Recommendations for the ethical and equitable engagement of Indigenous Knowledge Systems within the IPCC

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1. Executive Summary

Executive Summary

Indigenous Peoples and their Knowledge Systems offer a holistic understanding of climate change causes, impacts, and time-tested adaptation, mitigation, and resilience responses grounded in millennia of systematic observation and intergenerational transmission. Despite being disproportionately affected by climate change due to historical and contemporary colonial dispossession and structural inequality, Indigenous Peoples are not merely vulnerable populations—they are frontline climate leaders whose territorial governance and sciences are essential to understanding and responding to the climate crisis.

Yet Indigenous Peoples and their Knowledge Systems remain largely marginalised in global climate science and policy processes, including the Intergovernmental Panel on Climate Change (IPCC). This policy document addresses this marginalisation by providing a practice-oriented guide for ethical and equitable engagement with Indigenous Knowledge Systems within the IPCC.

It is intended for multiple audiences: Indigenous and allied authors, reviewers, and advocates engaging with AR7; IPCC Bureau members, Working Group Co-Chairs, and Technical Support Units responsible for implementing assessment processes; government Focal Points; nominating authors and reviewers; and Indigenous Peoples' organisations seeking pathways to participate in and influence IPCC processes.

Drawing on the core team's direct experience across AR6, a comprehensive literature review, and three multilingual listening sessions conducted in December 2025, we begin by identifying five framing principles to form the foundation of an ethical and equitable engagement with Indigenous Knowledge Systems: (1) Knowledge and epistemic justice; (2) Self-determination and rights-based approach; (3) Indigenous frameworks for working across knowledge systems; (4) Relational, reparative, and non-extractive engagement; and (5) Temporalities of change. Using these principles, we introduce the current barriers and opportunities within the IPCC, and then propose concrete recommendations in three areas: (1) authorship and representation; (2) methodology and assessment frameworks; and (3) institutional transformation and accountability.

Recognising the interconnectivity of these recommendations, we propose their advancement on two temporal horizons: immediate measures for AR7 to prevent harm, ensure equitable participation, and begin redressing historical exclusions; and transformational reforms for AR8 and beyond to reshape governance, methodologies, and participation structures. The full list of recommendations is summarised below, in the *Summary of Recommendations*.

The policy document closes with three calls to action to move past epistemic injustice towards shared responsibility:

Ethical engagement with Indigenous Knowledge Systems is essential for robust climate science. Indigenous Sciences are systematic, evidence-based ways of knowing, with their own validation protocols, developed over millennia and continuously evolving. They are relevant across all Working Groups—including physical science—and cannot be reduced to "local observations" or treated as requiring validation by Euro-Western science.

AR7 must do justice, and actively avoid harm. This requires the IPCC to, as a minimum, prevent tokenism (isolated Indigenous authors without support), extractivism (using Indigenous Knowledges without consent, attribution, or benefit), and misrepresentation (framing Indigenous Peoples only as vulnerable rather than as knowledge authorities and leaders).

AR8 requires institutional transformation, not incremental inclusion. This transformation must create shared governance pathways with Indigenous Peoples as rights-holders; reform evidence frameworks and methods to recognise Indigenous validation protocols and operationalise free, prior, and informed consent and data sovereignty; and ground rights-based and decolonial approaches in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and prevent backsliding through binding accountability mechanisms and non-regression clauses.

Summary of key recommendations

	For AR7 (Immediate actions)	**For AR8 and Beyond** (Structural reforms)
Authorship and representation	• Provide visible, resourced support for Indigenous authors (digital access, translation, caregiving, editing time). • Appoint a minimum of two Indigenous Contributing Authors per relevant chapter; connect isolated authors across Working Groups. • Encourage positionality statements from all authors; clarify Indigenous authors' mandates and community affiliations. • Designate Chapter Scientists to support Indigenous-related work and to coordinate with Indigenous Contributing Authors and Expert Reviewers.	• Broaden definition of expertise to recognise Indigenous Elders, Knowledge Holders, practitioners, artists, and youth identified by communities • Experiment with flexible, collective authorship formats (e.g. listing Indigenous Peoples/ territories alongside individual authors). • Reform nomination pathways to enable Indigenous organisations to nominate authors directly.

	For AR7 (Immediate actions)	**For AR8 and Beyond** (Structural reforms)
Methodology and assessment frameworks	• Develop and circulate concise guidance on when not to cite Indigenous Knowledges (respecting FPIC, data sovereignty, and community protocols). • Co-design Indigenous-led scenarios and case study boxes in each Working Group. • Maintain chapter-level methodological memos documenting how knowledge systems were engaged and how FPIC was applied. • Create dedicated Indigenous review windows during Second Order Draft government and expert review.	• Revise IPCC guidance on "quality of evidence" and "confidence" to explicitly recognise Indigenous validation protocols, oral histories, and relational indicators. • Co-develop methodological guidance on engaging ethically with Indigenous Knowledge Systems (led by Indigenous experts). • Establish ethical engagement and consent protocols at IPCC level, translating UNDRIP obligations into concrete methodological practice.
Institutional transformation and accountability	• Establish an ad hoc Indigenous Advisory Group for AR7 with clear mandate and reporting pathways. • Designate Indigenous Points of Contact in each Working Group and, where possible, in each chapter. • Implement structured, time-bound Indigenous dialogues linked to chapter drafts, with written responses from author teams. • Pilot "give-back" practices: accessible summaries in regional/Indigenous languages shared through Indigenous networks. • Apply principle of non-regression: AR7 must not regress on advances made in AR6.	• Create a permanent Indigenous Knowledge Systems and Rights body within IPCC governance, with mandate to shape scoping, advise Bureau, and review Summaries for Policymakers. • Institutionalise independent Indigenous nomination pathways in IPCC Procedures. • Codify UNDRIP-aligned obligations and non-regression clause in IPCC Principles and Procedures. • Institutionalise accountability through regular reporting, independent Indigenous-led evaluations, and shadow reports. • Develop intergenerational participation pathways (fellowships, mentoring, joint Elder/youth roles). • Commission a Special Report on Indigenous Peoples and Climate Change for AR8, co-governed with Indigenous Peoples.

2. Introduction

2.1 Why Indigenous Knowledge Systems are essential to the Intergovernmental Panel on Climate Change (IPCC)

Indigenous Peoples, and Indigenous Knowledge Systems (IKS), offer a holistic understanding of the causes and impacts of the current climate change crisis, and time-tested adaptation, mitigation and resilience responses. Engagement with IKS is vital for the IPCC in preparing robust Assessment Reports (AR) and Special Reports (SR), including the current seventh assessment cycle (AR7). This policy document presents the main barriers to ethical and equitable engagement with Indigenous Peoples and IKS within the IPCC, and proposes recommendations to address these barriers along two timelines: (1) immediate recommendations for AR7; and (2) long-term transformative recommendations for the upcoming cycles. This document is expected to inform the IPCC Workshop on Engaging Diverse Knowledge Systems in February 2026, as well as any outcomes from the Workshop. This section describes why IKS are essential to the IPCC.

Indigenous Peoples govern and care for territories that are central to their life, identity, spirituality and political organisation, and which, as a result of their governance systems, also sustain a large share of the world's remaining biodiversity and contribute significantly to global climate regulation. According to Levis *et al*. (2024), Indigenous Knowledges in the Amazon contribute directly to expanding both basic and applied ecological science by providing frameworks that integrate human, non-human (more-than-human), and environmental processes. These knowledge systems inform biodiversity monitoring, ecosystem restoration, and conservation strategies, and are empirically linked to higher levels of forest integrity, species protection, and climate resilience. For example, a global spatial analysis found that Indigenous Peoples' lands account for over 25% of Earth's land surface and overlap with more than 40% of all protected areas (O'Bryan *et al*. 2020). Another study by the Amazon Environmental Research Institute (IPAM, n.d) shows the role of Indigenous Peoples and their rights in reducing deforestation in the Brazilian Amazon. Indigenous-managed lands in tropical forests preserve roughly one-third of all remaining natural ecosystems and prevent significant deforestation and degradation (Alejo *et al*., 2025).

At the same time, Indigenous Peoples are disproportionately affected by climate change due to historical and contemporary colonial processes of territorial dispossession, political exclusion and structural inequality. However, Indigenous Peoples are not merely vulnerable populations or victims of climate change. Their strategies, deeply rooted in territories and their own science and governance systems, have enabled them to confront the contemporary impacts of climate change—not as recent responses to this phenomenon but as part of a historical trajectory of defending life, territory and collective autonomy. Their resilience is the result of historical processes of resistance and adaptation in the face of multiple forms of dispossession, violence and exclusion.

Indigenous sciences are grounded in evidence acquired through direct, long-term, and multigenerational experience, observation, lessons, and skills. It has developed over millennia and continues to evolve as a living process, encompassing knowledge generated today and in the future and transmitted across generations. Indigenous Peoples continuously monitor climate change on the ground through wider and deeper indicators, identifying and implementing Indigenous-led solutions at various levels through their collective capacities. Their knowledge systems, which cannot be separated from territorial and governance systems that give them meaning, enable them to provide observations and experiences as factual data that can broaden case studies to understand the impacts of climate change, and to design and implement effective and just climate action.

IKS must be recognised as collective, autonomous and territorially-situated ontological and epistemological systems in their own right—dynamic, continuously evolving, and shaped by historical processes of resistance, governance practices, and deep relationships with Indigenous territories. These are not knowledge systems that require validation through Euro-Western scientific categories to be considered rigorous or legitimate. Rather, they represent distinct ways of knowing that have their own internal logics, methods of verification and standards of evidence, developed and refined over millennia through systematic observation, intergenerational transmission and adaptive practice. Indigenous Peoples relate to the term "Euro-Western science" in diverse ways: while some embrace it, others resist or critically engage with it. This plurality of relationships with scientific knowledge documentation can contribute to more democratic and reflexive processes, enriching the overall work of the IPCC. In this policy document, we use IKS to refer to the diversity of Indigenous Peoples' Knowledge Systems, including Indigenous sciences.

Although there is no single, universally-agreed definition of IKS, for the purposes of this policy document we draw on the Inuit Circumpolar Council's definition, which aligns with the IPCC Glossary definition and conceptualises IKS as systematic ways of thinking applied to phenomena across biological, physical, social, cultural, economic, and spiritual systems (ICC, n.d.). These systems are inherently place-based, for example, the IKS of Amazonian and tropical forest peoples, particularly in Brazil, including Kayapo, Baniwa, Munduruku, Pataxó, and Krenak, extend this worldview through a distinctly ecological, multispecies and relational approach. Guided by cultural rites and direct and frequent observation, IKS manifest an ethnoecological rationality and systems that are not static but dynamically intertwined with social organisation and cosmology. IKS operationalises long-term sustainability by embedding ecological restoration within cultural continuity and reciprocity.

Just as Indigenous Peoples are diverse, so are their Knowledge Systems. This diversity enriches existing climate assessments by offering systematic and scientific understandings of climate change across different scales and timeframes. Such heterogeneity broadens the IPCC's scope from relying solely on Euro-Western science to embracing multiple ways of knowing—or epistemologies, understood as the different ways societies define what counts as knowledge, how knowledge is produced, validated, and transmitted, and who is recognised as a legitimate knowledge holder. These knowledges are grounded in evidence obtained through direct experience, continuous observation over time, intergenerational learning and everyday practice. They have developed over millennia and continue to evolve as living processes, encompassing knowledge generated in the past, present and future, transmitted from generation to generation and oriented towards long-term sustainability by linking ecological integrity with cultural continuity.

Engagement with IKS benefits the IPCC not because these systems can be made to fit Euro-Western frameworks but because genuine dialogue across ways of knowing produces more comprehensive, just and effective climate knowledge. This requires recognising Indigenous Peoples as collective knowledge holders and as fundamental political actors in global climate governance rather than as sources of data to be extracted and integrated into pre-existing assessment structures. Meaningful engagement with IKS further benefits the functioning and objectives of the IPCC and warrants an intellectual and institutional relationship built on the undeniable fact that Indigenous Knowledges continue to grow, are adaptive, and represent systematic ways of knowing that have developed over millennia. For the IPCC to engage meaningfully with IKS requires challenging existing epistemic hierarchies and creating spaces where multiple ways of knowing can coexist on equal terms—without subordination or technical instrumentalisation. Indigenous Peoples continuously monitor climate change through wider and deeper indicators, identifying and implementing Indigenous-led solutions at various levels through their collective capacities.

2.2 Our project and methods

Insights for this policy document come from three sources: (1) the core team's direct experience in previous ARs and SRs; (2) a comprehensive literature review; and (3) multilingual listening sessions. Our core team consists of individuals who have participated in the IPCC's sixth assessment cycle and are currently participating in the seventh cycle in a variety of roles. We bring our collective experience of writing, reviewing, supporting, and examining the AR6, as well as our work with a variety of Indigenous-led initiatives focused on environmental and social issues, to inform this policy document. Second, the literature review to document barriers and recommendations on IKS in global assessments, climate governance and research practice has provided an expansive historical baseline for this policy document. Finally, three multilingual listening sessions conducted in December 2025, across time zones, with participants from the seven socio-cultural regions, represent the empirical heart of this document.

Two separate systematic reviews of the IPCC AR6 Working Groups (WG) I, II, III, and a bibliometric analysis of the knowledge base (references cited) in these reports generated quantitative and qualitative insights on ethical, equitable and meaningful engagement between Indigenous Peoples and their Knowledge Systems and the IPCC. Although AR6 has increased Indigenous content compared to the previous reports, this numerical increase in Indigenous mentions needs to be understood carefully and contextually. Bibliometric analysis shows that references to meaningfully co-produced Indigenous content in AR6 are less than 1%, where co-production refers to research designed and carried out from the outset through shared decision-making among diverse knowledge holders, explicitly addressing power asymmetries, colonial legacies, and inequalities, and prioritising trust, mutual usefulness, and process as much as outcomes. Furthermore, most of the Indigenous content is in Working Group II (Impacts, Adaptation and Vulnerability), concentrated in a few key chapters, with significantly less in Working Group III (Mitigation of Climate Change) and virtually none in Working Group I (The Physical Science Basis). While the WGII has, in some instances, recognised Indigenous leadership and contributions, the broader literature informing the ARs continues to place greater emphasis on vulnerability than on leadership. Consequently, Indigenous Peoples are more often represented as populations affected by climate change—able to convey impacts and adaptation needs—rather than as knowledge holders, innovators, and decision-makers. This imbalance influences knowledge production across WGs, particularly in relation to physical and socio-ecological systems, where Indigenous Knowledges remain under-represented in bodies of knowledge treated as 'official' or 'factual' foundations for adaptation and mitigation (WGII and WGIII). It also leads to the problematic framing that often conflates Indigenous Peoples with local communities, even in countries where Indigenous Peoples are recognised by the UN Member States as rightful Peoples.

On the other hand, the presence of Indigenous authors in AR6, although very few, showed concrete ways in which Indigenous Peoples and their Knowledge Systems can be engaged with in global assessments. That said, increased references that have co-produced knowledge with Indigenous Peoples, or reference IKS, should not be seen as meaningful inclusion since chapters with the highest Indigenous content do not necessarily translate into the most meaningful engagement with Indigenous Knowledges. Instead of relying solely on counts of Indigenous-related content as a proxy for progress, the IPCC should therefore assess and strengthen the quality, depth and ethics of engagement with Indigenous Peoples and their Knowledge Systems—for example, by examining whether Indigenous authors access leadership roles and have real influence over chapter framing and final text, whether Indigenous governance and rights are centred, and whether relational, non-extractive approaches are being followed.

The objective of the multilingual listening sessions was to gain perspectives from different Indigenous experts on the barriers to and recommendations for meaningful participation with the IPCC. Participants included Indigenous scholars, Elders, community practitioners, and some IPCC authors. Grounded in Indigenous values of relationality, consent and reciprocity, these listening sessions were designed as a platform for Indigenous Peoples to share their experience and knowledge with each other. The barriers and recommendations highlighted in this document are one of the outcomes of these listening sessions. Other outcomes include space for networking and capacity-building through knowledge exchange. The listening sessions included breakout sessions on authorship, methods, and institutional transformation.

2.3 Framing principles

The following five principles provide the basis for ethical and equitable engagement with IKS within the IPCC.

1. Knowledge and epistemic justice

The current way knowledge is ranked within the IPCC treats IKS and other knowledges as less credible than Euro-Western science and assumes they must be checked or "validated" by Euro-Western science to count as evidence. This effectively treats Euro-Western science as the only legitimate physical science basis for understanding climate change and portrays multiple knowledge systems as a problem for, rather than a contribution to, climate research. In practice, this leads to epistemic injustice: for example, Indigenous observations and explanations may be ignored, misquoted, or used only as illustrations of vulnerability, while Euro-Western studies on the same issues are treated as authoritative. These patterns conceal how climate science is already shaped by histories of power, dispossession and structural inequity. Addressing this requires reflexive, engaged climate assessment practices that recognise IKS as indispensable to understanding and responding to unequal climate impacts.

2. Self-determination and rights-based approach

Indigenous Peoples are rights-holders and self-determining political actors, not merely stakeholders. As rights-holders, they possess both individual and collective political, territorial, cultural, and intellectual rights, affirmed in instruments such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the International Labour Organization's Indigenous and Tribal Peoples Convention, 1989 (No. 169), and the principle of Free, Prior and Informed Consent (FPIC). These rights include self-determination; land and resource governance; protection of cultural heritage—including IKS; and full and effective participation in decision-making spaces that affect Indigenous lives, lands, and futures.

Individual rights (such as personal participation, recognition, and safety) and collective rights (such as peoples' authority over territories, governance systems, and shared knowledges) are inseparable. Rights such as self-determination and FPIC are therefore directly tied to knowledge and epistemic justice. FPIC is the right of Indigenous Peoples to make collective decisions, through their own institutions, on matters affecting them, on the basis of full and accessible information, without coercion, and before decisions are taken or actions are implemented.

The UNDRIP, ILO Convention 169, and FPIC should be cornerstones of IPCC engagement with IKS. This requires ensuring that IKS authorship is properly recognised as belonging to Indigenous Peoples and their communities, not co-opted, appropriated, or claimed by other knowledge holders. Indigenous Peoples retain collective intellectual property rights over their knowledge systems, and any use of IKS must respect Indigenous data sovereignty and governance protocols. These protocols exist to protect sacred and sensitive knowledges, uphold community responsibilities and governance, and prevent misuse, misrepresentation or appropriation of Indigenous Knowledges in external processes. They can, accordingly, determine how knowledge is shared, cited, and represented in assessment processes.

3. Indigenous frameworks for working across knowledge systems

Indigenous frameworks support robust and responsible science by balancing diverse ways of knowing through relational, accountable, and place-based approaches. Examples include Two-Eyed Seeing; the Haudenosaunee Two Row Wampum (*Kaswentha)*; the Yolngu concept of "Two Ways" or Ganma; the Māori "Double-Canoe" (*Waka Taurua*); the Inuit Circumpolar Council's co-documentation of knowledge model; and the q*aggiq* model of Inuktut knowledge renewal inspired by the late Inuk Elder Mariano Aupilaarjuk. Relational and holistic knowledge based on oral tradition, memory, and storytelling learned through listening and community engagement are vital components of Indigenous Knowledge creation and transfer. They are not symbolic metaphors but living Indigenous intellectual traditions that guide how knowledge is generated, validated, and applied, often working alongside—and sometimes within—dominant scientific paradigms. Bridging approaches such as Three-Eyed Seeing (associated with Myrle Ballard), the Rights of Nature, and efforts to Indigenise One Health and Planetary Health illustrate how Indigenous worldviews are increasingly interwoven with mainstream legal, health, and scientific frameworks to make relational ways of knowing more legible in dominant institutions.

Indigenous philosophies such as *Buen Vivir* (also *Sumak Kawsay, Bem Viver, Tekó Porã, Kume Mongen*) offer place based articulations of relational ethics that integrate ecology, spirituality, and collective wellbeing; comparable relational worldviews exist elsewhere, including concepts such as *Ubuntu* and *Omoluabi* in African contexts. Across these diverse approaches, a shared emphasis on "living well"—grounded in reciprocity, relational responsibility and collective flourishing—has become one of the most widely recognised Indigenous ethical orientations. Nevertheless, while many communities articulate convergent ethical commitments captured in "living well" philosophies, these do not constitute a single homogenous worldview and must always be understood in their specific territorial, linguistic and cultural contexts.

Ensuring epistemic justice requires recognising IKS as intellectually equal to, albeit not identical with, Euro-Western science. Indigenous scholars and scientists do not simply apply external methods but work from within their own ontologies, values, and responsibilities. Accordingly, evidence within IKS extends beyond what can be physically measured or quantified to include relational, experiential, spiritual, and intergenerational forms of knowing. Within the IPCC, advancing epistemic and knowledge justice therefore requires that Indigenous frameworks not only inform substantive findings but also shape the design and governance of assessment processes themselves so that climate assessments reflect Indigenous self-determination rather than the mere inclusion of Indigenous content.

4. Relational, reparative, and non-extractive engagement

Relational, reparative engagement prioritises long-term relationships and actively resists extractivism—that is, the selective use of "usable" elements of Indigenous Knowledges to fit Euro-Western frameworks while sidelining Indigenous governance, rights, and ontological critiques. It also rejects practices such as "parachute" science and last-minute requests for Indigenous references that reproduce superficial inclusion without accountability or reciprocity. Co-authorship and co-documentation of knowledge that "gives back" to the communities—such as sharing findings in accessible formats—are practised. An ethical and equitable engagement with IKS within the IPCC therefore not only benefits the ARs but they also become a means for healthy lands, waters and futures. IPCC ARs, then, are not an end in themselves.

5. Temporalities of change: AR7 "justice, to prevent harm", AR8 transformation

This guideline recognises that ethical and equitable engagement with IKS within the IPCC is an ongoing process. More than one temporality is recognised for the use of this policy document. For the current seventh cycle, we expect a proactive "do justice" approach that actively prevents harm, ensures equitable participation, and begins to redress historical exclusions. This policy guide shows the pathway to the transformative future of the IPCC ARs. The immediate measures to advance justice and substantially improve AR7 are seen as distinct from the institutional transformation needed for deeper structural reforms that realistically target AR8 and beyond.

3. Current barriers and opportunities in the IPCC

The IPCC stands as the pre-eminent global authority on climate science, yet its historical and current structure reflects a Euro-Western scientific paradigm that has systematically marginalised IKS and excluded Indigenous Peoples. While there is growing rhetorical recognition of the value of Indigenous Knowledges, the transition from acknowledgement to meaningful, equitable engagement remains fraught with structural, epistemological and ethical obstacles. These barriers reflect deep-seated assumptions about whose knowledge counts, who has authority to speak, and what constitutes legitimate evidence in global climate assessments.

This section synthesises the primary barriers identified through the literature review and the listening sessions. The analysis is organised around three overlapping dimensions: (1) structural and procedural issues that shape who can participate and decide; (2) epistemological and methodological issues that shape whose knowledge counts; and (3) relational, ethical, and representational issues that shape how Indigenous Peoples and their Knowledge Systems are treated.

3.1 Structural and procedural barriers

The IPCC's governance is primarily state-centric. Membership, plenary decision-making, Bureau elections, and report approval processes are organised entirely around national governments. While Indigenous Peoples' organisations may participate as accredited observer organisations, this status does not confer equivalent institutional standing: observers have no voting rights and are not part of formal decision-making and governing processes. They are not authorised to attend Bureau deliberations, they do not have decision-making power in the formal approval of report outlines and Summaries for Policymakers, and their participation in scoping or other meetings is contingent upon Bureau approval. Opportunities for engagement are therefore largely limited to written submissions, participation in review processes (through nominated experts acting in their personal capacity), and plenary statements delivered at the discretion of the Chair. In practice, this means that Indigenous Peoples' organisations lack a direct and formal route to propose topics or cross-cutting issues, and that their engagement largely depends on the discretion of Member Governments—as part of their delegations—and the Bureau rather than on recognised, rights-based participation.

Author nomination is conducted by government Focal Points, Observer Organisations and the Bureau, and selection of authors is decided by the Bureau. Currently, there is very limited input from Indigenous organisations, with only two formally obtaining Observer Organisation status. The conflation of Indigenous Peoples with local communities—a term that lacks precise definition within UN processes—further obscures their distinct political status, rights, and knowledge systems, treating them as generic stakeholders rather than rights-holders in most contexts[1]. This results in very low numbers of Indigenous authors, who often find themselves isolated as one of the few Indigenous scholars in a chapter or WG. This isolation creates conditions for tokenism, where participation serves to legitimise the process without fundamentally altering its power relations.

Resource, access, and workload inequalities and inequities compound these barriers. Indigenous authors face major practical obstacles: (1) Financial barriers: limited funding for travel, internet connectivity, and caregiving support, coupled with lack of compensation for expertise; (2) Logistical and administrative barriers: visa and security restrictions that limit mobility and participation; (3) Language and communication barriers: lack of translation, interpretation and editorial support, combined with pressure to participate in English-only and highly technical settings; (4) Institutional workload inequalities: expectations that Indigenous academics shoulder extensive diversity, education and advisory work alongside their research duties. Indigenous experts based in the Global South/ Global Majority, and community experts who are not employed by well-resourced universities or research institutes face disproportionate hurdles that are rarely acknowledged or addressed by the institutions seeking their expertise.

These barriers interact with the IPCC's formal procedures and informal norms regarding "quality of evidence", which privilege: (1) peer-reviewed, quantitative, written, English-language sources, published in Euro-American scientific journals; (2) research conducted within Euro-Western scientific paradigms; and (3) individual authorship with individual consent—to the detriment of collective, relational processes governed by community-level consent. The next section will explore how these epistemological and methodological hierarchies shape whose knowledge is recognised within the IPCC.

1. For a more in-depth discussion of this issue, see the joint statement by the United Nations Permanent Forum on Indigenous Issues, the United Nations Expert Mechanism on the Rights of Indigenous Peoples, and the United Nations Special Rapporteur on the Rights of Indigenous Peoples, *Outcome document of the Rome meeting on UN mechanisms and Indigenous Peoples' rights, February 2024. Office of the United Nations High Commissioner for Human Rights* (OHCHR). Available at: https://www.ohchr.org/sites/default/files/documents/issues/indigenouspeoples/sr/statements/outcome-document-rome-feb-2024-meeting-un-mechanisms-indigenous-peoples-rights.pdf

3.2 Epistemological and methodological barriers

Beyond logistical exclusion, the IPCC operates within an epistemic framework that positions Euro-Western ways of knowing and knowledge (epistemology) as the basis for science. Euro-Western science is considered the only science, universally accepted, objective, and superior to any other form of evidence or way of knowing. IKS appear as largely misunderstood, not recognised as a separate way of knowing with their own sciences and internal validation, and instead treated as supplementary to Euro-Western science, if included at all, anecdotal, or in need of external validation. Oral histories, community-held archives, Indigenous-reviewed reports, and non-digitised materials are frequently sidelined as "grey literature" or dismissed as inadequate for assessment purposes. In practice, Indigenous Knowledges are expected to be "verified" by Euro-Western science rather than recognised as distinct but parallel systems with their own concepts of evidence, validity, and ethics. Indigenous Sciences and Knowledges are usually framed as "local observations"—useful data inputs for models—rather than as sophisticated analytical systems, and are often described as "traditional" or "ancestral", implying stasis and antiquity rather than contemporary, adaptive forms of knowledge that continue to evolve like all other forms of knowledge do, growing with more observations and evidence.

The dominance of Euro-Western science narrows what can be asked and answered in an assessment and obscures the fact that Euro-Western science is itself situated, political and value-laden. The assumed universality of concepts such as objectivity, replicability and falsification hides Euro-Western scientific roots in particular philosophical traditions and historical developments, and is actively reproduced in IPCC practice—for example, when chapter teams treat peer-reviewed, quantitative, English-language journal articles as the "gold standard" of evidence and use them to judge all other sources. Some scholars do, however, contest these norms and argue for broader standards of evidence and more plural ways of knowing. By contrast, IKS work within different but equally rigorous frameworks for establishing reliability, accountability and truth, which may emphasise relational ethics, intergenerational transmission, embodied practice and spiritual dimensions within efforts to understand and address empirical observations. Despite the persistence of epistemic hierarchies that marginalise Indigenous Knowledges, there is a growing number of scientists engaged in IPCC processes who actively challenge exclusionary standards of evidence, support the expansion of methodological approaches, and work from within scientific institutions to advance epistemic pluralism and multiple ways of knowing in climate assessments. This has contributed to the increase in Indigenous roles within the reports of AR7, including Indigenous scholars as Coordinating Lead Authors (CLA) and Lead Authors (LA) in every WG report and the SR on Climate Change and Cities. While this is a welcome advancement, there is more to be done.

Recognising multiple knowledge systems entails acknowledging that no single framework—including Euro-Western climate science—can fully capture the complexity of climate change or its justice dimensions.

Prevailing assessment methods tend to treat data as static, extractable objects that, once documented or published, can be freely circulated and repurposed. For many Indigenous Peoples, however, knowledge is relational and processual, inseparable from the embedded context of land, language, ceremony and responsibilities. IKS are living practices embedded in ongoing relationships with territories, non-human relatives (i.e. lakes, rivers, prairies, animals, plants) and ancestors, not an abstract resource to be mined.

Because of this fundamental difference, some standard assessment operations—such as aggregation across contexts, scaling, and commensurability-driven synthesis—can significantly alter or even distort the meaning of relational knowledges. This highlights the need for clearer guidance on when synthesis is appropriate and when it is not, as well as what alternative representational options may be required (for example, parallel presentation, situated narratives, or explicit "do not synthesise" flags for sensitive or non-commensurable material).

Treating IKS as decontextualised data encourages extraction of knowledge into models and indicators without regard for context, original purposes, or protocols; disconnection of knowledge from the Indigenous governance structures, land rights, and spiritual relationships within which that knowledge is generated and used; and erasure of Indigenous validation and verification processes, which may be embodied in ceremony, storytelling, consensus and kin-centric ethics rather than formal peer review.

A persistent assumption within IPCC culture is that WGI (Working Group I) is "purely physical" and therefore cannot meaningfully engage IKS. This artificially partitions climate system understanding away from Indigenous observational records, early warning systems data and cosmologies that link atmospheric change with land, water, ice, animals and human conduct. It reinforces the notion that Indigenous Peoples belong only in "impacts and adaptation" discussions, as affected populations rather than knowledge authorities across the full scope of climate assessment. The near-total absence of Indigenous content in WGI reflects not the irrelevance of Indigenous Knowledges to physical science but a narrow framing of legitimate evidence and the exclusion of Indigenous experts from positions where they could contest the boundaries of what is recognised as valid climate knowledge and who has authority to define it, thereby limiting opportunities to benefit global understandings of climate change.

Against this backdrop, the AR7 outline for WGI marks a notable shift: for the first time, it explicitly states that Indigenous Knowledges must be included. This represents an important institutional acknowledgement that physical climate science cannot be fully assessed without engagement with IKS. However, inclusion at the level of the outline, while significant, does not by itself dismantle the deeper epistemic and structural barriers that have historically limited Indigenous participation, authority, and influence within WGI.

While there is significant methodological expertise on these approaches among some AR7 authors, current guidance for authors on working with Indigenous Knowledges is fragmented and largely informal, with insufficient direction in three essential areas: (1) how to apply Multiple Ways of Knowing, Multiple Evidence Base, Two-Eyed Seeing or other pluralistic approaches in an assessment context; (2) how to decide when and how to use Indigenous-held information, and when not to; and (3) how to support participatory, community-based monitoring and evaluation methods that can inform assessments. Where "integration" of Indigenous Knowledges is attempted without explicit attention to power and colonial histories, it can reproduce extractivism. Accordingly, the goal should not be "integration into existing frameworks" but governance arrangements that allow Indigenous epistemological priorities to reshape the frameworks themselves (including evidence standards, synthesis formats, and scoping categories). In the absence of robust methodological guidance, individual Indigenous authors are left to navigate complex ethical terrain without institutional backing, leading to inconsistent and sometimes harmful practices—such as using knowledge without collective consent, distorting Indigenous concepts through Euro-Western categories, and applying uneven ethical standards.

3.3 Relational, ethical, and representational barriers

Beyond structure and epistemology, the IPCC also faces relational deficits that undermine trust and enable extractive practices. These dynamics echo earlier colonial patterns in which Indigenous Knowledges were taken for external gain—for example, through pharmaceutical research based on medicinal knowledges, conservation initiatives that facilitated land and resource grabs, and state-led data collection used to justify territorial dispossession—often without consent, recognition, or benefit-sharing. Against this backdrop, contemporary engagement is frequently experienced as reproducing colonial logics, in which knowledge, stories, and data flow outward, while risk, fatigue, and political exposure remain with communities.

Many Indigenous participants described patterns of "parachute science", compounded by internal dynamics among authors themselves: IPCC-related actors arriving late in assessment cycles urgently seeking "Indigenous papers" or "local case studies"; requesting Indigenous endorsement of pre-written chapters rather than co-designing analysis from the outset; and navigating author teams where some colleagues actively promote particular agendas or perspectives. In this context, individual Indigenous scholars are often relied upon to broker access to communities, despite lacking the time, resources, or institutional support needed to build genuinely reciprocal relationships.

Although FPIC, Indigenous data sovereignty and collective intellectual property are increasingly cited in principle, they are rarely operationalised. Common shortcomings include treating information about Indigenous Peoples as freely reusable once it is in the public domain, regardless of community views; seeking individual consent where collective consent is required or bypassing Indigenous governance institutions; and failing to explain how information will be used in global assessments, what risks may arise, and what options exist to withdraw, correct or limit use. This leaves Indigenous Knowledges vulnerable to misrepresentation, misuse and even weaponisation by states and private actors under the banner of "climate solutions". Intellectual property rights and Indigenous data sovereignty are jeopardised by policies that assume all knowledge should be open-access, ignoring community protocols regarding sacred or confidential information (for example, spiritually significant teachings or places, or sensitive information) and the need for a clear operationalisation of FPIC within assessment processes. When CLAs and LAs rewrite Indigenous Contributing Authors' (CAs') inputs without consent, these failures are not incidental but structural, reinforcing epistemic injustice and placing Indigenous Knowledges at heightened risk of distortion and misuse.

The "minority tax"—the disproportionate burden placed on Indigenous scholars to represent entire knowledge systems, educate colleagues, and navigate hostile institutional environments—is rarely acknowledged or compensated. Where Indigenous authors are present, they often work in unsafe or unsupportive conditions. Frequently the only Indigenous person in a chapter team, they are expected to educate non-Indigenous colleagues about colonial histories, rights frameworks, and research ethics alongside their substantive author duties. They may encounter explicit racist exclusion, epistemic dismissal or subtle undermining. Such dynamics mirror broader patterns within the IPCC, where women, gender-diverse people and other marginalised experts also report hostile or exclusionary environments. The pressures are intensified for Indigenous youth, women and those with caregiving responsibilities, who often face additional barriers of age, gendered expectations, time poverty and constrained mobility, making participation more precarious and the emotional and logistical burden of this work even heavier. Under these conditions, risks of burnout and harm are high, and self-censorship may emerge as Indigenous authors feel pressured to dilute critique in order to maintain collegial relations or avoid political backlash.

Across many climate assessments, Indigenous Peoples are disproportionately framed as "extremely vulnerable" or "marginal communities" with "traditional knowledge". Far less attention is given to their leadership in mitigation, adaptation and the governance of biodiverse territories; to colonialism, militarisation, land grabs and extractive economies as key drivers of risk; or to Indigenous visions of futures that move beyond growth-centred development. This framing naturalises vulnerability as an inherent condition rather than documenting political decisions and historical injustice. It erases Indigenous agency, leadership and resilience, and obscures the root causes of vulnerability: colonisation, dispossession and state policy failures. Such deficit narratives enable institutions to deploy justice language rhetorically without changing finance flows, policy obligations or power relations.

BOX 1: **Good Practice**
Emerging opportunities

Despite these entrenched barriers, there are important precedents and shifting institutional attitudes that demonstrate what more ethical and equitable engagement with IKS can look like in practice. The AR6 WGII report included notable advances where Indigenous authors secured leadership positions. The North America chapter featured dedicated boxes on "Integrating Indigenous responsibility-based approaches into climate change adaptation and mitigation strategies" and explicit sections on "Indigenous Peoples and climate change" that foregrounded Indigenous governance, responsibilities and worldviews, including relational ethics and non-human kinship, rather than treating Indigenous Peoples solely as "stakeholders" or "vulnerable groups". Critically, these sections included direct discussion of colonisation, dispossession and ongoing land rights struggles as central to climate risk and adaptation, rather than as background context. They presented Indigenous Knowledges not only as "local observations" but as contemporary systems of analysis, planning and decision-making.

These contributions were not uniformly replicated across the assessment, and they depended heavily on the presence and persistence of specific LAs, who invited Indigenous CAs. These sections demonstrate that when Indigenous authors hold real influence over chapter framing and content, it is possible to shift narratives away from deficit and towards rights, agency and relational justice. This shift was not a result of institutional benevolence but the direct consequence of LAs pushing for accurate historical context and refusing to allow Indigenous participation to serve merely as window-dressing for business-as-usual framings.

The planned IPCC workshop on Engaging Diverse Knowledge Systems (EDKS), scheduled early in the AR7 cycle, represents another opportunity. For the first time, Indigenous People sit on the scientific steering committee to support IPCC in guiding an IPCC meeting of this kind. This has created the space to shape workshop design and outputs in ways that reflect Indigenous priorities and experiences and build momentum towards more substantive reforms in AR8. However, an appraisal of how effectively expectations for ethical engagement were established beyond being voiced in the committee, and how FPIC and data sovereignty will be upheld across WGs is yet to be conducted. In order to realise the full potential of

BOX 1: **Good Practice**
Emerging opportunities

the workshop as aspired by the IPCC, the workshop needs to be treated not as a one-off consultation but as the start of an ongoing, accountable process with Indigenous Knowledge Holders and Indigenous Peoples' organisations. It is also essential to avoid treating Diverse Knowledge Systems as a homogeneous whole in this workshop, thereby diluting the specificity of IKS in relation to other forms of knowledge. In particular, care must be taken to ensure that the language and methodological design do not reproduce the tendency to group IKS under broad categories such as "local knowledge", which obscures their political foundations, rights frameworks and their own governance and validation protocols.

Beyond the IPCC, other international assessment bodies provide valuable reference points for an ethical and equitable engagement with IKS. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), for example, has developed Indigenous and local knowledge (note the conflation) dialogues, "give-back" sessions and Indigenous and local knowledge liaison groups that bring Indigenous Knowledge Holders into all stages of assessments, from scoping to review; created spaces for Indigenous concepts and categories to shape problem framing; and required authors to report on how Indigenous and local knowledge was engaged, validated and represented. However, while IPBES practices are often cited as a model for inclusion, the conflation of Indigenous Knowledges and local knowledge within the "Indigenous and local knowledge" (ILK) framing is itself contested. In the IPCC context, maintaining a clear distinction between IKS and other ways of knowing is essential to avoid eroding the specificity, rights, and governance dimensions of Indigenous Knowledges that are distinct from the local knowledge framing.

Furthermore, creating regular opportunities for ongoing engagement, for example between sessions (the LA Meetings), with a wider group of Indigenous scholars on sticky topics (e.g., terminology, developing assessment frameworks) can support the AR cycles. Indigenous experts (however defined by Indigenous Peoples themselves, which would include Indigenous scholars, artists, activists, Elders, youth etc.) as peer reviewers would not only be helpful to gain expert feedback from Indigenous Knowledge Holders but also give them access to the reports and learn about the IPCC processes to make timely interventions. Group reviews instead of the standard IPCC practice of inviting individual expert review would reflect the Indigenous practice of a collective, consensus-based approach to decision-making.

Considering the current geopolitical context, however, these emerging opportunities must be understood as fragile. Political shifts, including the return of explicitly anti-Indigenous and climate-denying administrations in some countries, threaten to reverse gains. The principle of non-regression—ensuring that progress is not lost between assessment cycles—becomes critical. Current momentum exists but it requires immediate action to institutionalise changes before political windows close.

Many of the barriers outlined above require structural reforms that realistically target AR8 and future assessment cycles. The following sections present concrete recommendations for how AR7 can use existing flexibilities to ensure that it does no further harm, while laying the groundwork for more profound changes in AR8 and subsequent assessments.

4. Authorship and Representation

4.1 The problem

The current authorship model within the IPCC generates a crisis of representation that compromises both the integrity of the assessment and the safety of Indigenous participants. Indigenous CAs described being invited into processes that were already largely designed, with constrained scope to influence questions, framings or methods. In many cases, this invitation came late in the cycle. This produced several interrelated problems.

First, as discussed in Section 3, because nominations still flow primarily through government Focal Points, Indigenous CLAs and LAs often lack a clear mandate from their communities, creating misalignment between those who write and those most affected. The state-based nature of these processes can also constrain how Indigenous authors are able to represent their Peoples and Knowledge Systems, as they must navigate state-defined categories, priorities and diplomatic sensitivities that may not align with community-defined priorities. In addition, in some regions there are concerns that Indigenous authors nominated by states may not be accountable to established Indigenous customary institutions.

Second, Indigenous authors are often isolated and tokenised, expected to represent diverse Peoples and to educate colleagues – a "minority tax" that generates intense pressure and risk of burnout.

Third, authorship and citation practices mostly centre on author-driven, written outputs, failing to recognise the collective, community-grounded character of IKS. This mismatch creates conditions where Indigenous Knowledges are used to support particular arguments but community authorship, protocols and benefits are rendered invisible.

Fourth, as noted above, authorship patterns are closely tied to deficit-based narratives that emphasise "vulnerability" and underplay Indigenous leadership in mitigation and adaptation.

Finally, participants underscored an additional risk: calls to "mainstream" IKS without changing decision-making structures may lead to the exclusion of Indigenous Peoples and authors themselves. Some Indigenous scholars observed that once scientific institutions adopt certain participatory methods or "integrative" tools, they may feel less need to collaborate with Indigenous Peoples, arguing that they are already employing equivalent methodologies with no change to power structures.

In the end, "early engagement" must be understood not only in terms of timing but also in terms of meaningful influence over agenda-setting, scoping decisions and the framing of assessment questions. It must also encompass who is able to participate in these stages—including CAs and reviewers.

4.2 Supporting Indigenous authors across the Assessment Cycle

Addressing these issues requires tailored support for Indigenous authors—in all IPCC roles, including CLAs, LAs, CAs, and Chapter Scientists—as well as for Indigenous reviewers, across the full assessment cycle. Support is not only about financial resources but also about the relational, institutional and methodological conditions that make meaningful participation possible.

Building on the structural barriers outlined in Section 3—including lack of funding, connectivity and language support, and the disproportionate burden of advisory and diversity work—participants highlighted three additional needs specific to the assessment cycle:

1.Avoiding isolation within chapters.

Participants argued that, wherever Indigenous Knowledges are expected to feature substantively, there should be more than one Indigenous LA—who can also participate as CAs in other chapters. Indigenous communities share values but also have differences, making it unrealistic for a single Indigenous author to represent most Indigenous communities. Multiple Indigenous authors per relevant chapter were described as necessary to avoid tokenism and to allow for internal dialogue, challenge and mutual care. This is not only about numbers; it is also about building Indigenous-led communities of practice across WGs, where authors can collectively navigate dilemmas around consent, data sovereignty and representation without feeling isolated.

2. Peer support, mentoring and culturally grounded collaboration.

Indigenous contributors described the importance of spaces for peer support and accompaniment. Some participants discussed positive experiences where Indigenous early-career authors were paired with social scientists or senior Indigenous scholars who helped them navigate both the technical demands and the politics of assessments. Others highlighted initiatives where Indigenous artists, storytellers, and scientists collaborated to articulate climate change in forms meaningful to communities, indicating the value of including diverse Indigenous experiences, not only those of academically trained individuals. To strengthen the narrative and thematic dimensions of climate assessments, arts-based approaches should be actively supported, recognising that Indigenous Knowledges are often shared through creative and performative practices that carry cultural meaning and emotional resonance beyond conventional scientific communication. Crucially, mentorship should not be construed solely as

Indigenous authors learning to "fit" into existing structures; it must also support them to retain their own epistemic commitments and to resist assimilation into technocratic norms that erase Indigenous ways of knowing.

3. Rebalancing "who supports whom".

Several contributors emphasised the need for capacity-building to run in both directions. Non-Indigenous authors and IPCC leadership require training in Indigenous research ethics and methodologies, data governance and relational accountability. Many suggested that WG chairs and CLAs should receive explicit preparation on how to create safer, more equitable environments for Indigenous colleagues, and be prepared to address racism, epistemic dismissal and extractive expectations within their teams. To ensure these commitments are upheld, written safeguards should be developed that formalise these expectations and provide clear procedures for prevention, reporting and response.

Language and translation remain central within these needs. Cultural meanings are often lost when Indigenous concepts are translated into IPCC working languages by interpreters unfamiliar with specific worldviews, and academic technical language can act as a barrier. Indigenous authors frequently find themselves translating between Indigenous languages and IPCC jargon, carrying a hidden linguistic burden. Participants suggested that author teams and Technical Support Units (TSU) should recognise interpretation and translation as substantive work, and resource Indigenous translators who understand cultural nuance, rather than treating language support as an afterthought. Indigenous CAs and Expert Reviewers can play an important role in supporting this linguistic work.

4.3 Redefining "expertise" and "representation"

Because standard IPCC criteria prioritise academic publication records, the contributions from Elders, community leaders, practitioners, women, persons with different abilities, and youth who are recognised as experts in their communities are often excluded from authorship. Participants stressed that Indigenous expertise is frequently collective and context-bound: Elders who hold knowledge of seasonal indicators, ecological relations or ritual responsibilities may not publish peer-reviewed papers but are the recognised experts, critical to understanding climate change in their territories.

Concrete precedents for relational and collective authorship already exist outside the IPCC, including the recognition of Indigenous Nations as collective authors and, in some cases, the attribution of authorial status to rivers or territories, such as in scholarship engaging with Te Awa Tupua (the Whanganui River). While these practices are not yet normalised within IPCC authorship conventions, they are increasingly invoked by Indigenous scholars as evidence that alternative, non-individualist models of authorship are both possible and legitimate. While such practices may sit uneasily with existing IPCC conventions, they point to the need for more flexible authorship models that can accommodate relational and collective forms of knowledge.

At the same time, the question of who legitimately represents a community is highly sensitive. Contributors emphasised that, wherever possible, representation should be confirmed through community-based processes, such as letters from Indigenous governance bodies, councils or organisations indicating that they recognise an individual—including ex-officio representatives such as heads of Indigenous organisations, cultural authorities, or Knowledge Holders—as speaking from a collective process rather than in a purely personal capacity. They also highlighted the importance of making the specific Peoples and territories with whom authors are affiliated visible rather than only listing state-based or university affiliations. This clarity helps avoid pan-Indigenising and acknowledges that authors speak from particular locations and responsibilities.

Gender and intergenerational representation were identified as further dimensions of authorship equity. Participants observed that men are often more visible in Indigenous academic and policy spaces due to differential access to formal education, travel and language skills. When authorship is claimed on behalf of communities, care should be taken to recognise the work of women, youth and others who support or inform the process, even if their names do not appear as primary authors. This might include explicit mention in the acknowledgements or co-authorship structures that reflect group contributions.

Several contributors also warned against assuming that Indigenous authorship alone guarantees ethical practice. Indigenous scholars appointed or nominated by governments may themselves have internalised Euro-Western norms or may be working under institutional and political constraints that limit their ability to foreground Indigenous governance and rights. For this reason, changing who is recognised as an expert must be accompanied by re-thinking what kinds of questions are asked, whose interests are prioritised, and how power and accountability are structured throughout the assessment.

BOX 2: **Good Practice**
Indigenous guidelines for ethical engagement with indigenous knowledge systems

Ethical and equitable engagement with Indigenous Knowledge Systems is an ongoing process. It requires a continuous commitment and effort to build pathways as well as implement corrective measures from a cycle of learning and unlearning such that meaningful engagements with plural and parallel IKS are possible. This box provides a list of Indigenous guidelines for ethical engagement with Indigenous Knowledge from outside the IPCC. These examples highlight the need to move beyond Indigenous consultation to shared governance, resourcing collective participation, practicing the ethics of Indigenous control of Indigenous data, and accepting Indigenous validation protocols as rigorous and final.

Alaska Arctic Observatory and Knowledge Hub's mission is to improve Arctic research and strengthen Indigenous self-determination through Indigenous-led stewardship of environmental observations and knowledge.

The **Collaboratory for Indigenous Data Governance** is a platform for research, policy and practice for Indigenous data sovereignty.

Assessments

Status of Tribes and Climate Change Report (2025) elevates the voices and efforts of Indigenous Peoples, Nations, and communities and provides a space within the published literature to share their stories about the climate change impacts they are experiencing and the solutions they are implementing.

The Arctic Council (AMAP): The Arctic Monitoring and Assessment Programme frequently employs Indigenous co-leads alongside scientific leads; however, this is not consistent across all working groups or reports, and Indigenous representatives do not participate in the Board. Indigenous co-leads have developed guidelines for the inclusion of Indigenous Knowledges that recognise it as a distinct knowledge system requiring its own validation processes, not merely data to be integrated into science.

For Our Future: Indigenous Resilience Report (2024): This report draws on Indigenous Knowledge, perspectives and experiences to explore the multidimensional and intersecting aspects of climate change impacts and adaptation.

Canada's National Climate Assessments: Recent reports have moved towards Indigenous-led chapters where Indigenous authors retain editorial control. These processes often include Indigenous Advisory Circles composed of Elders and youth who guide the framing of the report, ensuring it adheres to cultural protocols and worldviews.

Guidelines

Kawerak-Region Tribal Research Protocols, Guidelines, Expectations & Best Practices **(2024)**

Ethical Guidelines for Research Involving the Sámi People in Finland **(2024)**

Guidelines for The Saami Council's Participation in Research Projects **(2023)**

Circumpolar Inuit Protocols for Equitable and Ethical Engagement **(2022)**

Ethical Conduct in Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for researchers and stakeholders **(2018)**

National Inuit Strategy on Research by Inuit Tapiriit Kanatami **(2018)**

Ethical Guidelines for Indigenous Health Research: Report by Centre for Sami Health Research **(2016)**

TE ARA TIKA Guidelines for Māori Research Ethics: A framework for researchers and ethics committee members **(2010)**

Negotiating Research Relationships with Inuit Communities: a guide for researchers by Inuit Tapiriit Kanatami and Nunavut Research Institute **(2006)**

Guidelines for Respecting Cultural Knowledge by Alaska Native Knowledge Network **(2000)**

4.4 Recommendations

Building on the reflections above, we propose a set of concrete recommendations focused on how Indigenous authorship and contributions can be structured and supported. Recommendations are divided into: AR7: immediate actions within current rules, led mainly by WG Co-Chairs, CLAs and TSUs; and AR8 and beyond: structural reforms to the authorship model, which require decisions by the Bureau and Panel.

For AR7

Make support for Indigenous authors visible and resourced. Three months after the Expert Workshop on Engaging Diverse Knowledge Systems, in consultation with WG Co-Chairs and Indigenous authors, the IPCC Secretariat should compile a short needs assessment covering digital access, translation and interpretation, editing time, and caregiving responsibilities. WG Co-Chairs should use this to justify and request a dedicated budget line, for approval at the following IPCC Plenary, to meet these needs for AR7 authors, and TSUs should make clear to Indigenous authors what support is available. Where necessary, WG Co-Chairs should also seek supplementary contributions to ensure these commitments can be met.

Reduce isolation and strengthen support. WG Co-Chairs and CLAs should, as a default, appoint a minimum of two Indigenous CAs per chapter. Where this is not possible, CLAs should provide a brief internal justification to WG Co-Chairs and connect lone Indigenous authors with Indigenous peers in other chapters or WGs for mutual support, such as through a cross-Working Group Slack channel. TSUs should also be positioned to provide direct support for Indigenous CAs. In addition, TSUs should proactively organise and host intersessional online meetings focused on IKS across and within WGs.

Clarify positionality and mandate. Clarify positionality and mandate. CLAs should encourage and guide all authors to prepare a brief positionality statement. As discussed in the listening sessions, making authors' methodological and epistemological orientations explicit—including how they approach evidence, knowledge systems, and assessment—can help chapter teams better understand the different objectives, assumptions, and interests that authors bring to the report. This shared clarity supports more transparent, reflexive, and respectful collaboration within chapter teams. A workshop with all authors could be helpful.

In the case of Indigenous authors, positionality statements serve an additional and important purpose. They can help chapter teams understand and respect: (1) the Indigenous Peoples, communities, or territories with whom the author is affiliated; (2) any formal mandate, representative role, or advisory responsibility the author may hold within Indigenous governance bodies or organisations; and (3) any specific responsibilities, accountabilities, or constraints that arise from those relationships. These statements should foster collective awareness within the team and ensure that Indigenous mandates, positionalities, and responsibilities are acknowledged and respected throughout the assessment process.

Open pathways for additional Indigenous contributions. WG Co-Chairs and TSUs should designate specific Chapter Scientists, or set aside dedicated portions of Chapter Scientists' time, to support Indigenous-related work within chapters, including organising Indigenous-related literature (including grey literature), coordinating Indigenous CAs and expert reviewers, and liaising with Indigenous organisations and translators. In addition, CLAs should, by the end of the First Order Draft (FOD) stage and with Indigenous authors' advice, identify and invite additional Indigenous Knowledge Holders and practitioners as CAs and Expert Reviewers, using networks of Indigenous organisations and the AR7 Indigenous Advisory Group (see Section 6) as key entry points. Chapter teams should keep a brief internal record of how these contributors were identified and selected. CLAs and TSUs should also facilitate options for oral as well as written feedback (for example, through virtual meetings, recorded contributions or dialogue sessions).

Strengthen capacity in both directions. The IPCC should support structured mentoring and peer-support schemes linking Indigenous early-career authors with senior Indigenous scholars and allied social scientists. At the same time, the Bureau, WG Co-Chairs, CLAs, and LAs should be required to undertake learning on Indigenous rights, research ethics and epistemologies so that Indigenous authors are not placed in the position of continual educators. Section 6 proposes complementary institutional-level fellowships and training programmes.

For AR8 and beyond

Broaden the definition of expertise. The Bureau and WG Co-Chairs should be encouraged to weigh community-based expertise alongside academic publication metrics when selecting authorship roles. This would mean recognising Indigenous Elders, Knowledge Holders, practitioners, artists, and youth identified by their communities as explicitly eligible as authors or co-authors, and valuing alternative indicators of qualification such as community endorsement by Elders or traditional authorities, demonstrated Indigenous leadership in Indigenous and/or non-Indigenous organisations, and other forms of recognised responsibility for holding and sharing Indigenous Knowledges.

Experiment with more flexible, collective authorship formats. Over the medium term, the IPCC should explore authorship formats that can acknowledge collective and relational forms of expertise. Examples include: listing Indigenous Peoples or territories alongside individual authors; recognising community review processes in a newly-established acknowledgements section; and piloting forms of collective attribution that make visible community-level contributions to the knowledge being synthesised. Any such experimentation should be co-designed with Indigenous organisations and aligned with their own authorship and governance protocols.

For structural reforms to nomination pathways that enable Indigenous organisations to nominate authors directly, see recommendations in Section 6.

5. Methodology and assessment frameworks

5.1 From "integrating Indigenous Knowledges" to engaging ethically with Indigenous Knowledge Systems

As outlined in Section 3.2, the IPCC operates within a knowledge hierarchy that treats Euro-Western science as the universal standard and frames Indigenous Knowledges as supplementary. Methodologically, this requires a shift from "integrating" IKS as datasets to working across distinct but equal knowledge systems. For the IPCC, this shift has at least three implications:

1. Indigenous Knowledges are not confined to documenting "local vulnerability". They are relevant to all WGs, including physical science, where Indigenous long-term monitoring and relational indicators can inform understanding of climate impacts, baselines and thresholds.

2. Indigenous Knowledges are not universalised or abstracted from their territories, languages and responsibilities. Indigenous Knowledges are contextual and place-bound, and some components are not intended for circulation beyond community governance structures or outside Indigenous data sovereignty protocols. Methods must therefore be designed to respect the limits of distribution and to avoid demands that knowledge conform to universal, de-contextualised formats.

3. Methodological innovation in the IPCC must be accompanied by epistemic pluralism and reflexivity, distinguishing IKS from the broader and more ambiguous language of "diverse" or "multiple" knowledge systems. This requires making whose categories and assumptions are structuring the assessment explicit, and opening space for Indigenous concepts, such as relational responsibilities, kinship with lands and waters, and non-linear temporalities, to shape problem framing rather than only being slotted into existing boxes.

Building on approaches such as Multiple Evidence Base and Two-Eyed Seeing, IPCC reports can operationalise epistemic humility by moving away from asking whether Indigenous Knowledges "confirm" modelled projections towards asking what different knowledge systems reveal about climate processes, drivers, risks, solutions and methods of knowing (including their cultural nuances), and how these can be brought into respectful dialogue.

5.2 Indigenous data sovereignty, FPIC and when not to cite

Indigenous data sovereignty asserts the right of Indigenous Peoples to govern the collection, ownership, access, and application of data about their lands, communities and knowledges. Operationalising this principle within the IPCC requires attention to both the origin of information and the pathways by which it enters the assessment. In practice, IPCC authors and WGs should consider the following elements:

1. Understanding FPIC in assessment contexts.

FPIC is not just a form signed at the start of a project; it is an ongoing process of dialogue, negotiation and consent. In the context of IPCC assessments, this means: explaining clearly to communities why information is being used; how it will be framed; what audiences it will reach; and what potential risks and benefits may arise; ensuring that consent is obtained through appropriate community authorities for specific uses—for example, being named as a case study, having particular practices or sites described, or being cited as a source of knowledge; and recognising that consent can be partial, conditional or withdrawn. Communities may agree to share some information but not others, or to be mentioned without precise geographic details, or to be anonymous.

2. Respecting community-held authority over "public" information.

Not all information that appears in publicly accessible formats (journal articles, reports, videos, websites) can be ethically treated as free for recontextualisation. In some cases, communities may have allowed publication for a specific purpose or audience, or under the assumption of certain protections that are not fulfilled when material is repurposed in a global assessment. Original researchers bear primary responsibility for conducting ethical work and clearly indicating any restrictions or contextual requirements. IPCC authors should exercise careful judgement when citing or recontextualising Indigenous Knowledges, particularly regarding sensitive topics such as sacred sites, territorial boundaries, or experiences of violence and dispossession. Where published materials include explicit community guidance on appropriate use, or where risks are identified, authors should respect these limitations—including deciding not to cite, anonymising locations, or generalising details. In cases of significant uncertainty, and where feasible, authors may seek clarification from community-level actors or Indigenous co-authors.

3. Deciding when not to cite.

Ethical methodology includes deliberate decisions not to reproduce or cite certain knowledges, even if they are technically accessible. Indigenous authors must advise on these decisions, as they possess the contextual understanding and community connections necessary to assess potential risks. This may apply where communities have expressed concerns; where the information is clearly sensitive (for example, locations of burial grounds or details of defensive practices); or where citation could exacerbate surveillance, militarisation or economic pressure on territories. In such cases, Indigenous authors can still convey substantive points about climate impacts, governance or adaptation strategies without including details that would create risk.

4. Safeguarding against misappropriation.

There is a growing concern that Indigenous Knowledges are being mobilised to support "climate solutions"—such as conservation schemes, carbon markets or renewable energy projects—that do not address the root causes of climate change. These initiatives often proceed without adequate FPIC and deepen the dispossession of Indigenous Peoples from their Lands and Waters. This misappropriation occurs when Indigenous practices are extracted from their epistemological, ontological, and axiological contexts—treating knowledge as separable from the relational worldviews, ethical responsibilities, and governance systems that give it meaning. The assessment process must be alert to this risk, avoiding the use of Indigenous practices as generic "best practices" detached from their governance, rights and territorial context. Methodologically, this requires recognising that Indigenous Knowledges, practices, and values form an integrated whole that emerge from specific conditions that allow them to flourish, including secure land rights and self-determination, and being transparent about conflicts and contestations.

Embedding data sovereignty and FPIC in the IPCC's methodological framework is not simply a matter of adding new language to guidance documents. It calls for changes in how evidence is sourced, how case studies are developed, how communities are engaged in review, and how decisions about inclusion or exclusion are made.

5.3 Ethical engagement with Indigenous Knowledge Systems

Ethical engagement starts from the premise that Indigenous Peoples are predominantly rights-holders and hold their knowledge. Many communities have explicit protocols that determine what knowledge can be shared, with whom, and under what conditions. These may require engagement with Indigenous Knowledge Holders, land governance bodies or community review groups and, in some cases, may prohibit or strictly condition the further circulation of sacred, sensitive or strategically vulnerable information. This applies particularly to knowledge that has not been placed in the public domain by Indigenous Peoples themselves; however, even where information is already published, authors still have a responsibility to assess how it was generated, whether community protocols were respected, and what risks its re-use in an IPCC assessment might create. For the IPCC, this implies several principles:

1. Community-defined protocols.

Where assessment content proposes to draw on Indigenous Knowledges, authors should work with the appropriate Indigenous authorities to agree on how information will be shared, attributed and reviewed. This may involve community listening sessions, Indigenous-led review or engagement with designated knowledge-holding institutions. Existing ethical guidelines developed by Indigenous organisations can inform this work (see box 2 above) but need to be applied in ways that respect the specific governance structures and protocols of each People or community.

2. Relational accountability.

Engagement should be based on relationships of trust and mutual responsibility rather than one-off requests for information. This means allocating time and resources for dialogue and follow-up, being clear about expectations and limits, and accepting that communities may decline to participate or may set conditions on the use of their knowledge. Where IPCC timelines make such relationships impossible, it may be more ethical to refrain from using particular material than to force it into an inappropriate process.

3. Collective, not just individual, consent.

Reliance on individual consent alone – including from Indigenous academics or intermediaries – can sidestep community governance and undermine Indigenous data sovereignty. Authors should not assume that publication or online availability equates to community consent for re-use in global assessments and should seek clarification from relevant Indigenous governance structures wherever feasible.

4. Non-maleficence and benefit.

FPIC and "Do no harm" must be applied to decisions about including, framing and locating Indigenous Knowledges. Authors should consider how specific examples, maps or descriptions might be taken up by states, corporations or conservation actors in ways that intensify dispossession, and should adjust or omit content that creates such risks. At the same time, engagement with IPCC processes should, where possible, advance community-defined priorities – for example, by supporting rights claims, recognising Indigenous governance innovations, or amplifying Indigenous adaptation strategies.

Ethical engagement also requires creating conditions in which Indigenous authors and Knowledge Holders themselves can safely raise concerns about cultural appropriation, misrepresentation, misuse or harmful framings during the assessment process. This includes clear pathways for feedback and correction, protection from retaliation, and willingness from chapter leadership to adjust content in response.

5.4 Methodological innovation for AR7 and groundwork for AR8

For AR7, steps to broaden the methodological repertoire could include:

1. Applying Indigenous-led knowledge co-production approaches in selected chapters, cross-chapter boxes, and cross-working group boxes where Indigenous authors are present and willing to lead such work. These applications should be explicit about methods: how different bodies of knowledge were brought into dialogue; how quality was assessed within each system; and how areas of divergence were handled.

2. Making full use of existing flexibilities in the treatment of "grey literature" to admit a wider range of Indigenous-related sources, including Indigenous-reviewed reports, community publications, audio-visual materials, and documentation produced by Indigenous organisations. Chapter teams can support Indigenous authors to compile this material and address concerns about quality and bias through transparent discussion of methods and limitations, rather than exclusion by default.

3. Supporting participatory and community-based monitoring case studies that can be incorporated into chapters. These may involve long-term community observations of sea ice, rainfall, species distributions or other indicators; participatory mapping of climate impacts; or Indigenous-led evaluation of mitigation and adaptation initiatives. Even if such case studies cannot be systematically scaled in this cycle, they can illustrate alternative ways of generating and validating evidence.

4. Encouraging reflexive methodological sections within relevant chapters, where authors describe how they engaged with Indigenous and other knowledge systems, what challenges they faced, and what lessons might inform future assessments. Such reflexivity can increase transparency and help identify gaps that AR8 should address.

For AR8 and beyond, a far-reaching methodological transformation will be needed. Potential elements include:

1. Revising IPCC guidance on "quality of evidence" and "confidence" to explicitly recognise Indigenous validation protocols, oral histories and relational indicators as legitimate forms of evidence. This would involve amending the Guidance Note on the Consistent Treatment of Uncertainties to expand the definitions of "evidence" and "confidence" to include Indigenous evidence systems, as well as updating relevant annexes of the IPCC Procedures that set out recognised sources of evidence and standards of validation.

2. Developing methodological guidelines on working with IKS, co-created with Indigenous experts and with relevant bodies in other arenas. An IPCC Guidance Note could offer practical guidance on co-design of assessments, assessment of evidence, consent and data governance, participatory synthesis, and the documentation of benefits and harms.

3. Exploring institutional arrangements – such as a cross-cutting task force on IKS – that can provide ongoing support, training and oversight for methodological innovation, while ensuring that Indigenous perspectives are present across all WGs.

Methodological innovation cannot be detached from resourcing. Many of the practices – community listening sessions, Indigenous-led review, participatory monitoring, translation into Indigenous languages and audio-visual formats – require sustained funding, time and logistical support. Without these, calls for co-documentation and Multiple Evidence Base risk becoming rhetorical rather than practical. Any methodological reforms must therefore be accompanied by commitments to resource the institutions and networks that can support Indigenous Peoples' engagement on their own terms. In line with widely shared Indigenous philosophies of 'living well', IPCC engagement with IKS should be guided by ethical commitments to sustaining healthy relationships among peoples, lands, waters and more-than-human relatives.

5.5 Recommendations

This section focuses on how knowledge is conceptualised, sourced, validated, cited and synthesised. Recommendations distinguish between: AR7: methodological practices that can be adopted now by chapters and WGs; and AR8 and beyond: structural changes to IPCC guidance on evidence, confidence, agreement and ethical engagement.

For AR7

Develop and circulate short guidance on when not to cite. Develop and circulate concise internal guidance on the ethical use and citation of IKS, including clear guidance on when citation may be inappropriate. Each WG TSU should work with at least one Indigenous author and draw on existing Indigenous ethical guidelines to prepare a short note on responsible sourcing and citation of Indigenous Knowledges. The guidance should explicitly recognise Indigenous Peoples collective rights and data sovereignty. It should: (1) identify key ethical risks, including misrepresentation, inappropriate disclosure of sensitive or restricted knowledge, lack of community consent, and absence of fair benefit; (2) provide illustrative examples of cases where citation may be inappropriate or should be anonymised or generalised; and (3) advise authors to seek guidance from Indigenous authors when there is uncertainty about the use of particular material.

Co-design Indigenous-led scenarios and case study boxes. WG Co-Chairs and CLAs should support pilot Indigenous-led scenario building exercises in selected chapters, working with Indigenous authors to develop scenarios that reflect Indigenous worldviews, temporalities and governance priorities. Each WG should include at least one cross-working group box co-designed and co-authored with Indigenous authors and/or Knowledge Holders on relevant themes. These boxes should: (1) foreground Indigenous governance, rights, responsibilities and worldviews; (2) include a short methodological note describing consent processes, attribution (including any collective authorship), and agreed limits on detail to avoid risks; and (3) allow for graphical or visual depictions (e.g. maps, diagrams, artworks) where this is preferred by Indigenous Peoples and consistent with community protocols

Maintain methodological memos at chapter level. CLAs should maintain a brief internal methodological memo for each chapter, outlining: (1) how all knowledge systems were engaged; (2) how FPIC, Indigenous data sovereignty and community protocols were considered; and (3) any decisions to anonymise, generalise or omit information to avoid harm. These memos should inform cross-chapter learning, Indigenous dialogues and the institutional accountability processes (described in Section 6).

Create mechanisms for Indigenous-led review of knowledge representation. Each WG should schedule a dedicated Indigenous review window aligned with the Government and Expert Review of the Second Order Draft (SOD). During this window, targeted invitations should be issued via Indigenous Peoples' organisations and the Indigenous Knowledges and Rights body, and CLAs and LAs should document, in a response matrix, how Indigenous comments on the representation of their knowledge and rights were addressed. Review Editors should receive training on how to ensure these comments are well addressed, as they are responsible for upholding a rigorous peer review.

For AR8 and beyond

Revise the treatment of evidence, agreement and confidence. The IPCC should revise its guidance on "quality of evidence" and "confidence" to explicitly recognise Indigenous validation protocols, oral histories, relational indicators and ceremonial or consensus-based processes as legitimate forms of evidence. An IPCC Guidance Note could include options to present Indigenous and non-Indigenous scientific lines of evidence side by side, without requiring one to validate the other, and to be explicit about areas of convergence, divergence and incommensurability. Where appropriate, assessment outputs should present distinct knowledge systems side by side, rather than reducing epistemological divergence to uncertainty or low confidence, and transparently explain their different premises and implications for interpretation and decision relevance.

Co-develop methodological guidance on engaging ethically with Indigenous Knowledge Systems. The IPCC should co-develop, with strong Indigenous leadership and in dialogue with bodies such as IPBES, methodological guidance on engaging IKS. This annex should provide positive examples (e.g. Multiple Evidence Base applications, Indigenous-led review processes, decisions not to cite, participatory monitoring) and practical guidance on co-design, consent and data governance, participatory synthesis, and documentation of benefits and harms.

Establish ethical engagement and consent protocols at the IPCC level for all knowledge and types of evidence. Building on the UNDRIP-aligned obligations proposed in Section 6 below, the Bureau and Secretariat, advised by a permanent Indigenous Knowledges and Rights body, should translate high-level commitments on FPIC and Indigenous data sovereignty into concrete methodological protocols for WGs and chapter teams. These protocols should promote good practices and overall ethical treatment of evidence, setting out step-by-step expectations for: sourcing evidence; seeking community consent for specific uses; attributing collective authorship; handling sensitive information; and responding to community requests for correction or withdrawal.

Institution-wide commitments on the UNDRIP, FPIC and Indigenous data sovereignty and further institutional resourcing for methodological reforms—including funding for Indigenous dialogues, community-based monitoring and translation—are detailed in Section 6.

6. Institutional transformation and accountability

6.1 Beyond participation: transforming governance

The structural issues summarised in Section 3—state primacy, epistemic dominance, and the treatment of Indigenous Knowledges as a topic to be "included"—raise a deeper question as to whether the IPCC's current design is fit for plural, rights-based climate knowledges. This section focuses on a transformative change that goes beyond inclusion to promote inclusive governance, so that the IPCC moves away from the current model of extracting Indigenous evidence and towards shared power, responsibilities and accountability with Indigenous Peoples. This transformation would also improve the IPCC.

Transforming the IPCC's relationship with Indigenous Peoples requires internal reform and stronger linkages with existing Indigenous rights mechanisms, including:

1. Shared governance spaces.

Permanent structures within the IPCC through which Indigenous representatives can shape the agenda, scope decisions and cross-cutting priorities, and make shared decisions. A standing Indigenous Knowledge Systems and Rights body within the IPCC would:

1.1. participate in scoping meetings, and advise on chapter outlines;

1.2. engage with the Bureau on cross-cutting issues such as Indigenous rights, data sovereignty and ethics;

1.3. provide input during the drafting stage of Summaries for Policymakers, especially the capacity to flag omissions or harmful framings.

2. Independent Indigenous nomination pathways.

A reformed system, beyond Observer Organisations, that allows recognised Indigenous Peoples' organisations and governance bodies to nominate authors, reviewers and participants directly, with transparent criteria and disaggregated reporting on selections.

3. Multiple forms of representation.

Representation of Elders, youth, women and Knowledge Holders rooted in community institutions, who may not be academic, university-based experts, should have a pathway to participation. This should come with the possibility for non-written modes of engagement and institutional recognition of the political authority and knowledge of these participants. It should be supported with

resourcing for interpretation. At the same time, representation must be regionally balanced, which requires specific measures to support under-represented regions—including targeted nomination pathways, funding, and outreach through regional Indigenous organisations and institutions.

4. Bridging mechanisms and regional hubs.

Many Indigenous participants noted that community-based assessments, reports centring Indigenous worldviews, and ethical guidelines from Indigenous leaders rarely appear at the IPCC, even when they are well established in other spaces. Suggested solutions include:

4.1. dedicated liaison teams in each and across WGs tasked with maintaining ongoing relationships with Indigenous Peoples' organisations and socio-cultural regions already active in plural climate engagement processes;

4.2. regional listening sessions or hubs where Indigenous Knowledge Holders can discuss climate trends, co-define priorities, and decide collectively what knowledge should be shared with global assessments and under what conditions;

4.3. explicit coordination with existing bodies such as the Facilitative Working Group (FWG) of the Local Communities and Indigenous Peoples Platform (LCIPP) under the United Nations Framework Convention on Climate Change (UNFCCC), and with regional Indigenous Peoples' organisations, to avoid duplication and bureaucratisation

5. Protection against capture.

Several Indigenous scholars reminded us that being "in the room" can also entail risks of co-optation. Representatives may feel pressure to align with dominant framings or to downplay critiques of colonialism and militarisation in order to preserve access. Governance reforms should therefore include safeguards for independence, such as rotation of roles, clear mandates from Indigenous constituencies, and support for Indigenous-led monitoring of the IPCC's treatment of Indigenous Peoples and knowledge systems.

6.2 Accountability mechanisms and indicators

Participants consistently highlighted a gap between rhetorical commitment to Indigenous Knowledges and the presence of concrete mechanisms to ensure follow-through. Without accountability, new initiatives risk becoming symbolic, dependent on the goodwill of particular leaders or authors.

Accountability needs to be understood in at least three dimensions:

1. Accountability to Indigenous Peoples. The IPCC must be answerable to those whose knowledge it assesses and whose territories it describes. This implies:

    1.1. creating structured opportunities for Indigenous Peoples and organisations to review how they and their knowledge have been represented;

    1.2. enabling feedback, correction and, where necessary, withdrawal of content;

    1.3. ensuring that "give-back" processes are not ad hoc but built into assessment cycles.

2. Accountability within the institution. Decisions about authorship, evidence and framing are currently dispersed and opaque. To address this, participants suggested:

    2.1. explicit indicators tracking Indigenous authorship and participation at all levels and by region, gender and Peoples;

    2.2. monitoring of how Indigenous Knowledges, rights and governance are addressed across chapters, including the space afforded to analyses of colonialism and structural injustice;

    2.3. internal reporting on the application of ethical protocols, FPIC and data sovereignty in assessment work.

3. Accountability in relation to broader human rights commitments. The IPCC assessments influence funding flows, regulatory frameworks and "solutions" that can either support or violate Indigenous Peoples' rights. Participants pointed to the need for:

    3.1. systematic attention to human rights risks associated with mitigation and adaptation options, including those that impact Indigenous Peoples and their knowledges without securing territorial rights;

3.2. dialogue with UN human rights mechanisms and Indigenous rights bodies to ensure coherence between assessment narratives and international standards.

Indigenous dialogues linked to each assessment were proposed to operationalise these forms of accountability. Building on experiences in other assessment bodies, participants recommended that Indigenous Knowledge dialogues be accompanied by clear pathways for their outcomes in order to shape chapter content. This would require: training on how to cite oral information; a formal mandate to respond to dialogue findings in scoping and drafting; transparent documentation of how feedback was incorporated or, where not, why; follow-up sessions after report approval to discuss outcomes, gaps and next steps with Indigenous representatives.

As recommended in Section 5, Indigenous-led review and monitoring will be essential. At the institutional level, this could include independent Indigenous-led evaluations or "shadow reports" on each assessment cycle, as well as basic metrics tracking how much agenda time, textual space and decision-making attention is devoted to Indigenous and other knowledge systems.

6.3 Ensuring continuity and preventing backsliding

Institutional transformation must be designed with continuity and non-regression in mind. This means codifying key reforms in IPCC Principles, Procedures and Guidance, including recognition of Indigenous Peoples as rights-holders, minimum expectations for Indigenous participation, and binding ethical requirements for engagement with IKS and sustainable resourcing. Participants highlighted several strategies:

1. Intergenerational pathways. The concentration of work on few Indigenous authors is unsustainable and risky. An intergenerational approach would:

    1.1. create fellowships, mentoring and training opportunities for Indigenous youth and early-career Knowledge Holders, including through the IPCC Scholarship Programme;

    1.2. support community-based institutions to build familiarity with IPCC processes on their own terms;

1.3. encourage shared leadership between Elders, mid-career experts, and younger participants so that knowledge and relationships are not lost between cycles.

2. Institutional learning across cycles. Listening sessions participants questioned whether the IPCC is currently able to learn from one assessment to the next in a systematic way. They called for structured reflection on how Indigenous Peoples and knowledge systems were engaged in each cycle, including:

2.1. internal reviews that move beyond counting references or mentions to examining qualitative dimensions of representation;

2.2. opportunities for Indigenous authors and reviewers to document both harms and positive experiences;

2.3. mechanisms for the Secretariat, Bureau and WGs to respond with concrete commitments for improvement rather than treating each cycle as a fresh start.

6.4 Recommendations

This section addresses institutional transformation and accountability: how the IPCC's rules, bodies and procedures need to change so that engagement with Indigenous Peoples and their knowledge systems moves from ad hoc inclusion to shared governance, rights-based practice and non-regression. Recommendations are divided into: AR7: immediate governance and accountability measures achievable within the current cycle; and AR8 and beyond: structural reforms to IPCC governance, procedures and learning.

For AR7

Establish an Indigenous advisory mechanism for AR7. Building on the Engaging Diverse Knowledge Systems workshop, the IPCC Bureau should, by WGI Second Lead Author Meeting (LAM2), establish an ad hoc Indigenous Advisory Group with a clear written mandate to: (1) provide ongoing guidance to WGs on ethical engagement, consent and data sovereignty; (2) help identify Indigenous priorities and concerns; and (3) act as a point of contact for Indigenous organisations seeking to engage with AR7. The advisory group's advice should be shared with the Bureau and summarised in internal reports.

Designate an Indigenous Point of Contact in each Working Group and, where possible, in each Chapter. Each WG Co-Chair should appoint, by their respective LAM2, an Indigenous Point of Contact (or a small team) with a written mandate to: (1) track Indigenous-related content across chapters; (2) liaise regularly with the AR7 Indigenous advisory group; and (3) coordinate responses when Indigenous organisations flag concerns about misrepresentation, extractivism or risks. Points of Contact should have adequate time allocation and support from TSUs, Chapter Scientists and Bureau Members from each WG.

Embed basic accountability expectations at chapter level. As part of the methodological memos described in Section 5.5, each chapter should include a section on Indigenous engagement, specifying: (1) whether and how Indigenous Peoples and knowledge systems were engaged; (2) any decisions to omit, anonymise or information to generalise in order to avoid harm; (3) any feedback received from Indigenous reviewers or organisations and how the chapter team responded; and (4) a reflection on the chapter team's positionality and assumptions and how they shape these actions. The Bureau and TSUs should review these memos as part of internal quality assurance.

Implement structured, time-bound Indigenous dialogues linked to AR7 chapters. Each WG Bureau, with the support of their TSUs, should organise at least one Indigenous dialogue per WG, timed to inform the FOD and, where feasible, an additional dialogue before the SOD. CLAs should prepare a short, written response to the key recommendations arising from these dialogues, indicating: (1) how points will be incorporated in the chapter; and (2) where incorporation is not possible, why. These responses should be shared with dialogue participants and the Indigenous Advisory Group.

Pilot "give-back" practices. Selected chapters (for example, those with substantial Indigenous content) should, in collaboration with Indigenous partners, prepare short, accessible summaries of relevant sections in regional languages and/or audio-visual formats. The Bureau and TSUs should ensure that these materials are shared through Indigenous networks identified by the Indigenous Advisory Group and should invite feedback on their usefulness.

Apply the principle of non-regression for Indigenous content. WG Co-Chairs should make an explicit internal commitment that AR7 will not regress on key advances made in AR6 (e.g. explicit discussion of colonialism, Indigenous rights and governance, where relevant), and should task the Indigenous focal points with monitoring this across drafts.

Prioritise outreach to Indigenous media and audiences. After report approval, the IPCC Secretariat, WG Co-Chairs and TSUs should ensure that communication strategies explicitly include Indigenous media and networks. This should involve: (2) preparing key messages and summaries aligned with Indigenous Peoples'

priorities and experiences; (2) where feasible, translating materials into regional and Indigenous languages and/or accessible audio-visual formats; and (3) circulating these through Indigenous organisations and communication channels identified with the AR7 Indigenous Advisory Group and Indigenous focal points so that Indigenous Peoples and organisations can access and use assessment findings on their own terms.

For AR8 and beyond

Create a permanent Indigenous Knowledge Systems and Rights body within IPCC governance. The IPCC should embed a permanent Indigenous Knowledges and Rights body in its Principles and Procedures, with a standing mandate to: (1) participate in scoping meetings and advise on chapter outlines; (2) advise the Bureau on guidance documents, methods and cross-cutting issues related to Indigenous rights, ethics and data sovereignty; and (3) review draft cross-cutting text, including Summaries for Policymakers, with the capacity to flag omissions, misrepresentations or harmful framings. This body must be composed of, and operate in partnership with, recognised Indigenous organisations and governance bodies.

Institutionalise independent Indigenous nomination pathways. The IPCC Secretariat and Bureau should draft the necessary procedural amendments and associated guidance for nomination and selection, drawing on the broadened definitions of expertise outlined in Section 4.4 for approval by the Panel. The full process must be completed in time for the revised procedures to be in force before AR8 scoping begins, ideally in AR7, so that Indigenous nomination pathways can shape the outlines and author teams from the outset.

Integrate Indigenous participation into Bureau elections and leadership selection. The IPCC should develop rules that either reserve specific Bureau positions for Indigenous experts or require documented consultation with the Indigenous Knowledges and Rights body when selecting Bureau members responsible for cross-cutting issues such as equity, adaptation, land and mitigation options affecting Indigenous territories.

Codify UNDRIP-aligned obligations and non-regression in core IPCC documents. The Bureau and Secretariat should prepare draft amendments to the IPCC Principles and Procedures, for adoption by the Panel ahead of AR8, to: (1) recognise Indigenous Peoples as rights-holders; (2) require adherence to FPIC and Indigenous data sovereignty standards for any use of Indigenous Knowledges in assessments; and (3) embed a formal non-regression clause for Indigenous participation and representation across assessment cycles. Methodological implementation of these obligations is detailed in Section 5.5.

Institutionalise accountability and independent review. The IPCC should commit to regular reporting on progress in engaging Indigenous Peoples and knowledge systems, using indicators agreed in consultation with Indigenous organisations (e.g. authorship, textual space, treatment of rights and colonialism). Independent Indigenous-led evaluations or shadow reports on each assessment cycle should be formally recognised as complementary inputs and presented to the Panel alongside internal evaluations, with time allocated for discussion and response.

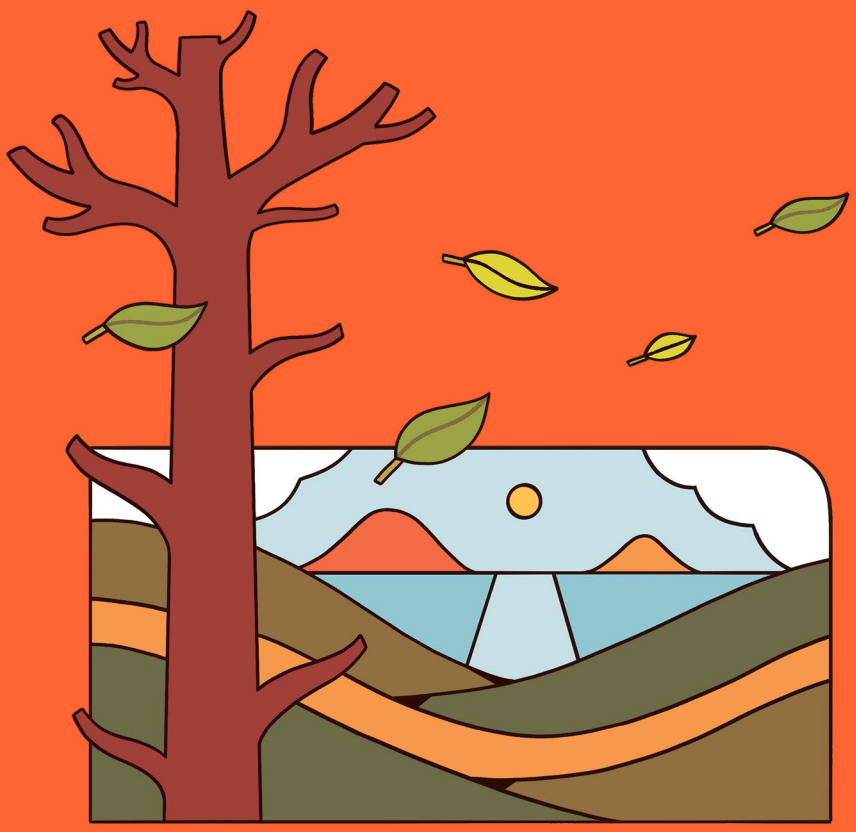
Develop intergenerational participation pathways. To avoid over-reliance on a small group of mid-career Indigenous experts, the IPCC should establish funded fellowships, secondments or associate expert roles for Indigenous youth and early-career Knowledge Holders attached to WG TSUs. Joint appointments (e.g. Elder/youth co-leads on specific cross-cutting tasks) should be encouraged so that knowledge and relationships are passed on between cycles. These institutional programmes complement the author-level mentoring measures proposed in Section 4.4.

Create a systematic institutional learning process between assessment cycles. After each assessment, the Secretariat should commission an internal review of Indigenous engagement (authorship, content, ethics), drawing on chapter methodological memos (Section 5.5), Indigenous dialogues and shadow reports. The Panel should adopt a short, time-bound action plan in response, specifying which reforms will be implemented before the next cycle and who is responsible, including explicit "handshakes" between assessment cycles and reports to ensure that lessons learned and Indigenous priorities are carried forward rather than lost between ARs.

Support the wider Indigenous institutional ecosystem. The IPCC should develop collaboration agreements with Indigenous universities, research centres and governance bodies already producing climate assessments and ethical guidelines. WG Co-Chairs and the Secretariat should advocate, with funding partners, for resourcing arrangements that enable these Indigenous institutions to engage on their own terms, including hosting regional hubs and dialogues feeding into assessments.

Commission a Special Report on Indigenous Peoples and Climate Change. As a medium-term reform, the Panel should, during AR8 scoping, agree to commission a SR on Indigenous Peoples and Climate Change. This would respond directly to the recommendation of the UN Permanent Forum on Indigenous Issues, which called, in its 22nd session, on the IPCC to prepare a dedicated SR on Indigenous Peoples led by Indigenous academics, scientists, and Knowledge Holders. Building on this mandate, the SR should be: (1) co-governed by the permanent Indigenous Knowledges and Rights body and the IPCC Bureau; (2) based on independent Indigenous nomination pathways for authors and reviewers; and (3) designed to pilot shared decision-making over scope, methods and assessment questions, centring IKS across the full scope of climate science, impacts and responses.

7. Conclusion

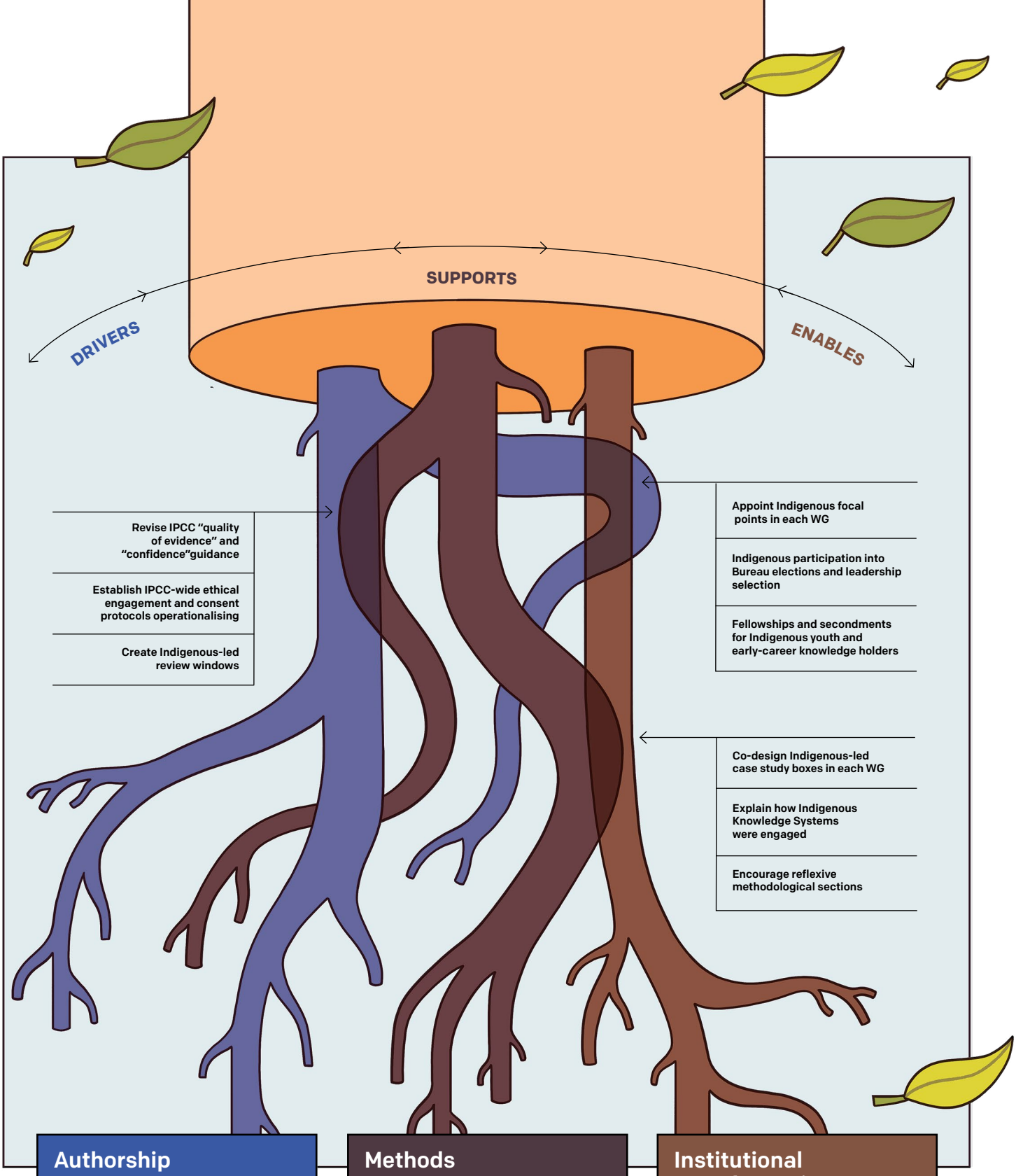


7. Conclusion

The importance of Indigenous Peoples and their Knowledge Systems is increasingly acknowledged; however, institutional practice lags significantly behind. The barriers facing Indigenous Peoples within the IPCC are systemic; the solutions must consequently be holistic. The recommendations outlined in this document aim to bridge the gap between rhetorical "inclusion" and the concrete reality of shared governance.

The three areas of reform proposed here—authorship and representation (Section 4), methodology and assessment frameworks (Section 5), and institutional transformation and accountability (Section 6)—are deeply interconnected and mutually reinforcing. Meaningful progress cannot be achieved by addressing these dimensions in silos. For example, increasing the number of Indigenous authors and ensuring representation from diverse biomes and ecosystems, from Arctic to Amazonian and other tropical forests, is unsustainable if those authors have to work within methodological frameworks that extract, decontextualise, or diminish their Knowledge Systems. Conversely, methodological innovations regarding Free, Prior and Informed Consent and Indigenous data sovereignty cannot be fully operationalised without the institutional governance structures, funding, and accountability mechanisms required to enforce them. Finally, broad institutional commitments to rights-based approaches remain symbolic without Indigenous authors and Knowledge Holders empowered to implement them across Working Groups.

To achieve engagement that is truly ethical, equitable, and sustainable, the IPCC must advance across all three frontiers simultaneously. As proposed, this transformation requires operating on two temporal horizons. For the current AR7 cycle, the imperative is to do justice and avoid harm. This involves utilising existing flexibilities to support Indigenous authors, pilot co-designed case studies, and strictly prevent the misuse of Indigenous Knowledges. These immediate steps must lay the groundwork for the necessary structural transformation in AR8 and beyond. Future cycles must move towards institutionalised shared governance, independent nomination pathways, and rights-based evidence frameworks that prevent the regression of these gains.



Authorship

- Broaden the definition of expertise
- Ensure at least two Indigenous authors on chapters
- Create structured mentoring and peer-support schemes for Indigenous early-career authors

Methods

- Recognise Indigenous validation protocols, oral histories and relational indicators
- Internal guidance on when not to cite Indigenous knowledges

Institutional transformation

- Establish a permanent Indigenous Knowledge Systems and Rights body within IPCC governance
- Create independent Indigenous nomination pathways for authors, reviewers and participants
- UNDRIP-aligned obligations, FPIC, Indigenous data sovereignty and non-regression in IPCC Principles and Procedures

The transformative vision for AR8 and beyond requires structural reorientation: shared governance with Indigenous Peoples as rights-holders, not stakeholders; independent nomination pathways enabling direct author selection; and methodological frameworks that recognise Indigenous validation protocols as equally rigorous to Euro-Western science. These changes must be codified in IPCC Principles and Procedures, with binding accountability measures.

The alternative is continued epistemic injustice—where climate science remains partial, policy solutions prove ineffective, and Indigenous Peoples face heightened risks from "climate solutions" that disregard their rights and governance. Ethical engagement produces not only better science but also more just outcomes. The IPCC must commit to this transformation, with governance leadership ensuring that progress between cycles is irreversible rather than vulnerable to political regression. The time for rhetorical inclusion has passed; the moment for shared responsibility is now.

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9. Biographies

Pasang Yangjee Sherpa, PhD, is a Sharwa woman from Pharak (commonly known as the Mount Everest region) in north-eastern Nepal. Her research examines the human dimensions of climate change in the high Himalaya from an Indigenous perspective, and she approaches plural epistemologies as a necessity rather than a choice in addressing contemporary challenges. She is an Assistant Professor of Lifeways in Indigenous Asia at the University of British Columbia.

Graeme Reed, PhD, has mixed Anishinaabe (Great Lakes), English, German, and Scottish ancestry. He works at the Assembly of First Nations, leading its engagement in federal and international climate policy, including as the former Indigenous North American Representative to the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform. He holds a PhD from the University of Guelph.

Rosario Carmona, PhD, is a painter and anthropologist working at the intersection of Indigenous Peoples' rights, climate governance, and environmental justice. She is a Programme Consultant on Climate Change with the International Work Group for Indigenous Affairs (IWGIA) and focuses on Indigenous knowledges and international climate policy processes, including the UNFCCC and the IPCC. She holds a PhD in Anthropology and a diploma in Indigenous Peoples' rights.

Ritodhi Chakraborty, PhD, focuses his research and teaching on critical and feminist approaches to nature–society relations, with particular attention to rural and migrant masculinities in the Himalaya. His work draws on critical environmental justice and studies of global environmental change. His current research explores Indigenous cartography in landscape redesign in Aotearoa and the politics of climate adaptation across the Himalaya, using boundary-crossing and co-produced approaches with Indigenous communities.