitalizing cultural knowledge for forest protection**	Sengwer (indigenous forest dwellers)	Kenya	Africa	cultural revitalisation, land rights, traditional knowledge, advocacy, resilience	The Sengwer people of Kenya's Embobut Forest are leveraging cultural revitalisation as a climate response, after decades of evictions justified by conservation policies. In 2021, Sengwer community leaders launched a project to document and celebrate their Indigenous knowledge – from origin stories and forest-use practices to songs and crafts – via film and community festivals	Chepkorir, M., & Borona, K. (2021). Revitalizing Sengwer people-land relationships through indigenous knowledge in Kenya. Global Diversity Foundation
AF067	**Embobut Forest Evictions (Water Towers Project)**	Sengwer people (Cherangany Hills)	Kenya	Africa	Land use, Water, Mitigation, Rights, lessons learned	An EU-funded climate and water conservation program in Kenya's Cherangany Hills aimed to protect forests ("water towers") for carbon and watershed benefits. Instead, it led to forced evictions of the Sengwer Indigenous community from Embobut Forest. Forest guards burned homes and, in 2018, violated safeguards by shooting a Sengwer man. Sengwer leaders argue they can conserve the forest better if allowed to stay. The EU suspended the €31 million project over human-rights abuses. This REDD-style conservation effort led to forced evictions of the community to pave the way for a donor-funded conservation project which harmed Indigenous livelihoods and stirred conflict rather than achieving sustainable conservation. The Sengwer have since developed their own community-led conservation plan.	Mongabay (Sep 24 2018): Amid ongoing evictions, Kenya's Sengwer make plans to save their ancestral forest https://news.mongabay.com/2018/09/amid-ongoing-evictions-kenyas-sengwer-make-plans-to-save-their-ancestral-forest

AF068	**Con flict and peace-building with sand dams in northwest Kenya**	Turkana	Kenya	Africa	observations & impacts, forecasting, traditional knowledge, food security	The way of life of the Turkana people – nomadic pastoralists who graze huge herds of cattle and other animals on the dry savannah of northwest Kenya – has long been made more precarious by political pressures from outside. Their ability to roam was restricted by arbitrarily imposed colonial borders, and modern governments have not done much to help them. Now powerful forces outside their control increasingly threaten the very survival of the Turkana. Rainfall seems to be failing and this has become a trigger for con flict between the Turkana and their neighbours, even as armed groups from outside, and a flood of automatic weapons, spill over from the long-running con flicts in neighbouring southern Sudan and northern Uganda. Very much in line with models of climate change in Sub-Saharan Africa, droughts in north-west Kenya appear to be becoming longer and more frequent. The Turkana are used to dealing with drought and with food shortages. But because the droughts are more frequent and more prolonged, they have less opportunity to recover from a poor rainy season before the next is upon them. Also, rain is less predictable than it used to be. Even in the longest drought, rains come to some places at some times. They could tell, from natural signs, when rains would come and where they would fall. Now rain, when it comes, may be sudden, violent and unpredictable. There have always been tensions between the Turkana	Working Group on Climate Change and Development, 2005. Africa - Up In Smoke? http://www.iied.org/pubs/display.php?o=9560IIED
AF069	**Sacri fices for rain in Wakesi**	Wakesi	Kenya	Africa	observations & impacts, traditional knowledge, precipitation, cultural practices	This case explores how climate change is in fluencing spiritual and ritual practices among the Wakesi. In response to erratic rainfall, the community has revived rain-sacri fice ceremonies under Baobab trees. The Nyando river basin in Kenya is traversed by several small streams that flow either into river Nyando or directly into Lake Victoria. Over the years the region has experienced long rains in the months of March - June with very short rain spell in November. This trend has been rather irregular in the recent years with floods occurring in the months of August instead of the months of April. Dry weather periods have increased in length and farm harvest are dwindling. One such community that has experienced this change in climate is Wakesi community. This community traditionally offered sacri fices under trees and the Baobab was quite popular as tree under which offerings to gods for rain was done. In a recent participatory community action plan development carried out by Uhai Lake Forum in collaboration with African Center for Technology studies, the community has revealed the fact that they are increasingly offering sacri fices to gods for rain. They associate the trees with rains. It appears climate change is catalysing worldview practices.	Uhai Lake Forum via On the Frontline of Climate Change, http://www.climatefrontlines.org/en-GB/node/411
AF070	**Knowledge for the young generation video**		Kenya	Africa	Local observations & impacts, multimedia, climate impacts	In this video, the Maasai community in the Rift Valley of Kenya documents the dif ficulties children, women, men and animals experience because of the water shortage, the ways they found to cope and the alternative livelihoods they envisage for the future. The film shares testimonies from the group and their family and friends as visual evidence of the impacts of the extreme drought.	Eng'eno Eishoi Ng'ejuk, Conversations with the Earth, www.conversationsearth.org Maasai, Kenya: The Maasai Ecology (2023). https://youtu.be/f5FPHoYL5RE?si=-5-t1L1HLrPggOwh
AF071	**The drying of the Tana Delta**		Kenya	Africa	observations & impacts, traditional knowledge loss, flooding, soil erosion	The indigenous groups in the Tana Delta have relied upon their traditional knowledge to unveil the catastrophes in their surroundings. But due to the unpredictability of local climatic conditions, such as planting and flooding seasons, coupled with lack of scienti fic knowledge, this knowledge seems inadequate. This said, it is nonetheless crucial to their psychological, social-economical and ecological survival. The Tana River changed its course due to massive siltation caused by high soil erosion from the Tana River catchments. Dams in the upper catchment area of River Tana in Kenya have been constructed to provide hydroelectric power, but have resulted in drying up of the fragile floodplain ecosystem leading to several undesirable effects on the Indigenous communities living downstream. The situation is worsened by the tremendous reduction of water in the river due to reduced water in tributaries and high evaporation rates as global temperatures rise. At risk are the subsistence farmers from the Boni, Bajuni, Wakone and Wasanya people and the fishers from the Malakote minority communities who depend on river waters for irrigation and fishing. Coastal communities have perceived a signi ficant decline in rainfall and increased temperatures since the 1980s, along with rising climate-related events such as floods, droughts, saltwater intrusion, and coastal erosion. Recession	Geoffrey M. Riungu and Joan Otengo, Front- lines Forum, 13 June 2009, http://www.climatefrontlines.org/en-GB/node/206 Uruji, R.M., 2021. Impact of dammin River Tana on floodplain livelihoods of the Pokomo Community in Kenya (Doctoral dissertation, Kenyatta University). Mulonga, J. and Olago, D., 2023. Perceptions of climate variability and change in coastal Kenya: The case of mangrove-dependent communities in the Lower Tana Delta. Environmental Challenges, 13, p.100799.

AF072	**Biogas and Wind Renewable Energy Project (RESCUE)**		Kenya	Africa	Adaptation, energy, bene ficial effects	The Renewable Energy for Sustainable Universal Ecology (RESCUE) network in Kenya trained local artisans – some from Indigenous communities – to build and maintain small wind turbines and biogas. Starting in 2006, RESCUE established pilot hybrid wind-biogas installations in Kenyan villages with Finnish support. The two-year pilot provided clean lighting and cooking fuel, reduced deforestation for firewood, and spurred local entrepreneurship in renewable energy. By empowering community technicians, the project created local capacity for sustainable energy, contributing to climate change mitigation and adaptation (through reduced fuelwood use and improved livelihoods). The project budget was 39,000 Euro.	Shalin, http://www.shalinry.org/
AF073	**Mount Kenya East Pilot Project for Natural Resources Management**		Kenya	Africa	Adaptation, local observations & impacts, resource management, con flict resolution,	The IFAD-supported Mount Kenya East Pilot Project (MKEPP) worked with local farming communities around Mt. Kenya to improve watershed management and climate adaptation. Launched in 2004, it introduced reforestation, water harvesting tanks, riverbank protection with community user associations, and climate-resilient agriculture practices. As a result, water flows in rivers stabilized, springs dried for shorter periods, and farmers coped better with erratic rainfall. The project also fostered community institutions for natural resource stewardship.	MKEPP, http://www.mkepp.or.ke/
AF074	**Rehabilitation and protection of Kireita Forest**	Lari community (Kiambu District)	Kenya	Africa	adaptation, forests	The Kireita Forest and Wildlife Conservation Association (KFWCA), representing the Lari indigenous community in Kiambu, Kenya, undertook a project to rehabilitate the degraded Kireita Forest with support from a GEF Small Grant. Community user groups planted indigenous tree seedlings over 30 hectares of deforested land, doubling the number of active forest stewardship groups. The project generated income from honey and seedling sales and raised awareness of sustainable forest management. By the project's end, the number of forest groups doubled, forest cover and biodiversity had improved, and the community had a long-term co-management agreement for the forest.	Eng'eno Eishoi Ng'ejuk, Conversations with the Earth, www.conversationsearth.org
AF075	**Sengwar mapping project**	Sengwer, Ogiek, and Yiaku peoples	Kenya	Africa	climate impacts, indigenous knowledge, adaptation	ERMIS Africa conducted a series of participatory mapping exercises with mountain-forest based indigenous peoples in Kenya from 2006 through 2008. The mapping project in Kenya involved three indigenous peoples who are all historically and until recently hunter-gatherers, partially absorbed by dominant pastoralist or agricultural peoples. The three communities include the Ogiek of the Mau Forest and Escarpment, the Sengwer of the Cherangany Hills Indigenous Forests (both Nilotic language speakers) and the Yiaku of the Mukogodo Forest. The mapping exercise revealed a number of impacts from changes in climate, including drying of rivers, lack of snow, scarcity of food, and changes in rainfall patterns and harvesting seasons. The mapping also proved to be a valuable tool to improve community awareness of the role of traditional knowledge in adaptation and mitigation of climate change, as part of a broader approach to sustainable development. Adaptive responses put in place included the use of indigenous seeds, strengthening traditional economies, creative use of agricultural biodiversity and rehabilitation of damaged landscapes.	Julius Muchemi et al 2010: Kenya case study: participatory 3-dimensional modeling. IAPAD, [archived] In Advance Guard (2010), case #105.
AF076	**Low-energy building materials: soil stabilised blocks**	Rural communiti es in Kenya and Zimbabwe	Kenya / Zimbabwe	Africa	Adaptation, housing, traditional knowledge, climate change	Communities in Kenya and Zimbabwe have innovated low-cost, low-energy construction by making stabilized soil blocks as an alternative to fired bricks. Using local soil mixed with a small amount of cement and dried in the sun, villagers produce bricks without the need for fuelwood kilns. This technique, disseminated via community training in soil testing and block pressing, curbs deforestation and greenhouse emissions. It also creates livelihoods through local brick-making enterprises and provides affordable housing.	Working Group on Climate Change and Development, 2005. Africa - Up In Smoke? http://www.iied.org/pubs/display.php?o=9560IIED

AF121	**Machobane Farming System (MFS)**	Basotho	Lesotho		adaptation, indigenous knowledge, food security, agriculture	The Machobane Farming System (MFS) represents one of the Indigenous Knowledge (IK) system used to facilitate the sustainable production of crops, and its use for tackling the challenges of climate change. Lesotho is a landlocked country within South Africa, it has a population of less than 2 million and is highly vulnerable to climatic change. Agriculture remains a major source of income for more than 80% of the rural population. The arable land is only about 9% of the total land area of 30,355 km2 and the current crops (maize, sorghum, wheat, beans and peas) yield less than 2 t/ha, which is about half the level achieved in the late 1970s. Despite its contribution to Lesotho's development, the rural economy has been languishing due to poor land management and farming practices. Among other dif ficulties, the overall decline has been attributed to poor weather, declining soil fertility and poor management of water resources. Communities living on marginal lands (i.e. land with poor soil characteristics), whose livelihoods are highly dependent on degraded natural resources, are among the most vulnerable to climate change. The MFS is a farming practice, which is highly adaptable and resilient to climate change, enabling farmers to harvest a variety of crops throughout the year. The MFS soils exhibited a slightly acidic to slightly alkaline pH with high levels of organic carbon, available phosphorus, base cations (K, Ca, Mg and Na) and a diverse group of fertility indicator	S.B. Mekbib, A.O. Olaleye, M. Johane and T. Wondimu "Indigenous knowledge to address the challenges of climate change: Case of Machobane Farming System in Lesotho" in Mafongoya, P.L. and Ajayi, O.C. (editors), 2017, Indigenous Knowledge Systems and Climate Change Management in Africa, CTA, Wageningen, 96 East African Journal of Education and Social Sciences (EAJESS) 5(6), 90-97.
AF077	**Project HEPA: Communication of Indigenous Voices of Southern Madagascar**	Antandroy	Madagascar	Africa	observations & impacts, traditional knowledge, multimedia, storytelling, food security	In 2007 and 2008, Panos London, in collaboration with the Andrew Lees Trust (ALT) and Living Lens, worked with communities from the south of Madagascar to produce a series of films and life stories that show how indigenous people have learned to employ multiple strategies to survive in the face of environmental degradation and a changing climate. The project trained men and women from several communities to record oral testimony interviews and films from their friends, neighbours, and families. It aimed to provide communities with a platform to share their experiences and knowledge and to voice their concerns and priorities for the future. The project's ongoing objective is to ensure that responses to climate change and future development in the region will be informed by indigenous people's experiences, priorities, and reality. This project is funded by the International Fund for Agricultural Development (IFAD). Panos London's video "Sorghum: A Crop of our Ancestors" discusses sorghum, a crop of the Antandroy and is part of its people's heritage. It had all but disappeared until recently – replaced by donations of corn during the drought. Lost to most, but never forgotten, sorghum is making a comeback in Androy. Many farmers are eager to rediscover the crop which proves to be very resistant to drought.	Panos UK, http://www.panos.org.uk/survivalstrategies, http://www.comminit.com/en/node/275757
AF078	**Andavadoaka and Octopus Fishing**	Vezo fisherpeople	Madagascar	Africa	adaptation, traditional knowledge, livelihoods, tourism, food security, oceans & coastal	The Vezo fisherpeople of Andavadoaka, Madagascar, faced a signi ficant decline in local octopus populations due to economic and environmental stressors, including warming ocean temperatures and over fishing - both linked to climate change. In response, community leaders collaborated with marine conservationists to develop an adaptive management plan that combines Vezo traditional ecological knowledge with scienti fic research. This included seasonal bans on octopus harvesting, which have since improved catch sizes and population recovery. The initiative also led to the creation of a locally managed marine protected area (MPA) network across 12 villages and fostered eco-tourism to diversify livelihoods, strengthening local resilience to environmental change. The project illustrates community-led adaptation to climate-induced marine biodiversity loss and livelihood threats.	Equator Prize 2004; http://www.blueventures.org/research_andavadoaka.htm
AF079	**Adaptation to Climate Change by Mphunga Villagers in Malawi video**	Mphunga village	Malawi	Africa	adaptation, food security, agriculture, extreme events, multimedia	This is a participatory video project by the Malawian Red Cross Society addressing the effects of climate change on subsistence farmers in Malawi. The Mphunga community is building resilience by adapting community activities in simple ways such as substituting maize crops with rice and replacing chickens with ducks (in a flood ducks float and chicken drown).	World Bank Social Development, http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALDEVELOPMENT/0,,contentMDK:21919339~pagePK:210058~piPK:210062~theSitePK:244363,00.html

AF118	**A Case of Chagaka, Mpasu and Mphampha villages in Chikwawa district, Malawi**	Sena and Mang'anja	Malawi	Africa	adaptation, mitigation, arid lands, traditional knowledge, forecasting, agriculture	This case study presents results on the application of IK in climate change mitigation and response in three areas in Malawi, namely, Chagaka, Mpasu and Mphampha villages in Chikwawa district. Chikwawa is a semi-arid district in the southern region of Malawi, which is vulnerable to climate variability. The results revealed the various forms of traditional indicators used in IK, including environmental conditions and certain patterns of flora. This has impacted smallholder farmer crop and livestock production through changes in cropping patterns and declining yields. This case study recognises the existing challenges of managing physical weather stations and suggests the use of localised automated weather stations. Sorghum production is preferred for food and commercial purposes (though market opportunities are rare) due to its tolerance to many climatic risks relative to other crops. Crop diversi fication is also integrated within farming systems to reduce risk and improve yields in such unpredictable weather conditions. In the context of livestock production, farmers are now stocking a higher diversity of animals than they would have been 10 years ago, to reduce risk and increase income diversi fication. The villagers also refer to the timing of flowering and fruiting, as well as to the fruit production of certain tree species to predict weather and climate. However, there	M. Joshua, C. Ngongondo, M. Monjerezi, F. Chipungu and C. Malidadi (2017). "Relevance of indigenous knowledge in weather and climate forecasts for agricultural adaptation to climate variability and change in Malawi" in Mafongoya, P.L. and Ajayi, O.C. (editors), 2017, Indigenous Knowledge Systems and Climate Change Management in Africa, CTA, Wageningen, 96 East African Journal of Education and Social Sciences (EAJESS) 5(6), 90-97.
AF080	**Schistosomiasis prevention in Africa: Using Balanite aegypiaca to decontaminate water**	Tuareg (Mali), Fulani (Mauritania)	Mali	Africa	adaptation, health, traditional knowledge, water resources	Changes in parasite distribution, accompanied by increase in the occurrence of vector- and tick-borne disease, have been identi fied as a central potential consequence of climate change. Modern medical methods are often too expensive and complicated to be applied in the context of small communities. It may thus be necessary to apply traditional medical methods to combat parasite occurrence and to maintain human and livestock health. In this case study, Balanites aegyptiaca (a small tree) is used to decontaminate water infected with host snail populations carrying schistosomiasis (also known as Bilharzia or snail fever). There are numerous examples of the use of B. aegyptiaca as a pesticide by Indigenous peoples in these areas, such as the Tuareg in Mali and the Fulani in Mauritania. Extending this knowledge has shown that B. aegyptiaca can be applied in a solution made from the fruits and introduced to the water that needs to be decontaminated. B. aegyptiaca is a drought-resistant tree found in all dry lands of Africa, in drier regions of Asia and in the Middle East, as well as in some parts of Central and Southern America. It is also known as Ximenia aegyptiaca, desert date, myrobolan, heglig, arraronyit, baddan, adhto, tiborak, ol-ngoswa or soapberry tree and has well-documented pesticidal properties.The fruits of	UNFCCC local coping strategies database, Project 173: http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=173
AF081	**Mali Indigenous Youth report to UNFCCC COP-28**		Mali	Africa	impacts, food security, forests, youth	Key Impacts: Climate change results in food insecurity, poor harvests, weakened livestock, and resource con flicts, contributing to displacement. Social Challenges: Faced with discrimination and violence (sometimes labeled as terrorists), communities also endure deforestation and frequent droughts. School closures occur when children must assist with domestic work. Needs: Strengthened support systems and livelihood restoration are urgently required.	Summary Report COP 28
AF115	**Banc d'Arguin National Park: adaptation options and pathways for coastal natural heritage**	Imraguen	Mauritania	Africa	adaptation, two-eyed seeing, infrastructure, flooding, food security	In Mauritania's Banc d'Arguin National Park, the Imraguen Indigenous people are adapting to climate change - most notably sea -level rise and shoreline change that is already flooding low -lying areas - while co-managing the park's fisheries and biodiversity. Participatory maritime surveillance teams pair an Imraguen representative with park rangers and the Coast Guard to enforce co -agreed rules such as the ban on motorized boats and seasonal/gear limits, blending traditional knowledge with science and law. At village level, the Imraguen have identi fied and implemented locally feasible adaptation measures - from sandbag protection to elevating houses/infrastructure and, where necessary, planned retreat - to reduce climate risk while sustaining culture and access to fishing grounds.	ODI Working Paper (2024). Heritage adaptation to climate change. https://media.odi.org/documents/Heritage_adaption_to_climate_change.pdf

AF082	**Argan Cooperative**	Amazigh	Morocco	Africa	impacts, adaptation, land use, traditional knowledge	Argan trees, culturally and spiritually central to the local Amazigh population, have historically sustained ecological stability by combating deserti fication, maintaining soil fertility, and supporting biodiversity, thus serving as a natural barrier against climate-induced droughts and land degradation. However, the argan forests face severe threats from climate change, notably prolonged droughts pushing these resilient trees to their limits, as well as pressures from land-use change and urbanization. The establishment of argan tree cooperatives of Morocco's Souss region since 1996 has been transformative, empowering women economically and socially, and emphasizing practices that sustainably manage and protect argan forests. The cooperatives are predominantly run by Amazigh women, and demonstrate how traditional ecological knowledge and cultural practices signi ficantly enhance community resilience to climate change impacts. However, despite their successes, global commodi fication of argan oil presents further challenges, including resource exploitation by multinational corporations and inequitable economic practices.	LCIPP Annual Youth Round Table Dialogue
AF083	**High Atlas pastoralists adapt with traditional knowledge**	Ilemchane (Amazigh)	Morocco	Africa	pastoralism, traditional knowledge, drought, water resources, adaptation	The herders in a pastoral Amazigh community in Morocco's High Atlas uses their TEK – including detailed biophysical observations and adaptive practices – to underpin their strategies for managing climatic and social changes	María E. Fernández-Giménez, Ahmed El Aich, Oussama El Aouni, Ilhame Adrane, Sou fiane El Aayadi. Mountain Research and Development 41(4), 2021 (pp. R61–R73). DOI: 10.1659/MRD-JOURNAL-D-21-00028.1.
AF084	**Ocean Revolution Moçambique**	Indigenous Peoples of Inhamban e Bay	Mozambique	Africa	land use, oceans & coastal, traditional knowledge, two-eyed seeing	Ocean Revolution Moçambique has been revitalizing the ways that the Indigenous Peoples of Inhambane Bay have coexisted with the sea; to find, mentor and network new activists; and to protect and honor the ocean as a source of wealth. This organization preserves and protects vital mangrove and seagrass habitats in the Inhambane Bay using historical Indigenous practices. One is the Mozambican concept of "Mukhedzisseli" or practical wisdom, cultural and spiritual rules passed from generation to generation to set the relationship between human beings and nature. By empowering local community members to be certified divers, facilitating environmental education programs, and supporting local women to pursue higher education in marine conservation, they have developed an inclusive, nature-based economy in this critical ecosystem in coastal Mozambique. For example, Bitonga Divers and Ocean Revolution support students to pursue a Master's in Marine Biology and Coastal Management at the prestigious Eduardo Mondlane University. Through their work, the initiative has bridged modern science and community traditional knowledge to effectively create jobs in marine science and tourism that restore Inhambane Bay.	https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf
AF085	**Nwadjahane village, Gaza Province, Mozambique: learning to adapt to change and extreme weather events**	Nwadjaha ne	Mozambique	Africa	adaptation, livelihoods, con flict, adaptation, economic, bene ficial effects, food security	In the community of Nwadjahane in Gaza Province in southern Mozambique, adaptation to a changing climate has emerged through bartering labour and goods during floods and droughts. Social networks and traditional resilience strategies such as mutual labour exchange are revitalised to manage weather extremes. Social networks are the links and connections that individuals and households have with family, neighbours and friends. Within Nwadjahane, these have evolved and changed over the last 20 years. A fundamental shift is from paying people with cash in exchange for help with tasks on the farm, to 'traditional' forms of noncash bartering, such as exchanging labour. Villagers explain that this is due to the combined drivers of less cash within the local economy (linked to wider economic processes) and the perceived increase in the number of weather-related disturbances. Increasingly frequent and severe droughts, floods, and storms have led to either less cash being available from crop sales, or simply the need for more labour to replant or repair damaged crops or farm infrastructure. One of the recognised positive outcomes from this shift is an increased sense of solidarity with neighbours.	ADAPTIVE, http://www.geog.ox.ac.uk/research/arid-environments/projects/adaptive/pdfs/8_use_Nwadjahane_village.pdf

AF086	**Using the landscape to spread risk**	Nwadjahane	Mozambique	Africa	adaptation, agriculture, food security, traditional knowledge	Villagers in Nwadjahane farm both the fertile lowlands through irrigation and the higher sandy dryland fields. Increasingly severe floods and droughts over the last two decades have increased demand from households for plots of land in both areas. While the lowland can produce good crops of rice, vegetables and potatoes, these can be destroyed during floods. Highland areas can produce good crops of maize and cassava during flood years. However, during drought years the highlands are less productive and families rely on lowland production. Households with land in just one area have started to develop informal farming associations to lobby those responsible for land allocation. They've successfully managed to gain access to new areas to farm. This is especially important for very poor households as it enables them to share some of the production costs and risks, thus increasing their overall resilience to both droughts and floods. A lesson for development agencies is that external support to these farming systems needs to be careful not to favour one type of farming over another as it is the combination that provides resilience to climatic disruptions. These farming associations have become the focus of innovative and experimental farming practices. By working in groups, villagers are able to spread the risk of new practices and technologies and learn for themselves through trial, error and experimentation. When successful, farmers have been able to take the lessons learnt back to their	David Thomas, Henny Osbahr, Chasca Twyman, Neil Adger and Bruce Hewitson (2005): ADAPTIVE: Adaptations to climate change amongst natural resource-dependant societies in the developing world: across the Southern African climate gradient Tyndall Centre for Climate Change Research Technical Report 35, November 2005 http://www.tyndall.ac.uk/research/theme3/final_reports/t2_31.pdf
AF087	**Selecting and storing seeds for flood management in the Xai-Xai District**	Tsonga	Mozambique	Africa	adaptation, agriculture, food security, traditional knowledge, flooding	This initiative documents how traditional seed-saving customs enhance resilience to floods. Marriages include seed exchange, and agro-ecological seed flows between uplands and lowlands help maintain diversity. The rural people in Xai-Xai District, Mozambique have developed traditional seed systems which become especially important in times of floods to ensure food security. Following floods, seed flows between lowland and adjacent uplands in flood affected areas are necessary. The physical and social closeness of lowlands and adjacent upland areas allows contact and exchange of seeds and planting materials between the two kinds of agro-ecologies. Such seed exchange is essential especially in years when seeds are lost (e.g. due to drought in uplands or flood in lowlands). The area has long been exposed to modern varieties and what farmers grow may have originated from commercial seeds. However, since farmers consistently save their own seeds and do some selection, any introduced variety is likely to have been more or less naturalised. When a girl is married her mother may stock her with seeds that she takes with her when she moves to her husband's home. Such customs facilitate some movement of seeds between villages. Following floods, seed flows between lowland and adjacent uplands in flood-affected areas are necessary. The physical and social closeness of lowlands and adjacent upland areas allows contact and exchange of seeds	UNFCCC Database on local coping strategies, Case Study 157: http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=157; Trygve Berg, Fernando Dava and Judite Muchanga (2001), Post-disaster rehabilitation and seed restoration in flood affected areas of Xai-Xai District, Mozambique, FAO. http://www.fao.org/sd/2001/PE0302a_en.htm
AF088	**San community conservancies for climate resilience**	Ju'/hoansi San (Bushmen)	Namibia	Africa	community conservancy, land rights, wildlife management, livelihoods, adaptation	In Namibia, Indigenous San communities have implemented a community conservancymodel that mitigates climate stresses and secures livelihoods. Since 1998, the Ju'/hoansi San of Nyae Nyae Conservancy have managed their ancestral land collectively, gaining rights to sustainably use wildlife and forest resources. This arrangement – part of Namibia's community-based natural resource management – allows San members to share revenue from regulated safari hunting and ecotourism	Hitchcock, R. K. (2020). The plight of the Kalahari San: Hunter-Gatherers in a Globalized World. Journal of Anthropological Research, 76(2), 164–188. DOI: 10.1086/708394

AF089	**Improving tassa planting pits using indigenous soil and water conservation techniques to rehabilitate degraded plateaus in the Tahoua region of Niger**	Haussa	Niger		Adoption index; extension implication; irrigation; Zai farming, traditional knowledge, adaptation	The programme builds upon indigenous techniques of soil and water conservation, like rows of stones and traditional planting pits to rehabilitate degraded plateaus, and has improved soil and water conservation. Historically, most soil and water conservation (SWC) projects in Niger have been concentrated in the hilly areas of the Tahoua region (450 kilometers east of the capital, Niamey). This region is called the Ader Doutchi Maggia, and has densely populated pockets. Its fertile valleys alternate with badly degraded plateaus. In the past, the valley bottoms (fadama) were flooded regularly, and the floodwaters deposited fertile sediments each time. However, vegetation on the valley slopes is now badly degraded, which means that water rushes down the slopes and causes damage downstream. Large and small gullies have appeared on the slopes and in the valley floors, concentrating and speeding up the runoff. As a result, floodwater rarely spreads out slowly (e'pandage de crue), as it did in the past. Since the early 1960s, several SWC projects have intervened to treat valley slopes and/or plateaus. The most commonly used technique is the construction of contour earth bunds, which are often carpeted with stones to protect them from wind and heavy rainfall. The construction of contour earth bunds (fosse's ados) is often combined with subsoiling. Until recently, most SWC projects carried out in this region completely ignored the techniques traditionally used by local	UNESCO MOST Best Practices on Indigenous Knowledge Programme, BP.10, http://www.unesco.org/most/bpik10.htm
AF090	**Pastoral livelihoods and climate change**	Wodaabe pastoralists	Niger	Africa	adaptation, food security, mobility, cultural practices, multimedia	Pastoralists live in a context of environmental uncertainty and have developed a diverse range of strategies, institutions and networks to exploit this unpredictability and risk to their advantage. Field work in eastern Niger has been completed documenting the differentiated impact of climate change on six different pastoral communities, the strategies they are using to respond and which of these are successful and why. Central to the research is also gaining an understanding of the role of politics and the extent to which Niger's policy environment helps build the resilience of local communities to adapt to climate change and to what degree differences of gender, ethnicity and residence impact on communities'capacities to adapt. In addition, a film has been produced documenting the economic exploitation of environmental unpredictability by Wodaabe herders in Niger. The film presents in the lives of two families the rationale underpinning their mobility patterns: the harvesting of unstable concentrations of nutrients on the range by carefully built teams of cattle versed in the 'art' of feeding selectively, and the proactive and systematic creation of economic value rather than mere survival.	Steve Anderson and Marie Monimart, 2009: Recherche sur les stratégies d'adaptation des groupes pasteurs de la région de Diffa, Niger oriental , IIED, http://www.iied.org/pubs/pdfs/G02725.pdf; "Ngaynaaka: Herding Chaos", IIED, http://www.iied.org/climate-change/key-issues/drylands/pastoralism-videos; Diffa, les premiers matins du monde, IIED, http://www.iied.org/climate-change/key-issues/community-based-adaptation/diffa-morning-light
AF091	**The Ogoni of Nigeria (communication)**	Ogoni	Nigeria	Africa	observations & impacts; policy & governance; mining	The Ogoni people are an indigenous majority ethnic group in Rivers State, in Nigeria . The discovery of oil led to the establishment of an oil re finery in Alesa Eleme in Ogoniland, but precariously followed by adverse environmental outcomes and community protests against Shell, an oil mining company allegedly polluting leading in polluting the environment. Highlighting how the indigenous knowledge within the Ogoni leadership structures addresses environmental issues and other related environmental issues, Shell reported that "in 2016, (Shell) collaborated with local community leaders, traditional rulers and state governments in the Niger Delta to raise awareness among youths of the environmental and health risks of interfering with pipelines" . This explains the importance of indigenous knowledge in leadership structure in proffering solution to environmental problems in Ogoni communities. The Ogoni people have in place their own means of communication which helps them to share information and knowledge on how to address issues in their communities. They convene the meetings which are used as platform for discussing environmental issues affecting them, including the dangers of oil extraction faced on the environment. Apart from that, the Ogoni people have some cultural beliefs and practices that guide their attitudes and practices towards the natural environment. For instance, they believe that their	Dummene, L.D. (2023) Exploring the Impacts of Ogoni/African Indigenous Knowledge (AIK) in Addressing Environmental Issues in Ogoniland, Nigeria. Open Access Library Journal, 10, 1-15. doi: 10.4236/oalib.1109960. Shell in Nigeria (2019) Shell in Nigeria: Brie fing Notes. April 2019. Gulf of Guinea: Nigeria, Pg 37 in Dummene L.D. (2023), op cit.
AF093	**Climate change impacts on agriculture and barriers to adaptation technologies among rural farmers in Southwestern Nigeria**	Yoruba farmers	Nigeria	Africa	Land use; Water, adaptation, barriers, gender	Local communities report erratic rainfall, rising temperature, and pest proliferation on staple crops such as yam and maize. While farmers acknowledge theclimate risks, they face obstacles like limited capital, inadequate extension services, and gender-based constraints.	Ayanlade, A., Oluwatimilehin, I. A., & Ayanlade, O. S. (2024). In V. Reyes-Garcia et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 259–272). Routledge.

AF094	**Effects of Deserti fication on Arab-Berber Relations**	Arab and Berber communiti es in the Sahara	North Africa	Africa	climate impacts, con flict, deserti fication	As global warming increasingly affects global ecosystems, low-level regional con flicts become more susceptible to escalation. Scientists have seen the Sahara in North Africa expand in recent years at alarming rates as deserti fication and overgrazing has exacerbated water and wind erosion as well as increased soil salinity. This accelerated degradation is forcing nomadic tribes, such as the Berbers, to become more sedentary and urban, further magnifying the pressure on local resources. Taking into consideration the well-established history of Arab-Berber violent con flict in the region, continued deserti fication of the Sahara will undoubtedly lead to further and more widespread violence as people come into competition over decreasing arable land and resources. This case study examines these variables with the aim of analyzing the potential for increased con flict among Arab and Berber populations in the Sahara region.	Phillips, Jon. "Effects of Desertification on Arab-Berber Relations." ICE Case Studies. 9 Mar. 2007. Inventory of Con flict and Environment, http://eagle1.american.edu/~jp3501a/berber.htm
AF095	**Drought forces Tuareg desert nomads to settle down in fixed sites**	Tuareg nomads	North Africa	Africa	climate change; drought; migration; displacement; health; health care; Horn of Africa; Somalia; Ethiopia; Kenya; knowledge needs	For centuries, the Tuareg people have lived as nomads, herding their animals from field to field just south of the Sahara Desert in Mali, near Timbuktu. Rainfall in this semi-arid area is becoming increasingly unpredictable, with changes in timing, frequency and the amount of rainfall. Temperatures are rising gradually. There have been several severe droughts since 1973, causing massive loss of livestock. Climate change is having a major impact on the natural grasslands, resulting in the spread of the desert and the loss of soil fertility. But over the past 40 years, persistent drought has forced the Tuareg to start settling in villages and cultivating land to secure a food supply which is less susceptible to drought. The Tuareg diet has changed from one of meat and cheese to one with more grains and vegetables. Jeunesse En Mission Entraide et Développement (JEMED) has been helping communities to establish 'fixation sites' since 1990 to enable them to survive the changes that the spread of the desert and increased population have brought. These fixation sites do not settle people permanently, but build upon a tradition that the Tuareg would spend part of each year camped in a particular place. They also enable communities to develop a social infrastructure and education, training, health and pasture management projects, while still keeping hold of many of their traditional pastoral ways. Women and children are increasingly staying at the sites while a portion of the men move with the animals during the	Woodke, J (2008), TILZ, The impact of climate change on nomadic people http://tilz.tearfund.org/Publications/Foot-steps+61-70/Footsteps+70/The+impact+of+climate+change+on+nomadic+people.htm; Harris, R (2007), NPR, Drought forces desertnomads to settle down, http://www.npr.org/templates/story/story.php?storyId=11608264
AF096	**Local agricultural adaptation to climate stressors in Southeast Senegal**	Bassari	Senegal	Africa	adaptation, food security, livelihoods, barriers	Bassari farmers must cope with drought, irregular rainfall, and soil depletion while also facing pressures from development programs and market-oriented agriculture. They adapt by diversifying crops, adopting or rejecting new seeds and techniques, and performing rituals to in fluence rainfall. Gender and access to resources signi ficantly shape who bene fits from changes (e.g., cotton introduction).	Porcuna-Ferrer, A., Guillerminet, T., Klappoth, B., & Schlingmann, A. (2024). Agricultural adaptation to multiple stressors in a climate change context: a case study in south-eastern Senegal. In: V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 227–243). Routledge.
AF097	**Climate adaptation through agricultural knowledge in Sereer communities**	Sereer	Senegal	Africa		adaptation, bene ficial effects, food security, cultural practices	Sereer smallholder farmers in the Fatick region of Senegal respond to climatic variability through strategic management of sorghum crop diversity. Varieties are cultivated using staggered planting schedules and spatial dispersion across diverse field types, enabling the farmers to spread risk and ensure food production even under erratic rainfall conditions. Farmers' decision-making is influenced by seasonal forecasting, collective memory of past climate events, ritual knowledge, and gendered roles in seed selection and conservation. The research draws on qualitative data from 2015–2016, including in-depth interviews, field observations, and participatory workshops with 60 households across three villages.

AF098	**Protecting the Gola Forests in Sierra Leone through conservation concession**	Ngoleagorbu	Sierra Leone	Africa	adaptation, forests, conflict, policy & governance	In partnership with RSPB and the Sierra Leone Government, seven chiefdoms opted for a conservation concession to protect the Gola Forest, halting logging post-conflict. Communities gain royalties and development project funding in exchange for stewardship. Most of the work in the Gola Rainforest is supported by the Gola REDD+ Project. The first of its kind in West Africa, this project was launched in 2013 and uses the sale of carbon credits to generate income for conservation over a 30-year period. It is an Avoided Emissions project, ensuring around 19 million tonnes of carbon remain locked within Gola's forests and safeguarded through sustainable management, reducing emissions by approximately half a million tonnes of CO_2e annually which would have been emitted in the absence of this project. The carbon credits generated by the conservation of the rainforest are validated by the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Alliance (CCBA). The project supports forest-friendly, sustainable commodity production and has established 42 cocoa farmer groups with over 1,500 registered cocoa farmers, specifically indigenous Ngoleagorbu people.	Gola Rainforest. https://golarainforest.org/gola-redd-project Malan, M., Carmenta, R., Gsottbauer, E. et al. Evaluating the impacts of a large-scale voluntary REDD+ project in Sierra Leone. Nat Sustain 7, 120–129 (2024). https://doi.org/10.1038/s41893-023-01256-9
AF099	**Climate Resilient Agriculture in Somalia (Ugbaad)**	Pastoralist Somali clans and the Somali Bantu minority	Somalia	Africa	Adaptation; Agriculture; Pastoralism; Food security; project	The largest climate adaptation project in Somalia's history, focusing on building resilience for pastoralists and farmers. It targets nomadic herders in arid rangelands and marginalized farming communities (Somali Bantu) along rivers, helping them adapt to intensifying droughts and floods. The project restores productive landscapes – rehabilitating degraded rangelands, expanding water harvesting, and introducing climate-resilient crops – to sustain livelihoods under climate stress. Traditional pastoral knowledge (such as seasonal grazing rotation and drought survival strategies) is integrated with new techniques (drought-tolerant seeds, soil moisture conservation). Community-based "rangeland councils" (drawing on Somali customary law, Xeer) guide implementation to ensure it aligns with local norms. By project's end, over 2 million people are expected to have improved food security and income stability. Under implementation 2025–2031, with GCF grant of USD $79.7 million.	FP246: Climate Resilient Agriculture in Somalia (Ugbaad). https://www.greenclimate.fund/project/fp246
AF100	**Coastal clan wins legal victory to protect sacred seas**	amaDingata (Mpondo) fisherfolk	South Africa	Africa	legal action, coastal, cultural heritage, mining, mitigation	Along South Africa's Wild Coast, the amaDingata clan (part of the amaMpondo people) led a landmark legal action to stop offshore oil and gas exploration in their ancestral waters. When Shell announced seismic testing in 2021, Indigenous fishing communities - who depend on the ocean for food and spiritual practice - joined with advocacy groups to challenge it in court	Christianson, B. (2024, Oct 25). Defending the ancestors against Big Oil. Al Jazeera
AF101	**Khomele Village: Coping with Drought and Rainy Season Change**	Khomele community	South Africa	Africa	adaptation, drought, food security, livelihoods, social networks	Households in Khomele Village use family ties, women's associations, and seasonal labour migration to navigate a shifting climate regime. Observed changes to climate include increasing risk of drought; Unpredictable and shorter rainy season; Longer and more intense dry season; risk of occasional intense rainfall events; Drying leads to unproductive soils because 'nutrients are trapped in the clay soils'; Decreasing quality of the rangeland through drought and degradation with more unpalatable grasses. Responses include Reliance on family and friends to provide assistance; Selling of assets, such as smallstock and chickens; Local piece work, petty trade or hawking of goods such as craftwork, clothes, vegetables, fruit, firewood) for cash or gifts in-kind; Applying for government financial support to sustain the livestock business (e.g. compensation for cattle that have perished, subsidised feed for up to 30 head of cattle, sale of cattle at a fixed 75% price); Eating of wild fruits. Khomele's success at cooperation and specialisation is based on high levels of agency (extension service, strong local leadership, women's groups), attention to bettering oneself through education or business, and strong ties with urban areas. In particular, large households have more receive ties, whereas small households resort to temporary migrant work and non-cash exchange mechanisms. The role of associations maintain these	Tyndall Centre for Climate Change, ADAPTIVE (Adaptation to climate change in vulnerable environments) Research Notes #6, Khomele village, Limpopo Province, South Africa: learning to adapt to pervasive drought and changes in the rainy season, http://www.geog.ox.ac.uk/research/arid-environments/projects/adaptive/pdfs/6_use_Khomele_village.pdf

AF102	**Mantsie Village: living with regular drought**	Mantsie community	South Africa	Africa	adaptation, drought, livelihoods, food security, gender	This entry details how Mantsie residents adapt to mini-droughts through neighbourhood support groups, non-cash exchange, and matrilineal ties. Large households fare better. Weak governance and high crime reduce long-term adaptive capacity. The community in Mantsie village report that the traditional seven-year drought patterns no longer occur. Instead, they believed seasons to be unpredictable, with frequent mini-droughts, corresponding to the climate records. A need to build resilience to poverty and food insecurity because of drought, poverty, unemployment and a lack of water makes matrilineal ties and neighbourhood support groups important for households in Mantsie. Large households are stronger able to make and maintain these social ties, often through non-cash exchange, giving them a higher adaptive capacity. Informal neighbourhood institutions provide support and advice during times of dif ficulty, help livelihood specialisation, and offer links for temporary migrant work. While Mantsie has a high ratio of reciprocity and number of active ties, weak solidarity, ineffectual leadership and high levels of crime may reduce the villagers' capacity to adapt to future change.	Tyndall Centre for Climate Change, ADAPTIVE (Adaptation to climate change in vulnerable environments) Research Notes #5, Mantsie village, NorthWest Province, South Africa:living with regular drought, http://www.geog.ox.ac.uk/research/arid-environments/projects/adap-tive/pdfs/5_use_Mantsie_village.pdf
AF103	**Mcitsheni Village: Gendered Resilience through Horticulture**	Mcitsheni community	South Africa	Africa	adaptation, food security, livelihoods, women	Women-led vegetable gardens in Mcitsheni village have helped to reduce food insecurity amid unpredictable weather. Formation of community horticulture projects to reduce food insecurity (by reducing vulnerability to unpredictable weather). For example, potatoes can compensate for damaged rainfed maize harvests. The projects are popular with women, who are able to build on their strong traditional networks forming groups based on friendship and trust. The most successful projects have smaller groups with larger families, allowing information to flow, trust to develop and members to be able to spend time in the garden. They have established penalties for non-participation. The projects have successfully been used as a way of entering the commercial market in larger towns. The projects have sparked an entrepreneurial culture (women have now been successful in accessing rants to formalise other traditional livelihood activities, such as dressmaking). Mcitsheni's successful responses to unpredictable climate, poverty, unemployment and food insecurity are a result of high levels of agency (extension service and well-connected individuals within the community), strong ties to urban areas (developed during the apartheid years), and the need to maintain flexible lifestyle choices. Processes of response are maintained by large household sizes and culturally accepted role of strongly gendered strategies.	Tyndall Centre for Climate Change, ADAPTIVE (Adaptation to climate change in vulnerable environments) Research Notes #7 Mcitsheni village, KwaZulu Natal Province, South Africa:adapting to increasing variability and intensity of climatic conditions, http://www.geog.ox.ac.uk/research/arid-environments/projects/adaptive/pdfs/7_use_Mcitsheni_village.pdf
AF104	**Examples of adaptation in Africa**	Swazi clans	South Africa	Africa	adaptation, drought, livelihoods, food security, gender	The Of fice of the Disaster Preparedness in Africa has collected examples of local community adaptation in Africa, including: — Soil management: shifting cultivation (lucabe) as well as intercropping, agroforestry and establishment of grass strips to promote preservation of soil; traditional use of wood ash for soil fertility maintenance; traditional names for describing soil fertility, for example, sidzakeni for fertile soil and esihlabatsini for sandy soil; — Biodiversity conservation: agroforestry encouraged conservation of soil, trees and wildlife which promoted biodiversity; establishment of grass strips promoted biodiversity;, traditional harvesting of wood barks ensured that the cambium layer of trees was not damaged; revered species were protected by names given to them, for example, Zizyphus macronata (umlahbantfu), used only for funerals and never to be found in homes; taboos were associated with plants to protect their abuse for household needs; Helichrysum odoratissimum (imphepho) was burnt to purify air as air an freshener; — Wildlife management: stories of humility and friendliness of some wildlife as a way of protecting weak animals from extinction included, for example, that the chameleon (lunwabu) was a messenger of peace from God that should not be harmed; timing of	Office of the Disaster Preparedness in Africa (ODPA) In UNEP (2004), Report of the Meeting of Coordinators of the Project on Capacity-Building through Partnership and Information and Communication Technology for Using Indigenous Knowledge for Nature Conservation and Natural Disaster Management in Africa, http://www.unep.org/depi/PDF/IKmeetingreport.pdf

AF105	**San Indigenous Youth report to UNFCCC COP-28**	San People	Southern Africa	Africa		Key Impacts: Severe drought leads to food insecurity and limited access to education. Mining and other extractive industries encroach upon Indigenous lands. Indirect Impacts: Climate mitigation measures (like conservation zones) restrict traditional practices (e.g., hunting), threatening cultural survival and livelihoods.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf
AF106	**Community based rangeland rehabilitation**	Nuba	Sudan	Africa	adaptation, drought, natural resource management, carbon credits	Since 1992, 17 villages implemented rangeland restoration through sand dune stabilization, livestock rotation, and windbreaks. The drought-prone Bara province is situated in western Sudan and is mainly composed of desert scrub vegetation and undulating sand dunes. The average rainfall is around 250 mm per year with signi ficant seasonal and inter-annual rainfall variability. The land is becoming increasingly degraded as a result of recurring droughts, cultivation of marginal lands, overstocking of livestock and fuelwood gathering. Since 1992 community based rangeland rehabilitation (CBRR) for carbon sequestration measurements have been implemented in 17 villages in central Bara province. These measurements mainly consisted of the implementation of simple model community-based natural resource management to prevent overexploitation of marginal lands and rehabilitate rangelands and the diversi fication of local production systems to ensure sustainability of the approach as well as to improve socio-economic conditions. The outcomes of the CBRR project were very successful. Over 700 ha of rangeland were improved. Other achievements of the project included: the establishment of local institutions to coordinate community natural resource management and community development activities, regeneration and stabilization of five km of sand dunes to halt expansion of the desert,	IISD, 2003. Sustainable Drylands Management. A Strategy for Securing Water Resources and Adapting to Climate Change. Livelihoods and Climate Change. Information Paper 3. Winnipeg, Canada. www.iisd.org/pdf/2003/envsec_livelihoods_3.pdf
AF107	**Breeding livestock in the Sahel: Preserving and improving the one-humped camel**	Rashaidi, Ana fi, Bishareen	Sudan	Africa	adaptation, food security, animal husbandry, biodiversity	Nomads breed their herds over many generations to make them fit in their often harsh and variable environmental conditions. This has produced many different breeds and contributed to the maintenance of bio-diversity in domesticated animals. These breeds have developed traits that are so speci fic to their natural environment that their genetic stock has become a valuable resource for breeding programs. While cryogenic conservation of semen preserves the genetic code, it does not carry the information related to appropriate live-stock husbandry of these breeds. The pastoralists still keep their animals on the very marginal lands of the Sahel. Their way of maintaining their cattle, goats, sheep camels and horses is a blueprint for husbandry practices in areas where other forms of land use can not sustain an ever growing population. Active selection for certain qualities is often limited to the male breeding animals, which are chosen with great discrimination on the basis of their dam's and other female relatives' performance, as well as disposition, conformation, colour and other varying criteria. The one-humped camel furnishes an excellent example for the various processes involved in the development of indigenous livestock breeds. Animal scientists have expressed the opinion that the camel differentiated very little since its initial domestication and that few distinct breeds exist. However, in the Sudan alone, at least a	UNFCCC Database on local coping strategies, Case Study 90 http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=90 Köhler-Rollefson (1993): Traditional pastoralists as guardians of biological diversity. In:IK Monitor Vol. 1(3) http://web.archive.org/web/20041211105339/www.nuf fic.nl/ciran/ikdm/1-3/articles/kohler.html

AF117	**Mvumi in Dodoma, Tanzania**	Gogo	Tanzania	Africa	adaptation, traditional knowledge, agriculture, arid lands	The Ugogo area in Mvumi Division is well known for its long history of droughts and famine. As a result, agro-pastoralists have had to depend much more directly than before on arable farming and more labour is now invested in crop production. The Gogo ethnic group, traditionally agro-pastoralists – though they live in a harsh and dry environment – have given great priority to farming as their major means of living. In the semi-arid communities, livestock provided a means of adaptation to the harsh climatic conditions as an alternative income source in case of crop failure. During the rainy season, cattle are kept near the homesteads. In the dry season, cattle are driven away from the homesteads in search of grazing water. Some fields are purposefully set aside to serve as grazing reserves for the dry seasons. The fields set aside for communal grazing areas are locally known as luwindo, whilst the privately owned lands that set aside for grazing are known as milaga. The agro-pastoralists in Mvumi area practised a system of shifting agriculture with the cultivation of millet on large plots, usually within a reasonable walking distance from their houses and near the valley bottoms. Accordingly, there were two categories of fields that were planted with grain crops. Firstly, the fields located near the homestead that could be fertilised with manure from the existing cattle pen, or from the pens of old homesteads; secondly, the bush fields that could be cultivated for two to three years before being left fallow.	E. T. Liwenga (2107). Indigenous knowledge practices for climate change adaptation Among agro-pastoral communities in the semi-arid areas of East Africa in Mafongoya, P.L. and Ajayi, O.C. (editors), 2017, Indigenous Knowledge Systems and Climate Change Management in Africa, CTA, Wageningen, 96 East African Journal of Education and Social Sciences (EAJESS) 5(6), 90-97.
AF108	**Hunter-gatherers protect forests via carbon credits**	Hadza (Tanzanian hunter-gatherers)	Tanzania	Africa	forest conservation, carbon finance, mitigation, community-based conservation	One of Africa's last hunter-gatherer peoples, the Hadza of Tanzania, have taken the lead in a pioneering climate mitigation project. Through a partnership with a social enterprise, they conserve ~100,000 hectares of ancestral woodland and sell veri fied carbon credits for the sequestered CO_2	Pearce, F. (2022, May 25). In Tanzania, Carbon Offsets Preserve Forests and a Way of Life. Yale Environment 360. https://e360.yale.edu/features/in-tanzania-carbon-offsets-preserve-forests-and-a-way-of-life
AF109	**The Maasai of Tanzania and Kenya (livelihoods)**	Maasai	Tanzania and Kenya	Africa	observations & impacts; adaptation; land use; food security; cultural practices; women	fication among indigenous pastoralists is widely regarded as a key enabler of financial inclusion and as an important copping strategy against climate change and its impacts. Accordingly, MWEDO is implementing a project which aims to increase access to food and nutrition through the promotion of agriculture as a business. The program also aims to increase knowledge and skills among Maasai communities about sustainable agricultural practices. Based on a grant to MWEDO, Maasai women in Longido district have started communally owned small vegetable gardens as part of agribusiness enterprises while simultaneously promoting food security and meeting needed nutrients to their families. Under sustainable agriculture, the project focus is on farming and livestock development, agri-business, land, and natural resources management. In Kenya, researchers have examined the extent to which the Maasai in the Sekenani Valley, North of the Maasai Mara National Reserve use plant medicine relative to time passage amid the changes resulting from modernity and attitudes towards drugs. The study highlights that the Maasai living in Masai Mara have seen a tremendous increase in visitors, which provides a major income stream for the country. Yet, the distribution of this wealth to the local communities has	Rainer W. Bussmann, Narel Paniagua Zambrana, Nick Wood and Sankairi Ole Njapit (2018). Knowledge Loss and Change Between 2002 and 2017 —a Revisit of Plant Use of the Maasai of Sekenani Valley, Maasai Mara, Kenya, DOI:10.1007/s12231-018-9411-9,

AF110	**Mount Elgon Carbon Offset Plantation and the Displacement of the Benet People**	Benet (Ndorobos)	Uganda	Africa	mitigation, displacement, land use, forests, legal action, policy & governance; lessons learned.	A carbon offset initiative in Mount Elgon National Park, Uganda, was launched in 1994 through an agreement between the Uganda Wildlife Authority and the Dutch Forest Absorbing Carbon Dioxide Emission Foundation. The project involved establishing eucalyptus plantations to sequester carbon and offset emissions from Dutch energy companies. Additional carbon credits were marketed through companies like GreenSeat to European customers. However, the Benet people, who were recognised by the High Court of Uganda in 2005 as Indigenous inhabitants of the area, experienced severe human rights abuses. After the park's designation in 1993, the Uganda Wildlife Authority forcibly evicted the Benet from their ancestral land. The evictions were violent and involved the burning of homes, destruction of crops, and restrictions on accessing forest resources critical for food, medicine, and cultural practices. Over 50 people were killed by park rangers in 2004. Despite the court ruling affirming their land rights, implementation has been lacking. The Benet remain in a state of protracted land insecurity, with limited access to resources and no meaningful bene fit from the carbon trading initiative. This case raises serious concerns about climate mitigation projects that exclude Indigenous leadership and violate Free, Prior and Informed Consent (FPIC).	UNPFII, 2008: Information received from Governments E/C.19/2008/5/Add.1; Kevin Smith, et al (2007), The Carbon-Neutral Myth: Offset Indulgences for your Climate Sins (Imprenta Hija de J. Prats Bernadas). Bintoora, A.K.K. and Matanda, R.G., 2017. Governance of forests: assessment of the resettlement of Benet/Ndorobos issues in the management of Mount Elgon National Park, Uganda. Asian Journal of Environment & Ecology, 5(2), pp.1-18.
AF111	**Baka bear witness to climate change damage video**	Baka people	West Africa	Africa	climate impacts, forests, multimedia	Living in the Central African forests, the Baka hunter-gatherers formed an organization called Okani (meaning "rise up" in Baka) to help train other communities in filming and story-telling techniques. This first film from the Baka People in Eastern Cameroon shows how they are coping with the impacts of climate change and the swift transformations of their habitat. "Trees are bearing less fruit; the soil has lost its moisture," a Baka hunter-gatherer says in the film. "Baka women love to fish. It's part of our traditions. But the stream is drying, and fish are dying: the Earth has changed."	UNDP http://content.undp.org/go/news-room/2009/may/indigenous-groups-bear-witness-to-climate-change-damage-.en; Youtube, 'Baka People: Facing Change in African Forests', http://www.youtube.com/watch?v=AgerTDO4r6M; Conversations with the Earth, http://www.conversationsearth.org. The Baka Belong To our Forest. [film] https://www.survivalinternational.org/campaigns/green-genocide
AF112	**Indigenous Knowledge and Disaster Risk Reduction in Zimbabwe**	Indigenous communities in rural Zimbabwe	Zimbabwe	Africa	observations & impacts, adaptation, traditional knowledge, food security, water, drought, forecasting, two-eyed seeing, policy & governance	Indigenous communities in Zimbabwe use traditional knowledge systems for disaster risk reduction and climate adaptation. In Chirumhanzu District, smallholder farmers have developed responsive strategies to manage the impacts of increasing droughts, erratic rainfall, and soil degradation. These include using ecological indicators like animal behaviour and plant phenology to predict weather patterns, guiding farming decisions. Water conservation techniques such as rainwater harvesting, wetland cultivation, and the communal grain storage system zunde ramambo enhance resilience.	Munsaka, E. and Dube, E., 2018. The contribution of indigenous knowledge to disaster risk reduction activities in Zimbabwe: A big call to practitioners. Jàmbá: Journal of Disaster Risk Studies, 10(1), pp.1-8. Grey, M.S., Masunungure, C. and Manyani, A., 2020. Integrating local indigenous knowledge to enhance risk reduction and adaptation strategies to drought and climate variability: The plight of smallholder farmers in Chirumhanzu district, Zimbabwe. Jàmbá: Journal of Disaster Risk Studies, 12(1), pp.1-10.
AF119	**Development of IKS in Bikita Community, Zimbabwe**	Karanga	Zimbabwe	Africa	adaptation, agriculture, food security, youth, indigenous knowledge	This case study presents findings on indigenous knowledge in a socio-cultural setting of the Bikita community. In this community, parents play a pivotal role in training their children to employ indigenous knowledge. Furthermore, people share indigenous knowledge through community gatherings, social groups and personal experiences. Village meetings, traditional ceremonies and funeral gatherings are the medium through which indigenous knowledge is shared and communicated in the community. In terms of the indigenous knowledge responses to climate change, the Bikita community farmers practice timing of planting of crops and the type of crops. Reservation of food is a notable feature of the IKS employed in the Bikita community as the local people strive to adapt to vulnerabilities resulting from climate change. The use of traditional farming practices, such as pfumvudza/intwasa (a kind of shifting cultivation) are the best strategies used to counter climate change. The rearing of small animals is also used as a way of reclaiming and rebuilding the national livestock. Goats and sheep are inherently more resilient to drought conditions as compared to cattle, which demands remarkable investment and larger pastures. Therefore, this ensures food security as the demand for meat and dairy products remain stable, regardless of change of rainfall patterns. Engaging into small livestock farming allows farmers to harness a small piece of land.	Liberty Takazira and Prince Dzingirayi (2024). "The Use of African Indigenous Knowledge Systems in Climate Change and adaptation in Zimbabwe" African Journal of Education and Social Sciences EAJESS Vol. 5, No. 6, pp. 90-97. ISSN: 2714-2132 (Online), 2714-2183 (Print). G-Card DOI: https://doi.org.
AF113	**Climate change impacts on agriculture, adaptation and resilience: insights from local farmers in South-East Zimbabwe**	Local Indigenous farmers, Chiredzi District	Zimbabwe	Africa	Land use; Water, adaptation, food security, barriers	Repeated droughts and higher temperatures have intensi fied pest outbreaks, livestock diseases, and decrease crop yields. Local farmers use indigenous methods for pest control (e.g., botanical extracts) and adapt by choosing drought-tolerant crops. However, limited financial resources, poor infrastructure, and constrained market opportunities undermine longer-term resilience.	Chakauya, R., Materechera, S. A., Jiri, O., Chakauya, E., & Machete, M. (2024). In V. Reyes-Garcia et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 273–286). Routledge.

AF114	**Tsholotsho CAMPFIRE Project: Community-Led Ecotourism and Climate Resilience**	Ndebele (Tsholotsho District)	Zimbabwe	Africa	adaptation, mitigation, bi	The CAMPFIRE programme (Communal Areas Management Programme for Indigenous Resources) in Zimbabwe enables Indigenous and rural communities to sustainably manage wildlife and land while generating income through ecotourism. In Tsholotsho District, the programme has become a leading model for integrating biodiversity conservation with climate resilience. Revenues from controlled sport hunting and photographic safaris—especially near Hwange National Park—are reinvested into community priorities such as water infrastructure, healthcare, education, and woodland protection. These outcomes directly support climate adaptation by enhancing ecosystem services, reducing degradation, and strengthening local capacities to cope with climate-related stressors. At the same time, the sustainable land-use practices reduce deforestation and preserve carbon sinks, contributing to climate mitigation. Tsholotsho's success is rooted in clear governance structures, bene fit-sharing mechanisms, and alignment with community-identi fied needs.	Chikuta, O., Russell, M. and Ncube, F., 2021. Ecotourism success story in Zimbabwe: The case of Tsholotsho CAMPFIRE project. The Dyke, 15(2), pp.1-12.
AF120	**Indigenous food security and gender in Zunde, Zimbabwe**	Shona	Zimbabwe	Africa	adaptation, mitigation, food secrity, traditional knowledge	This is an evaluation case concerning the practice of the Zunde raMambo concept (commonly referred to as Zunde) in four of Zimbabwe's 52 districts; (Mangwe, Lupane, Guruve and Hwedza). The four districts were purposively selected for the study because they still have a rich cultural heritage, use appropriate indigenous knowledge (IK), and are keen to adopt mitigation measures aimed toward food security. Traditional communities rely on traditional knowledge. Zunde is a social security system providing protection against food shortages to vulnerable families and is coordinated by chiefs. The revived Zunde practice is effective in reducing food insecurity in vulnerable communities. However, it is important to note that not all indigenous practices are bene ficial to the DRR of a local community; and not all indigenous knowledge can a priori provide the right solution for a given problem.	Wilfred Lunga (2016). Indigenous food security revival strategies at the village level: The gender factor implications, Journal of Disaster Risk Studies, DOI: 10.4102/jamba. v8i2.175

The Arctic

OLD-ID	Title	IP	Country	Region	Keywords	Summary	Further Information
AR001	**Arctic Climate Change Update 2021: Key Trends and Impacts**	Arctic Indigenous Peoples	__Regional Overview (IPCC)	Arctic	oceans & coastal, observations & impacts, traditional knowledge, policy & governance, bene ficial effects	Climate change has severely impacted Indigenous communities in the Arctic, threatening traditional practices such as hunting, reindeer pastoralism, and food storage. Warmer temperatures, changing wildlife migration patterns, and water intrusion into ice cellars have compromised traditional food sources, affecting food security and cultural resilience. For the Sámi people, extreme snowfall and rain-on-snow events have led to signi ficant reindeer losses, disrupting pastoral practices vital for their livelihood and cultural continuity. Communities are also adapting to challenges in traditional food storage, as melting permafrost jeopardizes the safety and effectiveness of ice cellars. This loss of storage capacity has led to food insecurity, prompting Indigenous communities to explore alternative storage solutions and advocate for improved infrastructure. While some Arctic communities have bene fited economically from increased tourism, development, and resource extraction previously hindered by ice coverage, these activities have created environmental costs and negatively affected traditional land users. Furthermore, inadequate infrastructure, poor disaster management, and insuf ficient planning have exacerbated the impacts of environmental disasters, emphasizing the urgent need for better adaptation and mitigation strategies to protect traditional livelihoods and ensure community resilience.	AMAP. (2021). Arctic climate change update 2021: Key trends and impacts. Arctic Monitoring and Assessment Programme (AMAP). https://www.amap.no/documents/download/6890/inline
AR002	**Climate Impacts, Adaptation and Vulnerability in the Arctic**	Arctic Indigenous Peoples	_Regional	Arctic	observations & impacts, adaptation, food security, forecasting,land use	Indigenous Peoples in the Arctic, such as the Inuit, Sámi, and other communities, are experiencing profound disruptions due to climate change. Rising temperatures have led to diminishing sea ice, altered wildlife migration patterns, and unpredictable weather conditions, directly impacting traditional practices like hunting, fishing, and reindeer herding. Thawing permafrost threatens infrastructure, leading to challenges in housing and transportation. These environmental changes not only jeopardize livelihoods but also pose signi ficant cultural and health risks, as traditional knowledge systems become less reliable in the face of rapid ecological shifts.	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.DOI: 10.1017/9781009325844
AR003	**Inuit Knowledge in Weather and Sea Ice Safety**	Inuit	_Regional	Arctic	adaptation, sea ice	Inuit hunters in Arctic Canada and Alaska blend Indigenous knowledge with modern weather and marine forecasts to travel safely on land, sea, and ice. This co-production of knowledge (community observations plus national weather service data) has improved local decision-making and reduced accidents	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG). (Chapter 18), p. 2713
AR059	**Sámi Indigenous Youth report to UNFCCC COP-28**	Sámi	_Regional	Arctic		Key Impacts: Industrial-scale logging and "green transition" projects (e.g., wind farms) threaten reindeer herding and disrupt Sámi culture. Human Rights Concerns: Ongoing violations (particularly in Norway), where developments proceed without Free, Prior, and Informed Consent. Appeal: Calls for climate solutions that uphold Indigenous autonomy and avoid perpetuating colonialism. Stresses the importance of inclusive dialogue and respect for Sámi rights and livelihoods.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf

AR004	**Sámi IoT Reindeer Collars 2.0**	Sámi herders (various siidas)	_Regional (Norway/ Sweden/ Finland)	Arctic	adaptation; industry; mining; forecasting; two-eyed seeing	The Sámi were some of the first people to use portable satellite phones when they appeared in the 1960s and early 1970s, and today they know that the internet offers important opportunities for learning and connecting. They are continuing to be at the forefront of these technologies to combat their changing climate. Sámi reindeer herders have introduced a new generation of IoT collars to track reindeer in real time, enhancing an age-old pastoral practice with modern tech. These smart collars send GPS locations and local weather data to herders' phones, alerting them if herds face harsh conditions (e.g., sudden blizzards or ice crust making forage inaccessible) or encroach on areas of industrial development (like mining sites). The data is visualized in a custom mobile app co-developed with Sámi elders, which incorporates traditional migration routes and calendar knowledge (eight-season cycle). By receiving early warnings, herders can proactively guide reindeer to safer grazing areas or negotiate with companies if animals near extractive sites. The system thus helps protect Sámi livelihoods and lands amid climate change and encroachment.	Dellinger, A. (2023). On the front lines of climate change, Arctic communities use tech to keep tradition alive . CNET (Nov 2023). https://www.cnet.com/science/features/on-the-frontlines-of-climate-change-communities-are-using-tech-to-keep-tradition-alive/
AR005	**Heterogeneity and Resilience of Human-Rangifer Systems**	Arctic caribou herders	_Regional (Arctic)	Arctic	observations & impacts, animal husbandry	The CircumArctic Rangifer Monitoring and Assessment Network (CARMA) is a group of scientists, managers and community people who have a common interest in the future survival of the northern Rangifer (caribou) herds. The goal of this project is to improve understanding of the relative resilience and vulnerability of regional Human-Rangifer Systems to climate change. Human-Rangifer Systems have historically provided and continue to provide keystone ecosystem services to indigenous residents, with Rangifers being the most important terrestrial subsistence resource of the Arctic System. CARMA is primarily focused on the status of most of the large migratory Rangifer herds, incorporating observations from community members, particularly Rangifer hunters. Climate change signi ficantly impacts Arctic caribou and reindeer populations, notably affecting migration patterns, habitat quality, and food availability. Changes in temperature and precipitation have led to altered snow and ice conditions, in fluencing herd movements and accessibility to critical feeding areas. Increased frequency of extreme weather events has resulted in harder snowpacks and ice layers, making it dif ficult for caribou to reach their food sources, causing declines in nutritional condition, reproductive success, and overall population health. These climate-driven stressors compound existing pressures from human activities	CARMA https://www.cclmportal.ca/organization/circumarctic-rangifer-monitoring-and-assessment-network Gunn, A. and Russell, D., (2015) Review of monitoring indicators for Rangifer in preparation for Arctic caribou status and trends reporting. https://carma.caff.is/images/_Organized/CARMA/Library/CBMP_Indicators_caribou_ final_for_EC_updated_July_2015.pdf
AR006	**Traditional Knowledge for Adaptation among Arctic peoples**	Arctic peoples	_Regional (Arctic)	Arctic	oceans & coastal, health & safety, adaptation, traditional knowledge, transport, food security	The generation and application of traditional knowledge in the Arctic region is evidenced in the ability of Inuit hunters to navigate new travel and hunting routes despite decreasing ice stability and safety; in the ability of many indigenous groups to locate and hunt species such as geese and caribou that have shifted their migration times and routes and to begin to locate and hunt alternative species moving into the region; the ability to detect safe sea ice and weather conditions in an environment with increasingly uncharacteristic weather; or the knowledge and skills required to hunt marine species in open water later in the year under different sea ice conditions. Although Arctic peoples show great resilience and adaptability, some traditional responses to environmental change have already been compromised by recent socio-political changes. Their ability to cope with substantial climatic change in future, without a fundamental threat to their cultures and lifestyles, cannot be considered as unlimited. The generation and application of traditional knowledge requires active engagement with the environment, close social networks in communities, and respect for and recognition of the value of this form of knowledge and understanding. Current social, economic and cultural trends, in some communities and predominantly among younger generations, towards a more western lifestyle has the potential to erode the cycle of traditional	Constable, A. J., Harper, S., Dawson, J., Holsman, K., Mustonen, T., Piepenburg, D., … & Waples, R. (2022). Climate change and the impacts on polar marine ecosystems and dependent communities. Nature Reviews Earth & Environment, 3(12), 961–977. https://doi.org/10.1038/s43017-022-00374-6 In: AR2 IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press., pp. 2319–2368, doi:10.1017/9781009325844.023.

AR007	**Reindeer Herders and the Polar View Initiative**	Arctic peoples	_Regional (Arctic)	Arctic	oceans & coastal, adaptation, forecasting, transport, food security, two-eyed seeing	Polar View offers integrated monitoring and forecasting services in the Polar Regions, as well as mid-latitude areas affected by ice and snow. Polar View uses satellite earth observation data from multiple satellites, in combination with 'ground truth' and sophisticated models and automatic tools, to deliver products that accurately illustrate the characteristics of the ice and snow on any given day. Arctic reindeer herders are facing the challenges of adapting to climate change as a warmer Arctic climate makes it harder for herds to navigate and find food. To help them adapt, the Polar View initiative is providing them with satellite-based snow maps. Snow is of paramount importance for reindeer herding because its quality determines whether reindeer are able to access the pastures that lie beneath it for much of the year. The Interna- tional Centre for Reindeer Husbandry (ICR) partnered with Polar View to examine how satellite observations could help by gathering information on snow and snow change in a timely and accurate manner for such vast circumpolar regions. Under the Polar View initiative, ICR has been receiving snowmelt maps for Norway and Sweden and snow cover maps for Eurasia. These products could have important consequences for herders' decisions regarding winter pasture quality and potential migration routes. Polar View snow monitoring services are assisting the Association of World Reindeer Herders understand and monitor changing snow conditions. Polar View is supported by the	Polar View website, http://www.polarview.org; European Space Agency (2009, April 10). Satellite Snow Maps Help Reindeer Herders Adapt To A Changing Arctic. ScienceDaily, http://www.sciencedaily.com/releaes/2009/04/090401102938.htm
AR008	**Arctic Borderlands Ecological Knowledge Co-op (ABEKC)**	Arctic peoples	_Regional (Arctic)	Arctic	oceans & coastal, observations & impacts, policy & governance, two-eyed seeing	The Arctic Borderlands Ecological Knowledge Co-op is a collaborative alliance of indigenous communities, First Nations, Inuvialuit organisations, co-management boards, government agencies, and university researchers. The Co-op is focused on the U.S.-Canada Arctic Borderlands - a region de fined by the range of the internationally migratory Porcupine Caribou Herd and its near-shore environment. The Co-op addresses concern for climate change, regional development, and contaminants with the central question, what is changing and why? Local observations on changes in weather, in most respects, mirror the recent findings of science-based research on northern climate change, especially as related to in-creases in summer storm surges and overall drying of taiga and tundra ecosystems. The Co-op has emerged as a model for collaboration in regional ecological monitoring, conducting annual interviews with local experts to inform co-management decisions and improve understanding of caribou ecology and the broader ecosystem. For example, prompted by Old Crow residents' reports of the drying of Crow Flat, research was conducted by Environment Canada to quantify the percentage of total net loss of surface water and establish the geographical extent of drying. Findings based on analysis of satellite imagery both con firm the perceptions of local experts, and indicate a 5% net loss of surface area of water since	Arctic Borderlands Ecological Knowledge Co-op: Community Based Ecological Monitoring Program. https://data.researchlicensing.ece.gov.nt.ca/Scienti fic/15030 Russell et al (2013). Arctic Borderlands Ecological Knowledge Cooperative: can local knowledge inform caribou management? Rangifer 33(2):71. DOI:10.7557/2.33.2.2530
AR009	**Community Adaptation and Vulnerability in Arctic Regions (CAVIAR)**	Arctic Region	_Regional (Arctic)	Arctic	adaptation, culture, health, animal husbandry	CAVIAR is a programme of interdisciplinary research to identify insights essential for the development of adaptive responses to changing conditions in the Arctic. It includes several projects. Research outcomes include a symposium on the health and wellbeing of arctic indigenous peoples that discussed the challenges to health and wellbeing caused by climate and environmental changes and by man-made and natural disasters as well as by increased economic development. For example, persistent chemicals such as polychlorinated biphenyls (PCB) and the insecticide DDT are accumulated in the Arctic and constitute a risk for human health and wellbeing; and polychlorinated biphenyls and DDT are found in abandoned barrels and substances buried in the ground that get released as permafrost thaws.	Climate Adapt. Community Adaptation and Vulnerability in Arctic Regions (CAVIAR). https://climate-adapt.eea.europa.eu/en/metadata/projects/community-adaptation-and-vulnerability-in-the-arctic-regions
AR010	**Sustaining Arctic Observing Networks (SAON)**	Arctice Indigenous Peoples	_Regional (Arctic)	Arctic	observations & impacts, two-eyed seeing	SOAN is a collective effort of 350 Arctic researchers, representatives of inter-governmental, national and subnational government agencies, representatives of indigenous peoples organizations, and residents of the Arctic. An IPY and Arctic Council project, SAON's work on monitoring and observing across interdisciplinary boundaries has contributed signi ficantly to moving closer to a pan-Arctic observing system. The SAON relies on information and advice from those who use observing data and information, those who operate observing sites, systems and networks, and those who provide data and information management services. Indigenous peoples of the Arctic contribute their traditional knowledge of flora and fauna to scienti fic research and provide community-based monitoring of the Arctic's living resources.	Arctic Council. (2021). Ten years of sustained Arctic observing. https://arctic-council.org/news/ten-years-of-sustained-arctic-observing/

AR011	**Exchange for Local Observations and Knowledge of the Arctic (ELOKA)**	Arctice Indigenous Peoples	_Regional (Arctic)	Arctic	Adaptation, traditional knowledge, disaster preparedness	The Exchange for Local Observations and Knowledge of the Arctic (ELOKA) is a collaborative initiative designed to document, preserve, and disseminate Indigenous knowledge and observations related to environmental changes in the Arctic. Established in 2006, ELOKA recognizes the critical value of traditional knowledge held by Indigenous communities, emphasizing that local observations can signi ficantly enhance scienti fic understanding of climate change and its impacts. Through an interactive digital platform, ELOKA enables Indigenous peoples to share firsthand accounts of shifts in ice conditions, weather patterns, wildlife behavior, and environmental health, creating an accessible knowledge base for researchers, policymakers, and community members alike.	ELOKA. https://eloka.nsidc.org/eloka
AR013	**Seeking compensation for violations of human rights**	Inuit	_Regional (Arctic)		observations & impacts, human rights, culture, displacement, awareness raising, policy & planning	In 2005, a group of Inuit in the Canadian and Alaskan Arctic presented a case before the Inter-American Commission on Human Rights seeking compensation for alleged violations of their human rights resulting from climate change caused by greenhouse gas emissions from the United States of America. The petition outlined many current effects of warming in the Arctic, including loss of sea ice (impacting on traditional practices and rendering traditional knowledge unreliable), snowfall changes (contributing to loss of traditional igloo building knowledge and culture), melting permafrost (causing relocation and affecting food security), among others. While the Inter-American Commission ultimately deemed the case inadmissible, its submission served to draw international attention to the threats posed by climate change to indigenous peoples.	Jodoin, S., Snow, S., & Corobow, A. (2020). Realizing the right to be cold? Framing processes and justice in the Inuit climate change movement. Law & Policy, 42 (1), 1–27. https://doi.org/10.1111/lapo.12142
AR014	**Just Transition or 'Green Colonialism'**	Sámi	_Regional (Finland, Sweden, Norway)	Arctic	oceans & coastal, observations & impacts, mining, legal action	Despite recent steps to strengthen legislation on consultations and collaborative processes with the Sámi People in Finland, Sweden and Norway, Sámi representatives still lack legal guarantees ensuring their meaningful participation and effective consultation over decisions on the proposed use of their traditional lands. A thorough analysis of Finland's, Sweden's and Norway's current legislation for this report shows that all three legal systems lack safeguards obligating decision-makers to obtain FPIC from Sámi before initiating land use projects, such as wind power and mining, that may signi ficantly impact their rights as an Indigenous People. The case studies featured (Fosen wind plants, Rönnbäck nickel mine, mineral exploration in Käsivarsi) demonstrate how inadequate legislation and policies can lead to years-long disputes with great personal costs for affected Sámi. The resulting uncertainty over current and planned land use is draining and frustrating for Sámi communities and hinders the development of their culture and traditional livelihoods. The national authorities' poor understanding of Sámi culture, power imbalances, and the limited opportunities for meaningful Sámi participation also challenge the realization of rights and the possibility to obtain legal redress for affected Sámi.	Amnesty International (2025). https://www.saamicouncil.net/documentarchive/report-just-transition-or-green-colonialism
AR015	**Climate change impacts on food security**	Inuit	_Regional Arctic	Arctic	oceans & coastal, adaptation, food security	Inuit communities are currently discussing how to adapt to the impacts of climate change, including potential changes in diet due to food availability and are implementing adaptive responses such as shifts in time and place of harvesting. In some regions such as Labrador, the Inuit have already made adjustments to the times of year during which they travel by land, and some have begun collecting winter wood and other supplies in the spring, instead of the fall, because the fall freeze-up is occurring later and is more dangerous. In addition, Inuit fishers are checking fishnets more frequently and carrying out harvesting activities earlier in the year. Inuit communities are also discussing the idea of community freezers to alleviate concerns of food security, and at the community level, heritage sites are being recommended to provide protection against erosion.	Ford, V (2008), Climate Change Challenges Faced by the Inuit, Special report in Development Outreach 2008 report on climate change
AR099	**Changing climate–walrus–human relationships in the Beringian region**	Arctic peoples	_Regional Overview	Arctic	oceans & coastal, observations & impacts, two-eyed seeing, food security	This paper presents and evaluates two perspectives on changing climate–walrus–human relationships in the Beringian region, from the viewpoints of marine biology and ecology, and from that of indigenous hunters. Bridging these types of knowledge is vital in order to grasp the complexity of the processes involved and for advancing understanding of sub-arctic marine ecosystems that are currently experiencing rapid ecological and social change. Despite substantial gaps and distinctions, information generated by scientists and indigenous hunters haves many similarities. Differences in interpretation are primarily due to scaling and temporal rates of change of knowledge, which could be recti fied through more active sharing of expertise and records, enhanced documentation of indigenous observations, more collaborative research, and increased insight from the social sciences.	Keighley, X., Olsen, M.T. and Jordan, P., 2022. Integrating cultural and biological perspectives on long-term human-walrus (Odobenus rosmarus rosmarus) interactions across the North Atlantic. Quaternary Research, 108, pp.5-25.

AR100	**Sea Ice Knowledge and Use: Assessing Arctic Environmental and Social Change (SIKU)**	Arctic peoples	_Regional Overview	Arctic	oceans & coastal, observations & impacts, two-eyed seeing, language, traditional knowledge	Sea Ice Knowledge and Use (SIKU) is one of several IPY 2007-2008 projects aimed at documenting indigenous observations of environmental changes in the polar areas, with its speci fic focus on sea ice and the use of ice-covered habitats by the residents of the Arctic. As a collaborative international initiative, SIKU brings anthropologists, human geographers, sea ice and climate scientists, marine and ecosystem biologists from the U.S., Canada, Russia, Greenland, and France in partnership with almost two dozen indigenous communities in Alaska, Arctic Canada, the Russian Chukchi Peninsula, and Greenland. The project brings together traditional knowledge, science, and methods from social sciences (e.g. interviews; participatory observation) and physical science (e.g. analysis of remote sensing imagery and meteorological data). Funding is organized as a consortium of local or national initiatives with their respective budgets provided by the national funding agencies. The Alaska-Chukotkan portion of SIKU, for example, coordinates activities in several Alaskan and Chukotkan communities. Local residents, elders, and community experts are partners in the SIKU research and documentation activities, including daily sea ice and weather observations, collection of local terms for sea ice and weather phenomena, documentation of traditional ecological knowledge related to sea ice and sea ice use from local elders and experienced hunters, search for historical records of sea ice conditions, and	Reyes-García, V., García-del-Amo, D., Benyei, P., Fernández-Llamazares, Á., Gravani, K., Junqueira, A.B., Labeyrie, V., Li, X., Matias, D.M., McAlvay, A. and Mortyn, P.G., 2019. A collaborative approach to bring insights from local observations of climate change impacts into global climate change research. Current opinion in environmental sustainability, 39, pp.1-8.
AR101	**Reindeer Herders Vulnerability Network Study (EALÁT)**	Arctic peoples	_Regional Overview	Arctic	oceans & coastal, adaptation, traditional knowledge	Indigenous peoples in the Arctic face major challenges related to changes in their society and the northern climate. More than 20 indigenous peoples are reindeer herders. There is an urgent need to inform the Arctic nations both about the changes to which they are subjected and give some concrete examples how herders' traditional knowledge relates to adaptation to changing conditions, including traditional use of grazing land. EALÁT Information is Norwegian Arctic Council project organized by Association of World Reindeer Herders (WRH), in close cooperation with International Centre for Reindeer Husbandry (ICR), Reindeer Herders' Union of Russia (RHUR), Sami Council and the Sámi University College (SA). One adaptation strategy EALÁT studied was reindeer castration, a technique commonly used in reindeer husbandry as a tool for herd structure management. Castrates generally calm down female reindeer and calves, making herds easier to control. Due to their larger size, castrates are also more able to easily break through ice layers in the snow, facilitating access to food for females and calves. The project has now reached completion and has evolved into other projects in Scandinavia and Russia.	Reindeer Herding https://reindeerherding.org/projects/ealat-information
AR102	**Arctic governance, indigenous knowledge, science and technology in times of climate change**	Arctic peoples	_Regional Overview	Arctic	oceans & coastal,observations & impacts, policy & planning, storytelling	Initially perceived as a cultural threat, film, video and internet are now regarded as powerful technology tools for cultural preservation and empowerment of local communities. Knowledge and observation are no longer monopolised by scholars, filmmakers or politicians based in the West. Film has proved to be a powerful tool for cultural preservation while the internet (video sharing sites and social media platforms in particular) have empowered local communities and facilitated their involvement in political activism and local governance. New ways to represent themselves have been a crucial step forward, yet the new goal is to work towards greater recognition of the "indigenous voice" and ensure traditional knowledge is not treated as anecdotal and irrelevant in managing Arctic affairs.	Arruda, G.M. and Krutkowski, S., 2017. Arctic governance, indigenous knowledge, science and technology in times of climate change: Self-realization, recognition, representativeness. Journal of Enterprising Communities: People and Places in the Global Economy, 11(4), pp.514-528.
AR103	**Indigenous Youth, Food Knowledge & Arctic Change (EALLU)**	Arctic peoples	_Regional Overview	Arctic	oceans & coastal, adaptation, food security	The Indigenous Youth, Food Knowledge & Arctic Change (EALLU) project, under the Arctic Council's Sustainable Development Working Group (SDWG), focuses on preserving and promoting the traditional food systems of Arctic Indigenous Peoples. The project emphasizes youth involvement, aiming to enhance resilience and sustainable development in the face of rapid Arctic changes. The initial phase, EALLU I (2015-2017) aimed to maintain and develop sustainable reindeer husbandry amidst climate change and globalization. It emphasized building awareness among Indigenous youth, documenting traditional food cultures, and fostering knowledge exchange. A notable outcome was the publication of a cookbook that won the Gourmand Best of the Best Award, highlighting the rich culinary traditions of Arctic Indigenous communities. EALLU II (2017-2025) continues to focus on youth engagement, capacity building, and the documentation of traditional knowledge.	Arctic Counil Working Group. https://sdwg.org/what-we-do/projects/indigenous-youth-food-knowledge-arctic-change-eallu-i/

AR107	**Putting people first in the Arctic**	Indigenous Peoples of the Arctic	_Regional Overview	Arctic	adaptation, policy & planning	Indigenous peoples of the Arctic, facing signi ficant environmental changes, have shown remarkable innovation and resilience. For example, the Yupik communities on St. Lawrence Island in Alaska have established a new winter whaling season, Siberian reindeer herders have diversi fied their livelihoods by incorporating ethno-tourism and traditional crafts, and the Inughuit of northern Greenland have developed a commercial halibut fishery. Such initiatives illustrate active local responses and adaptations to environmental shifts, countering the narrative of Indigenous vulnerability. However, climate change research should not be isolated from broader socio-economic and cultural contexts, as it is often not the most immediate issue facing Arctic communities. Instead, it must consider interconnected local challenges such as poverty, health care accessibility, education, and cultural sustainability. By focusing on Indigenous-led innovations and embedding climate change within a broader social context, more effective and meaningful adaptation strategies can be developed and implemented.	Huntington, H.P., Carey, M., Apok, C. et al (2019). Climate change in context: putting people first in the Arctic. Reg Environ Change 19, 1217–1223 (2019). https://doi.org/10.1007/s10113-019-01478-8
AR104	**Arctic Vulnerability Study**		_Regional Overview	Arctic	observations & impacts, animal husbandry, traditional knowledge, culture	In this study, local knowledge is applied to reindeer herding in a changing climate. Climate variability, climate change and the societal/cultural transformations associated with globalisation have been, and continue to be, responsible for major changes in physical environment, the biota and the cultures of the indigenous communities in the Arctic. Little is known about the vulnerability of such systems to change. This interdisciplinary, intercultural study assesses the vulner- ability of coupled human-ecological systems in the Arctic to variation and change in key aspects of the natural and hu- man environments and biodiversity. Key projects from the Sámi University College and Nordic Sámi Institute focuses on reindeer herding in Arctic and sub-Arctic Eurasia. Its approach is holistic, integrating social and natural science and users' understanding in the co-production of knowledge. Reindeer herders' experience and understanding are being documented, analysed and, under their guidance, combined with data in social and natural sciences.	CBD Technical Series No. 25: Guidance for Promoting Synergy Among Activities Addressing Biological Diversity, Deserti fication, Land Degradation and Climate Change, http://www.cbd. int/doc/publications/cbd-ts-25.pdf
AR106	**Adaptation Successes Underpinned by Inuit Knowledge**		_Regional Overview	Arctic		Inuit communities have successfully adapted to life in the challenging Arctic environment for thousands of years by relying on Indigenous Knowledge, values, and innovative strategies tailored speci fically to their homeland. Today, in the face of rapid climate change, Inuit communities are continuing this tradition, combining IK with scienti fic tools to create effective solutions - such as new hunting routes, environmental monitoring systems, and technologies - that respond directly to their changing environment. However, Inuit emphasize that adaptation alone is not the final goal. They argue that while adaptation has made their survival possible, true success requires deeper, systemic transformations of governance and economic systems. Inuit-led responses focus on reforming and ultimately transforming existing structures by emphasizing self-determination, decentralisation of governance, and respecting the interconnectedness embedded in IK and Inuit culture. For example, effective marine management in Nunavut and improved food sovereignty across Inuit Nunaat highlight the success of systems designed and led by Inuit themselves. Inuit assert that such profound transformations - rooted in their values, rights, and knowledge - are essential to create lasting climate resilience in the Arctic.	Constable, A. J., Harper, S., Dawson, J., Holsman, K., Mustonen, T., Piepenburg, D., & Waples, R. (2022). Climate change and the impacts on polar marine ecosystems and dependent communities. Nature Reviews Earth & Environment, 3(12), 961–977. https://doi.org/10.1038/s43017-022-00374
AR016	**Holistic effects of climate change on the culture, well-being, and health of the Sámi**	Sámi communiti es in Norway, Sweden, Finland, and Russia (Kola Peninsula)	Arctic region	Arctic	observations & impacts, adaptation, land use, transport, health, cultural practices, food security, biodiversity, forecasting, policy & governance, storytelling, women	This comprehensive, multidisciplinary study provides a framework to understand the holistic effects of climate change on the Sámi people. It integrates a systematic review of literature (1990–2017) and ethnographic fieldwork with Sámi reindeer herders in Finland to assess how climate change is impacting Sámi culture, health, and well-being. The study categorises climate change effects as primary (direct environmental changes), secondary (ecological shifts including parasites and disease), and tertiary (cultural and mental health impacts). It concludes that climate change poses a serious threat to the viability of traditional Sámi livelihoods such as reindeer herding, while also contributing to cultural and language loss, increased mental stress, changing diets, and health risks. It notes the limited adaptive capacity of Sámi communities due to governance structures, assimilation, and social pressures. Although some adaptation strategies - such as supplementary feeding and use of GPS - are in place, they may compromise traditional knowledge systems.	Jaakkola, J. J., Juntunen, S., & Näkkäläjärvi, K. (2018). The holistic effects of climate change on the culture, well-being, and health of the Saami, the only Indigenous people in the European Union. Current Environmental Health Reports, 5(4), 401–417. https://doi.org/10.1007/s40572-018-0211-2

AR017	**Indigenous Ice Dictionaries: Sharing Knowledge for a Changing World**	Yupik	Arctic region	Arctic	observations & impacts, traditional knowledge, cultural practices, storytelling, forecasting, two-eyed seeing	This project documents and revitalises Indigenous knowledge of sea ice through the creation of Indigenous-language "ice dictionaries" that record detailed terminologies used by Arctic Indigenous communities. Initiated by Elders such as Conrad Oozeva (Yupik, St. Lawrence Island) and Nutawyi (Siberian Yupik, Sireniki), these efforts reflect deeply embedded environmental knowledge systems used to observe and interpret sea ice conditions crucial for survival and cultural continuity. The dictionaries were developed through a co-production approach involving Elders, linguists, illustrators, and educators. Despite successes, the initiative also highlights the fragility of such knowledge where speaker numbers are critically low, particularly in Chukotka, where only a few fluent Elders remain.	Krupnik, Igor. (2022). Indigenous Ice Dictionaries: Sharing Knowledge for a Changing World. Smithsonian Institution Arctic Studies Center. 10.1017/9781108974349.007.
AR018	**Sea Ice and Weather Monitoring**	Alaska Natives	Canada	Arctic	Local observations & impacts, database	Daily ice and weather monitoring were organized in communities like Gambell, Wales, Barrow, and Shaktoolik, with observations incorporated into the SIZONet database. These records aimed to provide a comprehensive observational record during the International Polar Year period. The transition from SIZONet to AAOKH has sustained and expanded these monitoring efforts. AAOKH observers are Iñupiat hunters with extensive knowledge and expertise in observing coastal conditions, often synthesising a holistic and inter-generational perspective on environmental conditions. The AAOKH network records year-round narrative observations, as well as several standardized measurements, relevant to each community's local concerns, including erosion and flooding events, weather, sea ice cover and thickness, coastal water conditions, wildlife sightings, and community harvesting activities. For example, mapping of sea ice trails used by whalers near Utqiaġvik is one observing protocol that AAOKH now supports, including an ongoing analysis of how sea ice thickness along trails has changed over the past thirteen years.	Furgal, C., Durkalec, A. and Tremblay, M., (2010). Community-based Sea Ice Monitoring and Surveillance in Nunavik and Nunatsiavut, Canada, International Polar Year Oslo Science Conference, Oslo, Norway ARCUS (2020). Tracking Alaskan Arctic Changes Through a Collaborative Network of Coastal Indigenous Communities. https://www.arcus.org/witness-the-arctic/2020/4/highlight/1
AR019	**Inuit knowledge and Climate Change Multimedia**	Canadian Indigenous communities	Canada	Arctic	adaptation, observations & impacts, traditional knowledge, storytelling	Isuma.tv is a groundbreaking multimedia platform founded in 2008 by Inuit filmmakers, most notably Zacharias Kunuk and Norman Cohn, that empowers Indigenous communities through digital storytelling and cultural preservation. The platform hosts films, documentaries, interviews, and community-generated content that amplify Indigenous voices, particularly on critical issues such as climate change. Through participatory media production, Isuma.tv has become instrumental in documenting firsthand Indigenous experiences of rapid environmental changes in Arctic regions, capturing how climate change disproportionately impacts Indigenous livelihoods, traditional knowledge systems, and cultural identities. By using video and multimedia as tools for advocacy, Isuma.tv facilitates dialogue between Indigenous communities, policymakers, and the global public, fostering greater awareness of Indigenous-led solutions to climate challenges. In 2024, Canada's first national Inuktut television channel, Uvagut TV, was approved and carried on basic cable packages from coast to coast across Canada to 10 million cable subscribers.	IsumaTV. https://www.isuma.tv/
AR020	**Coexistence between people and polar bears**	Cree, Dene, Métis, and Inuit peoples	Canada	Arctic	observations & impacts, adaptation, animal husbandry, food security, cultural practices	Indigenous knowledge holders from Churchill, Manitoba, have observed significant changes in polar bear behavior and community interactions due to climate change and social factors. Traditionally, polar bears avoided people, but they have increasingly become habituated and are more frequently seen near communities, attracted by food and garbage. Indigenous communities, including Cree, Dene, Métis, and Inuit peoples, have noted declining bear health and changing bear movements as sea ice diminishes, forcing bears to spend more time on land. Knowledge holders emphasized that polar bears remain culturally and spiritually significant, with coexistence deeply ingrained in community traditions, respectful relationships, and reciprocal avoidance behaviors.	Miller, K.M., Berg, G., Indigenous Knowledge Keepers of Churchill. et al. Coexistence between people and polar bears supports Indigenous knowledge mobilization in wildlife management and research. Commun Earth Environ 6, 74 (2025). https://doi.org/10.1038/s43247-025-02017-6

AR012	**Inuit traditional knowledge incorporated in study of changing Arctic weather persistence**	Inuit	Canada	Arctic	Local observations & impacts, traditional knowledge	With computer models increasingly unable to forecast weather in the face of unpredictable climate changes, researchers at the University of Colorado turned to Baffin Island Inuit knowledge keepers and their insights about the way wind scatters a cloud, the way ice shifts, and subtle changes in animal behavior to forecast weather. Previously, reports of unpredictable weather coming in from Arctic communities did not match up with scientific measurements that indicated weather around the world appeared to be growing more persistent with less variation. However, prior studies did not focus directly on the persistence aspect of weather, and this study provided scientific evidence of changes in persistence in weather over the last two decades for Baker Lake, Nunavut, Canada. Hourly data indicate that for local spring, the persistence of temperature has changed dramatically in the last 15 years with some years showing a strong drop in day-to-day persistence in the local spring afternoons, somewhat at odds with changes in persistence on a more global scale.	Aporta, C., & Higgs, E. (2005). Satellite culture: Global positioning systems, Inuit way finding, and the need for a new account of technology. Current Anthropology, 46(5), 729–753. https://doi.org/10.1086/432651
AR021	**Adaptation to health impacts of climate change by Inuit Tapiriit Kantami (ITK)**	Inuit	Canada	Arctic	adaptation, health, human settlements,	A series of workshops organised by the national Inuit organisation in Canada, Inuit Tapiriit Kantami (ITK), documented climate-related changes and impacts, and identified and developed potential adaptation measures for local response. Measures such as installing netting and screens to prevent insect bites were identified. In 2019, ITK released the National Inuit Climate Change Strategy, addressing health concerns related to climate change. Direct health concerns related to temperatures increasing at three times the rate of the global averages, melting permafrost damaging infrastructure, changing ice conditions, coastal erosion, changing contaminant pathways, and changing access to locally harvested foods, which intensifies social and health challenges in our communities. Food insecurity makes communities increasingly reliant on market foods. These foods are more and more expensive, and limited in terms of the availability of nutritionally dense and fresh foods. The physical landscape that Inuit communities are built on has been changing rapidly for decades. Inuit communities have responded with retrofits, and renovations to existing buildings Climate change also brings a loss of traditions, identity, and sense of place.	PAGE 2341: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_CCP6.pdf ITK (2019). National Inuit Climate Change Strategy. https://www.itk.ca/projects/national-inuit-climate-change-strategy/
AR022	**Inuit Sea Ice Use and Occupancy Project (ISIUOP)**	Inuit	Canada	Arctic	Local observations & impacts, traditional knowledge, technology transfer	ISIUOP undertook extensive field research corresponding to the gathering of Inuit sea ice use and knowledge data. The observations revealrf similar types and trends of changes (e.g. sea ice freezing later, breaking up earlier, and being generally less reliable and predictable). However, the degree to which the changes are affecting activities on the sea ice vary from community to community, and in some instances from hunter to hunter. Significant changes in the layout of sea ice trails and harvesting areas have been also observed (particularly seasonal changes). In addition, Inuit communities are open to new technologies and monitoring techniques that have the potential to reduce risk and facilitate use of the sea ice. Outcomes of the project were development of Igliniit technology and development and release of the Inuit Siku (sea ice) Atlas, which offers some of the results in a multimedia format for educational purposes. The Igliniit subproject offers a new software interface for PDA/GPS systems, available in Inuktitut and English, that allows hunters to log their observations of the environment as they travel.	Aporta, C. (2009). Shifting perspectives on shifting ice: Documenting and representing Inuit use of the sea ice. Canadian Geographer, 53(2), 210–218. https://doi.org/10.1111/j.1541-0064.2009.00254.x Inuit Siku Atlas. http://sikuatlas.ca
AR023	**Qapirangajuq: Inuit Knowledge and Climate Change Documentary**	Inuit	Canada	Arctic	observations & impacts	This documentary, the world's first Inuktitut language film on the topic, takes the viewer "on the land" with elders and hunters to explore the social and ecological impacts of a warming Arctic. Exploring centuries of Inuit knowledge, allowing the viewer to learn about climate change first-hand from Arctic residents themselves, the film portrays Inuit as experts regarding their land and wildlife and makes it clear that climate change is a human rights issue affecting this ingenious Indigenous culture. It includes stories about Arctic melting and how Inuit believe that human and animal intelligence are key to adaptability and survival in a warming world.	Isuma.tv (2010) https://www.isuma.tv/inuit-knowledge-and-climate-change/movie

AR024	**Innovative Methods for Sharing Inuit Observations on Climate Change**	Inuit	Canada	Arctic	Local observations & impacts, multimedia	The International Institute for Sustainable Development (IISD) and the Hunters and Trappers Committee of Sachs Harbour initiated a project to document the effects of climate change in the Arctic and communicate it to Canadian and international audiences. The project team worked in partnership with specialists from five organizations to develop an innovative method for recording and sharing local observations on climate change. The project took place on Banks Island in Canada's High Arctic. The approach, involving Inuvialuit hunters and trappers, combined participatory work-shops, semi-structured interviews, community meetings and fieldwork to better understand the extent of local knowledge of climate change. During the year-long initiative, the project team produced a broadcast-quality video and several scienti fic journal articles to communicate the negative consequences of climate change in the Arctic and to understand the adaptive strategies that local people are using in response.	CBD (2008): UNEP/CBD/EM.CC-ILC/1/3, Compilation of Case-Studies on Climate Change and Biodiversity Considerations in the Arctic, http://www.cbd.int/doc/meetings/tk/emccilc-01/ of ficial/emccilc-01-03-en.pdf Ashford & Castleden (2001). Inuit Observations on Climate Change. Final Report. https://climatelibrary.ecc.gov.nt.ca/dataset/inuit-observations-on-climate-change-final-report Sawatzky, A., Cunsolo, A., Jones-Bitton, A., Gillis, D., Wood, M., Flowers, C., Shiwak, I., Rigolet Inuit Community Government and Harper, S.L., 2020. "The best scientists are the people that's out there": Inuit-led integrated environment and health monitoring to respond to climate change in the Circumpolar North. Climatic Change, 160, pp.45-66.
AR025	**Voices from the Bay: Documenting and Communicating Indigenous Ecological Knowledge from the Hudson Bay Bioregion**	Inuit	Canada	Arctic	land use, observations & impacts, cultural practices, traditional knowledge, livelihoods, ecosystem management, capacity-building	Launched by the Inuit community of Sanikiluaq in 1996, the landmark "Voices from the Bay" (Hudson Bay Traditional Ecological Knowledge and Management Systems (TEKMS) Study) project documented ancestral environmental knowledge from 28 Inuit and Cree communities, aiming to integrate this knowledge into environmental assessments, policymaking, and scienti fic communication. The original findings published in 1997 detailed community observations of climatic shifts, altered ice regimes, habitat degradation, wildlife population changes, food web contamination, and changing land-use practices. For example, Cree and Inuit forecast daily weather, predict seasonal characteristics, and adjust to seasonal change using their knowledge of clouds, stars, northern lights, wind, snow ice, currents, and animal behaviour. Of particular importance to the Inuit is the sea ice as different ice conditions determine which sea mammals are present in winter and which areas can support hunting and travel. This strong reliance on sea ice for travelling and hunting is re flected in their knowledge of its processes, characteristics, and annual cycles. Thus Inuit have developed distinct terms to describe different stages of ice development and its associated possibilities. For example, some ice sorts (sikuak) support very good breathing holes for seals, while others (Milutsinik and iktaniq) resulting from freezing snow water are avoided by hunters and animals.	Herring, D. & Beardy, Flora & Coutts, Robert. (2017). Voices from Hudson Bay: Cree Stories from York Factory. 2nd Ed. 10.2307/25605922. Huntington, Henry P; McDonald, M; Arragutainaq, L; Novalinga, Z. (1997). Voices from the Bay: traditional ecological knowledge of Inuit & Cree in the Hudson Bay bioregion. Arctic; Calgary Vol. 51, Iss. 2, (Jun 1998): 168-169. https://arcticeider.com/product/voices-from-the-bay-traditional-ecological-knowledge-of-inuit-and-cree-in-the-hudson-bay-bioregion/
AR026	**Inuit Assessing Vulnerability to Sea Ice Change: An example from Igloolik, Nunavut**	Inuit	Canada	Arctic	Local observations & impacts, transport, food security, health, adaptation, traditional knowledge	The observations of community members and instrumental records indicate changes in sea ice around the Inuit com- munity of Igloolik, in the Canadian territory of Nunavut. This paper characterizes local vulnerability to these changes, identifying who is vulnerable, to what stresses, and why, focusing on local and regional use of sea ice for the harvesting of renewable resources and travel. This analysis is coupled with instrumental and sea ice data that evaluates changing climate/sea ice trends over time, to complement local observations. It demonstrates the relationships between changing sea ice conditions/dynamics and harvesting activities (i.e. dangers and accessibility), with speci fic emphasis on ringed seal and walrus seasonal hunting, to illustrate current sea ice exposures that hunters are facing. Community members are adapting to such changes, as they have done for generations. However, current adaptive capacity is both enabled, and constrained, by social, cultural, and economic factors that manifest within the modern northern Hamlet. Enabling factors include the ability of hunters to manage or share the risks associated with sea ice travel, as well as through their flexibility in resource use, as facilitated by sophisticated Inuit traditional knowledge and land/navigational skills. Con- straining factors include the erosion of land-based knowledge and skills, altered sharing networks, as well as financial and temporal limitations on resource harvesting. The differential ability of community	Laidler, Gita, James Ford, William Gough, e Theo Ikummaq. 2009. "Travelling And Hunting In A Changing Arctic: Assessing Inuit Vulnerability To Sea Ice Change In Igloolik, Nunavut". Climatic Change 94 (3-4): 363-397.
AR027	**Impacts on traditional food security in Canadian Inuit communities**	Inuit	Canada	Arctic	observations & impacts, food security, wildlife, transport, health, bene ficial effects	Community members among Inuit in Nunavut and the Inuvialuit Settlement Region have consistently observed rising temperatures, more frequent storms, and changes in sea ice conditions—such as thinner ice, earlier break-up, and later freeze-up—that compromise both the availability and accessibility of traditional foods. These rapidly shifting conditions reduce local wildlife populations (e.g., caribou, seal, Arctic char) or alter their migration routes, making subsistence harvesting more expensive and dangerous. Reduced opportunities to hunt or fish also mean fewer occasions for younger generations to learn from elders, weakening the intergenerational transfer of critical traditional knowledge. Overall, climate change in the Arctic is making it harder for communities to maintain healthy and culturally appropriate diets through country foods, ultimately threatening their food security across all four pillars of availability, access, utilization, and stability.	Sha fiee, M., Keshavarz, P., Lane, G., Pahwa, P., Szafron, M., Jennings, D. and Vatanparast, H., 2022. Food security status of indigenous peoples in Canada according to the 4 pillars of food security: a scoping review. Advances in Nutrition, 13(6), pp.2537-2558.

AR028	**Research by Inuit for Inuit**	Inuit	Canada	Arctic	policy & planning	The evolution of Inuit-academic research relationships in Inuit Nunangat represents a transformative journey from historical marginalization to self-determined research practices. Initially characterized by power imbalances and unacknowledged contributions, Inuit researchers have systematically worked to reshape research paradigms through landmark initiatives like the 2005 "Unikkaqatigiit" climate change study and the 2018 National Inuit Strategy on Research. By developing international protocols, establishing Inuit-led research programs like Inuit Qaujisarnirmut Pilirijjutit, and integrating Inuit methodologies into policy frameworks, they have created a more equitable research landscape. The Inuit Circumpolar Council's human rights petition and subsequent collaborative efforts have not only highlighted climate change impacts but also normalized global dialogues about Indigenous research sovereignty. Today, a growing number of meaningful research partnerships are emerging, guided by Inuit knowledge experts and Elders, signaling a profound shift towards research that genuinely centers Inuit perspectives, needs, and knowledge systems.	For Our Future: Indigenous Resilience Report, Case Story 12, p. 67
AR105	**Global Positioning Systems and Inuit Wayfinding**	Inuit	Canada	Arctic	adaptation, finance, two-eyed seeing	Inuit hunters of the Igloolik region orient themselves on the land by understanding wind behaviour, snowdrift patterns, animal behaviour, tidal cycles, currents, and astronomical phenomena. Inuit way finding methods are reliable but requirie years of quiet tutoring and experience to learn. Concern arose in the mid-1990s that younger, less experienced hunters were beginning to rely too heavily on mechanized conveyances and electronic navigational aids. The use of global positioning system (GPS) units, particularly, has been steadily growing in Igloolik. Communities make a distinction between technology that is physically and socially engaging, and technology that reduces engagement with experience of the land, people, and local knowledge. There is a risk of turning landscapes into constructed entities or commodities, which is what happens figuratively when we are too attentive to the map and not the territory. While GPS technology is remarkable for locating specific sites, recording a travel route, establishing relationships of known points, or finding a route home, it does not provide knowledge about how to travel safely which is of increasing concern with the impacts of climate change on the land.	Aporta, C., & Higgs, E. (2005). Satellite culture: Global positioning systems, Inuit way finding, and the need for a new account of technology. Current Anthropology, 46(5), 729–753. https://doi.org/10.1086/432651
AR029	**Inuit social connections and caribou declines**	Inuit (Labrador)	Canada	Arctic	observations & impacts, animal husbandry, traditional knowledge, cultural practices	Traditionally, caribou have been integral to Inuit culture, providing sustenance, clothing, and a foundation for social bonds. The recent sharp decline in caribou numbers, particularly the George River herd's 99% decrease, has led to hunting bans, disrupting these cultural practices. This disruption has strained social connections within communities, as shared hunting activities and the distribution of caribou meat are central to Inuit social structures.	Borish et al (2022). "It's like a connection between all of us": Inuit social connections and caribou declines in Labrador, Canada. https://doi.org/10.5751/ES-13237-270411
AR030	**Inuit Scientists Adapt as Climate Change Threatens Sea Life and Food Security**	Inuit (Nunatsiavut)	Canada	Arctic	oceans & coastal, two-eyed seeing, food security, traditional knowledge		Pulitzer Center. (2024). Inuit Scientists Adapt as Climate Change Threatens Sea Life and Food Security. https://pulitzercenter.org/stories/inuit-scientists-adapt-climate-change-threatens-sea-life-and-food-security

AR111	**Monitoring climate change impacts, Indigenous livelihoods and adaptation: Hopedale, Nunatsiavut (Inuit, Canada)**	Inuit (Nunatsiavut)	Canada	Arctic	impacts & observations; participatory monitoring; sea -ice change; travel safety; food security; invasive species; sharing networks; decolonising methods; local governance; peer-reviewed	Hopedale residents report a shorter and more hazardous ice season freeze -up now often occurs in December/January and break -up in April/May, alongside thinner, softer, less predictable ice. Changing weather patterns and the arrival of new species (e.g., sharks, killer whales, cormorants) affect travel, hunting/ fishing calendars, and country food availability, with downstream effects on mental wellbeing and equity for lower-income households. Wood gathering and over-land access also become harder as ice windows shrink. Adaptation is anchored in Inuit -led, participatory monitoring that combines traditional knowledge with tools such as ice drilling and shared situational awareness (e.g., GPS/satellite messaging; Facebook updates). Households adjust timing and routes, rely on sharing networks to buffer food and gear shortages, and advocate for local government support to improve safety and access. Constraints such as costs, infrastructure gaps, and the compressed ice season limit options.	Malik, I. H., Ford, J. D., Winters, I., Hunter, B., Flowers, N., Quincey, D., … Way, R. G. (2025). Monitoring climate change impacts, Indigenous livelihoods and adaptation: Perspectives from Inuit community of Hopedale, Nunatsiavut, Canada. Cambridge Prisms: Coastal Futures, 3, e10. doi:10.1017/cft.2025.7
AR031	**Nunavut observations of climate and environmental change**	Inuit (Nunavut)	Canada	Arctic	Local observations & impacts, water resources, traditional knowledge, food security, forecasting	The people of Nunavut have observed many environmental changes linked to climate change, including increasingly unpredictable weather and changing water levels around Baker Lake. Elders also note unusual impacts from the sun, such as small ponds drying up despite stable temperatures, drying meat becoming burnt, and caribou skins weakening around the neck, possibly due to increased sun intensity. These changes deeply affect elders, whose traditional skills in predicting weather and guiding their communities are becoming less reliable. As weather becomes less predictable, elders feel sadness and loss of con fidence in their advisory roles. Hunting grounds have become harder to reach, and traditional fishing areas now produce fewer and smaller fish. Local hunters and fishers cope by shifting their routes and searching new locations, but communities have yet to develop long-term solutions for persistent or worsening conditions. On Qikiqtaaluk (Baf fin Island), Inuit have noted signi ficant recent changes in sea ice conditions. They also observe shifting wildlife patterns: fewer caribou and narwhal, but more birds, insects, and fish arriving from southern areas, along with uncertainty about polar bear numbers. While seal hunting remains stable and valued, broader environmental, economic, and social	Sansoulet, J., Therrien, M., Delgove, J., Pouxviel, G., Desriac, J., Sardet, N. and Vanderlinden, J.P., 2020. An update on Inuit perceptions of their changing environment, Qikiqtaaluk (Baf fin Island, Nunavut). Elem Sci Anth, 8(1), p.025. Arctic Climate Impact Assessment (pp. 61-98), http://www.acia.uaf.edu/pages/ scienti fic.html
AR032	**Igliniit GPS project (Nunavut)**	Inuit (Nunavut)	Canada	Arctic	observations & impacts, two-eyed seeing		Automated mapping system for the Igliniit (Trails) Project. https:// www.geos.ed.ac.uk/~mscgis/09-10/ s0972776/background.html
AR033	***Sila qanuippa?* (how's the weather?): Integrating Inuit and Scienti fic Weather Forecasts**	Inuit (Nunavut)	Canada	Arctic	observations & impacts, adaptation, forecasting, transport, food security, health	Inuit hunters from Pond Inlet, Nunavut, possess extensive knowledge of local weather patterns, sea ice conditions, and environmental cues, developed over generations through direct interaction with their environment. While scienti fic forecasts provide broad weather predictions, they often lack the localized speci ficity required by Inuit hunters for safe and effective travel and hunting activities. Combining traditional knowledge with scienti fic forecasts can lead to more accurate and contextually relevant weather predictions, improving safety and decision-making for Inuit communities. However, Inuit knowledge supporting safe travel is changing and is shared less between generations.	Simonee, Natasha & Alooloo, Jayko & Carter, Natalie & Ljubicic, Gita. (2021). Sila qanuippa? (how's the weather?): Integrating Inuit Qaujimajatuqangit and environmental forecasting products to support travel safety around Pond Inlet, Nunavut in a changing climate. Weather, Climate, and Society. 10.1175/WCAS-D-20-0174.1.
AR034	**Drinking water threats to human health (Nunavik)**	Inuit (Nunavut)	Canada	Arctic		Communities in Nunavut (predominantly Inuit) face unique sanitation challenges driven by their Arctic climate and close ties to local natural resources. Because most Inuit still rely on traditional subsistence activities such as fishing, hunting, and gathering, they are heavily dependent on the health of surrounding lands and waters. The short Arctic summer, together with limited infrastructure, often results in only minimal wastewater treatment, which can leave pathogens in local waterways and coastal areas. As climate patterns shift in the North, unpredictable snowmelt, rainfall, and sea-ice changes may heighten the spread of these microbial contaminants. This is especially concerning given that Inuit commonly harvest seafood (including shell fish and fish) near wastewater outfalls and sometimes collect untreated water for drinking - a long-standing practice that re flects their cultural and traditional knowledge but that may increase health risks under changing climatic conditions.	Daley, K., Jamieson, R., Rainham, D. and Truelstrup Hansen, L., 2018. Wastewater treatment and public health in Nunavut: a microbial risk assessment framework for the Canadian Arctic. Environmental Science and Pollution Research, 25(33), pp.32860-32872.

AR035	**Co-management in Pangnirtung fisheries**	Inuit (Pangnirtung)	Canada	Arctic	adaptation, observations & impacts, bene ficial effects, food security, cultural practices, two-eyed seeing	Inuit communities in Pangnirtung, Nunavut, employ co-management strategies in fisheries to address climate impacts affecting Arctic char and turbot populations. This co-management framework integrates traditional Inuit ecological knowledge with scienti fic research, enabling the communities to effectively monitor fish stocks, respond swiftly to environmental changes, and sustainably manage local fisheries. The collaborative approach fosters resilience by enhancing food security, supporting local economic activities, and reinforcing Indigenous governance and decision-making. The active participation of community members in monitoring, decision-making, and policy implementation ensures community priorities and cultural practices remain central to climate adaptation efforts.	Galappaththi (2024). How can co-management support adaptation to climate change? The case of co-existing fisheries from Pangnirtung, Nunavut, Canada. In: Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (2024), Ch.23, p.372-388
AR036	**Sanikiluaq AI Fisheries**	Inuit (Sanikiluaq community)	Canada	Arctic	AI; remote sensing; traditional knowledge; fisheries; adaptation	In 2021, an Inuit community in Sanikiluaq (Nunavut) piloted an AI-driven mariculture project integrating Indigenous knowledge with scienti fic data. An artificial intelligence model was trained on satellite imagery and Inuit observational knowledge to identify new fishing and aquaculture sites	WWF Arctic (2023)
AR038	**SmartICE – Inuit Sea-Ice Monitoring for Adaptation**	Inuit communities in Nunatsiavut, Nunavut, Nunavik	Canada	Arctic	transport, traditional knowledge, health, two-eyed seeing, technology	SmartICE (founded 2012 in Nain, Nunatsiavut) uses stationary buoys and mobile sensors (SmartQAMUTIK sleds) to gather real-time sea-ice thickness data along travel routes	Renwick M. (2022). "Inuit do what they`ve always done: Adapt". Reuters Investigates. 27 Sept 2022
AR039	**How can co-management support adaptation to climate change? The case of co-existing fisheries from Pangnirtung, Nunavut, Canada**	Inuit communities, Nunavut	Canada	Arctic	Oceans and coastal zones; Cross-cutting: Finance	adaptation, co-management; fisheries	Details how Inuit fishers collaborate with government and local organizations to manage Arctic char and turbot in a changing climate. Demonstrates that co-management has yielded adaptive responses, such as adjusting quotas, shifting fishing seasons, and sharing harvesting technologies. Highlights that integrating Indigenous knowledge about sea-ice conditions with scienti fic data improves safety and food security. Inuit fishers in Pangnirtung, Nunavut, report less snowfall and more frequent thin sea ice, disrupting fishing and hunting. The community collaborates with government and local organizations to manage Arctic char and turbot in a changing climate. Co-management has yielded adaptive responses, such as adjusting quotas, shifting fishing seasons, and sharing harvesting technologies. Integrating Indigenous knowledge about sea-ice conditions with scienti fic data has improved safety and food security.

AR040	**Sikusilarmiut Place-Name Project**	Inuit, Kinngait	Canada	Arctic	Adaptation, language, traditional knowledge	The Sikusilarmiut Place-Name Project, initiated in 2002, documented over 600 Inuit place names and approximately 100 routes in the Kinngait area of southwest Baf fin Island, Canada. Place names and associated routes are vital to many northern communities as they contain important knowledge about Inuit navigation routes, travel safety, food availability, history, and various ecological and sea ice features. Because many Sikusilarmiut place names and routes persist through time they also serve as important spatial and temporal reference points that document climate-sensitive features that can help integrate multiple ways of understanding and identifying environmental change through time.	Henshaw, A (2006): Pausing Along the Journey: Learning Landscapes, Environmental Change, and Toponymy Amongst the Sikusilarmiut, Arctic Anthor. 43(1):52-66 (2006)
AR041	**Re flections on weather, Inuit food systems and our way of life**	Inuvialuit	Canada	Arctic	food security	Over the last few decades, river freezing time is delayed by a month and winter hunting season opens two months later. Inuvialuit have had to adapt to changing ice conditions to travel, and migrating animals and birds have changed routes and timing. Traditional knowledge no longer re flects current conditions, impacting ability to teach younger generations, melting permafrost has made traditional food storage unusable, traditional harvesting is more challenging and families are turning to wage labor to support themselves.	For Our Future: Indigenous Resilience Report, Case Story 9, p. 55
AR109	**"Happening to Us" – Inuvialuit Youth Confront Thawing Permafrost**	Inuvialuit	Canada	Arctic	youth, video, permafrost, erosion, relocation	In the Arctic coastal community of Tuktoyaktuk, climate change is an everyday reality for Inuvialuit youth. They have witnessed rapid permafrost thaw and erosion – one student's family saw a huge sinkhole open by their house as melting ground undermined the shoreline. Autumn storms now bring severe flooding and threaten homes, forcing some families to relocate inland. These drastic environmental changes in just the past decade have profoundly affected the youth, impacting their safety, culture, and mental health. In 2019, a group of Inuvialuit high school students decided to document their experiences and solutions through a participatory film project. With mentorship, they produced Happening to Us, a short documentary showcasing how climate change is affecting their community and culture. The youth-led film features their interviews with Elders and footage of flooding coastlines and damaged infrastructure.	Jasmine Gruben, Brian Kikoak, Carmen Kuptana, Nathan Kuptana, Eriel Lugt, Gabrielle Nogasak, Darryl Tedjuk (2020). Happening to Us: Amplifying Youth Voices from the Arctic. https://terralingua.org/stories/happening-to-us-amplifying-youth-voices-from-the-arctic/ https://vimeo.com/376275443
AR042	**When the caribou do not come**	Inuvialuit, Gwich'in, and Sahtú (Northwest Territories)	Canada	Arctic	observations & impacts, traditional knowledge, wildlife, food security	When the Caribou Do Not Come presents contributions and re flections from Aboriginal leaders, elders, and youth alongside the research of scholars in a range of social and natural science disciplines. The studies are primarily drawn from case study research in the Inuvialuit, Gwich'in, and Sahtú regions from 2007 to 2014, but they also draw on research across borders in the Yukon and Alaska. Communities have noted factors such as expansive forest fires, extreme weather events leading to the freezing of food sources, and overgrazing in tundra habitats. These environmental changes, exacerbated by climate change, signi ficantly affect caribou populations. The decline in caribou numbers has raised concerns about overharvesting and the effectiveness of wildlife management. Indigenous perspectives suggest that these declines may also signal broader environmental shifts due to climate change, positioning caribou as indicators of ecosystem health. Changes in caribou populations also directly impact the food security and cultural practices of Indigenous peoples, for whom caribou are central to subsistence and traditions.	Parlee, B.L. and Caine, K.J. eds., 2018. When the caribou do not come: Indigenous knowledge and adaptive management in the Western Arctic. UBC Press.
AR043	**Inuit Qaumjimajatuqangit, climate and caribou (Nunavut)**	Kitikmeot region, Nunavut	Canada	Arctic	observations & impacts, animal husbandry	A 2002 review of Inuit observations of climate change in the Kitikmeot region of Nunavut highlighted that during the 1990s, Inuit observed increasing temperatures leading to earlier spring melts and later autumn freeze-ups. This climatic shift resulted in longer summer-like conditions and more unpredictable weather patterns, impacting caribou migration routes, calving grounds, and food accessibility.	Thorpe, T., Eyegetok, S., Hakongak, N., & the Kitikmeot Elders. (2002). Nowadays it is not the same: Inuit Qaujimajatuqangit, climate, and caribou in Kitikmeot, Nunavut, Canada. Inuit Studies, 26(1), 79–102. Gagnon, C.A., Hamel, S., Russell, D.E., Andre, J., Buckle, A., Haogak, D., Pascal, J., Schafer, E., Powell, T., Svoboda, M.Y. and Berteaux, D. (2023). Climate, caribou and human needs linked by analysis of Indigenous and scienti fic knowledge. Nature Sustainability, 6(7), pp.769-779.

AR044	**Mittimatalik siku asijjipallianinga (sea ice climate atlas)**	Mittimatalik, Nunavut	Canada	Arctic	observations & impacts, adaptation, transport	Inuit maintain the longest unrecorded climate history of sea ice in Canada. To support Inuit community needs, a decolonized, Inuit knowledge-based approach was co-developed in the community of Mittimatalik, Nunavut (Canada) to create the Mittimatalik siku asijjipallianinga (sea ice climate atlas) 1997–2019, based on Inuit knowledge, earth observations and Canadian Ice Service (CIS) sea ice charts. The atlas provides an adaptation tool that Mittimatalik can use to share locations of known and changing sea ice conditions to plan for safe sea ice travel. These maps can also be used to support the safety and situational awareness of territorial and national search and rescue partners, often coming from outside the region and having limited knowledge of local sea ice conditions. The atlas demonstrates the scientific merit of Inuit knowledge in environmental assessments for negotiating a proposal to extend the shipping seasons for the nearby Mary River Mine. The timing and rates of sea ice freeze-up (October–December) in Mittimatalik are highly variable. There were no significant trends to indicate that sea ice is freezing up later to support increased shipping opportunities into the fall. The atlas shows that the first 2 weeks of November are critical for landfast ice formation, and icebreaking at this time would compromise the integrity of the sea ice for safe travel, wildlife migration and reproduction into the winter months. There was evidence that sea ice break-up (May–July) and the fracturing of the nearby floe edge	Wilson, K., Arreak, A., Sikumiut Committee, Bell, T. and Ljubicic, G. (2021). The Mittimatalik Siku Asijjipallianinga (Sea Ice Climate Atlas): how Inuit knowledge, earth observations, and sea ice charts can fill IPCC climate knowledge gaps. Frontiers in Climate, 3:715105. https://doi.org/10.3389/fclim.2021.715105
AR045	**Yukon First Nations Climate Change Forum Observations**	Yukon	Canada	Arctic	observations & impacts, wildlife, traditional knowledge, water resources	The observations from the 2003 Yukon First Nations Climate Change Forum highlighted significant environmental changes affecting local wildlife, vegetation, and water resources. Elders and community representatives described the changes that they have seen, including unusual freezing rains in November, preventing animals from accessing food; delayed bird migration, with birds staying into October and November rather than migrating south earlier; thawing permafrost, causing ground subsidence and foul odors in affected areas; loss of traditional weather indicators, such as the disappearance of moon rings in southern communities; appearance of new insects, increased sightings of cougars and mule deer; difficulty predicting seasonal changes from traditional methods, such as observing tree leaves; drying and weed-choked water sources, making lakes and streams undrinkable; altered animal behavior, notably bears delaying hibernation into December, with unusual sightings like bears sleeping openly above ground in winter. Recent studies and Indigenous observations indicate that these trends have not only persisted but, in many cases, have intensified.	Arctic Climate Impact Assessment (ACIA). (2005). Arctic climate impact assessment. Cambridge University Press., pp61-98, https://acia.amap.no Herman-Mercer, N.M., 2021. A Decade of Indigenous Knowledge Research in the Yukon River Basin: Reflection on" Indigenous Observations of Change in the Lower Yukon River Basin, Alaska". Human Organization, 80(3), pp.234-236.
AR046	**The Taste of Caribou**		Canada	Arctic	observations & impacts, food security	Elders and local experts from eight Canadian Arctic communities share their observations on environmental changes affecting their traditional activities, climate, fauna, and flora, with a particular focus on berries. One notable observation by Inuit elders is that the taste of caribou meat has changed, symbolizing the broader environmental transformations impacting their way of life. These changes encompass alterations in permafrost thawing, migration patterns, and the arrival of new species, all of which significantly affect northern environments and the lifestyles of their inhabitants.	Gérin-Lajoie, J., Cuerrier, A., Laura, S.C. and Lévesque, E., 2024. Le caribou n'a plus le même goût: Les aînés Inuit observent les changements climatiques. PUQ.
AR047	**Climate Change Preparedness in the North (CCPN) Program**		Canada	Arctic		This Canadian initiative provides funding (approx CAD $7.5m per year) and guidance for various adaptation projects across regions including Yukon, Northwest Territories, Nunavut, Nunavik, Nunatsiavut, NunatuKavut, and Eeyou Istchee.	

AR048	**Clean Energy for Rural and Remote Communities Program**		Canada	Arctic	energy, mitigation, finance	This CAD $220 million program provides funding for renewable energy and capacity building projects and related energy ef ficiency measures in Indigenous, rural and remote communities across Canada. Example projects funded include Rat River Development Corporation building a sustainable wood chip supply chain for the Gwich'in Nation, locally harvested from willow trees for use in biomass systems in and around Fort McPherson; Fort Severn First Nation installing a 240 kilowatt (kW) ground-mounted PV solar array, 10kW of rooftop PV solar arrays, a 10 kW wind turbine, a battery, and a microgrid control computer; and Paulatuk Community Corporation's Beaufort Hamlet Energy Initiative (Ulukhaktok) developing a community energy plan to support future energy ef ficiency initiatives and renewable energy projects, and increasing energy literacy and skills to reduce diesel dependency.	Clean Energy for Rural and Remote Communities funded projects (2025). https://natural-resources.canada.ca/climate-change/clean-energy-rural-remote-communities-funded-projects
AR049	**SIKU (Indigenous Knowledge Social Network)**	Inuit (Arctic Canada and beyond)	Canada (Nunavut, etc.)	Arctic	observations & impacts; adaptation; biodiversity; food security; two-eyed seeing	SIKU is a mobile app and web platform co-developed by Inuit communities to document traditional knowledge, track wildlife, and monitor climate change impact. Essentially a "Facebook of the North," SIKU allows Inuit hunters and elders to record observations of sea ice conditions, animal health/migration, and weather events in real time, tagged with GPS and shared with others. The platform integrates scienti fic data (satellite ice maps, weather forecasts) with these community entries. It operates in multiple Indigenous languages (Inuktitut, Inuinnaqtun, Cree, etc.), and includes features like mapping traditional place names and an educational library of Inuit ecological knowledge. By crowdsourcing observations across communities, SIKU has created a robust database that supports community-led climate adaptation (e.g., identifying unsafe ice areas or shifts in species ranges) while preserving Inuit cultural practices of environmental monitoring and storytelling. Since its launch in 2019, SIKU has over 25,000 users from at least 120 Indigenous communities across the Arctic. It has led to tangible outcomes: Inuit observations on SIKU have been used to inform scienti fic research and even policy (e.g., contributing to beluga management decisions, as the app provided evidence of changing migration timing). Winner of the 2020 Google Impact Challenge, SIKU exempli fies how digital tools can amplify Indigenous voices on climate	SIKU - The Indigenous Knowledge App. https://siku.org/about
AR050	**Inuit uses of weather, water, ice, and climate indicators to assess travel safety**	Inuit	Canada, USA, Greenland			This scoping review documents the types and diversity of weather, water, ice, and climate (WWIC) indicators articulated in peer-reviewed and grey literature as being used by Inuit in Canada, Alaska, and Greenland to assess travel safety. 123 studies were included for review. A total of 163 unique WWIC indicators were used across 85 communities in Canada, Alaska, and Greenland. Indicators re flect a broad range of ways that Inuit experience their environment, through sight, feel, and sound. Key weather indicators include air temperature, wind strength and direction, snowfall amount, storm frequency and intensity, and visibility conditions such as fog and whiteouts. Water indicators important to Inuit include current strength and direction, wave action, ocean temperature, freshwater levels, tides, and sea-level changes. Ice indicators, which were among the most frequently emphasized, include landfast ice stability, ice thickness, freeze-up and break-up timing, ice texture, presence of multi-year ice, open water areas, floe-edge location, and the occurrence of cracks. These indicators are interconnected, often assessed relationally through observation, sensory perception, and predictive practices; however, climate change is increasingly disrupting their predictability.	Breanna Bishop, Emmelie Paquette, Natalie Carter, Gita Ljubicic, Eric C.J. Oliver, and Claudio Aporta. (2025). Inuit uses of weather, water, ice, and climate indicators to assess travel safety in Arctic Canada, Alaska, and Greenland: a scoping review. FACETS. 10: 1-25. https://doi.org/10.1139/facets-2024-0107
AR051	**Siku-Inuit-Hila project, "The Dynamics of Human-Sea Ice Relationships: Comparing Changing Environments in Alaska, Nunavut and Greenland"**	Inuit, Inughuit, Iñupiat (Nunavut, Greenland, Alaska)	Canada, USA, Greenland	Arctic	observations & impacts, culture, storytelling, two-eyed seeing, travel, water, policy & governance	From 2006 to 2010, a community-based sea ice observation network was created for the Siku-Inuit-Hila (Sea Ice-People-Weather) project, an international, interdisciplinary project that investigated the relationship between humans and sea ice in the Arctic communities of Qaanaaq, Greenland, Barrow, Alaska, and Clyde River, Nunavut. The project was a collaboration between local people from these locations along with academic researchers from the three countries involved. The project included three major components: sea ice knowledge exchanges, regular meetings of sea ice experts in each community and the establishment of a sea ice monitoring network in the three communities. A sea ice monitoring handbook was produced at the end of the project.	Huntington, H.P., Gearheard, S., Holm, L.K. (2010). The Power of Multiple Perspectives: Behind the Scenes of the Siku–Inuit–Hila Project. In: Krupnik, I., Aporta, C., Gearheard, S., Laidler, G., Kielsen Holm, L. (eds) SIKU: Knowing Our Ice. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-8587-0_11 NSIDC (2008). Handbook for community-based sea ice monitoring. https://nsidc.org/sites/default/ files/nsidc_special_report_14.pdf

AR052	**Climate Change Impacts on Sámi Women**	Sami	Finland	Arctic	observations & impacts, health, women	Many Sámi women are central to Indigenous-led adaptation. Indigenous women notice environmental changes directly through their own bodies. For instance, the restoration project on Finland's Näätämöjoki River was guided by the traditional knowledge of fishers and reindeer herders. This shows how Indigenous Knowledge and scientific methods together can reflect experiences stored within Indigenous bodies about past environmental changes. However, describing these bodily experiences - like feeling temperature shifts, waves of pain, or other sensations - can be difficult. Indigenous women are especially sensitive to signals from their environments as their conservation work deeply involves their own bodies. This raises important questions about who has control over Indigenous bodies. Current environmental harm also connects with past damages that remain unresolved, and these unresolved issues may physically and emotionally harm Indigenous people. Such impacts may cause pain, sickness, and eventually weaken or erase Indigenous communities.	Constable, A.J., S. Harper, J. Dawson, K. Holsman, T. Mustonen, D. Piepenburg, and B. Rost, 2022: Cross-Chapter Paper 6: Polar Regions. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2319–2368, doi:10.1017/9781009325844.023
AR053	**Skolt Sámi Salmon Co-Management**	Sámi	Finland	Arctic	adaptation, ecosystem restoration, co-management, biodiversity	The Skolt Sámi of Finland initiated a co-management program for an Atlantic salmon river in 2011, combining Indigenous knowledge with scientific methods	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG). (Chapter 18), p. 2715
AR054	**Käsivarsi Mineral Exploration**	Sámi Indigenous community	Finland	Arctic	Energy, mining, lessons learned	The Sámi Indigenous community in Käsivarsi, Finland, depends on traditional reindeer herding, which faces significant threats from mineral exploration linked to global demands for green energy minerals. Since 2012, Finnish authorities have permitted exploration activities without the Sámi's FPIC, despite repeated protests and appeals. These exploration activities disrupt reindeer behavior, impact natural grazing, and cause anxiety and uncertainty among herders, especially younger generations, threatening the continuity of Sámi culture and livelihoods. Finnish courts consistently dismissed Sámi concerns, prompting appeals to UN human rights committees, which in 2024 confirmed that Finland violated Sámi rights and called for improved legal protections and genuine indigenous participation.	Amnesty International (2025). https://www.saamicouncil.net/documentarchive/report-just-transition-or-green-colonialism
AR055	**Adaptive capacity through Indigenous knowledge in Northern Greenland**	Greenlandic Inuit	Greenland	Arctic	adaptation, observations & impacts, beneficial effects, cultural practices, forecasting	Greenlandic Inuit communities employ Indigenous knowledge systems to effectively observe and respond to climate impacts, such as thawing permafrost and changing wildlife patterns. By using detailed local indicators and forecasting techniques rooted in traditional knowledge, the communities enhance their resilience against these environmental changes. This Indigenous knowledge also serves to facilitate community cohesion and cultural resilience, as traditional practices and knowledge-sharing among generations are emphasised.Local knowledge systems offer dynamic and culturally integrated solutions that significantly strengthen the community's ability to sustainably adapt to ongoing climatic shifts.	Jungsberg & Nicola Wendt-Lucas (2024). Local indicators, adaptation actions, and resilience efforts for a warming climate in North Greenland. In: Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (2024), Ch.22, p.356-369
AR056	**Local indicators, adaptation actions, and resilience efforts for a warming climate in North Greenland**	Inughuit of Qaanaaq, Greenland	Greenland	Arctic	Water; Transport; Human settlements	adaptation, sea ice, housing	The Inughuit of Qaanaaq face challenges due to Arctic warming. Inuit groups use traditional knowledge to track ice thickness, seasonal shifts, and wildlife migration.Thinner sea ice and melting permafrost damage homes and affect hunting. Community members adapt by shifting transportation and seeking better infrastructure support. Building resilience involves combining local indicators (e.g., color of sky, wind direction) with scientific weather forecasts, plus support from co-management initiatives.

AR057	**Sila-Inuk project - A Study of The Impacts of Climate Change in Greenland**	Inuit (Greenland)	Greenland	Arctic	observations & impacts, wildlife, cultural practices	Coordinated by ICC-Greenland and KNAPK, this project captures Indigenous observations of climate change in Greenland, including seasonal disruption, wildlife changes, and ice retreat. Indigenous communities in the Arctic region have historically relied heavily on marine mammals (including seals, walrus, narwhal, beluga, fin, and minke whales, and polar bears) as well as fish species like fjord cod, Greenland halibut, salmon, and Arctic char for their livelihoods. Terrestrial species, such as reindeer, Arctic foxes, and musk ox, have also played roles in traditional subsistence practices. However, communities now observe significant, immediate impacts from climate change. Melting ice and warming coastal waters have disrupted ecosystems crucial to their way of life. Inuit organizations have raised concerns that conventional conservation narratives, which portray the Arctic as a fragile environment under threat, often overlook or exclude local Indigenous perspectives. In response, Inuit groups advocate for environmental governance frameworks that prioritize Indigenous rights, integrate Indigenous knowledge, and establish protected marine areas managed through community-based monitoring and traditional wildlife management systems.	Holm, Lene. (2010). Sila-Inuk: Study of the Impacts of Climate Change in Greenland. https://link.springer.com/chapter/10.1007/978-90-481-8587-0_6
AR058	**Ice and Climate Change in Qeqertaq**	Qeqertarmiu	Greenland	Arctic	adaptation; observations & impacts; transport; food security; health; wildlife	Documents sea ice changes from 1987–2008 in Qeqertaq, showing reduced ice travel, fewer seals, and increased safety risks. The Inughuit, a small community of High Arctic hunters in North West Greenland, historically negotiated significant climatic changes by maintaining flexibility and mobility. In the 19th century, they struggled with excessive ice, while today they face rapidly diminishing sea ice. Recent observations highlight increasingly unpredictable and unstable sea ice, restricting movement, threatening traditional marine mammal hunting, and limiting social interactions and trade between settlements. Place-based knowledge, such as traditional naming systems reflecting landscape and ice conditions, has become less reliable, impacting local orientation and safety. Hunters face significant ethical and practical dilemmas, notably concerning the maintenance of dog teams crucial for transportation, hunting, and community cohesion. Despite these challenges, the Inughuit continue to demonstrate resilience through adaptive strategies and keen environmental observation. New resource opportunities, such as fishing for halibut previously absent from local waters, are emerging due to warmer ocean temperatures. However, these potential benefits come with trade-offs, including disruptions from increased ship traffic and shifts in wildlife populations.	Kirsten Hastrup, 2018. "A history of climate change: Inughuit responses to changing ice conditions in North-West Greenland," Climatic Change, Springer, vol. 151(1), pages 67-78, November. DOI: 10.1007/s10584-016-1628-y
AR108	**Tromsø reindeer husbandry adaptation to future climate**	Sámi	Norway	Arctic	adaptation, pastorialism	Sámi herders near Tromsø have had to adapt to manage herding in winters with a high frequency of rain-on-snow conditions, large amounts of snow, and decreased access to reindeer pastures. Strategies include delaying migrations and buying feed, raising costs and stressing traditions. However, land development around the city restricts adaptive mobility and policies that protect peri-urban grazing corridors are needed.	Krarup-Hansen, K., Oskal-Somby, B. (2024). Adaptation to the Future Climate in Sámi Reindeer Husbandry: A Case Study from Tromsø, Norway. In: Mathiesen, S.D., Eira, I.M.G., Turi, E.I., Oskal, A., Pogodaev, M., Tonkopeeva, M. (eds) Reindeer Husbandry. Springer Polar Sciences. Springer, Cham. https://doi.org/10.1007/978-3-031-42289-8_2
AR060	**Fosen Wind Farm Conflict**	Sámi reindeer herders (Fosen region)	Norway	Arctic	Energy, Land use, Mitigation, Wind farms, Human rights, lessons learned	The Storheia and Roan wind farms (Fosen, central Norway) were built on traditional Sámi reindeer pastures without proper consent. In 2021 Norway's Supreme Court ruled that the project violated the Sámi's rights under international law. Despite this landmark verdict, authorities failed to promptly remedy the situation, and turbines continued operating – sparking large Sámi protests in 2022–2023. The protracted battle to enforce the ruling was finally resolved in 2024 with a compensation deal, leaving Sámi activists deeming the green energy project a cultural and legal failure. The case highlights how even "clean" energy projects can harm Indigenous rights. It set a precedent in Norway, but only after years of government inaction post-court ruling.	Reuters (Mar 6 2024): Norway ends dispute with reindeer herders over wind farm https://www.reuters.com/sustainability/norway-ends-fosen-wind-farm-dispute-2024-03-06/

AR112	**Understanding adaptation landscapes: Decision -making in Sámi reindeer herding**	Sámi	Sweden	Arctic	reindeer herding; rain-on-snow; supplementary feeding; maladaptation risk; Fuzzy Cognitive Mapping; forestry & land-use pressures; mobility; IK recognition; report	Herders describe winter grazing crises driven by rain-on-snow events and freeze–thaw cycles that lock forage under ice crusts, compounded by forestry, infrastructure and predator pressures that fragment lichen-rich habitats. Using participatory, knowledge-centred methods and Fuzzy Cognitive Mapping across three herding communities, the study shows how decisions about emergency feeding, herd dispersal and mobility are shaped by ecological conditions and by institutions that often marginalise Indigenous knowledge. Outcomes and trade-offs are explicit: free-range emergency feeding can prevent losses when grazing fails, whereas routine corral feeding imposes costs (labour, disease risk, behaviour change) and can create social-ecological traps that erode mobility and cultural practice. Herders favour protecting access to grazing landscapes, maintaining flexibility to move, and recognising Sámi knowledge in land-use rules.	Tim Horstkotte, Annette Löf & Jon Moen (2024). "Understanding Adaptation Landscapes: Mapping the Complexity of Decision-Making in Reindeer Herding" Arctic Review on Law and Politics, Vol. 15, 2024, pp. 202–230. http://doi.org/10.23865/arctic.v15.6138
AR081	**Rönnbäck Nickel Mine project**	Sámi Indigenous community	Sweden	Arctic	Energy, mining, lessons learned	The Rönnbäck Nickel Mine project, proposed by Nickel Mountain AB in the Sámi village of Rönnbäck, Sweden, poses significant threats to local Sámi communities whose livelihoods, culture, and survival depend on reindeer herding, hunting, fishing, and gathering. The area is crucial for reindeer migration and grazing, which have already become challenging due to climate change impacts such as altered winter conditions. Losing these lands to mining would severely disrupt traditional adaptation practices that rely on seasonal migration and the availability of essential resources like lichen-rich forests. Despite Sámi opposition and appeals, the Swedish government approved the mining concessions without adequate consultations or securing FPIC. The lack of meaningful engagement has exacerbated feelings of exhaustion, emotional distress, and community despair, leading to significant mental and physical health impacts, including reports of increased self-harm and suicide. Additionally, this struggle has intensified racism and discrimination faced by Sámi individuals locally. The UN Committee on the Elimination of Racial Discrimination (CERD) ruled that Sweden violated Sámi rights by delegating consultations to the mining company without proper safeguards. CERD recommended revising the concessions after obtaining genuine FPIC and amending national laws to protect	Amnesty International (2025). https://www.saamicouncil.net/documentarchive/report-just-transition-or-green-colonialism
AR082	**Walrus decline in Alaska**	Alaska Natives	USA	Arctic	observations & impacts, wildlife, food security, cultural practices, health, transport	Though walruses are federally protected, Alaska Natives have subsistence rights to hunt them and rely on the meat, skin, intestines and tusks - for food, clothing and boat coverings, and to carve the ivory jewelry and souvenirs that are a significant source of income. A warming climate around King Island, a steep rocky knoll poking out of the Bering Sea, melts the sea ice more rapidly, thinning the walrus herds and forcing native hunters to travel greater distances to track their prey. As the ice has melted, the window of time in which the hunters can pursue the walrus is much shorter -- about three weeks, compared with two months in better years. Floating chunks of ice and high winds can make traveling in the 16-foot aluminum boats they use for hunting very dangerous. A shorter potential hunting period also forces Natives to take more risks with the weather. In 2008, the King Islanders of Nome did not get a single walrus, meaning they had to do without walrus meat over the winter and had to buy ivory to carve. Walrus need to rest on sea ice no more than 400 feet above the ocean floor so they can dive down to eat shell fish and plants. But sea ice is retreating so far north that the waters are too deep for walrus to feed. This forces them to squeeze onto land, and in the summer of 2007 about 4,000 young walruses were trampled to death by males in the crowded conditions. In 2023, experienced Yupik walrus hunters from Gambell and Savoonga highlighted the importance of	Johnson, D.L., Eisaguirre, J.M., Taylor, R.L., Andersen, E.M. and Garlich-Miller, J.L., 2025. Assessing the sustainability of Pacific walrus harvest in a changing environment. The Journal of Wildlife Management, 89(1), p.e22686. Vera Metcalf, Daniel Apassingok, Iver Campbell, Arnold Gologergen, Bivers Gologergen, Edwin Noongwook, Henry P. Huntington, Joel L. Garlich-Miller, and Devin L. Johnson. 2025. Co-producing knowledge about the Pacific walrus and climate change. Arctic Science. 11: 1-13. https://doi.org/10.1139/as-2024-0061

AR083	**Spruce bark beetles and increased wild fire risk in Alaska**	Alaska Natives	USA	Arctic	observations & impacts, forests, wildfire	Climate-related changes leave many ecosystems vulnerable to pests and diseases. In the Boreal forest ecosystems of the Northern Hemisphere, one immediate impact of rising temperatures is the in flux of bark and spruce beetles causing further deforestation. The burrowing insects were previously kept under control by cold winter temperatures. Now that the winters are warmer, they have spread out of control, killing millions of acres and entire mountainsides of pine forests from New Mexico, USA to British Columbia, Canada. Warmer winters mean greater survival for many of them, so that pests can build up greater levels of infestation and diseases can infect more people, often with more virulence. Many for- ests around the Paci fic, for example, are being attacked by wood-boring and bark beetles. This leaves the trees valueless for commercial use and highly susceptible to very hot fires that destroy the capacity of the land rather than rejuvenate it. More than 4 million acres of spruce forest in south-central Alaska have sustained heavy mortality caused by spruce bark beetle infestation. A signi ficant portion has occurred within the forests of the Copper River Basin, increasing the risk to local communities of catastrophic wild fire.	In: Climate Change and Paci fic Rim Indigenous Nations, October 2006. Impacts on Indigenous Peoples by Terry Williams and Preston Hardison, Tulalip Nation Fisheries and Natural Resources Department
AR084	**The Aleutian and Pribilof Islands region in Alaska**	Alaska Natives	USA	Arctic	Local observations & impacts, infrastructure, extreme weather, wildlife, coastal erosion, policy & planning	The Aleut International Association (AIA) and the Aleutian and Pribilof Islands Association (APIA) prepared a summary of current observations, concerns, and plans related to climate change in their region. The changing climate is having dramatic effects on the security of the village and the local infrastructure. Like many Alaskan coastal communities, Nelson Lagoon has been battling the effects of winter storms for years, most notably by building increasingly strong breakwalls along the shore. The increasing violence of the storms and changing winter sea-ice patterns have exacerbated the problem, reducing sections of a structure they hoped would provide decades of protection to kindling within just a few seasons. This is because their break-wall was designed to brace the shore ice, which would in turn provide the real buffer from winter storm wave action. As the winters have been warmer over the past six years, the buffer provided by the shore ice has been lost, allowing the full force of the waves to surge against the wall and the village. Other climate- related observations include the presence of non-indigenous warm-water fish species and shoreline erosion. The Aleut International Association enables international research and monitoring in the Bering Sea by connecting peoples and governments on both sides of the Bering Sea and by helping the Aleut people address the most vital problems that they face today including climate change.	Arctic Climate Impact Assessment (2004), pp. 61-98. http:// www.acia.uaf.edu/pages/scienti fic.html Tran, J., Divine, L.M. & Heffner, L.R. "What are you going to do, Protest the Wind?": Community Perceptions of Emergent and Worsening Coastal Erosion from the Remote Bering Sea Community of St. Paul, Alaska. Environmental Management 67, 43–66 (2021). https://doi.org/10.1007/ s00267-020-01382-6
AR085	**Observations from hunters of the Native Village of Gambell, Alaska**	Alaska Natives	USA	Arctic	Local observations & impacts, wildlife, positive bene ficial impacts	According to hunters in the Native Village of Gambell, Alaska, generally the sea ice now arrives later and melts earlier and the floe of multi-year chunks of ice and icebergs that spit out of the Arctic Chukchi region in early Fall into the Ber- ing Sea does not happen anymore. The ice now behaves differently – tending to move in one big mass near the shore without open leads, the larger ice floes ideal for whaling and other hunting do not occur as much with this kind of ice. The weather is more unpredictable with extremes and dangers resulting in accidents and losses of life. The changes in the weather and ice conditions result now in changes in animal behaviour, habit, and migration: during Spring, walruses are now seen spread out individually on small pieces of ice instead of in large herds on larger pieces of ice; some animal migrations now seem to take place at the eastern side of the island instead of in the strait (western side) and northwest of Saint Lawrence Island; the Fall seals are now hunted on a different schedule; it is now hard to get tomcod and blue cod in Winter ice fishing, and all this results in shorter Spring harvest. The warmer climate so far has also resulted in some positive impacts: the marine mammals hunted appear to be in good health, the bowhead whale continues in good numbers with good population growth, harvesting of whales has occurred in Fall/Winter for several years now, harvesting of all species of salmon now occurs in Summer, the cod previ- ously depleted by commercial	Ministry of the Environment of Finland, Indigenous Peoples and Traditional Knowledge Related to Biological Diversity and Responses to Climate Change in the Arctic Region, www.cbd. int/doc/publications/tk-cc-arctic-en.pdf Wassillie, Katya (2015). On Thin Ice: Subsistence Walrus Hunting and the Adaptation to a Changing Climate in Alaska. https:// www.culturalsurvival.org/publications/ cultural-survival-quarterly/thin-ice-subsistence-walrus-hunting-and-adaptation
AR086	**Reduced walrus hunting in Alaska and changes to boat fabrics**	Alaska Natives	USA	Arctic	adaptation, health, food security, cultural practices, food security	In Alaska, indigenous peoples have begun hunting only once a year instead of twice as a result of changing climatic conditions that impact migration patterns and make sea-ice hunting more dangerous. In order to adapt to this enforced change, communities have constructed cold-storage facilities to meet resulting increased quantities and changing timing of supply. The early melting of sea ice in the spring has also made it more dif ficult to hunt spring walrus in Alaska. As such, indigenous communities have begun shifting from walrus-skin boats to fabric boats due to the dif ficulty in finding suitable walrus.	Ministry of the Environment of Finland (2009), Indigenous Peoples and Traditional Knowledge Related to Biological Diversity and Responses to Climate Change in the Arctic Region, www.cbd. int/doc/publications/tk-cc-arctic-en.pdf

AR087	**Insights from Coastal Arctic Indigenous Observers**	Alaska Natives	USA	Arctic	observations & impacts, traditional knowledge, sea-ice, technology transfer	Indigenous communities in Arctic Alaska have observed signi ficant, unprecedented climate changes affecting their lands, seas, and livelihoods. Warmer temperatures have resulted in severe sea-ice loss, melting permafrost causing structural instability, erosion of coastlines, flooding, mudslides, and altered animal migration patterns, complicating traditional hunting and subsistence practices. Community-based monitoring documents these transformations, reinforcing Indigenous knowledge and fostering better collaboration with scienti fic researchers. Despite adaptive efforts, local livelihoods are increasingly challenged by extreme weather events and ecosystem disruptions, prompting urgent concerns for the future of Indigenous ways of life and Arctic ecosystems.	Glenn, Roberta (2023). Insights from Coastal Arctic Indigenous Observers. https://storymaps.arcgis.com/stories/30d30ab062ea4aadb39b3734dd7770ae
AR088	**Alaskan communities falling into the ocean (Shishmaref and Newtok)**	Alaska Natives	USA	Arctic	adaptation, observations & impacts, displacement, coastal erosion	According to the 2019 Alaska statewide threat assessment report, 29 communities are currently experiencing signi ficant climate change-related erosion. Further, 38 communities faces signi ficant flooding, and 35 have major problems with thawing permafrost. Moreover, melting mountain snow and ice creates rapid water level rise, which in turn wash away large amounts of village riverbanks. This takes large amounts of soil into the rivers, causing riverbeds to rise as eroded soil accumulates on the bottom. Shallow waters are harmful to fish stocks and thus also to indigenous subsistence fishing. Some Alaska Native communities have explored community relocation to adapt to these impacts. Because federal law does not recognize gradual environmental impacts like thawing permafrost and coastal erosion as disasters, these communities are ineligible for disaster funding and struggling with how to adapt to the very urgent - albeit less immediate - issues that they face. For example, the village of Shishmaref, a traditional Inupiat village in the Bering Straits inhabited for 400 years, is facing evacuation. In the past, sea ice would form in the fall, creating a blockade of ice along the shore, which acted as a protective barrier against sea storms. This protective sea ice, which used to be in place by October or November, no longer forms solidly. Its absence allows powerful waves higher storm surges to reach shore where they undercut the banks that are	Korkut, E., Fowler, L.B., Halvorsen, K.E., Holen, D., Howe, E.L. and Chi, G., 2022. Addressing Climate Impacts on Alaska Native Tribes: Legal Barriers for Community Relocation Due to Thawing Permafrost and Coastal Erosion. UCLA J. Env't L. & Pol'y, 40, p.185. CNN, 'Climate Change' forces Eskimos to abandon village, http://edition.cnn.com/2009/TECH/science/04/24/ climate.change.eskimos/index.html
AR089	**National Wildlife Refuges in Alaska and the Central Flyway**	Alaska Natives	USA	Arctic	Local observations & impacts, wildlife, transport	The Arctic has seen a rise in maritime traf fic due to diminishing sea ice, leading to potential environmental impacts such as the introduction of invasive species and increased pollution. Previous introductions of non-endemic species to islands have had severe negative effects on nesting Aleutian Canada geese. Birds that breed in Alaska traverse most of the system as they use portions of the Paci fic, Central, Mississippi, and Atlantic Flyways during their annual cycle. The ecosystem management mandate of the National Wildlife Refuge (NWR) in this area has been implemented through development of monitoring partnerships that are designed to detect the appearance of invasive species and of contaminants, and initiation of timely prevention/mitigation programs. Indigenous peoples that depend on Interior Alaska NWRs are concerned about the potential effects of climate-induced lake drying and changing snow conditions on their seasonal access to subsistence resources, and on the availability of waterfowl for subsistence harvest. The refuges have promoted enhanced capacity for projecting possible future conditions, and have educated users regarding observed and expected changes while clarifying con flicting information on the magnitude and extent of observed changes in lake number and area and in snow conditions.	Ng, A.K., Andrews, J., Babb, D., Lin, Y. and Becker, A., 2018. Implications of climate change for shipping: Opening the Arctic seas. Wiley Interdisciplinary Reviews: Climate Change, 9(2), p.e507. Julius, S and West, J (2008): Adaptation Options for Climate-Sensitive Ecosystems and Resources, Annex A, https://c2o.net.au/wp/wp-content/uploads/2022/05/C8_MPAs.pdf

AR090	**Connections between Arctic Peoples and their Environment**	Athabascan people, Alaska	USA	Arctic	observations & impacts, traditional knowledge, cultural practices	This presentation includes examples of indigenous knowledge and spiritual connections that can contribute greatly to the monitoring of biodiversity, ecosystem services, and the host of social and cultural implications they have. In Savoonga, Alaska, for example, one family resumed the tradition of bowhead whaling after several decades, using knowledge that had been handed down for generations even though no one still living had participated in whaling at their traditional site. It also documents that at times, the spiritual dimension of understanding may seem at odds with scientific understanding. For example, Athabascan people in Alaska have a powerful relationship with the moose. Moose are taken for funeral potlatches, a rare instance of a spiritual practice that is recognized in state law, as people can take moose for potlatches when they need them rather than waiting for the usual hunting season. Athabascans believe that the number of moose in the world is constant, with moose offering themselves to worthy hunters and then coming back again. Scientific counts of moose make little sense in this worldview, because the moose may choose not to be visible to the counters. Discussions about moose abundance, a key "ecosystem service" in one worldview, have a large cultural gap to cross before they can make sense to both groups participating in those discussions.	Huntington, Henry (2009), Presentation at UNESCO Climate Change and Arctic Sustainable Development International Experts Meeting, Monte Carlo, 3-6 March 2009, http://www.unesco. org/csi/LINKS/monaco-abstracts/Huntington_abstract_MonacoUNESCOarctic.pdf
AR091	**Decreasing caribou herds, seal pups and polar bears**	Gwich'in, Alaska	USA	Arctic	observations & impacts, wildlife, food security	The migratory Porcupine Caribou Herd's calving grounds are primarily in a narrow section of the coastal plain in Alaska, a wilderness area with petroleum reserves; thus the herd has become the subject of a high-profile, bitter and protracted dispute regarding its ongoing protection. The Gwich'in people who are strongly connected to the Porcupine Herd believe the calving area in northern Alaska is sacred ground. Increased oil and gas exploration and preparations for pipeline development are taking place on the winter range of the herd in the Canadian side of the region. Temperatures are mea- surably warming in this area already, and the extent of permanent sea-ice is decreasing. Changes in snow conditions in the Arctic Borderlands may now be contributing to the observed decline in population of the Porcupine caribou herd. Travel for the caribou is also getting harder because warmer temperatures in the spring are causing rivers and lakes to break–up earlier. The Tuktu and Nogak Project collected Inuit observations on the Bathurst Caribou Herd. Inuit Elders in the Bathurst Inlet area in Nunavut have reported how warmer weather in the 1990s affected the Bathurst Caribou Herd. The elders believed that the Bathurst caribou shifted their migration routes to avoid rivers full of rushing water and chunks of ice. The elders also noted that more caribou were drowning as the caribou fell through ice that was thinner than usual. Traditional	Keep It Simple and Be Relevant: The First Ten Years of the Arctic Borderlands Ecological Knowledge Co-op, http://www.millenniumassessment.org/documents/bridging/ bridging.10.pdf ACIA, pp.61-98 http://www.acia.uaf.edu/pages/scientific.html Arctic Report Card: Update for 2024. https://arctic.noaa.gov/report-card/report-card-2024/migratory-tundra-caribou-in-a-warmer-climate/
AR092	**Arctic Ice Geoengineering Trial**	Inuit and Sámi (Arctic); Global coalition	USA	Arctic	Mitigation, Impacts, lessons learned	The **Arctic Ice Project** (AIP) proposed spreading reflective silica microspheres on Arctic sea ice to slow melting. Launched by a US nonprofit, it drew immediate concern from Arctic Indigenous communities. They feared the experimental "technofix" could harm marine ecosystems and distract from cutting emissions. After years of criticism and pilot tests, the project was shut down in 2023, with its leaders citing ecological risks. Indigenous activists and allies hailed the closure, reiterating that geoengineering is no substitute for reducing fossil fuels. This follows similar incidents of Indigenous protests, including a planned solar geoengineering test in Sweden (SCoPEx) canceled after Sámi elders protested (2021), and shutdown of the Alameda marine cloud brightening project (2024). Arctic Indigenous peoples assert that focusing on ancestral knowledge and real emissions cuts is a safer path. In 2022, a global moratorium on solar geoengineering was recommended by over 60 Indigenous and environmental organizations	Hands Off Mother Earth Alliance (2025

AR110	**Nunakut naguatun atugluu/ Co -stewardship: Co -production through the lens of SEARCH's Human Wellbeing Team**	Inupiaq	USA	Arctic	peer-reviewed; co-stewardship; governance; Indigenous-led; co-production; barriers	Co -stewardship is an Indigenous -centred response to rapid Arctic environmental and social change that affects human wellbeing. Working within the Study of Environmental Arctic Change (SEARCH) Human Wellbeing team, Alaska Indigenous leaders and allies describe a practice that treats multiple knowledge systems as equally valid and uses relationship -based methods (oral histories, visual storytelling, art) to bring Indigenous knowledge into climate -relevant science and policy spaces. The piece documents why time, trust and reciprocity are prerequisites to climate governance that is fit for a fast -changing Arctic. Reported outcomes include stronger Indigenous participation in de fining problem framings and priorities (e.g., centring Indigenous education as a core adaptation capacity) and new knowledge -sharing tools (e.g., the NIUGTAQ 'Fractured Edge' exhibit/podcast) that widen audiences for climate risk. Equally, the authors are explicit about what impedes progress—colonial policy frameworks, projectized/short -term grants that undermine relationship -building, and weak institutional mechanisms for Indigenous leadership. They call for long -term funding commitments, policy shifts that embed Indigenous decision -making, and respect for knowledge sovereignty so that co-stewardship can deliver more durable adaptation and mitigation co -bene fits via Indigenous stewardship of lands and waters."	Turner DT, Schaeffer JQ, Donatuto J, Landrum L, Nunn C, Lukin MK, et al. (2025) Nunakut naguatun atugluu/Co-stewardship: Co-production' through the lens of the Study of Environmental Arctic Change's Human Wellbeing Team. PLOS Clim 4(8): e0000692. https://doi.org/10.1371/journal.pclm.0000692
AR093	**Wales Inupiaq Sea Ice Dictionary (Kingikmiut)**	Kinglin, Alaska	USA	Arctic	Local observations & impacts, traditional knowledge, language	In the community of Kingiin, also known as Wales, Alaska, over one hundred terms have been documented in 2007-2008 for the types of sea ice (sigu) and associated phenomena in the local Kingikmiut dialect of the Iñupiaq language. Local climate knowledge is embodied within such terminology. The Kingikmiut 'Sea Ice Dictionary' has been endorsed by the Community of Wales for publication and also for the prospective use in the Wales High School as a part of local cultural and language curriculum.	Geomatics and Cartographic Research Centre (GCRC), Carleton University (2012). https://jukebox.uaf.edu/sites/default/ files/documents/Preserving-our-Knowledge--Wales-Dictionary.pdf
AR094	**Newtok Relocation – Resilient New Village of Mertarvik**	Newtok Village (Yup'ik), Alaska	USA	Arctic	Adaptation; Relocation	Newtok was the first large-scale relocation of an Alaska Native village due to climate change. Newtok, a Yup'ik village on the Ninglick River, was moved to a new site (Mertarvik) as thawing permafrost and river erosion devour the old village (up to 21 meters of land lost per year)	Alaska Public Media (2024). "Relocation of eroding Alaska Native village seen as a test case" https://alaskapublic.org/news/2024-04-22/relocation-of-eroding-alaska-native-village-seen-as-a-test-case Associated Press (2021). "Climate change destroyed an Alaska village…" https://apnews.com/article/climate-change-permafrost-melting-alaska-newtok-relocation-moving-292694f057b75f75a9438c794853ee25
AR095	**Iñupiaq and Environmental observations of the Qikiktagrugmiut in Northwest Alaska**	Qikiktagrugmiut	USA	Arctic	Adaptation, local observations & impacts, traditional knowledge	The Native Village of Kotzebue, the tribal government of the community, conducted a study to document traditional knowledge of environmental change in their region from the 1950s to the present. The study was conceived, developed, and carried out by members and employees of the tribe. Interviewers used a semi-directive interview to engage elders in conversations about environmental change. The results were compiled in a report, which included a discussion of the implications of the various observations recorded. The documentation of this knowledge will be valuable to future tribal members for historic preservation purposes and comparative analysis. A closer look at the Qikiktagrugmiut under- standing of one event and its impacts, such as late freeze-up, can show how they see consequences that are widespread and varied yet still intertwined, so that it is impossible to look at any one thing in isolation. Late freeze-up is one likely consequence of regional climate warming, and hence a relevant example for considering the impacts of climate change. The Arctic Climate Impact Assessment discusses the example of late freeze-up and its impacts ranging from rough ice conditions, more danger from thin ice, and more erosion and flood problems, to better access to spotted seals (Phoca largha), caribou, and red foxes (Vulpes vulpes).	Arctic Climate Impact Assessment (pp. 61-98), http://www.acia.uaf.edu/pages/scienti fic.html; Encyclopedia of the Earth, http://www.eoearth. org/article/Qikiktagrugmiut_climate_change_case_study

AR096	**Changes in Hunting**	Qikiqta ġruk	USA	Arctic	observations & impacts, food security, health, transport	Indigenous peoples in the Arctic region depend on hunting for polar bears, walrus, seals and caribou, herding reindeer, fishing and gathering not only for food to support the local economy, but also as the basis for their cultural and social identity. Some of the concerns facing indigenous peoples in the region include the change in species and availability of traditional food sources, perceived reduction in weather predictions and the safety of traveling in changing ice and weather conditions, posing serious challenges to human health and food security. For example, reduced sea ice coverage is linked to decreasing harvesting opportunities for ugruk (bearded seal, Erignathus barbatus) in northwest Alaska. The duration of spring ugruk hunts by the Qikiqta ġruŋmiut declined significantly during 2003-2019 due to a shift (~3 weeks earlier) in the timing of regional sea ice breakup. Harvests now cease ~26 days earlier than in the past decade. Qikiqta ġruŋmiut hunters have so far been able to offset a shortened season with changes in effort, but accessibility to traditional resources remains a prominent concern for many Arctic communities.	UNPFII (2007): Climate Change: An Overview, http://www.un.org/esa/socdev/unpfii/en/climate_change.html. Hauser, D.D., Whiting, A.V., Mahoney, A.R., Goodwin, J., Harris, C., Schaeffer, R.J., Schaeffer, R., Laxague, N.J., Subramaniam, A., Witte, C.R. and Betcher, S., 2021. Co-production of knowledge reveals loss of Indigenous hunting opportunities in the face of accelerating Arctic climate change. Environmental Research Letters, 16(9), p.095003.
AR097	**Kivalina Relocation Efforts**	Kivalina Inupiaq community	USA (Alaska)	Arctic	Human settlements, Water, Adaptation, Relocation, Erosion, lessons learned	The barrier island community of Kivalina has pursued relocation for two decades due to permafrost thaw and storm erosion. A rock revetment built in 2008 slowed erosion but did not solve the problem	Inside Climate News (Sept 13 2021): Indigenous Tribes Facing Displacement in Alaska and Louisiana Say the U.S. Is Ignoring Climate Threats https://insideclimatenews.org/news/13092021/indigenous-tribes-alaska-louisiana/
AR098	**Shishmaref Relocation**	Shishmaref Inupiat community and others	USA (Alaska)	Arctic	Human settlements, Adaptation, Sea-level rise, lessons learned	144 Alaska Native communities that face some degree of infrastructure damage from erosion, flooding or permafrost melt. Shishmaref is a traditional Inupiat village with a fishing and subsistence lifestyle.Threatened by erosion and sea-level rise, the city voted twice to relocate (2002, 2016). However, due to an estimated $180 million cost and lack of federal funding, the community remained on its eroding island until 2024, when Shishmaref became one of the first Alaska Native villages to complete a large scale relocation due to climate change.	Alaska Native Tribal Health Consortium: The Unmet Needs of Environmentally Threatened Alaska Native Villages (2024). https://www.anthc.org/wp-content/uploads/2024/01/Unmet_Needs_Report_22JAN24.pdf

Asia

ID	Title	IP	Country	Region	Keywords	Summary	Further Information
AS001	**Climate Impacts, Adaptation and Vulnerability in Asia**	Asian Indigenous Peoples	__Regional Overview (IPCC)	Asia	observations & impacts, adaptation, food security, forecasting,land use	Indigenous communities across Asia are grappling with climate-induced challenges, including prolonged droughts, floods, and unpredictable weather patterns that threaten agriculture and water resources. In India, the Lepcha people employ traditional agroforestry systems to regulate microclimates, conserve soil moisture, and sustain crop yields amidst changing climatic conditions. Similarly, the Lachenpas and Dokpas use phenological observations of local flora and fauna to forecast seasonal changes, aiding in agricultural planning and resource management. Despite the effectiveness of these traditional practices, Indigenous communities often face challenges such as land encroachment, loss of biodiversity, and limited recognition of their knowledge systems. The AR6 emphasizes the importance of preserving and integrating Indigenous knowledge into broader climate adaptation frameworks and ensuring that Indigenous communities have a voice in policy-making processes to address their unique vulnerabilities and strengths.	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.
AS002	**Linking Indigenous Knowledge Holders (Pamir)**	Wakhi (Afghanistan) & Pamiri (Tajikistan)	_Regional (Afghanistan /Tajikistan)	Asia	Adaptation, awareness raising	A cross-border network in the Pamir Mountains connects Indigenous knowledge for climate adaptation. Since 2015, Wakhi pastoralists in Afghanistan and Pamiri agro-pastoralists in Tajikistan have collaborated with academics to develop ecological calendars that integrate their traditional phenological cues with climate science	The Christensen Fund, http://www.christensenfund.org/page.asp?id=72 [archived]
AS003	**Oil-palm plantations evict Indigenous Peoples from their traditional lands indonesia**	Indigenous peoples in Malaysia and Indonesia	_Regional (Indonesia/ Malaysia)	Asia	local observations & impacts, land rights, mitigation, deforestation	Aggressive oil palm expansion in Southeast Asia has encroached on indigenous territories, violating land rights and causing deforestation	UNPFII, 2008: Information received from Governments E/C.19/2008/5/Add.1; http://news.mongabay.com/2007/0516-indigenous.html (15 May 2007); The Economist, "The End of Cheap Food" (6 December 2007).
AS004	**Hydro-power Dams on Salween Threaten Indigenous Groups**	Karen, Shan, and other indigenous peoples along the Salween River	_Regional (Myanman, China, Thailand)	Asia	Local observations & impacts; Energy; Legal action	This cross-border cases highlight indigenous resistance to large hydropower projects on the Salween River. Planned mega-dams (e.g. Hatgyi) threaten to displace tens of thousands of Karen and Shan villagers, submerge ancestral lands, and disrupt fisheries central to their livelihoods. Indigenous communities have conducted their own environmental assessments and mobilized through networks like Karen Rivers Watch, documenting how altered river flows would erode riverbank gardens and flood sacred sites. In 2021–2023, Karen leaders in Myanmar's Salween Peace Park and Karen communities in Thailand jointly advocated for a moratorium on dam construction, proposing instead community-led renewable energy and watershed stewardship. Their advocacy, grounded in indigenous rights and knowledge of the river's ecology, has brought international attention to the Salween as one of Asia's last free-flowing rivers.	Middleton, C., Scott, A., Lamb, V. (2019). Hydropower Politics and Con flict on the Salween River. In: Middleton, C., Lamb, V. (eds) Knowing the Salween River: Resource Politics of a Contested Transboundary River. The Anthropocene: Politik—Economics—Society—Science, vol 27. Springer, Cham. https://doi.org/10.1007/978-3-319-77440-4_3

AS090	**Hydro-meteorological disaster risk reduction and climate change adaptation in coastal and small island communities**		_Regional (South-East Asia)	Asia		Communities living in archipelagic Southeast Asia face daily threats from impacts of hydro-meteorological hazards and climate change. A project focusing on local and indigenous knowledge was implemented in Indonesia, Philippines and Timor-Leste with the objective of increasing the resilience of coastal and small island communities against climate change and hydro-meteorological hazard impacts by building the capacities of scientists, local communities and policy makers to integrate local and indigenous knowledge. This knowledge included observations of changes in the environment and celestial bodies to predict climate-related hazards; and rituals and ceremonies based on traditional or religious beliefs. Together with customary laws that govern behaviour, these rituals engender and reinforce respect for the environment, strengthen social cohesion, and thus help communities to better face and respond to the impacts of climate change and climate-related hazards.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=25521 Hiwasaki, L., Luna, E., Syamsidik, & Marçal, J. A. (2014). Local and indigenous knowledge on climate-related hazards of coastal and small island communities in Southeast Asia. Climatic Change, 128(1-2), 35–56. doi:10.1007/s10584-014-1288-8
AS005	**Programme for developing mechanisms to reward the upland poor of Asia for environmental services they provide (RUPES)**		_Regional Asia	Asia	Adaptation, payment for ecosystem services, forests, water resources, land rights	Regional initiative testing payment for ecosystem services (PES) to bene fit upland indigenous communities by rewarding environmental stewardship. Implemented across pilot sites in the Philippines, Nepal, and Indonesia, it incentivized carbon sequestration and watershed conservation by sharing bene fits with local people. The project improved livelihoods and tenure security for communities like the Ikalahan through agreements that reward forest protection and sustainable land management.	RUPES, http://rupes.worldagroforestry.org/ [archived]
AS006	**Indigenous Forecasting in Maheskhali, Bangladesh**	Maheshkhali Island communities	Bangaldesh	Asia	adaptation, oceans & coastal, human settlements	Maheshkhali Island is situated off the Bay of Bengal coast with an area of approximately 60 square km. Cyclones are the greatest disaster threat of coastal people. In Bangladesh, cyclones usually occur in two seasons of a year i.e. April-May and November-December. Research has revealed that certain indigenous prediction capacity possessed by the local people always helped them to anticipate cyclones and take necessary precautions. People in Maheshkhali, as in other parts of the country, use the word tufan to describe a cyclone, which apparently seems close to the Paci fic word of taifu, without having any etymological relationship. However, pre fixes are also used to classify the intensity of cyclones. For example, cyclones with low and high intensity are called choto tufan and boro tufan, respectively. The mightiest cyclones, such as those of 1970 and 1991, are flavored with religious terminology and often referred to as the "Doomsday" or "Curses of God". Many Maheshkhali islanders say that they can predict occurrences of cyclones. However, these respondents were all belonging to the older generation, i.e. 50 years and above. The indigenous knowledge, particularly the one related to natural calamities, is transmitted through the male line and preserved by the older generation. They use five major indicators in predicting cyclones:wind directiontemperature and salinity of sea watercolor of cloudsappearance of a rainbowabnormal behavior of certain bird species Regarding the wind direction, the	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23354 Shahed Hassan (2000). Indigenous Disaster Management Culture: A Comparative Study Between the Cyclone Affected People of Bangladesh and Japan. ASA 2000 Conference Papers.
AS007	**Flooding and the role of local knowledge in Bangladesh**	Communities in Sunamganj, Sirajganj, Satkhira	Bangladesh	Asia	Flooding; Disaster preparedness; Community knowledge	Showcased how communities use traditional knowledge to prepare for and mitigate flooding. Local practices include constructing raised mud platforms (machang) for homes and grain storage, planting protective vegetation like betel nut trees to break storm winds, and relying on folk warning rhymes to predict heavy rains. The case highlighted a successful village disaster committee that blended these indigenous practices with modern training – for example, organizing boat evacuation drills timed by the blooming of speci fic flowers known to precede floods. The outcome was a low-cost, community-owned disaster management plan that signi ficantly reduced flood damages and saved lives, in fluencing national policy to acknowledge local knowledge in disaster risk reduction.	Islam, M. R., Ingham, V., Hicks, J., & Kelly, E. (2018). From coping to adaptation: flooding and the role of local knowledge in Bangladesh. International Journal of Disaster Risk Reduction, 28, 531-538. https://doi.org/10.1016/j.ijdrr.2017.12.017
AS010	**Bangladesh Indigenous Youth report to UNFCCC COP-28**	Indigenous peoples of Bangladesh	Bangladesh	Asia		Key Impacts: Indigenous communities face vanishing traditional livelihoods (like shifting cultivation) and worsening water scarcity. Floods, waterlogging, thunderstorms, and landslides intensify these threats. Challenges: Deforestation from development, tourism, and national park expansions undermine their rights and resources. Armed opposition from non-Indigenous groups and lack of support impede their efforts to protect territories, leading to food insecurity.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf
AS008	**Indigenous forecasting in Maheshkhali, using meteorological indicators and animal behaviour to predict cyclones**	Maheshkhali Island communities	Bangladesh	Asia	Early warning systems; Disaster preparedness; Traditional knowledge	Documented the traditional cyclone warning signs used by islanders of Maheshkhali. Many Maheshkhali islanders say that they can predict occurrences of cyclones. However, indigenous knowledge related to natural calamities, is held by elders and transmitted through the male line. They identify five major indicators in predicting cyclones: wind direction, temperature and salinity of sea water, colour of clouds, appearance of a rainbow, and abnormal bird behaviour. The indigenous cyclone prediction is even more important as it was revealed during interviews that modern warning systems are not well understood locally.	UNFCCC Database on local coping strategies, Case Study 33, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy. pl?id_project=33; Md. Shahed Hassan (2000) Indigenous Disaster Management Culture: A Comparative Study Between the Cyclone Affected People of Bangladesh and Japan. ASA 2000 Conference Papers http://www.asa2000.anthropology.ac.uk/hassan/hassan.html

AS009	**Indigenous Munda people adopt their ancestral knowledge to overcome the effects of climate change**	Munda People	Bangladesh	Asia	Adaptation, disaster relief, traditional knowledge	The Munda people are one of the most vulnerable and disadvantaged in Bangladesh. To date, the area has faced climate hazards such as cyclones, tornadoes, floods and other natural disasters. The main objective of this initiative is to increase resilience to the adverse impacts of climate change through awareness raising and restoration of traditional knowledge.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
AS011	**Floods in the Chittagong Hill Tracts**	Chakma and other Jumma peoples of Khagrachari (CHT)	Bangladesh	Asia	Climate Change, food Security, Indigenous Knowledge, agro-Techniques, Landslides	In Khagrachari in the Chittagong Hill Tracts (CHT), severe floods took place in 2006 which lasted for 15 days and led to the destruction of houses and thousands of acres of land planted to food and other crops. Thousands of indigenous persons were displaced. Massive floods also occurred in the coastal areas of Bangladesh which has led to freshwater salinization and increased incidents of diseases. Agricultural production of the Santal, Munda and Oraon, indigenous peoples who live in North Bengal, has decreased signi ficantly because of increased precipitation in their territories. The Rakhine are the indigenous peoples who live in the coastal areas who have suffered worst floods because of the rising sea level, which caused coastal and riverbank erosion and the depression of the Sundarbans, one of the best floodplain mangrove forests in the world. More migration from Dhaka and other low-lying coastal areas into the CHT will mean the further minoritization of the indigenous peoples in that region. This will also exacerbate existing con flicts over lands and natural resources between the Bengali people and the Jummas. Rats attacked rice fields and Jhum or swidden farms leaving no food for the people, exacerbated by the disappearance of natural predators like snakes, birds, wild cats, due to deforestation and forest fires brought about by long drought seasons. The rat infestation and drought led to a devastating famine in 2007 resulting in malnutrition of indigenous peoples	Tebtebba (2009), Report of the Asia Summit on Climate Change and Indigenous Peoples, http://www.tebtebba.org/index.php?option=com_docman&task=doc_download&gid=290&Itemid=27
AS012	**The Taungya Project**	Forest/ farming communities	Bangladesh	Asia	Adaptation, livelihoods	A revival of the taungya agroforestry system as a climate adaptation and livelihood strategy. The taungya practice – intercropping food crops among young forest plantations – was reintroduced to enable indigenous and local farmers to sustain agriculture during reforestation. By granting communities temporary use rights to cultivate between tree rows, the project provided food and income while newly planted forests grew. This approach improved tree survival and reduced plantation costs, and in return communities protected the seedlings. The project built climate resilience by diversifying livelihoods and restoring forest cover through a co-management approach that values traditional farming knowledge.	UNDP Regional Centre in Bangkok, http://regionalcentrebangkok.undp.or.th/practices/governance/ripp/InnovativeProject.html
AS013	**Capacity building on REDD+ readiness for forest dependent communities**	Various communities including Bumthang, Chhukha, Sarpang, Zhemgang districts	Bhutan	Asia	REDD+, climate change, forest carbon accounting, agriculture	The project aimed to raise awareness of forest-dependent communities in Bhutan on climate change and REDD+, enhancing their skills in carbon accounting and climate-smart agriculture. It successfully conducted trainings, established vegetable demonstration gardens, and formed local REDD+ groups, greatly improving community understanding and skills related to forest carbon accounting and sustainable practices.	Tebtebba Completion Report (2020) Annex 3. https://www.tebtebba.org/index.php/ filelink/fileman- files/FCPF/completion-report/Annex%203%20Sub-projects%20completion%20reports.pdf
AS014	**Dayak forbidden forests climate change video brief**	Dayak communities of West Kalimantan	Borneo	Asia	observations & impacts, forests, cultural practices	A short video about the effects of climate change on indigenous people living in the forests of Borneo island. Deep in the old growth forests of Borneo, the Setulang Dayak village guards its forest with might. To date, the village's traditional law of Tana Olen (forbidden forest), withstands increasing pressure from encroaching logging industries. Now as rapid development rolls in, the village is trying to secure sustainable and forest-friendly future, including a eco-tourism venture and carbon credits.	UNU-TKI Indigenous Perspectives on climate change video series, https://vimeo.com/showcase/85004/video/4167109
AS015	**Southern Cardamom REDD+ Project**	Chong Indigenous communities	Cambodia	Asia	Land use, finance, REDD+, Mitigation, Rights, lessons learned	The Southern Cardamom REDD+ project – Cambodia's largest forest carbon offset scheme (500,000+ ha) – was implemented in 2016 without proper consent of the Chong people living there. For 31 months, project operators made decisions (e.g. turning 8 Chong villages into a national park) without consulting the Indigenous landowner s, violating their FPIC rights. Chong villagers report that environmental rangers and police forcibly evicted them from traditional farmlands and arrested those who resiste d. By 2023, no bene fit-sharing agreements with the Chong had been established, even as carbon credits were being sold. What was billed as a climate mitigation initiative thus resulted in dispossession and con flict. Indigenous families view it as a failure that put conservation above their rights and well-being. Under international pressure after these findings, Cambodia's government pledged to improve consultation.	HRW (Feb 28 2024): Carbon Offsetting's Casualties https://www.hrw.org/report/2024/02/29/carbon-offsettings-casualties/violations-chong-indigenous-peoples-rights

AS016	**Biodiversity and Protected Areas Management**	Kuy and Phnong	Cambodia	Asia	Adaptation; Natural resource management; Biodiversity	In the highlands of northeastern Cambodia, World Bank/GEF financing is supporting the protection and management of Virachey National Park (VNP) in the province of Ratanakiri. Encompassing 350,000 hectares of forest and mountain habitats, VNP is one of the largest expanses of intact forest left in Cambodia. It also adjoins protected areas in neighboring Laos and Vietnam to form part of a tri-national conservation triangle. The region is home to numerous ethnic minorities who have lived in the project area for many generations but moved settlements many times during the political strife and warfare that ravaged the region during the Vietnam War and subsequent Khmer Rouge regime. These communities are now settled along the rivers at the edge of the park. Park staff and the indigenous Brou, Kravet, and Krueng communities are working together to articulate and implement long-term community resource management plans in lands that overlap park boundaries. These plans will assist the communities to assert their rights against large-scale timber interests, which are moving into the region.	Sobrevila, C. (2008). The role of Indigenous Peoples in biodiversity conservation: The natural but often forgotten partners . The World Bank.
AS017	**Three Parallel Rivers of Yunnan Protected Are**	Deqin people	China	Asia	impacts, adaptation, cultural practices, traditional knowledge, land use, policy & governance, two-eyed seeing	The Deqin people inhabit a territory located in the Three Parallel Rivers of Yunnan Protected Area. Over a decade ago, efforts to protect a critical upstream watershed led to the implementation of several environmental policies, including the establishment of a Natural Reserve Area, reforestation of farmland, and restoration of grazing lands to grasslands. These policies inadvertently disrupted traditional indigenous livelihoods. Restrictions such as fencing grasslands severely limited animal mobility, causing the death of domestic and wild animals, and bans on traditional practices like pasture burning, aimed at regenerating fertile grasslands, accelerated pasture degradation due to invasive alpine shrubs, exacerbated by climate change. Though the traditional practice of grassland burning was ultimately discontinued, collaborative efforts emerged, integrating traditional knowledge with modern science and technology. Agricultural innovations, including experimental cultivation and selective cross-breeding of traditional highland barley varieties, provided climate-resilient solutions combining indigenous expertise and scienti fic research. Pastoralists engaged in grassland co-management initiatives, establishing biological fencing and "protection planting" to enhance pasture productivity and biodiversity.	Report from the second ILK dialogue for the IPBES assessment of values of nature. Section 3.5: Decision-Making, pp33-24. https://files.ipbes.net/ipbes-web-prod-public- files/inline- files/IPBES_Values_2ndILKDialogue_Report_final_ForWeb.pdf
AS112	**Agrobiodiversity as a tool for adaptation: The case of the Hani Rice Terraces**	Hani (Yunnan)	China	Asia	traditional knowledge, cultural practices, food security	The Hani ethnic minority in Yunnan Province, China, employs traditional agrodiversity knowledge - a holistic approach combining biological, technological, and organizational strategies - to adapt to climate hazards, particularly drought. Agrodiversity, as practiced in the iconic Hani rice terraces, emphasizes using indigenous knowledge to manage land, water, and biodiversity, thus enhancing resilience against climate extremes. During the severe drought from 2009 to 2012, while many areas in Yunnan suffered substantial agricultural losses, the Hani rice terraces largely remained productive, demonstrating the effectiveness of their traditional practices. Indigenous knowledge and traditional management systems of the Hani people are integral to this agrodiverse approach. They strategically use diverse crops and animals, carefully manage water resources, and maintain landscape-level biodiversity, which collectively buffer their communities against climatic risks.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=25525 Jiao, Y., Li, X., Liang, L., Takeuchi, K. Okuro, T., et al. 2012. "Indigenous ecological knowledge and natural resource management in the cultural landscape of China's Hani Terraces", Ecological Research (2012) 27: 247–263. https://link.springer.com/article/10.1007/s11284-011-0895-3
AS018	**Gansu and Xinjiang Pastoral Development Project**	Kazakh and Uyghur pastoralists	China	Asia	Adaptation; Rangeland management; Wetlands; Pastoralism	A World Bank-supported initiative (2005–2012) in China's arid northwest that worked with indigenous Kazakh and Uyghur herders to restore degraded rangelands and wetlands as climate adaptation. The project promoted rotational grazing agreements based on traditional nomadic practices, allowing pastures in Gansu and Xinjiang to recover from drought stress. Indigenous herders co-designed water storage and irrigation for winter fodder cultivation, reviving old customs of dividing communal pasture by season. By project end, vegetative cover and herd health had improved, boosting the communities' resilience to increasing droughts and extreme winters (*dzud*). Crucially, herders' knowledge of pasture cycles was integrated into local government range management plans. This case underlines the value of empowering pastoral communities to lead adaptation efforts on their ancestral lands.	World Bank Project Completion Report No. P087224 (2013)

AS019	**Livelihoods Improvement**	Lepcha and Limbu	China	Asia	agricultural production, climate change, coping strategies, environmental policy, gender relations, Himalaya, livelihoods, mountain areas, planning, risk, women	IFAD is supporting reforestation in the Livelihoods Improvement Project in the Himalayas with a focus on gender in-equalities and indigenous households. Over the years, the largely self-suf ficient survival system of Himalayan mountain communities has been seriously weakened. This has led to an accentuation of poverty conditions in mountain areas and, as a consequence, the degradation of natural resources, particularly land and forests. The project uses available natural resources more productively through appropriate "small scale interventions' and participatory rural appraisals for poverty mapping, and identi fication of self-targeted activities and intensive sensitization programmes. It also aims to create community owned organization from the villages level upwards, and gradually transfer project ownership and management to these institutions after suitably building the capacities enabling them to perform role.	UNPFII, 2009. Information received from the United Nations System and Other Intergovernmental Organisations. E/C.19/2009/3/Add.3; Shri Bhuvneshwari Mahila Ashram, http://www.sbmahimalaya.org/projects_ifad.htm
AS021	**The Naxi Mountain Villages Coalition: A Model of Biocultural Conservation**	Naxi	China	Asia	adaptation, traditional knowledge, observations & impacts, two-eyed seeing, food security	In China's Jinsha River Valley, the Naxi communities of Stone, Youmi, and Labo villages sustain a rich biocultural heritage rooted in sustainable agriculture and traditional water management. Facing climate change impacts such as droughts, floods, and pest outbreaks, their livelihoods and traditional knowledge have been threatened. In response, a participatory initiative supported by the Farmers' Seed Network (FSN) and UNEP-IEMP was launched in 2013, revitalizing indigenous practices and strengthening community resilience. Primarily led by women, the initiative integrates traditional knowledge with modern science through participatory plant breeding, community seed banks, and farmer schools. Established in 2015, the Naxi Mountain Villages Coalition prioritizes inclusive governance and intergenerational knowledge transfer, preserving over 200 local crop varieties and promoting sustainable agricultural methods. Notable achievements include developing drought-resistant crops, reviving traditional water systems, and documenting Naxi culture extensively through publications like the "Dongba Bio-Cultural Guardians" series and an indigenous plant guide. International partnerships have elevated the community's pro file globally, highlighting a successful model of indigenous-led climate adaptation and cultural preservation.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=29446 Farmers' Seed Network. https://www.fsnchina.info
AS022	**Ecological restoration of degraded watershed on the upper reaches of the Minjiang River; Integration of Qiang ethno-botanical knowledge and practices into a reforestation project**	Qiang	China	Asia	Adaptation, water resources, forests, traditional knowledge	The Qiang people mainly inhabit the valleys of the Minjiang River (a main branch of the Yangtze) in Sichuan Province. This region is important for its mountain forests, which are a major source of water for the Yangtze. What takes place in these mountain ecosystems has far-reaching effects on the areas downstream. Large-scale deforestation and population growth over the last four decades have resulted in serious degradation in this area. In just four decades, it is estimated that the forests have shrunk from 40 per cent of the land area to 10 per cent. This has caused a loss of biodiversity. Since the 1980s the government of China, recognizing the need for ecological restoration, has funded a programme entitled "Construction of a Protective Forest System on the Upper Reaches of the Yangtze River". Productive land, including newly cultivated fields, some of them on steep slopes, has been forcibly set aside for protection and reforestation. From the beginning, the project to rehabilitate this watershed has incorporated indigenous knowledge of the Qiang people. Their knowledge of medicinal plants has played an important role in the conservation of biodiversity, and Qiang practices of forest management and home-gardening have been integrated into the project. Because the collection and cultivation of plants for herbal medicines were an important source of income for the Qiang people, the cultivation of these plants	UNESCO Best Practices on Indigenous Knowledge BP.15, http://www.unesco.org/most/bpik15.htm
AS023	**Experiences of climate change in East Timor**	Fataluku	East Timor	Asia	Local observations & impacts, water resources	The local communities that live in East Timor report the disappearance of spring water, changing planting seasons, extreme flooding, landslides, and other environmental changes. A prominent leader amongst the indigenous women in Tutuala, the most eastern part of East Timor, reports that ten years ago people in her village collected water from a nearby spring, but that today the water has disappeared. Fetching water is normally the task of women and children so this increases the workload of women in the village who now have to walk more than two kilometres to collect water.	Working Group on Climate Change and Development, 2007. Asia and the Paci fic - Up In Smoke? http://www.iied.org/pubs/display.php?o=10020IIED
AS024	**Indigenous Forecastting in the Western Himalayas**	Indigenous communiti es in the Himalayas	Himalayan region (India, Nepal, Bhutan, China (including Tibet), and Pakistan)	Asia	adaptation, traditional knowledge, food security, forecasting	Weather signi ficantly impacts agriculture in the western Himalayas, causing up to 75% of annual crop losses. Accurate forecasting, from short-term to seasonal, helps minimize these losses, yet farmers often rely heavily on traditional indigenous knowledge. Indigenous insights guide local weather predictions, including observation of solar and lunar halos, cloud patterns, wind direction, bird behaviors, animal and insect activities, fruit yields, and household indicators, such as moisture on utensils or tobacco bags.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23366

AS025	**Terracing in the Himalayas**	Indigenous communities in the Himalayas	Himalayan region (India, Nepal, Bhutan, China (including Tibet), and Pakistan)	Asia	adaptation, traditional knowledge, food security, water	In the Himalayan cold deserts, indigenous knowledge plays a crucial role in addressing climate variability and extreme weather conditions. Farmers have traditionally employed practices like terracing, field leveling, curved ploughing, and biofencing with sea-buckthorn to mitigate soil erosion and conserve moisture. Techniques such as rotational grazing, vegetative hedges, and irrigation in autumn protect soil from erosion by wind and water.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23367 L.R. Verma (1998). Indigenous technology knowledge for watershed management in upper north-west Himalayas of India. PWMTA Field Document No. 15, Kathmandu: FAO
AS026	**Reviving Millet Biodiversity in Medak**	Dalit	India	Asia	Adaptation, biodiversity, agriculture	In semi-arid Medak (Telangana), groups of marginalized women have revitalized traditional millet farming to cope with recurrent droughts and crop failures. Through the Deccan Development Society, over 5,000 women established community seed banks conserving native sorghum, pearl millet, foxtail and other hardy crops that survive on minimal rain. These women-led seed exchanges and organic farming practices have reintroduced climate-resilient grains that had been displaced by water-intensive cash crops. During recent extreme events – such as a pandemic lockdown and unprecedented floods in 2020 – these communities not only fed themselves but shared surplus food with neighbors	International Union for Conservation of Nature (2008). Indigenous and Traditional Peoples and Climate Change. http://cmsdata.iucn.org/downloads/indigenous_peoples_climate_change.pdf. From Menon, M. 2002. The crops of truth. Wasteland News, May-July 2002: 53-55. Hemalatha (2021) Pulitzer Center
AS027	**Khazan Agro-Aquatic Systems of Goa**	Goa villagers	India	Asia	Khazan, Ethnobotany, Bous, Korgut, Mangroves, sluice gates, Mange Thapni, Terminalia tomentosa	Coastal communities in Goa maintain Khazans – centuries-old, community-managed agro-aquaculture ecosystems of reclaimed mangrove wetlands protected by earthen bunds and sluice gates. These integrated rice fields, fish ponds, and salt pans have traditionally buffered salinity, controlled floods, and sustained livelihoods for generations. Today, locals and the Goa Khazan Society are reviving and conserving Khazans to address climate threats like sea-level rise and land salinization, recognizing this symbiotic land-water management as key to food security and ecosystem resilience.	UNFCCC Database on local coping strategies, Case Study 159, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=159; TERII, INTEREST - Interactions between Environment, Society and Technology. Three case studies using different ecosystems: Traditional Aquaculture – Goa, Agriculture – Karnataka, Bamboo forests – Haryana. The Energy and Resources Institute, http://www.teriin.org/teriwr/projects/interestaqua.pdf
AS028	**Indigenous Forecasting in Gujarat, India**	Gujarat communities	India	Asia	adaptation, traditional knowledge, forecasting	Gujarat, a drought-prone region in India, experiences highly erratic monsoons that heavily in fluence agricultural decisions. Farmers rely extensively on indigenous meteorological knowledge for forecasting monsoon onset and drought conditions, drawing from traditional observations of atmospheric signs, plant foliage, and animal behaviors. Historical insights, such as those by the 12th-century poet Bhadli, emphasize interactions between celestial phenomena and weather patterns. Recent validations by researchers from Gujarat Agricultural University con firmed the reliability of many traditional forecasting practices, highlighting their value in climate change prediction and agricultural planning.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23369 Parshotambhai R. Kanani, Validation of Traditional Meteorological Principles in Saurashtra, India.
AS029	**Job's tear, Coix lacryma-jobi Linn)**	Indian communities	India	Asia	adaptation, food security, traditional knowledge	As an existing community strength, there is a plant called ngum in the local language (Job's tear, Coix lacryma-jobi Linn). It is used for preparing food such as cookies and porridges as well as beverages like rice wine and rice beer, and it is very culturally important. It is a climate resilient crop, which is resistant to extreme weather conditions – which is an important characteristic in times of climate change. In the past, this was considered "poor peoples' food" and the communities nearly forgot the value of the crop. However, after mobilizing women – who often hold and practice knowledge about crops – the communities succeeded in reviving the crop and now it is becoming popular again, because people realize the healing bene fits it brings. Ngum is based on community's knowledge systems and practices. Communities share seeds so they do not buy them from the markets and they also exchange labour and information around the seeds. Ngum is an example of a crop that would fit well within multiple corners of the NFF. This crop is nourished by natural rainfall, where nature supports nature. It is also supporting the local economy, food and health, and that is an example of nature for society. Finally, it is relational because it supports cultural as well as communal harmony. There is also a network of 1250 villages as well as a women's network. As part of Naga culture, all women have kitchen or backyard gardens, which is part of the local food system. This has recently been strengthened, particularly during the	Indigenous and local knowledge dialogue workshop on scenarios and the Nature Futures Framework: Asia-Paci fic Food Systems, p. 40 https://ipbes.net/sites/default/ files/2023-02/IPBES_ILK-Scenarios_Dialogue2021_Report_For Web.pdf

AS030	**Indigenous forecasting in India using meteorological indicators, plant features and animal behaviour**	Indigenous famers in Western Himalayas and Gujarat	India	Asia	Adaptation, agriculture, food security, traditional knowledge, forecasting	Weather is the most important factor determining the success or the failure of agricultural enterprises, the main source of livelihood in the western Himalayas. In all, weather accounts for approximately 75% of the annual loss in farm pro- duction. However, crop losses can be reduced substantially by making appropriate adjustments in cropping practices. Timely and accurate weather forecasts can provide planning guidelines regarding the crops best suited to the anticipated climatic conditions. Although there are meteorological services and information is disseminated to the region, farmers still apply weather predictions based on observations of various natural, cultural, and social phenomena. For example, an accumulation of clouds in the southeast direction in a layered form, accompanied by winds blowing from the south, indicates that there will be rain within a day or two. When grey clouds descend below the hill-tops, rain is assured. Gujarat in India is a drought-prone, predominantly dryland region. Agricultural drought has been a regular feature there since the 1970s. The monsoon season extends from June to September and is characterized by erratic rainfall. The farmers of the region assign a lot of importance to accurate predictions of the monsoon's onset since they base their cropping-pattern decisions on these predictions. Although the Department of Meteorology makes monsoon predic- tions, they are not very helpful to farmers in making choices related to cropping pattern as they are short-range, i.e. for a	UNFCCC Database on local coping strategies, Case Study 46, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=46; L.R. Verma (1998): Indigenous technology knowledge for watershed management in upper north-west Himalayas of India PWMTA Field Document No. 15, Kathmandu: FAO http://www.fao.org/docrep/X5672E/x5672e00.htm; UNFCCC Database on local coping strategies,Case Study 49, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=49;Parshotambhai R. Kanani, Validation of Traditional Meteorological Principles in Saurashtra, India http://www.maweb.org/documents/bridging/papers/kanani.pr.pdf
AS031	**Climate change vulnerability and adaptation among farmers practicing shifting agriculture in the Indian Himalayas**	Indigenous Himalayan communiti es	India	Asia	adaptation; traditional knowledge; finance; agriculture	This study examines the climate change vulnerability of Indigenous communities practicing shifting agriculture in the Indian Himalayas, particularly in Assam's Dima Hasao, Karbi Anglong, and Cachar districts. Using the IPCC framework, surveys and focus group discussions were conducted across 12 villages to assess household-level vulnerabilities and adaptive strategies. Key Findings: - Villages with higher vulnerability had lower literacy rates, smaller and less fertile land, greater crop losses due to extreme weather, high dependence on natural resources, and limited livelihood options. - Villages with better adaptability demonstrated stronger land management techniques, diversi fied agriculture, greater decision-making capacity, and improved market access. Indigenous Peoples' Adaptation Strategies: 1. Agricultural Diversi fication – Integrating high-value crops (e.g., agroforestry) into shifting agriculture enhances food security, economic returns, and ecological resilience. 2. Indigenous Knowledge & Land Management – Traditional ecological knowledge helps maintain soil fertility, manage fallow land effectively, and sustain cultural heritage. 3. Improved Market Access & Decision-making – Economic adaptability is strengthened by linking	Animekh Hazarika, Arun Jyoti Nath, Demsai Reang, Rajiv Pandey, Gudeta W. Sileshi, Ashesh Kumar Das, Climate change vulnerability and adaptation among farmers practicing shifting agriculture in the Indian Himalayas, Environmental and Sustainability Indicators, Volume 23, 2024. https://www.sciencedirect.com/science/article/pii/S2665972724000989
AS032	**Treasures from shifting cultivation in the Himalayan's evergreen forest**	Khasi people of Meghalaya	India	Asia	food security; agriculture	This study characterized the food system of Nongtraw Village in Meghalaya, India that is inhabited by people of the Khasi ethnic group, which is one of the dominant groups of the northeast region of the Indian subcontinent that follows a matrilineal system based on matriarchal values. The community sources food from jhum (shifting cultivation), kper (home gardens), wild sourcing and the market. The jhum lands and the forests are communally managed. A high diversity of crops is produced (more than 60 were named), including a rich heritage of indigenous and traditional varieties. Access to local resources is vital for local food security and diet quality, since the landscape provides 50 to 60 percent of local diets and approximately 60 percent of income derives from crops and livestock. Local markets are important destinations for sale of food and non-food products from the community, contributing to household income. Access to land has so far not been a major issue, but since 2016, the Government has started to restrict local people of the practice of shifting cultivation, which could have an adverse affect on local food production in the future. Decline in soil fertility and scarcity of land are other challenges faced by the community. People are of the opinion that local diets are adequate for ful filling their nutritional needs but they are not completely immune to food insecurity, which has been experienced as a result of extreme weather conditions in recent years. Markets	FAO (2021). Indigenous Peoples' Food Systems. https://lib2.icimod.org/record/35280

AS033	**Women-Led Community Forest Protection in Odisha**	Kondh Adivasi	India	Asia	Local observations & impacts, forests, conflict, ecosystem management	In Nayagarh, Odisha, Indigenous women from Kondh and other forest communities have organized to regenerate and protect their forests, achieving what formal schemes could not. For decades, women's Forest Protection Committees in dozens of villages have patrolled local forests against illegal logging, replanted native trees, and sustainably managed wild foods and bamboo. In 2021, their efforts were finally recognized as they secured Community Forest Resource (CFR) rights titles under India's Forest Rights Act	Dhoop (2021) RRI Blog
AS034	**Rotational Cropping in the Cold Deserts**	Ladakh and Lahaul-Spiti (Himalayas)	India	Asia	Adaptation, precipitation, food security, agriculture	The cold deserts of the Indian Himalayas are characterized by fast-blowing winds that erode the immature sandy soils and extreme variations in daily and seasonal temperatures. There is erratic precipitation during spring and summer, which marks a short growing seasons (2-5 months). Farmers have developed a number of cropping practices to adapt to the harsh conditions, including: — Crop rotation: If irrigation is available, paddy cultivation is alternated with wheat cultivation. If irrigation is not available, wheat or barley rotates with maize and/or mash. However, in cold reaches where paddy cannot be grown and two regular crops are not practicable, cultivation of wheat, barley, or masur is followed by a fallow period during the winter. Millet and maize or buckwheat are planted in the following year. Usually maize is followed by wheat; buckwheat or mash is followed by wheat after maize. Crop rotation helps in maintaining soil productivity. Leguminous crops fix nitrogen. Intercropping maize, wheat, barley and millets conserves soil due to their different root systems which extract nutrients from different layers of the soil. This also helps in crop diversification and control of any soil- or crop residue-borne diseases/insect pests. The practice of keeping lands fallow preserves and restores soil fertility. — Seed selection: Seeds for future cultivation are	UNFCCC Database on local coping strategies, Case Study 52, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=52 L.R. Verma (1998): Indigenous technology knowledge for watershed management in upper north-west Himalayas of India PWMTA Field Document No. 15, Kathmandu: FAO http://www.fao.org/docrep/X5672E/x5672e00.htm
AS035	**Ice Stupas: Artificial Glaciers in Ladakh**	Ladakhi communities	India	Asia	Adaptation, water management, innovation, traditional knowledge	To combat water scarcity from glacier retreat, Ladakhi engineers and villagers build Ice Stupas – conical ice mounds that store winter water and slowly release it for irrigation in spring. This indigenous-led innovation extends crop growing seasons and has been replicated beyond Ladakh. It blends traditional gravity-fed irrigation with modern engineering, ensuring water supply for farming and tree-planting even as climate warms.	CEEW (2019). https://www.ceew.in/sustainable-agriculture-initiatives/ice-stupa-artificial-glaciers
AS036	**Indigenous Method of Curing Pulmonary Disorders Using Mangrove Fruit**	Lodha Peoples	India	Asia	Land use, Health	The Lodha people reside in the Indian Sundarban islands. They are mainly engaged in fishing activities. They live very close to the river embankments and their major occupation orients around fishery-related livelihoods like deep sea fishing, fish drying, fish feed preparation, etc. Despite spending maximum hours in saline water and extreme humid environments, they hardly suffer from any kind of pulmonary disorders. This may be attributed to the regular intake of a specific fruit of a mangrove species named Sonneratia apetala. This species prefers freshwater habitats. This fruit is rich in Vitamin C as evidenced from our analysis and may be one of the important reasons to boost up their immune system. However, the present species is under threat due to rise in sea level and subsequent increase of salinity since the last 30 years (1984–2014).	Mullick et al (2024). Indigenous Method of Curing Pulmonary Disorders Using Mangrove Fruit. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 8, Pages 133-144
AS037	**Indigenous women in the villages of Khuti District in Jharkand, India**	Munda and Oraon	India	Asia	Adaptation, income diversification, water resources, women, Tribal Women Empowerment, Bank-linkage, Self-help groups	Asian indigenous women are much more vulnerable to climate change impacts because they are often the subsistence producers and are heavily reliant on the quality and quantity of natural resources. They are the main caregivers, water and food providers and yet they have the least access to land, education and health facilities, technologies and agricultural technical assistance and inputs, and disaster relief services, infrastructure development and credit assistance. Many of them suffer from discrimination in their own indigenous societies, in the dominant society and in the labour market. The Himalayan glaciers are the lifeline for around two billion people in Nepal, India, China and the Mekong region who rely on glacier-dependent rivers such as the Ganges, Brahmaputra, Indus, Mekong, Yellow and Yangtze Rivers. They face acute and long-term shortages of water because of the melting of the glaciers and the vanishing snowpeaks. This deglacialization has also induced floods downstream due to the surge of water into the rivers and consequently prolonged droughts because of decreased river flows and water supply. India's northern region will experience more floods in the coming years because of changing stream flow patterns in the Himalayan rivers. The floods caused by the change of course of Kosi River in Bihar affected close to three million people, many of whom are indigenous peoples.	Tebtebba (2009), Report of the Asia Summit on Climate Change and Indigenous Peoples, http://www.tebtebba.org/index.php?option=com_docman&task=doc_download&gid=290&Itemid=27

AS038	**Raika Bio-cultural Community Protocol**	Raika	India	Asia	Local observations & impacts, traditional knowledge, animal husbandry	The Raika are an indigenous pastoral community who live in Rajasthan, North West India. In collaboration with the South Africa based NGO Natural Justice and LPPS (Lokhit Pashu-Palak Sansthan), they have produced a written record of their traditional knowledge on managing livestock breeds and their environment, and a bio-cultural community proto- col that sets out their biocultural values and explains how they have developed and preserved unique breeds of livestock and traditional knowledge associated with them, and how their pastoral lifestyle has developed the co-evolved ecosystem of Rajasthan's forests which they have traditionally conserved and sustainably used. It explains how through their interac- tion with the forests, gauchar and oran, and through selective breeding for generations they have created breeds that are particularly hardy, able to forage and digest rough vegetation, withstand the dry Rajasthani environment and to walk long distances - important attributes in the context of climate change adaptation and food security. The Raika BCP is a pioneering example of an Indigenous community using documentation of traditional ecological knowledge as a tool for climate adaptation and justice – securing grazing rights that enable sustainable land use and maintaining breed biodiversity crucial for future food security.	https://www.pastoralpeoples.org/biocultural-community-protocols-bcps/ FAO Domestic Animal Diversity Information System, http://dad-training.fao.org/cgi-bin/getblob.cgi?sid=b5c072b255a647dfa3cbde5ae18c2d1a,748
AS039	**Vulnerability & Adaptation Experiences from Rajasthan & Andhra Pradeshl**	Rajasthan & Andhra Pradesh communiti es	India	Asia	climate change, perception, adaptation, vulnerability, agricultural households, Rajasthan	The Swiss Agency for Development and Cooperation initiated the Vulnerability Assessment and Enhancing Adaptive Capacity to Climate Change programme in the semi-arid regions of India to examine in 2005. The states of Rajasthan and Andhra Pradesh were selected and various proactive adaptive solutions were adopted through a blend of traditional wisdom and modern science. A broad range of measures were piloted to help poor communities reduce climate vulnerability of their water and land resources, and their agriculture and livestock-based livelihoods. Opportunities identi fied for up-scaling these measures included integration into policies, plans and programmes at various levels. Priority interventions included water conservation (reinforcing traditional methods with modern knowledge, such as gravity flow management) and promoting fodder security (through sustainable management of common property resources).	Anna Bruderle and Othmar Schwank, 2009: Climate Change: Vulnerability & Adaptation Experiences from Rajasthan & Andhra Pradesh, http://indiaenvironmentportal.org.in/node/310115
AS040	**Ecosystem-Based Adaptation with Bamboo-Based Livelihoods in Manipur**	Rongmei (Naga)	India	Asia	adaptation, observations & impacts, forests, food security, land use, cultural practices, human settlements	The Rongmei Indigenous community in India's Eastern Himalayas (Manipur region) is responding to climate stress through a revival of bamboo-based practices. In a landscape increasingly impacted by deforestation, soil erosion, and erratic rainfall, bamboo serves both ecological and livelihood functions. The Rongmei people have historically cultivated and harvested bamboo for shelter, tools, crafts, and food (notably bamboo shoots). The community has adapted to climate risks by expanding bamboo cultivation on degraded land, reducing soil loss and landslide risk while simultaneously generating income through small-scale bamboo industries. Various community-led practices such as collective bamboo planting, intercropping with food crops, and sustainable harvesting maintain ecological balance. These practices also align with traditional Rongmei beliefs around forest stewardship and harmony with nature. Women play an important role in the processing and sale of bamboo products, providing vital income in times of agricultural failure.	Panmei & Selvan (2024). Ecosystem-Based Adaptation with Bamboo-Based Livelihoods in Manipur, in Climate Crisis Social Responses and Sustainability (2024), Ch. 29, pp. 665–685. Springer.
AS041	**Climate Change and Food Adaptation Among the Santhal and Other Indigenous Communities in West Bengal**	Santhal, Munda, Oraon, Lodha	India	Asia	observations & impacts, adaptation, food security, cultural practices, health	Indigenous groups in West Bengal adapt to drought and seasonal scarcity using traditional food knowledge. Women lead food processing and preservation practices such as tuber harvesting, traditional fermented foods, and beverages like Hariya. These strategies enhance nutritional resilience and energy during extreme heat. Indigenous Adivasi communities in the Bankura district of West Bengal – the Santhal, Munda, Oraon, and Lodha peoples – use traditional ecological knowledge to adapt to the impacts of climate change, particularly around food insecurity driven by erratic rainfall and rising temperatures. TCommunities turn to forest-based food sources such as wild tubers, fruits, and leaves during periods of crop failure or drought. Seasonal dishes like Mohul latha (made from the flowers of the Madhuca longifolia tree) and other foraged foods not only address caloric needs but also provide key nutrients that help support health in extreme conditions. The cultural knowledge required to identify, prepare, and preserve these resources is largely passed down through intergenerational oral traditions, especially by women. Women lead the preparation of preserved or fermented foods such as dried fish, pickled vegetables, and Hariya (a traditional rice-based fermented drink), which also help maintain energy and hydration during	Sarkar, M., & Modak, B.K. (2024). Towards a Sustainable Future: Integrating Indigenous Knowledge to Address the Challenges of Climate Change in West Bengal, India, in Climate Crisis Social Responses and Sustainability (2024), Ch. 20, pp. 455–471. Springer.

AS042	**Climate threats to the Sentinelese**	Sentinelese	India	Asia	impacts, sea-level rise, voluntary isolation	The Indian government has recognised the desire of the Sentinelese people of North Sentinel Island for isolation and has established a buffer zone around the island to protect them from unwanted intrusion. The government climate -risk plan for this region notes that sea -level rise and cyclone intensity are threatening the low-lying islands where Sentinelese live.	Andaman & Nicobar Islands: State Action Plan on Climate Change and Human Health (2024). https://ncdc.mohfw.gov.in/wp-content/uploads/2025/01/34_SAPCCHH_Andaman-and-Nicobar_21-10-24.pdf
AS043	**Community-Led Mangrove Restoration in the Sundarbans**	Sundarbans coastal communities (incl. Munda and other forest peoples)	India	Asia	Human sociality · Traditional knowledge · Conservation · Biodiversity, The Sundarbans	In the Indian Sundarbans – the world's largest mangrove delta – local Indigenous communities are spearheading mangrove replanting to protect their villages from intensified cyclones, floods and erosion	Climate Chance Observatory (2022)
AS044	**Cropping System in Tamil Nadu, India**	Tamil Nadu communities	India	Asia	adaptation, traditional knowledge, food security	Soil erosion is one of the limiting factors of sustainable agriculture in India. Especially in Tamil Nadu high-velocity winds emerging from the Bay of Bengal degrade the land and cover it with shifting sand dunes. Theri soil, which is formed by such wind erosion, is red to dark red in colour, sandy in texture and very poor regarding fertility and moisture-retention. Besides wind erosion, farmers face shortages of water and have made a number of adaptations to the cropping system to make it more suitable for their environment. All the farmers apply FYM (the decayed dung of cattle, buffalo, sheep, and goats and other organic farm waste material) to the soil in order to improve its structure and fertility. Normally the agricultural department recommends the planting of one-year-old coconut seedlings. However, farmers in this area prefer seedlings less than six months old, with 2 leaves. These young seedlings are not damaged by wind or drought, and draw nourishment from the nut for at least another six months from the time of planting; during this period they become established in the field. Farmers also plant two banana suckers next to each coconut seedling, to provide shade and protect it from the wind.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23363 M. Manoharan and S. Kombairaju (1995). ITK suits transported sandy soils. In: IK Monitor Vol. 3(1).
AS045	**Dryland Grain Processing Traditions in Tamil Nadu**	Tamil Nadu villagers	India	Asia	Adaptation, drought & aridity, water resources, agriculture, drylands, traditional knowledge	Dryland agriculture in Tamil Nadu is faced with two problems: climatic instability and low productivity. One important aspect of dryland agriculture is the fact that production is seasonal, which means that grains must be stored for long periods by traders, procurement agencies and consumers. The women farmers of Tamil Nadu have developed various post-harvest practices over the years for better processing of food grains and their storage. While post-harvest practices vary according to the specific crop, it commonly includes threshing, winnowing, cleaning, and drying. In dryland agriculture, an important aspect of post-harvest operations is the need to ensure that the produce is kept free from rot, pests, and rodents. Given the low productivity of the system as a whole, it is important to see that the produce which is ultimately obtained is edible and palatable. Some 19 indigenous post-harvest practices are used by all the dry land farmers in the villages, irrespective of caste and class. According to the farm women, these practices were handed down from generation to generation, usually by word of mouth. They were perceived to be economically feasible and user-friendly. The indigenous post-harvest tools that the women used were made by local artisans, using low-cost resources that were locally available, and they were easy to repair and to maintain.	UNFCCC Database on local coping strategies, Case Study 23, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=23 S. Parvathi, K. Chandrakandan and C. Karthikeyan (2000): Women and dryland postharvesting practices in Tamil Nadu, India. In:IK Monitor Vol. 8(1)
AS046	**Adaptation practices among the Tangkhul Naga Community in the North Eastern Region of India**	Tangkhul people in Naga	India	Asia	traditional knowledge; food security; agriculture; customary practices	The Tangkhul Naga Community in the North Eastern Region of India has long practiced sustainable fallow forest management to support their livelihoods and adapt to climate change. They integrate a multiple cropping system within shifting cultivation, carefully selecting a "mother crop"—a drought, wind, or pest-resistant variety—while maintaining genetic diversity to ensure resilience against climatic variability. Observing environmental changes such as shifting crop viability, new pest infestations, and drying water sources, they have strengthened their resource management, including regulating shifting cultivation cycles (15-16 years) to maintain soil fertility, enforcing strict forest-use codes, and setting aside reserved plots for food security. Village councils play a crucial role in equitable resource distribution, enforcing seasonal regulations on hunting and grazing, and zoning forests to protect biodiversity and water sources. Additionally, new adaptation measures, such as village grain banks, are being introduced to ensure food security amid increasing climate stresses.	IWGIA (2012). Indigenous Peoples and Climate Change Adaptation in Asia. https://iwgia.org/images/publications/0656_IPs_and_Climate_Change_Adaptation_in_Asia.pdf

AS047	**Resilient Architecture in Kashmir**	Traditional builders of Kashmir Valley	India	Asia	Adaptation, traditional knowledge, disaster preparedness	After a series of devastating earthquakes in the Himalayas, a UNESCO-led project worked with local artisans in Kashmir to revive Dhajji Dewariand Taq – indigenous timber-laced building techniques – to make homes earthquake-resilient	Sinha (2020). Earthquake Resilience in Kashmir Lies in Traditional Architecture. Scienti fic American
AS048	**Building the capacity of indigenous peoples to cope, adapt or mitigate the effects of climate change on their livelihoods and environments**	Tribal communiti es in Madhya Pradesh and Odisha, India	India	Asia	Agricultural economics, Atmospheric science, Climate change, Ecosystem ecology, Environmental geography, Environmental management, Environmental protection, Environmental risk assessment, Environmental science Geography Human habitat, Indigenous, Livelihood vulnerability, Management, Natural resource management, Natural resources, Regional science, SEVI	This project is being implemented by the Centre for Development Action (CDA). It seeks to address Indigenous Peoples' vulnerability to the effects of climate change and environmental degradation, particularly in the Sundargarh district in Orissa, involving the Kisans Kharias and Bihors. The project builds on the bene ficiaries' traditional knowledge in coping and mitigating the effects of climate change. Adaptation and mitigation strategies are being developed and disseminated by the communities for purposes of information and lobbying on decision-making processes related to climate change.	IFAD http://www.ifad.org/english/indigenous/grants/projects/regions/asia.htm
AS049	**Ground Water Recharge and Solar Micro Irrigation to Ensure Food Security and Enhance Resilience in Vulnerable Tribal Areas of Odisha**	Tribal communiti es in Odisha, India	India	Asia	Adaptation; ecosystems; land use; agriculture; water security; livelihoods	This project in Odisha, India, enhances water security and climate resilience for tribal farming communities by improving groundwater recharge and introducing solar-powered micro-irrigation. It directly bene fits indigenous tribal farmers who have historically faced erratic rainfall and drought. By constructing check dams, rejuvenating traditional water tanks, and installing solar irrigation pumps, the project enables year-round farming and reduces vulnerability to climate change. Tribal community members are at the center of decision-making: they help identify sites for water infrastructure and determine cropping patterns that suit their needs and cultural practices. The project also provides training on climate-resilient agriculture, blending modern techniques with indigenous knowledge of local crops and weather patterns. Overall, it boosts food security and incomes in remote tribal areas while leveraging clean energy. The project is under implementation with GCF financing of USD 34.4 million.	NABARD (2023), 2022 Annual Performance Report for FP045: Ground Water Recharge and Solar Micro Irrigation to Ensure Food Security and Enhance Resilience in Vulnerable Tribal Areas of Odisha https://www.greenclimate.fund/document/2022-annual-performance-report-fp045-ground-water-recharge-solar-micro-irrigation-india
AS050	**Carbon Sinks, Carbon Trade, and the Indigenous Peoples of North-East India**	Tribal communiti es of Northeast India	India	Asia	Local observations & impacts, forests, traditional knowledge	This case study relates the impacts of climate change as experienced by the Indigenous Peoples of North-East India, describing radical differences in their ancient life patterns. They see these changes as having been imposed or instigated by forces beyond their control and consent. These may be perceived shifts in the natural order (such as changes in weather patterns and biodiversity) or policies instituted (such as granting migrants and settlers of different ethnic groups access to Indigenous Peoples' lands).	Anna Pinto (2006), The India Case Study: Carbon Sinks, Carbon Trade, the Clean Development Mechanism, and the Indigenous Peoples of the North-East Region of India, International Alliance of Indigenous and Tribal Peoples of Tropical Forests, http://www.international-alliance.org/documents/Climate%20Change%20-%20India.pdf
AS051	**Impact of Climate Change on the Endemic Medicinal Plants of Indian Sundarbans**	Various Indigenous Communiti es in Sundarban s	India	Asia	impacts, health, traditional knowledge	Investigates how climate change affects endemic medicinal plant species in the Sundarbans. It discusses the role of Indigenous knowledge in conservation and sustainable use of these plants.	Ahmed et al (2024). Impact of Climate Change on the Endemic Medicinal Plants of Indian Sundarbans. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 6, Pages 95-110
AS052	**Odisha "Dream Map" Land -Mapping Initiative**	Gadaba & Paroja Adivasi women	India	Asia	participatory mapping; land rights; forest regeneration; women-led advocacy	Through "dream maps" drawn on cotton cloths and digital tablets (since 2021), Gadaba and Paroja women documented shrinking forests and water sources around 12 villages in Koraput District. The maps were presented to local land tribunals, securing community forest titles on 1 100 ha and unlocking state funds for replanting native sal and tamarind. In parallel, women's forest committees have replanted ~30 000 saplings and instituted rotational grazing rules, reducing dry -season fires and cutting fuel -wood walks by an estimated 40 %.	AP News — "India's Indigenous women redraw their lands to fight climate change" (2024) https://apnews.com/article/india-women-farmers-climate-change-indigenous-fe099e6b33589330f7aa1bb27da75005

AS053	**Sicanang Mangrove Ecotourism Project**	Belawan Sicanang villagers (coastal Malay community)	Indonesia	Asia	Oceans and coastal zones, Human settlements, Adaptation, Livelihoods, lessons learned	Launched in 2019 in North Sumatra, the Sicanang Mangrove Forest ecotourism project aimed to restore mangroves for climate resilience (flood protection) while creating sustainable livelihoods (silvo fisheries, mangrove products, tourism)	Mongabay (Feb 7 2023) : Failed mangrove tourism project in Sumatra highlights need for community collaboration https://news.mongabay.com/2023/02/failed-mangrove-tourism-project-in-sumatra-highlights-need-for-community-collaboration
AS054	**Land-based Mitigation and Adaptation through a Jurisdictional Approach in West Kalimantan**	Dayak	Indonesia	Asia	Cross-cutting (Mitigation & Adaptation); Land use (Forests); REDD+; Biodiversity	A REDD+ programme in Indonesia's West Kalimantan, designed in partnership with Dayak indigenous communities to curb deforestation and foster sustainable development. Covering five regencies of the province, it aims to protect carbon-rich forests and peatlands (critical for both climate mitigation and local livelihoods) while improving community resilience. Indigenous Dayak land management practices – e.g. rotational farming (ladang), forest conservation zones (tembawang) – inform the strategies to reduce forest loss. The project also provides alternatives to slash-and-burn agriculture through agroforestry, community plantations, and value chains for forest products. By creating dedicated financing mechanisms for Indigenous Peoples and local communities	Green Climate Fund (2024). FP248 Project Overview (West Kalimantan) greenclimate.fun dgreenclimate.fund; WWF Indonesia (2023). Jurisdictional REDD+ Program Factsheet .
AS055	**East Kalimantan REDD+ Pilot**	Dayak Bahau community (Long Isun)	Indonesia	Asia	Land use, finance, REDD+, Mitigation, Rights, lessons learned	In Indonesia's East Kalimantan province, a jurisdictional REDD+ pilot (backed by the World Bank's Carbon Fund) faced pushback from the Dayak Bahau of Long Isun. The project was introduced without fully securing FPIC, and villagers raised concerns that it would restrict their forest access. In 2021, community representatives filed complaints about lack of consent and threatened livelihoods	FPP Report: REDD+ Alert: How the World Bank's jurisdictional REDD+ pilot in East Kalimantan discriminates against indigenous peoples https://www.forestpeoples.org/sites/default/files/documents/FP-5222%20REDD%2B%20Alert_v2%20FINAL.pdf
AS056	**Customary Iban Community**	Iban	Indonesia	Asia	Local observations & impacts, pests, forests, traditional knowledge	The Iban community of Sungai Utik in West Kalimantan sustainably manages a 9,504-hectare customary forest, following the principle that healthy nature outweighs monetary gain. Their stewardship has protected an estimated 1.31 million tons of carbon, offering a model of indigenous-led climate mitigation	https://www.equatorinitiative.org/2019/07/31/indigenous-group-of-dayak-iban-sungai-utik-long-house-2/

AS057	**New pests in Northern Lombok, Sulawesi**	indigenous peoples of Lombok	Indonesia	Asia	Integrated pest management, rice farmers, adoption, economic bene fit	There are new species of insects invading indigenous communities after long bouts of drought. Unusual insect behavioral patterns are taking place causing massive destruction of crops. Locust invasions and plagues in Indonesia, for example, have increased in occurrence and intensity. After the 1950s this occurred once in 20 years. In the 1990s this happened once in five years and at present it is happening every two years, attested to deforestation and landscape alterations taking place due to logging, monocrop plantations and worsening forest fires due to prolonged droughts. The changes in land cover and the quality of the top soil provided suitable conditions for the locust to lay eggs and for hatching. In Indonesia, the haze from rampant burning of forests to convert these to oil palm plantations for increased production of biofuels led to high incidence of respiratory diseases not only in the areas where burning is taking place but even in many places in Malaysia, Singapore, Indonesia, Brunei and Thailand. Clove production, a major source of cash for the indigenous peoples of Lombok in Indonesia, dropped by 40 per cent in 2007 due to temperature rise. Pest resurgence has also led to a decrease in cacao and banana production in Indonesia.	Tebtebba (2009), Report of the Asia Summit on Climate Change and Indigenous Peoples, http://www.tebtebba.org/index.php?option=com_docman&task=doc_download&gid=290&Itemid=27
AS058	**Integration of Traditional Knowledge and Local Wisdom in Climate Change Mitigation**	Javanese and Balinese communiti es	Indonesia	Asia	adaptation, forestry, water, land use	Discusses how traditional knowledge in Java and Bali supports climate change adaptation and mitigation. It focuses on agroforestry practices, water conservation techniques, and community-driven land use management.	Rahmah & Sulistyono (2024). Integration of Traditional Knowledge and Local Wisdom in Climate Change Mitigation. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 4, Pages 61-82
AS059	**Mentawai Community Disaster Preparedness (Siberut)**	Mentawai Indigenous people of Siberut	Indonesia	Asia	indigenous peoples; Southeast Asia; aggravation of climate change impact; climatic change discourse; local and indigenous knowledge systems	In the Siberut Island Biosphere Reserve in Indonesia, two activities were implemented in partnership with indigenous communities :"Strengthening Community Based Disaster Preparedness in Indonesia" with support from the United Nations International Strategy for Disaster Reduction (UN-ISDR) to help reduce the vulnerability of indigenous communities to natural disasters, primarily earthquakes and tsunamis, through an integrated, community-based approach, combining indigenous and scienti fic knowledge systems; and "Empowerment of customary environmental management in Siberut Biosphere Reserve" to strengthen participation of indigenous communities in sustaining natural resources management in Siberut Biosphere Reserve.	UNESCO, http://www.un.org/esa/socdev/unp fii/documents/UNESCO_report_8th_session_en.pdf
AS060	**Orang Rimba indigenous people of Makekal Hulu, Jambi, and the Toro indigenous people of Kulawi**	Orang Rimba of Jambi and Toro people of Lore Lindu (Sulawesi)	Indonesia	Asia	Adaptation, natural resource management	Through the GEF-Small Grants Programme, support was provided to the Orang Rimba indigenous people of Makekal Hulu, Jambi, and the Toro indigenous people of Kulawi, to implement collaborative management agreements with the national park authorities in the protected forest areas in Bukit Duabelas, Jambi Province, Lore Lindu and Central Sulawesi Province. Toro is an indigenous community neighborhood within the Lore Lindu National Park, in Central Sulawesi. To address threats to the forests, the community created Tondong Ngata, a forest ranger troop. Their duties are to uphold the indigenous law as it applies to the protected forest based on indigenous regulations. The national park management acknowledges Toro indigenous law but many policy dialogs were needed especially with the local government, the forest authority and neighboring hamlets/villagers to achieve this recognition. In addition to information dissemination towards the international community, the Ngata Toro Indigenous Institution published a book on local herbal medicines book printing, and trained the youth group to film their own traditional wisdom, especially on sustainable natural resource management. The Orang Rimba have a concept of forest garden for sustainable use zone, Hompongon, as a means to protect their last remaining forest and to support their livelihood. The Hompongon or living fence is planted with food crops and rubber to preserve the subsistence	GEF Small Grants Programme Indonesia. Community's Contribution to Develop Sustainable Future. http://www.sgp-indonesia.org/downloads/Community%27s%20Contribution%20to%20Develop%20Sustainable%20Future.pdf
AS061	**Rehabilitating coral reefs in Serangan Denpasar,Bali**	Serangan and Les	Indonesia	Asia	Coral Reef Restoration, Marine Conservation, Indonesia, Arti ficial Reefs, Ecotourism	Indonesia has 50,000 square kilometers of coral reefs but many of these are deteriorating because of "bleaching" due to the warming of the seas. The indigenous peoples in Serangan are rehabilitating their coral reefs and mangrove forests and how they are generating cash from these. They managed to plant 15,000 pieces of corals from 22 indigenous species from coral colonies in various parts of Indonesia. The indigenous peoples of a village called Les stopped doing cyanide and dynamite fishing so they can rehabilitate their coral ecosystems. They now have managed to bring back ornamental fish which feed on these corals. This is managed by a collective of 90 families who are exporting to nine countries in Asia, Europe and the United States. The Serangan project is buying some of the fish from Les and they package these together with their corals and also export these. According to the project coordinator of the project, with the economic crisis, they are getting more orders as people who cannot travel anymore opt to buy the corals and fishes and put these in their aquariums. This project was initially supported via the UNDP GEF-Small Grants program.	Tebtebba (2009), Report of the Asia Summit on Climate Change and Indigenous Peoples, http://www.tebtebba.org/index.php?option=com_docman&task=doc_download&gid=290&Itemid=27

AS062	**Bamboo Biomass Enterprise in Toraja**	Toraja	Indonesia	Asia		Aliansi Masyarakat Adat Nusantara (AMAN) believes in increasing the economic value of bamboo through innovative practices. A Torajan tradition that forbade the use of discarded ceremonial bamboos is being reviewed through a consultation process (Kombongan) to see how it can be a source of income for the indigenous communities, especially the women. The project aims to rehabilitate and conserve the bamboo forest in Toraya's indigenous territory through community-based management; establish bamboo briquette and souvenir production as an alternative livelihood for the indigenous peoples, and strengthen women's economic empowerment.	UNDP-RIPP http://regionalcentrebangkok.undp.or.th/practices/governance/ripp/InnovativeProject.html https://www.aman.or.id/
AS116	**Unlocking Lock-ins to Climate Adaptation in Khuzestan Province, Iran**	Indigenous Peoples of Iran	Iran	Asia	adaptation, lesson learned, indigenous knowledge, goverance, agriculture, submission	Khuzestan Province is a key agricultural hub in Iran, traditionally bene fiting from fertile soils and major rivers. However, climate change, resource mismanagement, and institutional fragmentation have created severe environmental and socio-economic challenges. Using the maladaptation risk lens within a transformational adaptation framework, this study identifies four key lock-in mechanisms—path dependency, institutional layering, selective problem framing, and policy inertia—that perpetuate water-intensive and ecologically harmful practices, such as large-scale sugarcane cultivation and poorly coordinated water management policies. The analysis highlights potential pathways for transformational resilience, including governance reform, reframing agricultural policy to integrate ecosystem services, promoting water-use ef ficiency, enhancing institutional coordination, and leveraging indigenous and local knowledge for participatory adaptation planning. These recommendations aim to shift Khuzestan's adaptation trajectory away from maladaptive patterns toward sustainable, climate-resilient livelihoods.	Rouzaneh, D., & Rahmani, S. Unlocking Lock-ins to Climate Adaptation in Khuzestan Province, Iran: An Integrated Analysis of Barriers and Pathways toward Transformational Resilience. [Unpublished case study submission, 2025].
AS063	**Qanats in Iran**	Iranian communiti es	Iran	Asia	adaptation, water, traditional knowledge	A Qanat is an ancient mode of irrigation in Iran that can be af filiated to the Achaemenian period and has been working sustainable for nearly 3000 years. This methodology rests on indigenous knowledge and experimental hydrology. Through this method water present in aquifers is drawn to the surface in order to be utilized by manipulating a series of vertical wells and one horizontal well. This method uses no electrical or fossil energy. Intense socio-economic changes coupled with drought and floods have caused the basic system of Qanats to be laid aside. In place of which, deep wells, semi-deep wells and large dams have dominated the landscape since. Resources required Qanats are labour intensive. But once established and regularly maintained they have an unlimited life span. Whereas the life span of a well is only about 20 years. No reliance on electric power, motor pump spare parts or fossil fuel and hence no cash requirement, a de finite advantage in rural areas. Potential maladaptation none Non-climate bene fits Increase in crop yield and fodder for livestock. The skills for maintaining Qanats are part of the indigenous knowledge of the country and have a heritage value.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23329 Mohammad Reza Haeri (2003) Kariz (Qanat) An Eternal Friendly System For Harvesting Groundwater,Presentation and Paper at UNFCCC Expert workshop on local coping strategies and technologies for adaptation https://www.cenesta.org
AS110	**Aligning Trends in Climatic Parameters and Nomads' Indigenous Knowledge about Climate Change**	Qashqai	Iran	Asia	peer reviewed; pastoralism; drought; forecasting; herd mobility	Comparing 20 years of meteorological data with Qashqai herders' own observations in Semirom, central Iran reveals that Elders accurately detected declining rainfall and hotter autumns, adapting their practices to cope by delaying their north–south migrations, digging micro-reservoirs and reducing herd size to protect drought-stressed pastures. The research - co-designed with Qashqai leaders—shows that traditional climate indicators (wind shifts, blossom timings) align closely with instrumental trends, validating pastoral knowledge as a decision tool. Continued adaptive mobility plus state support for grazing rights are flagged as critical to the Qashqai's resilience under intensifying aridity.	

AS064	**Pastoralism of the Qashqai communities and managing livestock in droughts (CENESTA)**	Qashqai	Iran	Asia	adaptation; drought; rangeland management; traditional knowledge	More than 90 percent of Iran's surface is arid or semi-arid land and pastoral communities have always played an important role in food production by developing creative and sustainable systems for the use of scarce natural resources. Although migrating pastoralists number only about 2% of the entire population, they satisfy about one quarter of the country's livestock needs. The Qashqai nomadic communities play an important role in sustaining this important food sector while at the same time preserving the age-old livestock management practices in drought-prone areas of Iran. Some of the indigenous practice to cope with droughts and reduced availability of rangelands include adjusting timing for migration from summer to winter grounds and prolonging migration routes. Some of the indigenous practices employed to cope with droughts and reduced availability of rangelands include: adjusting timing for migration from summer to winter grounds; prolonging migration routes; loaning of sheep and other requirement from better off families to the worst hit families; buying and sharing of fodder; and transporting water to wintering grounds.	UNFCCC Database on local coping strategies, Case Study 151, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=151; CENESTA (2004), The role of Qashqai nomadic communities in reducing vulnerability to recurrent drought and sustainable livelihoods development in Iran, Prepared for FAO by the Centre for Sustainable Development, Iran, http://www.cenesta.org/projects/Pastoralism/Local%20communities%20and%20drought%20-%20Qashqai%20case%20study-Feb%2024.pdf
AS109	**Where war once raged in Iraq, Yezidi women plant hope**	Yezidi	Iraq	Asia	media report; drought; reforestation; women; displacement; urban	Yezidi women, many of whom survived a genocidal campaign by the terror group ISIS, are breaking social barriers by leading environmental renewal efforts in northern Iraq through tree planting, recycling and education. The region's environmental crisis — marked by drought, deserti fication and water scarcity — has devastated agricultural livelihoods, making sustainable land restoration crucial for displaced families' futures. Despite initial resistance, the Clean Green initiative - a grassroots environmental initiative founded by Yezidi women - has enabled the women to plant over 2000 trees and take on leadership roles, challenging traditional norms and helping to rebuild their community's identity through environmental stewardship.	Bociaga, Robert (2025). Where war once raged in Iraq, Yezidi women plant hope. https://news.mongabay.com/2025/04/where-war-once-raged-in-iraq-yezidi-women-plant-hope/
AS065	**Solar Bedouin Village**	Bedouin community of Darajat	Israel	Asia	adaptation, energy, tourism	Darajat, a Bedouin township in Israel's Negev Desert, transformed into the country's first solar-powered village through community-driven and government-supported efforts. By the late 2000s, most homes had solar water heaters and panels, the local school runs on wind and solar energy, and even the mosque is solar-powered. This transition reduced reliance on diesel generators and improved living standards. The village also developed eco-tourism (Arabic immersion experiences) to share Bedouin culture and showcase sustainable living. The project demonstrates how an Indigenous community combined traditional lifestyles with renewable technology to adapt to modern energy needs and climate realities.	Cheslow, D (2009): Immersion Arabic Course in First Solar Bedouin Village in Israel, http://www.greenprophet.com/2009/06/24/9845/arabic-course-negev-darajat/
AS115	**Toyohira River - Urban Salmon Stewardship**	Ainu	Japan	Asia	adaptation, urban, indigenous knowledge	Ainu-led river and salmon habitat stewardship in Hokkaid ō integrates seasonal indicators, ceremony and co produced science to improve aquatic climate resilience. By rebuilding diversity and protecting cold -water refugia, the project applies "portfolio effect" principles so that salmon populations are less sensitive to climate -driven heat and flow extremes.	City of Sapporo (nd). Sapporo Wild Salmon Project pro file. https://www.city.sapporo.jp/kankyo/biodiversity/sengen/dantai/02-002.html
AS066	**Scaling up the implementation of the Lao PDR Emission Reductions Programme (Project 2)**	Ethnic minority communiti es in Lao PDR (project identifies indigenous peoples as bene ficiari es)	Lao PDR	Asia	Mitigation; ecosystems; forests; land use; livelihoods	This project is a scale-up of Lao PDR's efforts to curb deforestation and forest degradation, bringing more forest landscapes under sustainable management with strong community involvement. Operating in additional provinces, it partners with indigenous and local communities to protect forests, enhance carbon stocks, and improve local livelihoods through climate finance (REDD+ performance payments). The project emphasizes good governance – it strengthens land tenure and forest rights for indigenous villages and ensures they have a voice in forest management decisions. Building on traditional conservation practices, such as sacred forests and customary rules on hunting and harvesting, the project supports communities to formalize these practices into village forest management plans. By expanding livelihood alternatives (like eco-tourism and non-timber forest product enterprises) co-designed with indigenous groups, it reduces pressure on forests while sharing economic bene fits. Under implementation 2023–2027, with GCF financing of USD $37.3 million.	GIZ (2024), 2023 Annual Performance Report for FP200: Scaling up the implementation of the Lao PDR Emission Reductions Programme (Project 2) https://www.greenclimate.fund/document/2023-annual-performance-report-fp200-scaling-implementation-lao-pdr-emission-reductions-programme GCF FP200 https://www.greenclimate.fund/project/fp200

AS067	**Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management**	Ethnolinguistic minority communities in Lao PDR	Lao PDR	Asia	This REDD+ program in Lao PDR works across multiple provinces to reduce emissions from deforestation and forest degradation while improving local livelihoods. It engages the country's ethnically diverse forest-dependent communities in sustainable forest management and land governance. Indigenous and traditional practices – such as community fish ponds, shifting cultivation knowledge, and sacred forest conservation customs – are being acknowledged as part of the program's approach to maintaining forest cover. The project	This REDD+ program in Lao PDR works across multiple provinces to reduce emissions from deforestation and forest degradation while improving local livelihoods. It engages the country's ethnically diverse forest-dependent communities in sustainable forest management and land governance. Indigenous and traditional practices – such as community fish ponds, shifting cultivation knowledge, and sacred forest conservation customs – are being acknowledged as part of the program's approach to maintaining forest cover. The project strengthens community land tenure and provides alternative livelihood opportunities (like community forestry and agroforestry) to reduce pressure on forests. By involving indigenous village leaders in decision-making and bene fit-sharing, the program ensures that forest conservation efforts respect cultural practices and directly bene fit local people. Under implementation 2019–2025, with GCF financing of USD $17.8 million.	GIZ (2023), 2022 Annual Performance Report for FP117: Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management https://www.greenclimate.fund/document/2022-annual-performance-report-fp117-implementation-lao-pdr-emission-reductions-programme GCF FP117 https://www.greenclimate.fund/project/fp117
AS068	**Indigenous Women at the forefront of climate change in Laos**	Hmong and Khmu Peoples	Lao PDR	Asia	Adaptation, adaptation, gender	The Gender Development Association (GDA) of Laos recognizes that Hmong and Khmu women are affected economically and socially by the adverse effects of climate change and have a unique vision to mitigate the damage within their communities. Hmong and Khmu women took the lead in their communities, providing seed funding to 6 villages to address a chosen problem in their villages.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
AS113	**Everyday environmental heritage is key to unlocking the social dimensions of One Health (Lao PDR workshop)**	Hmong, Karen	Lao PDR	Asia	participatory mapping; environmental heritage; co -design; gender/intersectionality; report; submission	A 4 -day participatory workshop (Dec 2024) near Phou Khao Khouay NP brought Lao villagers, scholars, and students together to surface everyday environmental heritage and link it to One Health. Methods included community -led mind -mapping and spatial mapping of medicinal plant areas, sacred boundaries, and heritage sites.The report also shares comparative Thai cases (e.g., fishers protecting big -headed turtles, mahout–elephant multispecies healing) and a practical scoring approach for selecting heritage practices for policy. Re flections caution against tokenism and note governance/rights constraints on "bottom-up" One Health.	Marco J. Haenssgen, Tania Angeloff, Mark R. Herse, Elizabeth Auclair, Navaporn Sunanlikanon, Thipphaphone Xayavong, Jean-Marc Dubost, Somphavanh Radavanh, Chantho Vongnalath, Eric Deharo (2025). Workshop report: Everyday environmental heritage is key to unlocking the social dimensions of One Health. iScience, Volume 28, Issue 5, 2025, 112358, ISSN 2589-0042. https://doi.org/10.1016/j.isci.2025.112358
AS069	**Dayak-Bidayuh-Jagoi village of Duyoh in Sarawak**	Indigenous peoples in Sarawak and Saba	Malaysia	Asia	Local observations & impacts, livelihoods, food security, livelihood vulnerability index, LVI, exposure, sensitivity, adaptive capacity,	Traditional livelihoods and other economic activities of indigenous peoples are also adversely impacted by climate change. In Malaysia, for example, rubber tapping has been a source of cash for many indigenous peoples in Sarawak and Sabah. Latex is tapped when the leaves of the rubber tree are shed around August and September. With the changes in weather, leaves shed as early as January and thus there is less latex gathered which means less income. Other fruit trees like durian and engkabang (also known as ilipe nut) are indigenous species in Sarawak and these are sources of cash and food. Bumper crop harvests from these trees have decreased signi ficantly because of weather changes.	Rubis, J (2009). "Understanding the Interactions between Global Climate Change and Traditional Lifestyle Initiatives of the Indigenous Peoples of Malaysia: A Bidayuh-Jagoi Case Study (TKI-CC:1)". UNU Traditional Knowledge Initiative/Tebtebba, Climate Change and Indigenous Peoples – Country Case Studies on Local Mitigation and Adaptation Measures Series, http://www.unutki.org/default.php?doc_id=166
AS070	**Indigenous perceptions of climate anomalies in Malaysian Borneo**	Penan	Malaysia	Asia	observations & impacts, adaptation; land use, human settlements; forests, water, food security, cultural practices, storytelling, two-eyed seeing	The Dayak have documented climate variations based on various traditional indicators, including bird species, rising water levels, and traditional medicinal plants. They observed bird species that they had never seen before, they became aware that the level of water in the rivers is higher/lower than usual for the season and that the traditional plants used as medicinal remedies can not be found anymore. Behaviour and migration patterns of birds have traditionally been used to guide hunting and cultivation activities but they no longer provide reliable guidance. One of the remaining hunter-gatherer communities in East Kalimantan is the Punan people. According to the phases of the moon, they decide upon activities such as planting agricultural and tree crops, clearing cultivation areas, hunting etc. But with the changes of climate these lunar signals may no longer coincide with the favourable times for these activities and the Punan may be misled in taking their decisions.	T. van Gevelt, H. Abok, M.M. Bennett, S.D. Fam, F. George, N. Kulathuramaiyer, C.T. Low, T. Zaman, Indigenous perceptions of climate anomalies in Malaysian Borneo, Global Environmental Change, Volume 58, 2019, 101974, ISSN 0959-3780, https://doi.org/10.1016/j.gloenvcha.2019.101974. (https://www.sciencedirect.com/science/article/pii/S0959378019304583)
AS071	**Guardians of the Highlands: Semai Indigenous Stewardship and Artistic Activism for Climate Resilience**	Semai	Malaysia	Asia	forest management, indigenous knowledge, art; submission	The Semai Indigenous community, living along the highland forests of the Perak-Selangor border in Peninsular Malaysia, has developed community-based stewardship practices to address the challenges of climate change. Drawing on traditional ecological knowledge, they protect primary forests, manage agroforestry systems, and maintain watershed health through self-led monitoring. Contemporary Semai artists complement these efforts through cultural activism, using art as a medium to advocate for Indigenous rights and environmental stewardship. Together, these approaches contribute to carbon sequestration, biodiversity conservation, and community resilience.	Wong, Kenneth (c2024). "Guardians of the Highlands: Semai Indigenous Stewardship and Artistic Activism for Climate Resilience" [case study submission]

AS020	**Faith, reciprocity, and balance: Inner Mongolian Ovoo offering ritual and its contribution to climate change adaptation**	Dukha	Mongolia	Asia	land use, adaptation, spiritual beliefs, mountains, water	In Inner Mongolia, the Ovoo offering ritual fosters environmental stewardship and social cohesion among herders. These cultural practices enhance resilience to climate variability. The Ovoo ritual centres on mountains and spirits structures land management and fosters reciprocal relations with nature. Communities see climate changes (drought, less reliable rainfall) as partly linked to disharmony with the spirits. Reinvigorating the ritual has helped unify herders, guided them to share resources fairly, and encouraged the restoration of pastures.	Chao, O., Li, X., & Reyes-García, V. (2023). Faith, reciprocity, and balance: Inner Mongolian Ovoo offering ritual and its contribution to climate change adaptation. In V. Reyes-García (Ed.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (1st ed., pp. 348–357). Routledge. https://doi.org/10.4324/9781003356837-26
AS106	**Mongolian herder nomadism provides resilisence to climate hazards**	Dukha herders	Mongolia	Asia	impacts, indigenous knowledge, pastoralism, policies	Mongolia's northernmost province, Khövsgöl Aimag, is home to Indigenous, nomadic Dukha reindeer herders and semi-nomadic Darkhad cattle herders. The infrastructure, including buildings, dwellings, formal and informal roads, and pastureland, is particularly subject to climate-change induced hazards. Despite evidence that the Dukha communities that exercise more traditional nomadic lifestyles with higher mobility are more resilient to these localised geohazards, traditional reindeer herding and pasturelands and subsistence activities, including hunting, are becoming increasingly restricted for Indigenous peoples despite the use of these lands and practices for millennia.	Moreau, G. L., Nyland, K. E., & Kuklina, V. V. (2023). Traditional Nomadism Offers Adaptive Capacity to Northern Mongolian Geohazards. GeoHazards, 4(3), 328-349. https://doi.org/10.3390/geohazards4030019
AS072	**Adaptation Strategies for Pastoral Communities of Mongolia's Central Mountainous Region**	Mongol herder communities	Mongolia	Asia	Livelihood pattern, Rural household, Choadaptation; local observations & impacts; pastoralism; water; traditional knowledgeosing mechanism, Transition, Farm-pastoral zone, animal husbandry, income divirsi fication	In Mongolia's central dryland steppes, nomadic pastoralist communities are leveraging both traditional networks and new strategies to cope with climate variability. Research in the Khuvsgul and Dornod regions (including interviews with herders) found that climate change has altered key ecosystem services: warmer temperatures and shifts in rainfall timing are causing pastures to dry and springs to disappear	Tugjamba, N. et al. (2021)."Climate change impacts on nomadic herders' livelihoods and pastureland ecosystems: a case study from Northeast Mongolia'. DOI: 10.1007/s10113-021-01829-4
AS073	**Building a Resilient Churia Region in Nepal (BRCRN)**	Indigenous communities in Nepal's Churia region	Nepal	Asia	Mitigation; ecosystems; forests; land use; livelihoods	This project takes an integrated approach to restoring the fragile Churia region of Nepal, bene fitting the many indigenous communities who live there. It aims to rehabilitate forests and watershed ecosystems to reduce flood and drought risks, while improving agricultural practices and livelihoods for local villagers. Indigenous peoples (who form about one-third of the population in the area) are actively involved in planning and implementing nature-based solutions such as reforestation, soil conservation, and sustainable water use. The project values traditional knowledge – for example, indigenous techniques for slope management and wild fire control – blending these with scientific measures to build climate resilience. Community members, including indigenous women, gain new skills and resources to manage their land sustainably, leading to more secure livelihoods and protection of biodiversity. Under implementation 201–2027, with GCF financing of USD $39.3 million.	Food and Agriculture Organization (2023), 2022 Annual Performance Report for FP118: Building a Resilient Churia Region in Nepal https://www.greenclimate.fund/document/2022-annual-performance-report-fp118-building-resilient-churia-region-nepal GCF FP118 https://www.greenclimate.fund/project/fp118
AS074	**Landslides isolate communities in the Himalayas**	Indigenous mountain communities (Nepal)	Nepal	Asia	Disasters, Disaster Governance, Indigenous Knowledge, Disaster Risk Reduction, Political Ecology	Nepalese communities report several disasters in the form of landslides which have further isolated many indigenous communities as paths and roads are destroyed. It was observed that the phenomenal decrease of available water adversely affected crop production and the changes in the agricultural patterns and quality of agricultural crops. Peas and rhodendron are flowering much earlier and the apples are less sweet than they used to be. There are unknown insects invading the high mountain communities, because of increased temperatures, causing diseases that were not there before. Tourism, which is a main source of livelihood for many indigenous peoples, has decreased in recent years because of the accidents caused by avalanches and landslides.	Tebtebba (2009), Report of the Asia Summit on Climate Change and Indigenous Peoples, http://www.tebtebba.org/index.php?option=com_docman&task=doc_download&gid=290&Itemid=27

AS075	**The Upper Mustang Biodiversity Project**	Loba (Lo) people of Upper Mustang	Nepal	Asia	Adaptation, biodiversity, culture	This project, located in the remote Upper Mustang region of Nepal, linked biodiversity conservation with the preservation of Indigenous culture to enhance climate resilience. It was supported by the Global Environment Facility (GEF) and managed with local stakeholders. Key components included restoring degraded rangelands (through controlled grazing and reseeding native grasses) to improve forage after climate-stress events, rehabilitating ancient monasteries and cultural sites to strengthen social cohesion, and developing eco-tourism and home-stays to diversify livelihoods	https://www.nbrcc.org.np/
AS076	**Nepal Network of Indigenous Peoples with Disabilities climate change initiatives**	Nepal Indigenous Peoples	Nepal	Asia	Adaptation, traditional knowledge, politics	The Nepal Network of Indigenous Peoples with Disabilities initiative opened a debate on climate change and re flected the issues of gender, indigeneity, and disability to engage and build the leadership of indigenous youth and women with disabilities in the climate change debate. This initiative consisted of coming together, uniting and raising awareness and identifying the issues and impact of climate change, and learning how people, and women with disabilities, respond effectively to major environmental changes. But also, to strengthen leadership skills for their participation in climate change discussions.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
AS077	**Climate change impacts in the Himalayas**	Sherpa, Tamang, Kiranti, and Dolpali	Nepal	Asia	Local observations & impacts, traditional knowledge, disaster risk management	Climate change is having profound and multifaceted impacts on Indigenous Peoples in the Nepal Himalaya, where communities such as the Sherpa, Tamang, Kiranti, and Dolpali depend on fragile mountain ecosystems for their livelihoods. Rising temperatures have accelerated the melting of Himalayan glaciers, leading to glacial lake expansion and the threat of catastrophic outbursts, which have already caused loss of life and infrastructure. These changes also trigger soil erosion, landslides, and altered water systems, undermining subsistence farming and reducing food security. Indigenous observations align with scienti fic data, reporting altered snowfall and rainfall patterns, crop failures, and disappearing wild foods and medicinal plants. Livestock herding is also affected by shrinking grasslands and disrupted water sources, increasing the vulnerability of these already marginalized communities. Beyond physical and economic impacts, climate change is also eroding the cultural and spiritual foundations of Indigenous life in the Himalayas. Sacred glacial lakes, which hold ancestral signi ficance, are becoming inaccessible or dangerous due to flooding risks, threatening cultural practices and spiritual connections to the land. While some Indigenous farmers in areas like Mustang and Manang have noted minor bene fits—such as the ability to grow new vegetables and fruits—these do not outweigh the	Kirat Kamal Sampang Rai (2008). Indigenous Affairs (1-2_08). https://iwgia.org/images/publications/IA_1-2_08_Asia_Climate_Change.pdf
AS078	**Livelihoods in Koshi Tappu Wetlands**	Tharu and other wetland communiti es, Koshi Tappu	Nepal	Asia	Adaptation, local observations & impacts, biodiversity, traditional knowledge, agriculture	Koshi Tappu Wildlife Reserve, an IBA and Ramsar site, lies on the floodplain of Sapta Koshi River in south-eastern low-land Nepal. Unusual rainfall patterns have caused fluctuations in water levels, including a longer dry season that has led to water bodies drying up. This has resulted in the depletion of habitat of waterbirds and fishes, and of the natural resource base (fish, molluscs and water for crops) that sustains many of the poorest people. Invasive plant species have thrived in the drier conditions, resulting in further loss of biodiversity. The wetland reed Typha (used for mat weaving and fuel) has decreased due to the intense drying out of wetlands. The response has been to use manure as an alternative fuel source, meaning that it is no longer available as crop fertiliser. Working with local communities, Bird Conservation Nepal (BirdLife in Nepal), has implemented a project integrating biodiversity conservation with livelihoods, which addresses immediate climate impacts and helps build resilience and adaptive capacity for the future. Activities include promotion of bio-fuel production (briquettes made from wetland invaders such as Iponea and Laneria), and fertiliser production from the invasive water hyacinth Eichhornia. Clearing invasive plants to use in these products helps maintain and strengthen the wetland ecosystem. Community mobilisation and training has created new opportunities for indigenous people, and promoted the transfer of local knowledge from one community group to another.	Birdlife International, 2010: Partners with nature: How healthy ecosystems are helping the world's most vulnerable adapt to climate change. http://www.birdlife.org/climate_change/pdfs/Ecosystemsandadaption.pdf

AS079	**Climate Change Impacts on Pakistan's Mountain Agriculture**	Burusho farmers	Pakistan	Asia	adaptation, farming, water	Examines the adaptation strategies of Burusho farmers in Pakistan's mountainous regions. It highlights traditional irrigation practices, shifting cultivation methods, and reliance on Indigenous knowledge to mitigate the impacts of changing climate conditions.	Khan & Hussain (2024). Climate *Change Impacts on Pakistan's* Mountain Agriculture: A Study on *Burusho Farmers' Adaptation* Strategies Towards Livelihood Sustainability . In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 2, Pages
AS108	**Plant Use Adaptation in the Pamir**	Wakhi & Sarikoli agropastoralists	Pakistan	Asia	peer-reviewed; food security; ethnobotany; pastoralism; cultural change	Wakhi and Sarikoli households in Pakistan's Broghil Valley have diversi fied their diets with 29 wild food plants to buffer shorter growing seasons and erratic snowmelt. Elders link the new reliance on high -protein herbs and bulbs to warmer autumns that delay livestock migrations and reduce barley yields. A cross -cultural, community -led survey shows knowledge sharing between the two groups as a deliberate adaptation: Sarikoli migrants have adopted Wakhi plant -use calendars, while both groups lobby park authorities for legal access to alpine meadows now regulated for conservation.	Aziz, M. A., Ullah, Z., Adnan, M., Söukand, R., & Pieroni, A. (2022). Plant Use Adaptation in Pamir: Sarikoli Foraging in the Wakhan Area, Northern Pakistan. Biology, 11(10), 1543. https://doi.org/10.3390/biology11101543
AS080	**Use of sheep wool wastes to produce art pieces**	Traditional Bedouin weavers, Bani Suheila	Palestine	Asia	Adaptation, traditional knowledge, culture, income diversi fication, livelihoods	This demonstration and capacity building project involved transferring indigenous knowledge of weaving in Bani Suhilah to young women through a series of one to one practical training. In the Khaza village south of Gaza, women used to burn sheep wool twice a year after shaving the sheep. The project reduced GHG emissions previously resulting from burning the wool, and provided sustainable income generating activities through applying indigenous weaving techniques to reuse the wool to make useful and marketable handicrafts. Implementation: Bait Al Mostaqbal Association/Khan Younis-Gaza, GEF Grant of USD$19,803.00.	GEF Small Grants Programme PAL/03/39: http://sgp.undp.org/web/projects/6470/utilization_of_cheep_wool_wastes_to_produce_art_pieces.html
AS081	**Securing resources through the lampisa practice of communal water management in times of drought, Philippines**	Cordillera Indigenous Peoples Groups	Philippines	Asia	mountains, impacts, traditional knowledge	The Pidlisan domain has a mountainous terrain characterized by steep slopes (more than 50%) of high sedimentary mountains with deep ravines. The majority of the residents engage in agriculture with rice farming as the main economic activity. Indigenous farmers in the Cordillera region in Northern Luzon, Philippines, have observed changes in climatic conditions such as prolonged drought and excessive rains. In some instances these have resulted in severe crop damage, a situation that is further aggravated by deforestation. MRDC discuss the lampisa system of water distribution, under which people are nominated to take responsibility for the maintenance of the irrigation canals and the rice fields throughout the dry season. The primary task of these lampisa is to ensure that all rice fields receive a fair share of water at all times and to conduct regular inspection of the entire irrigation system. This will ensure that water flow is maintained, even in times of drought. The successful implementation of the lampisa system hinges on the power and dedication of community leaders (dap-ay elders and barangay of ficials) and compliance by the people with the laws governing the system. The lampisa system promotes communal use of water resources at a low cost. Although the bene ficiaries are obliged to pay for the services of the lampisa services, they do so based on a fair value (5% of the total volume of production).	Montarosa Research and Development Center (2011) in Nakashima et al (2012). Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. P50. AIPP (2022). Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction https://lcipp.unfccc.int/sites/default/files/2022-04/AIPP%20Indigenous%20Peoples%E2%80%99%20Good%20Practices%20in%20Climate%20Change%20Adaptation%20and%20Disaster%20Risk%20Reduction_%20Case%20Studies%20of%20indigenous%20Karen%20community.pdf"
AS107	**Higaonon youth revive panlaoy: ancestral forest stewardship for watershed protection in Mindanao**	Higaonon Indigenous communities	Philippines	Asia	indigenous knowledge, adaptation	Higaonon elders and basbasonon (youth volunteers) are revitalizing panlaoy - an annual, ritual -guided forest immersion that combines sacred grove protection, contour planting and community -led monitoring across a 17,553 -ha titled ancestral domain. Panlaoy teams document biodiversity and threats, enforce customary laws (e.g., on medicinal plants and hunting), and patrol springs and headwaters to control erosion and recharge water sources. The practice has been adopted and subsidised by local government for its role in watershed regeneration that secures downstream water for farming.	Fabro, K. (2023). Indigenous youths keep ancient forestry traditions alive in the Philippines. MongaBay. https://news.mongabay.com/2023/03/indigenous-youths-keep-ancient-forestry-traditions-alive-in-the-philippines/
AS082	**Adapting Philippine Agriculture to Climate Change**	Indigenous peoples and local communities in climate-vulnerable rural areas of the Philippines	Philippines	Asia	Adaptation; agriculture; water security; livelihoods	This project supports the Philippines in safeguarding its agriculture sector against climate change, with a focus on farming communities that include indigenous peoples. It introduces climate-resilient farming practices, such as stress-tolerant crop varieties and diversi fied farming systems, in vulnerable rural areas. Indigenous farmers and their knowledge play a role in this transformation: traditional crop varieties and planting techniques are being recognized for their resilience and incorporated into adaptation strategies. The project also works to improve water management and soil conservation on ancestral lands, guided by community input. By empowering local farmer organizations (which often have indigenous members) in decision-making and providing them with climate information and tools, the project aims to ensure food security and stable livelihoods in the face of changing climate patterns. Under implementation (2023-2031), with GCF financing of USD $26.3 million.	Food and Agriculture Organization (2023), 2022 Annual Performance Report for FP201: Adapting Philippine Agriculture to Climate Change https://www.greenclimate.fund/document/2022-annual-performance-report-fp201-adapting-philippine-agriculture-climate-change

AS083	**Kaingin: rotational agriculture**	Kalinga Tribes	Philippines	Asia	Adaptation, agriculture, food security, traditional knowledge, forestry, youth	The highland tribes of Kalinga (Philippines) demonstrated the sustainability of the «Kaingin system» as a key element for food production and agroforestry management in the fight against climate change. Younger generations and government agencies were introduced to the sustainable and holistic approach of the «kaingin» system to revitalize their good practices that will help address climate change impacts and provide food security to indigenous communities.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
AS084	**Multi-Hazard Impact-Based Forecasting and Early Warning System for the Philippines**	Mandaya	Philippines	Asia	Observations & impacts; adaptation; livelihoods; traditional knowledge	This small-scale project in the Philippines enhances community-based early warning systems for multiple natural hazards in New Bataan (Mindanao). It co-develops hazard forecasts and disaster preparedness measures with local residents, including members of the Mandaya indigenous community. By blending scienti fic weather and climate data with indigenous knowledge of environmental warning signs, the project improves the accuracy and cultural relevance of early warnings for floods, landslides, and typhoons. Indigenous leaders and youth participate in designing communication channels (like radio alerts in local dialects) and in conducting community drills, ensuring that even remote villages receive life-saving information. These efforts aim to reduce disaster risk and strengthen the resilience of all community members. Under implementation 2019–2027, with GCF financing of USD $10 million.	Philippines Department of Science and Technology (2023), 2022 Annual Performance Report for SAP010: Multi-Hazard Impact-Based Forecasting and Early Warning System for the Philippines https://www.greenclimate.fund/document/2022-annual-performance-report-sap010-multi-hazard-impact-based-forecasting-philippines GCF SAP010 https://www.greenclimate.fund/project/sap010
AS085	**The Lampisa water distribution practice of the Pidlisan tribe**	Pidlisan peoples in Sagada	Philippines	Asia	traditional knowledge; water	The Pidlisan tribe consists of four villages: Fidelisan, Bangaan, Pide and Aguid. Their territory consists of high sedimentary mountains with elevations ranging from 1,000 meters above the mean sea level. It is steeply sloped and heavily ridged with housing settlements surrounded by flights of rice terraces. Similar to their neighboring tribes of Tubo in the nearby province of Abra, the Pidlisan people exercise control over the largest pine and mossy forests in the Northern part of the Cordillera. This territory is where most of the watershed within the municipality of Sagada is located. Members of the community tightly guard the watershed because it is a fundamental need of the rice plant and therefore, the protection and control, development and management of the watershed has direct bearing to rice production. The tribe is organized into smaller wards known as Dap-ays. A Dap-ays is a socio-political institution, which exercises control over a de fined geographical territory. As an institution, it has a body of customary law, a code of conduct, sanctions and traditional ceremonies and rituals. It is headed by amam-a or elders. In the late 1990s, the Pidlisan tribe's water resource base became an ingredient to a dispute that erupted into full scale armed hostility. The Dap-ay elders decided to engage the tribe in a war to protect their Lampisa system that has been a part of their being for a long time.	IWGIA (2012). Indigenous Peoples and Climate Change Adaptation in Asia. https://iwgia.org/images/publications/0656_IPs_and_Climate_Change_Adaptation_in_Asia.pdf
AS086	**Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction: Case study of Taloctoc tribe in Northern Philippines**	Taloctoc people of Kalinga	Philippines	Asia	adaptation; resource management	In dealing with the impact of climate change, the Taloctoc tribe employed takkombang, an alternative farming system that digresses from the normal agricultural calendar, where planting rice is done in between the two normal rice croppings. Takkombang is governed by agreements and it promotes collective work to maintain rice plants and irrigation systems. It encourages better water management and increased rice harvests. This practice is evidence of the Taloctoc tribe as knowledge bearers, experts drawing from rich experiences, and innovators who share their success for their own and other communities' benefit.	Asia Indigenous Peoples Pact. (n.d.). Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction: Case study of indigenous Karen community of Hak-kia village in Northern Thailand and Taloctoc tribe in Northern Philippines. Asia Indigenous Peoples Pact; AIPP Printing Press Co., Ltd. Retrieved February 21, 2025, from https://lcipp.unfccc.int/sites/default/files/2022-04/AIPP%20Indigenous%20Peoples%E2%80%99%20Good%20Practices%20in%20Climate%20Change%20Adaptation%20and%20Disaster%20Risk%20Reduction_%20Case%20Studies%20of%20indigenous%20Karen%20community.pdf
AS087	**Coastal bleaching and the community of the Tagbanua in Coron, Palawan**	Calamian Tagbanua	Phillipines	Asia	Environmental impacts of community-based forest management in the Philippines	The Tagbanua fisher-folk of Coron Island observe and respond to climate stresses on their marine resources. Starting in the 2000s, Tagbanua communities noticed coral bleaching and changing fish populations linked to warming seas	Abayao, L. et al (2009) Climate Change and Indigenous Peoples in the Philippines: The Calamian Tagbanua and the Ikalahan views and actions on Climate Change (TKI-CC:3)". UNU Traditional Knowledge Initiative/ Tebtebba, Climate Change and Indigenous Peoples – Country Case Studies on Local Mitigation and Adaptation Measures Series, http://www.unutki.org/default.php?doc_id=166

AS088	**Increasing the resilience of tropical hillside communities**	Camalandaan Agroforestry Farmers' Association (upland community)	Phillipines	Asia	Adaptation, forests, ecosystems, food security, agriculture	Local farmers in Negros Occidental revived community agroforestry and watershed management to buffer climate extremes. By planting trees and protecting forest patches, they reduced flash floods in the rainy season and retained water in the dry season. The Equator Initiative-recognized project empowered an isolated, marginalized community through equitable land-use planning, biodiversity monitoring in partnership with researchers, and traditional stewardship practices. Outcomes include improved land tenure security, conservation of limestone forest, new livelihood skills, and greater resilience to climate-induced droughts and floods	Equator Initiative, 2008: Camalandaan Agroforest Farmers Association – Philippines, http://equatorinitiative.org/index.php?option=com_content&view=article&id=530&Itemid=531&idx=86
AS089	**Ikalahan community - Forest title in Imugan, Nueva Vizcaya**	Ikalahan (Kalanguya) indigenous people of Imugan	Phillipines	Asia	Adaptation, payment for ecosystem services, forests, natural resource management, conflict	The Ikalahan people of Nueva Vizcaya secured legal title to their ancestral forest and manage it for climate resilience. In the case of the Ikalahan of Nueva Vizcaya in the Philippines, they used the Community Forestry Stewardship Act (CFSA) to assert their claim over their forests as early as 1974. When the Philippine Indigenous Peoples' Rights Act was passed in l997, they moved towards having this converted into a Certificate of Ancestral Domain Title (CADT) which they recently achieved. In terms of mitigating and adapting to climate change, the Ikalahan continue to do their traditional and innovative agro-forestry management systems which includes the use of gen-gen (organic fertilizers), day-og, pangomis (inter-cropping and fallow periods) and gaik (firelines). They devised their own Forest Improvement Technology (FIT). They run a food processing unit where they sell harvested fruits from their production forests to generate cash for their basic needs. The community members are encouraged and supported to continue their organic farming methods. They use traditional pesticides such as panawel and other plants. They also practice mutual labor exchange called amuyo and bataris in order to finish their agricultural work in time without paying cash for labour. The Ikalahans have a sophisticated system of forest management where they delineated the forests into different functions. They divided the forests into conservation forests, forests where people can get wood for building their houses and where they can	Abayao, L et al (2009) Climate Change and Indigenous Peoples in the Philippines: The Calamian Tagbanua and the Ikalahan views and actions on Climate Change (TKI-CC:3)". UNU Traditional Knowledge Initiative/ Tebtebba, Climate Change and Indigenous Peoples – Country Case Studies on Local Mitigation and Adaptation Measures Series, http://www.unutki.org/default.php?doc_id=166
AS091	**Indigenous forecasting in Sri Lanka: Farmers use meteorological indicators and animal behaviour to predict the weather**	Sinhala farmers	Sri Lanka	Asia	Local observations & impacts, agriculture, food security, disaster risk management, traditional knowledge, forecasting	Sri Lankan farmers integrate indigenous weather lore to adapt crop timing amid climate variability. Traditional farmers' short-range weather forecasts are essentially based on personal experiences, instincts, and visual indicators such as humidity and heat. A cold night with mist and dew is considered to be a sign of impending dry weather, while hot and warm days signal rainy evenings. Farmers observe the sky and the movement of clouds to predict the weather. A red sky at sunrise and sunset is considered to be a warning for rainless days ahead. Animal behaviour is also used to predict weather changes. When frogs and toads make a peculiar, sharp sound or when bees remain inside their hives, rain is expected. Restless buffaloes or cats that make unusual noises are believed to indicate impending harsh conditions such as cyclone. Farmers commonly expect a break in the weather pattern on the night before the monthly full moon. Traditional forecasting (e.g., the Binara Kaluwamethod	UNFCCC Database on local coping strategies, Case Study 31, http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=31; SLARCIK, Sri Lanka Resource Centre for Indigenous Knowledge, University of Sri Jayewardenapura, Geography Unit
AS092	**The bethma practice: promoting the temporary redistribution of lands during drought periods**	Sinhalese paddy farmers	Sri Lanka	Asia	adaptation; water; agriculture; governance	Farmers in Sri Lanka's dry zone practice "Bethma," a traditional land-sharing system, to survive droughts. When water is scarce, village leaders temporarily reallocate plots in the irrigated area so every family cultivates a smaller, equitable share near the remaining water	UNESCO Best Practices on Indigenous Knowledge BP.21, http://www.unesco.org/most/bpik21.htm Sylcan Trust (2019). Understanding provincial-level climate vulnerabilities in Sri Lanka. https://www.slycantrust.org/blog-posts-knowledge/understanding-provincial-level-climate-vulnerabilities-in-sri-lanka#:~:text=Understanding%20Provincial,maximum%20use%20of%20available%20water

AS093	**Indigenous Forecasting in Sri Lanka**	Sri Lankan traditional farmers	Sri Lanka	Asia	adaptation, food security, human settlements	Traditional farmers' short range weather forecasts are essentially based on personal experiences, instincts, and visual indicators such as humidity and heat. A cold night with mist and dew is considered to be a sign of impending dry weather, while hot and warm days signall rainy evenings. Farmers observe the sky and the movement of clouds to predict the weather. A red sky at sunrise and sunset is considered to be a warning for rainless days ahead. Animal behaviour is also used to predict weather changes. When frogs and toads make a peculiar, sharp sound or when bees remain inside their hives, rain is expected. Restless buffaloes or cats who make unusual noises are believed to indicate impending harsh conditions such as cyclone. Farmers commonly expect a break in the weather pattern on the night before the monthly full moon.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=23352
AS114	**Towards an Inclusive Approach to Forest Conservation and Land Use Policy in Thailand**	Hmong, Karen	Thailand	Asia	mitigation; adaptation; land tenure; environmental heritage; submission	Research, based on the analysis of satellite images from Thailand and case studies from other Southeast Asian countries, demonstrates that policymakers can achieve improvements in forest health by working collaboratively with Indigenous communities, resulting in a reduction in forest fires and air pollution. Protected areas farther from Indigenous communities face higher fire risk; exclusionary policies can worsen forest health and livelihoods. This brief ecommends flexible zoning, co-management, social protection & tenure security, market labeling (e.g., "no-burn"), and culturally grounded heritage practices operationalised via MINDSPACE (behavioural science-based) change levers.	Haenssgen, Marco; Sanu, Maria Ann & Vlaev, Ivo. "Towards an Inclusive Approach to Forest Conservation and Land Use Policy in Thailand" Warwick Business School, University of Warwick https://thaiforest.life/
AS094	**International Alliance of Indigenous and Tribal Peoples of the Tropical Forests (IAITPTF)**	Karen	Thailand	Asia	Adaptation, income diversi fication, traditional knowledge, women	Indigenous Karen women in northern Thailand spearhead sustainable farming for climate adaptation. In Mae Hong Son's highlands, an initiative by the International Alliance of Indigenous and Tribal Peoples of the Tropical Forests (IAITPTF) empowered women's groups to revive traditional crop diversity and start micro-enterprises. The project aims to demonstrate the linkage between indigenous women, income generation projects and climate change adaptation and mitigation. It will support indigenous women traditional knowledge and skills preservation by building capacity in the innovative production, design and marketing of their products as well as preserving relevant trees and plants required in the production process. The project will also strengthen networking and strategic partnerships of indigenous women.	UNDP-RIPP, http://regionalcentrebangkok.undp.or.th/practices/governance/ripp/InnovativeProject.html [archived]
AS095	**Tree Ordination: Ritual -Based Forest Stewardship in Northern Thailand**	Karen & Hmong	Thailand	Asia	forest management, livelihoods; submission	Since the early 1990s, Karen and Hmong leaders in Chiang Mai and Mae Hong Son provinces have revived and adapted the Buddhist practice of tree ordination - wrapping saffron robes around large trees, reciting prayers, and installing spirit posts - to sanctify upland watersheds that are threatened by commercial logging or state-declared protected areas. By declaring sections of forest to be spiritually untouchable, communities create a de facto conservation zone that is locally enforced yet visible to of ficials and outsiders. The rituals strengthen customary land claims, deter illegal felling, and rally multi-ethnic alliances; they have also provided negotiating leverage in Thailand's long-running debates over community forestry legislation. Ethnographic and soil-quality studies report lower deforestation rates, renewed inter-generational ecological knowledge, and diversi fied income (organic coffee, eco-tourism homestays) where ordained forests are respected.	Haenssgen M.J. et al. (2023) The Impact of Conservation and Land-Use Transitions on the Livelihoods of Indigenous Peoples: A Narrative Review of the Northern Thai Highlands. Forest Policy & Economics. https://doi.org/10.1016/j.forpol.2023.103092
AS096	**Climate change adaptation in Ban Hak-kia**	Karen community of Ban Hak-kia	Thailand	Asia	farming, customary law	In Ban Hak-kia, the Karen community employs traditional agricultural techniques, such as rotational farming, which involve cultivating plots in cycles to allow soil recovery and maintain biodiversity. This practice not only ensures sustainable land use but also enhances the community's resilience to climate variability. Additionally, the Karen people have established community forests governed by customary laws, promoting sustainable forest management and serving as natural buffers against climate-induced disasters.	AIPP (2022). Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction https://lcipp.unfccc.int/sites/default/files/2022-04/AIPP%20Indigenous%20Peoples%E2%80%99%20Good%20Practices%20in%20Climate%20Change%20Adaptation%20and%20Disaster%20Risk%20Reduction_%20Case%20Studies%20of%20indigenous%20Karen%20community.pdf

AS097	**Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction: Case study of indigenous Karen community of Hak-kia village in Northern Thailand**	Karen People	Thailand	Asia	adaptation; resource management	The following adaptation measures are the Karen community's valuable contributions that can be replicated: determining the quality and suf ficiency of water; land management including assertion for the recognition of community land ownership, organic improvement of soil, and promotion of environment-friendly cultivation that uses less space; co-management of natural resources in the area with other concerned sectors and stakeholders; development of income generation activities; revitalization of culture through exchange and knowledge transfer to the youth; implementing disaster protection; and advocacy with relevant 6 organizations and civil society networks to support climate change adaptation and disaster risk reduction.	Asia Indigenous Peoples Pact. (n.d.). Indigenous Peoples' Good Practices in Climate Change Adaptation and Disaster Risk Reduction: Case study of indigenous Karen community of Hak-kia village in Northern Thailand and Taloctoc tribe in Northern Philippines. Asia Indigenous Peoples Pact; AIPP Printing Press Co., Ltd. Retrieved February 21, 2025, from https://lcipp.unfccc.int/sites/default/files/2022-04/AIPP%20Indigenous%20Peoples%E2%80%99%20Good%20Practices%20in%20Climate%20Change%20Adaptation%20and%20Disaster%20Risk%20Reduction_%20Case%20Studies%20of%20indigenous%20Karen%20community.pdf
AS098	**Indigenous Karen People's Ways of Climate Change Adaptation and Mitigation**	Karen People	Thailand	Asia	adaptation; mitigation; agriculture; finance; food sovereignty	This Karen-language pamphlet and poster share Indigenous Karen climate mitigation and adaptation practices, including agroforestry, ecological agriculture, biodiverse cropping, forest and watershed conservation, community rice banking, and Indigenous weather forecasting. It aims to discourage monoculture, promote water and forest conservation, enhance food sovereignty, and support climate resilience in Karen communities.	Indigenous Karen People's Ways of Climate Change Adaptation and Mitigation Materials (2020). https://kesan.asia/publication/indigenous-karen-peoples-way-of-climate-change-adaptation-and-mitigation/
AS099	**Lahu Agroforestry – Blending Tradition and Innovation in Northern Thailand**	Lahu community (Chiang Mai Province)	Thailand	Asia	Agrobiodiversity, climate resilience, seed conservation, food security, biocultural heritage	Originating from knowledge-sharing under the Asia Indigenous Peoples Pact, the Lahu example demonstrates successful nature-based farming to adapt to climate extremes while preserving culture. A Lahu hill tribe village shifted from chemical-heavy monoculture to agroforestry and traditional seed varieties, addressing erratic rainfall, erosion, and declining yields. Households plant diverse crops (fruit trees, tea, coffee, bananas) to mimic a forest structure, boosting income while enhancing soil fertility. They also introduced organic composting and used indigenous seed strains that tolerate drought and pests better, increasing climate resilience.	Building the Resiliency of Indigenous Communities on Climate Change Adaptation – Asia Indigenous Peoples Pact (AIPP) Brie fing Paper (2018) lcipp.unfccc.int/sites/default/ files/2022-04/A%20Brie fing%20Paper_Building%20the%20Resiliency%20of%20Indigenous%20Communities%20on%20Climate%20Change%20Adaptation.pdf
AS100	**Traditional Knowledge that Saved the Sea Gypsies**	Moken	Thailand	Asia	Adaptation, traditional knowledge, disaster risk management, income diversi fication	On December 26 2004, several elders from the Moken tribe, a small community of sea gypsies from the Surin islands Marine National Park off the coast of Phang-Nga Province, Thailand, noticed that the sea was churned up and moving in an unusual way. They raised the alarm and most of the inhabitants rushed to take refuge further inland. When they return, the village has been entirely swept away by La Boon, as the Moken call the tsunami that devastated the region. Their boats and houses mounted on piles have been reduced to a heap of wood and debris. But while Thailand mourns more than 5,000 victims, the Moken community was spared. The elders' knowledge of the sea saved their lives. However, the Moken are now rebuilding their village, using bamboo and leaves woven together, in a non-traditional location inland, as dictated by the local government authorities. They have settled in a forest, further from the sea, and therefore a presumably safer but certainly not more advantageous site. The new village is less sanitary and has poor ventilation and a cramped design. Of most concern, the visibility of the Moken's natural environment, the sea, is substantially reduced. The in fluence of the outside world is growing all the time. Since the national park authorities forbade them from catching certain species such as the sea cucumber and some shell fish that they used to sell, the Moken have been deprived of one of their sources of	http://portal.unesco.org/science/en/ev.php-URL_ID=4579&URL_DO=DO_TOPIC&URL_SECTION=201.html; Soimart Rungmanee and Irwin Cruz, 2005: The Knowledge the Saved the Sea Gypsies. A World of SCIENCE, Vol. 3, No. 2, April-June 2005, http://portal.unesco.org/science/en/ files/4527/11158120231Sea_gypsies.pdf/Sea_gypsies.pdf

AS101	**Water Buffalo Conservation for Community**	Thai Isaan farmers	Thailand	Asia		Smallholder rice farmers in Northeast Thailand revived the use of water buffaloes to increase climate resilience and reduce costs. In Nam Phong District, Khon Kaen, a community project (2000–2001) provided 10 families with buffaloes to replace tractors in land preparation	UNDP THA-00-G06, http://sgp.undp.org/web/projects/3409/water_buffalo_conservation_for_community.html
AS111	**SGP Timor Leste: CBA through Indigenous agroforestry practices**	Suco Gariuai	Timor Leste	Asia	adaptation, forestry, customary practices	The majority of Timor Leste's population lives in remote rural areas, with 80 percent dependent on subsistence rain-fed agriculture across rugged mountainous terrain. As such, Timorese farmers' inability to cope with the impacts of climate change, including an increased incidence of drought, rainfall variability and bush fires, has been a major driver of food insecurity. In the community of Suco Gariuai, faced with high rates of poverty and limited livelihood options, an SGP CBA project sought to revive the customary law of tara bandu, an ancestral agroforestry practice, to help reduce climate vulnerabilities. The tara bandu customary law is an indigenous historical practice used to resolve con flicts based on the power of public agreement. The project to revive tara bandu was implemented by 87 households under the guidance of a community-based institution, the Grupu Komunidade To'os Nain Hadomi Ambiente. The tara bandu customary practice was integrated into the CBA project design, with close guidance and support from traditional leaders throughout the project cycle, which contributed to preventing community con flicts and reducing absenteeism in project implementation. Though the SIDS CBA project, the community reforested 2.5 hectares of degraded lands with drought-tolerant species such as candlenut trees and used new agroforestry techniques that allowed for the planting of	Hay-Edie et al (2020). Small Grants Programme: 25 Years of Engagement with Indigenous Peoples. P.35.
AS102	**RECAF: Achieving Emission Reductions in Vietnam's Central Highlands and South-Central Coast**	Ethnic minority communities of the Central Highlands (e.g. Ba Na, Êđê, Xơ Đăng, Jarai) and South-Central Coast	Viet Nam	Asia	Mitigation; REDD+; Land use (Forestry); Adaptation co-bene *fits*	A REDD+ implementation project to curb deforestation and forest degradation in Vietnam's Central Highlands and South-Central Coast, while improving livelihoods of forest-dependent indigenous peoples. It focuses on five provinces (Gia Lai, Đắk L ắk, Đắk Nông, Lâm Đồng, and Ninh Thu ận) that are home to many ethnic minorities and biodiverse forests. By strengthening Vietnam's REDD+ policy framework and providing support on the ground, the project enables Vietnam to fully implement its National REDD+ Action Plan with local impact. It will bring 1,000,000 ha of forest under improved community-based protection and sustainable use. Ethnic minority farmers are supported to transition to deforestation-free commodities (like intercropping coffee with fruit trees, instead of expanding into forest) and to engage in forest monitoring and ecotourism. 40% of the 100,000 rural households directly reached are ethnic minority households	IFAD (2024). Viet Nam RECAF Project Design Report https://www.greenclimate.fund/project/fp250
AS103	**Capacity building for ethnic minorities to participate in REDD+ as independent stakeholders**	Ethnic minorities including Tay, Nung, Zao, H'Mong in Thai Nguyen and Thanh Hoa provinces	Vietnam	Asia	REDD+, ethnic minorities, forest governance, cooperatives	Enhanced capacities of ethnic minorities in Vietnam for participation in REDD+ through trainings, policy advocacy, and the establishment of cooperatives. Successfully established legal entities allowing communities access to forest management programs, signi ficantly empowering them to advocate for their forest use rights.	Tebtebba Completion Report (2020) Annex 3. https://www.tebtebba.org/index.php/ filelink/fileman- files/FCPF/completion-report/Annex%203%20Sub-projects%20completion%20reports.pdf

AS104	**Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam**	Ethnic minority smallholder farming communities in Vietnam's Central Highlands and South-Central Coast regions	Vietnam	Asia	Adaptation; land use; agriculture; water security; livelihoods	The project is designed to empower vulnerable ethnic minority farming communities in Vietnam's Central Highlands and South-Central Coast to manage worsening droughts and water shortages. It focuses on improving smallholder agriculture's resilience by enhancing water security – introducing climate-resilient irrigation, water storage, and cropping practices co-designed with local farmers. Indigenous knowledge of weather patterns and traditional water management is combined with modern techniques to optimize water use and sustain crop yields. Traditional practices (such as ancestral rainwater harvesting techniques and drought-resistant crop varieties) are validated and integrated into new climate-smart farming interventions. The project also establishes water user groups and farmer cooperatives, with strong representation of ethnic minority women, to govern water resources and maintain irrigation systems. Ongoing capacity-building and knowledge exchange between communities and experts underpin the adaptive management approach. Under implementation 2020–2026, with GCF financing of USD $30.2 million.	United Nations Development Programme (2023), 2022 Annual Performance Report for FP125: Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in Vietnam https://www.greenclimate.fund/document/2022-annual-performance-report-fp125-strengthening-resilience-smallholder-agriculture GCF FP125 https://www.greenclimate.fund/project/fp125
AS105	**Collaborative forest management approach to reduce carbon emissions**	Thai, Muong, Mong peoples in Thanh Hoa and Van Kieu people in Quang Tri	Vietnam	Asia	Forest management, indigenous knowledge, carbon emissions	Aimed at promoting collaborative forest management among indigenous communities and forest enterprises. Established Forest Management Councils to improve stewardship of forests, signi ficantly improving local awareness and capacity in forest carbon accounting and governance. Fostered effective collaboration between local government and indigenous communities.	Tebtebba Completion Report (2020) Annex 3. https://www.tebtebba.org/index.php/ filelink/fileman- files/FCPF/completion-report/Annex%203%20Sub-projects%20completion%20reports.pdf

Eastern Europe, Russian Federation, Central Asia & Transcaucasia

ID	Title	IP	Country	Region	Keywords	Summary	Further Information
EE003	**Altai Cultural Heritage & Climate Resilience**	Altai Indigenous communities	Russia	EECCA	observations & impacts; adaptation; traditional knowledge; sacred sites	In the Altai Mountains of Central Asia, Indigenous Altai people are coupling cultural heritage with climate change research. The "Greater Altai" project (c. 2019–2021) was Indigenous-led, focusing on how historical knowledge and sacred sites inform understanding of climate impacts like glacial melt and shifting water resources	Pawanka Fund & Altai State Technical Univ. (2021). "Climate change research on the basis of Indigenous historical and cultural monuments in Greater Altai." https://pawankafund.org/ano/2016/climate-change-research-on-the-basis-of-indigenous-historical-and-cultural-monuments-in-greater-altai/ Almashev (2008). Implementing PAs strategy with involvement of local/Indigenous communities in the Altai Republic of Russia. https://www.cbd.int/doc/meetings/pa/ewsipals-01/other/ewsipals-01-presentation-07-en.pdf
EE018	**Biocultural assessment: Lake Baikal**	Buryat & Evenki	Russia	EECCA	biocultural assessment; wildfire & smoke; air/water quality; fisheries; impacts	Heart of Eurasia on Fire is a biocultural assessment of the Baikal Natural Territory (Irkutsk Region, Republic of Buryatia, Zabaikalsky Region), reviewing fires between 2015–2021 and compiling Evenk/Buryat oral histories alongside science and remote sensing. Reported air-quality impacts from wildfire smoke include CO, NO_2, ozone, PM, PAHs, VOCs; during July–Aug 2021, short-term CO rose 2.4× and PM10 1.4× in remote areas, and near fires CO (21×), SO_2 (13×) and formaldehyde (12×) increased. Aquatic impacts include post-fire shifts in river chemistry and PAH deposition, with calculated nitrate/phosphate fluxes that can drive eutrophication risks. Beneficial "Solution Spaces" recommended include (1) early detection and suppression, (2) increased scientific + Indigenous-knowledge monitoring and resourcing guardians (e.g., Pribaikalets), (3) linking monitoring to Arctic Passion/NASA/Northern Forum/Arctic Council, and (4) enforcing protected areas plus exploring rewilding/restoration.	Mustonen, T. (2022). Heart of Eurasia on fire: Indigenous oral histories and climate change. Snowchange Cooperative. https://www.snowchange.org/pages/wp-content/uploads/2022/10/Baikal4102022.pdf
EE001	**Community-Led Climate Resilience in Chukotka**	Chukchi and Siberian Yupik	Russia	EECCA	adaptation; beneficial effects; cultural resilience; livelihoods; ecotourism	In Russia's Far East (eastern Chukotka), Indigenous coastal communities are strengthening climate resilience through culturally grounded projects. In 2020–2021, 50+ micro-projects were implemented by Chukchi and Yupik villagers with support from WWF Russia and Beringia National Park	Valchecnko et al (2021). Beringia National Park: Preserving the Natural and Cultural Heritage of Eastern Chukotka. Alaska Park Science 20(2). https://www.nps.gov/articles/000/aps-20-2-10.htm
EE002	**Reindeer Herding as Climate Adaptation**	Dolgan, Nenets, Chukchi	Russia	EECCA	Traditional livelihoods, food security, climate resilience, Reindeer herding, Indigenous livelihoods, Arctic warming, climate adaptation, ice crusting (rain-on-snow), food security, traditional knowledge, mobility, sustainable land use	Faced with increasingly unpredictable weather patterns — particularly rain-on-snow events that create hard ice crusts and prevent reindeer from grazing — Indigenous herding communities in the Russian North have developed localized, culturally grounded adaptation strategies. These include shifting migration patterns, creating emergency feed reserves, and incorporating new herding techniques while maintaining traditional seasonal cycles. Some communities have also engaged in mapping changes and sharing data with researchers.	Forbes, B. C., Stammler, F., Kumpula, T., Meschtyb, N., Pajunen, A., & Kaarlejärvi, E. (2009). High resilience in the Yamal–Nenets social–ecological system, West Siberian Arctic, Russia. Proceedings of the National Academy of Sciences, 106(52), 22041–22048. https://doi.org/10.1073/pnas.0908286106 Ivanova, A. & Khristoforova, N. (2021). Traditional Reindeer Herding in Chukotka under Climate Stress. Arctic Yearbook. WWF Russia reports on Indigenous herding adaptation (archived: www.wwf.ru) IWGIA Russia Country Pro file: https://iwgia.org/en/russia

EE010	**Community-Based Environmental Monitoring**	Evenki, Sakha	Russia	EECCA	Community science, traditional knowledge, climate adaptation, Indigenous monitoring, permafrost thaw, traditional ecological knowledge (TEK), community resilience, local climate data, adaptation strategies, Arctic change, Siberia	In response to increasingly severe climate impacts — such as permafrost thaw, shifting wildlife migration, and unpredictable weather — Indigenous communities in Sakha initiated local environmental monitoring efforts. These efforts combine traditional ecological knowledge (TEK) with scientific methods to track changes and inform local adaptation. The data supports both community planning (e.g., seasonal hunting, infrastructure safety) and larger scientific studies.	Mustonen, T. (2012). Communal observations on climate change among the Skolt Sámi of Finland. Polar Geography, 35(3–4), 233–251. https://doi.org/10.1080/1088937X.2012.724461 Arctic Council CAFF Report (2015): Traditional Knowledge and Community-Based Monitoring Crate, S. (2008). Gone the Bull of Winter? Grappling with the Cultural Implications of Climate Change in Siberia. Current Anthropology, 49(4), 569–595. IWGIA – Indigenous World Reports: https://iwgia.org/en/russia
EE014	**Evenki Atlas**	Evenki	Russia	EECCA	video, mapping, oral knowledge	Th Evenki Atlas, created over 2004-2018 with the Evenki peoples of Sakha-Yakutia, focuses on the settlement of Iyengra and the surrounding taiga - forest lands which are the home of the Evenki. One of the sections contains Evenki knowledge of weather and ecological change. Climate change has been observed and impacts on traditional land uses, such as hunting and reindeer herding. Industrial land use has affected the taiga ecosystems, especially rivers.It also contains a section on a range of future options, and their concerns of the impacts of changes on their life on the land.	Evenki Atlas. https://www.evenki-atlas.org/index.html
EE019	**Thread of Life: Self-rescue if lost in the forest**	Evenki	Russia	EECCA	disaster risk reduction; Indigenous knowledge; book	The open access Yakutsk-published booklet "Нить жизни: если вы заблудились в лесу: методика самоспасения" (Alta, 2025, 32 pp) is authored by rescuer Valery Androsov. The method - "based on the knowledge of Evenki hunters"- sets out two action variants for a lost person: (1) "Поступательное движение" (progressive movement) - leave tracks/marks and slowly expand your presence; (2) "Радиальный поиск" (radial search) - make short scouting forays from a beacon point with mandatory return.	NLRS (2025). " Нить жизни": если вы заблудились в лесу: методика самоспасения. https://new.nlrs.ru/open/139198
EE004	**Evenki Topography & Climate Change**	Evenki	Russia	EECCA	observations & impacts; adaptation; reindeer herding; cryosphere	Siberian Evenki nomadic herders have observed dramatic environmental changes due to climate warming	Lavrillier, A., & Gabyshev, S. (2021). An Indigenous sociology of climate change: Reindeer herders' knowledge and anthropological analysis. Sibirica, 20(1), 1–31. https://doi.org/10.3167/sib.2021.200102
EE020	**Indigenous science of climate change impacts on the Siberian Landscape**	Evenki, Siberia	Russia	EECCA	land use, observations & impacts, traditional knowledge, livelihoods	The Evenki nomadic reindeer herders and hunters in Siberia have documented profound climate-driven changes impacting their traditional landscape and way of life. Through their Indigenous Ecological Knowledge System (IEKS), they report previously unseen alterations in landscape topography since around 2017, including rapid vegetation overgrowth, reduced formation of icing blisters (essential features shaping local habitats), new soil formation, permafrost thawing, and abnormal transformations of critical landscapes like river basins (amnunna), tussock fields (kever), and salt-rich feeding areas (kudu). These landscapes are essential for reindeer pasture, hunting, mobility, and cultural survival, and their rapid changes threaten Evenki livelihoods. The Evenki's sophisticated ecological knowledge and observations include detailed classifications of snow, ice, vegetation, and landscapes, and highlight nuanced interactions among climate factors like temperature, moisture, snow cover, and vegetation growth. Their knowledge provides critical insights into local and regional climate change processes, indicating phenomena such as decreasing ice thickness, shifting hydrology, encroaching plant species, and alterations in animal behaviors. These Indigenous observations offer valuable scientific insights, emphasizing the importance of Indigenous science as complementary to conventional research in understanding the complex	Lavrillier, A. and Gabyshev, S., 2021. An Indigenous science of the climate change impacts on landscape topography in Siberia. Ambio, 50(11), pp.1910-1925.

EE033	**Problems of indigenous peoples of the Russian Arctic in the context of climate change**	Indigenous peoples of the Russian Arctic	Russia	EECCA	observations & impacts	The main issues faced by Indigenous Peoples of the Russian Arctic in response to a changing climate include food security, transport accessibility, economic activity, and health problems. Addressing these problems requires new laws to minimise the adverse effects of climate change by industries (reindeer herding, fishing, hunting and gathering); 2) a system for assessing the impact of climate change on the economic activity and health of indigenous peoples; and 3) greater participation of indigenous peoples in monitoring the state of the environment and implementing environmental projects in the Arctic.	Matvienko Current problems of indigenous peoples of the Russian Arctic in the context of climate change
EE034	**Indigenous communities protest against nickel mining**	Indigenous peoples of the Russian Arctic	Russia	EECCA	mitigation, activism	Aborigen Forum, a group of Russian indigenous activists and leaders, launched a campaign to raise awareness of Norilsk Nickel's impacts on their communities and to demand restitution. Rather than focus on an obscure Arctic mining company, Aborigen Forum appealed to someone more likely to grab international headlines: Elon Musk, the CEO of Tesla. Aborigen Forum asked Musk to commit that his company won't buy any nickel that can be traced to Norilsk until the Russian megapolluter cleans up its act. Nickel is a key component in climate mitigation solutions such as electric vehicle batteries, solar panels and wind turbines.	Business & Human Rights Resource Centre (2020). Russia: Indigenous communities ask Tesla not to get its nickel from major polluter.
EE021	**Local observations of climate change and impacts on livelihoods in Kamchatka, Russia**	Koryak, Chukchi, and Even peoples	Russia	EECCA	Land use; Water; Transport	Indigenous communities in remote Kamchatka observe temperature changes, thawing permafrost, shifts in sea-ice, and changes in river systems affecting fish stocks. Climate change also affects reindeer herding, mobility, and access to traditional foods. Socio-political transformations since the Soviet era exacerbate the impacts, reducing certain coping strategies.	Gerkey, D., & Sharakhmatova, V. (2024). In V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 45–60). Routledge.
EE022	**Nenets Adaptive Strategies on Yamal**	Nenets	Russia	EECCA	adaptation; observations & impacts; nomadism; pasture management	The Nenets of the Yamal Peninsula are migrating reindeer pastoralists renowned for their endurance in extreme Arctic conditions. This long-term case (2001–present) shows how Nenets communities innovate within tradition to survive new threats from climate change and infrastructure (e.g. navigating around gas pipelines)	Terekhina et al. (2024). "Adaptive Strategies of Indigenous Nenets Reindeer Herders for Climate Change in Yamal." Sibirica 23(3):95-128
EE030	**Vulnerability and Adaptation Among Nenets Reindeer Herders**	Nenets	Russia	EECCA	adaptation, culture, health, animal husbandry	Herders in the Nenets Autonomous Okrug, Northwest Russia consider that not only climate warming, but also weather instability and abruptness, are resulting in the formation of ice crusts inhibiting reindeer forage access and phenological shifts and in turn contributing to both pasture overgrazing and the loss of new-born calves, which are the most frequent and severe hazards occurring in recent years. Despite developing means to adapt to climate change, herders are on the whole pessimistic about the future of a reindeer herding economy.	Bulgakova (2010). Climate Change, Vulnerability and Adaptation Among Nenets Reindeer Herders. In Grete K. Hovelsrud, Barry Smit (2010). Community Adaptation and Vulnerability in Arctic Regions https://doi.org/10.1007/978-90-481-9174-1
EE015	**Impact of Climate Transformation on the Health of Indigenous Small-Numbered Peoples of the North**	Nenets, Khanty, Selkups	Russia	EECCA	food security; impacts; arctic	Tomsk State University (TGU) formalized a collaborative agreement with the Union of Communities of Indigenous Minorities of the North in YNAO. This agreement engages local indigenous communities in climate-change research focusing on quality of life in the Arctic. Results show that the diet of the Nenets, Khanty, and Selkup peoples is changing and becoming less traditional due to climate change.	TSU (2023). Коренные народы ЯНАО будут участвовать в климатических исследованиях ТГУ. https://news.tsu.ru/news/korennye-narody-yanao-budut-uchastvovat-v-klimaticheskikh-issledovaniyakh-tgu/
EE029	**Reindeer herders nomadic school (Nutlendli)**	Nutlendli	Russia	EECCA	adaptation, awareness raising, traditional knowledge, livelihoods	In response to permafrost melt and increased flooding, the Nutendli Chukchi reindeer herders have created a nomadic school system to maintain traditional knowledge and adaptive capacity. This mobile form of education supports cultural resilience and intergenerational knowledge transfer while facing the dual pressures of climate change and modernisation.	Ministry of the Environment of Finland, Indigenous Peoples and Traditional Knowledge Related to Biological Diversity and Responses to Climate Change in the Arctic Region, www.cbd.int/doc/publications/tk-cc-arctic-en.pdf
EE011	**AROSS: Co-producing Arctic Rain-on-Snow Knowledge with Sakha Herders**	Sakha (Yakut)	Russia	EECCA	forecasting; reindeer herding; two-eyed seeing; technology; sea-ice	The 2022 NSF-funded Arctic Rain-on-Snow Study partnered with Yakut herders and local observer networks to log ROS events and brainstorm forecast products. Herders mapped calf die-off sites and verified satellite ice-layer data, turning experiential knowledge into risk indices for winter grazing. Pilot text alerts now warn brigades when warm spells threaten crusted snow, helping them move herds before forage locks up. Early tests show herd losses halved in 2023 compared with neighbouring districts lacking alerts.	National Snow and Ice Data Center (2024). Arctic Rain On Snow Study (AROSS). https://nsidc.org/rain-on-snow

EE005	**"Fire and Water" – Yakutia Adaptation**	Sakha (Yakut) and other Indigenous peoples of Yakutia	Russia	EECCA	adaptation; observations & impacts; wildfires; floods; traditional knowledge	The Republic of Sakha (Yakutia) has faced unprecedented climate extremes: massive wildfires in the tundra (2020) and taiga (2021)	Solovyeva, V., Vinokurova, L., & Filippova, V. (2022). First-hand observations of climate change impacts among Indigenous peoples of the Russian North. Polar Geography, 45 (2), 85–107. https://doi.org/10.1080/1088937X.2022.2053741
EE023	**Fire and Water: Indigenous Ecological Knowledge and Climate Challenges in the Republic of Sakha (Yakutia)**	Sakha (Yakut), Even, other Indigenous peoples of the Republic of Sakha (Yakutia)	Russia	EECCA	observations & impacts, adaptation, forecasting, policy & governance, two-eyed seeing, cultural practices, food security, health, displacement, forests, water	This article explores the lived experiences, ecological knowledge, and adaptive responses of Indigenous peoples in Sakha (Yakutia) to escalating climate challenges, particularly catastrophic wild fires (2020–2021) and frequent floods. Based on over a decade of field research led by Indigenous scholars and community members, the study presents a co-produced body of knowledge that merges traditional practices with scienti fic observation. The project details concrete adaptive strategies to floods, including: (1) total or partial relocation of flood-prone settlements; (2) raising houses on stilts to prevent water damage; (3) formation of village-level monitoring and response teams; and (4) the continuation of strong mutual aid traditions, where households shelter flood victims for extended periods. In terms of wild fire response, traditional controlled burns (sel'khozpal) were historically used to manage grass and prevent catastrophic fires but have been criminalised under federal law, contributing to uncontrolled landscape fires. Despite this, Indigenous communities mobilised in large-scale volunteer firefighting efforts, with residents digging trenches, watching for flare-ups, and organising logistics, often without federal support.	Solovyeva, V., Vinokurova, L. and Filippova, V., 2020. Fire and water: Indigenous ecological knowledge and climate challenges in the Republic of Sakha (Yakutia). Anthropology & Archeology of Eurasia, 59(3-4), pp.242-266.
EE031	**Taymyr–Evenkiya Climate Adaptation Planning with WWF**	Taymyr & Evenki	Russia	EECCA	community-based adaptation; vulnerability mapping; reindeer pastoralism; lessons learned	In April 2018, WWF announced a multi-year climate-adaptation project in Taymyr and Evenkiya (with parallel work in Chukotka and Nenets AO). Planned early-2019 outputs included a full map of the most climate-vulnerable areas and an adaptation plan for local residents that preserved traditional nature use (reindeer herding, fishing, hunting, gathering). In June 2023, Russia designated WWF an "undesirable organisation," effectively banning its activities and terminating the project.	https://www.interfax.ru/russia/908389 https://updates.panda.org/wwf-international-statement-on-undesirable-characterisation-in-russia
EE006	**Protection of freshwater springs in the Altai**	Telengits and Tubular Peoples	Russia	EECCA		Climate change affects the water sources on which Indigenous Peoples depend. For this reason, the Indigenous Peoples of the Altai have long had a special connection to freshwater springs, in particular, sanctifying their use and the places where they are located as the «Milk of Mother Earth». Due to increased tourism, these springs have been in high demand, leading to contamination of the springs, especially those traditionally used by the indigenous inhabitants, known as arzhany. The peoples of Altai, Telengits and Tubalars protect and improve the freshwater springs, share traditional cultural practices and protect the springs from pollution and drying up, as well as preserve the status of these places as the collective property of the indigenous peoples of Altai.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/

EE024	**Shifting weather conditions in Russia**	Yakutia, Yukaghir peoples	Russia	EECCA	impacts, sea ice, animal migration, cultural practice, food security, policy & governance	Indigenous Peoples in Russia are facing signi ficant challenges from climate change, particularly affecting traditional livelihoods dependent on hunting, fishing, and reindeer herding. In Yakutia, unpredictable and rapidly shifting weather conditions complicate reindeer herders' selection of migration routes, threatening the sustainability of their practices. Melting permafrost has even led to the unsettling exposure of ancestral burial sites, disrupting cultural practices. Similarly, changes in fish migration patterns due to warmer waters are negatively impacting traditional fishing practices. Although communities quickly understood and could adapt by adjusting net sizes and fishing depths, federal regulations restrict such flexible responses, hindering their adaptive capacity. The survival of the Yukaghir communities of central Siberia relies on accurate environmental predictions, yet shifting migration patterns of elk and other animals due to unstable freezing conditions now signi ficantly reduce hunting success. As traditional food sources decline, community sharing practices have weakened, leading to intensi fied hunting pressures on other wildlife. Thinner ice layers endanger traditional ice fishing activities, creating additional safety concerns and further exacerbating reliance on alternative species.	First indigenous and local knowledge dialogue workshop for the IPBES assessment on the sustainable use of wild species. Chapter 3.4.7 Climate Change, pp. 27-28. https://files.ipbes.net/ipbes-web-prod-public- files/2023-02/ IPBES_SusUse_1stILKDialogue_Report_final_forWeb.pdf
EE025	**Climate Change, Nomadic Lifestyles and Preservation of Traditions**	Yukaghir Council of Elders	Russia	EECCA	impacts, pastoralism, traditional knowledge	Climate change signi ficantly threatens the Indigenous peoples of Siberia, disrupting reindeer herding, hunting, fishing, and gathering practices essential to their societies. Indigenous Knowledge, traditionally central to predicting weather and ensuring survival in extreme environments, is increasingly becoming ineffective as rapid environmental shifts exceed historical experiences. Siberian Elders state that "nature does not trust us anymore," highlighting the erosion of deep-rooted connections between Indigenous communities and their surroundings. Nomadic reindeer herders face severe challenges, such as the degradation of pastures due to tundra shrub expansion, disruptions in reindeer migration patterns, and altered availability of essential food sources like lichens, caused by unusual precipitation and temperature fluctuations. Unpredictable weather events - such as unprecedented warm spells followed by abrupt freezing, increased snowfall and rainfall, and severe summer storms - exacerbate these dif ficulties, threatening both reindeer and human survival. Health risks have also grown due to permafrost thawing, leading to contaminated water, increased diseases, and the destabilization of traditional food storage systems. Consequently, Indigenous Peoples experience a critical erosion of cultural practices, IK, and identity, with some becoming climate refugees as they can no longer sustain traditional ways of life.	Constable, A.J., S. Harper, J. Dawson, K. Holsman, T. Mustonen, D. Piepenburg, and B. Rost, 2022: Cross-Chapter Paper 6: Polar Regions. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2319–2368, doi:10.1017/9781009325844.023
EE017	**The preservation of Arctic ecosystems and climate change adaptation of Indigenous Peoples of the North**		Russia	EECCA		Analysis of current and projected climate changes. In 2019, specialists planned to create a map of the most vulnerable areas, a development scheme for these territories, and an adaptation plan for the local population, taking into account the preservation of traditional nature use.	
EE026	**Status and perspectives of the application and use of indigenous knowledge in the Russian Federation**		Russia	EECCA	Local observations & impacts, wildlife, traditional knowledge, extreme events, forecasting	This national-scale overview highlights Indigenous knowledge use across various ecological regions. Includes examples from Chukotka: Indigenous weather forecasting based on bird and cloud behaviour; wildlife monitoring; flood frequency changes; and forest conservation. It emphasises the legal protection of traditional land use areas and calls for better integration of Indigenous and scienti fic approaches.	Cicero (2008): Monitoring of Development of Traditional Indigenous Land Use Areas in the Nenets Autonomous Okrug, NW Russia, EcoPechora 2008, IPY PROJECT MODIL-NAO, http://www.cicero.uio.no/media/ 6229.pdf
EE027	**Monitoring of Development of Traditional Indigenous Land Use Areas in the Nenets Autonomous Okrug, NW Russia**		Russia	EECCA	Indigenous peoples,Russian Arctic, traditional nature management, ecosystem services value, sustainable development, Ice Silk Road	A collaboration between the Norwegian Polar Institute and the Nenets organization "Yasavy" to create a GIS database documenting physical and land-use changes in tundra regions. This tool supports Indigenous claims and discussions on land degradation, oil development impacts, and climate change.	Dallmann, Winfried and Peskov, Vladislav (2009) Monitoring of Development of Traditional Indigenous Land Use Areas in the Nenets Autonomous Okrug, NW Russia. In: IV World Reindeer Herders Congress, Kautokeino/ Guovdageaidnu. https://library.arcticportal.org/498/

EE028	**Integrated Ecosystem Approach to Conserve Biodiversity and Minimize Habitat Fragmentation in the Russian Arctic (ECORA)**		Russia	EECCA	Adaptation, biodiversity, livelihoods	The ECORA initiative (2004–2009), coordinated by UNEP/GEF and the Arctic Council's CAFF working group, piloted integrated ecosystem management (IEM) in three model areas of the Russian Arctic: Kolguev Island, Kolyma River Basin, and Beringovsky District. While primarily framed as a biodiversity conservation project, ECORA engaged directly with climate adaptation through traditional land use governance, food security, and community-based monitoring in collaboration with Indigenous communities. Climate-related outcomes include the documentation of reindeer herding declines due to climate-induced rangeland stress, development of community-led monitoring programs tracking ecosystem change, and introduction of sustainable herding practices to mitigate overgrazing. Seasonal shifts in bird and fish populations were monitored through Indigenous and scienti fic knowledge systems, and adaptive reindeer herd management (e.g., new migratory routes, adjusted slaughter times) was developed to respond to these changes. Community observers tracked changes in freeze-thaw cycles, bird migrations, and food availability. In the Kolyma River Basin, an innovative pilot waterfowl harvest regime was co-designed with local hunters using ecological and cultural data, and the region's traditional harvest was protected against external pressures. In Beringovsky, climate-linked	CAFF (2009). ECORA: An integrated ecosystem management approach to conserve biodiversity and minimise habitat fragmentation in three selected model areas in the Russian Arctic. https://oaarchive.arctic-council.org/server/api/core/bitstreams/88ba20c2-4eec-45f9-9552-a93eb29e7ec5/content
EE007	**Rediscovering Altai's human-nature relationships videobrief**	Telengit people of the High Altai (Türkic Indigenous community)	Russia	EECCA	Local observations & impacts, culture, mountains, traditional knowledge	Slava Cheltuev is a Telengit community leader and shaman from the Russian Altai's high altitude Kosh Agach district. Whilst traversing Altai's sacred lands, he reflects on our 21st century world and stresses the importance of reviving vital traditional knowledge - age-old wisdom that instruct the respectful and harmonious relationship between local environ- ment and human behaviour.	UNU-TKI Indigenous Perspectives on climate change video series, https://vimeo.com/showcase/85004/video/7111821
EE016	**Nomadic Camps**	Tuvinian People	Russia / Mongolia	EECCA	impacts; pastoralism; food security	NOMAD Science organized an archaeological expedition into the western taiga near the Darkhad Depression that, alongside fieldwork, showed digital copies of historic Siberian reindeer-herder photos from the British Library Endangered Archives Programme and conducted ethnographic interviews. The team interviewed five families across three camps. Herders report each summer is warmer than the last, with smaller herds and smaller animals, and lack of snow making sleds unfeasible; they also do not ice fish, saying rivers lack fish. Herders link more wolf activity to hunting restrictions; shots were fired to scare wolves. Protected areas prohibit hunting, and a border buffer limits access to sacred mountains and sites.	https://coopersquared.com/2023/01/31/mongolias-tuvan-reindeer-herders/
EE008	**Climate, Food and Health in Aleutian Communities**	Aleutian Communities	Russia / USA	EECCA	adaptation; storytelling, impacts; youth	The Aleutian International Association in collaboration with regional tribal governments, worked with Talking Circle Media to document change and resilience in Aleutian communities with an ancestral knowledge recovery approach to address climate change in the form of digital storytelling. Topics covered were related to climate change, weather, traditional food use, and resilience for youth in three Aleutian communities.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
EE009	**Pamir Micro-Hydropower for Remote Villages**	Pamiri (Badakhshon)	Tajikistan	EECCA	observations & impacts, energy, land use	High on the Pamir Mountains, the people of Murghab have almost no access to energy. The fuel that used to power the electric station ran out after the collapse of the Soviet Union, and the cheap coal that kept them warm in winter has drastically increased its price since Tajikistan's independence in 1991. Desperate for firewood, with temperatures dropping to -50 celsius degrees in winter, the people are harvesting teresken, a small shrub that takes decades to grow. Without the cover of these shrubs the land here is experiencing devastating deserti fication. A public-private partnership has brought clean hydropower to almost all indigenous Pamiri communities, boosting climate resilience. Since 2017, the project also extended grids across the Panj River into isolated Afghan Wakhan villages. Access to hydropower reduces reliance on diesel generators and firewood (preventing further deforestation after 70% of local forests had been cut for fuel). It also enables adaptation: with electric heating and communication, communities are less vulnerable to deadly winter cold and can receive climate alerts.	UNU-TKI Indigenous Perspectives on climate change video series, https://vimeo.com/showcase/85004/video/7606780 Ashden Award (2017). Pamir Energy: Bringing power to the people of Tajikistan and Afghanistan. https://ashden.org/awards/winners/pamir-energy/
EE012	**Ecological Calendars and Climate Adaptation in the Pamirs**	Wakhi & Shugni	Tajikistan	EECCA	adaptation; media report; forecasting; food security; two-eyed seeing	The 2023 ECCAP project works with Pamiri farmers to recalibrate traditional calendars, e.g., replacing "first snow on Kohe-Roshi" with phenological cues that track shifting precipitation. Workshops led by village elders and Cornell scientists produced community wall-calendars and school curricula. Farmers reported 15 % fewer crop losses where calendars guiding sowing, showing how fusing science with Indigenous timing boosts resilience to erratic spring rains.	Mountain Research Initiative (2023). Ecological Calendars and Climate Adaptation in the Pamirs. https://mountainresearchinitiative.org/blog/ecological-calendars-and-climate-adaptation-in-the-pamirs/

EE032	**Greening the Aralkum**	Karakalpak	Uzbekistan	EECCA	Adaptation, Nature-based solutions, Public health, Climate data/early warning	After the Aral Sea's collapse, Karakalpak communities are part of a large saxaul afforestation effort on the dried seabed to cut dust/salt storms and stabilize soils. A UNDP-facilitated "Green Aral Sea" initiative reports ~823,000 saxaul seedlings planted on ~658 ha from 2020–2025, testing improved survival techniques (e.g., moisture-retaining root dips and hydrogels) and using local nurseries and manual planting. In June 2025, 17 autonomous, solar-powered air-quality stations were installed across the Aral region to track PM2.5/PM10 and key gases, supporting early warnings for >2 million residents and informing adaptation/health responses.	UNDP (2025). Climate Justice in Action: UNDP Launches Air Quality Monitoring System in the Aral Sea Region. https://www.undp.org/uzbekistan/press-releases/climate-justice-action-undp-launches-air-quality-monitoring-system-aral-sea-region
EE033	**Kola observations from the Sámi community of Lovozero (SnowChange)**	Sámi	Russia	Arctic	Local observations & impacts, seasonal, animal husbandry, wildlife, forecasting, traditional knowledge	Based on interviews with Sámi Elders, reindeer herders, and cultural activists in Lovozero, this project documents shifts in weather patterns and their impact on reindeer herding. Early thaws and delayed freezing are disrupting traditional cycles. New plant species, reduced birds and insects, and disrupted Sámi seasonal calendars were observed. Conducted under the SnowChange initiative.	Arctic Climate Impact Assessment (pp. 61-98), http://www.acia.uaf.edu/pages/scienti fic.html
EE034	**Climate Change Adaptation Strategy for Lovozero Village**	Sámi	Russia	Arctic	Community-based adaptation planning, Climate adaptation, Indigenous knowledge, community planning, Lovozero	In response to the escalating impacts of climate change, the Indigenous Sámi community in Lovozero village collaborated with researchers to develop a localized adaptation strategy. This initiative integrated traditional knowledge with scienti fic research to address challenges such as changing weather patterns, impacts on reindeer herding, and alterations in local biodiversity.	"Lovozero, Murmansk region. Climate change adaptation strategy for villagers" – ResearchGate publication
EE035	**Indigenous Women's Leadership in Climate Action**	Sámi	Russia	Arctic	Gender-inclusive climate action, cultural resilience, Indigenous women, climate change, cultural knowledge, gender equity, Arctic resilience, traditional practices	Indigenous Sámi women have played increasingly visible roles in climate-related advocacy since 2020. Through networks like the Russian Sámi Women's Organization, women have contributed to community adaptation strategies, environmental education, and cultural revival projects that center sustainable practices such as traditional food harvesting, herbal medicine, and seasonal weather tracking. These women are often the custodians of oral knowledge about changes in the land and waters.	IWGIA (2021, 2022): The Indigenous World – Russia chapters Arctic Women and Climate Change (Saami Council briefs) Batani Foundation & Indigenous Russia Network articles (batani.org, indigenous-russia.com)
EE036	**Siberian silk moth (Dendrolimus superans sibiricus)**	Sámi	Russia	Arctic	land use, impacts, policy & governance, forests, invasive species	**Drivers** : The main driver of silk moth invasion is climate change. Another important driver is the lack of control of transboundary connections such as the timber trade. Siberian trees go to China, and trees also go from China to Russia, and invasive species are carried along with this. There is no border control. **Impacts** : Caterpillars of silk moth destroy coniferous forests from spring to late autumn. As a result hundreds of thousands of hectares of Russian forests are destroyed – it happens very fast. (The Russian Ministry of Nature has issued an annual report "On the State and Environmental Protection of the Russian Federation in 2018". According to the report, for 2018, in only one Tomsk region, the silk moth killed 23.7 thousand hectares of forest). The moths feed on the trees and are impossible to control. In affected areas there are no more birds, and no food left for animals (e.g., reindeer) and the infected trees have to be cut down, which pro fits harvesting companies (often from abroad). Traditional community lifestyles are impacted, including land use and spiritual aspects, as they can't use these areas anymore. **Management** : When hunters find silk moth webs, they need to alert a government department immediately. They try to control it, but it is impossible at times. The most effective management approach is to poison silkworm caterpillars in the spring, but due to delays the funding for these activities can be allocated in the summer and autumn, when the forest has already died.	First indigenous and local knowledge dialogue workshop for the IPBES thematic assessment of invasive alien species and their control (2019), Chapter 4: Case Studies, p. 37 https://files.ipbes.net/ipbes-web-prod-public- files/inline- files/IPBES_IAS_1stILKDialogue_Report_ fi nal_forWeb.pdf
EE037	**Cloudberries in Russia**	Sámi	Russia	Arctic	land use, impacts, food security, traditional knowledge	The geographic distribution of cloudberries has moved north with climate change. As a result of this shifting distribution, young people in some communities where the berries previously used to grow now are not familiar with the berries and do not know how to use them, including their uses as medicinal plants – this represents a loss of food, health and biodiversity, for humans and for other animals who eat these berries.	Third Indigenous and local knowledge dialogue workshop for the IPBES assessment of the interlinkages among biodiversity, water, food and health: Key recommendations and learning from the dialogue workshop, climate change, p. 18. https://files.ipbes.net/ipbes-web-prod-public- files/2024-03/IPBES_Nexus_3rdILKDialogue_SOD_Report_FINALforWeb.pdf

EE038	**Reindeer Herders & Fisherfolk Resilience (Barents Region)**	Sámi and Komi-Izhemtsy reindeer herders	Russia	Arctic	adaptation; observations & impacts; resilience; reindeer herding; fisheries	Sámi and Komi-Izhemtsy reindeer herders in the Russian Arctic European North, face warming winters, unpredictable seasons, and ecosystem changes	Konnov et al. (2022). "Traditional Livelihood, Unstable Environment: Adaptation of Traditional Fishing and Reindeer Herding to Environmental Change in the Russian Arctic." Sustainability 14(19): 12640

Central & South America and The Caribbean

OLD-ID	Title	IP	Country	Region	Keywords	Summary	Further Information
LA001	**Indigenous Women's Groups in Disaster Risk Reduction**	Indigenous Peoples of Latin America and Caribbean	_Regional	Central and South America & the Caribbean	Adaptation, disaster preparedness, women	Grassroots women leaders across Latin America and the Caribbean are spearheading community-driven disaster risk reduction and climate adaptation initiatives. Through networks like GROOTS International and the Huairou Commission, indigenous and local women's groups train and empower hundreds of women to implement resilient agricultural practices, sustainable resource management, and risk mapping at the community level. These efforts have transformed vulnerable communities from passive aid recipients into active agents of resilience, leveraging traditional knowledge and social networks to better prepare for floods, hurricanes, droughts, and other climate-related hazards.	project report
LA002	**Regional Amazon Platform for Indigenous Peoples**	Indigenous Peoples of the Amazon	_Regional (Amazon)	Central and South America & the Caribbean		The Regional Amazon Platform for Indigenous Peoples and Climate Change, established by the Amazon Cooperation Treaty Organization (ACTO) with support from the European Union's EUROCLIMA+ program, serves as a collaborative framework among the eight Amazonian countries—Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela. Launched in 2022, the Platform aims to institutionalize Indigenous participation in climate governance, emphasizing the integration of traditional knowledge into public policies and international commitments like the Paris Agreement. Key initiatives include the development of the Amazon Regional Strategy for Indigenous Peoples and Climate Change (ERPICC), which seeks to align Indigenous perspectives with national climate strategies, and the facilitation of knowledge exchange on climate adaptation and mitigation rooted in Indigenous practices. The Platform also fosters dialogue between Indigenous leaders and government representatives, promoting the conservation of Amazon ecosystems and the recognition of Indigenous territorial and cultural rights.	OCTA https://otca.org/en/the-second-amazon-regional-meeting-for-the-construction-of-the-regional-platform-for-indigenous-peoples-and-climate-change-has-begun/
LA003	**CANOA – Transboundary Indigenous Climate Corridor in Northwest Amazon**	Indigenous Peoples of the Amazon	_Regional (Amazon)	Central and South America & the Caribbean		CANOA (Consolidation and Alliance in the Northwest Amazon) is working in support of the rights of indigenous peoples and conservation of the environment in the northwest Amazon Basin, linking indigenous organizations and other actors in border areas shared by Colombia, Venezuela and Brazil. Since 2002 the CANOA initiative has been coordinating transborder activities, responding to the threats of climate change through the conservation of biological and cultural diversityin a corridor of indigenous territories and protected areas that cover 100 million hectares in the Northwest Amazon. Funded by the European Commission.	https://sdgs.un.org/partnerships/promote-protection-amazonian- flying-rivers-and-contribute-safeguard-ecosystem-and
LA004	**Droughts and fires in the Amazon**	Kamayurá people	_Regional (Amazon)	Central and South America & the Caribbean	Local observations & impacts, forests, drought	In response to intensifying droughts and wild fires linked to climate change and deforestation, Indigenous communities across the Brazilian Amazon are leading fire prevention and management initiatives. With NGO support, they have formed mixed fire brigades that combine traditional controlled-burning knowledge with modern firefighting techniques. For example, after training by the Aliança network, one Indigenous territory adjusted seasonal burn practices to prevent escapes; by 2019, during a severe fire season, they reported no uncontrolled fires on their lands	Nobrega (Aliança), 2023, Panel "Amazon Forest Dieback: science, impacts and solutions"
LA005	**Climate change impacts in the Andes and adobe houses to protect from low temperatures**	Indigenous Peoples of the Andes	_Regional (Andes)	Central and South America & the Caribbean	Local observations & impacts, traditional knowledge	The Coordinadora Andina de Organizaciones Indigenas represents Indigenous Peoples throughout the Andean region. They have documented increased temperatures during the dry season throughout the region leading to the loss of biodiversity and decreased food security. During the winters, CAOI has documented record low temperatures that are affecting the health, alpaca, and food production in the Andes. Indigenous peoples have designed adobe houses to protect themselves and their livestock from low temperatures.	Coordinadora Andina de Organizaciones Indigenas (CAOI), http://www.minkandia.org/

LA006	**Advancing Early Warnings for All – Multi-Country Project**		_Regional (Antigua and Barbuda; Chad; Cambodia; Ecuador; Ethiopia; Fiji; Somalia)	Central and South America & the Caribbean	Adaptation; Observations & impacts; Early Warning Systems; Traditional knowledge	A global multi-country initiative to ensure that even the most remote and vulnerable communities – including many indigenous groups – have access to life-saving early warning systems (EWS). This five-year project (led by UNDP with WMO and partners) operates in 7 countries across Africa, Asia, Latin America, and the Paci fic, aiming to directly protect 78 million people with improved multi-hazard early warnings	WMO (2025). *"GCF grants boost Early Warnings for All"*wmo.in twmo.int; UNDP (2025). Press Release: $103 M for Early Warning Systems in 7 Countries wmo.int.
LA007	**Impacts of Wild fires and Deforestation on Indigenous Peoples in voluntary isolation**	Indigenous Peoples in Isolation (including Ayoreo, Pacahuara, Yuqi and others)	_Regional (Bolivia, Brazil, Paraguay)	Central and South America & the Caribbean	impacts. adaptation, wildfire, forests, voluntary isolation	Across Bolivia, Brazil and Paraguay, Indigenous Peoples in Voluntary Isolation—such as the Ayoreo, Toromona and Kawahiva—suffered climate-intensi fied wildfires in 2019, when GTI -PIACI monitoring recorded millions of hectares burned and unprecedented hotspot peaks inside 31 of their territories. Using near -real-time satellite fire alerts (MAAP, GLAD), Indigenous and NGO teams now dispatch rapid over-flights and impose temporary "no-burn/no-entry" measures tp try and reduce the impact on these communities. However, 25,270 new hotspots were still detected in their lands between January and October 2023, as escalating climate risk continues to threaten these isolated communities.	GTI PIACI (2020). Informe Trinacional: Incendios y deforestactiôn en territorios con registros de Pueblos Indígenas en situatción de aislamiento - pia Bolivia-Brasil-Paraguay. https://www.pueblosaislados.org/_ files/ugd/fe48e9_04b7853abda44a2984a22b797aaf9439.pdf COTA (2023). Focos de calor en territorios indígenas de tierras bajas de Bolivia. https://www.pueblosaislados.org/_ files/ugd/fe48e9_859b1557c3ce4e2e866fa2f221338337.pdf
LA114	**Improving Climate Resilience by Increasing Water Security in the Amazon Basin**	Indigenous peoples of the Amazon Basin (e.g. Quechua, Achuar, Tikuna, Siona, Kali'na)	_Regional (Bolivia; Brazil; Colombia; Ecuador; Peru; Suriname)	Central and South America & the Caribbean	Adaptation; Water security; Transboundary; Indigenous rights; Amazon	This regional programme unites six Amazon countries to safeguard water resources in the face of climate change, with indigenous communities at its heart. The Amazon Basin is seeing more extreme droughts and floods, threatening both ecosystems and livelihoods	Green Climate Fund (2025). FP261 Amazon Basin Project Summary https://www.greenclimate.fund/project/fp261.
LA008	**Ecosystem-Based Adaptation and Water Resources in Nepal and Perú**		_Regional (Nepal & Peru)	Central and South America & the Caribbean	adaptation, traditional knowledge, water	Interviews with policymakers and government representatives, civil society representatives, and local community members in Nepal and Perú were conducted to understand the knowledge exchange around water adaptation practices and technologies between local communities and state and national actors through the lens of ecosystem-based adaptation. In Nepal, mountain communities historically manage water through practices such as building containment ponds to store monsoon rain for dry seasons, utilizing grey water for gardens, planting vegetation like broom grass to reduce erosion, and maintaining irrigation canals. These practices help communities withstand increasingly unpredictable rainfall patterns, glacial melting, flooding, and drought. Traditional knowledge emphasizes conserving and reusing water resources, highlighting the interconnection between water management, agriculture, and livelihoods. Similarly, Peruvian mountain communities in the Andes have developed sophisticated ancestral technologies for water management tailored to diverse elevations and microclimates. Practices include in filtration lagoons (q'ochas) for groundwater recharge, constructed high-altitude wetlands (oqukuna) to sustain livestock, and reservoirs (kita) to regulate surface water supplies. These technologies enable communities to maximize water availability, buffer against climate variability, and maintain agricultural productivity. However, many	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=29159 Mayville, de Lozada and Shennum (2021). Ecosystem-based adaptation and water resources in Nepal and Peru. https://www.iucn.org/sites/dev/files/eba_and_water_resources_in_nepal_and_peru.pdf

LA009	Andes Women's Climate -Preparedness Workshops	Quechua, Aymara & Kichwa women's networks	_Regional (Peru, Bolivia, Ecuador)	Central and South America & the Caribbean	climate drills; traditional song circles; disaster risk; intercultural education	Since 2019 the *Red de Mujeres Andinas por el Clima* has hosted seasonal "Pachamama Resilience" camps where elder song -keepers teach drought omens, while younger members lead flood-evacuation drills and first-aid training. Across 24 highland communities attendance rose from 220 to 730 women (2019 -2024). Post -workshop evaluations report the creation of 18 community seed banks (storing frost -resistant potato varieties) and the inclusion of women in 11 municipal emergency -planning committees—up from zero pre-project. Participants credit the blend of ritual song and modern hazard mapping for higher local uptake.	University of Western Ontario APRCI Working Paper — "Indigenous Women and Climate Change: Vulnerabilities and Resistance in Canada and Latin America" (2021). https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1250&context=aprci
LA010	**Indigenous Fire Management in South America**	Pemón	_Regional (South America)	Central and South America & the Caribbean	mitigation, traditional knowledge, wild fire	In South America, indigenous peoples have traditionally used controlled fire sustainably for agriculture, hunting, fishing, encouraging plant growth, and preventing uncontrolled wild fires, practices deeply integrated into their cultural and spiritual life. Historically, such fire management maintained forest diversity and health, even in regions like the Amazon, which are not naturally adapted to frequent fire. However, European colonization introduced drastically different land-use practices, characterized by indiscriminate and high-intensity wild fires to clear native vegetation for monoculture agriculture and livestock, signi ficantly altering natural ecosystems and fire regimes. Subsequent 20th-century policies attempted to curb wildfires through a "zero fire" approach, criminalizing indigenous burning practices, but inadvertently increasing fuel buildup and vulnerability to larger, uncontrolled wild fires. As climate change intensi fies droughts and raises temperatures, returning to indigenous fire management practices offers a crucial strategy for preventing severe wild fires and protecting ecosystems across the continent. In Venezuela, patch mosaic burning by the indigenous Pemón people in the country has been assessed in long-term scienti fic trials and proved to be effective in reducing wild fire risks, and is now being taught to firefighters by the Pemón. In Brazil, prescribed fire has been shown to have positive effects on faunal diversity.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=29440 Pasiecznik & Goldsammer (2022). Towards Fire-Smart Landscapes. Tropical Forest Issues 61. doi.org/10.55515/DVRK2501
LA011	**Indigenous Wild fire Management**	Indigenous Peoples of the Amazon	_Regional (Venzuela, Brazil, Guyana)	Central and South America & the Caribbean	adaptation, mitigation	In parts of the Amazon (Venezuela, Brazil, Guyana), Indigenous fire management knowledge has led to fewer wild fires, helping to moderate rising temperatures and drought risk	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG)., p. 2714
LA012	Biocultural strategies and lithium mining con flicts in Argentine Puna	Kolla-Atacameños	Argentina	Central and South America & the Caribbean	mitigation, bene ficial effects, biodiversity, water, mining, policy & governance	Kolla-Atacameños communities in the Argentine Puna region have experienced a decrease in water availability and harsher living conditions arising from climate change, although changes driven by technology, transport and migration are even more signi ficant. Thy address climate-driven aridi fication and environmental threats posed by lithium mining operations by maintaining traditional wetland ('vegas') management practices. These wetlands, vital for local ecosystems and agriculture, are managed through sophisticated Indigenous ecological knowledge, enhancing both biodiversity and local water security. The communities also actively engage in political advocacy and dialogues concerning lithium mining, emphasizing the protection of their rights, lands, and livelihoods. This dual approach of ecological stewardship combined with political advocacy forms part of the community's commitment to sustainable resource management and climate resilience through Indigenous leadership and community collaboration.	Izquierdo & Schlingmann (2024). Local perceptions of climate change in the context of socioeconomic and political changes in a High Andean community from the Argentine Puna. In: Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (2024), p.146
LA013	**Belize Community Managed Sarstoon-Temash Conservation Project**	Mayan Q'eqchi' and Garifuna	Belize	Central and South America & the Caribbean	Adaptation; Forests; Wetlands; Community management	In southern Belize, Maya Q'eqchi' and Garifuna communities organized through the Sarstoon-Temash Institute for Indigenous Management (SATIIM) to co-manage the 42,000-acre Sarstoon-Temash National Park – a coastal wetland and mangrove complex vital for climate adaptation. SATIIM's indigenous rangers conduct regular forest patrols to curb illegal deforestation and implement sustainable agro-forestry projects (such as farming under rainforest canopy) in buffer zones. These efforts have increased food security and climate resilience by reducing flood risk and diversifying livelihoods. For instance, SATIIM has introduced climate-resilient farming techniques and reintroduced traditional foods from forest plants to lessen reliance on climate-sensitive crops. The organization also led an international campaign to halt oil drilling in the park, asserting indigenous rights and preventing potential ecosystem damage. As a result, the park's mangroves and forests continue to store carbon and protect local villages from storm surges	SATIIM (2020), https://www.satiim.org.bz/ WORLD BANK (2008): Sobrevila, Claudia. The Role of Indigenous Peoples in Biodiversity Conservation

LA014	**Indigenous Bolivian Amazon REDD+ Program**	Amazonian Indigenous territories	Boliva	Central and South America & the Caribbean	Mitigation, forests, ecosystems	Bolivia's Indigenous REDD+ Amazonía program was one of the first indigenous-led forest carbon initiatives in the world. Starting around 2010, it involved an alliance of lowland indigenous peoples and NGOs (e.g., Fundación Amigos de la Naturaleza (FAN), the Confederation of Indigenous Peoples of Bolivia (CIDOB) and the Central Indigenous Council of Bolivia's Amazon Region (CIRABO)) to protect 3.8 million hectares of Amazon rainforest across communal lands. The program trained 40+ indigenous technicians in forest monitoring and implemented sustainable livelihood projects (cocoa, handicrafts) to reduce pressure on forests. The program developed community-driven forest management plans and a bene fit-sharing model where carbon credit revenues would fund local schools and health centers. While regulatory hurdles in Bolivia limited full carbon market deployment, the initiative built indigenous capacity in MRV (Monitoring, Reporting, Veri fication) and strengthened territorial governance.	Archived: Indigenous Bolivian Amazon REDD Program, http://www.reddamazonia.com. Wallbott, L. and Recio, E., 2020. Practicing human rights across scale: indigenous peoples' affectedness and recognition in REDD+ governance. In Affectedness And Participation In International Institutions (pp. 199-220). Routledge.
LA015	**De-glaciation of Mount Illimani and new crops**	Aymara	Boliva	Central and South America & the Caribbean	Local observations & impacts, food security, income diversi fication	The glaciers on Illimani are estimated to have been there for thousands of years. However, in early 2009, the Paris-based Development Research Institute (IRD) estimated that the glaciers in the Cordillera Real mountain range in Bolivia, of which Illimani forms a part, had lost more than 40% of their volume between 1975 and 2006. Aymara Indians living in Khapi, perched high up in the Bolivian Andes, are watching Illimani with increasing alarm. They depend on it for part of their water supply - both to drink and to irrigate their small, terraced parcels of land; and the water from Illimani plays a crucial role in the life and religious beliefs of the community. Every September, they carry out a ritual, involving offerings called Waxt'a in Aymara. This includes the sacri fice of a llama and other offerings like coca leaves, alcohol and cigarettes to Illimani. Villagers are also concerned about the changing climate. They say there is no longer any predictability about when the rains come, compared to the past, they are sure that there is less rain, and that the weather is getting hotter. One positive aspect of the warmer temperatures is that some of them can now grow peaches and maize where previously they could not.	Bolivia's Indians feel the heat, James Painter, BBC News, 29 July 2009, http://news.bbc.co.uk/2/hi/americas/8172981.stm
LA016	**Ancestral irrigation system to protect against floods**	Indigenous farmers in Beni	Boliva	Central and South America & the Caribbean	Adaptation; Traditional knowledge; Flood control; Agriculture	In the Bolivian Amazon's Beni savannas, indigenous farmers are restoring ancient raised field agriculture (locally known as *suka kollus* or *camellones*) to adapt to more intense rainy seasons and floods. These elevated earth platforms, originally built by pre-Columbian civilizations, protect crops from flooding and improve irrigation during droughts. With support from NGOs, communities have rebuilt dozens of raised fields and accompanying canals over the past decade, leading to increased crop yields (up to 40% higher) and greater food security. The water channels around the fields also create microclimates that shield plants from frost by absorbing heat in the day and releasing it at night. This nature-based solution has reduced flood damage and revived traditional knowledge. After severe floods in 2014, the Bolivian government recognized the value of these indigenous techniques and supported their expansion as a climate resilience measure in the Beni region.	Bolivia: Reviving ancient indigenous knowledge, Oxfam, http://www.oxfam.org/en/campaigns/climatechange/bolivia-reviving-ancient-indigenous-knowledge
LA017	**Qhuthañas in Bolivia: Collecting and storing rainwater in small dams**		Boliva	Central and South America & the Caribbean		The Aymaran indigenous people of Bolivia have adopted traditional practices to collect water in the mountains and pampas by way of constructing qhuthañas. In Bolivia, droughts affect—at varying levels—at least 40% of its territory. To prevent and mitigate disasters caused by droughts, the Aymaras build small dams (called qhuthañas in the native language). These dams collect and store rain water from various places such as mountains and pampas. Water stored in qhuthañas represents a valuable resource for both people and domestic and wild animals, because it allows them to drink water during periods of drought. In addition, these 'mirrors' or 'bodies of water' serve as thermo-regulators of humidity related to the environment and diffuse the damaging rays of sunlight which cause skin cancer.	UNFCCC Database on local coping strategies, Case Study 92, http://maindb.unfccc. int/public/adaptation/adaptation_casestudy.pl?id_project=137; Félix Gutiérrez Matta (2003), Aymaran Rainwater Harvesting, In: ISDR Turning the tide on disasters towards sustainable development, 2003 World Disaster Reduction Campaign.
LA018	Agrobiodiversity and Traditional Food Systems in Bolivia	Aymara and Quechua	Bolivia	Central and South America & the Caribbean	adaptation, food security, traditional knowledge, agroecology, women	Indigenous farmers, particularly women, safeguard climate-resilient food systems by preserving traditional crop varieties and seed systems. These efforts support local adaptation by promoting varieties with high micronutrient values and tolerance to shifting climates. The programme involves systematising knowledge, revitalising underutilised species, and supporting intergenerational transfer of agricultural knowledge.	IFAD (2016). Climate Change Adaptation Case Study: Bolivia. In: The Traditional Knowledge Advantage.

LA019	**Mega fires threaten Ayorei in Bolivia**	Ayoreo	Bolivia	Central and South America & the Caribbean	impacts, adaptation, wildfire, drought, voluntary isolation	2019 mega -wildfires - exacerbated by extreme drought - burned ≥5 million ha of Chiquitano dry forest, threatening the Ñembi Guasu reserve that shelters the Ayoreo people in voluntary isolation. In response, local Ayoreo federations have led proactive, community -based fire management initiatives. These include early -warning systems using satellite hotspot alerts and SATRIFO risk maps, alongside community -run fire-break brigades that established buffer zones to defend the reserve.	Fundación Amigos de la Naturaleza (FAN). Reporte de incendios forestales a nivel nacional – 25 de septiembre 2019. Santa Cruz, Bolivia https://incendios.fan-bo.org/Satrifo/reportes/IncendiosNal-FAN-25092019.pdf
LA020	ACCESOS-ASAP: Participatory Climate Adaptation with Indigenous Peoples	Quechua and Aymara communities (implicit in Bolivian highlands)	Bolivia	Central and South America & the Caribbean	adaptation, traditional knowledge, food security, forecasting, policy & governance	The ACCESOS-ASAP project integrates traditional Indigenous knowledge systems into climate adaptation planning in Bolivia. Using tools like *"talking maps"* and the Pachagrama (a bio-indicator-based indigenous climatic information system), the project enables communities to forecast rainfall and seasonal cycles to adjust their agricultural strategies. Indigenous communities were involved from the design stage and provide in-kind knowledge contributions. The Pachagrama helped reduce crop losses and enhancing resilience. The use of traditional knowledge is of ficially recognised and promoted within the project as a core climate resilience strategy.	IFAD (2016). Climate Change Adaptation Case Study: Bolivia. In: The Traditional Knowledge Advantage.
LA021	**Uru Murato Adaptation After Lake Poopó's Disappearance**	Uru Murato people of Llapallapani	Bolivia	Central and South America & the Caribbean	Adaptation; water scarcity; livelihood diversi fication; disaster recovery; food security	The Uru Murato, an Indigenous fishing people in Bolivia's altiplano, have been forced to adapt after the complete drying of Lake Poopó (their ancestral lake) in 2015. The lake's loss - driven by climatic drought and water mismanagement - devastated the Uru's traditional fishing livelihood	World Food Programme, 2022, "COP27: A dried up lake and an indigenous community on the precipice in Bolivia" https://www.wfp.org/stories/cop27-dried-lake-and-indigenous-community-precipice-bolivia
LA022	**Integration of local and indigenous knowledge into climate-resilient rural water management in the Bolivian Altiplan**		Bolivia	Central and South America & the Caribbean	Mitigation; Protected areas; Co-management; Traditional knowledge	In the Bolivian Altiplano, warming trends in the northern and central areas and a drier, earlier rainy season are affecting agricultural practices and forcing farmers to adapt by changing their crop species or relying on groundwater-sourced irrigation. Despite climate projections lacking detail for the Altiplano and the sparse meteorological network being underdeveloped, farmers' local indigenous knowledge (LIK) of their ecosystem supports their adaptive behaviour. This publication re flects on the importance of LIK to complement and guide science in areas where communities are closely related to the agroecosystem. Bolivian farmers' perceptions of climate change were evaluated, indic ators used were identi fied, and their scienti fic relevance was con firmed through the analysis of data from meteorological stations and satellite data. Results evidenced the important role of LIK as a tool for reducing weather-related risks and favour local climate change adaptation, particularly in data-scarce regions.The role of indigenous groups, considering their ancestral knowledge on water issues, is stated as essential in UNESCO-IHP ninth phase strategic plan (IHP-IX 2022-2029) "Science for a water secure world in a changing environment". Acknowledging the emergence of citizen science, IHP-IX will seek to promote strategies and activities that encourage the contribution	UNESCO, . et al., 2023. Integration of local and indigenous knowledge into climate-resilient rural water management: lessons learned from the Bolivian Altiplano, UNESCO: United Nations Educational, Scienti fic and Cultural Organisation. France. Retrieved from https://coilink.org/20.500.12592/pg4f7pj COI: 20.500.12592/pg4f7pj.
LA023	Social-Environmental Perception of Artisanal Fishermen on Climate Change	Artisanal Fishermen Communities	Brazil	Central and South America & the Caribbean	Oceans and coastal zones, impacts, adaptation, fishing	Examines socio-economic disparities in climate adaptation responses, comparing the perceptions of climate change among artisanal fishermen in socio-spatially segregated communities. It highlights the impacts on fishing livelihoods and the role of Indigenous ecological knowledge in adapting to environmental changes.	Vunibola et al (2024). The Concept of Indigenous Knowledge and Climate Resilience in the Paci *fic*. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 3, Pages 47-60
LA024	**Apiwtxa Asháninka Reforestation and Cultural Resilience**	Asháninka	Brazil	Central and South America & the Caribbean	Adaptation; Reforestation; Sustainable livelihoods; Land tenure	The Asháninka of Apiwtxa village (Acre, Brazil) transformed a once-degraded cattle ranch into a thriving forest over the past 30 years, showcasing indigenous-led restoration. After securing legal title to their 87,000-hectare territory in the 1990s, the Asháninka replanted large swaths of pasture with fruit trees, hardwoods, and traditional crops. This reforestation has regenerated springs and brought back wildlife, sustaining the community through agroforestry (e.g., harvesting inga, acerola, and medicinal plants). The Asháninka built a small fruit processing factory to produce value-added goods like juice and jam, creating incomes tied to forest conservation. They also established an indigenous training center (Yorenka Atame) to share their model with neighboring tribes and help replicate it across 1.6 million hectares of border rainforest. By 2024, the Apiwtxa community's territory has become a biodiversity refuge and a buffer against climate impacts (such as droughts and fires) in the region.	APNews (2024). The Amazon's Ashaninka tribe restored their territory. Now they aim to change the region https://apnews.com/article/brazil-indigenous-amazon-reforestation-ashaninka-climate-8f1311d0f1febc1125511b3c1662aaea

LA025	**Indigenous-Led Conservation in Paraná's Metropolitan Forest**	Kaingang, Guarani Ñandeva, Tukano, and Terena	Brazil	Central and South America & the Caribbean	Co-management with indigenous peoples, Sustainable use and conservation of the Atlantic Forest biome; Protected Areas; submission	From 2024, 35 indigenous individuals representing the Kaingang, Guarani Ñandeva, Tukano, and Terena ethnic groups have occupied a designated village spanning 4,400 hectares in Piraquara, located within the Metropolitan Region of Curitiba. This territory is integrated into the Metropolitan State Forest, which is one of over 70 Conservation Units (UCs) across Paraná. Marking an unprecedented move in the country, the Indigenous community has been self-managing this environmental complex since 2022 through a Management Cooperation Agreement between the Water and Land Institute (IAT) tied to the State Secretariat for Sustainable Development (Sedest), and the Ãngelo Kretã Ethno Bio Diverse Institute and Training Center. This agreement allows the indigenous community to remain in the conservation unit, guaranteeing their right to use the territory under a sustainable management plan. Activities include reforestation with native species, environmental education, responsible tourism and the promotion of a sustainable source of income for the community through the installation of stingless native bee hives and a "solitary bee hotel". This approach strengthens ecological and social resilience, promoting the conservation of the Atlantic Forest biome while valuing indigenous culture and traditional knowledge.	Regions4 (2025). Cultivating Just Resilience: Shared management of the Paraná Metropolitan State Forest. https://regions4.org/csd/just-resilience-parana/ RegionsVoice Video: https://youtu.be/ApePqg9XlYs
LA026	**Amazon Culture Withers as Food Dries Up**	Kamayurá	Brazil	Central and South America & the Caribbean	Local observations & impacts, food security	For centuries, fish from jungle lakes and rivers have been a staple of the Kamayurá diet, the Xingu National Part tribe's primary source of protein. But deforestation and, some scientists contend, global climate change are making the Amazon region drier and hotter, decimating fish stocks in this area and imperiling the Kamayurá's very existence. Like other small indigenous cultures around the world with little money or capacity to move, they are struggling to adapt to the changes. Chief Kotok of the Kamayurá people said that men could now fish all night without a bite in streams where fish used to be abundant; they safely swim in lakes previously teeming with piranhas. Chief Kotok, who like all of the Kamayurá people goes by only one name, said that men can now fish all night without a bite in streams where fish used to be abundant; they safely swim in lakes previously teeming with piranhas.	Elizabeth Rosenthal, 25 July 2007, New York Times As Trees Fall in the Amazon, Fears that Tribes Won't Be Heard, http://www.nytimes.com/2009/07/25/science/earth/25tribe.html?pagewanted=1&_r=1&sq=kamayura&st=cse&scp=2; An ancient society faces new change in Brazil slide show: http://www.nytimes.com/interactive/2009/07/25/science/earth/20090725-kamayura-audioss/index.html?scp=5&sq=kamayura&st=cse
LA027	**Kayapó Peoples – Protecting 11 Million Hectares of Amazon Rainforest**	Mẽbêngôkre (Kayapó) and Panará peoples	Brazil	Central and South America & the Caribbean	Mitigation; forest conservation; territorial monitoring; indigenous autonomy; REDD+	The Kayapó indigenous territories in southeastern Amazon (Pará and Mato Grosso) represent one of the world's most successful cases of large-scale forest protection by an Indigenous coalition. Through vigilant monitoring and a 30-year alliance with NGOs, over 11 million hectares of rainforest have been kept intact	ICFC (2023). Climate bene fits from the Kayapo Project in the Brazilian Amazon. https://icfcanada.org/Kayapo_Project_Climate_Bene fits.pdf
LA028	**Suruí Forest Carbon Project**	Paiter-Suruí	Brazil	Central and South America & the Caribbean	land use, finance, mitigation, REDD+, lessons learned	In 2009, the Paiter-Suruí became the first Indigenous group to run an of ficial REDD+ project (Spaish acronym - PCFS), aiming to avoid 5 million tons of CO_2 emissions over 30 years. Initially, it saw success – illegal logging in their Amazon territory plummeted from 2009 to 2012, and the Suruí sold 120,000 credits to international buyers. However, by 2018 the project was suspended inde finitely due to mounting challenges. A surge of illegal gold miners and loggers invaded when outside support waned, driving deforestation above allowable levels. Internal community divisions over carbon revenue sharing (some Suruí felt benefits were uneve n) further undermined the effort. With the forest loss and con flict, the Suruí and partners halted credit sales. PCFS was an important initiative for the territorial protection of the Sete de Setembro Indigenous Lands within the scope of REDD+ because the deforestation rates decreased, and monetary income was generated. However, the lack of speci fic legislation that addresses the issue of carbon sequestration, left the Suruí without legal protection and weakened the signed agreements resulting in con flicts between the clans.	da Silva et al (2024). The Paiter Suruí Indigenous People in Defence of their territory: the case fot eh Suruí Forest Carbon Project (PCFS) - RONDONIA/BRAZIL. In: Penteado et al (2024). Traditional Knowledge and Climate Change.

LA029	**Rainforest Connection: : Acoustics for Biodiversity Monitoring and Threat Detection**	Tembé Tribe	Brazil	Central and South America & the Caribbean	mitigation; forests; biodiversity; policy & governance	Rainforest Connection (RFCx) deploys AI-powered acoustic monitoring systems ("Guardians") in tropical rainforests to detect illegal logging and poaching in real time	Panorama (2021). Rainforest Connection & Huawei: Acoustics for Biodiversity Monitoring and Threat Detection. https://panorama.solutions/en/solution/rainforest-connection-huawei-acoustics-biodiversity-monitoring-and-threat-detection Rainforest Connection (2018). Beneath the Canopy [video documentary]. https://www.youtube.com/watch?v=fRKLdEezCsM
LA030	**Brazil Indigenous Youth report to UNFCCC COP-28**	Terena Nation, Pantanal	Brazil	Central and South America & the Caribbean		Key Impacts: The Pantanal—critical to the water cycle—suffers from severe drought and large-scale fires linked to agribusiness expansion. Youth-led Actions: Fire brigades to prevent blazes from reaching homes, discussions on waste management and climate. Hopeful Signs: Reclaiming sacred lands and observing nature's recovery (wildlife return) reinforce the Terena youth's commitment to restoring traditional ways of life. education, and documentation of elders' stories about how agribusiness has altered landscapes.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf
LA031	**Xingu Seed Network: Indigenous Reforestation Enterprise**	Xingu Basin tribes	Brazil	Central and South America & the Caribbean	Mitigation; Ecosystem restoration; Seeds; Indigenous enterprise	The Xingu Seed Network is a pioneering indigenous-led initiative that has restored thousands of hectares of degraded land in Brazil's Xingu River basin through seed collection and replanting. Founded in 2007 by the Kisedje people and partners, the network trains indigenous and local seed collectors (mostly women) from over 16 communities to sustainably harvest native tree seeds from their territories. The seeds are then sold to reforestation projects, providing income for communities and supplying diverse species for ecological restoration. By 2023, the network had expanded to ~600 collectors across the Amazon and Cerrado, contributing to Brazil's goal of restoring 12 million hectares of forest by 2030. The network's intercultural governance blends traditional ecological knowledge (knowing when and where to gather seeds) with business training. It has become Brazil's largest seed-based restoration enterprise, empowering indigenous participants (Araweté, Kaiabi, Xavante and others) as environmental entrepreneurs and aiding climate mitigation through large-scale revegetation.	Mongabay (2023). Indigenous seed collectors grow a network of restoration across Brazil. https://icfcanada.org/Kayapo_Project_Climate_Bene fits.pdf
LA032	**Inhibition of Amazon Deforestation by Indigenous Lands threatened by deforestation**		Brazil	Central and South America & the Caribbean	Mitigation, forests, protected areas	Studies in 2006 showed that Brazilian Amazon indigenous territories (ITs) are ef ficient models for preserving forests by reducing deforestation, fires, and related carbon emissions. Satellite-based maps of land cover and fire occurrence in the Brazilian Amazon showed that Indigenous reserves signi ficantly reduced both deforestation and fire. Deforestation was 1.7 (extractive reserves) to 20 (parks) times higher along the outside versus the inside of the reserve perimeters and fire occurrence was 4 (indigenous lands) to 9 (national forests) times higher. Considering the importance of ITs for conserving socio-environmental and cultural diversity and the recent climb in the Brazilian Amazon deforestation, of ficial remote sensing datasets used to analyze deforestation inside and outside indigenous territories within Brazil's Amazon biome during the 2013–2021 period showed that deforestation has increased by 129% inside ITs since 2013, followed by an increase in illegal mining areas. In 2019–2021, deforestation was 195% higher and 30% farther from the borders towards the interior of indigenous territories than in previous years (2013–2018). Furthermore, about 59% of carbon dioxide (CO_2) emissions within ITs in 2013–2021 (96 million tons) occurred in the last three years of analyzed years, revealing the magnitude of increasing deforestation to climate impacts. T	D Nepstad et al, 2006: Inhibition of Amazon Deforestation and Fire by Parks and Indigenous Lands, Conservation Biology, 2006 Feb;20(1):65-73. Silva-Junior, C.H.L., Silva, F.B., Arisi, B.M. et al. Brazilian Amazon indigenous territories under deforestation pressure. Sci Rep 13, 5851 (2023). https://doi.org/10.1038/s41598-023-32746-7

LA033	**Agro-extractive Cooperative/ Cooperativa Agro-extrativista Yawanawa (COOPYAWA)**		Brazil	Central and South America & the Caribbean	Adaptation, land rights, livelihood diversi fication	Established in 2003, the Cooperativa Agro-extrativista Yawanawa (COOPYAWA) is a representative body of the Yawa- nawa indigenous people of Acre State. The group endeavors to create income-generation opportunities for its members through the conservation and promotion of the Yawanawa people and one of their native agricultural products: urucum. When the national government stopped purchasing rubber from the Yawanawa in 1992 – previously their central source of income – the group came together to explore other sustainable forms of income generation. The Yawanawa turned to urucum, a local plant extract used in cosmetics. In 2003, the group signed an agreement with Aveda Corporation to market urucum-based cosmetics using the Yawanawa name and equitably share pro fits. COOPYAWA distributes bene fits across the Yawanawa tribes and, through an international advocacy campaign, successfully lobbied to have their tribal territory increased from 92,000 to 187,000 hectares.	Equator Initiative Awards 2008, http://www.equatorinitiative.org/
LA034	**Caribbean Community Climate Change Centre**	Traditional owners in the Caribbean	Caribbean	Central and South America & the Caribbean	Local observations & impacts, capacity-building, policy & planning	The Caribbean Community Climate Change Centre (CCCCC) is a regional entity whose work is focused on small island developing States in the Caribbean and on improving the region's framework for and activities that address climate change. Key activities that CCCCC engages in with its member states include raising awareness on climate change, building capacity to analyse climate change impacts across various sectors, and identifying adaptation and mitigation opportunities; developing and implementing mitigation and adaptation projects in the region; and providing policy advice and support during events such as the international climate change negotiations. Over the next five years, it will manage climate change projects and programmes in the region of almost US$ 50 million, including in areas that they already have experience in: early warning systems, water and energy security, agriculture and food security, resilient health-care facilities, climate-resilient buildings, and ecosystem-based adaptation.	https://caribbeanclimate.org/
LA035	**Mapuche Communities restore native and resilient forests in Chile**	Mapuche	Chile	Central and South America & the Caribbean	Local observations & impacts, traditional knowledge, biodiversity, food security	Since 2021, seven Mapuche Huilliche families have been actively involved in restoring approximately 8 hectares of degraded land on Huapi Island. They have planted around 5,600 native trees, including species like laurel, which hold cultural signi ficance for the Mapuche people. The restoration efforts aim not only to rehabilitate the environment but also to preserve the Mapuche's cultural heritage and traditional practices, which are deeply intertwined with the native forest ecosystem.	https://www.un-redd.org/post/mapuche-communities-restore-native-and-resilient-forests-chile-integrated-approach-reduce
LA036	**Mapuche Agroecology and Cultural Traditions**	Mapuche	Chile	Central and South America & the Caribbean	adaptation, sustainable agriculture, biodiversity, cultural heritage	The Mapuche Indigenous People of Chile practice sustainable agroecology – saving and exchanging native seeds (trafkintu), crop rotation, polyculture, and agroforestry – and perform rituals giving thanks to Mother Earth. These community-led practices, rooted in traditional knowledge and cultural values, bolster food security and socio-ecological resilience	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG), p. 2714
LA037	**The colonial roots of climate vulnerability. Analysing the case of the Mapuche-Pehuenche People in Southern Chile**	Mapuche-Pehuenche	Chile	Central and South America & the Caribbean	Land use; Water; Human settlements; impacts, water	Centuries of colonization, expropriation of land, and state-driven forestry extraction have shaped the Mapuche-Pehuenche's climate vulnerability. Communities have raised concerns about diminishing snowpack, scarcer water availability, and the loss of culturally signi ficant forests (Araucaria araucana). These climate change impacts are inseparable from socio-political marginalization and land dispossession.	Carmona, R. (2024). In V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 196–208). Routledge.

LA123	**Chile: National vulnerability & risk study of Indigenous Peoples (input to PNACC)**	Aymara; Quechua; Lickananta y/ Atacameño; Chango; Diaguita; Colla; Rapa Nui; Mapuche; Kawésqar; Yagán	Chile	Central and South America & the Caribbean	impacts; adaptation; vulnerability; risk assessment; policy; participatory; submission	A State -commissioned study (Ministry of Environment of Chile + FAO) delivering the first nationwide risk analysis covering all 10 legally recognized Indigenous Peoples. Results illustrated how climatic stressors like reduced precipitation, harmful algal blooms (e.g., "marea roja"), and ecosystem contamination intersect with non-climatic pressures like water pollution, invasive species, and regulatory barriers—thereby escalating risk. For instance, the yagán face compounded threats from algal bloom contamination and limited monitoring, while the mapuche confront water scarcity exacerbated by monocultures, agrochemical spillovers, and weak institutional response—factors that intensify exposure and underlying vulnerabilities. Vulnerability is framed as the product of sensitivities such as small population size, cultural erosion, geographic isolation, and lack of access to vital services. Adaptive capacity is drawn from social cohesion, ancestral knowledge, organizational strength, and seed-saving traditions. The study offers illustrative indicators: for yagán, these include the ratio of individuals belonging to their organizations, and the presence of ancestral knowledge among community members; for mapuche, indicators like reliance on water supply via tanker trucks and the number of community members maintaining seed-saving or fire-response capabilities are proposed.	Consorcio ERIDANUS-PUCV (2024). Estudio de vulnerabilidad y riesgo de pueblos indígenas de Chile ante el cambio climático. https://cambioclimatico.mma.gob.cl/wp-content/uploads/2024/05/Informe- final-Estudio-Vulnerabilidad-PPII.pdf
LA038	**Músesi Restoration Project**	Arhuaco	Colombia	Central and South America & the Caribbean	Adaptation; ecosystem restoration; watershed protection; traditional knowledge; partnership; mitigation	The Arhuaco, one of the four Indigenous peoples of the Sierra Nevada, have launched Músesi ("to restore" in Ikʉ) – an ambitious ecosystem restoration and climate adaptation program in their high mountain sacred lands. Noting the rapid glacier melt and drying high páramos, the Arhuaco partnered with Conservation International and the Priceless Planet Coalition (WRI/ Mastercard) to plant over 700,000 native trees, restoring 2,500 acres (~1,000 hectares) of montane forest by 2023	Mastercard (2023). To preserve Colombia's sacred mountains, follow its spiritual protectors. https://www.mastercard.com/news/perspectives/2023/to-preserve-colombia-s-sacred-mountains-follow-its-spiritual-protectors
LA039	**Santa Rosa project**	Cofan nation	Colombia	Central and South America & the Caribbean	finance, carbon credits, forest management	The Santa Rosa site is the Cofan nation on the Colombia side of the Ecuadorian border. This site has approximately 50 families and is a traditional community that has preserved their cultural heritage and intact jungle despite intense surrounding economic pressure. They sell carbon credits through Savmibo - an organisation founded by Indigenous leaders in the Colombian Amazon to disintermediate climate markets for both Indigenous Peoples and local communities.	Savimbo: https://www.savimbo.com/project/santarosa
LA040	**Association of Indigenous Producers and Farmers of Riosucio, Caldas (ASPROINCA)**	Embera-Chamí	Colombia	Central and South America & the Caribbean	Adaptation; agroecology; food security; renewable energy; traditional crops; community development	ASPROINCA (Asociación de Productores Indígenas y Campesinos de Riosucio, Caldas) is a grassroots association of ~400 families (majority Embera-Chamí Indigenous) practicing agroecology to combat climate and environmental challenges in Colombia's Andean foothills	Solution Search (nd). Asociación de Productores Indígenas y Campesinos "ASPROINCA". https://solutionsearch.org/contests/entry/292

LA041	Heritage Colombia (HECO): Maximizing impact through the conservation of biodiversity and climate resilience	Indigenous peoples and local communities in Colombia's protected forest landscapes (Amazon, Caribbean, Andes regions)	Colombia	Central and South America & the Caribbean	Adaptation; Mitigation; ecosystems; forests; land use; livelihoods	Heritage Colombia, secures long-term finance for Colombia's protected areas and indigenous territories, recognizing that indigenous peoples are key custodians of these ecosystems. It strengthens the management of national parks and conservation areas spanning the Amazon, Andes, and Caribbean regions by directly involving indigenous communities and local Afro-Colombian communities in decision-making. The project supports training and resources for indigenous park rangers, and it funds community-driven conservation initiatives (such as traditional fire management and sustainable harvesting practices) that both preserve biodiversity and improve local well-being. By bolstering indigenous land rights and ensuring they have a stake in conservation benefits (like ecotourism revenue or payments for ecosystem services), the project creates a partnership between the government and indigenous peoples to combat climate change and protect vital forests. Under implementation (2023-2033), with GCF financing of USD $43 million.	World Wildlife Fund (2023), 2022 Annual Performance Report for FP203: Heritage Colombia (HECO): Maximizing impact through the conservation of biodiversity and climate resilience https://www.greenclimate.fund/document/2022-annual-performance-report-fp203-heritage-colombia-heco
LA042	**Women Caregivers of the Amazon**	Indigenous Peoples from the Colombian Amazon	Colombia	Central and South America & the Caribbean	adaptation, mitigation, women, sustainable development, Indigenous knowledge, forests	The Women Caregivers of the Amazon (Mujeres Cuidadoras de la Amazonia) initiative empowered indigenous women from 64 indigenous peoples in the Colombian Amazon to lead conservation projects explicitly aimed at mitigating climate change. Indigenous women's associations directly designed and implemented strategies focused on reducing deforestation, managing traditional agroforestry gardens (chagras), and protecting ecosystems that are critical carbon sinks. Despite barriers such as security risks, logistical difficulties, and administrative burdens, indigenous women successfully carried out climate-oriented projects that enhanced local environmental governance, biodiversity conservation, and carbon sequestration. The Indigenous women participating in the initiative highlighted the need for increased autonomy and advocating for greater resource allocation to indigenous-led climate solutions.	UNDP Caretakers of the Amazon. https://undp-nature.exposure.co/cuidadoras-de-la-amazonia Leal & Carreño (2024). Indigenous Women and Climate Change in the Colombian Amazon. In: People, Spaces and Places in Gendered Environments , 2024, p.123-143
LA043	**Consolidation of the Amazon (COAMA) Programme – Indigenous Territorial Governance in the Colombian Amazon**	Indigenous peoples of Amazonia n Colombia	Colombia	Central and South America & the Caribbean	Adaptation; indigenous rights; land governance; forests; policy in fluence; climate resilience	The Consolidation of the Amazon Region (COAMA) programme is a long-running initiative (since 1989) empowering Indigenous Amazonian peoples to secure land rights and manage forests sustainably. It facilitated the legal recognition of 20 million hectares of Colombian Amazon as indigenous "resguardos" by 1990	MongaBay (2025). Indigenous communities come together to protect the Colombian Amazon. https://news.mongabay.com/2025/01/indigenous-communities-come-together-to-protect-the-colombian-amazon/ NICFI (2025). https://www.nicfi.no/2025/03/21/breakthrough-for-indigenous-governance-in-the-colombian-amazon/
LA044	**Pachamama Cumbal REDD+ Project**	Pastos (Gran Resguardo de Cumbal)	Colombia	Central and South America & the Caribbean	land use, finance,carbon credits, Mitigation, Rights, lessons learned	The REDD+ "Pachamama Cumbal" project in Nariño, Colombia was supposed to reward the Pasto Indigenous reserve for conserving high Andean forests and páramos. Instead, it was implemented behind the community's back. The project developers (a private company and the reserve's governor) sold ~849,000 carbon credits to Chevron for profit, without informing or sharing benefits with most residents. The Pastos only learned of the project after credits were sold. Feeling deceived and excluded from decision-making, they filed a lawsuit in 2023. Colombian courts suspended the project, ruling it violated the community's rights to prior consultation and collective property. The project's suspension marked the first major legal pushback against a REDD+ project in Colombia.	Pulitzer Center (Jun 2 2023): The Indigenous Reservation That Sold Carbon Credits Without the Knowledge of Its Inhabitants https://pulitzercenter.org/stories/indigenous-reservation-sold-carbon-credits-without-knowledge-its-inhabitants

LA045	**Renacer para las comunidades ind ígenas en Natagaima Tolima – adaptaci ón al cambio clim ático y seguridad alimentaria**	Pijao peoples in Natagaima	Colombia	Central and South America & the Caribbean	adaptation; water; agriculture; food security	Pijao peoples in Natagaima were facing severe effects of climate change: the Tatacoa desert advancing; decreasing yields; lack of water and of opportunities to engage in agricultural and livestock activities; and food insecurity. ASFUMUJER worked with the supported communities to identify alternatives to provide water and food for families. In collaboration with the International Center for Tropical Agriculture (CIAT), adaptation measures were identi fied, including the planting of drought-tolerant forages for animal feeding, the recovery and use of traditional caupi beans, the establishment of 49 community gardens on 20.5 ha of land, and the use of water storage and utilization systems with renewable energies.	IFAD Indigenous Peoples Assistance Facility Report (2019)
LA046	**Kapital: An Indigenous-designed collective payment system**	Savimbo (Putumayo Amazon, multi-tribal)	Colombia	Central and South America & the Caribbean	finance; policy & governance; cultural practices; two-eyed seeing	Kapital is a community-controlled financial platform designed by Savimbo, an Indigenous-led social enterprise, after nearly 20 years of grassroots work	Policar, J. (2024). Financial Accountability for Indigenous Nature Stewards with Savimbo . Climate Collective Blog (July 31, 2024). https://climatecollective.org/blog/d0pxt41g5k40qak33s6pwxeicp6z25
LA047	**REDD+ Matavén**	Sikuani, Piaroa, Puinave, Curripaco, Cubeo and Piapoco	Colombia	Central and South America & the Caribbean	finance, carbon credits, REDD+	The Matavén project is a REDD+ project protecting protects 1,150,212 hectares of tropical forests in the Indigenous Reservation of the Matavén Forest in Colombia, located in the Orinoco-Amazon transition zone of Colombia. The landscape is home to around 16,000 Indigenous people, from 6 different ethnic groups: Sikuani, Piaroa, Puinave, Curripaco, Cubeo and Piapoco. The reservation is run by ACATISEMA (Association of Indigenous Councils and Indigenous Authorities of the Mataven Forest). The project is run by ACATISEMA and MEDIAMOS (a Colombian consulting firm). It delivers 8 activities and 6 special programs. The activities focus on (1) reducing vulnerability through surveillance (e.g. providing salaries for the Indigenous guards), improved communications and transport systems, and support for ACATISEMA (providing 100% of its operating budget, around $5m in 2022); (2) improving food security through promoting family-based agri-food production systems, providing training and education programs for Indigenous communities, and development of other projects that boost food production; and (3) activities that validate and verify the Project against international standards.	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P20. Project website: https://www.selvamatavenredd.org/
LA048	**Jepirachi windpower project in Colombia**	Wayuu	Colombia	Central and South America & the Caribbean	Adaptation, energy	The Jepirachi Wind Farm, commissioned in 2004 in La Guajira, Colombia, was the country's first wind energy project and was developed on Wayuu indigenous land through a Clean Development Mechanism (CDM) arrangement. The 15 wind turbines (19.5 MW capacity) provided a renewable alternative to diesel generation and avoided ~40,000 tons of CO2 annually. In consultation with the local Wayuu clans, the project developer (EPM utility) implemented a bene fit plan: the Wayuu received new water wells, solar-powered community lights, and job training as part of the agreement. The project was cited as a model for integrating indigenous communities into climate solutions, though it faced challenges such as initial community skepticism and later issues with maintenance. After nearly two decades of operation, the turbines reached end-of-life in 2022.	Andrew Simms and Hannah Reid (2006) Up in Smoke? Latin America and the Caribbean, MongaBay (2023). https://news.mongabay.com/2023/11/colombian-wind-farm-end-of-life-raises-circularity-and-indigenous-questions/

LA049	**Guajiro bean cultivation: The Wayúu community's path to adaptation**	Wayúu	Colombia	Central and South America & the Caribbean	adaptation; food security; water	Among the indigenous Colombian community are the "Wayúu" people of the Ipasharain, Kaushalain, and Tekia communities in "La Guajira" department, who rely on cultivating the guajiro bean (Vigna unguiculata) as a way to adapt to changing climate patterns. Characterized by its ability to thrive in semi-arid conditions, the Guajira bean has become both a nutritional staple and a symbol of ecological preservation. By promoting seed banks, securing water resources, and strengthening community ties, indigenous farmers across Colombia continue to reinforce a sustainable model of agriculture rooted in respect for the land. The cultivation of guajiro beans by the Wayúu people is one of 15 traditional practices across various regions of Colombia that is being documented in the initiative "Traditional Territorial Practices and Techniques" for adaptation as part of the FAO-UNDP SCALA programme in Colombia.	UNDP (nd). Sowing resilience: How Colombia's Indigenous Peoples adapt to climate change. https://www.adaptation-undp.org/scala-news-sowing-resilience-in-colombia
LA050	**San Andrés de Sotavento clean development mechanism project**	Zenú	Colombia	Central and South America & the Caribbean	Mitigation; Reforestation; Carbon finance; Traditional territory	On the Zenú indigenous territory of San Andrés de Sotavento in Córdoba, Colombia, a reforestation project under the Kyoto Protocol's Clean Development Mechanism (CDM) has converted degraded savanna lands into mixed forests. Starting in 2007, the project worked with Zenú authorities to plant about 2,200 hectares with native species like teak and fruit trees on community lands. Nearly 150 indigenous community members were employed in nursery establishment and tree planting, integrating traditional agroforestry knowledge (such as sequential planting and avoiding sacred sites). The project aimed to sequester approximately 1 million tons of CO_2 over 20 years while restoring soil quality and providing sustainable timber and fruit. By the 2010s, satellite images showed greening of formerly bare areas. The initiative also established a bene fit-sharing fund: a portion of carbon credit revenue supports education and health in the Zenú community. This project demonstrated how carbon finance can be channeled to indigenous-managed lands, though it highlighted the need for strong FPIC processes to ensure long-term community support.	https://www.reforestaction.com/en/magazine/restoration-colombias-paramos-regenerative-approach
LA051	**Scaling Up Climate Resilient Water Management Practices for Vulnerable Communities in La Mojana**	Zenú (Zenúes) indigenous communities of La Mojana (e.g. Pital, Montegrande, Santo Domingo Vidal, Jeguita–Takasuan)	Colombia	Central and South America & the Caribbean	Adaptation; Water; Ecosystem-based adaptation; Traditional knowledge	A large-scale adaptation project in Colombia's La Mojana wetland region, co-developed with Zenú indigenous communities. It strengthens water management, ecosystem restoration and climate-resilient livelihoods for over 400,000 people in 11 municipalities. The project addresses severe flooding and drought cycles by restoring wetlands and building climate-smart infrastructure (rainwater harvesting, irrigation, early warning systems). Indigenous Zenú knowledge and leadership are central: Zenú councils participated in planning adaptation-undp.org, ensuring traditional practices (like wetland fishing techniques and floodplain farming) inform adaptation measures. The project champions an ecosystem-based approach – healthier watersheds to buffer floods and droughts – combined with community livelihood diversification (e.g. aquaculture, agroforestry). +G20It has already improved water access for thousands and strengthened food security in Zenú and Afro-descendant villages.	UNDP (2017). https://www.greenclimate.fund/project/fp056 2023 Annual Performance Report for FP056: Scaling up climate resilient water management practices for vulnerable communities in La Mojana https://www.greenclimate.fund/sites/default/files/document/fp056-annual-performance-report-cy2023.pdf
LA124	**CAPSIDE (Casilla Naira, Leticia): community eDNA guardianship & bio-art for**	Casilla Naira Indigenous community	Colombia	Central and South America & the Caribbean	eDNA; cultural heritage; rights-of-nature; advocacy; art; submission	This bio-art project was co-created in the Casilla Naira community: environmental DNA from four iconic trees was purified and encapsulated in 16 resin spheres and re-installed as "genetic memory" guardianship. Exhibited via the Pineal Museum and related programming to spark dialogue on biodata agency and rights-of-nature.	Lopez, Soliman (2024). Capside Gallery. https://solimanlopez.com/portfolio/capside/
LA125	**Savimbo Indicator-Species Biodiversity Methodology + first CBCP-certified biodiversity credits (Putumayo)**	Putumayo Indigenous communities	Colombia	Central and South America & the Caribbean	biodiversity credits; nature finance; monitoring; non-offsetting; registry; submission; media report	Under Cercarbono's Biodiversity Certification Programme (CBCP), Savimbo's Indigenous-led methodology uses 56 indicator species to evidence intact ecosystem function. The first issuance (Aug 2025) from the Savimbo Biodiversity Putumayo Project protects 3,184.5 ha of primary rainforest, supports 70 families, and is positioned for international trading with registry traceability.	Cercarbono (2025). First-Ever CBCP-Certified Biodiversity Credits. https://www.cercarbono.com/ first-cbcp-certified-biodiversity-credits-issued/

LA052	**Sumak Kawsay - Alli Kawsay (Buen Vivir): Epistemology in the Indigenous Communities of Ecuador and Colombia**	Kichwa and Achuar Peoples	Colombia & Ecuador	Central and South America & the Caribbean	social justice; submission	Alli Kawsay ("life in plenitude") frames wellbeing not as material accumulation but as a balanced, reciprocal relationship with Pachamama (Mother Nature). Grounded in four principles (respect for nature, humanity, the cosmic world and companion beings) the movement mobilises ancestral knowledge to challenge extractivist development, assert territorial autonomy and embed the "rights of nature" in national discourse. Since the 1990s, Kichwa and Achuar leaders have used Alli Kawsay to negotiate constitutional change, stop or modify large -scale mining, and inspire eco -feminist, Afro -descendant and peasant alliances across Amazonia. The philosophy has widened environmental -justice coalitions, supplied a decolonial policy lens for academics and courts, and offered a globally cited alternative to growth -centric models in climate negotiations.	Erazo Acosta E. (2022) Sumak Kawsay —Alli Kawsay-Buen Vivir, Epistemology in the Indigenous Communities of Ecuador and Colombia, an Opportunity for Environmental Justice and Rethinking the Global Community. In: Dalei, N.N., Gupta, A. (eds) Economics and Policy of Energy and Environmental Sustainability. Springer, Singapore. https://doi.org/10.1007/978-981-19-5061-2_15
LA053	**ASOETEBRI: Indigenous Knowledge to Protect the Forest Bribri elders of Amubri (ASOETEBRI)**	Bribri	Costa Rica	Central and South America & the Caribbean	adaptation, traditional knowledge; food security; submission	Elders in Amubri are cataloguing medicinal plants, recipes and seed varieties that underpin Bribri food sovereignty. FTM funded workshops that paired young farmers with elders, producing a community seed bank and forest -garden plots that now supply school lunches and household medicine. Women report shorter foraging times and better diet diversity since the project began.	FTM – https://fondomesoamericano.org/en/asoetebri-indigenous-knowledge-to-protect-the-forest-success/
LA054	**Recovery of local Indigenous Traditions for Food Security Support in the Face of Climate Change in the Talamanca-La Estrella Valley Territory**	Bribri and Cabécar	Costa Rica	Central and South America & the Caribbean	adaptation, traditional knowledge, forecasting, food secrity, two-eyed seeing	The Talamanca area faces severe climate hazards, including drought, floods, rising temperatures, land degradation, and biodiversity loss, signi ficantly impacting local agricultural productivity. An initiative by the the local indigenous Bribri (ADITIBRI) and Cabécar (ADITICA) governments in Talamanca in collaboration with the Rural Development Institute (INDER) focused on recovering indigenous knowledge and traditional farming methods as adaptive strategies to enhance resilience. By developing integrated, diversi fied farm models rooted in Bribri and Cabécar cosmovisions, the project revived sustainable ancestral practices such as interplanting, crop rotation, use of local seeds, rainwater capture, and communal farm management. These practices are documented in the Manual of Bribri and Cabécar Ancestral Practices, created collaboratively with the indigenous communities, ensuring ownership and applicability. Outcomes included farm management plans adopted by indigenous families, improved food security, enhanced resource conservation, and strengthened community resilience to climate change, solidifying the traditional indigenous farm as a sustainable and culturally relevant adaptation strategy.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=25522 Manual of Bribri and Cabécar Ancestral Practices (Manual de prácticas ancestrales Bribri y Cabécar): http://www.calameo.com/read/0047140859c1a66ce6402
LA055	**Nairi Awari: A Territory that Recovers and Grows**	Cabécar	Costa Rica	Central and South America & the Caribbean	adaptation, tourism; forests; governance; submission	The Cabécar association ADI Nairi Awari is reopening ancient mountain trails to small groups of "Indigenous-approved" tourists while regenerating degraded forest lands. Early results show new incomes for local guides and craft -makers alongside visible natural regeneration in buffer zones. FTM's direct investment also supported political management training so the territory can steer its own land -use decisions.	Fondo Territorial Mesoamericano (FTM) – https://fondomesoamericano.org/en/nairi-awari-a-territory-that-recovers-and-grows-success/
LA056	**Asociación de Mujeres Indígenas del Territorio Cabécar Kábata Könana**	Indigenous communities in Talamanca	Costa Rica	Central and South America & the Caribbean	land use, mitigation, women, forests, food security, finance	The Asociación de Mujeres Indígenas del Territorio Cabécar Kábata Könana brings together Indigenous women in Costa Rica's Talamanca region to promote the use of traditional practices and knowledge for food security and medicinal purposes, improve women's leadership and Indigenous rights, and protect the surrounding forest. In the face of the coronavirus pandemic, the group quickly established a virtual market on social media to trade and share food during the closure of regular markets. The association also trains women in rotational and regenerative agroforestry, and promotes the use of local native seed varieties and traditional medicinal plants, improving community resilience in the face of climate warming.	Equator Initiative 2021. https://www.equatorinitiative.org/2021/07/11/asociacion-de-mujeres-indigenas-del-territorio-cabecar-kabata-konana-kabata-konana-womens-association/ Asociacion FB page. https://www.facebook.com/asokabatakonana
LA126	**ACOMUITA: Financing with a Gender Focus**	Bribri, Cabécar	Costa Rica	Central and South America & the Caribbean	pes, funding, women, submission	Asociación Comisión de Mujeres Indígenas de Talamanca (ACOMUITA) is an Indigenous women's association of Bribri and Cabécar in Talamanca, Costa Rica, that operationalizes "financing with a gender focus" by layering an internal revolving credit fund for women producers with payments for ecosystem services (FONAFIFO's agroforestry PSA) and direct territorial finance via the Mesoamerican Territorial Fund —anchored by the community-run Tsirushka chocolate enterprise. Results include a functioning women -governed revolving fund, enterprise and marketing capacity, trained women promoters in carbon monitoring, and recurring PSA revenue; in 2025 the association's asset base expanded with a >40-acre land donation, and membership is ~135 women.	FTM - https://fondomesoamericano.org/en/success/

LA057	**Kalinago Climate Resilience and Traditional Housing**	Kalinago (Carib) people	Dominica	Central and South America & the Caribbean	Adaptation; disaster resilience; indigenous knowledge; housing; food security; policy	After Category 5 Hurricane Maria (2017) devastated Dominica, observers noted that Kalinago traditional houses (karbet), built with local materials and techniques, withstood the storm better than many modern structures. Kalinago leaders have since advocated incorporating their architectural knowledge into national "build back better" efforts for climate-resilient housing	Climate Change and Sustainable Development in Dominica https://antrosymbia.com/climate-change-education-and-sustainable-development-in-dominica/ The Climate Pains of the Kalinago https://www.cijn.org/the-climate-pains-of-the-kalinago/
LA059	**Coordinadora Nacional para la Defensea del Ecosistema Manglar (C-CONDEM)**	Afro-Indigenous communities of Ecuador	Ecuador	Central and South America & the Caribbean	oceans & coastal, two-eyed seeing, food security	Created in 1998 in the island of Musine, Ecuador, the Coordinadora Nacional para la Defensa del Ecosistema Manglar (C-CONDEM) brings together community leaders, ecologists and researchers from Afro-Indigenous communities of Ecuador. C-CONDEM promotes self-sufficiency in the local communities of Esmeraldas vis-à-vis food sovereignty by restoring the local habitat in a manner to facilitate sustainable resource use and environmental justice for local community members so that mutual benefits of nature and the local community are ensured. C-CONDEM focuses specifically on the socio-ecological restoration of the mangrove ecosystem due to its classification among the "most important wetland habitats" globally. Morphology, sedimentation, nutrient availability, as well as tides, waves and estuaries, play an important role in determining the succession of the ecosystem that is vital in the tropical coast of Ecuador. Mangrove restoration is beneficial because mangroves serve as wildlife hotspots, carbon sinks, and natural and effective buffers for coastal communities against frequent tropical storms.	Equator Prize 2022. https://www.equatorinitiative.org/2022/08/22/coordinadora-nacional-para-la-defensea-del-ecosistema-manglar-c-condem-2/ C-CONDEM. http://www.ccondem.org.ec
LA060	**Agroecology and Climate Resilience through Cocoa in Zamora Chinchipe**	ASOPROMÁS	Ecuador	Central and South America & the Caribbean	Indigenous agroecology, climate adaptation, cocoa value chain, gender inclusion, youth engagement	In the province of Zamora Chinchipe, the indigenous association Asociación de Producción de Cacao y Derivados Aromas del Sur (ASOPROMÁS) is leading a transformative initiative rooted in ancestral agroecological knowledge to address climate challenges and socio-economic exclusion. Through the establishment of agroecology schools, ASOPROMÁS promotes climate-resilient farming practices such as bioinput production, sustainable pruning, and organic fertilization. The initiative actively integrates a gender perspective and youth participation, enabling young people to envision futures within their territories by connecting to the cocoa value chain. These efforts have revitalized ancestral cocoa cultivation while strengthening local adaptive capacity in the face of increasing climate variability, particularly through soil regeneration and biodiversity conservation practices. With the support of international cooperation, ASOPROMÁS has expanded its reach and influence. The construction of a local chocolate processing plant enabled the creation of the "Kujeñito" brand, increasing community income while reducing environmental impacts through localized production. The association's model of Indigenous-led climate adaptation has gained national and international recognition, winning awards such as Best Cocoa Paste at Expo Amazonía (2019) and achieving their first direct export to Chile. In parallel, the Provincial Government of Zamora	https://asopromas.com/
LA061	Priming Financial and Land-Use Planning Instruments for Climate Change in Ecuador	Indigenous communities in Ecuador's Amazon (supported through the development of territorial "Life Plans")	Ecuador	Central and South America & the Caribbean	Adaptation; mitigation; forests; land use; livelihoods	This project in Ecuador integrates climate change considerations into land-use planning and finance, with a particular emphasis on indigenous territories in the Amazon. It works with indigenous communities to develop and implement their own "Life Plans" – long-term development plans that reflect their cultural values and priorities – ensuring that these plans are supported with climate finance and aligned with sustainable land management. By strengthening local credit and planning systems, the project enables indigenous communities to secure funding for climate-resilient projects such as sustainable agroforestry, ecosystem restoration, and renewable energy in their territories. Indigenous organizations are key partners, leading the identification of climate actions that fit within their holistic vision of territory (which balances conservation with livelihoods). Through this collaboration, the project aims to reduce deforestation and build resilience while respecting indigenous self-determination. Under implementation (2016-2023), with GCF financing of USD 41.2 million.	United Nations Development Programme (2023), 2022 Annual Performance Report for FP019: Priming Financial and Land-Use Planning Instruments for Climate Change in Ecuador https://www.greenclimate.fund/document/2022-annual-performance-report-fp019-priming- financial-land-use-planning-climate-ecuador

LA062	**The Chakra Group as a community mechanism for sustainable conservation in Napo**	Kichwa (Napo)	Ecuador	Central and South America & the Caribbean	Just Resilience; Participatory Governance; Agricultural Biodiversity; Bioeconomy; Capacity Building; Climate Change and Biodiversity; Gender and Biodiversity; Sustainable Use of Biodiversity; submission	The province of Napo, in the Ecuadorian Amazon, is a territory of extraordinary natural and cultural wealth, where Kichwa communities have carried out sustainable agroforestry practices for centuries. Among these practices, the Amazonian Chakra stands out as a traditional system that not only guarantees food security and the generation of income, but also helps conserve biodiversity and ancestral knowledge. However, this model faces challenges such as economic pressure, deforestation and lack of access to differentiated markets. The Chakra Group is an inter-institutional platform created in 2017 by the Prefecture of Napo to strengthen and preserve the Amazonian Chakra, an ancestral Kichwa agroforestry system. Comprised of indigenous communities, the prefecture of the province, local governments, academia and cooperation agencies, this mechanism promotes climate resilience and food security through public policies, training and certifications. It has promoted public policies such as the provincial ordinance on the recognition of the Chakra, as well as certi fication mechanisms such as the Participatory Guarantee System (SPG) and the Chakra Seal, which allow producers to access fair and differentiated markets.	Regions4 (2025). Cultivating Just Resilience: The Chakra Group as a community mechanism for sustainable conservation in Napo. https://regions4.org/csd/just-resilience-napo/
LA063	**Union of Farming and Indigenous Organizations of Cotacachi (UNORCAC)**	Kichwa (Quichua)	Ecuador	Central and South America & the Caribbean	Adaptation, agriculture, biodiversity, food security, capacity-building	UNORCAC is a federation of ~3,200 Quichua farming families in Cotacachi, northern Ecuador. It champions sustainable agriculture through the ancestral chakra agroforestry system, which conserves a wide variety of native crops and seeds	Equator Initiative Awards 2008, http://www.equatorinitiative.org/; UNORCAC, http://www.unorcac.org FAO (2023). Andean chakra: an ancestral agricultural system of Kichwas Cotacachi Communities. https://www.fao.org/giahs/around-the-world/detail/ecuador-andean-chakra/en
LA064	**Federation for Ecuadorian Community Tourism (FEPTCE)**	Kichwa, Shuar, Achuar, Afro-Ecuadorian, Montubio, etc.	Ecuador	Central and South America & the Caribbean	Adaptation; sustainable livelihoods; tourism; biodiversity; cultural heritage	FEPTCE is a national network of over 60 community-run tourism initiatives, uniting Indigenous, Afro-descendant, and campesino communities	Maldonado-Erazo CP, del Río-Rama MdlC, Noboa-Viñan P, Álvarez-García J. Community-Based Tourism in Ecuador: Community Ventures of the Provincial and Cantonal Networks. Sustainability. 2020; 12(15):6256. https://doi.org/10.3390/su12156256
LA065	**Amazonian Solar Villages: Clean Energy for Indigenous Communities**	Sápara Nation	Ecuador	Central and South America & the Caribbean	adaptation, energy, health, forests, cultural practices, women	Fundación Pachamama's "Amazonian Solar Villages" initiative provides decentralised, renewable solar energy systems to Indigenous communities deep within the Ecuadorian Amazon. This project, led by Indigenous women and carried out in collaboration with local communities, addresses the urgent need for clean energy access while preserving the ecological and cultural integrity of the Amazon. The solar systems reduce reliance on diesel, enabling communities to power water puri fication, healthcare tools, communications, and education infrastructure sustainably. This project enhances community autonomy, particularly bene fitting women who no longer need to travel long distances to access power or water. It also strengthens territorial defence efforts, as communities now have better tools for monitoring incursions and maintaining communication. The initiative is part of a broader vision of "living forest" economies that resist extractive development models and instead promote ecological regeneration and cultural continuity.	Energy Globe Foundation (2023); https://www.energyglobe.info/national/winner/ecuador

LA066	**Waorani Legal Victory – Keeping Fossil Fuels in the Ground**	Waorani	Ecuador	Central and South America & the Caribbean	Adaptation, forests, livelihoods	A GEF funded project collaborated with the Waorani and Timpoca communities to create a sustainable management plan of raising palms and frogs to earn income. Waorani territory is located within the Yasuní National Park. Traditionally the Waorani were nomadic, but customs changed when oil companies began extractive activities in the park (in 1993). This enforced sedentary lifestyle has led to intensive hunting concentrated in a small area, the gradual loss of the quality of life. Due to the increasing demand of natural forest products of the forest, the project involved raising palms used in the creation of purses and hammocks, as well as raising the young of poisonous frogs that are attractive for tourism. These activities are designed to conserve the park's biodiversity and genetic resources, while allowing its inhabitants to obtain economic income. In April 2019, the Waorani people achieved a landmark court victory to protect 500,000 acres (202,000 hectares) of their Amazon rainforest from oil extraction	Amazon Frontlines (2019). A half-million acres of Amazon rainforest protected from drilling. https://amazonfrontlines.org/chronicles/waorani-victory/
LA067	**Yasuni-ITT Proposal**	Waorani and Kichwa peoples of Yasuní	Ecuador	Central and South America & the Caribbean	Mitigation; rainforest conservation; climate policy; indigenous rights	The Yasuní-ITT initiative sought to leave ~846 million barrels of oil beneath Yasuni National Park unexploited to protect its biodiversity and Indigenous peoples, in exchange for international compensation	Collyns (2023). Ecuadorians vote to halt oil drilling in biodiverse Amazonian national park. The Guardian. https://www.theguardian.com/world/2023/aug/21/ecuador-votes-to-halt-oil-drilling-in-amazonian-biodiversity-hotspot Yasuni Green Gold Campaign, http://www.yasunigreengold.org/ [archived]
LA068	Upscaling climate resilience measures in the dry corridor of El Salvador (RECLIMA)	Cacaopera, Nahuatl Pipil, Lenca, and others	El Salvador	Central and South America & the Caribbean	Adaptation; Mitigation; ecosystems; forests; land use; agriculture; water security; livelihoods	This project enhances climate resilience in El Salvador by focusing on vulnerable communities across the country's landscapes, including indigenous groups that make up roughly 9.1% of the target population (such as the Cacaopera, Nahuatl Pipil, and Lenca peoples). It implements measures like sustainable water management, resilient agriculture, and ecosystem restoration to protect livelihoods against droughts, floods, and other climate impacts. The project ensures that indigenous perspectives are part of local climate adaptation plans: for instance, it supports the revival of traditional seed varieties and farming calendars that are better suited to shifting weather patterns. In areas with indigenous presence, community elders contribute historical climate observations and conservation practices (like protecting certain trees or rain rituals) to inform project actions. Through a mix of infrastructural improvements (e.g., rainwater harvesting systems) and community training, the project is building more robust, climate-smart communities. Under implementation 2018–2026, with GCF grant of USD $35.8 million.	United Nations Development Programme (2023), 2022 Annual Performance Report for FP089: Upscaling climate resilience measures in the dry corridor of El Salvador https://www.greenclimate.fund/document/2022-annual-performance-report-fp089-upscaling-climate-resilience-el-salvador

LA069	**Communal Forests for Water and Climate**	K'iche' Maya	Guatemala	Central and South America & the Caribbean	Adaptation; Water resources; Community forest; Reforestation	In Totonicapán, Guatemala, 48 Maya K'iche' communities collectively manage a 21,000-hectare highland forest that has been sustainably preserved for over four centuries. This communal forest – guarded by the traditional indigenous governance of the "48 Cantones" – is crucial for regional water security, feeding springs that supply over 800,000 people downstream. Facing climate stressors like prolonged dry seasons, the communities organize annual reforestation campaigns to maintain tree cover and spring flow. They plant tens of thousands of native seedlings (alder, pine, oak) each year and enforce rules against illegal logging with volunteer forest patrols. The forest's health has buffered local springs against rainfall variability and prevented landslides in upslope villages despite more intense rains. The 48 Cantones also utilize traditional water-sharing agreements and have built simple catchment infrastructure to capture excess wet-season water. Their autonomous, indigenous-led conservation model – recognized by UNESCO as a "Territory of Life" – underpins both climate change mitigation (via carbon sequestration) and adaptation through ecosystem-based approaches,.	EcoLogic (2021). Totonicapán: Promoting reforestation to preserve springs. https://www.ecologic.org/post/promoting-reforestation-totonicapan
LA070	RELIVE – Resilient LIVElihoods of vulnerable smallholder farmers in the Mayan landscapes and the Dry Corridor of Guatemala	Maya	Guatemala	Central and South America & the Caribbean	Adaptation; agriculture; water security; livelihoods; traditional knowledge	This project improves the climate resilience of smallholder farmers in Guatemala's Dry Corridor, the majority of whom are from Maya indigenous communities. Operating in the Maya forest landscapes and surrounding areas, it introduces sustainable agriculture practices, water harvesting, and agroforestry to boost food security and incomes under increasing drought conditions. The project leverages indigenous knowledge of the land – for instance, traditional crop diversification and rainwater conservation techniques – and pairs it with modern innovations like drought-resistant seed varieties and climate information services. Community organizations are strengthened so that indigenous farmers can access tailored climate forecasts and financial support to implement adaptation measures. By empowering Maya women and men to lead local "resilience plans," the project ensures that interventions respect cultural practices and address community priorities. Under implementation (2020-2030) with GCF financing of USD $29.8 million.	Food and Agriculture Organization (2023), 2022 Annual Performance Report for FP145: RELIVE – Resilient livelihoods of vulnerable smallholder farmers in the Mayan landscapes and the Dry Corridor of Guatemala https://www.greenclimate.fund/document/2022-annual-performance-report-fp145-relive-guatemala
LA071	Building livelihood resilience and food security in the upper basins of Guatemala's highlands	Maya	Guatemala	Central and South America & the Caribbean	Adaptation; land use; livelihoods; traditional knowledge	This project bolsters the climate resilience of rural livelihoods in Guatemala's highlands, in regions where the vast majority of the population is indigenous Maya. It addresses threats like erratic rainfall, crop failure, and natural disasters by supporting diversified, sustainable livelihood options. The project works with indigenous communities to introduce practices such as climate-resilient farming techniques, small-scale irrigation, and community savings schemes to buffer against climate shocks. Importantly, it builds on the social cohesion and traditional knowledge in these Maya communities – for example, leveraging communal work traditions (tequio) to build water infrastructure and incorporating indigenous crop varieties that are drought-tolerant. Local indigenous authorities and organizations collaborate in planning interventions, ensuring they align with cultural norms and development priorities. By strengthening food security, income sources, and disaster preparedness at the community level, the project reduces vulnerability and enhances the adaptive capacity of these predominantly indigenous populations. Under implementation 2018–2027, with GCF financing of USD $22 million.	https://www.greenclimate.fund/project/fp087 World Food Programme (2024). 2023 Annual Performance Report for FP087: Building livelihood resilience to climate change in the upper basins of Guatemala's highlands https://www.greenclimate.fund/document/2023-annual-performance-report-fp087-building-livelihood-resilience-climate-change-upper
LA072	**Guatemala Indigenous Youth report to UNFCCC COP-28**	Maya Kaqchikel	Guatemala	Central and South America & the Caribbean		Solution Focus: A network of "centers of distinction" leverages Indigenous and scientific knowledge for disaster-risk reduction and environmental monitoring. Initiatives: Observatories measuring climate variables (rainfall, temperature, wind) in tandem with traditional wisdom. Forestry Calendar to manage forests and select native seeds according to ancestral teachings—honoring the balance of masculine and feminine energies.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf

LA073	**Sierra de Las Minas Water Fund**	Q'eqchi' Maya	Guatemala	Central and South America & the Caribbean	Adaptation; water resources; payment for ecosystem services (PES); watershed management	In Guatemala's Sierra de las Minas Biosphere Reserve, a pioneering Water Fund was established to protect upstream forests and secure water for all. Launched by WWF and Fundación Defensores de la Naturaleza alongside local communities, the fund collects contributions from downstream water users (cities, businesses like a bottling plant) and channels them to Indigenous and campesino communities upstream as incentives for conserving cloud forests and sustainable farming	WWF, 2018, "Building climate change resilience and protecting vital water in Guatemala."
LA127	**Nueva Trinidad: Community -led reinvention via organic fertilizer biofactory**	Comunidad Indígena Nueva Trinidad	Guatemala	Central and South America & the Caribbean	adaptation, displacement, food security, submission	Nueva Trinidad (Guatemala) is an Indigenous community near Volcán de Fuego that has faced repeated displacement and crop losses due to eruptions and heavy rains. The community (with support from the community -forestry network Utz Che')is building a small biofactory to produce organic fertilizers, aiming to boost staple -grain yields, lower input costs, and strengthen food security.	FTM - https://fondomesoamericano.org/en/nueva-trinidad-a-community-that-knows-how-to-reinvent-itself-success/
LA074	**National Protected Areas System (gNPAS) Project**	Wai Wai, Makushi, Wapichan	Guyana	Central and South America & the Caribbean	Local observations & impacts, land rights, energy	Guyana's NPAS project (1998–2010) aimed to establish a countrywide system of protected areas, and it increasingly involved Indigenous peoples in planning and management	https://conservation.org.gy/project/bolstering-guyanas-national-protected-areas-system/
LA075	**Adopting a nomadic lifestyle and crop changes**	Wapichan	Guyana	Central and South America & the Caribbean	Adaptation; agriculture; drought; mobility	Indigenous peoples in the Central, South American and Caribbean regions are shifting their agricultural activities and their settlements to new locations that are less susceptible to adverse climate conditions. For example, indigenous peoples in Guyana are moving from their savannah homes to forest areas during droughts and have started planting cassava, their main staple crop, on moist floodplains which are normally too wet for other crops.	UNPFII (2007): Climate Change: An Overview, http://www.un.org/esa/socdev/unpfii/en/climate_change.html
LA076	**Guyana and REDD+**	Wapichan, Macushi, Wai-Wai	Guyana	Central and South America & the Caribbean	mitigation, redd, carbon credits, forests, finance	Guyana pioneered jurisdiction -level participation in REDD+ carbon markets by pairing its 2009 Low-Carbon Development Strategy with a results-based agreement through which Norway pledged up to US $250 million for verified avoidance of deforestation. Between 2010 and 2015 the country earned US $220 million, channeling the funds into renewable-energy projects, flood protection, job creation and Indigenous land titling. Building on the same monitoring, reporting and verification infrastructure, Guyana in 2022 became the first nation to issue credits that meet the ART-TREES 2.0 standard; energy company Hess agreed to purchase roughly 30 percent of the country's credits, potentially delivering at least US $750 million by 2030. Fifteen percent of these proceeds are reserved by law for Indigenous Peoples: so far 238 of 242 communities have opted in and shared about GY$4.7 billion (≈US $22 million), with individual village payments ranging from GY$10 million to GY$35 million. The arrangement demonstrates how a small, forest-rich state can transform low deforestation into sizable revenue flows and direct, formula-based payments to Indigenous communities while simultaneously strengthening transparency commitments (e.g., EU FLEGT VPA, EITI membership). Yet critics note that Guyana's deforestation rate was already among the world's lowest, and the reference level was set high	DESA (2025). State of the World's Indigenous Peoples: Climate Crisis (Volume VI). https://social.desa.un.org/sites/default/files/IPDB/State%20of%20the%20Worlds%20Indigenous%20Peoples%20Vol%20VI%20Climate%20Crisis.pdf
LA077	**FEPROAH: Living from the Forest While Protecting the Future**	Federation of Agro-forestry Producers of Honduras (FEPROAH)	Honduras	Central and South America & the Caribbean	forests, sustainable livelihoods; submission	Founded in 2001, the FEPROAH cooperative now employs 30 core members and indirectly benefits ~150 community residents through legal community-forest management and value-added resin processing. With FTM support, FEPROAH has diversified incomes from timber-plus-non-timber products and created training programmes that are replicable across its 43 member enterprises, reinforcing forest conservation through economic incentive.	FTM – https://fondomesoamericano.org/en/what-we-fund/

LA078	**Comité de Emergencia Garífuna (CEGAH, Garífuna Emergency Committee)**	Garifuna communities	Honduras	Central and South America & the Caribbean	land use, women, forests, food security	This women-led initiative arose in 1998 in response to the devastating effects of Hurricane Mitch on sixteen agrarian Garifuna communities. These peoples of Afro-indigenous descent have traditionally been socioeconomically marginalized in Honduras, and their agricultural livelihoods were hard hit by the loss of 70% of the country's crops due to heavy flooding. Beyond initial disaster relief efforts, the initiative has sought to improve local resilience to future environmental disasters. By conserving forests, incorporating sustainable agricultural practices for hillside farming, adopting appropriate technologies, rehabilitating beaches, and supporting the land reform efforts of disenfranchised Garifuna communities, Comité de Emergencia Garífuna (CEGAH, Garífuna Emergency Committee) is helping to ensure that future generations of Garifuna are able to live prosperously and in balance with healthy ecosystems.	Equator Prize 2004. https://www.equatorinitiative.org/2017/05/30/comite-de-emergencia-garifuna-cegah-garifuna-emergency-committee/
LA079	**Using traditional techniques to protect watersheds**	Lenca	Honduras	Central and South America & the Caribbean	Adaptation, water resources, traditional knowledge	In the remote village of Guarita in Honduras, traditional techniques have become the starting point for climate change adaptation. The village was one of the few places in the region that successfully avoided the worst destruction from Hurricane Mitch in 1998. The traditional Quezungal farming methods that are practiced by the local villagers protected the upper catchment and only 10% of crops were lost. Traditional farming in this area involves planting crops under trees whose roots anchor the soil, pruning vegetation to provide nutrients to the soil and conserve soil water, and terracing to reduce soil erosion. On the other hand, methods that are taught at agricultural colleges and then applied to the surrounding areas are damaging as they are more suited for the plains rather than farmland in hill terrain. The traditional Quezungal method avoids widespread slash and burn techniques and also improves soil fertility. The success in the village is being actively promoted by the Government of Honduras in collaboration with the UN Food and Agricultural Organisation.	International Union for Conservation of Nature (2008). Indigenous and Traditional Peoples and Climate Change. http://cmsdata.iucn.org/downloads/indigenous_peoples_climate_change.pdf. From Bergkamp, G., Orlando, B., and Burton, I. 2003. Change – Adaptation of water resources management to climate change. IUCN, Gland from Gunson, P. 1998.``Honduran Villagers Survived Mitch with a Method as old as the Hills.`` The Gardian. January 23. http://data.iucn.org/dbtw-wpd/edocs/2003-004.pdf
LA080	**Community Water Management in Ibans Lagoon (La Mosquitia, Honduras)**	Miskito, Pech, and Tawahka	Honduras	Central and South America & the Caribbean	Adaptation; water resources; coastal protection; mangroves; community planning	Ibans Lagoon lies within the Río Plátano Biosphere Reserve (Honduran Mosquitia) and is home to Miskito, Pech, and Tawahka communities	Tearfund partner MOPAWI (Mosquitia Pawisa) in Andrew Simms and Hannah Reid (2006) Up in Smoke? Latin America and the Caribbean, http://www.iied.org/pubs/display.php?o=10017IIED
LA081	**Climate Change Impact on Pollinators in**	Various Latin American Indigenous Communities	Latin America region	Central and South America & the Caribbean	impacts, cultural practices, traditional knowledge, land use, biodiversity	Climate change has disrupted pollinators, eroded traditional seed varieties, and altered the signals Indigenous Peoples rely on for planting and harvesting. Important plants - like sacred cacao and medicinal herbs - have been lost or driven farther away, compromising both food sources and spiritual practices. Meanwhile, local knowledge tied to biodiversity conservation is fading, as younger generations are less able to learn longstanding techniques. In response, Indigenous women are leading efforts to recover and protect seeds, promote traditional crops and medicines, and reestablish their cultural and biological heritage.	Indigenous and Local Knowledge about Pollination and Pollinators associated with Food Production Outcomes from the Global Dialogue Workshop (2014), p. 38 https://unesdoc.unesco.org/ark:/48223/pf0000233811?posInSet=1&queryId=7418193f-3a2a-43a6-844e-2d49df61f322

LA082	**Heritage of the milpa**	Mayan communities	Mexico	Central and South America & the Caribbean	Adaptation, agriculture, agroforestry, biodiversity	Milpa, the Mayan millennial agriculture system is key to forest conservation in Yucatán – and needs women and young people to survive. In Guatemala and Mexico, the milpa system is an Indigenous practice that increases soil fertility and crop yields. This system involves intercropping, the cultivation of diverse crops in the same plot. Along with most Indigenous knowledge, it is typically maintained by the women of agricultural communities. Women are responsible for selecting the crops that will be planted, overseeing the rotation of the crops, harvesting the crops, and preparing meals for consumption or products for selling. Their dedication to these native practices has led not only to agricultural prosperity but also climate resiliency due to the diversity and strength of their crops. For example, Lenca communities in the highlands plant multiple local maize and bean landraces – some drought-tolerant, others suited to cooler microclimates – ensuring that at least part of the harvest succeeds under unpredictable weather	Govierno de México (2023). Reale (2025). https://www.gob.mx/sre/prensa/fao-recognizes-the-peninsular-maya-milpa-as-a-globally-important-agricultural-heritage-system-giahs Resilient Roots: Indigenous Agriculture and Climate Change in Latin America. https://hir.harvard.edu/resilient-roots-indigenous-agriculture-and-climate-change-in-latin-america/ Regions4 (2023). Enhancing Mayan Milpa Resilience: Sustainable farming and climate action Yucatán. https://regions4.org/csd/milpa-maya/
LA083	**Hama Kia: Times have changed**	Mixtec people	Mexico	Central and South America & the Caribbean	impacts, cultural practice, water, traditional knowledge	Mixtec people from Oaxaca make a very symbolic offering to the land. Every time before drinking something, they offer some of that same drink to the Earth by spilling it into the ground, as a way to return what the land gives. This showsthat there is a very important reciprocal relationship with the Earth. Madre Tierra, Mother Earth, is a term that is also used by the people in these communities, the same as is used in Bolivia, for example. Another relationship that is very valuable is the one with the Moon: the Moon guides people, and by observing it, they get to know the natural cycles of the rain. This is very important for them, because based on this they decide whether they should or should not move to other places to practice agriculture. They also look into the plants to see if the dry season will be prolonged (some plants start producing ashes when the rain is delayed). All this knowledge is of high relevance in the context of climate change, for which they have the term 'Hama kia', which means 'times have changed'. Other values are shown through language, which allows them to obtain a vision of equity between people, plants and animals. For example, in their language plants do not have leaves, but hands, and animals do not have paws, but feet. And if language is lost, the knowledge and that conception of equity is also lost.	Second indigenous and local knowledge dialogue workshop for the IPBES assessment of diverse conceptualisations of multiple values of nature (2019). https://files.ipbes.net/ipbes-web-prod-public- files/inline- files/IPBES_Values_2ndILKDialogue_Report_final_ForWeb.pdf
LA115	**Capacity Building for NRM – Oaxaca (SAO, Mexico)**	Indigenous communities (Zapotec, Chinantec, Mixe in Oaxaca)	Mexico	Central and South America & the Caribbean	land use, finance, Adaptation; Traditional Knowledge	Servicios Ambientales de Oaxaca (SAO) worked with 10 Indigenous communities in Oaxaca to build capacity for carbon and watershed conservation. Running in the mid-2000s, it involved residents and authorities in Zapotec, Chinantec, and Mixe communities in the Sierra Norte of Oaxaca	Estrategia Sustentable (2021). Oaxaca, Ejemplo En La Neutralización De Emisiones De Carbono. https://www.estrategia-sustentable.com.mx/2021/01/31/oaxaca-ejemplo-en-la-neutralizacion-de-emisiones-de-carbono/ Inter-American Foundation, Grant ME-481, http://www.iaf.gov/grants/awards_year_en.asp?country_id=14&gr_year=2006
LA116	**Scolel'te Carbon Sequestration Project (Chiapas & Oxaca)**	Maya communities (Chiapas highlands)	Mexico	Central and South America & the Caribbean	Mitigation; Forestry; Finance	One of the world's first Indigenous community carbon offset projects, running since 1997 in Chiapas, Mexico. Scolel'te (Maya for "The tree that grows") enables Maya farmers to implement agroforestry and reforestation on their lands and sell the sequestered carbon as credits under the Plan Vivo system	Plan Vivo Case Study: Scolel'te, Chiapas. https://www.planvivo.org/scolelte

LA117	**Sustainable Communities for Climate Action in the Yucatán Peninsula (ACCIÓN)**	Maya communities of the Yucatán Peninsula (Campeche, Yucatán, Quintana Roo)	Mexico	Central and South America & the Caribbean	Adaptation; Ecosystem-based adaptation; Coastal resilience; Traditional knowledge	A project fostering **locally-led climate action in the Yucatán Peninsula**, with a strong focus on Maya indigenous communities. The Yucatán is rich in critical ecosystems – coral reefs, mangroves, cenotes – and the project works with Mayan communities to restore and protect these ecosystems as natural buffers against climate chang egreenclimate.fund. It finances community-designed sub-projects (10 initially) that enhance biodiversity, reduce climate risks, and sustain livelihood sgreenclimate.fund. Examples include restoring mangroves to guard against storms in Mayan fishing villages, implementing drought-resilient milpa farming techniques to secure food supply, and establishing community ecotourism in cenote areas. Traditional Maya knowledge (such as using sacred calendar cycles to time agricultural and conservation activities) is integrated with scienti fic approaches. The project also emphasizes learning exchanges among communities and strengthening local governance for climate adaptation. Approved in 2025 with a GCF grant of US$25 million.	Green Climate Fund (2025). SAP049 *Yucatán Project* https://www.greenclimate.fund/project/sap049
LA118	**Guardians of the Cenotes: Legal Recognition for Sacred Water Bodies**	Maya community in Homún, Yucatán	Mexico	Central and South America & the Caribbean	adaptation, water, cultural practices, policy & governance, legal action	The Maya community in Homún is advocating for legal personhood status for cenotes - sacred subterranean water bodies - to protect them from industrial contamination. By seeking this recognition, the community aims to safeguard their vital water sources and preserve cultural heritage, highlighting the role of Indigenous governance in environmental protection.	de Miguel, Teresa (2024). AP News. Indigenous Mayans want their sacred cenotes to have personhood status. https://apnews.com/article/water-indigenous-cenotes-mexico-sacred-1afd40cf5106f3194882b70c3f3f6010
LA119	**The Chelemeras: Maya Women Mangrove Restorers**	Maya community of Chelem, Yucatán	Mexico	Central and South America & the Caribbean	adaptation, biodiversity, forests, cultural practices, women	A collective of 18 Maya women restoring over 100 hectares of mangroves in Chelem, Yucatán. Their work includes building mangrove nurseries and cleaning waterways to revitalise ecosystems degraded by tourism and urbanisation. In 2023, they were awarded the "Local Heroes" prize by Blue Marine Foundation for their leadership in coastal conservation.	La Jornada Maya (2022). Un manglar, más importante que un bosque tropical: Las Chelemeras. https://agua.org.mx/yucatan-un-manglar-mas-importante-que-un-bosque-tropical-las-chelemeras-la-jornada-maya/
LA120	**Enhancing Mayan Milpa Resilience (Yucatán)**	Maya farming communities in the Puuc Biocultural Region, Yucatán	Mexico	Central and South America & the Caribbean	Adaptation; Agriculture; Food Security; Traditional knowledge; submission	Implemented across eight Maya municipalities in the Puuc Hills, this project bolsters milpa – the polyculture of maize, beans, squash – by promoting sustainable practices and community exchanges of knowledge	Regions4 Sustainable Development (2023). "Enhancing Mayan Milpa Resilience"(Oct 2023)
LA121	**Growing Resilience with Native Seeds in Mexico**	Multiple Indigenous communities across Mexico	Mexico	Central and South America & the Caribbean	adaptation, biodiversity, food security, cultural practices, policy & governance	The "Growing Resilience with Native Seeds" initiative focuses on preserving and promoting the use of native seeds among Indigenous communities in Mexico. By revitalizing traditional agricultural practices and enhancing seed sovereignty, the project aims to strengthen community resilience against climate change. It involves seed saving, exchange networks, and advocacy for supportive policies that recognize and protect Indigenous knowledge systems. The initiative underscores the importance of biodiversity and cultural heritage in developing sustainable and adaptive food systems.	"Growing Resilience with Native Seeds" (2025). https://agroecologyfund.org/growing-resilience-with-native-seeds/

LA122	**Community-based actions for climate resilience in Mexico**	Various Indigenous communities (incl. Maya, Zapotec, Purépecha, and others)	Mexico	Central and South America & the Caribbean	adaptation, biodiversity, forests, policy & governance, cultural practices	This volume compiles community-based conservation projects led by Indigenous peoples and local comunities across Mexico. It highlights how traditional governance systems, spiritual relationships to the land, and communal decision-making are central to forest conservation and biodiversity protection. In many cases, Indigenous ejidos and communities have created or enforced local conservation areas, developed sustainable forestry rules based on traditional norms, and integrated climate resilience practices such as agroforestry and fire management rooted in ancestral ecological knowledge. These approaches are often shown to outperform externally imposed conservation programs in both ecological and social outcomes.	Porter-Bolland et al. (2013) Community Action for Conservation Mexican Experiences. https://link.springer.com/book/10.1007/978-1-4614-7956-7
LA084	**Rising After the Storm, nursery management**	Haulover and Wawabar	Nicaragua	Central and South America & the Caribbean	adaptation, food security, traditional knowledge, agroecology, women	The Haulover and Wawabar, (Nicaragua) communities have improved nursery management practices based on local resources and inputs, in addition to the intergenerational indigenous knowledge transmitted. They have also reforested five hectares with traditionally used plants in the areas affected by the hurricanes.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
LA085	**Bio-CLIMA Integrated Project**	Miskito and Mayangna communities (Caribbean)	Nicaragua	Central and South America & the Caribbean	land use, finance, Adaptation, Mitigation, Rights, lessons learned	The $116 million Bio-CLIMA project, financed by the UN Green Climate Fund, aimed to reduce deforestation and boost resilience in Nicaragua's Bosawás and Río San Juan biospheres. Approved in 2020, it was touted as benefiting Indigenous peoples. In reality, community leaders say they were not properly consulted, and the project ignored rampant land invasion violence against them	Confidencial : Mar 18 2024 https://confidencial.digital/nacion/cancelacion-del-proyecto-bioclima-evidencio-violencia-a-indigenas-y-complicidad-de-organismos/
LA086	**Indigenous adaptation measures in the Nicaraguan Caribbean**	Miskitu, Sumumayangna, Mestizos and Garifunas people	Nicaragua	Central and South America & the Caribbean	impacts, adaptation	A review of 12 case studies in the Nicaraguan Caribbean, representing the ecological areas of the coast, plains, wet tropics and agricultural frontier – places where the Miskitu, Sumumayangna, Mestizos and Garifunas people live. The study reveals increases in the strength of winds and frequency of storms have modified local ecosystems, representing a challenge due to the dependence on water and food supply, the rise in diarrheal diseases and cardiovascular ailments, and the increase in flooding in coastal communities. The loss of forest areas not only results in loss of biodiversity, but also has a significant impact on ways of life of indigenous peoples, including agriculture, community forestry and hunting. The examination of changes in a variety of traditional practices has identified adaptability measures in the communities of the autonomous regions, These include: delimitation and ownership of territories (such as forming and strengthening the structures of territorial governments, and the creation of alliances); improvement of social control mechanisms and environmental resources; and cultural revitalization (i.e. implementation of measures to strengthen identity, culture and values, such as reinforcement of the role of elders, recovery of traditional foods, and strengthening of traditional medicine).	Cunningham (2011) in Nakashima et al (2012). Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. P48.
LA087	**Empower Natives: Sustainable Rural Energy for the Guna**	Guna (Dule) People	Panama	Central and South America & the Caribbean	adaptation, energy, human settlements, cultural practices, policy & governance	The "Empower Natives" initiative provides sustainable solar energy solutions to rural Indigenous communities in Panama, specifically targeting the Guna (Dule) People. This community-led project addresses the lack of electricity in remote areas by installing solar systems in schools and community centres. The project not only reduces reliance on diesel generators, lowering emissions, but also strengthens education, health, and resilience to climate change. The initiative respects Indigenous governance by working within traditional Guna decision-making structures and ensures community ownership through capacity building and training. It demonstrates a successful model of Indigenous-led adaptation that integrates technological innovation with cultural values.	Energy Globe Award – Panama Winner (2023); https://www.energyglobe.info/national/winner/panama

LA088	**Recovery of the traditional knowledge of the Kunas women of Panama**	Guna (Kuna)	Panama	Central and South America & the Caribbean	Traditional knowledge; food security; agro-biodiversity; cultural heritage; adaptation	A small grant project in Panama's Guna Yala region focused on Kuna women's traditional knowledge has strengthened both cultural heritage and climate resilience. Implemented by the Foundation for the Promotion of Indigenous Knowledge (FPCI) around 2009, the initiative worked with elders and 30 Kuna women from six island communities	IFAD, http://www.ifad.org/english/indigenous/grants/projects/regions/lac.htm
LA089	**Kuna Yala Conversations with Mother Earth video**	Guna (Kuna)	Panama	Central and South America & the Caribbean	Local observations & impacts, biodiversity, sea-level rise, youth, multimedia	In 2009, Kuna youth in Panama's Kuna Yala islands produced a participatory video as part of Conversations with the Earth (CWE), an indigenous climate communication initiativ eyoutube.com. Through this video, titled *"Kuna Conversations With Mother Earth,"* they documented their concerns about pollution, dying coral reefs, and the eroding coastline affecting their communities. The process enabled Kuna villagers to voice traditional ecological knowledge – for instance, elders in the film explain how behavior towards nature must change to restore balance. The video was showcased internationally (including at the Smithsonian's National Museum of the American Indian in 2011)culturalsurvival.org, amplifying Kuna perspectives on climate change to global audiences. By combining modern media with Indigenous worldview, the project strengthened cultural pride among Kuna youth and encouraged local action (e.g. community clean-ups and coral monitoring). It exempli fies how participatory media can empower Indigenous communities to share their climate reality and advocate for their own solutions.	
LA090	Guna Yala Relocation: An Indigenous Community Adapts to Sea-Level Rise	Guna (Kuna) people of Gardi Sugdub island	Panama	Central and South America & the Caribbean	Human settlements; Oceans and coastal zones, adaptation, relocation, sea-level rise	One of the first indigenous-planned climate relocations worldwide. Facing severe flooding and erosion, the Guna of Gardi Sugdub decided in 2010 to move to mainland Panama, building a new village (Isber Yala) on higher ground. They negotiated with the government to ensure cultural continuity, adequate water/sanitation, and housing aligned with Guna traditions. The relocation process began in 2024.	Panama Completes First Climate-Related Relocation (Human Rights Watch dispatch, 2024) www.hrw.org/news/2024/05/29/panama-completes- first-climate-related-relocation
LA091	**Organización de Mujeres Indígenas Unidas por la Biodiversidad de Panamá (OMIUBP)**	Guna and Embera communiti es	Panama	Central and South America & the Caribbean	policy & governance, traditional knowledge, storytelling	The Organization of United Indigenous Women for Biodiversity (OMIUBP) builds capacity in biodiversity, climate change, and traditional knowledge conservation techniques to protect big cats in Panama while preserving their Indigenous territory and culture. Through community level technical training, partnerships, and workshops, OMIUBP empowers women and youth from the Guna and Embera communities to effectively participate in and in fluence the implementation and monitoring of national and international laws and agreements related to biodiversity, conservation, and climate change. Through community cultural protocols, members generate and transmit oral and traditional knowledge in children's storybooks as well as through digital media storytelling platforms to inspire local decision makers to develop culturally-sensitive and sustainable policies.	Equator Prize 2022. https://www.equatorinitiative.org/2022/08/02/organizacion-de-mujeres-indigenas-unidas-por-la-biodiversidad-de-panama-omiubp/ OMIUBP: http://www.omiubp.org/

LA092	**Panama-Atlantic Mesoamerican Biological Corridor Project**	Ngäbe, Naso, Guna, and Emberá communities (	Panama	Central and South America & the Caribbean	Biodiversity; sustainable development; co-management; ecotourism; adaptation	The Panama Atlantic Mesoamerican Biological Corridor project (CBMAP, 1998–2006) covered ~3 million hectares (40% of Panama's territory on the Atlantic side)	CBD Secretariat, 2007, "Panama Case Study: Atlantic Mesoamerican Biological Corridor."
LA093	**Defending uncontacted relatives from cattle onslaught in the Gran Chaco**	Ayoreo -Totobiegosode	Paraguay	Central and South America & the Caribbean	adaptation, voluntary isolation, land rights, biodiversity loss	The Dry Chaco is one of the fastest-disappearing ecosystems on the planet, with satellite data showing forest cover decreased by 20% between 2000 and 2019, Many Indigenous people call this arid landscape home, including the Totobiegosode Indigenous community of the Ayoreo ethnic group, one of the few voluntarily isolated groups in South America outside of the Amazon. The Ayoreo-Totobiegosode are fighting to protect their traditional homelands, some of the last remaining wild lands in Paraguay. After nearly a decade of campaigning, Paraguay's state land institute (INDERT), established the Natural and Cultural Patrimony of the Ayoreo-Totobiegosode (PNCAT) in 2001 to formally protect 550,000 hectares of the Ayoreo-Totobiegosode's homeland and banning deforestation in the area. However, the very next year, Yaguarete Porá, a Brazilian-owned cattle firm, acquired a 78,000- hectare (193,000-acre) land title within the PNCAT and began bulldozing to clear roads, opening up a new agricultural frontier. In the following years, more companies moved into the PNCAT, cutting trees and pushing the most recently contacted Totobiegosode people out of the forest in 2004. In 2021, members of the remaining isolated group approached the camp of their contacted relatives at night to communicate that their forest is shrining and they are suffering.	MongaBay (2022). Indigenous group defends uncontacted relatives from cattle onslaught in the Gran Chaco. https://news.mongabay.com/2022/05/indigenous-group- fights-cattle-onslaught-defends-uncontacted-relatives-in-the-gran-chaco/ de la Sancha, N.U., Boyle, S.A., McIntyre, N.E. et al. The disappearing Dry Chaco, one of the last dry forest systems on earth. Landscape Ecol 36, 2997–3012 (2021). https://doi.org/10.1007/s10980-021-01291-x
LA094	Water recovery in the Chaco	Guaraní communities, Gran Chaco region (Qom and other Indigenous groups in Paraguayan Chaco)	Paraguay	Central and South America & the Caribbean	Mitigation; Adaptation; Climate Justice, Gender	Facing climate-induced drought, Guaraní women installed rainwater harvesting systems, revived seed varieties, and trained in agroecological techniques. Their efforts strengthened food security and community health.	FIMI magazine (2025) https:// fimi-iiwf.org/biblioteca-propias/semillas-de-fortaleza-historias-de-empoderamiento-y-lucha-de-las-mujeres-indigenas/ FIMI (2023) Historias de Empoderamiento y Lucha de las Mujeres Indígena https://25176774.fs1.hubspotusercontent-eu1.net/hubfs/25176774/FIMI_ESPANOL-revista_v06_Semillas_Historias.pdf?hsCtaAttrib=79806391505 IFIP Funding analysis report (2024) https://internationalfunders.org/wp-content/uploads/2024/07/Leaders-and-Stewards-Global-Analysis-of-Funding-to-Indigenous-Women-_compressed.pdf"
LA095	**Protection of Wildlife Areas of Paraguay**	Mbya Guaraní	Paraguay	Central and South America & the Caribbean	Local observations & impacts, land rights	In Paraguay's Atlantic Forest, Mbya Guaraní communities have become key defenders of remaining wildlife habitats. The Association of Indigenous Communities of Itapúa (ACIDI) partnered with conservation NGO Guyra Paraguay and others to secure legal ownership of ancestral forest lands within the San Rafael Reserve – a biodiversity hotspot and important bird area. In June 2023, 548 hectares of privately-held land in San Rafael (Tekoha Guasu for the Mbya) were of ficially titled to the Mbya community of Tapy Kanguekua–Arroyo Morotí	Birdlife International (2023). Guyra Paraguay hands over a historic transfer of land ownership to the Indigenous Mbya Guaraní. https://www.birdlife.org/news/2023/06/08/guyra-paraguay-hands-over-a-historic-transfer-of-land-ownership-to-the-indigenous-mbya-guarani

LA100	Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru	Indigenous wetlands communities of Datem del Marañón Province, Peruvian Amazon (Achuar, Wampis, and others)	Peru	Central and South America & the Caribbean	Adaptation; Mitigation; ecosystems; forests; land use; livelihoods	This project, one of the first GCF initiatives, strengthens the climate resilience of indigenous wetlands communities in the Datem del Marañón province of the Peruvian Amazon. It focuses on protecting vast peatland swamps and forests through indigenous-led land management and sustainable livelihoods. Indigenous Achuar, Wampis, and other riverine peoples are given the authority and resources to manage their territories – the project entrusts indigenous communities with the management of resources, improves their livelihoods, and empowers women in decision-making. Community members develop sustainable bio-businesses based on non-timber forest products (like fish, wild fruits, and medicinal resins) and lead reforestation and conservation activities to prevent deforestation. These efforts not only reduce greenhouse gas emissions from peatlands but also enhance food security and income in indigenous villages, all while reinforcing traditional stewardship practices. Under implementation 2015–2024, with GCF financing of USD $6.2 million.	https://www.greenclimate.fund/project/fp001 Profonanpe (2024), 2023 Annual Performance Report for FP001: Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru https://www.greenclimate.fund/document/2023-annual-performance-report-fp001-building-resilience-wetlands-province-datem-del-mara-n
LA101	**Native Cotton Revival by Women Artisans of Mórrope**	Muchik	Peru	Central and South America & the Caribbean	Adaptation; Biodiversity; Sustainable Livelihoods; Women; Traditional Knowledge	In the dry forests of coastal Peru, an association of Muchik Indigenous women has brought native cotton back from the brink of extinction, turning cultural restoration into an adaptive livelihood. The Artesanas de Árbosol y Huaca de Barro of Mórrope District organized in 2005 to rescue algodón nativo – locally evolved cotton in shades of cream, brown, and purple that thrives without chemical inputs in arid conditions	Equator Initiative Awards 2008, http://www.equatorinitiative.org/. FAO & MINAM, 2017, "La producción de algodón nativo en Perú es patrimonio de mujeres" https://www.fao.org/peru/noticias/detail-events/es/c/522276/
LA102	**Potato Park Biocultural Heritage Territory**	Quechua	Peru	Central and South America & the Caribbean		Governed collectively by five Quechua communities in the high Andes, the Potato Park integrates the Andean philosophy of Sumaq Kawsay - Buen Vivir or holistic wellbeing - where the interconnectedness and reciprocity between humans, wildlife, and spiritual beings ensure resilience and balance. This approach, supported by local institutions and traditional governance systems, effectively conserves agrobiodiversity and ecosystems, including critical grasslands which sequester substantially more carbon than forests. Climate resilience within the Potato Park is enhanced by maintaining around 1,400 native potato varieties, alongside wild relatives, through community-managed seed banks (potato guardians collective) and strategic repatriation agreements with international institutions. Indigenous farmers leverage traditional ecological knowledge to identify and cultivate climate-resilient potato strains, combating rising altitudinal shifts due to warming temperatures and increased pests. The park's biocultural microenterprises and communal benefit-sharing agreements (including a communal fund for benefit-sharing of 10% of profits from economic collectives) reinforce economic resilience and social solidarity, ensuring equitable distribution of benefits and enhanced adaptive capacity to climate shocks.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=29442 https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=29461 Traditional mountain landscapes: critical for meeting biodiversity and climate goals. Swiderska et al (2022). https://www.iied.org/21241iied
LA103	**Quechua Values Guiding Climate Adaptation**	Quechua	Peru	Central and South America & the Caribbean	adaptation, community resilience, traditional knowledge	In the Quechua communities of the Cusco region, Peru, cultural values expressed as ayni (reciprocity), ayllu (collectiveness), yanantin (equilibrium), and chanincha (solidarity) guide responses to climate change. These Indigenous principles – passed down through generations – have led to successful community-led adaptation strategies	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG), p. 2714

LA104	**Aylluq Q'anchaynin: Indigenous Youth Driving Energy Autonomy**	Quechua	Peru	Central and South America & the Caribbean	energy, youth	Started by six Indigenous and intercultural students during the COVID -19 pandemic, Aylluq Q'anchaynin ("energy of the community" in Quechua) installs community -owned photovoltaic systems and satellite internet in the off -grid Amazonian hamlet of Alto Mishagua. Phase 1 delivered a solar -powered hub for charging devices and a VSAT link that now lets children access online schooling and families communicate without the 5 - to 8-hour boat trip to the nearest electri fied town. Impacts. Phase 2 (underway) will bring household -level solar electricity to 40 families, cutting diesel use, travel costs and CO_2 while improving emergency response, health, and local enterprise.	UNDP (2025). Powering the Future of the Amazon: How Indigenous Youth are Driving Energy Autonomy. https://www.undp.org/romecentre/blog/powering-future-amazon-how-indigenous-youth-are-driving-energy-autonomy
LA105	**Recovery of traditional knowledge on biodiversity for food and medicine Quechuas and Ashanika communities**	Quechua and Ashaninka	Peru	Central and South America & the Caribbean	Adaptation; Livelihood Diversi fication; Water Management; Agriculture; Capacity-Building	In the context of an advanced national legal framework on the protection of indigenous intellectual property rights related to traditional knowledge on biological resources (Ley 27811, Perù), this proposal aims at giving Quechua and Ashaninka communities and organizations (FECMA and CECONSEC), the necessary skills and capacities to make use of the exist- ing law to recover and protect their traditional knowledge and intellectual property rights. The foreseen project activities are: 1) capacity-building workshops on: traditional knowledge recovering and registering, national and international laws on intellectual property rights; 2) to recover traditional knowledge on biological resources (plants for food consumption and medical use), through interviews to communities elders; 3) to realize a photographic register and video documenta- tion; 4) to publish a book on the experience realized; 5) to carry out the necessary legal procedures with the designated national institution (INDECOPI) to obtain legal protection of their intellectual property rights.	IFAD, Recuperación del conocimiento tradicional sobre biodiversidad alimentaría y medicinal en comunidades quechuas y ashanikas del Peru, http://www.ifad.org/english/indigenous/grants/projects/regions/lac.htm
LA106	**Surviving the 'Friaje': Andean Alpaca Herders Adapt to Cold Snaps**	Quechua and Aymara	Peru	Central and South America & the Caribbean	Adaptation; Traditional knowledge; Pastoralism; Health	In the high Peruvian Andes, indigenous alpaca herding communities have implemented adaptive measures to survive extreme cold waves ("friaje"). NGO Practical Action documents that freak cold spells, falling to -30 °C, have caused death of children and severe illness in indigenous communities in Peru in recent winters. In response, villagers built simple shelters and improved forage for their alpacas, and revived traditional weather forecasting to prepare for sudden freezes. These practices have reduced livestock deaths and protected livelihoods during unseasonal hail and frost. The community-driven approach also included health brigades delivering first aid to remote families and livestock during cold spells. However, loss of sheep and alpacas have created unprecedented problems as far as clothing is concerned, as the heightened levels of sheep and alpaca mortality leave less material for clothing, insulation and bedding. Indigenous Peoples have also noticed a decrease in biodiversity and a decreased agricultural season. Increased precipitation causes flooding endangering Indigenous homes and livelihoods. Increased respiratory illnesses due to climatic changes have also been documented.	Practical Action, 2007, Surviving the Friaje; Freak freeze conditions in Peru, http://practicalaction.org/?id=climatechange_friaje; Pueblos Indigenas y Cambio Climatico: Declaracion Qollasuyo sobre Cambio Climatico: http://www.ecoalimenta.com/es/viewer.php?IDN=3057
LA107	**Sierra Sur – Indigenous Livelihood Diversi fication in the High Andes**	Quechua and Aymara	Peru	Central and South America & the Caribbean	Adaptation, livelihood diversi fication	The Sierra Sur programme (2005–2014) worked with over 21,000 Quechua and Aymara families across the southern Peruvian Andes to build climate resilience. Faced with harsher droughts, frosts, and glacier retreat, communities adopted a suite of adaptations supported by this Indigenous-centered rural development project. Farmers constructed thousands of small water ponds and earthen pits to capture scarce rain and glacial melt for irrigation. They diversi fied crops – reintroducing traditional grains and pulses alongside potatoes – and built stone terraces and windbreak walls to reduce erosion and shield fields from cold winds. Women's groups, supported with direct community grants, established agroforestry nurseries and family greenhouses, bolstering food security. By project's end, many high-altitude villages reported improved pastures, increased crop yields, and better water availability even in dry seasons. The project channeled funds directly to campesino communities via local "resource allocation committees," enabling them to hire agronomists or veterinaries of their choice and prioritize ancestral practices. It also institutionalized the "Kamayoq" farmer-to-farmer extension network: respected local farmers (including Quechua women) were trained as Kamayoq technicians to spread innovations like frost-hardy seed varieties and improved alpaca veterinary care	IFAD, 2014, Project Completion Report: Sierra Sur, Peru; Hellin & Lopez, 2012, "Agricultural Extension and Innovation: Kamayoq in Peru" https://eric.ed.gov/?id=EJ960436#:~:text=Findings%3A%20In%20Peru%2C%20collective%20action,networking%20amongst%20sets%20of%20heterogeneous

LA108	**Waru waru ancient irrigation and drainage system**	Quechua and Aymara farmers	Peru	Central and South America & the Caribbean	Adaptation; Agriculture; Food Security; Water management; Traditional Knowledge	Indigenous farmers in the Puno highlands have resurrected the waru waru (raised field) system to safeguard crops against frost and drought. This pre-Incan technique – creating elevated planting beds surrounded by water – buffers nighttime freezes and retains moisture, creating a microclimate that protects potato and quinoa crops. In 2023, when Puno faced its worst drought in decades, communities with waru waru fields avoided food shortages by capturing scarce rainfall and insulating crops from extreme temperatures. In addition to improving yields, waru waru rehabilitation strengthens cultural identity and self-suf ficiency. Quechua and Aymara communities share intergenerational knowledge through farmer-to-farmer training, and have gained recognition for their innovations.	UNESCO, Waru Waru, a cultivation and irrigation system used in flood-prone areas of the Altiplano, UNESCO Best practices on Indigenous Knowledge BP-II.19, http://www.unesco.org/most/bpik19-2.htm; Clark Erikson (2003), Agricultural Landscapes as World Heritage: Raised Field Agriculture in Bolivia and Peru. In Managing Change: Sustainable approaches to the conservation of the built environment. Edited by Jeanne-Marie Teutonico and Frank Matero, Getty Conservation Institute, Los Angeles, pp.181-204 http://ccat.sas.upenn.edu/ fishweir/articles/EricksonGetty1.pdf AFP (2024) Waru Waru, una técnica ancestral agrícola que mitiga el cambio climático https://noticiasncc.com/cartelera/articulos-o-noticias/05/13/waru-waru-una-tecnica-ancestral-agricola-que-mitiga-el-cambio-climatico/
LA109	**Forecasting El Niño influence on Andean rainfall and crop yield with the Pleiades**	Quechua communities	Peru	Central and South America & the Caribbean		Farmers in drought-prone regions of Andean South America have historically made observations of changes in the apparent brightness of stars in the Pleiades around the time of the southern winter solstice in order to forecast interannual variations in summer rainfall and in autumn harvests. They moderate the effect of reduced rainfall by adjusting the planting dates of potatoes, their most important crop. Scienti fic analysis of data on cloud cover and water vapour from satellite imagery, agronomic data from the Andean altiplano and an index of El Niño variability has shown that poor visibility of the Pleiades in June—caused by an increase in subvisual high cirrus clouds—is indicative of an El Niño year, which is usually linked to reduced rainfall during the growing season several months later.	Orlove, B.S., J.C.H. Chiang and M.A. Cane, 2000: Forecasting Andean rainfall and crop yield from the influence of El Niño on Pleiades visibility. Nature, 403, 68-71. http://www.nature.com/nature/journal/v403/n6765/abs/403068a0.html
LA110	**'Not like it used to be': contending with the altered agricultural calendar in Andean Peru's Colca Valley**	Quechua descendant farmers, Colca Valley	Peru	Central and South America & the Caribbean	Land use; Water; Human settlements; impacts, food security, livelihoods	Andean farmers have reoriented their traditional agricultural cycle in response to unpredictable rains, altered timing of frosts, and shifting market demands. Once self-suf ficient communities now grow crops for market sale under uncertain conditions. Many community members lament the reduced reliability of seasonal markers, increasing risk for agricultural investments. Social inequalities and lack of support further compound vulnerabilities.	Hirsch, E. (2024). In V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 179–195). Routledge.
LA111	**Association for the Integrated Development and Research (AIDER) System**	Shipibo-Conibo and Cacataibo communities	Peru	Central and South America & the Caribbean		In the Peruvian Amazon, a partnership between the NGO AIDER and 14 Indigenous communities in Ucayali has pioneered community-based sustainable forest management as a climate solution. Starting in the early 2000s, AIDER helped these Shipibo-Conibo and Cacataibo communities develop a joint management plan for ~150,000 hectares of ancestral rainforest. This plan, of ficially recognized by the government, empowers Indigenous forest committees to patrol against illegal logging, set aside habitat for endangered species, and harvest timber and fruits under sustainable guidelines. By 2010, all 14 communities had secured legal title to their forests and achieved FSC certi fication for sustainable forestry – a first in Peru. This participatory, intercultural model has strengthened local capacity (including training 70+ Indigenous park guards and technicians) and created economic alternatives that deter deforestation. Women and men are involved in decision-making, and traditional ecological knowledge (e.g. seasonal indicators for fishing or planting) is integrated with modern practices. This groundwork enabled the communities to launch a REDD+ carbon project called "Nii Kaniti" (Forest as Life) in 2015	Equator Prize 2004, http://www.equatorinitiative.org/; AIDER, www.aider.com.pe

LA112	**Wampís Autonomous Climate Governance**	Wampís Nation	Peru	Central and South America & the Caribbean	Mitigation; Forests; Self-governance; Policy	The Wampís Nation's forests cover more than 1.3 million hectares within Peru, but through the flying rivers, they supply water for three countries. Flying rivers are caused by the sheer scale of evaporation and transpiration in the forests and it is estimated the Wampís Nation's forests may see evapotranspiration of 34.5 billion litres of water per day, which generates rainfall in Peru, Ecuador, and Colombia. The forests preserved by the Wampís Nation ensure water security for regions at risk of drought. Protecting the flying rivers safeguards water for consumption, for agriculture, and for maintaining life in areas that would otherwise experience deserti fication. These forests help mitigate climate change by storing 522 million tons of carbon. But they also capture 57 million tons of carbon per year and contribute to the national goal of reducing emissions by 2030, according to studies in the Autonomous Territorial Government of the Wampís Nation's Climate Strategy and Ambition report. By patrolling their lands and documenting illegal logging, they have signi ficantly reduced deforestation in their territory. The Wampís view their forests as critical for stabilizing regional climate ("flying rivers" that bring rain). Their leadership successfully pressured the government to cancel a gold mining concession and influenced a 2022 national court ruling af firming indigenous consent rights for extractive projects.	UNDP (2022). The " flying rivers" protecting the water cycle. https://stories.undp.org/the- flying-rivers-protecting-the-water-cycle
LA096	**Amarakaeri Communal Reserve Co-Management**	Amarakaeri collective	Peru	Central and South America & the Caribbean	Mitigation; Protected areas; Co-management; Traditional knowledge	The Amarakaeri Communal Reserve in Madre de Dios, Peru (402,000 ha of Amazon rainforest) has been co-managed by an indigenous collective (ECA Amarakaeri) and the government since 2006. Ten indigenous communities collaboratively govern this UNESCO-recognized reserve, integrating traditional practices with modern conservation. Through an indigenous vigilance committee, they enforce bans on illegal gold mining and logging in the reserve, helping maintain one of the most intact old-growth forests in the region. The co-management has led to innovations like a community-run wildlife monitoring program and sustainable livelihood projects (handicrafts, Brazil nut harvesting) that reinforce the value of standing forest. Despite pressures, deforestation rates inside Amarakaeri remain far lower than surrounding areas. The model has in fluenced national policy, demonstrating that empowering indigenous peoples to lead protected area management results in both effective climate mitigation (via forest carbon storage) and strengthened indigenous rights.	ECA Amarakaeri (2021). https://www.earthdefenderstoolkit.com/wp-content/uploads/2021/08/ECA-Amarakaeri-Earth-Defenders-Toolkit-EN-June-2021.pdf
LA097	**Tajimat Pujut**	Awajun	Peru	Central and South America & the Caribbean	finance, carbon credits, biodiversity conservation	FERIAAM and Conservation International Peru have co-designed Tajimat Putut with the participation of the Alto Mayo communities, a project that aims to achieve the restoration and conservation of Awajun forests. In recent decades, deforestation within the Awajun communities has accelerated, with greater impact since 1990 after the opening access to the region via the Fernando Belaunde Terry highway. The project will focus on implementing strategies and activities to achieve better management of the Awajun territory, strengthen its governance and Indigenous identity, restore degraded areas, and diversify sources of income and sustainable productive activities that secure wellbeing for the Awajun people. Tajimat Pujut expects to generate an average of around 68,000 tCO2eq per year over the 30-year project lifetime. CI Peru and FERIAAM assist communities with development of Community Life Plans (CLPs), which are community planning documents that outline their future priorities. These CLPs are used as the basis for Conservation Agreements that spell out community conservation commitments in return for livelihood support and strengthening of governance capacity.	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P16. CI Peru website: https://www.conservation.org/peru
LA098	**Indigenous Management of Protected Areas in the Peruvian Amazon**	Harakbut (Amarakaeri Communal Reserve) and other Amazon Indigenous peoples	Peru	Central and South America & the Caribbean	Adaptation; mitigation; co-management; rainforest; territorial governance	Indigenous peoples in Peru now co-manage several large protected areas, blending traditional stewardship with modern conservation. For example, the Amarakaeri Communal Reserve (402,000 ha) in Madre de Dios is governed by an Indigenous management committee (representing Harakbut, Yine, Matsigenka communities) alongside government park authoritiesg. Since its establishment in 2002, Amarakaeri's Indigenous guardians have kept deforestation low and blocked mining and logging incursions, despite pressures from gold mining around its edges. Their sustainable use of the forest (e.g. harvesting Brazil nuts, fish, and medicinal plants under a management plan) maintains carbon stocks and biodiversity.	WORLD BANK (2008): Sobrevila, Claudia. The Role of Indigenous Peoples in Biodiversity Conservation; World Bank Project database, http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&contentFed=yes&Projectid=P065200

LA099	Resilient Puna: Ecosystem based Adaptation approach to promote climate resilience in the Peruvian High Andes	Indigenous communities (Quechua and Aymara pastoralists) in the high-altitude Puna region of Peru	Peru	Central and South America & the Caribbean	Adaptation; Mitigation; ecosystems; forests; land use; livelihoods	This project enhances the climate resilience of the high-altitude Puna ecosystem in Peru by working closely with the indigenous Quechua and Aymara communities who inhabit these grasslands. It aims to protect wetlands and pastures, ensuring sustainable water supply and forage for livestock (alpacas, llamas, sheep) in the face of climate threats like glacier retreat and erratic rainfall. Indigenous pastoralists are leading the development of adaptation solutions, such as reviving ancestral water channels (amunas) to recharge wetlands and practicing rotational grazing guided by traditional knowledge of pasture cycles. The project also introduces modern tools like improved livestock breeding and weather forecasting, but adapts them to the local context with input from community elders. By strengthening communal resource governance and diversifying livelihoods (e.g., wool value chains, agro-ecotourism) under indigenous leadership, the project bolsters both ecosystem health and community well-being. Under implementation 2024–2030, with GCF financing of USD $46.4 million.	https://www.greenclimate.fund/project/fp226 GIZ (2024), 2023 Annual Performance Report for FP226: Resilient Puna: Ecosystem based Adaptation in the Peruvian High Andes https://www.greenclimate.fund/document/2023-annual-performance-report-fp226-resilient-puna-eba-peru
LA128	**Unseen scars: Mental health burdens of climate change on Indigenous and rural Peruvian women**	Quechua, Aymara, Yine, Shipibo	Peru	Central and South America & the Caribbean	mental health; gender; impacts; community coping; social networks; adaptation planning; women; impacts; mental health	Based on 48 in -depth walking interviews across Peru's north coast, Amazon and Andean regions, the study traces pathways from climate hazards (floods, droughts, heat and ecosystem change) to psychological distress, trauma responses and social strain among Indigenous and rural women. It shows how climate shocks interact with gender -based vulnerabilities, livelihood losses and institutional barriers to compound mental -health burdens. Outcomes and practice implications demonstrate that women's leadership, spiritual traditions and mutual aid function as protective factors.	Flores EC, Mascareñas C, Eaton J, Kakuma R, Flores AF, Haines A (2025) Unseen scars: Understanding the mental health burdens of climate change on indigenous and rural Peruvian women. PLOS Clim 4(6): e0000527. https://doi.org/10.1371/journal.pclm.0000527
LA129	**Aylluq Q'anchaynin - Indigenous youth driving energy autonomy in Alto Mishagua**	Quechua, Yine, Matsiguenga, Ashaninka, Yine Yame, Nahua	Peru	Central and South America & the Caribbean	mitigation; energy; solar energy; youth; technology; adaptation; justice; media report; submission	Aylluq Q'anchaynin means 'the energy of the community' in Quechua. This youth -led, assembly -governed project co -created solar and satellite internet with the Alto Mishagua community. Phase 1 provided communal internet with a small photovoltaic system. Phase 2 provided photovoltaic systems for 40 households to cut diesel use and 5–8-hour boat trips for connectivity. The project also explicitly surfaces critical -minerals justice tensions in the energy transition.	UNDP (2025). Powering the Future of the Amazon: How Indigenous Youth are Driving Energy Autonomy. https://www.undp.org/romecentre/blog/powering-future-amazon-how-indigenous-youth-are-driving-energy-autonomy
LA113	Peru's Potato Park – Agrobiodiversity for Climate Adaptation	Quechua communities of Parque de la Papa (Andean Highlands, Cusco Region)	Peru	Central and South America & the Caribbean	Agrobiodiversity, Traditional agriculture, Food security, Biocultural heritage, Crop resilience	Peru's potato park is widely cited as a model of in situ seed conservation and biocultural heritage. It combines customary law, science-based collaboration, and community rule-setting to enhance climate resilience. In this 9,200-hectare Indigenous-managed reserve, six Quechua communities conserve hundreds of native potato varieties and other Andean crops. Governed under collective land titles, they have nearly doubled native potato diversity and repatriated additional cultivars from seed banks. Planting diverse varieties, relocating fields uphill, and using organic practices enhance resilience against frosts, droughts, and pests in a changing climate.	"Peru's Potato Park preserves and restores diversity of potatoes and other Andean crops" – Nature-based Solutions Initiative (Oxford, 2021) casestudies.naturebasedsolutionsinitiative.org/casestudy/perus-potato-park-preserves-and-restores-diversity-of-potatoes-and-other-andean-crops/

North America

OLD-ID	Title	IP	Country	Region	Keywords	Summary	Further Information
NA001	**Climate Impacts, Adaptation and Vulnerability in North America**	Indigenous Peoples of North America	__Regional Overview (IPCC)	North America	observations & impacts, adaptation, food security, livestock, traditional knowledge, forecasting, policy & planning	Indigenous communities in North America are experiencing intensi fied climate impacts, including rising temperatures, altered precipitation patterns, and increased frequency of extreme weather events. These changes threaten traditional practices such as hunting, fishing, and agriculture, which are integral to cultural identity and subsistence. For instance, shifts in animal migration patterns and reduced fish stocks directly affect food security and cultural practices. Despite these challenges, Indigenous Peoples are demonstrating resilience by integrating traditional ecological knowledge with contemporary scienti fic approaches to develop adaptive strategies. However, systemic barriers, including limited access to resources and exclusion from policy-making processes, hinder their adaptive capacities. The AR6 emphasizes the importance of self-determination and the inclusion of Indigenous knowledge systems in climate adaptation planning to enhance resilience and sustainability.	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.
NA002	**Tribal Campus Climate Challenge**	Indigenous Peoples of North America	_Regional	North America	Adaptation; Energy; Youth	A partnership initiative (2007–2010) engaging students from over 30 tribal colleges in the US and Canada to implement campus climate solutions and build youth leadership. Coordinated by the Indigenous Environmental Network (IEN), it supported projects like recycling programs, community tree plantings, small-scale solar installations and community gardens. The Challenge empowered Indigenous youth to promote renewable energy and emissions reduction on campus, and mobilised students around issues such as tar sands and fracking. The project contributed to lasting sustainability programs at many tribal colleges and fostered a new generation of Indigenous climate leaders	Indigenous Environmental Network http://www.ienearth.org/tccc.html Dreier P (2013). Activists to Watch: Kandi Mosset. https://billmoyers.com/content/kandi-mosset/
NA003	**Anishinaabe Perspectives on Environmental Displacement and Health**	Anishinaa be Nations	Canada	North America	land use, water, food security, displacement	Documents Anishinaabe perspectives on climate change through community-led research initiatives on the impact of a pulp and paper mill on a culturally signi ficant tidal estuary known as A'se'k. . Using concepts in local language guided thinking away from a western-centric analysis to one more appropriate to lived experiences.	For Our Future: Indigenous Resilience Report, Case Story 5, p. 44
NA004	**Assembly of First Nations (AFN) Climate Change Program**	Assembly of First Nations (First Nations across Canada)	Canada	North America	Adaptation, policy, capacity-building, energy	A national program was launched by AFN (~2008) to support First Nations in addressing climate change. Activities included research, education, awareness-raising, and capacity building on climate impacts and adaptation	Canadian Press (2023). Assembly of First Nations unveils national climate strategy. https://www.sootoday.com/local-news/assembly-of- first-nations-launches-national-climate-strategy-7701309
NA005	**Impacts on Traditional Foods in Manitoba**	Black River First Nation	Canada	North America	Land use, Water, obersvations & impacts; Traditional Knowledge; Food Security	A community-based study (2006–07) documenting climate change effects on traditional foods and medicines in a boreal First Nation. Led by the Centre for Indigenous Environmental Resources (CIER) and Black River First Nation, it focused on three culturally important species (berries, medicinal plants, conifer)	"Center for Indigenous Environmental Resources, 2007 http://www.cier.ca/WorkArea/linkit.aspx?LinkIdenti fier=id&ItemID=1296 CIER (2007). Traditional Foods in a Changing Climate – Re flections on Success. "
NA093	**Reserve Shoreline Adaptation on səl̓ilw̓ət (Burrard Inlet)**	Coast Salish (Tsleil-Waututh Nation)	Canada	North America	human settlements, infrastructure; food security; indigenous knowledge	Tsleil-Waututh Nation's shoreline is actively eroding and up to 13 m of land has already been lost in some parts. Coastal erosion, coastal flooding, and coastal squeeze (including the loss of marine intertidal habitat) are all anticipated to worsen with sea level rise and climate change. s əlilwətaɬ (Tsleil-Waututh Nation, TWN) is leading an adaptation and resilience shoreline protection and habitat restoration project to address sea-level rise and erosion while safeguarding cultural foods and sites on Burrard Inlet. Native plants replaced include culturally important shrubs and trees providing opportunities for TWN stewardship, knowledge sharing and future sustainable harvesting.	TWN project page: Reserve Shoreline Adaptation (2024). https://twnation.ca/twn-reserve-shoreline-adaptation-project/

NA006	**Decrease in Wild Salmon**	Coastal First Nations	Canada	North America	observations & impacts, food security	Indigenous peoples of the Paci fic Northwest observed alarming declines in wild salmon runs, with climate change exacerbating other stressors. A study by the Upper Fraser Fisheries Conservation Alliance found early Stuart sockeye returns fell from ~700,000 (1993) to ~100,000 by 2005	Report of the North America Region Preparatory Meeting for the United Nations Permanent Forum on Indigenous Issues Seventh Session, E/C.19/2008/CRP. 4, http://www.un.org/esa/socdev/unp fii/ documents/ E_C_19_2008_CRP4.pdf Columbia Riverkeeper: Salmon Recovery https:// www.columbiariverkeeper.org/focus-areas/salmon-recovery/
NA007	**Local Land-Based Indigenous Climate Camp (LLICP)**	Cree Nation	Canada	North America	adaptation, traditional knowledge, youth	A land-based climate education and resilience initiative launched in 2024, centered on immersive culture camps where Indigenous Elders teach youth about the environment and climate. The LLICP camps bring together Indigenous facilitators and youth for hands-on learning of traditional knowledge and sustainable living practices on the land . Over multi-day camps, youth engage in activities like medicine walks, canoe-making, and biodiversity monitoring, learning how Indigenous cultures observe and adapt to environmental changes. These camps strengthen participants' relationships with land and water, highlighting Indigenous stewardship as a response to the climate crisis.	Datta P, Datta R, Lewis K, Hurlbert M. (2024). Youth response to climate change: Learning from Indigenous land-based camp at the Northern Saskatchewan Indigenous Communities, Canada. Explore (NY). 2024 Sep-Oct;20(5):102985. doi: 10.1016/j.explore.2024.02.003. Epub 2024 Feb 22. PMID: 38403549.
NA008	**Protected Areas and Local Knowledge in James Bay (Wemindji Cree)**	Cree Nation of Wemindji, Eeyou Istchee (Quebec)	Canada	North America	land use, biodiversity, policy, traditional knowledge; multimedia	The Cree Nation of Wemindji in Eeyou Istchee (James Bay, Québec) led a groundbreaking initiative to protect their lands and waters in the face of industrial pressures from mining, hydropower, and forestry. Grounded in Cree institutions of stewardship, customary hunting territories, and Indigenous ecological knowledge, the community partnered with universities to map traditional place names, travel routes, and ecological values, and to build local research capacity. This collaborative process secured government recognition of the Paakumshumwaau Maustuskaau Biodiversity Reserve (4,700 km ^{2}) in 2008 and advanced a proposal for the Tawich Marine Conservation Area in 2009, establishing a framework for long-term, Cree-led conservation. By keeping intact boreal forests, wetlands, and coastal ecosystems, these protected areas safeguard biodiversity while also preserving vast carbon-rich landscapes critical to climate stability. The Wemindji project shows how Indigenous-led governance not only strengthens cultural transmission and self-determination but also contributes to global climate change mitigation. Protecting peatlands and forests through Cree stewardship prevents emissions, maintains ecosystem resilience, and exempli fies how Indigenous Peoples' rights and knowledge are central to addressing the climate crisis.	Berkes, F., & Armitage, D. (2020, June). Caring for Eeyou Istchee: Protected area creation in Wemindji Cree territory [PowerPoint slides]. UBC Press. https://www.ubcpress.ca/ media/Caring-for-Eeyou-Istchee_PPT_June-2020.pdf
NA009	**Canadian Indigenous Campaign Against Tar Sands**	Dene, Cree, and Métis communiti es (Fort Chipewya n, Alberta)	Canada	North America	Local Impacts; Energy; Health; Legal action	Dene, Cree, and Métis communities living downstream of the Athabasca oil sands have experienced deforestation, contaminated water, and rare cancers linked to tar sands pollution	Poitras, G (2009), 'Canada's Bloody Oil', The Guardian, 24 August 2009, http://www.guardian. co.uk/commentisfree/2009/aug/24/ climate-campcanada-oil-tar-sands; Teck withdraws application for the Frontier Tar Sands project (2020). https://lastrealindians.com/news/ 2020/2/24/teck-withdraws-application-for-the-frontier-tar-sands-project

NA010	**Drinking Water Safety and Source Water Protection**	Driftpile Cree Nation, Yellow Quill First Nation	Canada	North America	adaptation, water	A research and planning project (circa 2008) examining how climate change exacerbates water quality and supply issues in prairie First Nations. Communities in Alberta and Saskatchewan reported climate-related problems such as declining source water quality, drought stress on water supplies, and increased algal blooms. The project produced a report with recommendations for source water protection planning, infrastructure upgrades, and emergency water measures. The participating Nations used the results to advocate for better water treatment facilities and watershed management. The study highlighted that climate change adds urgency to resolving long-standing water infrastructure gaps on reserves.	Climate Change and First Nations South of 60 http://www.cier.ca/information-and-resources/publications-and-products.aspx?id=1178
NA011	**Métis Indigenous Youth report to UNFCCC COP-28**	East Prairie Métis Settlement, Alberta	Canada	North America		Key Impacts: A massive wild fire destroyed 40 homes and vital forest resources, displacing families and threatening cultural practices reliant on the land. Minimal government assistance reached this remote Indigenous community. Community Response: Elders teach that floods often follow fires, prompting a youth-led tree-planting initiative to restore forests, protect soil and water quality, and bring back wildlife. Supernault underscores the importance of external support for youth-driven climate solutions.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf
NA012	**Pine Beetles Destroy Forests in British Columbia**	First Nations in BC interior (Carrier, Shuswap, etc.)	Canada	North America	Forests; Land Use	A rapid ecosystem change case: mountain pine beetle infestations, intensified by milder winters, have decimated forests that Interior First Nations depend on. By 2010, BC had lost ~33 million acres of lodgepole pine forest to beetles	Dhar, A., Parrott, L., & Hawkins, C. D. B. (2016). Aftermath of Mountain Pine Beetle Outbreak in British Columbia: Stand Dynamics, Management Response and Ecosystem Resilience. Forests, 7(8), 171. https://doi.org/10.3390/f7080171 In: Conference Room Paper (CRP) 4, Report of the North America Region Preparatory Meeting for the United Nations Permanent Forum on Indigenous Issues Seventh Session (UNPFII7), http://www.un.org/esa/socdev/unpfii/documents/E_C_19_2008_CRP4.pdf
NA013	**Indigenous Peoples Resilience Fund (IPR Fund)**	First Nations, Métis and Inuit communities across Canada	Canada	North America	adaptation, finance, food security, health, water, cultural practices, policy & governance, storytelling, two-eyed seeing, women	The Indigenous Peoples Resilience Fund (IPRF) is an Indigenous-led philanthropic initiative in Canada supporting First Nations, Métis, and Inuit communities to strengthen their resilience in the face of systemic challenges, including the growing impacts of climate change. Since 2020, the IPRF has distributed over $5million in funding directly to communities, empowering them to design and implement local adaptation responses grounded in traditional knowledge, self-determination, and cultural values. Many supported projects address climate change through initiatives such as food sovereignty, water protection, climate-related health services, emergency response, and youth- and Elder-led environmental education. The fund's commitment to a decolonised, trust-based, and flexible granting model allows communities to respond to immediate climate threats while strengthening long-term resilience strategies. It is guided by Indigenous governance, values and ceremony, and encourages storytelling and intergenerational knowledge transfer as essential climate adaptation tools.	Indigenous Peoples Resilience Fund. https://www.iprfund.ca/
NA014	**Decolonizing Climate Policy: An Indigenous Climate Action Project**	Indigenous Climate Action (organisation)	Canada	North America	finance, policy & planning	Launched in 2018, this project critiques Canadian climate policies through an Indigenous lens, emphasizing Indigenous leadership in climate governance. It provides recommendations for Indigenous-led policy development.	For Our Future: Indigenous Resilience Report, Case Story 7, p. 49

NA086	**Climate atlas in Nitassinan de Pessamit**	Innu (Quebec)	Canada	North America	participatory research; planning; indigenous knowledge	The Innu community in Quebec co-developed a climate change atlas integrating scienti fic and Indigenous knowledge, guiding climate adaptation planning, and ensuring Indigenous knowledge informs sustainable land management.	UQAM (2025). Lancement de l'Atlas Le temps qui change. https:// actualites.uqam.ca/2025/lancement-de-atlas-le-temps-qui-change/
NA015	**"Blue Ecology" – Interweaving Cultural Perspectives on Water**	Intertribal (Secwepemc and others in BC)	Canada	North America	Indigenous knowledge, water management, reconciliation	An Indigenous-led perspective on water and climate change advocating a "Blue Ecology" approach that interweaves Indigenous and Western science. First presented in 2008, this case study proposed reframing climate change from a "water-first" angle	Blackstock, M (2021). A vision for water reconciliation. https:// waterbucket.ca/wcp/2021/04/27/ methodology-for-blue-ecology-is-about-actual-work-of-interweaving-the-strengths-of-two-cultures-to-reconcile-them-it-is-time-for- first-nations-to-take-seat-at-environmental-policy-tables/ The Role of Hydrology in Water Resources Management (Proceedings of a symposium held on the Island of Capri, Italy, October 2008). IAHS Publ. 327.2009.
NA016	**Indigenous Climate Knowledge of the Inuit and Cree in Hudson Bay**	Inuit and Cree	Canada	North America	adaptation, traditional knowledge, forecasting	The traditional ecological knowledge of Inuit and Cree communities in the Hudson Bay region is shaped by direct experience, observation, and interaction with their environment. A community-led study involving thirty Inuit and Cree communities captured this knowledge to inform public policy and environmental decision-making, particularly regarding climate change impacts. Documented in "Voices from the Bay," these insights include forecasting weather, predicting seasonal changes, and adapting activities based on detailed understanding of clouds, stars, wind, ice, currents, and animal behaviors. Inuit expertise on sea ice is particularly detailed, with specialized terminology reflecting its importance for travel, hunting, and seasonal forecasting.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/ NWPStaging/Pages/item.aspx?ListItemId=23479 UNESCO, 'Voices from the Bay': Documenting and Communicating Indigenous Ecological Knowledge from the Hudson Bay Bioregion, UNESCO Best Practices on IK Canadian Arctic Resources Committee (CARC)
NA017	**"Weather Report" Documentary Film**	Inuit in Arctic Canada	Canada	North America	Local Impacts; Multimedia; Climate Awareness	A pair of one-hour documentaries and a feature film (Weather Report , 2007) examining the evolving impacts of climate change through human stories around the world, including Inuit in Arctic Canada. The film (by Sienna Films, funded by CIDA for CND$155,000) follows characters from an Inuit hunter in Nunavut to a climate negotiator, putting a human face on the climate crisis. It shows how North America's Indigenous peoples – among others in Haiti, Kenya, India, China – are on the front lines of climate impacts and how their fate connects to global climate politics. Aired on CBC's The Nature of Things in 2008, Weather Report brought Indigenous realities (like melting ice and traditional livelihoods at risk) to mainstream audiences. It remains a poignant snapshot of climate challenges and has since been used to stimulate discussion on climate justice.	"Weather Report" – The Nature of Things (CBC, 2008)
NA018	**Climate Change, Health, and Vulnerability in Northern Indigenous Communities**	Inuit of Nunavik (QC) & Nunatsiavut (Labrador)	Canada	North America	Health; Human Settlements	A collaborative health study (2006) assessing how climate change affects health in two subarctic Inuit communities. Led by Inuit regional agencies with Laval University, it combined Inuit knowledge and health science to identify climate-related health impacts	Climate Change, Health and Vulnerability in Canadian Northern Aboriginal Communities Christopher Furgal and Jacinthe Seguin Environmental Health Perspectives Vol 114 , No 12, December 2006

NA019	**Inuit Indigenous Youth report to UNFCCC COP-28**	Inuit, Nunavut	Canada	North America		Key Impacts: Extreme weather (winds up to 110 km/h, sudden blizzards) hampers traditional ways of life, adversely affecting education, mental health, and cultural practices. Community Perspective: Elders highlight rapid environmental changes, illustrating how intensifying climate impacts disrupt daily life and cultural continuity.	Summary Report COP 28 LCIPP Annual Youth Round Table Dialogue https://lcipp.unfccc.int/sites/default/files/2024-11/Annual%20Youth%20Round%20Table%20at%20COP%2028_Co-Leads%20Summary.pdf
NA020	**Beaufort Sea Climate Change Impact & Adaptation Project (Fish and Marine Mammals)**	Inuvialuit of the Beaufort Sea region (NWT, Canada)	Canada	North America	Local Impacts; Wildlife; Food Security	This community-informed research project (c. 2009-2010) on climate change impacts and adaptations for marine life vital to Inuvialuit subsistence in the Beaufort Sea examined how warming, sea-ice loss, and habitat shifts affect marine fish and mammals (e.g. char, ringed seals – a key food for polar bears and Inuvialuit)	Environmental Assessment and Saskatchewan's First Nations: A Resource Handbook. In Advance Guard (2010), case #311.
NA021	**Identifying Climate Change Impacts in Saskatchewan First Nations**	James Smith Cree, Shoal Lake Cree	Canada	North America	Land use, Water, Human settlements, observations & impacts	Through workshops and surveys, a holistic study in James Smith and Shoal Lake Cree Nations documented climate-related changes (e.g. altered precipitation and water levels, impacts on hunting and fishing) and evaluated each community's readiness to adapt	Climate Change and First Nations South of 60 http://www.cier.ca/information-and-resources/publications-and-products.aspx?id=1178
NA022	**Building climate resilience and adaptation in the Kainai First Nation**	Kainai	Canada	North America	traditional knowledge, storytelling, cultural practices, two-eyed seeing	The Kainai First Nation, in collaboration with The Resilience Institute and other partners, engaged in a participatory project to build climate resilience by blending indigenous knowledge with climate science. Conducted between 2016-2018, the project's initial phase focused on increasing community awareness about climate change, identifying short- and long-term climate risks, and developing a preliminary Local Early Action Plan (LEAP) for adaptation. By integrating indigenous and traditional knowledge, especially through respectful and culturally appropriate methods such as storytelling, prayers, and in-person dialogues, the initiative ensured community relevance and safeguarded sensitive cultural information. A key success of this approach was empowering the community, notably by giving a prominent role to women in leadership and decision-making processes. A female community member led the project locally and gained international recognition by co-presenting the community's work at a UNFCCC session. The collaborative and culturally grounded approach not only established a foundation of trust between indigenous and non-indigenous partners but also strengthened the community's capacity to manage climate risks, ultimately enabling further joint funding opportunities and leadership in community-based climate adaptation.	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=25524
NA023	**Kashechewan Relocation Delays**	Kashechewan First Nation (Cree)	Canada	North America	Human settlements, Adaptation, Relocation, lessons learned	Kashechewan, a low-lying First Nation on James Bay, faces annual spring flooding that forces mass evacuations. In 2005, and again in 2019, the Canadian government agreed to relocate the community to higher ground – but little progress has been made	CBC News (Sep 15 2024) : New chief of flood-prone northern Ontario First Nation asks for patience with long-delayed relocation https://www.cbc.ca/news/canada/sudbury/kashechewan-relocation-federal-government-fort-albany-1.7320358

NA024	**Cheakamus Community Forest**	Lil'wat Nation, Squamish Nation	Canada	North America	finance, carbon credits, forest management	Cheakamus Community Forest (CCF) includes 33,000 hectares of communitymanaged forest in British Columbia near Whistler and located on the overlapping, unceded traditional territories of the Squamish Nation and Lil'wat Nation. A community forest is a "forestry operation managed by a local government, First Nation, or community-held organization for the bene fit of the entire community". Community forests allow communities to practice sustainable forestry that provides local forest employment and generates economic, social, cultural and environmental bene fits. CCF implemented an Ecosystem-Based Management (EBM) Plan, which includes techniques such as extended harvest rotations, reduced harvest volumes, expanded reserves, protection of old growth forests, and protection of important wildlife habitat with the goal of achieving an appropriate balance between timber harvesting, tourism, cultural values, recreation, wildlife and biodiversity. Of the 33,000 ha of community-managed forest, almost half of the forest, 15,000 hectares, is protected from harvesting through mechanisms such as Old Growth Management Areas (nearly 50 per cent of the trees are designated old growth forest) and Ungulate Winter Range status designation plus voluntary set asides (CCF website). In April 2009, the Resort Municipality of Whistler (RMOW), Lil'wat and Squamish Nations entered an agreement with the Ministry of Forests and	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P27. CCF Website: https://www.cheakamuscommunityforest.com/
NA025	**Łutsël K'é Dene First Nation IPA**	Łutsël K'é Dene (Northwest Territories)	Canada	North America	land use, finance, forests, mitigation	Thaidene Nëné is a vast Indigenous Protected and Conserved Area established in 2019 to protect boreal ecosystems and way of life, exemplifying climate-friendly land stewardship. Led by Łutsël K'é Dene First Nation and agreed with territorial and federal governments, Thaidene Nëné keeps intact 26,525 km² of boreal forest, tundra, and freshwater ecosystems around the East Arm of Great Slave Lake	Equator Prize 2020. https://www.equatorinitiative.org/wp-content/uploads/2017/05/LKDFN-Case-Study-English-FNL_1.pdf
NA026	**Tracking Change in the Mackenzie River Basin**	McKenzie River Basin communities	Canada	North America	land use, water, monitoring	Indigenous Peoples in the Mackenzie River Basin have observed signi ficant shifts in water levels from 2010 to 2019, with decreased water levels followed by flooding. The "Tracking Change" initiative is a network of 30 Indigenous-led projects monitoring watershed governance.	For Our Future: Indigenous Resilience Report, Case Story 8, p. 51
NA027	**The connection between climate action and the protection of Métis rights**	Métis Nation	Canada	North America	policy & planning	During COP27 (2022), the President of the Métis National Council emphasized the importance of protecting Métis lands for future generations and leveraging their unique position to address the climate crisis. The Métis people's deep connection to the land, combined with their history of adaptation and resilience, positions them as valuable contributors to climate change solutions. Despite facing challenges such as increased forest fires, flooding, extreme heat, and vector-borne diseases, the Métis Nation is proactively developing programs and research to protect its citizens and advance climate leadership. A key development is the Métis National Council's National Climate Strategy, which outlines self-de fined climate change priorities and emphasizes the integration of traditional knowledge with contemporary climate action. Key components include: enhancing community resilience through culturally relevant adaptation measures; promoting sustainable land stewardship practices rooted in Métis traditions; addressing health impacts related to climate change; ensuring food security by revitalizing traditional harvesting and agricultural practices; and preserving biodiversity within Métis homelands.	For Our Future: Indigenous Resilience Report, Case Story 11, p. 66 Métis National Council Wildfire Workshop https://www.youtube.com/watch?v=fe45DiYvgd4 Métis Nation Climate Change Strategy (2024). https://www.metisnation.ca/uploads/documents/MNC-%20Climate%20Strategy%20Report%20-FNL%20digital-Part1.pdf

NA094	**Metis Nation Climate Change Strategy**	Métis Nation	Canada	North America	adaptation, policy, governance	The Métis Nation Climate Change Strategy is based on deeply held values about being rooted in the land and waters, driven by the heart, resilient and rights-based, and future-focused. Weaving Métis culture, language, storytelling, art, science, and policy together, the strategy provides a clear path forward on meaningful climate action. It includes five interconnected priority areas for action: 1. Nature Stewardship; 2. Sustainable Energy and Infrastructure; 3. Emergency Management and Climate Resilience; 4. Health and Well-being and 5. Economic Development and Prosperity.	Metis Nation (2024). The Metis Nation Climate Change Strategy. https://www.mnbc.ca/sites/default/ files/2024-06/MNC%20-%20Metis%20Nation%20Climate%20Change%20Strategy%20-%20FNL.pdf
NA028	**Indigenous law in action: The Listuguj Mi'gmaq Fishery**	Mi'gmaq	Canada	North America	Food security, policy & planning	In 1993, the Listuguj Mi'gmaq Government (LMG) enacted its own Fishing Law, asserting control over their traditional fishing practices without seeking approval from provincial or federal authorities. Outcomes include: improved sustainable management, focus on conservation (setting harvest limits and identifying protected areas), cultural preservation (emphasizes the deep connection between the Mi'gmaq people and the salmon) economic bene fits (employment opportunities) and expanded governance (has led to agreements in other areas such as education, policing, and forestry). The Listuguj Rangers, a group formed to protect Mi'kmaw fishing rights, play a crucial role in enforcing these laws.	For Our Future: Indigenous Resilience Report, Case Story 10, p. 65
NA029	**Mohawk Community Facing Adaptation Limits**	Mohawk	Canada	North America	impacts, adaptation, vulnerability, barriers	The Mohawk community of Kanesatake (Canada) has been studied as an example of the socio-political limits to adaptation. Despite community efforts, external factors – such as lack of land tenure, insurance, and supportive institutions – constrain their climate adaptation capacity	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Chapter 8: Poverty, Livelihoods, and Sustainable Development), p. 1224
NA030	**Oneida Energy Storage Project**	Mohawk, Oneida, Onondaga, Cayuga, Seneca, and Tuscarora	Canada	North America	Mitigation	The Oneida Energy Storage Project in Ontario is a 250 MW /1,000 MWh grid-scale battery facility built through a partnership comprising Six Nations of the Grand River Development Corporation (SNGRDC), Mississaugas of the Credit River Business Corporation, Northland Power, NRStor, and Aecon. This project reinforces grid reliability and supports Ontario's 90 percent clean-energy mix and is also a model of how Indigenous communities can assert economic sovereignty, stewardship, and rights through infrastructure that advances both local prosperity and climate resilience. The project received signi ficant funding from Natural Resources Canada and the Canada Infrastructure Bank. Expected to reduce emissions by 1.2–4.1 million tonnes over its lifespan.	Aecon (2025). https://www.aecon.com/press-room/news/2025/05/07/oneida-commences-commercial-operations
NA031	**Impacts on Winter Roads and Ice Conditions in Manitoba**	Multiple First Nations	Canada	North America	transport, adaptation	Community members across northern, central, and eastern Manitoba described that winter roads (ice crossings used to supply communities) are accessible for much shorter periods than in past decades	Natural Resources Canada Climate Change Research Database, Summary A1255: Climate Change Impacts on Winter Roads and Lake/ River Ice Conditions – Effects on First Nations Communities in Northern, Central and Eastern Manitoba and the Capacity to Adapt

NA032	**ANCAP "Energy Path finders" & First Nations View (CIER)**	Multiple First Nations (Canada's North)	Canada	North America	Adaptation; Capacity-Building; Energy; Transportation	A suite of initiatives was launched under the federal Aboriginal and Northern Community Action Program (ANCAP, 2007) to enhance climate adaptation in Indigenous and northern communities. Strategies included formalized awareness campaigns, development of adaptation frameworks for the North, and partnerships with Indigenous organizations	Re flections on Success – A Sustainable Future in a Changing Climate (CIER, 2007) https://yourcier.org/wp-content/uploads/2022/02/Z-reflections_on_success_-_english_3.pdf
NA033	**Salmon Vision**	Multiple First Nations (e.g., Gitanyow) in British Columbia	Canada	North America	adaptation; food security; biodiversity; two-eyed seeing	The "Salmon Vision" project is a partnership between coastal First Nations and scientists to monitor salmon runs in real time using AI	DeNies, R. (2023). Artificial Intelligence, Meet Indigenous Fishing Technology . Wild Salmon Center. https://wildsalmoncenter.org/2023/10/18/artificial-intelligence-meet-indigenous- fishing-technology/ Atlas et al (2023). Wild salmon enumeration and monitoring using deep learning empowered detection and tracking. Sec. Marine Fisheries, Aquaculture and Living Resources. Volume 10 - 2023. https://doi.org/10.3389/fmars.2023.1200408
NA034	**Silaup Aistjpallianinga: Access to Territory and Resources in Northern Quebec and Nunavik**	Multiple Inuit Communities	Canada	North America	Transport, Water, adaptation	The Nunavik region consists of 14 Inuit communities in Arctic Quebec. Hunters and elders reported that warmer temperatures and unpredictable freeze-thaw cycles were shortening the season for safe travel over ice and tundra, impeding access to hunting grounds and fishing areas. These changes also introduced new safety risks and food security concerns.	Silaup Aistjpallianinga Project https://caid.ca/CliChaImp2008.pdf
NA035	**Mushkegowuk Council Climate Strategy**	Mushkegowuk Cree communities, Ontario	Canada	North America	adaptation, traditional knowledge, policy & governance, land use	A regional strategy led by the Mushkegowuk Council, rooted in Cree law and environmental ethics. It focuses on enhancing climate governance across seven northern Ontario First Nations through community engagement, climate research, and integration of land-based knowledge systems. Strategic goals include strengthening adaptive capacity, ecosystem protection, and climate justice.	Mushkegowuk Council (2021); https://mushkegowuk.ca/climate-strategy
NA036	**Signals from the Forest Video**	Northern Canadian First Nations (Yukon and NWT; four cultural groups)	Canada	North America	land use, forests, Indigenous knowledge, Multimedia	A 16-minute video (released 2008) documenting Indigenous observations of environmental change in Canada's northern boreal forest. Led by CIER with participants from four distinct First Nations cultures (Yukon and Northwest Territories), the film shares elders' and land users' testimonies on changing weather, wildlife, and forest conditions. Observations in the video – warmer winters, unpredictable seasons, new insect outbreaks – align with expected climate impacts	Signals from the Forest Video http://www.cier.ca/information-and-resources/publications-and-products.aspx?id=430
NA037	**Northern Tutchone Climate Change and Traditions**	Northern Tutchone, Selkirk First Nation	Canada	North America	land use, food security	Examines how the Northern Tutchone integrate climate observations into their cultural and food traditions. It documents the impacts of climate change on caribou migration, water levels, and seasonal shifts.	For Our Future: Indigenous Resilience Report, Case Story 3, p. 38

NA038	**Pictou Landing First Nation and Environmental Displacement**	Pictou Landing First Nation (PLFN)	Canada	North America	Human settlements, land use, Environmental justice, Health impacts, Displacement	PLFN has faced ongoing environmental degradation due to industrial pollution. This case study highlights the impacts of pollution on health and community displacement, as well as advocacy efforts for environmental justice.	For Our Future: Indigenous Resilience Report, Case Story 4, p. 41
NA039	**Riel and Resilient: The Impact of Climate Change on Red River Métis Health**	Red River Métis	Canada	North America	observations & impacts, adaptation, health, cultural practices, policy & governance, two-eyed seeing, storytelling, women, biodiversity, forests, water, displacement, food security, forecasting	This research initiative, developed by the Health and Wellness Department of the Manitoba Métis Federation, aims to determine the effects of environment-related hazards on the Red River Métis population. Conducted in 2023, the project involved direct engagement with Red River Métis citizens across seven regions, gathering their perspectives through a self-administered, cross-sectional survey. The study assessed socio-demographic characteristics, perceptions about the environment, concerns about climate change and associated health hazards, and the role of the environment in the transmission and severity of infectious diseases. The findings are intended to guide culturally informed policy and program development for Red River Métis citizens and may inform similar work for other Indigenous and under-served populations. The project underscores the importance of integrating traditional Métis knowledge with contemporary research methods to address climate change impacts on health and well-being.	Riel and Resilient: The Impact of Climate Change on Red River Métis Health (2024). https://www.mmf.mb.ca/wcm-docs/docs/departments-health-wellness/rpt_climate_change_feb_07_2024_ts.pdf
NA040	**Environmental Assessment Resource Handbook (Saskatchewan First Nations)**	Saskatchewan First Nations (Prince Albert Model Forest)	Canada	North America	ocal Impacts; Capacity-Building; Policy	In 2008, IISD was contracted by PAMF's Aboriginal Caucus to consult community leaders and create an environmental assessment (EA) resource handbook to empower Saskatchewan First Nations in managing development impacts, including climate-related considerations. The handbook provides plain-language guidance on EA processes, how communities can be involved, and where to find resources	"Environmental Assessment and Saskatchewan's First Nations: A Resource Handbook" (IISD, 2008) http://www.iisd.org/pdf/2008/environmental_assessment_sask.pdf
NA041	**Emergency Preparedness in Seabird Island**	Seabird Island Band (Sq'éwqel), British Columbia	Canada	North America	Adaptation; Disaster Preparedness, human settlements	Seabird Island (a low-lying reserve in the Fraser Valley) experienced intense storms, floods and winter snows in the 2000s	Seabird Island Emergency Preparedness Plan http://www.seabirdisland.ca
NA042	**Unnatural Disasters – Colonialism, Climate Displacement, and Indigenous Sovereignty in Siksika Nation's Disaster Recovery**	Siksika Nation (Blackfoot Confederacy, Alberta)	Canada	North America	Human settlements, health	Historical injustices amplify climate impacts. Following a major flood in 2013, many evacuees remained displaced for years. Research has reframed the disaster as a product of colonial land dispossession and inadequate support, exacerbated by climate change. In response, Siksika leaders established the Dancing Deer Disaster Recovery Centre, which provides culturally safe support to address physical, mental, spiritual, and cultural needs. This approach embodies Indigenous sovereignty and resilience in disaster recovery.	Unnatural Disasters – Canadian Climate Institute Indigenous Perspectives Series (2021) climatechoices.ca/publications/unnatural-disasters/

NA043	**Squamish Nation – Forest & Land Management Plans**	Squamish Nation (Skwxwú7mesh Úxwumixw), British Columbia	Canada	North America	Forests; Land Use	The Squamish Nation advanced initiatives to reassert control over their traditional lands in BC through comprehensive land management plans. By 2010 they were already seeing reduced logging in sensitive areas. In 2018, Squamish Nation signed a landmark Reconcilation Agreement with BC that recognised their land-use plans and provided funding for environmental management. The 50,000 ha "wild spirit places" remain protected, and Squamish has expanded the concept – in 2022 they added another 18,000 ha of old-growth forest to their protected areas following nation-led mapping of biodiversity refugia. Co-management of parks has deepened: Squamish rangers patrol jointly with BC Parks, and Squamish language names and interpretive signs now greet visitors. The Nation also launched a "Restoration Economy" initiative, creating jobs for members in habitat restoration (salmon streams, forest thinning to reduce fire risk). Climate change impacts (like 2021's heat dome and wild fires) hit the region, but Squamish's proactive stewardship has mitigated damage on their lands and strengthened their voice – they were a key force in BC's 2021 decision to defer logging in all old-growth within Squamish territory.	Squamish Land Planning. https://www.squamish.net/community-initiatives/land-planning/
NA044	**Enhancing the Reintroduction of Plains Bison in Banff National Park**	Stoney Nakoda Nations	Canada	North America		Stoney Nakoda Nations undertook cultural monitoring of a bison reintroduction program in Banff National Park. The community emphasized the role of ceremony, cultural monitoring, and traditional ecological knowledge.	For Our Future: Indigenous Resilience Report, Case Story 14, p. 74
NA045	**Impacts on traditional food security on Indigenous Peoples in Canada**	sub-Arctic and southern First Nations	Canada	North America	observations & impacts, food security, wildlife, transport, health, beneficial effects	In sub-Arctic and southern Canadian communities, climate pressures such as unpredictable weather and shifting migration routes have compounded existing barriers like high food costs, remote location, and weaker food infrastructure. While hunting and fishing remain integral, warmer winters and changes in snow or ice coverage often require people to travel farther and pay more for supplies (e.g., gasoline, equipment) to harvest the same amount of wild game. Additionally, sub-Arctic and southern First Nations sometimes encounter land use regulations and development activities that diminish wildlife habitats, exacerbating the challenges of obtaining country foods. These regions also experience gradual loss of traditional knowledge when youth have fewer opportunities for harvesting and cultural practices. Consequently, the effects of climate change in sub-Arctic and southern Canada reinforce disparities in food availability, accessibility, and use, highlighting the urgency of culturally tailored interventions and policies to improve Indigenous food security.	Shafiee, M., Keshavarz, P., Lane, G., Pahwa, P., Szafron, M., Jennings, D. and Vatanparast, H., 2022. Food security status of indigenous peoples in Canada according to the 4 pillars of food security: a scoping review. Advances in Nutrition, 13(6), pp.2537-2558.
NA046	**Tahltan Nation's Environmental Stewardship Program**	Tahltan Nation, BC	Canada	North America	mitigation, resource monitoring, mining, forests, policy & governance	A comprehensive environmental governance initiative that enables the Tahltan Nation to monitor and manage mining development across their territories. Through the Tahltan Central Government's stewardship arm, the Nation conducts land assessments, baseline studies, and enforces Tahltan environmental laws to protect culturally and ecologically significant areas.	Tahltan Central Government; https://tahltan.org/department/department-of-land-resources
NA085	**Hishuk ish ts'awalk governance**	Tla-o-qui-aht First Nation	Canada	North America	salmon; watersheds; conservancies; carbon; Guardians; Clayoquot Sound	Since the 1984 declaration of Wahnah-jus–Hilth-hoo-is (Meares Island) as a Tribal Park, Tla-o-qui-aht has progressively applied the Nuu-chah-nulth law of hishuk *ish ts'awalk* ('everything is one') to land- and water-stewardship. By 2014, the Nation declared its entire *ḥaḥuułi* (territory) protected within four Tribal Parks, embedding 500-year plans for ecosystem-based forest management, watershed protection, salmon habitat restoration and a Guardian program. In June 2024, in partnership with Tla-o-qui-aht and Ahousaht, the Province of British Columbia announced 10 new conservancies (~76,000 ha) in Clayoquot Sound, aligning statutory protections with the Nations' land visions and strengthening co-governance. The Tribal Park Allies program secures an ecosystem service contribution from local businesses to fund stewardship, restoration, youth employment and community services. Blending ancestral stewardship laws with modern conservation protects salmon streams, old-growth forests and watersheds, while also strengthening carbon sinks and food security.	Tla-o-qui-aht Tribal Parks (2022). IPCA Knowledge Basket. https://ipcaknowledgebasket.ca/about/stories/tla-o-qui-aht-tribal-parks/
NA047	**Indigenous Climate Atlas**	Various Canadian Indigenous Communities	Canada	North America	Digital mapping, Climate projections	The Indigenous Climate Atlas, launched in 2022, is an interactive tool that allows communities to visualize climate projections and impacts in their regions. It includes climate data for over 630 First Nation reserves, more than 50 Inuit communities and climate projects across the Métis Homeland. A series of distinctions-based Indigenous documentaries were also developed with Elders, Knowledge Keepers and Indigenous organizations and communities.	For Our Future: Indigenous Resilience Report, Case Story 1, p. 29

NA048	**The Eyes and Ears for the Land and Water - Indigenous Guardians Programs in Canada**	Various Canadian Indigenous Communities	Canada	North America	water, land use, Indigenous stewardship	Across Canada, there are approximately 90 Indigenous Guardian programs (Baker, 2021), with early efforts dating back to 1981 with the establishment of the Haida Gwaii Watchmen off the west coast of British Columbia. This case study lists examples of Indigenous Guardians programs that build capacity, strengthen nationhood and employ Indigenous Peoples (Innu Nation, Nauttiqsuqtiit in Nunavut, Métis in Ontario, and NiHat'Ni in Northwest Territories).	For Our Future: Indigenous Resilience Report, Case Story 6, p. 47
NA049	**SevenGen: Empowering Indigenous Youth in Energy**	Various Canadian Indigenous youth groups	Canada	North America	energy, youth	SevenGen is a council composed of First Nations, Inuit and Métis youth from Nations and communities across Canada. The initiative empowers Indigenous youth to take leadership roles in sustainable energy solutions. It fosters capacity-building and networking opportunities in clean energy fields.	For Our Future: Indigenous Resilience Report, Case Story 2, p. 33
NA050	**First Nations Market Housing Fund**	Various First Nations (Canada)	Canada	North America	Adaptation, Human Settlements, Finance	A government-national fund (est. 2008) to improve access to financing for housing in First Nations, indirectly enhancing climate resilience through better housing infrastructure. The Fund (initial capital CND $300 million) supports initiatives enabling First Nation individuals to obtain loans for building or buying homes on reserve, while respecting communal land tenure	First Nations Market Housing Fund https://www.fnmhf.ca/
NA051	**Walpole Island First Nation Climate Change Evaluation**	Walpole Island First Nation (Bkejwanong Territory, Ontario)	Canada	North America	land use, water, food security, wildlife, health, two-eyed seeing	Walpole Island (Bkejwanong) First Nation, located in the Great Lakes region, identified threats such as changing lake levels, extreme weather, invasive species, and health stresses (e.g. heat waves)	Climate Change and First Nations South of 60 http://www.cier.ca/information-and-resources/publications-and-products.aspx?id=1178 WIFN Environment Dept. Climate Change Impacts and Adaptation Options (2009) – findings summary
NA052	**Seed Sowing – Indigenous Relationship-Building as Processes of Environmental Action**	Wisahkotewinowak Collective, Ontario	Canada	North America	land use, human settlements, food sovereignty, biodiversity, traditional knowledge	An Indigenous-led grassroots initiative is restoring food sovereignty and ecological health threatened by climate change through urban gardening and land reconnection. Community gardens are established on reclaimed lands, including a formerly church-owned sugar bush, to grow native plants and traditional foods. These spaces serve as hubs for Land-based learning, bringing Elders and youth together to revitalize Indigenous agricultural practices and relationships to land. Leveraging traditional knowledge for climate action results in co-benefits for reconciliation and education of non-Indigenous partners.	*Seed Sowing – Indigenous* Relationship-Building as Processes of Environmental Action (Canadian Climate Institute, 2021) climatechoices.ca/publications/seed-sowing-indigenous-relationship-building/
NA053	**"Land Unlocked" Documentary Film**	Yukon First Nations & Bolivia (cross-cultural)	Canada	North America	Local observations, cultural impacts	A 48-minute documentary (2007) exploring the cultural, social, and economic impacts of climate change on First Nations in the Yukon, paralleling impacts on Indigenous people in the Bolivian Andes. The film, produced by Northscape Productions (with CND$67,000 in CIDA support), drew connections between melting glaciers in Bolivia and thawing permafrost in northern Canada	"Land Unlocked" – Northscape Productions
NA054	**Yunesit'in First Nation Fire Stewardship**	Yunesit'in First Nation	Canada	North America	Fire management, cultural burning, biodiversity	The Yunesit'in First Nation revitalized their fire stewardship practices in 2017, reintroducing cultural burns to improve forest health and reduce wildfire risks. By 2021, more than 150 hectares had been burned in controlled, low-intensity fires. The program fulfills three community goals : 1) it strengthens cultural connection and well-being through revitalizing and sharing Indigenous Knowledge around fire; 2) it helps restore the health of the Land through Indigenous fire stewardship; and 3) fire stewardship is a way to respect traditional laws, reflecting responsibilities to the Land and future generations.	For Our Future: Indigenous Resilience Report, Case Story 13, p. 68

NA064	**Blue Lake Rancheria's Low-Carbon Resilience Initiative**	Blue Lake Rancheria Tribe (Wiyot), California	USA	North America	Mitigation, Energy	A small tribe's holistic climate action plan combines greenhouse gas reduction with disaster resilience, notably through solar-powered microgrids. Blue Lake Rancheria (pop. ~300) began strategic climate planning in 2008 and by 2015 was recognized by the White House as a Climate Action Champion	U.S. Climate Resilience Toolkit. "Blue Lake RancheriaTribe Undertakes Innovative Action to Reduce the Causes of Climate Change" (2015)
NA065	**Tribes address salmon declines in the US Paci fic Northwest**	Chehalis, Colville, and Yakama	USA	North America	land use, observations & impacts, cultural practices, biodiversity, water, legal	Paci fic salmon are vital culturally, economically, and ecologically for Indigenous peoples along North America's West Coast. Declining salmon populations, despite signi ficant recovery investments, are severely affecting Indigenous communities, disrupting cultural traditions, local economies, ecosystems, and threatening related species such as killer whales. In response, Indigenous communities, particularly tribes in Washington State, have exercised treaty rights to co-manage fisheries alongside government agencies, in fluencing regional conservation strategies. They've spearheaded initiatives such as removing dams (e.g., the Elwha River's Glines Canyon Dam), forming coalitions between tribes and farmers for land-use management, and creating innovative ecosystem-management tools to aid decision-making.	US Climate Resilience Toolkit Case Study (2020). https://localbiodiversityoutlooks.net/tribes-address-salmon-declines-in-the-us-paci fic-northwest/
NA066	**Loss of Freshwater in Paci fic Northwest (Salmon Lesions)**	Coast Salish Tribes (e.g. Tulalip, Paci fic NW USA)	USA	North America	Water, wildlife, food security	Indigenous observations of how climate change is diminishing freshwater resources and salmon health in the Paci fic Northwest. For centuries, salmon are central to Coast Salish cultures, so climate-driven declines are of grave concern	Keith Ridler (2015). Half of Columbia River sockeye salmon dying due to hot water. https://phys.org/news/2015-07-columbia-river-sockeye-salmon-dying.html Hanna, Jonathan M. (2007) Native Communities and Climate Change: Protecting Tribal Resources as Part of National Climate Policy, Natural Resources Law Center, University of Colorado
NA067	**Rethinking Resilience: Towards holistic approaches to drought management on Tribal lands**	Confederated Salish and Kootenai Tribes	USA	North America	drought	In September 2023, the National Oceanic and Atmospheric Administration's National Integrated Drought Information System (NIDIS) and the Confederated Salish and Kootenai Tribes (CSKT) co-hosted the "Workshop for Building Drought Resilience in a Changing Climate with Upper Columbia and Missouri Basin Tribes" on the Flathead Reservation in western Montana. This event brought together over 100 participants, including representatives from 16 tribal nations, federal agencies, state governments, academic institutions, and the private sector, to address the challenges of drought resilience on tribal lands. The workshop emphasized the importance of integrating traditional ecological knowledge with contemporary climate science to enhance drought resilience. Indigenous practices for reducing drought impacts have been highly successful. Key discussions focused on building mutual respect and understanding, adjusting federal funding procedures to better support tribal initiatives, investing in tribal workforce development, enhancing drought monitoring through culturally relevant methods, and sharing successful drought resilience stories among tribal communities.	NOAA (2024). Rethinking Resilience: Towards holistic approaches to drought management on tribal lands in the Upper Colombia and Missouri River Basins https://www.drought.gov/sites/default/files/2024-06/Workshop-Building-Drought-Resilience-Upper-Columbia-MRB-Tribes-Summary-Fact-Sheet.pdf

NA092	**Navajo Nation utility-scale solar for energy sovereignty**	Diné	USA	North America	mitigation, energy, human settlements	The Kayenta Solar facility is a first-of-its-kind large-scale renewable solar farm built on the Navajo Nation. It represents a vital milestone in the Navajo Nation's transition from a coal-based economy and infuses value in the local community in more ways than one, including ongoing tax revenues. During the construction of Kayenta Solar, the Navajo workforce was paid $5.2 million and received over 4,700 hours of specialized training in solar utility construction. The construction also generated $3,017,055 in taxes paid to the Navajo Nation. Overall, it is estimated that $15.6 million in economic activity occurred within the surrounding communities during the construction period.	Navajo Tribal Utility Authority (2024). 2024 Progress Report. https://www.navajonationcouncil.org/wp-content/uploads/2025/01/2024_NTUA_PROGRESS_REPORT_ final_web.pdf SRP (2025). SRP and Navajo Nation extend Kayenta Solar agreement. https://blog.srpnet.com/kayenta-solar-facility-expanded/
NA068	**Crow Canyon Archaeological Center Collaboration**	Hopi Tribe, Crow Canyon	USA	North America	Human Settlements; Culture	This collaborative initiative was begun in 2006 between archeologists and Pueblo Indian farmers to explore modern and ancient Anasazi agricultural systems and climate variability. Through experimental gardens and knowledge exchange, modern Pueblo youth learned how ancestral communities adapted to past climate shifts (droughts, etc.). The collaboration produced educational programs, including a video for Native students, illustrating traditional dryland farming techniques and resilience. It aimed to reinforce cultural knowledge and spark interest in heritage as a guide for future climate adaptation. Since 2008, Crow Canyon and Pueblo partners (including Hopi and Zuni farmers) have planted experimental plots of ancestral corn, using traditional methods. The data collected on yields, rainfall, and techniques has resulted in publications that help Pueblo communities adapt farming practices to current climate trends (e.g. selecting more drought-tolerant heritage corn strains). Pueblo youth participation grew via summer camps integrating archaeology and farming; many have gone on to lead community garden initiatives in their own pueblos. A documentary film about the project titled, "More Than Planting a Seed" was completed in 2016.	Crow Canyon Archaeological Center. Pueblo Farming Project (2008). https://crowcanyon.org/projects/the-pueblo-farming-project/ "More than planting a seed" (2016) [video] https://www.youtube.com/watch?v=2x23FF_kUyo
NA089	**Status of Tribes & Climate Change (STACC) Report, Volume 2**	Indigenous communities across the US	USA	North America	Indigenous Knowledge Systems; Adaptation & Resilience; Cultural Revitalization; Water security; cultural burning; Co-stewardship; Youth Leadership; Data Sovereignty; report	This nationally scoped, Indigenous-led assessment centers Indigenous Knowledge Systems as essential to climate responses and documents how Tribes and Indigenous communities are experiencing impacts and advancing solutions. Eight chapters span cultural preservation, water justice, the return of "good fire," youth leadership, political pathways for Indigenous-led conservation, and more, woven with community narratives and case studies (e.g., Swinomish "13 Moons" curriculum; Pueblo de San Ildefonso's climate action; Shawnee white corn and seed sovereignty; Native Hawai'i wildfire recovery; offshore wind planning in Humboldt). Cross-cutting messages emphasize reciprocal relations with Land and Water, data governance and consent (e.g., CARE principles), co-stewardship, and Indigenous sovereignty in policy and practice. | Convened by ITEP (NAU) with BIA support; 79 authors, a 17-member steering committee, and a four-tier peer-review process. Volume 2 (2025) updates the 2021 STACC report and uses respectful capitalization conventions (e.g., Land, Water).	Status of Tribes & Climate Change (STACC) Report, Volume 2 (2025). http://nau.edu/staccreport
NA070	**Indigenous Environmental Network – Native Energy & Climate Program**	Indigenous Environmental Network (IEN) – network of US tribes	USA	North America	Climate Justice; Energy; Advocacy	An ongoing program by the Indigenous Environmental Network aimed at building Indigenous capacity to address climate and energy issues. IEN's Native Energy & Climate Program focuses on strengthening Indigenous rights in the face of fossil fuel development, promoting just transition to clean energy, and opposing false solutions like carbon trading that commodify the sacred	IEN Climate Just Transition Program – https://www.ienearth.org/justtransition/

NA071	**Indigenous Remote Sensing Collaborative (IRSC)**	Indigenous Mapping Network (IMN) members (USA-based)	USA	North America	Community remote sensing, mapping, climate monitoring	A pilot initiative (circa 2009) to engage Indigenous communities in remote sensing for climate and environmental monitoring. Founded by the Indigenous Mapping Network, the Indigenous Remote Sensing Collaborative (IRSC) was a pilot initiative that aimed to make satellite imagery and mapping tools accessible for Indigenous stewardship	Indigenous Mapping Network. https://indigenousmapping.net/imnrscollab.html
NA073	**Karuk Tribe's Cultural Burns for Wild fire Resilience**	Karuk Tribe, Klamath River Basin, California	USA	North America	Mitigation, fire	A revitalization of the Karuk Tribe's Indigenous fire stewardship practices aims to reduce catastrophic wildfires and adapt to climate change in California's Klamath region. The Karuk Tribe has always maintained that applying frequent low-intensity fire (cultural burning) is essential for healthy forests and abundant foods (acorns, berries) in their 1.04 million-acre aboriginal territory	Frank K Lake (2025). In a First, California Tribe May Freely Burn Its Ancestral Lands. https://e360.yale.edu/digest/california-karuk-tribe-cultural-burns
NA074	**Menominee Tribe's Sustainable Forest Management**	Menomine e Tribe	USA	North America	mitigation, adaptation, forestry, stewardship	The Menominee people of Wisconsin, USA have managed their tribal forests sustainably for over 160 years, following an Indigenous land ethic. Known as "The Forest Keepers," they harvest timber in a way that the standing forest volume today exceeds that of 1854	IPCC AR6 WGIII Chapter 7, Box 7.8 (AFOLU), pp. 816–817
NA087	**Offshore Wind Planning in Humboldt County - Equitable Pathways for Tribal Inclusion**	Multiple Tribes in Humboldt County, California	USA	North America	energy; Indigenous rights; consultation; cultural impacts; transmission siting; microgrids; workforce development	Nearly 600 square miles off Humboldt and Morro Bay were auctioned in Dec. 2022 for floating wind—about 21 miles offshore—with a goal of providing ~13% of California's electricity by 2045. Local Tribes weigh potential impacts to marine life and transmission corridors against bene fits, noting power may bypass rural communities. Equitable actions outlined include establishing microgrids, creating workforce programs for Indigenous Youth, and initiating early, respectful consultation backed by legally binding community agreements; past cases like the Cape Wind con flict in Wampanoag waters illustrate pitfalls to avoid.	Status of Tribes & Climate Change (STACC) Report, Volume 2 (2025). Chapter 2, pp. 60-63. http://nau.edu/staccreport Pipa, T. (Host). (2024). Will offshore wind be good for Humboldt County, California? (No. 13) [Podcast]. https://www.brookings.edu/articles/will-offshore-wind-be-good-for-humboldt-county-california/
NA075	**Ecological Restoration at Daybreak Star Cultural Center**	Native American community in Seattle	USA	North America	adaptation, urban locations, youth	Seattle's Daybreak Star Indian Cultural Center—established after an Indigenous land -reclamation action in 1970—is restoring Discovery Park using native plants and stewardship practices grounded in Coast Salish teachings. The project improves storm -water retention, biodiversity and public access while re-embedding Indigenous presence in the cityscape. Volunteer work parties double as culture camps where Elders teach youth ethnobotany and traditional land-care, linking ecological recovery to cultural resurgence.	Indigenous Climate Hub (2023). Urban Indigenous-led climate adaptation pathways. https://indigenousclimatehub.ca/2023/02/urban-indigenous-led-climate-adaptation-pathways/ United Indians of All Tribes Foundation https://unitedindians.org/daybreak-star-center/

NA076	**Nez Perce "Tramway" Carbon Sequestration Project**	Nez Perce Tribe (Nimiipuu), Idaho, USA	USA	North America	Land Use; Finance, forests, carbon credits	The Nez Perce Tribe's Tramway Carbon Sequestration Project restores lands cleared for agriculture in the 19th century to native forest cover on the Nez Perce Reservation in Idaho. The project transforms 398.3 acres of non-regenerating farmland into forest through the planting of nursery-raised Ponderosa Pine (Pinus ponderosa) seedlings. This afforestation effort supports long-term carbon sequestration and contributes to biodiversity restoration, improved water quality, and cultural revitalisation. The Tribe commits to sustainable forest management over an 80-year period, including thinning and prescribed burns to maintain historically open forest structures that resist lethal wild fires. The project anticipated sequestering 205,165 metric tons of CO_2 equivalents (including biomass and soil carbon). Cultural and ecological bene fits include increased habitat for deer and native plant gathering for ceremonies and subsistence. The initiative sold carbon credits from 2007–2010 via CCX. Although the CCX platform closed in 2010, the Nez Perce Tribe continued reforesting former lands and accumulating carbon stocks. By 2020, they had planted over 380,000 trees on 2,137 more acreswith support from grants.	Northern Arizona Univ. Tribal Climate Pro file: Nez Perce (2010)
NA077	**Tribes and Climate Change (Institute for Tribal Environmental Professionals)**	Numerous U.S. tribes (through ITEP, NAU)	USA	North America	Awareness; Capacity-building	The ITEP Tribes & Climate Change website (launched ~2009 by Northern Arizona University) is a dedicated online resource and program to assist U.S. tribes with climate change information and planning, including profiles of how different tribes are responding to climate impacts, audio interviews with tribal elders, and a toolbox for developing adaptation and mitigation strategies	ITEP Tribal Climate Change Program (Northern Arizona University). https://www7.nau.edu/itep/main/tcc/
NA078	**Aanji-bimaadiziimagak o'ow aki**	Ojibwe Trive	USA	North America	observations & impacts, food security	This vulnerability assessment focuses on assessing the vulnerability of various beings - plants and animals signi ficant to the Ojibwe tribes - to climate change within the Upper Midwest Ceded Territories. For instance, manoomin (northern wild rice), integral to Ojibwe culture, is identi fied as highly vulnerable due to changing climate conditions. Similarly, odoonibiins (tullibee or cisco), a cold-water fish species, is also considered at risk.	Great Lakes Indian Fish and Wildlife Commission (2023): Aanji-bimaadiziimagak o'ow aki: Climate Change Vulnerability Assessment Version 2 https://www.usetinc.org/wp-content/uploads/2023/03/Aanji-bimaadiziimagak_o_ow_aki_digital_02212023-reduced.pdf
NA088	**Po' Who Geh Owinge (Where the Water Cuts Through)**	Pueblo de San Ildefonso, New Mexico	USA	North America	adaptation; cultural heritage; water stewardship; Youth/Elder knowledge transfer; invasive species removal; wildfire mitigation	The Pueblo's community-built Climate Action Plan organizes priorities through a "Four Quadrants" vision—Traditional Activities, Traditional Places, Community Health, and Infrastructure/Governance—braided with cross-cutting themes such as traditional knowledge, language, spiritual health, water, income, and food sovereignty. Implementation underway includes documenting Elders' climate-resilient agricultural practices on a Youth-accessible site, protecting sacred springs by removing tamarisk/Russian olive and fencing out cattle, and reducing wild fire risk around homes, infrastructure, and sacred sites; a public story map and the knowledge-transfer website make the approach replicable.	Status of Tribes & Climate Change (STACC) Report, Volume 2 (2025). Chapter 2, pp. 66-67. http://nau.edu/staccreport Story Map: https://abtmeetings.com/climatechangeplan/ Knowledge Transfer site: https://abtstories.com/pueblo/index.html
NA079	**Pueblo of Jemez Solar Project**	Pueblo of Jemez, New Mexico	USA	North America	mitigation, energy, finance	The Pueblo of Jemez in New Mexico initiated a project to develop a 3 MW solar power plant using concentrating photovoltaic technology. Expected to produce enough electricity to power 600 homes and offset over 278,876 tons of CO_2 over its service life, the project aims to generate revenue for infrastructure improvements and community services. The estimated $22 million dollar project (financed through government grants, loans and tax credits, with additional in-kind help from engineers and legal firms) is expected to bring in roughly $25 million over the next 25 years.	Pueblo of Jemez Solar Project https://www7.nau.edu/itep/main/tcc/Tribes/sw_jemez

NA080	**Sioux Wind Project – Alex "Little Soldier" Turbine**	Rosebud Sioux Tribe (Sicangu Oyate), South Dakota	USA	North America	Mitigation; Renewable Energy; Livelihood	This turbine was the first utility-scale wind turbine installed by a Native American tribe in the United States (2003), pioneering tribal renewable energy development. After years of preparation (wind monitoring since 1995, grant applications, and financing deals), the Rosebud Sioux erected the 750 kW "Alex Little Soldier" turbine on their reservation	US department of Energy. Rosebud Sioux Tribe - 2010 Project. https://www.energy.gov/indianenergy/rosebud-sioux-tribe-2010-project
NA090	**Shawnee White Corn (lokhaana taami) - Seed Sovereignty under Climate Stress**	Shawnee Tribe, Oklahoma	USA	North America	food sovereignty; seed governance; climate impacts; heat & flooding; cross-pollination; adaptation	Widespread ethanol/feed corn expansion since the late 1990s in northeastern Oklahoma led to cross-pollination that imperiled Shawnee ceremonial flour corn grown in household gardens. Climate extremes are compounding the crisis - torrential spring rains and flooding force replanting, and 2023 heat indexes exceeded 115°F - driving recent losses of lokhaana taami. In 2023 the Tribe partnered with the University of Illinois Arboretum to grow Shawnee white corn in central Illinois to secure seedstock under more suitable conditions, while raising concerns about protecting Tribal intellectual property over seeds' genomic data—highlighting how seed sovereignty intersects with climate, policy, and culture.	Status of Tribes & Climate Change (STACC) Report, Volume 2 (2025). Chapter 2, pp. 58–61. http://nau.edu/staccreport
NA091	**13 Moons Curriculum - First Foods Education as Climate Adaptation**	Swinomish	USA	North America	adaptation; education; first foods; intergenerational knowledge; language revitalization; Indigenous health; indigenous knowledge; report	Beginning with a community health assessment that elevated x̌ə̓čusadad (education) as the top adaptation priority, the Swinomish developed the 13 Moons curriculum (SITC, 2006). Named for the seasonal harvest calendar, each moon includes 2–3 activities on first foods and technologies, with Lushootseed vocabulary, Elder-to-Youth knowledge transfer, and environmental-health connections built into complete lesson plans. The program advances climate resilience through eight guiding principles (e.g., culturally relevant frameworks, place-based resources, intergenerational learning, honoring language, and adaptable modules), strengthening culture, food systems, and health as climate impacts accelerate.	Status of Tribes & Climate Change (STACC) Report, Volume 2 (2025). Chapter 2, pp. 56*57. http://nau.edu/staccreport Swinomish Climate Adaptation Action Plan 10 Year Progress Update (2023). https://static1.squarespace.com/static/5bf49ed7aa49a1587719f80f/t/64d567e03afd9e28a110cc1a/1691707404919/20230808_CAAP__withAppendixA_FINAL.pdf
NA081	**The Swinomish Indian Tribal Community Prepares for Climate Change Impacts**	Swinomish Indian Tribal Community (Coast Salish)	USA	North America	Human settlements; Oceans and coastal zones; Water; health	A coastal Swinomish community assessed climate change impacts such as sea-level rise and habitat loss that threaten vital "first foods" (shellfish, salmon). Through mapping sea-level projections, community engagement, and health/cultural risk evaluations, they produced adaptation strategies focusing on protecting nearshore habitats, reducing vulnerability, and safeguarding key cultural resources. Their approach integrates scientific data and traditional ecological knowledge.	US Climate Resilience Toolkit (2015) toolkit.climate.gov/case-study/swinomish-indian-tribal-community-prepares-climate-change-impacts
NA082	**Tulalip Tribes Climate Adaptation Plan**	Tualip Tribes	USA	North America	adaptation, food soverignty, health, policy & planning	In response to climate change impacts on their traditional territories in Washington State, the Tulalip Tribes developed a Climate Adaptation Plan. Adopted in 2015, the plan aims to enhance community resilience by integrating traditional knowledge with scientific research. It focuses on preserving treaty resources, protecting culturally significant species, food soverignty, energy security, and ensuring the health and well-being of the Tulalip people. The plan serves as a framework for proactive climate action and sustainable resource management. They note that a key assumption in thinking about and applying adaptation measures is that the Tribes adapt throughout their daily routines. This climate adaptation planning effort is simply a more deliberate consideration of how and why they adapt to climate change.	Tulalip Tribes Natural Resources – Climate Change Adaptation (2015) https://nr.tulaliptribes.com/Topics/ClimateChange/ClimateChangeAdaptation

NA083	**Yurok Tribe Forest Management, Carbon and Land Buy-back Program**	Yurok Tribe	USA	North America	finance, carbon credits, forest management	In 2011, the Yurok Tribe became one of the first participants in the California Cap and Trade Program. Carbon credits are generated based on reduced timber harvest and improved management that reduces forest fires. Currently, the Yurok Tribe manages two Improved Forest Management projects referred to as Phase 1 and the CKGG projects, totalling over 30,000 acres of pristine forest lands. The forward-looking projects have put the Tribal government in a position to significantly advance its social, economic, cultural and environmental restoration goals. Selling 100-year contracts for forest offsets under Cap-and-Trade Program has enabled the Yurok Tribe to re-acquire approximately 50,000 acres of forest within the Yurok ancestral territory from a large timber company and others. Located near the Klamath River, these lands are holistically managed to achieve several objectives, including: carbon sequestration, old growth forest restoration, watershed restoration and sediment reduction, anadromous fisheries restoration, cultural preservation, endangered species protection and climate change resilience. In addition, these lands are once again accessible to tribal members for cultural uses, such as gathering basket making materials as well as traditional medicines and foods. The Yurok have been using revenue generated from the offset project to pay off loans, buy- back their traditional territory, and train staff to continue the project over the next 100	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P31. Yurok Tribe Website: https://www.yuroktribe.org/ Equator Initiatve: https://www.equatorinitiative.org/wp-content/uploads/2019/07/Yurok-Tribe-Case-Study-English-FNL.pdf
NA084	**Isle de Jean Charles Resettlement**	Jean Charles Choctaw Nation	USA (Louisiana)	North America	Human settlements, Adaptation, Relocation, lessons learned	In 2016, the Isle de Jean Charles band (Biloxi-Chitimacha-Choctaw) secured $48 million in federal funds to relocate off their sinking bayou island – one of the first US climate relocation efforts. However, the state-led resettlement (New Isle) diverged from the Tribe's plan. Tribal leaders were cut out of decision-making, cultural features were dropped, and only 32 houses were built – with construction quality issues. Many citizens ended up dissatisfied or ineligible. By 2023, the project had neither reunified the community nor fully evacuated the island. The Tribe's Chief branded it *"a failure"* that disrespected their sovereignty. In 2023, the Tribe filed a civil rights complaint to the US Department of Housing and Urban Development, claiming that the Tribe was sidelined in decision-making for the new site and that the program's requirements and scope did not reflect the Tribe's cultural, communal, and spiritual needs. Many members of the Isle de Jean Charles Biloxi-Chitimacha-Choctaw Tribe continue to express concerns about cultural continuity, the adequacy of the new relocation site, and whether the new settlement will serve as a genuine tribal community center.	Jessee (2022) Reshaping Louisiana's coastal frontier: managed retreat as colonial decontextualization https://doi.org/10.2458/jpe.2835

The Pacific

OLD-ID	Title	IP	Country	Region	Keywords	Summary	Further Information
PA001	**Climate Impacts, Adaptation and Vulnerability in Australasia & Oceania**		__Regional Overview (IPCC)	Pacific Islands, Australia & New Zealand		In Australia, Indigenous communities, particularly those in northern regions, are confronting severe climate-related challenges such as sea-level rise, coastal erosion, and increased intensity of cyclones. These environmental changes threaten sacred sites, disrupt traditional land management practices, and pose risks to livelihoods and cultural heritage. Traditional fire management techniques, such as controlled burning, have been revitalized to reduce wild fire risks and maintain biodiversity. Despite the effectiveness of these practices, Indigenous communities often face socio-economic disadvantages and are underrepresented in climate policy discussions. The AR6 advocates for the integration of Indigenous knowledge into national adaptation strategies and calls for policies that support Indigenous-led initiatives. Indigenous communities in Paci fic Island nations are facing existential threats due to climate change, including sea-level rise, coastal erosion, and increased frequency of severe weather events such as cyclones. These environmental changes jeopardize homes, livelihoods, and cultural practices deeply tied to the land and sea. Traditional knowledge plays a crucial role in adaptation strategies, with communities employing practices such as the construction of seawalls using local materials, cultivation of salt-resistant crops, and sustainable fishing techniques to cope with changing marine ecosystems. However, the scale of climate	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.
PA002	**Pacific Adaptation to Climate Change Project (PACC)**	Communities in 14 Pacific Islands	_Regional	Pacific Islands, Australia & New Zealand	oceans & coastal, adaptation, water	The Paci fic Adaptation to Climate Change (PACC) Project, 2009-2015, was a significant climate change adaptation effort across 14 Pacific island countries.One of the few projects globally to access the Special Climate Change Fund of the GEF, it secured USD 13.125 million of adaptation funding for the region. Its primary goal was to reduce vulnerability and enhance adaptive capacity in key development sectors: coastal zone management, food security and production, and water resources management. The project emphasised strengthening institutional and community capacities by providing training and resources to local stakeholders. Outcomes from the project included policy mainstreaming (integration of climate change considerations into national policies and planning processes); coastal management pilot projects (e.g. Ta fitoala villagers in Samoa built sea walls to protect coastal infrastructure from erosion and sea-level rise); food security (e.g.the Tailevu-Rewa and Serua-Namosi provinces in Fiji promoted climate-friendly farming practices and improved drainage systems in lowland areas); and water resource management (e.g. in the Hihifo District of Tongatapu, Tonga, water infrastructure was upgraded to improve water collection and storage).	Pacific Adaptation to Climate Change (PACC) Programme https://www.sprep.org/pacc
PA003	**Capacity Building to enable the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC)**	Communities in 4 Pacific Islands (Cook Islands, Fiji, Samoa, Vanuatu)	_Regional	Paci fic Islands, Australia & New Zealand	oceans & coastal, adaptation, water, human settlements	This $2m Canadian Development Agency (CIDA) initiative was executed by SPREP, involving 16 communities in four countries: Cook Islands, Fiji, Samoa and Vanuatu. Successful community-driven adaptation strategies included the installation of rainwater harvesting systems in Samoa to secure drinking water, the construction of seawalls in Fiji and Vanuatu to protect against coastal erosion, and the development of cyclone-resistant housing in the Cook Islands.	SPREP: Capacity Building for Adaptation Measures (CBDAMPIC) Project (2006). https://www.sprep.org/att/publication/000562_CBDAMPIC.pdf
PA004	**Sharing Community Stories: The Paci fic Climate Change Film Project**	Communities in 5 Paci fic Islands (Fiji, Kiribati, Tonga, Tuvalu, Vanuatu)	_Regional	Paci fic Islands, Australia & New Zealand	human settlements, adaptation, impacts, storytelling	The Pacific's first Climate Change Film Festival (2008) was organized by SPREP and the British High Commission to train local media in five countries to capture community climate stories. It produced short films by Pacific Islanders illustrating climate impacts on their lives and cultural heritage, and their adaptation solutions. These videos empowered indigenous voices to be shared regionally and internationally and have been followed by other documentaries that provide forst-hand perspectives of communities.	SPREP: Pacific Climate Change Film Project (2008) https://www.sprep.org/publications/paci fic-climate-change-film-project-progress-report-and-project-update There Once Was An Island: Te Henua e Nnoho (2010) [film] https://www.newday.com/ films/there-once-was-an-island-te-henua-e-nnoho Rising Waters (2021) [film] https://itvs.org/films/rising-waters/

PA005	**Paci fic Mangroves Initiative (PMI)**	Communiti es in 6 Paci fic Islands (Fiji, Vanuatu, Papua New Guinea, Samoa, Solomon Islands and Tonga)"	_Regional	Paci fic Islands, Australia & New Zealand	oceans & coastal, impacts, land use	The Paci fic Mangroves Initiative (PMI) is an Indigenous-led project working across Paci fic island communities to protect and restore mangrove ecosystems as a frontline defense against climate change impacts. Mangroves are essential for reducing coastal erosion, providing habitat for marine biodiversity, and buffering communities from increasingly severe storms and sea-level rise. By combining traditional ecological knowledge with contemporary scienti fic approaches, PMI has successfully restored degraded mangrove areas, enhancing local resilience, food security, and livelihoods. Adaptation strategies have included community-based mangrove nurseries, capacity-building workshops that integrate Indigenous knowledge and Western science, and establishing locally managed marine areas to safeguard critical habitats. Through these initiatives, PMI has strengthened community leadership and governance, improved adaptive capacity, and promoted sustainable fisheries management.	Global Mangrove Alliance. https://www.mangrovealliance.org/paci fic-mangroves-initiative/
PA006	**Indigenous Peoples perspectives project**	Indigenous peoples in Fiji and Papua new Guinea	_Regional	Paci fic Islands, Australia & New Zealand	policy & governance; biodiversity; traditional knowledge; technology transfer; two-eyed seeing	Climate change poses a substantial danger to their livelihoods, cultures and ecosystems in the Paci fic. Raising temperatures, changed rainfall, patterns, and increase regularity of delightful weather events have resulted in the degradation of forests, loss of biodiversity, and disruptions to traditional ways of life. The indigenous peoples and communities comprises of various tribes have been mobilising to address these challenges by integrating traditional ecological knowledge with modern conservation techniques to enhance resilience to climate impacts. One notable initiative by Paci fic indigenous peoples that integrates traditional knowledge with contemporary technology for forest and ocean monitoring and protection is the "Indigenous peoples perspectives project" in places like Fiji and Papua new Guinea. This initiative involves the use of geographic information systems (GIS) and remote sensing technology couple with traditional ecological knowledge, to map and manage forest and marine resources. By employing GIS technology, indigenous communities can analyse spatial data for better resource management and conservation efforts. Simultaneously, traditional ecological knowledge such as understanding seasonal patterns, species behaviour, and sustainable harvesting practices, argument this scienti fic approach, ensuring that management strategies and culturally relevant and ecologically sound.	Regional submission
PA007	**People on Country, Healthy Landscapes and Indigenous Economic Futures**	Aboriginal and Torres Strait Islander communiti es	Australia	Paci fic Islands, Australia & New Zealand	adaptation; health	The People on Country, Healthy Landscapes and Indigenous Economic Futures project aimed to transfer skills to land and sea management groups to address two major issues: how their activities were improving Aboriginal and Torres Strait Islander well-being, and delivering better natural resource management on Aboriginal and Torres Strait Islander land and sea Country. The program has seen lasting legacy in the form of a book, People on Country, vital landscapes, Indigenous futures (2012), which features contributions from all participating partners and researchers.	ANU CAEPR: People on Country project https://caepr.cass.anu.edu.au/poc/project-overview
PA008	**Indigenous Weather Knowledge Website Project**	Aboriginal and Torres Strait Islander communiti es	Australia	Paci fic Islands, Australia & New Zealand	observations & impacts, forecasting	The Bureau of Meteorology's Indigenous Weather Knowledge site was launched in 2002 as a joint partnership between the Bureau, the Aboriginal and Torres Strait Islander Commission (ATSIC) and Monash University's Centre for Indigenous Studies. Aboriginal people of central and northern Australia have preserved intimate knowledge of plant and animal cycles over thousands of years, linking natural events to seasonal changes. For example, the flowering of certain plants signals the onset of the Dry Season. These seasonal calendars – unique to different language groups – have been documented and are displayed on the Australian Bureau of Meteorology's Indigenous Weather Knowledge (IWK) website.	Bureau of Meteorology: Indigenous Weather Knowledge website http://www.bom.gov.au/iwk/
PA009	**First Nations Clean Energy Network**	Aboriginal and Torres Strait Islander Communiti es	Australia	Paci fic Islands, Australia & New Zealand	adaptation, energy, policy & governance, finance, legal action, two-eyed seeing	The First Nations Clean Energy Network (FNCEN) is an Indigenous-led initiative aiming to ensure First Nations communities are at the centre of Australia's transition to clean energy. Launched in 2021, the Network is co-founded by Original Power, the Indigenous Land and Sea Corporation (ILSC), and the Australian Council of Social Service (ACOSS). It provides policy advocacy, legal and technical advice, training and capacity-building, and community-to-community learning platforms. The FNCEN works to secure equity in project ownership, create community energy opportunities, and protect Country and culture. Their goal is to ensure that Indigenous Peoples lead and bene fit from the clean energy economy through rights-based, culturally aligned, and community-controlled frameworks.	First Nations Clean Energy Network https://www.firstnationscleanenergy.org.au/

PA106	**Aboriginal & Torres Strait Islander Peoples' voices and engagement in the IPCC**	Aboriginal and Torres Strait Islander communities	Australia	Pacific Islands, Australia & New Zealand	Indigenous Knowledges; authorship; policy reform; anti-tokenism; knowledge protection; report; policies; submission	Commissioned advice to inform IPCC AR7 planning calls for an Indigenous-focused section in AR7, increasing and recognising Indigenous Lead Authors with minimum targets, avoiding "stakeholder" framing, and protecting Indigenous knowledge. It outlines practical ways the Australian Government can lobby within IPCC processes and fund Indigenous-led climate research and communications.	Aboriginal and Torres Strait Islander Peoples' voices and engagement in the Intergovernmental Panel on Climate Change: Advice to inform the Australian Government towards Assessment Report 7 (2023). https://public-health.uq.edu.au/ipcc-voices
PA010	**Seed Indigenous Youth Climate Network**	Aboriginal and Torres Strait Islander youth	Australia	Pacific Islands, Australia & New Zealand	Adaptation; Mitigation	Established in 2014, the Seed network is Australia's first Indigenous youth-driven climate movement. It empowers young Aboriginal and Torres Strait Islanders to advocate for climate justice, run community education on renewable energy and sustainable land care, and campaign against fossil fuel projects that threaten Country. An example product is a video traveling to Broome, Derby, Fitzroy Crossing, Kununurra, and Wyndham, talking to community members about the climate impacts they're already experiencing and sharing information about the risks of fracking and the corporations who plan to frack and profit off, their country.	Seed Mob https://www.seedmob.org.au/ Seed's Kimberley Road Trip https://vimeo.com/969563507
PA011	**Impacts of climate change on health of Indigenous Australians**	Aboriginal communities	Australia	Pacific Islands, Australia & New Zealand	observations & impacts, health	The Australian Government's National Health and Climate Strategy, released in 2023, acknowledges the disproportionate impacts of climate change on the health of Aboriginal and Torres Strait Islander peoples. Housing issues such as overcrowding and poor infrastructure contribute significantly to ill-health and poor wellbeing. An important contributor to the health and wellbeing of Aboriginal and Torres Strait Islander people is access to sufficient, working and regularly maintained infrastructure in housing and communities, including health hardware, clean water supply, sewerage and electricity, which support and encourage healthy living practices for hygiene, safety and nutrition. The strategy emphasizes the need for adaptation approaches that empower Indigenous wisdom and leadership to address health challenges exacerbated by climate change.	Australian Indigenous HealthInfoNet. https://healthinfonet.ecu.edu.au/learn/determinants-of-health/environmental-health/latest-information-and-statistics-on-environmental-health/
PA012	**Cultural Licence to Operate**	Aboriginal communities	Australia	Pacific Islands, Australia & New Zealand	Adaptation; Mitigation	This Indigenous-led study emphasizes the urgent need for industries, especially those within the Blue Economy, to earn a Cultural Licence to Operate (CLO) by meaningfully partnering with Indigenous Peoples. Central to addressing climate change and environmental sustainability, the CLO framework is built around seven pillars aimed at fostering genuine collaboration, trust, fairness, and co-beneficial outcomes between Industry and First Nations. By flipping traditional corporate responsibility paradigms, industries are encouraged to directly engage Indigenous communities, enhancing legitimacy, maximizing competitive advantage, and driving systemic transformation necessary for climate resilience. Achieving this partnership requires whole-system change, including building trust, implementing culturally-informed education, establishing guiding frameworks, and strengthening Indigenous leadership roles.	Blue Economy CRC (2024). Cultural licence to operate. https://blueeconomycrc.com.au/project/cultural-licence-to-operate-in-the-blue-economy/?_hsmi=309342052 Cultural Licence to Operate (2024) [video]. https://youtu.be/bUu--3RkIns
PA013	**Bushlight**	Aboriginal communities (Central & Northern Australia)	Australia	Pacific Islands, Australia & New Zealand	energy, adaptation; mitigation, traditional knowledge	Bushlight was an initiative (2002–2013) providing renewable energy systems to remote Indigenous communities. It installed solar power and efficient appliances in over 150 communities across NT, WA, and Queensland. By incorporating traditional knowledge of living off-grid and training local people in maintenance, Bushlight reduced diesel generator use, cut emissions, and improved community well-being with reliable electricity for homes, schools, and health clinics.	UNU-IAS TKI (2009). A Carbon Guide for Northern Indigenous Australians. https://i.unu.edu/media/tfm.unu.edu/publication/807/Australian-Carbon-Guide.pdf
PA014	**Our Knowledge Our Way**	Aboriginal communities (Northern Australia)	Australia	Pacific Islands, Australia & New Zealand	traditional knowledge, policy & governance	Building upon the foundations of the Sharing Knowledge Project, the 'Our Knowledge Our Way' guidelines were developed to facilitate Indigenous-led approaches to strengthening and sharing knowledge for land and sea management. These guidelines, resulting from collaborations among Indigenous leaders, CSIRO, and other partners, provide best practice examples from across Australia, supporting Traditional Owners in integrating their knowledge systems into environmental management.	CSIRO Our Knowledge Our Way. https://www.csiro.au/en/research/indigenous-science/Indigenous-knowledge/Our-Knowledge-Our-Way/OKOW-resources

PA015	**Biosequestration and Natural Resource Management, Far North Queensland**	Aboriginal communities (Northern Australia)	Australia	Pacific Islands, Australia & New Zealand	land use, miitgation, finance	The Wet Tropics Biosequestration Project under Terrain NRM aimed to develop carbon credits via integrated regional natural resource management by local landholders, including an Aboriginal group. Based on Terrain's 2004 Regional Plan "Sustaining the Wet Tropics," it sought to store carbon through reforestation, assisted natural regeneration, avoided deforestation, and sustainable agriculture, while also preserving biodiversity. By 2010, participating landholders had field-tested methods and agreed in principle to contractually sell biocarbon (carbon stored on their lands).	UNU-IAS TKI (2009). A Carbon Guide for Northern Indigenous Australians. https://i.unu.edu/media/tfm.unu.edu/publication/807/Australian-Carbon-Guide.pdf
PA016	**Land Management Practices in Australia and carbon offsets**	Aboriginal communities (Western Australia)	Australia	Pacific Islands, Australia & New Zealand	mitigation, traditional knowledge, carbon credits, finance; land use	The Indigenous Land and Sea Corporation (ILSC) has been actively supporting carbon farming initiatives among Indigenous communities. A discussion paper from 2022 highlighted 39 Indigenous-owned and operated carbon projects across Australia, including 35 savanna fire management projects in northern regions and four vegetation projects elsewhere. Collectively, these projects were valued at approximately $53 million annually.	Indigenous Participation in the Carbon Industry (2022). https://www.ilsc.gov.au/wp-content/uploads/2022/05/Indigenous-participation-in-the-carbon-industry.pdf
PA017	**Arnhem Land Fire Abatement**	Arnhem Land Traditional Owners	Australia	Pacific Islands, Australia & New Zealand	ALFA - an Aboriginal-owned and not-for-profit carbon farming business - was designed by Traditional Owners in Arnhem Land to support their engagement in the carbon industry. All the income generated through the sale of carbon credits is reinvested to support Aboriginal rangers and Traditional Owners to deliver land management goals as well as broader community development aspirations. ALFA is the registered proponent for 6 carbon projects which generate Australian Carbon Credit Units (ACCUs) through the savanna burning	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P12. ALFA Website: https://www.alfant.com.au/	Report
PA018	**Youth Verdict**	Australian & Torres Strait Islander Communities	Australia	Pacific Islands, Australia & New Zealand	Youth Verdict blocked development of the Waratah coal mine, which would have accelerated climate change in Queensland, destroyed the nearly 20,000-acre Bimblebox Nature Refuge, added 1.58 billion tons of CO2 to the atmosphere over its lifetime, and threatened Indigenous rights and culture. Their case, which overcame a 2023 appeal, set a precedent that enables other First Nations people to challenge coal projects by linking climate change to human and Indigenous rights.	Goldman Prize (2024). https://www.goldmanprize.org/recipient/murrawah-maroochy-johnson/ Youth Verdict. https://www.youthverdict.org.au/	Project document
PA019	**Factors enabling fire management outcomes in Indigenous Savanna fire management projects in Western Australia**	Balanggarra, Dambimangari, Wilinggin, Wunambal Gaambera Traditional Owners, WA	Australia	Pacific Islands, Australia & New Zealand	Land use, finance, Cultural burning, Wildfire prevention, Savanna, Carbon credits, Traditional knowledge	This model of traditional land management yields climate benefits, conserves biodiversity, and earns carbon credits. It has influenced other savanna-burning projects worldwide. Aboriginal ranger groups reintroduced early dry season controlled burns, drastically reducing destructive late-season wild fires. Comparing fire metrics between baseline (2001–2011) and project years (2012–2022), reveals that after a decade of implementation, large wildfires (>40,000 ha) have dropped significantly. he fire regime on Traditional Owner lands has improved significantly, enabled by the emergence of land and sea management, carbon markets, support of partner agencies, and the securing of land rights, although a minimum of 4 years of fire management was required before significant changes in fire metrics were observed. The practice protects biodiversity and yields carbon credits through lower greenhouse gas emissions. T The approach is part of Healthy Country Plans and exemplifies Indigenous-led fire stewardship for climate mitigation and adaptation.	Vigilante et al (2024), Factors enabling fire management outcomes in Indigenous Savanna fire management projects in Western Australia. International Journal of Wildland Fire 33, WF24092. https://doi.org/10.1071/WF24092

PA020	**Science, Indigenous knowledge and AI weave environmental magic**	Bininj (NT)	Australia	Paci fic Islands, Australia & New Zealand	observations & impacts, two-eyed seeing	Microsoft is partnering with Kakadu National Park rangers and Australia's national science agency, CSIRO, in a pioneering program that is mixing arti ficial intelligence and modern science with traditional knowledge to solve complex environmental management problems, and care for animal species and habitats. Focusing on Kakadu, in the Northern Territory, the Healthy Country Partnership brings together Bininj co-researchers and Indigenous rangers, CSIRO, Microsoft, Parks Australia, Northern Australia National Environment Science Program (NESP), University of Western Australia (UWA), Charles Darwin University (CDU) and Kakadu National Park. Kakadu National Park presents a challenging environment for climate data collection due to the extreme weather conditions with regular cyclones, floods and then the dry. The Park's waterways are full of crocodiles; buffalo and feral pigs roam the landscape; and there are limited resources to support rangers who have previously collected data manually. Under the direction of Indigenous rangers, drones are being used to capture video footage in Kakadu National Park, a dual World Heritage listed national park jointly managed by Parks Australia and Traditional Owners. Data is collected, labelled and interpreted using a combination of Indigenous knowledge, Microsoft arti ficial intelligence, CustomVision AI from drone footage, data visualisation, and scienti fic research to help solve complex environmental management problems through	Climate Leaders Coalition (2024). Case Studies. https://www.climateleaders.org.au/clc/case-studies/microsoft-1/
PA101	**Coastal urban and peri-urban Indigenous peoples' adaptive capacity to climate change**	Boon Wurrung; Wathaurong; Kaurna Nation; Jagera Ganay-Magil; Quandamooka	Australia	Paci fic Islands, Australia & New Zealand	impacts; urban; sea-level rise; cultural heritage	Five Aboriginal organisations in south-eastern Australia documented climate risks and adaptive capacity in urban and peri-urban coastal settings. Impacts included a loss of community and environmental assets, such as cultural heritage sites, with signi ficant impacts on their quality of life and the establishment of potential favourable conditions for the spread of plant diseases, weeds and pests. Participants identi fied coastal erosion/inundation and peri-urban expansion as key ongoing threats to cultural heritage sites, housing and livelihoods. The study also found that opportunities did not readily exist for engagement with climate change adaptation policy and initiatives, which was further exacerbated by acute shortages of quali fied/experienced Indigenous members that could represent their communities' interests in climate change adaptation forums.	Choy, D.L., Clarke, P., Serrao-Neumann, S., Hales, R., Koschade, O., Jones, D. (2016). Coastal Urban and Peri-Urban Indigenous People's Adaptive Capacity to Climate Change. In: Maheshwari, B., Thoradeniya, B., Singh, V.P. (eds) Balanced Urban Development: Options and Strategies for Liveable Cities. Water Science and Technology Library, vol 72. Springer, Cham. https://doi.org/10.1007/978-3-319-28112-4_27
PA021	**Understanding and Connecting Parallel Climate Knowledge of Western Systems and Ancient Lore**	Butchulla (QLD)	Australia	Paci fic Islands, Australia & New Zealand	observations & impacts, wild fire	This project developed the K'gari Climate Adaptation Plan, which is based on a set of values meaningful to the Butchulla people, custodians of K'gari in south-eastern Queensland (Qld), and with the aims of supporting the preservation of Indigenous land management practice and empowering future generations to manage Country using both Indigenous and Western knowledges. The Plan was adapted from the process outlined in the Australian Government's Climate Change Toolkit for World Heritage Properties in Australia, which is an Indigenous-led process focused on cultural governance and engagement. It demonstrates that approaches to Indigenous-led vulnerability assessment and adaptation planning can be shared with other Indigenous communities looking to address climate change adaptation challenges. The project also developed information resources on seasonal calendars and sea level rises, and included a six-month cultural orientation with the Mimal Rangers and Warddeken Rangers of Arnhem Land in the NT, to explore the sustainability of right-way burning practices in northern Australia.	NESP Climate Systems (2024). https://nesp2climate.com.au/research/people-and-country/understanding-and-connecting-parallel-climate-knowledge-of-western-systems-and-ancient-lore/
PA022	**K'gari Climate Adaptation Plan (Fraser Island)**	Butchulla Traditional Owners	Australia	Paci fic Islands, Australia & New Zealand	Climate adaptation plan; Co-design; World Heritage; Traditional knowledge	The Butchulla people – custodians of K'gari – partnered with researchers and government to develop a climate adaptation plan for their World Heritage-listed island. Completed in 2024, the K'gari Climate Adaptation Plan centers Butchulla cultural values in managing climate risks. It addresses threats like invasive species, freshwater depletion, wild fire, and habitat loss with strategies grounded in Traditional Owner knowledge and community priorities	NESP Climate Systems Hub (2024) – An Indigenous co-designed adaptation plan for the K'gari World Heritage Areahttps://nesp2climate.com.au/wp-content/uploads/2024/04/Kgari-Case-Study-2024_press.pdf

PA023	**Gidarjil and MobileCorp streaming drones to elders**	Gidarjil	Australia	Paci fic Islands, Australia & New Zealand	technology; adaptation; turtles; marine; media report	The Gidarjil Development Corporation (GDC) has a well established aerial and underwater drone program operated by its land and sea rangers. The rangers deliver various 'Caring for Country' programs across a large area taking in the southern reaches of the Great Barrier Reef and the turtle breeding conservation area at Mon Repos Beach, Bundaberg. The GDC wanted to connect Gidarjil Elders with the work of the Rangers to facilitate knowledge-sharing and generational storytelling, and for exploration of cultural heritage sites offshore.	MobileCorp (2022). Gidarjil First Nations rangers use 5G to enable HD video streaming from drones. https://www.mobilecorp.com.au/hero-stories/gidarjil_rangers_use-5g_to_video_stream_from_drones
PA024	**Ikuntji Cool Community**	Ikuntji (NT)	Australia	Paci fic Islands, Australia & New Zealand	mitigation; human settlements; peer-reviewed	The Cool Communities programme was funded by the federal government via the Australian Greenhouse Office and involved the collaboration of non-government environmental organisations. The programme worked with Indigenous communities, industry and government, to find ways to cut greenhouse gas emissions, save money and improve lifestyles. One community involved was the remote aboriginal community of Ikuntji in the West MacDonnell Ranges, the smallest community to participate in the programme. Its particular Cool Communities project was to provide a rubbish collection service using wheelie bins to replace the previous practice of burning off rubbish. The project was considered to be a success in providing for a new rubbish management system and in raising awareness about energy, pollution and health issues.	UNU-IAS TKI (2009). A Carbon Guide for Northern Indigenous Australians. https://i.unu.edu/media/tfm.unu.edu/publication/807/Australian-Carbon-Guide.pdf
PA025	**Human Rights Implications of Climate Change for Indigenous Australians**	Indigenous Australian s (general)	Australia	Paci fic Islands, Australia & New Zealand	human settlements; observations & impacts	The Australian Human Rights Commission's 2008 report highlighted the disproportionate effects of climate change on Indigenous Australians, emphasising disproportional threats to survival, including traditional lands, cultural practices, and community health. In recent years, these concerns have intensi fied, particularly in regions like the Torres Strait Islands. Rising sea levels and increased erosion have led to legal actions, such as the complaint lodged by the "Torres Strait 8" against the Australian Government in 2019, asserting that inadequate climate action violated their human rights. In 2022, the UN Human Rights Committee found that Australia had indeed violated the rights of these Indigenous communities by failing to protect them from climate change impacts.	Australian Human Rights Commission: Human Righst and Climate Change (2008). https://defence.humanrights.gov.au/our-work/commission-general/publications/human-rights-climate-change-2008
PA026	**West Arnhem Land Fire Abatement Project (WALFA)**	Indigenous clans in West Arnhem Land (NT, Australia)	Australia	Paci fic Islands, Australia & New Zealand	Adaptation; Mitigation	The WALFA project is a collaboration between Santos-operated Darwin LNG, Charles Darwin University and the Djelk, Warddejen, Mimal, Jawoyn and Adjumarllal ranger groups of Western Arnhem Land. Funded by the Santos-operated Darwin LNG project, Rangers practice traditional fire management with the aid of satellite fire-mapping and helicopters, across 25,000KM2. Through strategic early season 'cool' burns in mosaic patterns, they prevent the instance and intensity of later season fires. Since its inception in 2006 as part of the Darwin LNG operating licence, WALFA has achieved a cumulative total abatement of over 2 million tonnes CO2e, making it one of the largest GHG offset programs in Australia. It has also resulted in the conservation of rainforest vegetation, protection of local wildlife and rock art sites, facilitated reinvigoration of cultural aspects of land management, while supporting more than 300 Indigenous jobs per year. The success of WALFA has been the catalyst for over 80 other projects across northern Australia, with Savannah-burning now a recognised as a key plank of bipartisan emissions reductions policies. Australian Carbon Credit Units (ACCUs) earned through these programs are sold to fund other social and environmental projects, including establishing schools.	Cimate Leaders Coalition. WALFA Case Study. https://climateleaders.org.au/clc/case-studies/santos-2/
PA027	**Indigenous fire management & carbon in the Kimberley**	Kimberley Traditional Owners	Australia	Paci fic Islands, Australia & New Zealand	mitigation; cultural burning; two-eyed seeing; report	The Kimberley Land Council (KLC) was formed in 1978 as a political land rights organisation by Kimberley Aboriginal people. Now, the KLC is the peak Indigenous body in the Kimberley region of north-west Australia, working with Aboriginal people to secure native title recognition, conduct conservation and land management activities and develop cultural business enterprises. Indigenous fire management involves the lighting of 'cool' fires by highly skilled Indigenous rangers and Traditional Owners in targeted areas at speci fic times of the year. The fires burn slowly, reducing fuel loads and creating fire breaks, resulting in a mosaic of burnt and unburnt country. The technique, which is based on Indigenous traditional knowledge and modern scienti fic practices, results in a reduction of greenhouse gas emissions released into the atmosphere. This abatement is measured and recognised under the Australian Government's Australian Carbon Credit Unit (ACCU) Scheme. With the support of the KLC, Kimberley Traditional Owners have registered six Indigenous carbon projects under the scheme. These projects have now generated more than 1.5 million ACCUs from avoided greenhouse gas emissions.	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P7. KLC Website: https://www.klc.org.au/

PA028	**Sea level rise in Kowanyama, Cape York**	Kowanyama (Cape York)	Australia	Pacific Islands, Australia & New Zealand	oceans & coastal, impacts, human settlements, cultural practices	A short video (2009) documents the effects of climate change on the remote Indigenous community of Kowanyama, on Cape York Peninsula. Elders and land managers show how rising sea levels and changing wetland patterns are affecting their coastal floodplains and fish habitats. The videobrief highlights local observations of increased tidal inundation and the community's efforts to rehabilitate wetlands and plan for future sea level rise. The mythologies or "dreaming stories" of this country recount how many years ago, the Kitehawk, an ancestral being, built a large stonewall to stop the tidal water from flooding the land and its people, while other clever ancestral parrot beings heaped up coastal dunes to keep the sea out. However, as the sea level rises, the tidal waters are slowly sweeping cultural artifacts away and that process threatens the ancestral stories and attachment to country of the Aboriginal peoples of Kowanyama. These biophysical changes are encroaching on spiritual and conceptual boundaries that are so integral to the Aboriginal identity. The Kowanyama community continues to face challenges related to rising sea levels. In June 2023, local elders observed significant environmental changes, noting that the Gulf of Carpentaria has experienced some of the highest annual sea-level rises in Australia, averaging about 8 millimeters per year. These changes have heightened concerns about the	UNU-TKI Indigenous Perspectives on climate change video series [video] https://vimeo.com/showcase/85004/video/2262880 Richardson & Rignby (2023). Kowanyama traditional owners fear climate change is happening before their eyes. https://www.abc.net.au/news/2023-06-03/climate-change-kowanyama-indigenous-elders-notice-seasonal-chan/102188790
PA029	**Talking in Arrernte about climate change**	Ltyentye Apurte (NT)	Australia	Pacific Islands, Australia & New Zealand	observations & impacts, adaptation, human settlements, two-eyed seeing	During 2014–15, the Ltyentye Apurte Central Land Council Rangers and CSIRO scientists shared knowledge about climate change to improve understanding and regional records. The scientists and the rangers worked together to produce a book and a slideshow in English. The rangers then presented this to Arrernte community audiences, speaking in Arrernte. People were grateful to hear about it in their own language, commenting that they had seen a lot about climate change on television, but had not understood what it was about before. Many impacts and potential solutions were also identified, including changes to houses, increased shade, and greater access to the swimming pool and cool buildings. The main road to the Ltyentye Apurte community where the rangers live and work is being threatened by an erosion gully that is rapidly expanding as a result of large rainfall events. These events are increasing in intensity and frequency due to climate change. Rangers undertook activities and co-learning about erosion, in collaboration with scientists and practitioners, and established a trial of a new way of managing erosion. They built a set of control banks along the contour in 1 small catchment. However, the trial was compromised by inconsistent management of free-ranging horses, which trampled the control banks and led to bank breaching during heavy rains.	Australia State of the Environment (2021). Case Studies. https://soe.dcceew.gov.au/climate/case-studies
PA030	**Understanding Indigenous Perspectives of Climate Risk in Shark Bay**	Malgana (WA)	Australia	Pacific Islands, Australia & New Zealand	observations & impacts, two-eyed seeing	The Malgana communities emphasize that climate change is intertwined with broader socio-economic and environmental challenges on their Country, including impacts from tourism, mining, infrastructure, and resource management. They have identified significant impacts from climate change, including alterations in seasonal patterns, reductions in native plant and animal populations, erosion of culturally important sites, and disruptions to marine life and ecosystems, particularly seagrass beds. Key tools proposed for managing these changes include creating adaptive seasonal calendars and cultural mapping initiatives to support internal knowledge sharing, intergenerational learning, ranger management activities, and external education and awareness.	NESP Climate Systems. Case study 5.5. Indigenous perspectives of climate risk (2021). https://nespclimate.com.au/wp-content/uploads/2021/06/ESCC_-Indigenous-perspectives-of-risk_Report-30.pdf
PA031	**Great Barrier Reef AI Monitoring**	Mandubarra Traditional Owners (MALASI)	Australia	Pacific Islands, Australia & New Zealand	observations & impacts; adaptation; oceans & coastal; cultural practices; policy & governance	Mandubarra Traditional Owners are using AI and drones to monitor and heal their Sea Country on the Great Barrier Reef	Great Barrier Reef Foundation (2024). Reef Trust Partnership Annual *Work Plan 2023–2024.* https://www.barrierreef.org/uploads/RTP-AWP-2023-2024-updated-Jan-24.pdf

PA032	**Marlinja Community Solar Microgrid (NT)**	Marlinja	Australia	Paci fic Islands, Australia & New Zealand	Energy; Mitigation; Adaptation	In 2022, Marlinja, a small Indigenous outstation in the Northern Territory, launched Australia's first 100% Aboriginal-owned solar and battery microgrid. The system provides reliable power independent of the main grid or diesel generators. It lowers energy costs and emissions, and demonstrates energy self-suf ficiency for remote communities. The Marlinja microgrid was partially funded by the Barkly Regional Deal, an agreement between the governments of Australia and the Northern Territory, as well as the Barkly Regional Council. The deal is a 10-year, $67.3 million (A$100.5 million) commitment to improving the productivity and livability of the Barkly region.	Microgrid Knowledge: First Nations community microgrid https://www.microgridknowledge.com/remote-microgrids/article/55088229/ first-nations-community-owned-microgrid-launched-in-australia
PA033	**Regenerative Learning: Hearing Country and Music for Healing**	Martuwarr a Fitzroy River Council	Australia	Paci fic Islands, Australia & New Zealand	adaptation, traditional knowledge, music	This project explores the role of Indigenous storytelling, music, and cultural knowledge in healing and climate resilience. It highlights how First Laws and deep listening to the land support Indigenous-led climate responses and cultural knowledge is a form of climate resilience.	Knight et al (2024). Regenerative Learning: Hearing Country and Music for Healing . In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 11, Pages 255-268
PA034	**SpaceCows**	Multiple Aboriginal communiti es (NAILSMA alliance)	Australia	Paci fic Islands, Australia & New Zealand	mitigation; land use; biodiversity; cultural practices; two-eyed seeing	The SpaceCows project aims to manage and monitor feral cattle and buffalo in Northern Australia by integrating Indigenous knowledge with a space technology-powered digital twin - a virtual replica of the landscape - to help Indigenous rangers manage feral herds on their land in Northern Australia. Unmanaged herds of cattle and buffalo release methane emissions, cause environmental degradation and threaten sacred sites. In this initiative, over 1,000 feral animals have been fitted with GPS satellite tags, allowing Indigenous rangers to track their movements across vast, remote savannas in near real-time. Cloud-based AI tools create a "digital twin" (a virtual replica) of the landscape, ingesting the animal location data along with satellite imagery of waterholes and fences. This helps rangers strategically muster or cull animals with minimal stress. Traditional ecological knowledge - like knowing seasonal water sources - guides the deployment of the tracking devices and interpretation of the data. The ultimate goal is to reduce ecological damage and methane emissions, protect culturally important areas, and create new economic opportunities (like ranger employment and bushmeat harvest) for Indigenous communities.	CSIRO (2021). SpaceCows: Using AI to tackle feral herds in the Top End . CSIRO News, 13 Sep 2021. https://www.csiro.au/en/news/all/news/2021/september/spacecows-using-ai-to-tackle-feral-herds-in-the-top-end
PA103	**MLDRIN: First Nations–led cultural flows and basin water governance in the Southern Murray–Darling**	Murray Lower Darling Rivers Indigenous Nations	Australia	Paci fic Islands, Australia & New Zealand	MLDRIN; cultural flows; water allocations; environmental watering; wetland restoration; Barmah-Millewa; Moira grass; Basin Plan; water rights; co -design	MLDRIN is an alliance of 26 First Nations that advances Indigenous water rights and stewardship across the southern Murray–Darling Basin. The alliance de fines cultural watering objectives, and has reasserted customary governance over key river systems. Through inter-Nation cooperation, they negotiate water allocations, monitor river health, and restore wetlands to sustain ecosystems and downstream communities. Parallel national reforms are co -designing enduring First Nations water -holding arrangements to secure entitlements and enable cultural flows.	Murray Lower Darling Rivers Indigenous Nations. https://mldrin.org/
PA035	**Ancient Wisdom Dreaming a Climate Chance**	Nyikina Warrwa (Martuwarr a Fitzroy River)	Australia	Paci fic Islands, Australia & New Zealand	Adaptation, Impacts	In 2018 the Martuwarra Fitzroy River Council was established as a legal entity as a "collective governance model to maintain the spiritual, cultural and environmental health of the catchment' for Traditional Owners of the Martuwarra Nations. The Martuwarra Council advocates for the political goodwill and research investment required to ensure that Indigenous First Law underpins the concept of Just Development. The community advocates for river personhood and Indigenous governance of water resources, inviting others to join them in order to 'Dream a Climate Chance' together.	RiverOfLife et al (2024). Ancient Wisdom Dreaming a Climate Chance. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 1, Pages 3-14

PA036	**Fireproo fing Koalas**	Quandam ooka People (QYAC)	Australia	Paci fic Islands, Australia & New Zealand	adaptation; land use; forests; biodiversity; cultural practices	Indigenous rangers on Minjerribah (North Stradbroke Island) are combining drones and Arti ficial Intelligence with ancient knowledge to save a unique population of koalas from wild fires	WWF-Australia (2024). Indigenous rangers using AI and drones to *fireproof Minjerribah's remarkable* island koalas . WWF News, 8 July 2024. https://wwf.org.au/news/2024/indigenous-rangers-using-ai-and-drones-to- fireproof-minjerribahs-remarkable/
PA037	**Community-based fire management in the Tanami Desert region of central Australia**	Tanami Desert communiti es (Northern Australia)	Australia	Paci fic Islands, Australia & New Zealand	adaptation, traditional knowledge, wild fire, policy & governance	In the Tanami Desert of Central Australia, Aboriginal communities have preserved traditional fire management practices, known as " firestick farming," to sustain cultural ties to their land while simultaneously addressing climate change and wild fire risks. Aboriginal peoples have deliberately used fire for thousands of years to shape ecosystems, enhance biodiversity, and protect culturally signi ficant areas. This method of systematic burning creates a mosaic of landscapes with different fire histories, signi ficantly reducing the severity of wild fires and enhancing ecosystem productivity and resilience. Over the past twelve years, the Central Land Council (CLC), supported by the Food and Agriculture Organization (FAO) and Bush fires NT, has implemented Community-based Fire Management (CBFiM) programs, integrating traditional Aboriginal fire knowledge with contemporary scienti fic practices and technologies. These collaborative initiatives involve local governance structures and participatory processes that actively engage traditional owners and Aboriginal ranger groups. The programs aim to emulate historical fire regimes, restoring the pre-colonial balance of seasonal burning to mitigate current wild fire hazards.	UNFCCC Adaptation Knowledge Portal. FAO (2011). Community-Based Fire Management: A Review https://www.fao.org/4/i2495e/i2495e.pdf
PA038	**Sea level rise and the Torres Strait islands**	Torres Strait Islanders	Australia	Paci fic Islands, Australia & New Zealand	observations & impacts, human settlements,	Parts of the Torres Strait islands are highly vulnerable to sea level rise. A number of the islands are very low lying, and coastal inundation and erosion are signi ficant issues even in the current climate. The most acute issues cover 2 groups of islands: the 2 alluvial islands in the top western region (Boigu and Saibai) and a number of small coral cays in the central part of the Torres Strait islands. In 2011, during a strong La Niña event, some inhabited areas of Saibai were inundated to a depth of up to 0.5 metres. Some of the central coral cays have experienced signi ficant coastal erosion. In addition to direct impacts on inhabited areas of the islands, these events threaten impacts on graves and other signi ficant cultural sites, as well as saltwater intrusion into land fills, wastewater treatment sites and groundwater. Signi ficant works to adapt to sea level rise are already taking place. New seawalls have been completed on Saibai and Boigu islands, replacing earlier community-built seawalls that had previously failed, as well as on Poruma Island in the central coral cay region. Further seawalls are in the planning stage. It is expected that, with such infrastructure works, existing communities will remain viable for at least several decades. Relocation of communities to other islands is regarded as a highly culturally disruptive option and would be considered only as a last resort.	Australia State of the Environment (2021). Case Studies. https://soe.dcceew.gov.au/climate/case-studies
PA039	**Inundation in Torres Strait**	Torres Strait Islanders (Australia)	Australia	Paci fic Islands, Australia & New Zealand	Oceans and Coastal Zones; Impacts	Torres Strait Islanders have observed increasing inundation from king tides and extreme weather. Low-lying communities, like on Boigu and Saibai, experience regular flooding that damages homes, gardens, and grave sites. This case study (around 2008) documented local accounts of worsening coastal erosion and saltwater intrusion. Islanders appealed for upgraded sea walls and drainage. The issue gained national attention, prompting the Australian government to fund coastal defense projects in the Torres Strait to protect these Indigenous communities.	Torres Strait Regional Authority: Climate Change in Torres Strait https://www.tsra.gov.au/climate-change

PA040	**Torres Strait Islanders' Climate Justice Case**	Torres Strait Islanders (Saibai, Boigu, Masig, Warraber)	Australia	Paci fic Islands, Australia & New Zealand	Human settlements, Impacts, Adaptation, lessons learned, Legal	In 2019, a group of Torres Strait Islanders petitioned the UN Human Rights Committee (the 'Torres Strait 8 petition'), arguing Australia's inaction on climate change violated their rights. In 2022, UNHRC found Australia violated Art. 27 (culture) and Art. 17 (family/home) by failing to cut emissions fast enough and to fund timely adaptation; it urged compensation and community -led protective measures, recognising that climate impacts (like flooding and erosion of their low-lying islands) impinge on Indigenous human rights. While recent funds have finally built some seawalls, the Islanders felt the government's climate action came far too late. This landmark case was the first time a country was held accountable for climate inaction affecting Indigenous people. Torres Strait Islanders filed domestically in the Federal Court of Australia (Pabai Pabai & Paul Kabai v Commonwealth) in 2021, with judgement handed down in 2025. Although Justice Wigney accepted the science and the foreseeability of serious harm , he held no duty of care exists; mitigation targets are "core questions of high -level government policy" better left to Parliament rather than the judiciary. The claim was dismissed but is subject to appeal.	UN HRC Press Release : Sept 22 2022 Groundbreaking decision creates pathway for climate justice on Torres Strait Islands https://news.un.org/en/story/2022/09/1127761
PA041	**Fighting fire with carbon in Arnhem Land videobrief**	Wardekken (NT)	Australia	Paci fic Islands, Australia & New Zealand	land use, impacts, mitigation, finance	A short video about the effects of climate change on an indigenous community living in a dry savannah zone in Arnhem Land, Northern Australia. It examines the fire abatement scheme of Australia's Western Arnhemland - a carbon offset community programme gaining a lot of international attention. Aboriginal fire ecologist, Dean Yibarbuk, explains how traditional fire management practices have kept the country healthy for thousands of years. Recently, his mob at Wardekken have been working with local scientists to adapt traditional fire management to reduce greenhouse gas emissions.	UNU-TKI Indigenous Perspectives on climate change video series [video]. https://vimeo.com/showcase/85004/video/4166007
PA042	**"Walking on Country With Spirits" Wujal Wujal**	Wujal Wujal (QLD)	Australia	Paci fic Islands, Australia & New Zealand	human settlements; forecasting	A short video shows the effects of climate change on the remote Indigenous community of Wujal Wujal in north Queensland. Community members explain cultural connections to their land and how changing weather (intense rains, flooding of the Bloom field River, and wetland shifts) are impacting their spiritual sites and livelihoods. It emphasizes the community's desire to integrate traditional knowledge with modern climate science to protect their culture and environment. The Wujal Wujal community has been signi ficantly impacted by climate events. In December 2023, Tropical Cyclone Jasper caused extensive flooding, leading to the evacuation of approximately 300 residents. The aftermath of this disaster has been profound, with many community members still grappling with trauma a year later. Efforts are ongoing to enhance disaster resilience and support recovery within the community.	UNU-TKI Indigenous Perspectives on climate change video series [video] https://vimeo.com/showcase/85004/video/2140189 Trauma runs deep for flood victims in Wujal Wujal one year after Cyclone Jasper (2024). https://www.abc.net.au/news/2024-12-14/wujal-wujal-community-living-with-trauma-one-year-on-from- floods/104723162
PA043	**Yorta Yorta weaving**	Yorta Yorta	Australia	Paci fic Islands, Australia & New Zealand	observations & impacts, cultural practices, fire management	The Yorta Yorta people's traditional practices, particularly weaving with the sedge Carex tereticaulis , are being severely impacted by climate change, altered water management, and environmental shifts on their developed Country, known as Pama or Barmah. This sedge, an ephemeral aquatic plant, depends on regular flooding and rainfall patterns, conditions increasingly disrupted by hotter temperatures, droughts, and human interventions. Historical drought events like the 'federation drought' and 'millennium drought' highlight the vulnerability of the species, making it harder for the Yorta Yorta people to sustainably harvest and utilize the sedge, thus weakening their cultural heritage and practices. To adapt to these challenges, the Yorta Yorta explored traditional fire management techniques to rejuvenate the weaving sedge. A controlled burn conducted on Country had positive outcomes, stimulating new growth and reinforcing cultural connection and well-being among participants.	Australia State of the Environment (2021). Case Studies. https://soe.dcceew.gov.au/climate/case-studies
PA102	**Rainwater storage and distribution for land humidi fication**	Rapanui People, Easter Island	Chile	Paci fic Islands, Australia & New Zealand	Adaptation, water resources, traditional knowledge	Rapanui People created an initiative that was implemented with the effective use of water in the space destined for agriculture, a total of 9,000 m2 where the Integral Development Center of the NGO Toki Rapa Nui is located. It consists of the collection, storage and distribution of rainwater and the development of innovative mechanisms for the use of environmental water vapor in the humidi fication of the plantation land to combat water scarcity and improve the food security of the community.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/

PA044	**Regenerative design for Oraanga Meitaki in Rarotonga**	Kuki Airani Tangata	Cook Islands	Paci fic Islands, Australia & New Zealand	adaptation, traditional knowledge, urban; submission	Drawing on Kuki Airani tapestry values (Tivaevae), this design-led research developed the Te Aorangi framework to inform a community-centre prototype that responds holistically to storm surges, cyclones and sea-level rise. Building processes and materials were chosen to embody Oraanga Meitaki (vitality of environment and people), from raised plinths for flood resilience to circular layouts that facilitate communal rituals. The project highlights how prioritising Indigenous worldviews in architectural adaptation can restore ecological life-forces while strengthening cultural identity.	Mihaere et al. (2024) Centring localised indigenous concepts of wellbeing in urban nature-based solutions for climate change adaptation. Sec. Interdisciplinary Climate Studies Volume 12 - 2024 https://doi.org/10.3389/fenvs.2024.1278235
PA045	**Kia Vai Teateamamao (Be Prepared): Traditional climate forecasting in the Cook Islands video**	Traditional owners in the Cook Islands	Cook Islands	Paci fic Islands, Australia & New Zealand	observations & impacts, coastal zones, forecasting	This 2005 documentary examines traditional methods of forecasting extreme weather in the Cook Islands and explains how Cook Islanders prepared for these changes. Presented in Maori Kuki Airani and English, it features local elders sharing knowledge of environmental signs (such as speci fic bird migrations or fruiting patterns) that signaled coming storms or droughts, and how these indicators guided community preparedness in the past.	SPREP: Traditional Forecasting (Cook Islands) [video] https://www.cultureunplugged.com/documentary/watch-online/play/12824/kia-vai-teateamamao-be-prepared-traditional-climate-forecasting-in-the-cook-islands
PA046	**Building capacity for Fiji's forest-dependent indigenous men and women**	Forest-owning communiti es near Emalu and Drawa	Fiji	Paci fic Islands, Australia & New Zealand	REDD+, gender, climate change, indigenous knowledge	This project built capacity among indigenous communities in Fiji to actively participate in REDD+ and the National Emissions Reduction Program. It delivered trainings on REDD+ and gender, although it faced challenges such as insuf ficient budget and logistics. The engagement notably increased women's participation and awareness on climate and environmental issues.	Tebtebba Completion Report (2020) Annex 3. https://www.tebtebba.org/index.php/ filelink/fileman- files/FCPF/completion-report/Annex%203%20Sub-projects%20completion%20reports.pdf
PA047	**Autonomous and planned adaptation synergies in iTaukei communities**	iTaukei	Fiji	Paci fic Islands, Australia & New Zealand	adaptation, bene ficial effects, agriculture, policy & governance, two-eyed seeing	iTaukei communities in Fiji use a hybrid model combining autonomous Indigenous adaptation strategies with government-planned initiatives to address climate risks such as flooding, sea-level rise, and agricultural challenges. Local autonomous practices include traditional agricultural techniques, natural pest control, and sustainable land management strategies. These practices are deeply embedded in community knowledge and culture. However, a gap remains in integrating these autonomous adaptations into national policy frameworks, limiting the effectiveness of broader adaptation measures. Community-led initiatives emphasize the need for national policies to better incorporate Indigenous perspectives and knowledge. Addressing this gap through inclusive, co-produced strategies could signi ficantly strengthen the resilience and sustainability of adaptation outcomes in Fiji.	Singh et al (2024).Climate change adaptation in Fiji: Local adaptation strategies to enhance national policy. In: Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (2024), Ch.24, p.220
PA107	**Adaptive capacity in Paci fic Islands: Responding to coastal and climatic change in Nagigi village, Fiji**	iTaukei	Fiji	Paci fic Islands, Australia & New Zealand	adaptation; sea -level rise; cyclones; saltwater intrusion; reef decline; food security; women; relocation; disaster preparedness; peer-reviewed; housing; small islands	Nagigi and the neighbouring settlement of Bia -l-Cake face overlapping climate pressures - sea -level rise, storm surges and coastal erosion; saltwater intrusion into gardens and groundwater; more intense cyclones and rainfall; and coral reef degradation linked to warming, acidi fication and local stressors. Using decolonised qualitative methods (talanoa dialogues) with an emphasis on women's perspectives, the study examines six dimensions of adaptive capacity: access to assets, experiential knowledge, social organisation, agency (including women's agency), diversity of options, and Paci fic worldviews/values (Vanua and stewardship). Adaptations include retreat of houses away from the most exposed sites; curtailing harmful reef practices and proposing a locally managed marine area; adjusting fishing effort and locations as near -shore stocks decline; women -led small -scale aquaculture; and steps toward disaster readiness (including a proposed evacuation centre). Outcomes are mixed: actions have helped sustain food access and safety after recent cyclones, but bene fits and costs are uneven across households and settlements.	McMichael C, Yee M, Cornish G, Lutu A, McNamara KE (2025) Adaptive capacity in Paci fic Islands: Responding to coastal and climatic change in Nagigi village, Fiji. PLOS Clim 4(7): e0000504. https://doi.org/10.1371/journal.pclm.0000504
PA048	**Climate change adaptation in Fiji: local adaptation strategies to enhance national policy**	iTaukei (Indigenou s Fijians)	Fiji	Paci fic Islands, Australia & New Zealand	adaptation	Coastal Fijian villages observe numerous changes in the atmospheric, physical, and life systems and attribute many of those changes to climate change, including higher temperature, fewer cold days, higher humidity, longer droughts, frequent flooding and stronger cyclones. They adapt to sea-level rise, coastal erosion, and intense cyclones based on their Indigenous knowledge as well as social networks, including via mangrove replanting, elevated housing, and communal decision-making.	Singh, P., Schulman, D., Charan, D., Reyes-García, V., Schlingmann, A., Singh, A. A., & Railoa, K. (2024). In V. Reyes-García et al. (Eds.), Routledge Handbook of Climate Change Impacts on Indigenous Peoples and Local Communities (pp. 391–409). Routledge.

PA049	**Narikoso Village Relocation**	Narikoso community (Ono Island, Kadavu)	Fiji	Paci fic Islands, Australia & New Zealand	impacts & observations; report; relocation; lessons learned	In 2014, Narikoso village was promised a relocation to escape coastal erosion and rising seas. International donors and the Fijian government partnered with the community. However, the project experienced lengthy delays – plans changed, funds were slow, and technical issues arose. Only in 2020 were the first 7 of 30+ families moved to new houses on higher groun d. By then, many homes in old Narikoso had been repeatedly flooded. The partial relocation left the community split, with most villagers still awaiting safe housing. What was meant to be a model "planned relocation" instead took nearly a decade for just a quarter of the goal, causing frustration. Many Narikoso residents deem the process unsuccessful, having endured 10 years of precarious living despite early promise s. Narikoso's experience informed Fiji's national relocation guidelines. Key lessons were to secure consistent funding and community consultation. The remaining families are slated to relocate in coming years, but the village's ordeal underscores the difficulty of climate retreat even with government support.	ENJ (2022) Delayed for 10 Years, Fijian Village Threatened by Sea Level Rise Begins Relocation After EJN Journalist's Story https://earthjournalism.net/what-we-do/project-updates/delayed-for-10-years- fijian-village-threatened-by-sea-level-rise-begins
PA099	**Contemporary R āhui in community-led conservation**	Mā'ohi (Indigenou s Tahitian/ Polynesian) communiti es	French Polynesia	Paci fic Islands, Australia & New Zealand	marine conservation; coral reefs; fisheries; Indigenous governance; climate adaptation; food security;	The Indigenous M ā'ohi communities of Teahupo'o and Tautira (Taiarapu Peninsula, Tahiti) are reviving r āhui - a traditional system of prohibitions used to protect and regenerate natural resources. R āhui is an adaptive Indigenous governance system that continues to play a central role in ecological stewardship. By placing restrictions on fishing and other marine use, communities create space for reef ecosystems and fish stocks to recover, strengthening food security and cultural continuity. In the context of climate change, where coral reefs face multiple pressures, the revival of rāhui demonstrates how Indigenous knowledge provides resilient, community-led pathways for conservation and sustainable management.	Fabre Pauline, Bambridge Tamatoa, Claudet Joachim, Sterling Eleanor, Mawyer Alexander (2021) Contemporary R āhui: placing Indigenous, conservation, and sustainability sciences in community-led conservation. Paci fic Conservation Biology 27, 451-463. https://doi.org/10.1071/PC20087 R āhui Forum and Research Center, https://rahuicenter.pf/
PA110	**Indigenous rāhui to rebuild a climate -stressed reef**	Mā'ohi (Tahiti)	French Polynesia	Paci fic Islands, Australia & New Zealand	governance; adaptation; fisheries; education; marine & coastal; customary law	In 2014 an Indigenous community in Teahupo'o, Tahiti reinstated a r āhui—a customary, community-enforced closure—over ~768 ha of lagoon and reef south of the village to let fish and corals recover. Elders and youth patrol and mark the zone; the r āhui's revival has been coupled with local activism to minimize ecological impacts from Olympic sur fing infrastructure on the same reef. Community monitoring reports healthier reef and improved fish stocks inside the r āhui. Similarly, combining fisheries science (tagging, telemetry, length -based assessments) with a locally run Educational Managed Marine Area (EMMA), the Anaa community in Tuamotu revived a r āhui on 1 March 2019 to protect spawning migrations and rebuild the stock. Researchers reported improved stock status (higher spawning potential ratio) alongside strong social buy -in generated through school -centered stewardship.	Pew (2022). In French Polynesia, an Ancient Conservation Model Is Helping Revive Fisheries. https://www.pew.org/en/research-and-analysis/articles/2022/05/04/in-french-polynesia-an-ancient-conservation-model-is-helping-revive- fisheries
PA050	**Island Girl Power – Guam**	CHamoru women	Guam	Paci fic Islands, Australia & New Zealand	adaptation, traditional knowledge, gender, youth	CHamoru women revitalized matriarchal wisdom by creating community gardens and youth-led environmental workshops. The initiative fosters cultural pride and teaches sustainable agriculture to the next generation.	FIMI (2023). Semillas de Fortaleza: Historias de Empoderamiento. https://fimi-iiwf.org/iDocs/FIMI_ESPANOL-revista_v06_Semillas_Historias.pdf
PA051	**Snehakunja Trust**	Indigenous communiti es in Uttara Kannada	India	Paci fic Islands, Australia & New Zealand	water; mangroves; mitigation; awards; blue carbon	Snehakunja Trust has protected sensitive wetland and coastal ecosystems in the Western Ghats and the Karnataka coast for 45 years. With a focus on community-based restoration and conservation, this organization provides essential solutions to the climate crisis. It has supported hundreds of self-help groups and village forest committees to sustainably manage resources based on traditional knowledge, implement natural farming techniques, use clean energy, promote entrepreneurship, and provide community health services. The restoration and protection of freshwater swamps and evergreen forests safeguards endangered species, keeps signi ficant carbon sinks intact, and maintains critical aquifers for Indigenous communities. Restoring 375 hectares of mangroves, Snehakunja Trust is currently piloting the first blue carbon project in India.	Equator Prize 2021. https://www.equatorinitiative.org/2021/07/11/snehakunja-trust/ Snehakunja Trust. https://snehakunja.org/

PA052	**Bujang Raba**	Bujang Raba communities	Indonesia	Pacific Islands, Australia & New Zealand	mitigation; carbon credits; forests; biodiversity; food secrity	The Bujang Raba Community project conserves over 5,339ha of endangered primary rainforest in Sumatra's Bukti Barisan forest through a REDD+ intervention programme. The project involves 5 Indigenous communities in protecting tropical mountainous forests. Income from carbon credits are applied to developing high value agroforestry systems on the community secondary forestland. The Bujang Raba project site is rich in biodiversity and is home to threatened species and other species of high conservation value. These species include the Malayan Tapir (Tapirus indicus), Sun Bear (Helarctos malayanus), and the critically endangered Sumatran tiger (Panthera tigris sumatrae). The project has also initiated a number of activities to diversify income for participating communities by introducing high value crops such as cardamom, cocoa, and other non-timber forest products (NTFPs) that can be integrated into smallholder agroforestry plots. The project also works with community members to build bamboo and rattan processing capacities to open up other income streams.	Pollination Foundation (2024). Indigenous Carbon Case Studies. Pollination Foundation, Melbourne. P24. Plan Vivo Case Study: https://www.planvivo.org/bujang-raba
PA100	**Community Resilience in Betio, South Tarawa**	I-Kiribati	Kiribati	Pacific Islands, Australia & New Zealand	adaptation; urban; food security; participatory research; women; youth	Betio, the most densely populated islet of South Tarawa, faces hotter temperatures, salinity-tainted groundwater, king-tide flooding and stronger cyclones. A 2024 UTS–Live & Learn co-led study documented residents' responses: planting shade trees and mangroves, "bwibwi" stick sea-walls, grant-funded micro-enterprises and Foodcube gardens to offset rising food costs. Despite ingenuity, overcrowding and limited land mean adaptation options are near their limit; participants stressed "Ikarekebai" (working together), and women and youth in particular were highly motivated to take collaborative action.	Australia Pacific Climate Partnership (2024). Community Resilience Case Studies. Community resilience in Betio, South Tarawa, Kiribati. https://www.uts.edu.au/globalassets/sites/default/files/2024-07/kiribati-community-case-study.pdf
PA053	**The Island of my Ancestors video**	I-Kiribati	Kiribati	Pacific Islands, Australia & New Zealand	observations & impacts, cultural practices, displacement	This film offers an intriguing look at climate-related problems faced by Kiribati and the unique solutions being pursued. It focuses on the threat that climate change poses to the rich I-Kiribati cultural heritage – beyond the potential loss of their homeland, it highlights the erosion of culture and identity as islanders contemplate migration. Local voices discuss efforts to preserve traditions and hope in the face of rising seas.	Television Kiribati/Naamon Marae: Te taetae ni Kiribati (2008) – SPREP Sharing Stories http://www.sprep.org/climate_change/ filmproject/project.asp
PA054	**Kiribati "Migration with Dignity" Plan**	I-Kiribati	Kiribati	Pacific Islands, Australia & New Zealand	Observations & Impacts; Adaptation; Human Settlements; Displacement	In 2014, Kiribati's government bought a 5,500-acre estate in Fiji, envisaged as a potential refuge for its population as their low-lying atolls face sea-level rise	The Impact of Renewable Energy Projects on Indigenous Communities in Kenya The cases of the Lake Turkana Wind Power project and the Olkaria Geothermal Power Plants. IWGIA Report 28 https://iwgia.org/en/news/4562-the-cost-of-ignoring-human-rights-and-indi. The Narikoso Experience [video] https://www.youtube.com/watch?v=1esoOT32tOQ World Bank (2011), Kiribati Adaptation *Program – Phase II Report*
PA055	**Namdrik Atoll Local Resources Committee**	Marshall Islands communities	Marshall Islands	Pacific Islands, Australia & New Zealand	small islands; adaptation; food security; mitigation; water security; mangroves; solar; energy	The Marshall Islands is one of the most vulnerable nations in the world to the impacts of climate change and has economies that are dependent on declining fisheries. Comité des ressources locales de l'atoll de Namdrik is promoting a model of community self-sufficiency, local food security and adaptation. Traditional crops such as breadfruit, taro and native pandanus have been reintroduced to protect and restore soil, improve food security and open value-added secondary processing industries for local communities. A pearl hatchery provides jobs and provides a revenue stream to fund community development projects in education and health. Shoreline restoration has been undertaken through planting indigenous mangrove species. Training in rainwater harvesting is providing the community with access to safe drinking water, and access to solar technology is providing the community with a source of renewable energy. The initiative is community-owned, fueled by local leadership and has provided a sustainability model that has been replicated in other atoll communities across islands in the Pacific.	Equator Initiative (2012): https://www.equatorinitiative.org/2017/05/29/namdrik-atoll-local-resources-committee/

PA056	**Ad Jolet: Anikien RiMajol Kon Climate Change (Marshall Islands video)**	Marshallese people	Marshall Islands	Pacific Islands, Australia & New Zealand	observations & impacts; oceans & coastal zones; human settlements; displacement; cultural practices; video; testimonials	One of the world's most vulnerable nations, the Marshall Islands are already experiencing devastating effects of sea-level rise and climate change. This 2005 video "Ad Jolet: Anikien RiMajol Kon Climate Change" features interviews with Marshallese from different segments of society. They share personal stories about the costs of losing their land and the threat to their cultural identity as rising seas encroach on their atolls. The video calls for urgent global action to prevent the loss of the Marshallese homeland.	Pacific Black Box: Ad Jolet http://www.pacificblackbox.com.au/
PA057	**Heritage loss and climate change**	Moch Island community	Micronesia	Pacific Islands, Australia & New Zealand	observations & impacts; human settlements; peer-reviewed	A pilot study by James Cook University was conducted to establish research processes for investigating climate variability and change impacts on cultural heritage in Micronesia's coral atolls. On Moch Island (FSM), researchers worked with locals to map culturally important sites and record stories associated with them. The community identified places already affected by extreme weather and sea-level changes. This participatory mapping revealed Moch to be a cultural landscape at risk, and helped frame strategies to protect or document heritage sites threatened by climate change.	James Cook Univ: Micronesia Cultural Heritage & Climate Study https://researchonline.jcu.edu.au/
PA111	**Kanak customary fire rules for forest & water resilience**	Kanak	New Caledonia	Pacific Islands, Australia & New Zealand	forests; wild fire; youth	A Kiwa Initiative project (2023–2024) restored 10.3 ha of forest/savanna, removed 3.5 ha of invasive pine, planted 7,200 native seedlings, and built 500 m of firebreaks. The project formalized customary fire rules with tribal authorities (e.g., bans on setting fires "from mountain to sea" and clan responsibility for restoring any burned area), established two community nurseries, trained local youth, and engaged schools.	Kiwa Initiative (2025). https://kiwainitiative.org/fr/bibliotheque-de-documents/projects-sheets/1132-catalog-kiwa-projects-by-country-new-caledonia-en-may-2025/ file
PA058	**Maori environmental knowledge of local weather and climate change in Aotearoa**	Maori	New Zealand	Pacific Islands, Australia & New Zealand	traditional knowledge, forecasting; peer-reviewed	In partnership with the tribal group Te Whanau-a-Apanui, NIWA's Maori Research and Development Unit (Te Kuwaha o Taihoro Nukurangi) documented Maori environmental knowledge of local weather patterns and observed climate changes across Aotearoa. Using a Kaupapa Maori based research approach and semi-directive interviewing, an intimate understanding of local weather and climate was demonstrated by elders from Te Whanau-a-Apanui. This knowledge includes the use of a vast indigenous nomenclature for local weather and climate phenomenon, the oral recording of weather and climate based events and trends, and the identification of environmental indicators to forecast weather and climate. Learning from this knowledge provides an opportunity to understand what has helped Maori adapt to weather and climate variability in the past. It also provides clues on how to enhance present day Maori and western scientific understanding of local weather and climate in New Zealand.	NIWA: Maori Weather Knowledge Project https://niwa.co.nz/
PA059	**Cultural Health Index for Streams and Waterways (CHI)**	Maori	New Zealand	Pacific Islands, Australia & New Zealand	traditional knowledge, policy & governance; report	The Cultural Health Index (CHI) is a tool co-developed around 2006 by Maori and New Zealand's Ministry for the Environment to integrate Maori values into stream health monitoring. It allows iwi to assess waterways based on traditional indicators (e.g., presence of key species, cultural sites) alongside scientific measures. By 2010, several iwi (including Ng?i Tahu) applied CHI to gauge climate change and land-use impacts on their freshwater resources and to guide restoration projects that strengthen ecosystem resilience."	Ministry for Environment (NZ): Cultural Health Index guide https://environment.govt.nz/publications/using-the-cultural-health-index-how-to-assess-the-health-of-streams-and-waterways/
PA060	**Synergising biocultural restoration by indigenous knowledge and science partnership**	Maori	New Zealand	Pacific Islands, Australia & New Zealand	forecasting, two-eyed seeing, oceans & coastal; testimonials	Ecology and mathematical modelling were combined with Indigenous and Local Knowledge (ILK) to better assess the sustainability of customary harvesting of tītī (sooty shearwater, Puffinus griseus) by Rakiura Māori from 30 offshore island "nature reserves" in southern New Zealand. The scientists gained from access to a diachronic data set from ILK holders (seven decades) while triangulating to cross-check inferences by their own shorter but spatially well-replicated data, finding a complex lagged association of harvest and population fluctuations with large-scale climate and oceanic perturbations that periodically knock down bird numbers and chick condition.	The Contribution of Indigenous and Local Knowledge Systems to IPBES: Building Synergies with Science (2013), p.16

PA108	**Enhancing mātauranga Māori and M āori participation in Antarctic science (Aotearoa New Zealand–Antarctica)**	Maori	New Zealand	Paci fic Islands, Australia & New Zealand	capacity-building; governance; education; data sovereignty; policies; report	Responding to historical under -representation, the Antarctic Science Platform's refreshed Vision Mātauranga strategy strengthens structures for M āori leadership—Kāhui Māori advisory, M āori appointments to leadership and policy interface groups—and weaves mātauranga M āori into Antarctic research and outreach. Concrete outcomes include K āhui-led w ānanga and conference sessions; guidance to government on research directions; a classroom collaboration where tamariki named and tracked a sea -ice tracker linking learners to cryosphere science; and funding for Māori-led research on M āori astronomical knowledge and Antarctica.	Antarctic Science Platform (2025). Case Study: Enhancing m ātauranga Māori and M āori participation in Antarctic science. https://www.antarcticscienceplatform.org.nz/updates/case-study-enhancing-m%C4%81tauranga-m%C4%81ori-m%C4%81ori-participation-in-antarctic-science
PA061	**Indigenous-led Climate Change Knowledge and Response: Indigenous Perspectives on Risk**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	traditional knowledge, policy & governance; peer-reviewed	Māori understand that climate change is not just about environmental shifts - it is about disruptions to whakapapa, whenua, and relationships with te taiao. Mātauranga M āori provides a deeper, more connected understanding of risk. Rather than viewing risk as a series of technical hazards, M āori see it as a relational issue - something that impacts the mauri of our lands, waters, and people. Through Indigenous-led research and decision-making, wh ānau and hap ū are better equipped to respond to these challenges in ways that reflect their values, stories, and lived realities. While the concept of climate change holds signi ficant traction and in fluence globally, M āori consider it can also limit how we approach solutions. The dominant framing tends to separate people from nature and focus on technocratic fixes, which can constrain the kind of holistic healing that te ao M āori seeks. By acting from more expansive, interconnected understandings - where people, land, and ancestors are part of a continuous web of relationships - we can begin to slow both the drivers and the effects of climate change.	Taiapa, K., Moewaka Barnes, H., & Wright, S. (2024). Climate change and mātauranga M āori: making sense of a western environmental construct. K ōtuitui: New Zealand Journal of Social Sciences Online, 1–12. https://doi.org/10.1080/1177083X.2024.2350195
PA062	**Consultation with Maori on Climate Change: Hui Report**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	Adaptation; project	In 2007, New Zealand's government held 13 regional hui (meetings) with M āori to discuss climate change policies and impacts	Ministry for Environment (NZ): 2007 Maori Climate Change Hui Report https://environment.govt.nz/ MfE (2022) Climate Action for Māori info sheet
PA063	**Motu Economic and Public Policy Research: Carbon Sequestration on Maori Land**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	Land Use; Finance; Adaptation; Mitigation	A 2009 research project by Motu and M āori partners examined opportunities for Māori land trusts to engage in carbon forestry under New Zealand's Emissions Trading Scheme (ETS). It found that reforesting M āori land could generate carbon credit income and environmental co-bene fits, but also identi fied barriers – complex land titles, upfront costs, and policy gaps	Motu Research: Carbon Sequestration on Maori Land (2009) https://www.motu.nz/our-work/environment-and-resources/emissions-trading/maori-land-forestry-opportunities/ Motu (2019). Iwi lifts lid on carbon. https://www.motu.nz/about-us/news/iwi-research-lifts-lid-on-carbon
PA064	**NZ Emissions Trading Schemes**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	Adaptation; Mitigation	New Zealand's Emissions Trading Scheme (NZ ETS), launched in 2008, had major implications for Māori, who own signi ficant forest lands through iwi and trusts. Māori leaders and forestry experts engaged in scenario planning and advocacy to ensure the ETS respected Treaty settlements and did not unfairly penalize M āori forests (e.g. seeking exemptions for pre-1990 forests on Māori land)	Ministry for the Environment (2016) NZ ETS M āori consultation summary

PA065	**Permanent Forest Sink Initiative / Afforestation Grant Scheme**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	Adaptation; Mitigation	New Zealand's mid-2000s forestry schemes – the Permanent Forest Sink Initiative (PFSI) and Afforestation Grant Scheme(AGS) – offered landholders (including many M āori trusts) incentives to establish permanent forests for carbon sequestration. Māori landowners enrolled ancestral lands to grow native forests, aiming for both carbon credits and ecosystem restoration. These programs provided early examples of Indigenous engagement in climate mitigation. By 2018, they were folded into new frameworks: the PFSI was incorporated into the ETS's Permanent Forest category	MPI (NZ) – Closed Forestry Programs info
PA066	**Vision Mātauranga: Coastal Maori Adaptation Strategies**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	Adaptation; Impacts	From 2015–2017, the Deep South National Science Challenge funded research working with coastal Maori communities to identify climate change impacts on marae and lands. Through hui and participatory mapping, M āori land- and farm-owners, scientists and senior architecture students, co-designed solutions around land and water use that brought together understandings of kaitiakitanga as well as of climate change risks. Possibilities for rejuvenation and transformation included moving from dairying to other types of farming (such as algae farming, green-lipped mussels or fish hatcheries), or to growing sustainable cash crops such as flax or m ānuka honey from bees.	Deep South Challenge: Climate change & coastal Maori communities https://deepsouthchallenge.co.nz/research-project/climate-change-coastal-maori-communities/
PA067	**Te Auaunga /Oakley Creek Urban Stream Restoration**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	adaptation, urban locations	Auckland City partnered with local iwi to daylight and widen a concrete storm drain into a wetland. Mātauranga M āori guided species selection, bank stabilisation and the design of community spaces. The re-naturalised creek now absorbs extreme -rain pulses, improving flood safety for 2000 nearby homes, and has become a living classroom where kura kaupapa (Māori-immersion schools) teach stream kaitiakitanga (guardianship). Paid restoration jobs and cultural signage reinforce M āori leadership and visibility in the city.	NZ Ministry for the Environment (2024). Our Land 2024. https://environment.govt.nz/publications/our-land-2024/ "Restoring Te Auaunga – Oakley Creek", Science Learning Hub, 2022 https://www.sciencelearn.org.nz/resources/3330-restoring-te-auaunga-oakley-creek
PA068	**P ūrākau-driven stream restoration at Te Awa Kairangi**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	adaptation, traditional knowledge, urban	A Kaupapa M āori–framed study used traditional oral narratives (P ūrākau) to guide the daylighting and ecological restoration of Waiwhet ū Stream (Te Awa Kairangi). By repositioning the river as a living ancestor, the project re-established native riparian vegetation, improved flood buffering for surrounding housing, and created a wh ānau learning corridor where Elders teach kōrero tuku iho (ancestral stories) and kaitiakitanga practices to rangatahi. It demonstrates how framing adaptation through M āori wellbeing models (Te Whare Tapa Wh ā) can yield both ecological and cultural-health co-bene fits.	Mihaere et al. (2024) Centring localised indigenous concepts of wellbeing in urban nature-based solutions for climate change adaptation. Sec. Interdisciplinary Climate Studies Volume 12 - 2024 https://doi.org/10.3389/fenvs.2024.1278235
PA069	**Māori & Pasi fika Youth Storytelling for Climate Adaptation**	Māori and Pasi fika communities	New Zealand	Paci fic Islands, Australia & New Zealand	adaptation, youth, storytelling	Pilot climate adaptation project in a flood-prone Christchurch community, using M āori and Pasi fika storytelling traditions (p ūrākau, talanoa) to strengthen youth leadership in climate resilience. Youth (ages 10–14) participated in w ānanga (workshops) with elders, drawing on cultural narratives and values to envision how their community can adapt to future flooding and "wicked" climate challenges . Through art, storytelling, and scenario exercises, the young participants designed community adaptation pathways grounded in Indigenous knowledge.	McMeeking et al (2024). Storytelling and good relations: Indigenous youth capabilities in climate futures. Geographical Research 63(1). http://doi.org/10.1111/1745-5871.12670
PA070	**Te Arawa Climate Change Strategy (New Zealand)**	Te Arawa iwi (Rotorua Lakes District)	New Zealand	Paci fic Islands, Australia & New Zealand	Adaptation; Mitigation	In 2021, the Te Arawa iwi collective launched a climate change strategy to build resilience of their communities and environment. The strategy, guided by m?tauranga M?ori (traditional knowledge), outlines actions such as protecting forests and lakes, shifting to renewable energy on tribal lands, and educating rangatahi (youth) to be climate leaders."	Te Arawa Climate Change Working Group: Strategy Summary https://tearawa.io/climate-strategy

PA071	**Ng āti Kuri's Climate-Driven Species Protection**	Ng āti Kuri iwi (Te Hiku o Te Ika, Far North)	New Zealand	Paci fic Islands, Australia & New Zealand	Traditional conservation; Biodiversity; Ocean sanctuary; Indigenous knowledge	The Ng āti Kuri M āori iwi is taking innovative action to protect taonga species threatened by climate change in their rohe (territory) at the northern tip of New Zealand. Notably, Ng āti Kuri is establishing dynamic rahui (traditional no-take zones) to safeguard migratory birds like the kuaka (bar-tailed godwit) and marine life such as whales, whose patterns are disrupted by warming oceans	NZ Climate Commission (2022) – Ng āti Kuri Case Study
PA072	**Māori Maramataka Calendar and Science Partnership**	Māori	New Zealand	Paci fic Islands, Australia & New Zealand	impacts; forecasting; two-eyed seeing; peer-reviewed	Māori knowledge holders in Aotearoa New Zealand are revitalizing the maramataka (traditional lunar and environmental calendar) and teaming with scientists to assess climate change impacts on it	IPCC. (2022). Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. (Cross-Chapter Box INDIG)., p. 2715
PA073	**The Concept of Indigenous Knowledge and Climate Resilience in the Paci fic**	Various Paci fic Islander communiti es	Paci fic Islands	Paci fic Islands, Australia & New Zealand	adaptation, housing, food secutiry	Explores how Indigenous knowledge contributes to climate resilience in Paci fic communities. It documents traditional housing designs, food security strategies, and disaster preparedness techniques passed through generations.	Vunibola et al (2024). The Concept of Indigenous Knowledge and Climate Resilience in the Paci *fic*. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 3, Pages 47-60
PA074	**Indigenous peoples perspectives project in the Paci fic**	Paci fic peoples	Paci fic Islands Region	Paci fic Islands, Australia & New Zealand	technology	Paci fic Indigenous Peoples have historically cultivated harmonious relationships with their environments, but climate change increasingly threatens their livelihoods, cultures, and ecosystems. In response, communities across Fiji and Papua New Guinea have initiated innovative projects like the "Indigenous Peoples Perspectives Project," blending traditional ecological knowledge with advanced technologies such as Geographic Information Systems (GIS) and remote sensing. These technologies aid in monitoring forests and oceans, enhancing community resilience and resource protection. Through the combination of ancestral wisdom and modern technology, Indigenous communities not only enhance ecological stewardship but also reinforce their cultural practices, rights, and community engagement. Outcomes of this initiative have included the successful reclamation of illegally desolated lands and marine resources, increased habitat protection, and encouraged cultural identity amongst the indigenous peoples of the Paci fic.	No'amasahu (2025): Indigenous Peoples Climate Protection on Planet Case Study (pers. comm).
PA075	**Palau – Documenting Traditional Coping Strategies**	Ngarchelo ng community (Babeldao b)	Palau	Paci fic Islands, Australia & New Zealand	Observations & Impacts; Adaptation; Traditional Knowledge; Coastal management; Youth engagement	A community-driven effort in Palau to preserve and apply traditional knowledge for climate adaptation involved elders on Babeldaob Island working with the NGO Ngarcholtitech to film and record old coping strategies for saltwater intrusion and coastal erosion	Report on Climate Frontlines: http://www.climatefrontlines.org/en-GB/node/554#paci fic. Cited in: Maclellan et al (2012). Owning Adaptation in the Paci fic. Oxfam Resarch Report. https://www.paci ficclimatechange.net/sites/default/files/documents/Owning%20Adaptation%20in%20the%20Paci fic%20-%20print%20 final%20lower%20res.pdf

PA076	**Carteret Islands Relocation**	Carteret Island community	Papua New Guinea	Paci fic Islands, Australia & New Zealand	Adaptation; Relocation; Food security; Community-led; Migration	The Carteret Atoll's 2,700 residents are among the world's first climate-displaced peoples, as rising seas have made their low islands barely livable. A community-driven relocation began in 2009 (led by Indigenous NGO Tulele Peisa - meaning "sailing the waves on our own") to move families to mainland Bougainville. After 15 years, fewer than 15% of families have relocated. The effort stalled due to funding shortfalls, land disputes, and dif ficulties integrating with host communities – some settlers even returned to the atoll, unable to sustain livelihoods away from the sea	Rakova 2015, Tulele Peisa – Carteret Islanders relocation. https://womengenderclimate.org/gjc_solutions/community-led-relocation-effort-by-the-carteret-islanders-who-face-extinction-from-climate-change-impacts-and-extreme-weather-events UNU-TKI: Indigenous Perspectives – Carteret Islands (video series, 2009) https://www.youtube.com/watch?v=Hgw4HTtokgk Connell (2016) Last days in the Carteret Islands? Climate change, livelihoods and migration on coral atolls doi: 10.1111/apv.12118 Cultural Survival (2022) Strengthening Our Ancestral Community Across the Seas https://www.culturalsurvival.org/publications/cultural-survival-quarterly/strengthening-our-ancestral-community-across-seas
PA077	**mmm...missing.. .taro video**	Carteret Islands community (Papua New Guinea)	Papua New Guinea	Paci fic Islands, Australia & New Zealand	Impacts	This personal 3-minute video (2008) documents a Carteret Islander showing his ruined taro patch – once a staple food source – now poisoned by saltwater from king tides. The emotive clip ("mmm…missing… taro") symbolized how climate change threatens food security and culture in these low coral atolls. It helped raise awareness of the Carteret Islanders' crisis internationally. The video was part of the Paci fic Climate Change Film Project (Paci fic Black Box Inc.)."	Paci fic Black Box: mmm...missing...taro (Carteret Islands http://www.pacificblackbox.com.au/
PA078	**Integrating Indigenous and scienti fic knowledge bases for disaster risk reduction in Papua New Guinea**	Communit y in Papua New Guinea (DRR project)	Papua New Guinea	Paci fic Islands, Australia & New Zealand	Adaptation	A 2009 collaborative study by researchers and a PNG highland community developed a framework to integrate local Indigenous knowledge with scienti fic risk analysis for disaster preparedness. The community shared its traditional indicators of natural hazards – e.g. noticing speci fic bird calls and river behaviors as flood warnings, and knowing safe refuge spots from ancestral stories. Scientists provided hazard maps and formal early-warning techniques. Combining the two knowledge systems yielded a more effective and culturally appropriate DRR plan: for example, new evacuation routes were sited to align with both scienti fic flood zones and places elders recalled as safe. This case became widely cited (it was Case Study 81 in the UNFCCC's adaptation knowledge database) as a model for co-production of knowledge.	Mercer et al. (2009) - Integrating Indigenous & Scienti fic Knowledge for DRR https://doi.org/10.1111/j.1468-0467.2009.00355.x
PA079	**Tulele Peisa**	Indigenous Peoples of the Carteret Islands	Papua New Guinea	Paci fic Islands, Australia & New Zealand	impacts & observations; food security; report; relocation	Facing sea level rise, food shortages due to saltwater flooding, and other threats associated with climate change, this organization has organized for the voluntary relocation of the Indigenous Peoples of the Carteret Islands. This is one of the first community-driven 'climate change refugee' relocation efforts in the region. Sustainable natural resource management is at the center of Tulele Peisa's work. The organization engages with host communities on the 'mainland' island of Bougainville to ensure adequate land, infrastructure, and livelihoods opportunities are available for relocated people. It also ensures that links are maintained with the culture, land, and resources of the Carteret Islands. The community-based approach to relocation offers a positive relocation model for other atolls in the region, and has had the unexpected bene fit of improving interisland trade, which is serving to enhance local resilience and livelihoods.	Equator Prize 2014. https://www.equatorinitiative.org/2017/05/30/tulele-peisa/
PA080	**An uncertain future video**	Takuu (Mortlock) Atoll community	Papua New Guinea	Paci fic Islands, Australia & New Zealand	Impacts; Oceans and Coastal Zones; Human Settlements	This 2008 short film pro files the low-lying Takuu Atoll north of Bougainville, PNG, where an Indigenous Polynesian community faces worsening inundation and erosion. The video's poignant footage – king tides flooding homes and elders expressing fear for their culture's survival – brought global attention to Takuu's plight. It underlined that, without drastic action, islands like Takuu could become uninhabitable. In the years since, scienti fic assessments have echoed that warning: studies predict Takuu may not be habitable within a few decades	UNU OurWorld 2.0: An Uncertain Future (Takuu Atoll) https://ourworld.unu.edu/en/an-uncertain-future-takuu

PA081	**Wanang Conservation Area**	Wanang Communtity	Papua New Guinea	Pacific Islands, Australia & New Zealand	adaptation; forests; capacity-building; two-eyed seeing; prize	Developed in response commercial logging pressures and a lack of public services, the Wanang Conservation Area is an alliance of ten indigenous, rainforest-dwelling clans that together protect 10,000 hectares of forest for biodiversity research, carbon storage, and sustainable livelihoods. The initiative maintains a 'forest dynamics plot', where they have planted more than 280,000 trees to study their responses to changing climatic conditions. A research station, which is one of the largest in the country, serves as a capacity building hub and trains Wanang villagers and students are as para-ecologists and research technicians. The research station enhances communication between the local population and research scientists, provides a source of livelihoods, and supports environmental learning. The initiative has become a model for community-driven conservation and development in the country and is a powerful example of partnership between a self-governed community, local NGOs, government, and research institutes. It is also a model of resistance to commercial logging interests in a region being ravaged by deforestation. Forest conservation has become the cornerstone of the local economy, with partnerships creating greater access to health, education, and food security.	Equator Prize 2015. https://www.equatorinitiative.org/2017/05/30/wanang-conservation-area/ Wanang Conservation Area. https://www.ngbinatang.com/wanang/
PA082	**Adaptation of small island societies in Papua New Guinea and the Torres Islands**	Indigenous communities in PNG and Torres Islands	Papua New Guinea & Australia	Pacific Islands, Australia & New Zealand	impacts, adaptation	In the islands of Muyuw and the Kula Ring in Papua New Guinea, local Indigenous communities experience significant impacts from unpredictable droughts and altered rainfall patterns linked to climate phenomena such as ENSO (El Niño-Southern Oscillation). These changes severely affect their traditional agricultural calendar, harvest cycles, and overall resource management practices. Indigenous populations actively respond through dynamic stewardship practices, modifying vegetation and soils to maintain agricultural productivity and resilience against environmental fluctuations. In the seismically active Torres Islands, frequent and intense seismic events dramatically reshape shoreline ecologies, soil quality, and coastal hydrodynamics, impacting Indigenous food security and livelihoods. Here, Indigenous adaptation strategies include dispersing food production sites to mitigate vulnerability to environmental disturbances. This approach exemplifies a long-term adaptive response, demonstrating how traditional knowledge and strategic diversification effectively distribute risk and ensure resilience in the face of climate and geological uncertainties.	Troeger (2011) in Nakashima et al (2012). Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. P59.
PA083	**Samoan Seasonal Calendar & Climate Forecasting**	Matai and farming communities	Samoa	Pacific Islands, Australia & New Zealand	Observations & Impacts; Adaptation; Traditional Knowledge; Agriculture; DRR (Disaster Risk Reduction)	Samoan Indigenous knowledge – in particular, the traditional lunar and seasonal calendar (taimi āmoa) – is used to predict weather extremes and guide farming and fishing activities. Climate scientist Penehuro Lefale worked with village elders and the Samoa Meteorology Division to record environmental indicators. Samoan communities observe cloud formations, the flowering of certain trees, and animal behavior to anticipate cyclones or droughts	Maclellan et al (2012). Owning Adaptation in the Pacific. Oxfam Resarch Report. https://www.pacificclimatechange.net/sites/default/files/documents/Owning%20Adaptation%20in%20the%20Pacific%20-%20print%20final%20lower%20res.pdf
PA084	**A Climate of Change in Samoa**	Samoan traditional communities	Samoa	Pacific Islands, Australia & New Zealand	coasts, adaptation	"A Climate of Change" (2010) is a short documentary highlighting how climate change is affecting Samoan communities and how they are responding. It features local voices – from farmers adapting to unpredictable weather to villagers reinforcing coastlines – alongside expert input. The film was used in village workshops and schools, sparking discussion on community-driven adaptation and the value of Indigenous knowledge in coping with change.	UNDP: A Climate of Change (Samoa documentary) https://www.adaptation-undp.org/

PA085	**Conservation of the mangrove ecosystems as storm surge protection**	Samoan traditional owners	Samoa	Paci fic Islands, Australia & New Zealand	Oceans and Coastal Zones; Adaptation	This community-based adaptation project (c. 2008–2011) supported Samoan villages in rehabilitating mangrove forests as natural defenses against storm surges and erosion. Locals worked with the Ministry of Natural Resources & Environment to establish protected mangrove areas, replant degraded sites, and revive traditional stewardship of wetlands. Early outcomes included expanding mangrove cover and increasing awareness of the mangroves' role in buffering cyclones. Samoa has since scaled up such efforts: it participated in the regional MESCAL initiative (Mangrove Ecosystems for Climate Change Adaptation) and in 2021 launched a community-led project to strengthen the climate resilience of Moata'a's mangroves near Apia	Samoa MNRE: Mangrove Ecosystem Conservation https://www.mnre.gov.ws/ SPREP (2011) MESCAL Samoa; SPREP (2020) Moata'a Mangrove Resilience project
PA086	**Increasing Community Resilience to Natural Disasters through the Use of Traditional Coping Strategies on the Weather Coast Guadalcanal Communities in the Solomon Islands**	Babanakira and Kolina communities	Solomon Islands	Paci fic Islands, Australia & New Zealand	adaptation, traditional knowledge, forecasting, cultural practices	In the Solomon Islands in Melanesia, a microproject was implemented with the Babanakira and Kolina communities. In the past, the Solomon Islands have suffered a large number of natural and manmade disasters, including the April 2007 tsunami, which hit the western part of the country, causing the loss of many human lives and the destruction of livelihoods, and leaving a large number of people homeless. Moreover, between 1999 and 2003, these islands were the scene of violent con flict, which also had devastating effects on the population. Babanakira is the collective name for a series of villages located in the Guadalcanal Province, which are accessible only by sea and locally known as the "unpredictable weather coast area." Financing from IFAD (Indigenous Peoples' Assistance Facility) supported participatory recording of traditional knowledge and practices concerning prevention measures and response mechanisms with the purpose of mitigating the effects of natural disasters. Consultations with elders and leaders served to document (i.e. transfer from oral to written) the indigenous peoples' knowledge. The communities' traditional disaster preparedness mechanisms consist of re-vegetating coastal foreshores with native species in order to cope with sea-level rise and careful household preparation prior to cyclones or flooding events, such as cutting trees around the houses and	UNFCCC Adaptation Knowledge Portal. https://www4.unfccc.int/sites/NWPStaging/Pages/item.aspx?ListItemId=25537
PA087	**Participatory Three-Dimensional Modeling in BoeBoe, Solomon Islands**	BoeBoe villagers	Solomon Islands	Paci fic Islands, Australia & New Zealand	oceans & coastal, traditional knowledge, two-eyed seeing, forecasting	As part of a larger community-led planning planning process, this case study integrated traditional and scienti fic knowledge using participatory three-dimensional modeling (P3DM) in BoeBoe village, Solomon Islands. P3DM is a process by which members of the local community build a physical terrain model and overlay it with the location of important resources such as protected areas or harvesting sites. Additionally, SLR inundation scenarios based on surveyed elevations were incorporated into a geographic information system (GIS), allowing for a real-time integration of science with local knowledge. Despite discrepancies in scales and accuracy, information from both the P3DM and GIS were complementary. The process, itself, provided a forum for discussion between many members of the village who would normally not be involved and highlighted the importance of community engagement when building capacity for adaptation to climate change.	Leon, Javier & Hardcastle, James & James, Robyn & Albert, Simon & Kereseka, Jimmy & Woodroffe, Colin. (2015). Supporting Local and Traditional Knowledge with Science for Adaptation to Climate Change: Lessons Learned from Participatory Three-Dimensional Modeling in BoeBoe, Solomon Islands. Coastal Management. 43. 10.1080/08920753.2015.1046808.
PA088	**Customary laws to protect resources in a changing climate in the Solomon Islands**	Mugava and Mungiki (Rennell and Bellona)	Solomon Islands	Paci fic Islands, Australia & New Zealand	policy & governance; biodiversity; customary practices	There is a particular indigenous group in the Solomon Islands who are still protecting certain areas like their sea and ocean - the Mugava and Mungiki peoples, known as Rennell and Bellona people. They set up very strong rules and regulations not to throw human waste and rubbish to the sea or ocean. The Rennell and Bellona province in the Solomon Islands is a home to the people of Mugava and Mungiki peoples, who have unique cultural practices and knowledge systems that inform their relationship with the environment, particularly the sea. These communities have traditionally upheld a strong connection to their ancestral lands and marine resources, managing them through a variety of traditional rules and regulations aimed at sustainability and protection. Customary laws can include how natural resources should be used and protected. These laws can include restrictions on certain types of fishing, the timing of resource harvesting, and practices arise from a deep understanding of the local environment and recognition of the consequences of overexploitation and pollution. For example, the Mugava and Mungiki peoples may engage in practices like rotational fishing, close seasons fish species, and the protection of sacred sites and marine areas. These measures are designed to ensure that marine ecosystems remain healthy and	Regional submission

PA089	**Relocation of atoll islanders**	Ontong Java atoll community	Solomon Islands	Paci fic Islands, Australia & New Zealand	human settlements, adaptation, displacement	For over a decade, leaders from Ontong Java – a low-lying atoll in Solomon Islands – have sought options to relocate their people as rising seas cause severe erosion and saltwater intrusion. Since around 2008, some families from Ontong Java (also known as Luangiua) have voluntarily moved to the larger island of Malaita, supported by church groups and relatives. The Solomon Islands government has gradually developed plans for community-led relocation: securing land, protecting migrants' livelihoods (fishing, gardening), and maintaining cultural identity. Progress has been slow due to funding and land tenure complexities. By 2022 a national Planned Relocation framework was adopted	Solomon Islands Government: Atoll Relocation Planning https://www.preventionweb.net/publication/planned-relocation-ontong-java
PA090	**Mugava nad Mungiki customary laws of the sea**	Rennell and Bellona people	Solomon Islands	Paci fic Islands, Australia & New Zealand		The Mugava and Mungiki peoples of Rennell and Bellona province in the Solomon Islands demonstrate a deep-rooted commitment to safeguarding their marine resources. Their rules prohibit disposing of human waste or any other form of garbage into the sea, emphasizing the importance of maintaining a clean and healthy marine environment. These regulations are grounded in traditional knowledge and cultural values that respect the ocean as a vital source of livelihood and spiritual connection. By enacting strict protections around fishing and the timing of resource harvesting, these communities ensure that marine ecosystems remain productive for both current and future generations. Their efforts are especially signi ficant in light of modern challenges like pollution, over fishing, and climate change. The Mugava and Mungiki peoples' example underscores how indigenous stewardship and practices —such as rotational fishing, protection of sacred sites, and seasonal closures—can effectively preserve biodiversity and bolster the resilience of local communities. By highlighting their enduring reliance on traditional knowledge systems, these communities provide a compelling model for integrating indigenous practices with contemporary conservation initiatives to create sustainable, culturally attuned responses to environmental threats.	No'amasahu (2025): Indigenous Peoples Climate Protection on Planet Case Study (pers. comm).
PA091	**Solomon Islands Knowledge-to-Action Climate Resilience Project (SOLKAS)**	Solomon Islands communiti es	Solomon Islands	Paci fic Islands, Australia & New Zealand	Adaptation; observations & impacts; livelihoods; traditional knowledge	This community-centered project in the Solomon Islands integrates Indigenous knowledge and leadership with climate adaptation strategies to build resilience in vulnerable rural communities. Recognizing the Solomon Islands' high exposure to climate change impacts, the project emphasizes community-led, locally appropriate responses rooted in traditional and Indigenous knowledge systems. It supports inclusive adaptation planning, empowering local governance structures and ensuring that women and youth—often excluded from decision-making—are key participants. A core innovation is the introduction of a digital toolset for climate risk assessment and adaptation planning, enabling communities to access real-time data and develop locally relevant responses. In parallel, a permanent Youth Climate Resilience Livelihoods Incubator will be established to accelerate green and climate-smart projects at the community level. These tools are designed to amplify Indigenous and local voices in planning, foster innovation, and embed sustainable, culturally grounded practices into long-term climate resilience efforts. Under implementation (2023-2030), with GCF financing of USD $25 million.	https://www.greenclimate.fund/project/sap027 Save the Children (2023), 2022 Annual Performance Report for SAP027: Solomon Islands Knowledge-to-Action Climate Resilience Project https://www.greenclimate.fund/document/2022-annual-performance-report-sap027-solomon-islands-knowledge-action-climate-resilience
PA092	**Increasing Community Resilience to Natural Disasters through the Use of Traditional Knowledge**	Traditional communiti es in Solomon Islands	Solomon Islands	Paci fic Islands, Australia & New Zealand	traditional knowledge, adaptation, disaster risk reduction	From 2009, the Solomon Islands government and Red Cross implemented a community resilience program integrating Traditional Knowledge (TK) into disaster risk reduction training. Elders and women in remote villages shared customary signs of approaching hazards (e.g. unusual bird behavior before cyclones, certain flowering patterns before droughts) and traditional survival skills (food preservation techniques, house-building on stilts). These were documented and combined with modern early warning systems to develop community disaster plans. By 2014, the Solomon Islands Meteorological Service started a TK project to collect weather lore and include it in forecasting	Solomon Islands Red Cross: Traditional Knowledge for DRR https://reliefweb.int/report/solomon-islands/traditional-knowledge-disaster-reduction Solomon Islands Ministry of Environment https://met.gov.sb/traditional-knowledge/
PA093	**Forests, Climate Change, and Indigenous Knowledge**	Various Indigenous communiti es	Solomon Islands	Paci fic Islands, Australia & New Zealand	Adaptation, Mitigation	Explores how Indigenous knowledge shapes forest management and restoration in the context of climate change. It examines economic models that integrate Indigenous values.	Weaver & Roughan (2024). Forests, Climate Change, and Indigenous Knowledge. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 9, Pages 145-188

PA094	**Sea level rise and environmental migration**	Communities in Tuvalu	Tuvalu	Pacific Islands, Australia & New Zealand	Adaptation	Tuvalu faces rising sea levels that threaten to displace its population. This case examines how environmental migration is being approached: Tuvalu developed a National Adaptation Programme focusing on protective measures but also partnered with New Zealand's Pacific Access Category for migration. By 2010, a small number of Tuvaluans were migrating annually for work/residency abroad. While Tuvalu emphasizes it prefers to remain, it simultaneously prepares its people with skills and education in case migration becomes inevitable. As of the 2020s, most Tuvaluans remain in place, and the government continues to advocate fiercely for global climate action. In a symbolic 2021 COP26 speech, Tuvalu's Foreign Minister stood knee-deep in the ocean to demand climate justice	Government of Tuvalu: National Adaptation Programme of Action (2007) https://www.sprep.org/climate_change/ ABC News (2021). Tuvalu's foreign minister Simon Kofe gives COP26 speech knee-deep in the sea. https://www.abc.net.au/news/2021-11-10/tuvalu-minister-makes-cop26-speech-from-sea/100608344
PA095	**Tuvalu Coastal Adaptation Project (TCAP)**	Tuvaluan communities (Funafuti and outer islands)	Tuvalu	Pacific Islands, Australia & New Zealand	Adaptation; Impacts	"Supported by the Green Climate Fund since 2017, Tuvalu is building coastal protection such as sea walls and improving infrastructure to reduce vulnerability to sea-level rise. The TCAP focuses on securing key assets on Funafuti and piloting island-specific adaptation measures for outer islands."	Green Climate Fund: Tuvalu Coastal Adaptation Project https://www.greenclimate.fund/project/fp034
PA104	**Hui Maka'āinana o Makana near-shore fisheries**	Hui Maka'āinana o Makana (Hawai'i)	USA	Pacific Islands, Australia & New Zealand	oceans & coastal, policy & governance, traditional knowledge	On the north shore of the island of Kaua'i, Hui Maka'āinana o Makana takes a place-based approach that weaves together the identity and culture of native Hawaiian communities to manage their nearshore fisheries sustainably. Through sustained work at the grassroots and policy levels over the past 25 years, the group successfully attained a groundbreaking agreement with the State of Hawai'i in 2015 to establish a Community-Based Subsistence Fishing Area, setting a key precedent for Hawai'i and the Pacific. The fishing area is managed using traditional ecological knowledge, including the designation of a pu'uhonua, or sanctuary area. The group's sustainable marine management is complemented by a mosaic of other initiatives supporting the conservation and sustainable use of agricultural areas, sacred sites, and the entire watershed, strengthening resilience in the face of climate change.	Equator Prize 2019. https://www.equatorinitiative.org/wp-content/uploads/2021/12/Hui-Maka%CA%BBainana-o-Makana-Case-Study-English-r2-1.pdf
PA105	**Keawanui Aloha 'Āina Keawanui Scholarship Program**	Indigenous Peoples of Hawaii	USA	Pacific Islands, Australia & New Zealand	adaptation, agriculture, food security	Indigenous Peoples of Hawaii revitalized traditional food systems, fishponds, and traditional agriculture as a way to increase local food production, preserve natural and cultural resources, and train new practitioners by building capacity in the management of indigenous natural and cultural resources and traditional food systems. They focus on the Keawanui fishpond and cultural learning site, where they restored a 3-acre area into an ancestral feeding ground that cares for the site's 55-acre traditional fishpond.	Pawanka Fund: https://pawankafund.org/blog-news/climate-change/
PA109	**Native Hawai 'i - Lāhainā Wildfire Recovery & Cultural Preservation**	Kānaka Maoli	USA	Pacific Islands, Australia & New Zealand	disaster recovery; cultural heritage; climate coloniality; Good Fire; sovereignty; diaspora/migration	On August 9, 2023, drought and fierce winds drove wildfires that devastated Lāhainā (one of the deadliest U.S. fires in a century), burning over 2,100 acres and damaging culturally significant sites. Native Hawaiian leaders tied the disaster to the climate crisis, a legacy of colonial land use (a former wetland drained for tourism) and lost rights to steward 'āina and wai, while scholars warned about pressures from overdevelopment and industrial tourism. Recovery discussions center Indigenous-led governance, the return of Good Fire and other land-care practices, and preventing displacement, underscoring that cultural preservation and equity must be embedded in climate disaster response.	Status of Tribes & Climate Change (STACC) Report, Volume 2 (2025). Chapter 4, pp. 110-111. http://nau.edu/staccreport
PA096	**Building the capacity of the Vanuatu indigenous forest-dependent population**	Communities on Santo, Malakula, Efate, Erromango, Tanna, Epi, Aneityum	Vanuatu	Pacific Islands, Australia & New Zealand	REDD+, climate awareness, indigenous voices	Focused on increasing REDD+ and climate change awareness among indigenous populations in Vanuatu. Conducted extensive local-language workshops across multiple islands, significantly enhancing local understanding. Emphasized inclusion of indigenous voices in decision-making but faced logistical challenges due to geography and weather conditions.	Tebtebba Completion Report (2020) Annex 3. https://www.tebtebba.org/index.php/ filelink/fileman- files/FCPF/completion-report/Annex%203%20Sub-projects%20completion%20reports.pdf

PA097	**Lateu Village Relocation (Tegua Island)**	Lateu community (Torres Islands)	Vanuatu	Paci fic Islands, Australia & New Zealand	Adaptation; Relocation; Disaster risk; Traditional knowledge; Community resilience	Lateu, a small village on Tegua Island, Vanuatu, became one of the world's first documented climate-related relocations. Increasing storm surges, coastal erosion (~2–3 m/yr) and flooding had made the original site uninhabitable	UNEP 2005, Post-Relocation Survey: Tegua (Vanuatu)
PA098	**Facilitating and strengthening local resource management initiatives of traditional landholders and their communities to achieve biodiversity conservation objectives**	Traditional landholder communiti es	Vanuatu	Paci fic Islands, Australia & New Zealand	Adaptation	A GEF-funded project (2005–2010, $0.75M grant) worked with traditional landowners and chiefs in Vanuatu to strengthen customary conservation practices on communal land s. Local communities established tabu areas (no-take zones in forests and reefs) and inter-village committees to manage them, reviving Indigenous resource governance. By bolstering traditional knowledge with scienti fic surveys and training, the project protected biodiversity (forests, coral reefs) while enhancing resilience to climate impacts (e.g. buffering coral bleaching, maintaining forest water sources). It also built capacity at provincial and national levels to support community conservation . These community-managed conservation areas have endured. In 2024, for example, the Nusemetu Community Conservation Area on Tanna – initially supported by this project – was chosen for a new ecosystem restoration initiative to further climate adaptatio n.	GEF Project Database. https://www.thegef.org/projects-operations/projects/1682 Presswire (2024). Nusemetu Community in Vanuatu to Lead Climate Adaptation Initiative with PRISMSS Support. https://www.einpresswire.com/article/701899689/nusemetu-community-in-vanuatu-to-lead-climate-adaptation-initiative-with-prismss-support

Global

ID	Title	IP	Country	Region	Keywords	Summary	Further Information
GL002	**ForestLink: Unlocking the potential of forest guardians**		Cameroon, DRC, ROC, Ghana, Liberia, Peru, Ivory Coast	Global	mitigation; land use; forests; carbon credits; policy & governance	Innovative, practical, and low-cost, RFUK's ForestLink technology connects Indigenous and local communities and law enforcement to monitor tropical forests in real-time: reducing deforestation, protecting human rights, and putting power back in the hands of those who call the forest home. Community monitors use a smartphone app (Collectaur) to collect evidence of illegalities and to document their alerts using photos, videos or audio recordings. The collected evidence is transmitted to a secure database using a portable satellite transmitter or via SMS or internet. Details of the illegal activities are passed on to the appropriate authorities so they can take action, such as sanctioning illegal operators.	Forestlink (nd): https://forestlink.org/
GL003	**Interlinkages between traditional knowledge and genetic resources in adaptation to climate variability in China, Bolivia and Kenya**		China, Kenya, Bolivia	Global	adaptation, impacts	Swiderska et al. conducted participatory research with Indigenous communities in south-west China, coastal Kenya, and the Bolivian Andes to examine the impacts of climate change and the importance of traditional knowledge (TK) and agrobiodiversity. The study found that climate change, especially drought, severely affects crop production and food security in these communities. Indigenous farmers rely heavily on traditional crop varieties due to their resilience and availability, which signi ficantly supports adaptation to climate impacts. These traditional crops are vital since they originate from saved seeds and do not rely on markets or expensive agricultural inputs required by modern varieties. These studies highlight the close interlinkages and interdependence between TK and genetic resources, and their role in adaptation to climate variability and change. This suggests the need to support initiatives such as local landrace conservation, local seed production, seed fairs, community seed banks, and community-based conservation and adaptation.	Swiderska, K., Argumedo, A., Song, Y., Li, J., Pant, R., & Herrera, H. (2011). Community-based climate change adaptation: Indigenous knowledge, local innovations and global sustainability. In N. Nakashima, K. Galloway McLean, H. Thulstrup, A. Ramos Castillo, & J. Rubis (Eds.), Weathering uncertainty: Traditional knowledge for climate change assessment and adaptation (pp. 81–94). UNESCO & UNU-IAS.
GL004	**Land tenure policies impacting on traditional forest management in Kenya, Nicaragua and Indonesia**		Kenya, Nicaragua, Indonesia	Global	land tenure, policy	This study explores community-based forest management strategies among the Loita Maasai (Kenya), Miskitu (Nicaragua), and Dayak Jalai (Indonesia). Forests in these communities are crucial not only for economic sustenance but also for preserving Indigenous identities, cultures, traditional knowledge, and social structures. Indigenous governance practices include setting aside areas speci fically for conservation, highlighting a strong relationship between environmental stewardship and cultural preservation. A shared challenge among these communities is limited political control over their forests. In Kenya, the Maasai community faces constraints because forest resources are legally controlled by local government structures. In Nicaragua, the Miskitu face restrictive government norms and deforestation pressures from external settlers. The Dayak Jalai in Indonesia similarly struggle with external governance that undermines traditional forest management.	Tauli-Corpuz, V., & Alangui, W. V. (2011). Indigenous peoples' perspectives on climate change and the rights-based approach. In N. Nakashima, K. Galloway McLean, H. Thulstrup, A. Ramos Castillo, & J. Rubis (Eds.), Weathering uncertainty: Traditional knowledge for climate change assessment and adaptation (pp. 155–170). UNESCO & UNU-IAS.
GL005	**IUCN | Indigenous and Traditional Peoples and Climate Change**			Global	Adaptation, local observations & impacts, database	This foundational report from 2008 critically examines how global climate policies, including the UNFCCC and Kyoto Protocol, address Indigenous Peoples. It highlights the disproportionate impacts of climate change on Indigenous communities and underscores the need to integrate their perspectives into climate policy frameworks.	https://portals.iucn.org/library/node/12830
GL006	**MSV | Many Strong Voices**			Global	Adaptation, capacity-building, policy & planning	Many Strong Voices (MSV) is a collaborative program ensuring the well-being and sustainability of coastal communities in the Arctic and Small Island Developing States (SIDS) in response to climate change. The initiative strengthens negotiation capacity, raises awareness, and promotes adaptation strategies for these vulnerable regions.	Many Strong Voices http://www.manystrongvoices.org
GL007	**UNFCCC | Local Communities & Indigenous Peoples Platform (LCIPP)**			Global	Governance	Mandated in the Paris outcomes and finalized at COP23 (2017), the LCIPP is the UNFCCC's dedicated platform to elevate Indigenous Peoples' and local communities' knowledge and participation in climate policy. Its work centers on three functions: knowledge, capacity for engagement, and climate action. It is guided by the Facilitative Working Group (FWG), a formal body inside the UNFCCC that brings together Party representatives and Indigenous organizations on equal footing. Since establishment, Parties and IPOs have implemented multi -year workplans, hosted knowledge exchanges, and produced guidance to embed Indigenous knowledge and participation across adaptation, mitigation, and reporting processes.	LCIPP https://lcipp.unfccc.int/homepage

GL008	**EQUATOR INITIATIVE | Equator Initiative, Equator Knowledge, Equator Prize and Community Knowledge Service**			Global	Local observations & impacts, database, policy & planning	The Equator Initiative has expanded its knowledge-sharing efforts, honoring over 260 local and indigenous community projects through the Equator Prize. The initiative continues to bridge community experiences with global policy dialogues.	Equator Initiative http://www.equatorinitiative.org/
GL009	**FAO | Communication for Sustainable Development Initiative (CSDI)**			Global	Adaptation, awareness raising	The Food and Agriculture Organization of the United Nations (FAO)'s Communication for Sustainable Development Initiative (CSDI), which ran from 2007 to 2012, focused on applying Communication for Development (ComDev) to climate change adaptation and sustainable natural resource management. By empowering Indigenous communities with effective communication tools, CSDI aimed to support the dissemination of vital information, foster community engagement, and promote the exchange of best practices.	CSDI. https://www.facebook.com/people/Communication-for-Sustainable-Development-Initiative-CSDI/100069220599530/
GL010	**FAO | Globally Important Agricultural Heritage Systems initiative (GIAHS)**			Global	Adaptation, agriculture, traditional knowledge, food security	FAO supports Indigenous and other rural peoples in efforts to maintain their ingenious agricultural heritage systems through the Globally Important Agricultural Heritage Systems (GIAHS) initiative. It supports indigenous and local communities in safeguarding traditional agricultural practices resilient to climate change.	FAO http://www.fao.org/nr/giahs/en/
GL011	**IIPFCC | Global Indigenous Caucus in UNFCCC Negotiations**			Global	Policy, awareness raising	Also known as the International Indigenous Peoples' Forum on Climate Change (IIPFCC), the caucus has coordinated Indigenous Peoples' participation across UNFCCC COPs and intersessionals since 2008. It aligns positions from Indigenous organizations worldwide, prepares joint statements and submissions, and organizes interventions to advance rights -based climate action—centering land, territories and resources; free, prior and informed consent; and recognition of Indigenous knowledge in mitigation, adaptation, and finance. The caucus works within the UNFCCC's Indigenous Peoples Organizations (IPO) observer constituency, providing a structured channel for engagement with Parties and constituted bodies, and serving as the principal convening space for Indigenous negotiators and knowledge holders across regions.	IIPFCC https://www.iipfcc.org/
GL012	**GAIA FOUNDATION | Community Ecological Governance**			Global	Local observations & impacts, raising awareness, traditional knowledge, biodiversity	Gaia Foundation partners with Indigenous and local communities to strengthen their ecological governance, cultural resilience, and climate adaptation strategies. Gaia's work centers on supporting Indigenous-led processes that integrate traditional ecological knowledge with legal empowerment, ecosystem restoration, seed sovereignty, and climate justice. Through long-term relationships, Gaia facilitates initiatives that uphold Earth Jurisprudence, revive sacred natural sites, and scale climate-resilient agroecological practices. Their approach is rooted in respecting the leadership, governance systems, and cosmologies of Indigenous Peoples, making their projects powerful examples of community-driven responses to climate change.	The Gaia Foundation http://www.gaiafoundation.org
GL013	**GEF | Community Management of Protected Areas for Conservation (COMPACT)**			Global	land use, observations & impacts, finance	The Community Management of Protected Areas for Conservation (COMPACT) initiative was established in 2000 as a partnership between the World Heritage Centre, UNDP-implemented GEF Small Grants Programme (SGP) and the United Nations Foundation (UNF). COMPACT started as a grant-making programme for local communities caring for World Heritage sites, aimed to demonstrate how community-based initiatives can signi ficantly increase the effectiveness of biodiversity conservation in globally important protected areas, while helping to improve the livelihoods and wellbeing of local people and promoting climate resilience.	COMPACT: Engaging Local Communities in the Stewardship of World Heritage. https://whc.unesco.org/en/compact/
GL014	**GEF/UNDP | Small Grants Programme**			Global	Adaptation, database	The GEF Small Grants Programme (SGP) supports projects of non-governmental and community-based organizations in developing countries, demonstrating that community action can maintain the balance between human needs and environmental imperatives. The program includes climate change adaptation and conservation of biodiversity, working with partners like The Mountain Institute and Indigenous Peoples,Âô Restoration Network to develop participatory video and repeat photography tools.	GEF Small Grants Programme http://sgp.undp.org/
GL015	**ICSM | Intangible cultural heritage, diverse knowledge systems and climate change**			Global	traditional knowledge, governance	Co-sponsored by the IPCC, UNESCO, and ICOMOS, this 2022 report emphasizes the importance of recognizing Indigenous Peoples' and local communities' knowledge systems. It advocates for their equitable inclusion within policy processes to transform climate governance effectively.	https://openarchive.icomos.org/id/eprint/2717/

GL016	**Indigenous Peoples observations at COP29**			Global	adaptation, observations & impacts, forests, water, dispplacememnt, mining	Indigenous representatives attending the COP29 U.N. Climate Summit in Azerbaijan highlighted severe impacts from climate change in their communities, including reduced snowfall in Yakutsk, Russia; contaminated water sources in Ranco Lake, Chile; prolonged drought and wild fires on the Wind River Reservation in the United States; and devastating floods displacing millions in Chad. They also reported rising sea levels in Vanuatu, drying rivers in the Amazon, and destructive mining practices in Papua New Guinea, underscoring widespread environmental degradation threatening their traditional livelihoods. At the same time, they shared how their communities actively contribute to climate solutions through traditional ecological knowledge, including reforestation efforts by the Sherpa in Nepal and Huni Kui in Brazil, ecosystem restoration by pastoralists in Chad, and spiritual reconnection to natural resources.	Maqbool, Ra fiq (2024). AP News. Indigenous peoples, impacted by climate change, raise alarm about the planet at COP29. https://apnews.com/article/climate-indigenous-people-photo-gallery-cop29-2366c65144234b5712903a99ea61961b
GL017	**International Court of Justice (ICJ) climate change case**			Global	legal action	In March 2023, the United Nations General Assembly unanimously adopted a resolution requesting an advisory opinion from the International Court of Justice (ICJ) on the obligations of states concerning climate change. This initiative, led by Vanuatu and supported by 132 nations, sought to clarify international legal responsibilities related to environmental protection and the rights of present and future generations in the context of climate change. Public hearings at the ICJ, conducted between December 2 and 13, 2024, featured extensive global participation, including representations from Indigenous groups highlighting their unique vulnerabilities and rights under international law. The case stands as a signi ficant moment of recognition for Indigenous Peoples, especially from the Paci fic Islands, whose traditional ways of life, territories, cultural heritage, and rights are severely threatened by climate change impacts such as sea-level rise, extreme weather, and marine pollution.	ICJ (2024). Obligations of States in respect of Climate Change. https://www.icj-cij.org/case/187 Paci fic Community (2023). 16 Paci fic Island Countries Unite for Climate Justice. https://www.spc.int/updates/blog/2023/07/16-paci fic-island-countries-unite-for-climate-justice
GL018	**International Tribunal for the Law of the Sea (ITLOS) Climate change case**			Global	legal action	In May 2024, the International Tribunal for the Law of the Sea (ITLOS) delivered a groundbreaking advisory opinion, declaring anthropogenic greenhouse gas emissions as a form of marine pollution under the United Nations Convention on the Law of the Sea (UNCLOS). This ruling explicitly recognized the disproportionate impact of climate change on Indigenous Peoples and coastal communities, particularly in small island nations. By framing emissions as pollution, ITLOS highlighted states' obligations to actively protect marine environments integral to the cultural identity, traditional knowledge, food security, and livelihoods of Indigenous communities. The Tribunal's opinion affirmed Indigenous Peoples' close relationship with ocean ecosystems, underscoring that rising sea levels, ocean acidi fication, and the loss of marine biodiversity threaten their fundamental human rights, sovereignty, and cultural practices. This recognition ampli fies Indigenous voices in global climate justice discourse, strengthening their position in advocating for more rigorous international measures and policies, and setting a legal precedent that empowers Indigenous Peoples to hold states accountable.	ITLOS (2024). Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law https://itlos.org/en/main/cases/list-of-cases/request-for-an-advisory-opinion-submitted-by-the-commission-of-small-island-states-on-climate-change-and-international-law-request-for-advisory-opinion-submitted-to-the-tribunal/
GL019	**IPCCA | The Indigenous Peoples Biocultural Climate Change Assessment**			Global	traditional knowledge	The Indigenous Peoples' Biocultural Climate Change Assessment (IPCCA), initiated in 2008, emerged from recommendations by the United Nations Permanent Forum on Indigenous Issues to address the speci fic vulnerabilities of Indigenous communities to climate change through culturally-grounded assessments. A signi ficant milestone was the 2009 Indigenous Peoples' Global Summit in Anchorage, Alaska, where Indigenous leaders produced the in fluential Anchorage Declaration, underscoring the urgency of integrating Indigenous knowledge systems into climate responses. Throughout the 2010s, the IPCCA developed and disseminated a comprehensive Methodological Toolkit, guiding Indigenous communities worldwide to assess climate impacts and develop adaptation strategies that prioritize traditional ecological knowledge and cultural values.	IPCCA Indigenous Peoples' Biocultural Climate Change Assessment https://satoyamainitiative.org/wp-content/uploads/2014/08/D15-IPCCA-5.pdf. IPCCA Indigenous Peoples' Biocultural Climate Change Assessment Methodological Toolkit for Local Assessments https://www.researchgate.net/publication/257938285_IPCCA_Indigenous_Peoples%27_Biocultural_Climate_Change_Assessment_Methodological_Toolkit_for_Local_Assessments

GL020	**Special Rapporteur on the human rights of Indigenous Peoples | Report on Green Financing**			Global	human rights	While acknowledging the necessity of transitioning to a green economy to meet global climate and biodiversity targets, this report emphasizes that such efforts must not come at the expense of Indigenous Peoples. It highlights that many green projects, including renewable energy initiatives and conservation efforts, are situated on Indigenous lands. Without proper safeguards, these projects risk perpetuating human rights violations similar to those associated with extractive industries. The report calls for a human rights-based approach that ensures Indigenous Peoples' rights to land, self-determination, and free, prior, and informed consent are upheld throughout the development and implementation of green finance initiatives. The report also addresses the structural barriers that Indigenous communities face in accessing climate finance. It points out that despite Indigenous Peoples' signi ficant contributions to environmental stewardship, they receive a disproportionately small share of climate funding. The Special Rapporteur advocates for reforms that facilitate direct access to funding for Indigenous-led conservation and renewable energy projects. He also underscores the importance of integrating Indigenous knowledge systems into climate solutions and ensuring that Indigenous communities are active participants in policy-making processes.	https://www.ohchr.org/en/documents/thematic-reports/ahrc5431-green-financing-just-transition-protect-rights-indigenous
GL021	**Tebtebba | Indigenous Peoples Tracker on GCF Projects**			Global	mitigation	The GCF Indigenous Peoples Policy recognises that indigenous peoples often have identities and aspirations that are distinct from mainstream groups in national societies and are disadvantaged by traditional models of mitigation, adaptation and development. The Indigenous Peoples Tracker on GCF Projects is a platform dedicated to monitor GCF-approved projects in indigenous peoples' territories.	Tebtebba https://iptracker.tebtebba.org
GL022	**UNDESA | Policy Brief #101: Challenges and Opportunities for Indigenous Peoples' Sustainability**			Global	impacts	This 2021 brief highlights the disproportionate impact of climate change on Indigenous peoples, who are among the first to experience its adverse effects due to their close relationship with the environment. Climate-related challenges such as rising temperatures, extreme weather events, and environmental degradation threaten their livelihoods, health, and cultural practices. Despite these challenges, Indigenous communities actively contribute to climate change mitigation and adaptation through their traditional knowledge systems, sustainable land management practices, and advocacy against environmentally harmful activities like deforestation and resource extraction. However, Indigenous peoples often face exclusion from decision-making processes related to climate action, and their rights are frequently overlooked in environmental policies. International instruments like the Paris Agreement and the Convention on Biological Diversity acknowledge the importance of Indigenous knowledge, yet its integration into climate strategies remains inconsistent. The brief calls for the full participation of Indigenous communities in environmental governance, respect for their rights, and the incorporation of their traditional knowledge to enhance the effectiveness of climate change responses and promote sustainable development.	https://desapublications.un.org/policy-briefs/undesa-policy-brief-101-challenges-and-opportunities-indigenous-peoples
GL023	**UNESCO-LINKS | Climate Frontlines**			Global	Local observations & impacts, database	Established in 2002, UNESCO's Local and Indigenous Knowledge Systems (LINKS) programme informs and facilitates exchanges between the holders of Indigenous and local knowledge with science policy and environmental policy processes, international norms and standards, and the emergence of transdisciplinary knowledge cooperation. Its Climate Frontlines initiative promotes local and Indigenous knowledge and its inclusion in global climate science and policy processes. Working at local, national and global levels, LINKS strives to strengthen Indigenous Peoples and local communities, foster transdisciplinary engagements with scientists and policy-makers and pilot novel methodologies to further understandings of climate change impacts, adaptation and mitigation.	https://www.unesco.org/en/climate-change/links?hub=408
GL024	**UNFCCC | Adaptation Knowledge Portal**			Global	Adaptation, database	This UNFCCC local coping strategies database compiled Indigenous coping strategies for adapting to climate change. It has been rolled into the Adaptation Knowledge Portal, which provides access to a curated database of resources, including case studies, methods and tools, publications, and technical documents, all focused on various aspects of climate adaptation. The portal's content is organized to allow filtering by type, geographic region, sector or theme, adaptation element, and climate hazard.	https://www4.unfccc.int/sites/nwpstaging/Pages/Home.aspx

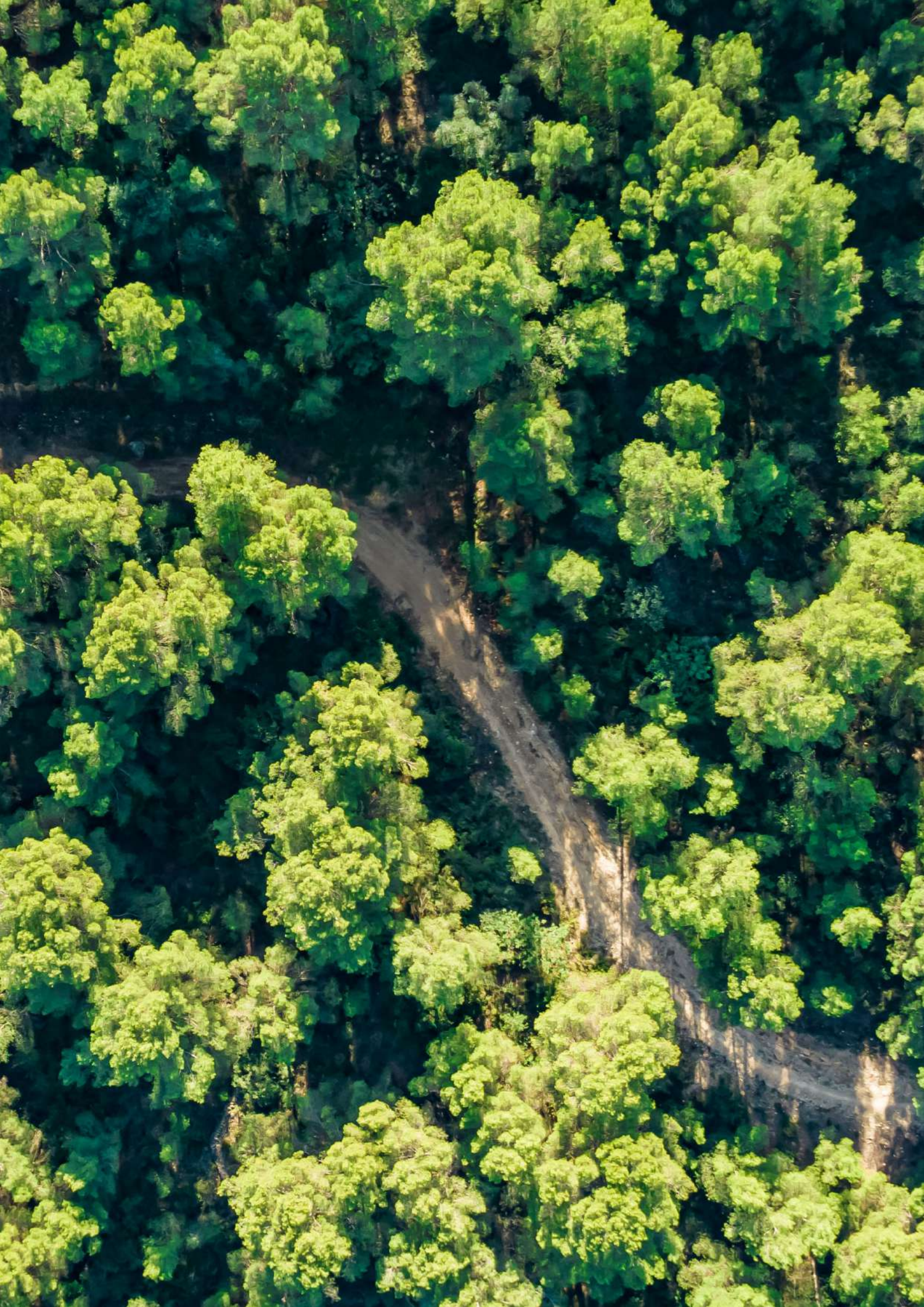
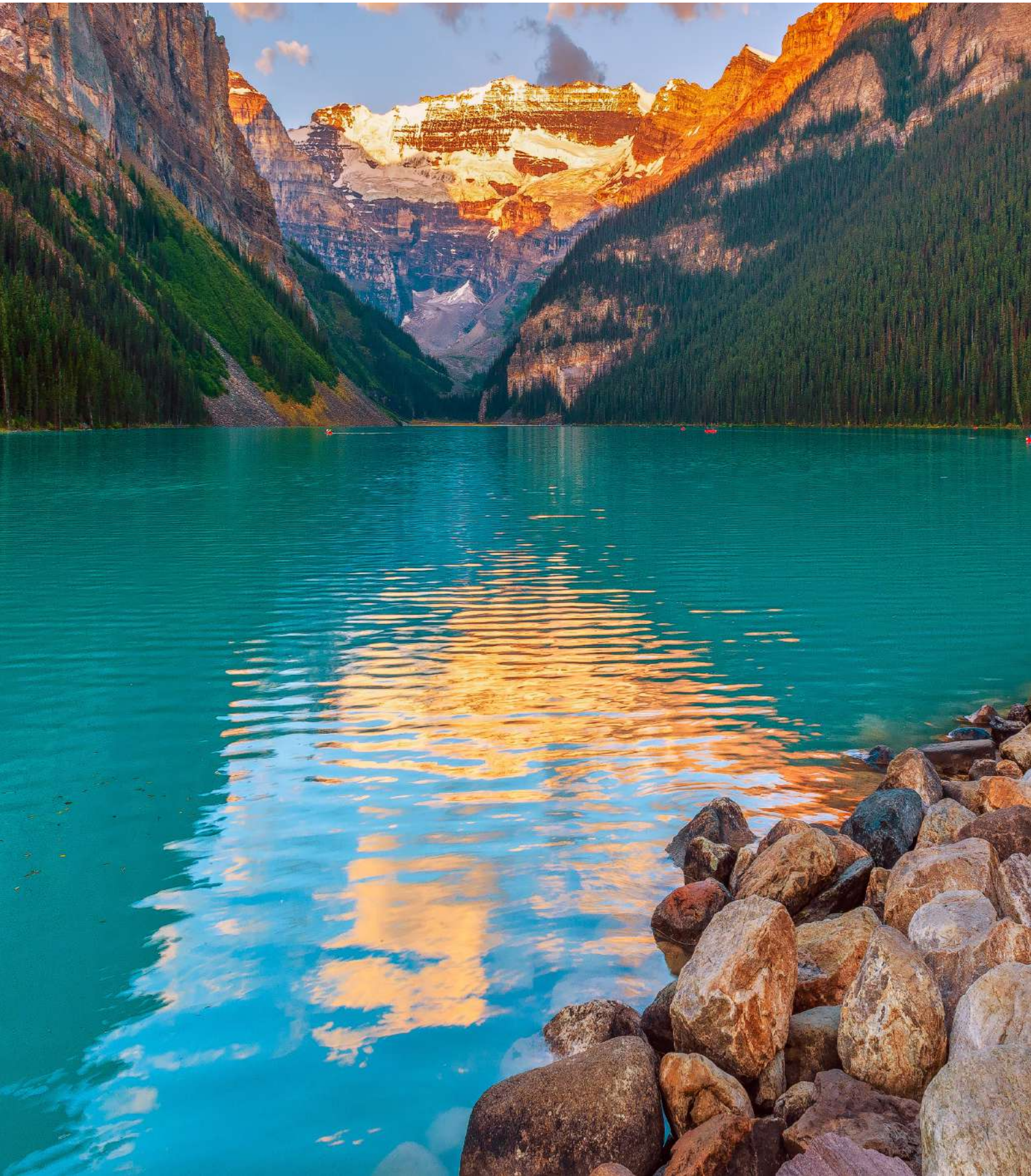
GL025	**UNPFF | State of the World's Indigenous Peoples, Volume VI – Climate Crisis**			Global	impacts, mitigation	This publication focuses on the climate crisis, its impact on Indigenous Peoples, and the role Indigenous Peoples can and do play in mitigating the effects of climate change. It aims to provide a comprehensive overview of current and emerging issues in the context of the climate crisis from the perspective of Indigenous Peoples. The report illustrates the important contributions made by Indigenous Peoples to environmental protection and demonstrates the value of their languages and cultures in safeguarding vital information related to climate change mitigation; identifies health-related risks linked to the detrimental effects of climate change, including speci fic risks to Indigenous women and girls; illustrates both positive and negative country experiences in implementing climate change mitigation initiatives; underlines Indigenous Peoples' commitment to responsible economic development; and examines their role in shaping key environmental texts.	https://social.desa.un.org/issues/indigenous-peoples/state-of-the-worlds-indigenous-peoples-sowip
GL026	**UNPFII | Report on the twenty-second session (17–28 April 2023)**			Global	traditional knowledge, human rights, finance	The report of the 22nd Session of the United Nations Permanent Forum on Indigenous Issues (April 2023) highlights Indigenous Peoples as central actors in climate change discussions, emphasizing their unique knowledge systems, lived experiences, and urgent rights concerns. It frames Indigenous views of health (including planetary and territorial health) as interwoven with environmental well-being, asserting that the destruction of ecosystems is directly linked to the deteriorating health of Indigenous communities. The report stresses the need to include Indigenous perspectives and leadership in global health and environmental policy, particularly through Indigenous-led climate solutions, access to funding, and governance participation. A key concern is the violation of Indigenous rights in the name of climate mitigation, including the establishment of protected areas and renewable energy projects without free, prior, and informed consent. The Forum warns against green transition efforts (such as mineral extraction for clean technologies) that replicate past harms. It recommends speci fic reforms, including an IPCC special report led by Indigenous scholars on adaptation and loss and damage, support for Indigenous food and health systems, and legal safeguards in green finance. The Forum also calls for reforming global conservation and biodiversity financing frameworks, including direct funding access and	https://docs.un.org/en/E/2023/43
GL027	**UNU | Indigenous Perspectives on Climate Change Video Brief Series**			Global	Adaptation, local observations & impacts, raising awareness, multimedia	The UNU's indigenous perspectives on climate change project includes a series of videos about the effects of climate change on indigenous communities living in various ecosystems around the world. The case studies cover a variety of ecosystems and impacts, including several communities in Australia (Kowanyama, wet savannah; Kuku Nyugkal, wet tropics; Arnhem Land, dry savannah), Borneo Island in Indonesia, Carterets Island in Papua New Guinea, glacial and permafrost melt in Central Asia, including the Gobi desert, Mongolia and the Russian Altai Republic.	UNU's Indigenous Perspectives of Climate Change videobrief series https://vimeo.com/showcase/85004
GL028	**UNU | Traditional Knowledge Initiative**			Global	Local observations & impacts, raising awareness, policy & planning	This UNU initiative advances understanding of Indigenous knowledge systems in climate adaptation, supporting research, policy engagement, and online learning for Indigenous communities and decision-makers. The United Nations University (UNU) Traditional Knowledge Initiative (TKI) was established to enhance the recognition and integration of Indigenous and local knowledge systems in addressing global sustainability challenges, particularly climate change and biodiversity loss. Launched in 2007 , the TKI aimed to bridge the gap between traditional knowledge holders and scienti fic and policy communities, promoting the co-production of knowledge and culturally appropriate solutions. The UNU-TKI also played a key role in international policy forums, advocating for the meaningful inclusion of Indigenous knowledge. Its work informed the UNESCO Global Assessment on the Role of Indigenous and Local Knowledge in Climate Change and contributed to the development of ethical guidelines for engaging with Indigenous Peoples. While the initiative is no longer active as a standalone program, its legacy continues through UNU's ongoing efforts and partnerships in knowledge co-production and Indigenous-led sustainability research.	UNU-TKI http://www.unutki.org/redd/

GL029	**WORLD BANK | Climate Investment Funds (CIF) / Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (DGM)**			Global	Adaptation, forests, REDD	With $12.5B pledged, the Climate Investment Funds (CIF) is one of the largest active climate finance mechanisms in the world. CIF provide financing for climate resilience projects through international development banks, with dedicated funds for Indigenous community participation in forest conservation and REDD+ initiatives. The Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (DGM) is a special window under the Climate Investment Funds' Forest Investment Program, implemented by the World Bank. It provides direct grants to Indigenous Peoples and local communities for sustainable forest and climate resilience projects. Since 2010, the DGM has financed a total of US$80 million in grants for Indigenous and community-driven climate activities (mostly disbursed during the 2010s and early 2020s)	Climate Investment Funds https://www.cif.org/cif-funding/dedicated-grant-mechanism
GL030	**WORLD BANK | Community-Driven Development (CDD)**			Global	Adaptation, database	The World Bank's Community-Driven Development (CDD) approach channels resources directly to communities – including Indigenous communities – to plan and implement local projects. In recent years, CDD has become a cornerstone of Locally-Led Climate Action (LLCA) programs, which often target vulnerable groups in rural areas. As of 2024, over US$4 billion (IDA financing) has been committed to locally-led climate resilience activities in 20 low-income countries These programs are expected to bene fit 100+ million people by 2030	World Bank http://www.developmentmarketplace.org/
GL031	**WORLD BANK | Development Marketplace (DM)**			Global	finance	The World Bank supports Indigenous Peoples in climate change initiatives through several channels. The Development Marketplace (DM) is a competitive grant program that has financed innovative, community-led projects. For example, in 2009, the World Bank's global DM competition focused on climate change adaptation ("100 Ideas to Save the Planet"). It awarded US$4.8 million in grants to 26 winning projects	World Bank http://www.developmentmarketplace.org/
GL032	**WORLD BANK | Forest Carbon Partnership Facility (FCPF)**			Global	Adaptation, forests, REDD	The Forest Carbon Partnership Facility (FCPF) is a global fund housed at the World Bank that helps countries reduce deforestation and engage in carbon credit programs. While most FCPF funds go to governments for readiness and results-based payments, the FCPF directly supported Indigenous Peoples and forest communities through the Capacity Building Program for Indigenous Peoples and Local Communities (2008–2022). Through this program, the FCPF provided approximately US$9.9 million in grants to Indigenous Peoples' organizations across Africa, Asia-Paci fic, and Latin America	World Bank http://www.forestcarbonpartnership.org/

GL033	**WORLD BANK | Indigenous-Speci fic Climate Resilience Frameworks**			Global	finance	WB's climate resilience frameworks tailored for Indigenous Peoples are strategies or trust funds aimed at strengthening Indigenous communities' capacity to adapt to climate change. Two notable initiatives are: Indigenous Peoples' Resilience Framework (2024): an analytical framework co-developed with Indigenous leaders, identifying principles and enablers of Indigenous resilience to climate shocks	https://www.worldbank.org/en/topic/climatechange/brief/enable-enhancing-access-to-bene fits-while-lowering-emission
GL034	**IPCC Sixth Assessment Report (AR6) – Indigenous Knowledge Contributions**			Global		The IPCC's Sixth Assessment Report (AR6) explicitly highlights the importance of indigenous and local knowledge in understanding climate impacts and developing adaptation strategies. Indigenous authors and reviewers contributed findings showing how place-based knowledge can foster ecosystem resilience and guide community-led mitigation (e.g., fire management, agroforestry, coastal protection). AR6 references multiple case studies indicating that climate policies are more robust when informed by indigenous perspectives, emphasizing co-production of knowledge between scientists and Indigenous Peoples.	IPCC AR6 (Working Group II & III reports) ipcc.ch/assessment-report/ar6/
GL035	**IPBES Global Assessment on Biodiversity and Ecosystem Services**			Global	biodiversity, traditional knowledge	Released in 2019, the IPBES Global Assessment recognizes indigenous-managed lands as hotspots of biodiversity, with lower deforestation rates than surrounding areas. It underscores that safeguarding indigenous rights to territories is a key strategy for halting biodiversity loss and building ecosystem resilience to climate stress. Indigenous scholars and knowledge holders contributed evidence on how customary practices (e.g., rotational farming, customary marine tenure) sustain biodiversity. IPBES calls for policy reforms to strengthen indigenous governance, land tenure, and languages as integral to global conservation outcomes.	Global Assessment Report on Biodiversity and Ecosystem Services (IPBES, 2019) https://www.ipbes.net/global-assessment
GL036	**Local Indicators of Climate Change Impacts project**			Global	adaptation, traditional knowledge	Findings of a collaborative research consortium arising from the Local Indicators of Climate Change Impacts project include reports of environmental change by Indigenous Peoples providing holistic, relational, placed-based, culturally-grounded and multi-causal understandings of change, largely focused on processes and elements that are relevant to local livelihoods and cultures. Reports show that the impacts of climate change intersect with and exacerbate historical effects of socioeconomic and political marginalization. Drawing on their rich bodies of inter-generational knowledge, Indigenous communities have developed context-speci fic responses to environmental change grounded in local resources and strategies that often absorb the impacts of multiple drivers of change. However, the adoption of responses often comes at a signi ficant cost due to economic, political, and socio-cultural barriers operating at societal, community, household, and individual levels. Evidence from Indigenous and local knowledge systems is context-dependent and not always aligned with scienti fic evidence.	Reyes-García, V., García-Del-Amo, D., Porcuna-Ferrer, A. et al. Local studies provide a global perspective of the impacts of climate change on Indigenous Peoples and local communities. Sustain Earth Reviews 7, 1 (2024). https://doi.org/10.1186/s42055-023-00063-6
GL037	**Indigenous/ Endogenous Sea Peoples: Climate Change Adaptation and Environmental Regeration Prospects**			Global	Adaptation, Impacts	Investigates ocean-based adaptation and environmental regeneration efforts among Indigenous sea peoples around the world. Discusses threats posed by rising sea levels and changes in marine ecosystems.	Goreau (2024). Indigenous/ Endogenous Sea Peoples: Climate Change Adaptation and Environmental Regeration Prospects . In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 10, Pages 189-254
GL038	**Indigenous Peoples, Intellectual Property and Sustainability**			Global	Adaptation, Mitigation	This study examines how Indigenous intellectual property rights intersect with climate change adaptation and sustainability efforts. It discusses legal frameworks and community-driven solutions.	Penteado et al (2024). Indigenous Peoples, Intellectual Property and Sustainability. In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 12, Pages 269-282

GL039	**Despite Repeated Warnings: The Shortcomings of Numbers in Indigenous Knowledge**			Global	Adaptation, Impacts	Investigates how Indigenous knowledge systems challenge Western quantitative climate assessments. The study argues for a broader, relational understanding of environmental change.	Penteado (2024). Despite Repeated Warnings: The Shortcomings of Numbers in Indigenous Knowledge . In Penteado et al (2024). Traditional Knowledge and Climate Change. Chapter 13, Pages 283-312
GL001	**Abundant Intelligences**			Global	technology, indigenous kr	The Indigenous-led Abundant Intelligences research program imagines anew how to conceptualize and design Arti ficial Intelligence (AI) based on Indigenous Knowledge systems. The approach is grounded in Indigenous epistemologies containing robust conceptual frameworks for understanding how technology can be developed in ways that integrate it into existing lifeways, support the flourishing of future generations, and are optimized for abundance rather than scarcity. The program is exploring and developing culturally-grounded AI systems that support Indigenous ways of knowing and that recognize the abundant multiplicity of ways of being intelligent in the world. Drawing on IK to enrich complex ecosystem interactions and forecast future ecosystem evolution offers tremendous potential for increasing their ef ficacy and accuracy for climate change estimation, resource optimization problems, forecasting models, and hydrological prediction. This research project is ongoing (2023-2029).	Indigenous AI (2023). https://www.indigenous-ai.net/abundant/
GL040	**International Environmental Guardianship 8 Billion Hours Pledge**			Global	governance; safeguards; enabling environment; community veri fication	IEG convenes Indigenous Peoples, Local Communities, and Afro -descendant peoples to shape nature-market guardrails and mobilize "8 Billion Hours" of veri fied work for nature by 2030, aligned with the Kunming -Montreal GBF. IEG appears within the Biodiversity Credit Alliance (BCA) ecosystem as a voice on IP -aligned market principles.	International Environmental Guardianship (2024). https://ieg.earth/
GL041	**Rights of Nature NOW! – campaign for a Universal Declaration of Rights of Nature**			Global	legal innovation; movement -building; advocacy; submission	This campaign advocates a universal declaration that recognizes Nature's inherent rights while affirming that such frameworks must not violate the rights of Indigenous Peoples, Afro -descendant Peoples, and Local Communities to their lands, territories, and resources. Provides public -facing materials and calls to action.	Rights of Nature NOW campaign (2024). https://rightsofnaturenow.com/

Wildfire control activities performed by Indigenous rangers, WALFA Project, West Arnhem Land, Australia. Photo: Warddeken Land Management.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