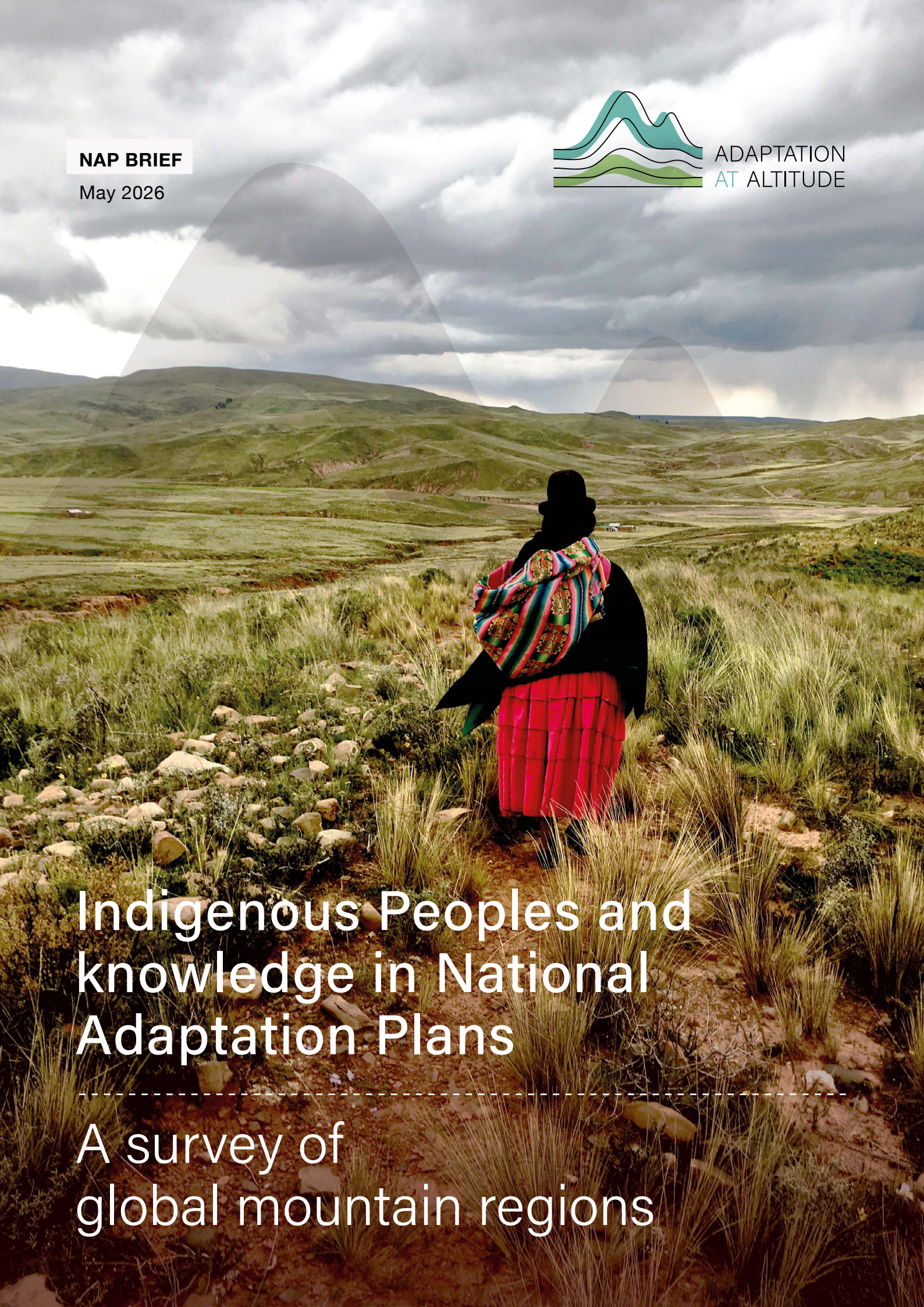


NAP BRIEF

May 2026

ADAPTATION AT ALTITUDE

Indigenous Peoples and knowledge in National Adaptation Plans

A survey of global mountain regions

The inclusion of Indigenous Peoples[1] is essential to the success of climate change adaptation and mitigation efforts. Over generations, indigenous communities have developed not only deep connections to their land, but also extensive environmental knowledge that is now globally recognised as fundamental to strengthening long-term climate resilience. The application of this indigenous knowledge is particularly important in environmentally sensitive and highly exposed regions such as mountains, which are on the front lines of the climate crisis. Today, most mountain areas across the globe are experiencing accelerated warming, shifting precipitation patterns, and increased disaster risk, all with far-reaching consequences not only for the mountain communities, but for downstream populations. Given that National Adaptation Plans (NAPs) serve as a country's primary roadmap for climate resilience, these frameworks must recognise and integrate Indigenous Peoples and knowledge into adaptation planning and implementation.

This brief presents key insights on how Indigenous Peoples and indigenous knowledge are addressed in the NAPs[2] of 48 countries with significant mountain geography.[3] Drawing on the comparison of AI-supported document analysis with contextual demographic and risk data, we explore the relationship between indigenous and mountain demographics, climate change-related data, and the specific policy actions NAPs incorporate to support both the inclusion of Indigenous Peoples and the preservation and use of their knowledge in adaptation efforts. These findings form part of a broader assessment of mountain adaptation in NAPs.

Demographic distribution of mountain and Indigenous populations

Of the 48 countries analysed, 19 have more than 40 per cent of their territory covered by mountains, and while substantial variations exist, on average around 10 per cent of their total population is Indigenous and 35 per cent lives in mountain areas (Figure 1).

Figure 1:
Average Indigenous and mountain populations

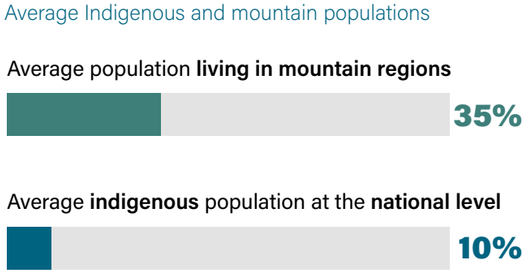
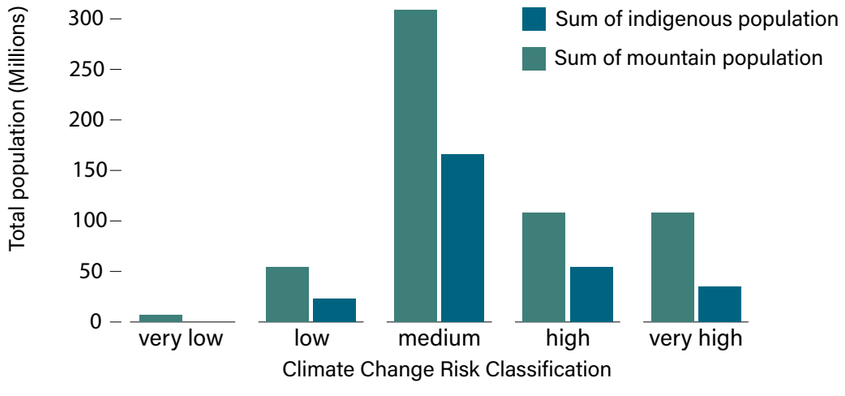


Figure 2:
Distribution of total mountain and indigenous populations across all analysed countries by climate change risk



1 This brief uses Indigenous Peoples to mean distinct groups who self-identify as such and maintain strong cultural, social and spiritual ties to their lands and natural resources. These groups typically constitute non-dominant groups of society and preserve unique languages, belief systems and institutions. Terminology varies, and includes ethnic minorities and aboriginals. The definition in this brief aligns with the one set out in ILO Convention No. 169.

2 While we use the term NAP to refer to the primary documents analysed, 11 of the 48 countries did not have a published NAP at the time of study (August 2025). In those cases, other policy documents such as Nationally Determined Contributions (NDC) were analysed instead.

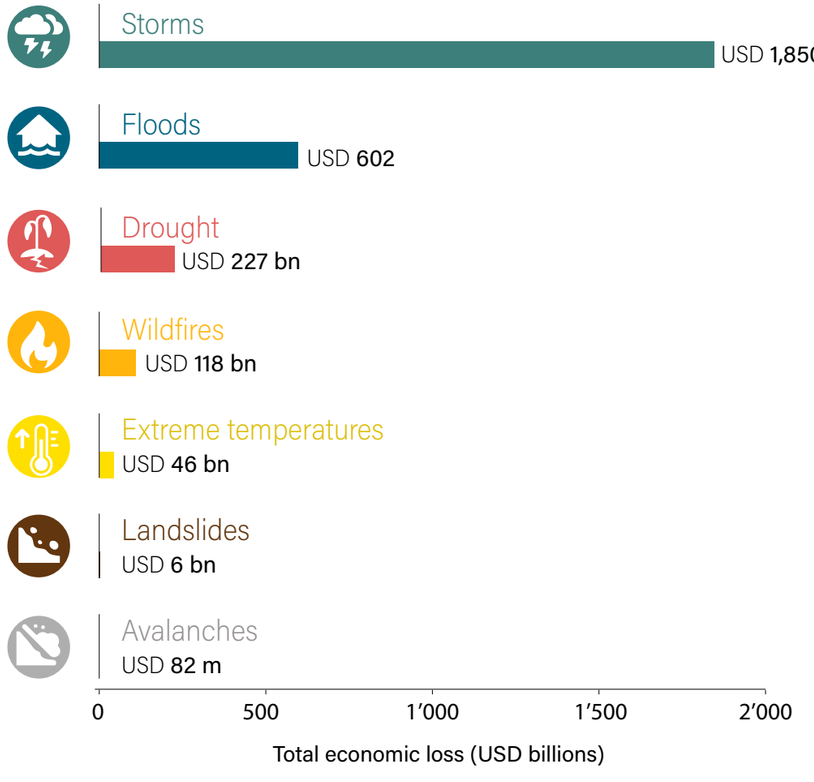
3 Forty-two of the countries were selected for their significant mountainous terrain (where mountains cover more than 20% of the territory). Six additional countries with lower mountain coverage were included due to their strategic importance to the Adaptation at Altitude programme.

Climate change risks in mountain regions

Data from the Inter-Agency Standing Committee and the European Commission (2025)[4] reveal that more than half of the countries reviewed in this brief are currently classified at medium to very high climate change risk. The countries with high or very high climate change risk are home to approximately 85 million Indigenous People and 218 million living in mountain areas (Figure 2).

These classifications reflect the intersection of socio-economic vulnerabilities, exposure to natural hazards, and limited coping capacities, the combination of which may increase the likelihood of serious climate impacts and humanitarian crises when hazards occur. Over the past 25 years, natural hazards have caused total economic damages of approximately USD 2.85 trillion across the 48 subject countries, corresponding to an average of USD 59.4 billion per country[5] for that period. Storm-related events account for the largest of damages, followed by flood events, droughts, wildfires, and extreme temperatures. Landslides and avalanches, both particularly relevant to mountain areas, resulted in an approximate combined economic loss of USD 6 billion (Figure 3).

Figure 3:
Adjusted total economic loss per hazard type across all 48 countries for the 2000–2025 period



4 INFORM Climate Change - https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Climate-Change

5 EM-DAT International Disaster Database - https://public.emdat.be/

Figure 4:
Climate actions in National Adaptation Plans integrating Indigenous Peoples and their knowledge

Guatemala

"Implement sustainable management of forest ecosystems to reduce vulnerability to climate change and improve carbon capture capacity. Taking into account traditional governance systems, i.e., the systems used by indigenous peoples and local communities to manage and govern territories based on customary practices and ancestral knowledge."

Nepal

"Identify indigenous people; document their indigenous and traditional knowledge for watershed resources management and support to upscale appropriate interventions for watershed management."

Timor-Leste

"Initiate research and documentation program to identify entry points and synergies for locally-led adaptation and local Tara Bandu cultural practices and formulate action plan for integration."

Argentina

"Formalization of the working space with Indigenous Peoples, aiming to have an institutionalized and dedicated participation platform for these actors, in order to strengthen their role in the development of national climate tools, methodologies, and instruments."

Azerbaijan

"Protection of Indigenous and local knowledge (ILK) through the protection of traditional lifestyle of indigenous and local communities in mountainous regions."

Somalia

"Rehabilitate traditional grazing routes" with the strategic goal of improving climate resilience of livestock systems.

Canada
United States
Mexico
Guatemala
Belize
El Salvador
Honduras
Nicaragua
Costa Rica
Panama
Colombia
Ecuador
Venezuela
Dominica
St. Vincent and the Grenadines
Trinidad and Tobago
Guyana
Suriname
French Guyana
Peru
Bolivia
Brazil
Chile
Paraguay
Argentina
Uruguay
Greenland
Norway
Sweden
Finland
Morocco
Tunisia
Algeria
Libya
Egypt
Mali
Niger
Chad
Eritrea
Ethiopia
Nigeria
Central African Rep.
Cameroon
Gabon
Congo
DR Congo
Rwanda
Burundi
Uganda
Kenya
Tanzania
Angola
Zambia
Zimbabwe
Namibia
Botswana
South Africa
Madagascar
Georgia
Palestine
Israel
Iraq
Iran
Pakistan
India
Sri Lanka
China
Japan
Taiwan
Guam
Philippines
Nepal
Bhutan
Afghanistan
Myanmar
Thailand
Laos
Vietnam
Cambodia
Bangladesh
Malaysia
Indonesia
Australia
New Caledonia
New Zealand

Indigenous people

Number of Indigenous people per country

- 100 million
- 50 million
- 10 million
- 5 million
- 1 million
- ○ Less than 500 000

Share of Indigenous peoples of total population per country

- 50 percent or more
- 40–50 percent
- 20–40 percent
- 10–20 percent
- 10 percent or less

- 1 Number of actions integrating Indigenous people living in mountains
- 2
- 3

Other elements

- Regional concentrations of Indigenous peoples

Map produced by Zoï Environment Network, March 2026
Source: Fabrice Dubertret. Rendre explicite une présence invisible : vers un atlas mondial des territoires autochtones. Géographie. Université de la Sorbonne nouvelle - Paris III, 2020. Français.;
National Geographic; Julian Burger, United Nations; A@A Solutions Portal

Recognition and integration of Indigenous Peoples and knowledge in NAPs

The NAPs in this review consistently recognise Indigenous Peoples not just as stakeholders, but as providers of a foundation for effective climate responses (Figures 4 and 5). Their role is framed as integral to the design, implementation and sustainability of strategies. In 33 of the 48 NAPs (69%), Indigenous knowledge is explicitly acknowledged as essential for effective, context-specific adaptation, and as a resource that should be institutionalised within climate and development policies. This reflects a growing understanding that indigenous knowledge offers insights that are often absent in conventional approaches. Mongolia's NAP, for example, notes that, "The traditional lifestyle of local herder communities in Mongolia was based on pastoralism, which was featured by high exposure to natural hazards. At the same time, it has inherited adaptive capacity, gained throughout thousands of years experiences, overcoming stressful impacts associated with climate variation and fluctuations of climate parameters."

A significant number of the climate adaptation actions identified in the NAPs include at least one action mentioning indigenous communities or knowledge, but the actual number of actions meant for implementation tell a different story. Out of the 4,472 actions listed across all reviewed documents, only 548 (12%) are intended for implementation in mountain regions, and of these 548 mountain actions, only 22 (4%) explicitly promote the integration of indigenous or traditional knowledge. Four per cent are designed to include Indigenous Peoples as active participants (Figure 6). Notably, only 11 of the 48 subject countries have planned such actions in mountain areas.

This discrepancy shows that, while high-level policy narratives and national strategies increasingly acknowledge the importance of indigenous communities for adaptation, this recognition rarely translates into concrete, site-specific strategies to be carried out in mountain regions. In short, words are failing to translate into action.

Figure 5:
Percentage of documents explicitly mentioning Indigenous knowledge

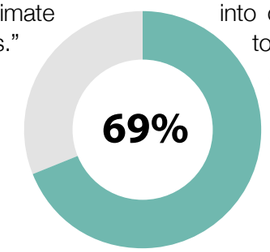
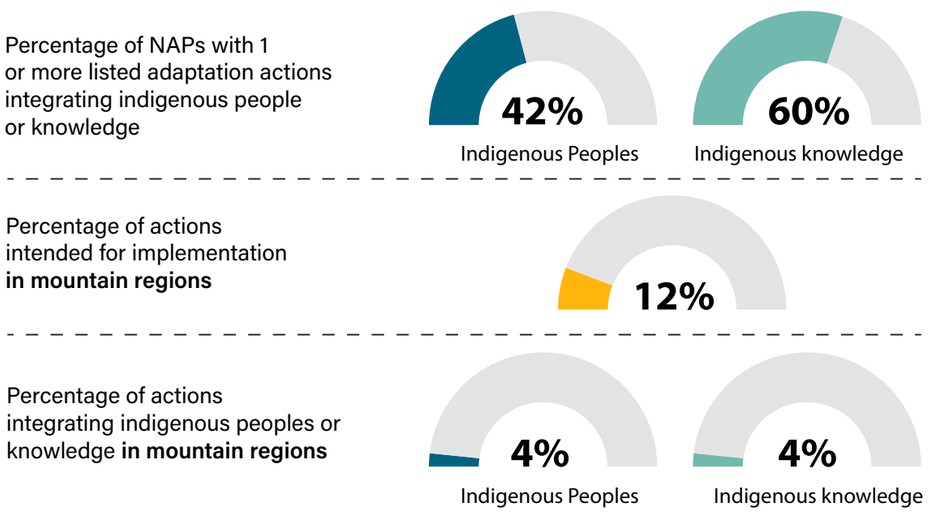


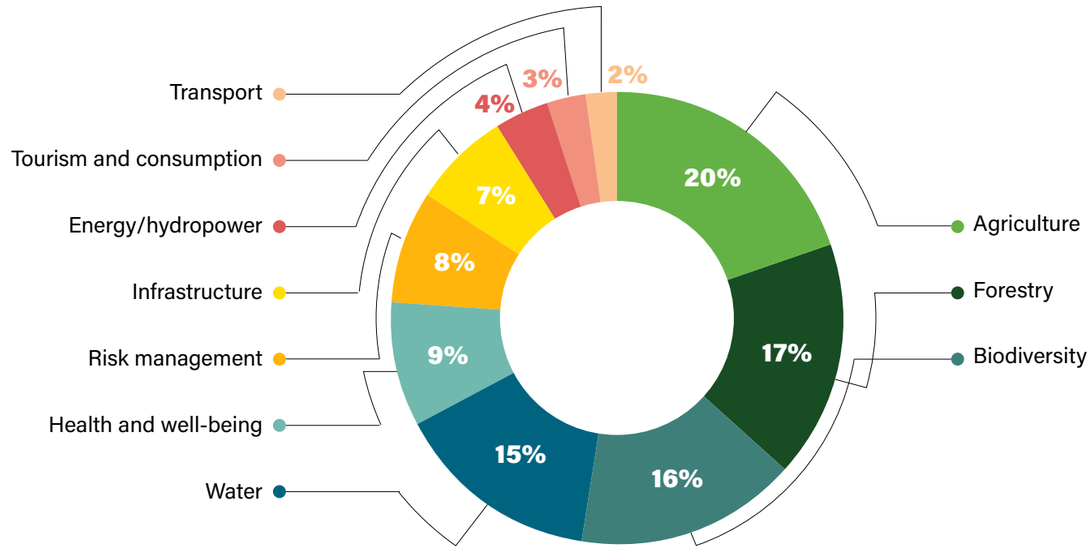
Figure 6:
Integration of Indigenous Peoples and knowledge in NAPs: Comparison of global and mountain-specific actions



Sectoral priorities in mountain adaptation measures

Figure 7 illustrates the distribution across sectors of planned adaptation actions in mountain areas.[6] No sectoral information was collected specifically for indigenous-inclusive actions, and such actions may not span all sectors shown, yet the figure helps illustrate the broader sectoral trends and priority areas in mountain adaptation strategies in these countries. Bhutan provides a clear example of this sectoral focus. In view of the agricultural and livestock sectors national importance, the 2023 NAP lists the "Mapping and identification and assessment of Indigenous forage/grass species" as a short-term action in the search for more efficient alpine rangeland management and the development of agroforestry systems for livestock. In the forestry sector, the country calls for "Enhancing the use of local knowledge and beliefs for the conservation of biodiversity and forest."

Figure 7:
Main sectors addressed by actions intended for implementation in mountain regions

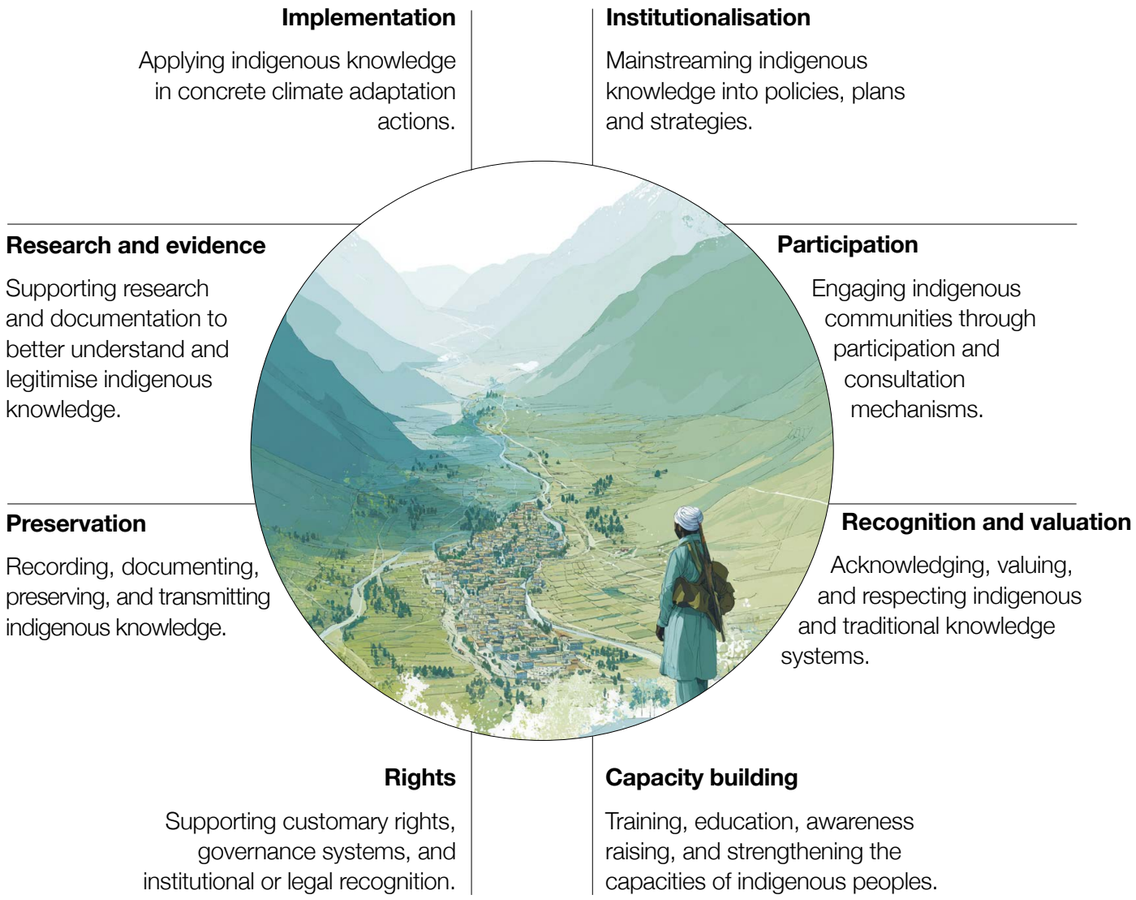


6 Individual actions may address more than one sector.

Bringing Indigenous Peoples and knowledge into climate action

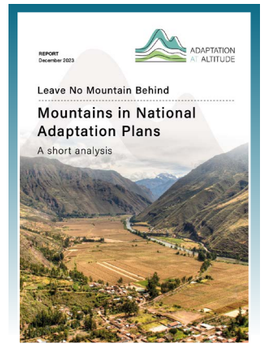
Although concrete actions integrating Indigenous Peoples and knowledge are largely missing for the majority of reviewed NAPs, themes identified across the documents provide a roadmap for meaningful change. Derived from a synthesis of themes identified in the reviewed NAPs, figure 8 presents considerations for integration that help translate these efforts into climate action and decision-making. At the centre of this illustration are Indigenous communities, their lived experience and stewardship of the environment, surrounded by interconnected elements that support and sustain Indigenous knowledge systems. In the face of climate change, protecting and using indigenous knowledge requires coordinated efforts across social, legal, cultural, and policy dimensions rather than isolated actions.

Figure 8:
Considerations for integrating Indigenous Peoples and knowledge into climate action and decision-making

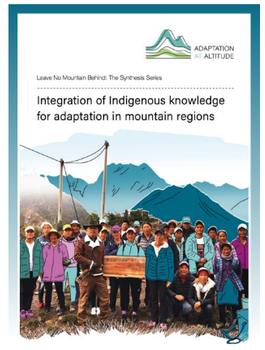


Additional resources on this topic from Adaptation at Altitude

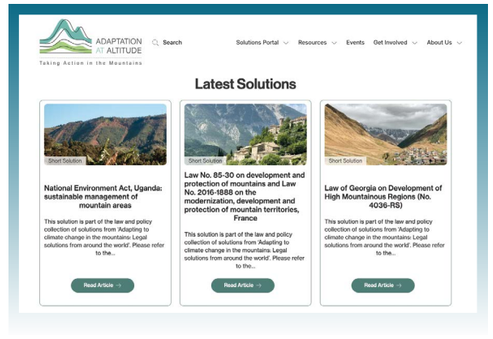
Mountains in National Adaptation Plans:
A short analysis



Integration of Indigenous knowledge for adaptation in mountain regions: A synthesis captured on the Adaptation at Altitude Solution Portal



Adaptation at Altitude Solutions Portal



About Adaptation at Altitude

Adaptation at Altitude, a collaborative programme launched and co-supported by the Swiss Agency for Development and Cooperation, is dedicated to increasing the resilience of mountain communities and ecosystems to climate change. It aims to improve the availability and use of data and knowledge, strengthen science-policy platforms and dialogues, and build capacity and resource mobilisation for the evidence-informed formulation and implementation of effective climate change adaptation policies and institutional measures at the national, regional, and global levels. Reducing climate-induced risks and adapting to climate change in mountainous regions is a global concern. All countries of the world are in one way or another affected by climate impacts in the mountains. Temperatures in mountainous areas are rising faster than the global average, water resources are increasingly affected by variable climate patterns, and disasters related to natural hazards – including the downstream consequences – are becoming more frequent and severe, placing some of the world's most vulnerable areas at greater risk.

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A Bolivian woman walking on the Altiplano, © Lina Rodriguez, 2025

Study countries

Afghanistan, Albania, Argentina, Armenia, Austria, Azerbaijan, Bangladesh, Bhutan, Bolivia, Bosnia and Herzegovina, Brazil, Burundi, Cabo Verde, Chile, China, Colombia, Costa Rica, Djibouti, Ecuador, Eritrea, Ethiopia, Fiji, Georgia, Grenada, Guatemala, Haiti, Kenya, Madagascar, Mongolia, Nepal, New Zealand, Pakistan, Palestine, Papua New Guinea, Peru, Philippines, Rwanda, Saint Lucia, Saint Vincent and the Grenadines, Serbia, Somalia, Spain, Tajikistan, Tanzania, Thailand, Timor-Leste, United States, Venezuela.

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Confederaziun svizra

Swiss Agency for Development and Cooperation SDC