

Indigenous Peoples and Climate Change

Global Challenges and Local Responses

Key Messages

- Indigenous Peoples of the Amazon face direct impacts of climate change on their territories and ways of life, including droughts, floods, wildfires, and rising temperatures.
- Climate projections indicate variations in rainfall across the Amazon, exacerbating vulnerabilities already observed in Indigenous Territories.
- Traditional and ancestral knowledge practices of Indigenous Peoples are fundamental for climate adaptation and mitigation.
- Strengthening the protection and demarcation of indigenous territories is a fundamental part of the response to the climate crisis.
- The full inclusion of Indigenous Peoples in international negotiations and the integration of their knowledge into climate public policies are urgent and structural measures.

Climate Change and Indigenous Peoples of the Amazon

The Amazon harbors unique biological and cultural diversity on the planet. Essential for global climate regulation, the Amazon region has been severely impacted by climate change, with direct and growing effects on the territories and ways of life of Indigenous Peoples. The intensification of extreme events, such as prolonged droughts, floods, temperature increases, and rising wildfires, compromises the food, water, health, and territorial security of these populations.

Indigenous Peoples are not only affected by the climate crisis: they are also strategic agents in confronting it. With knowledge accumulated over generations and ways of life interconnected with nature, they play a historic role in managing and preserving the Amazon rainforest.¹

According to data from the Amazon Cooperation Treaty Organization (ACTO) and the Amazon Regional Observatory (ARO), the Amazon is home to between 420 and 511 Indigenous Peoples, distributed across 3,477 territories officially recognized by the countries. Information about Indigenous Territories was provided to ACTO directly by member countries, with financial support from the Euroclima+ Programme, within the framework of the project “Construction of the Amazon Regional Platform for Indigenous Peoples and Climate Change,” implemented by AECID, GIZ, and ECLAC, and subsequently processed by the ARO team. These territories total approximately 1,893,506 km², which corresponds to about 27% of the Amazon region, and play a decisive role in biodiversity conservation and climate regulation.

Figure 1. Distribution of Indigenous Territories and accumulated deforestation areas in the Amazon between 1985 and 2024.

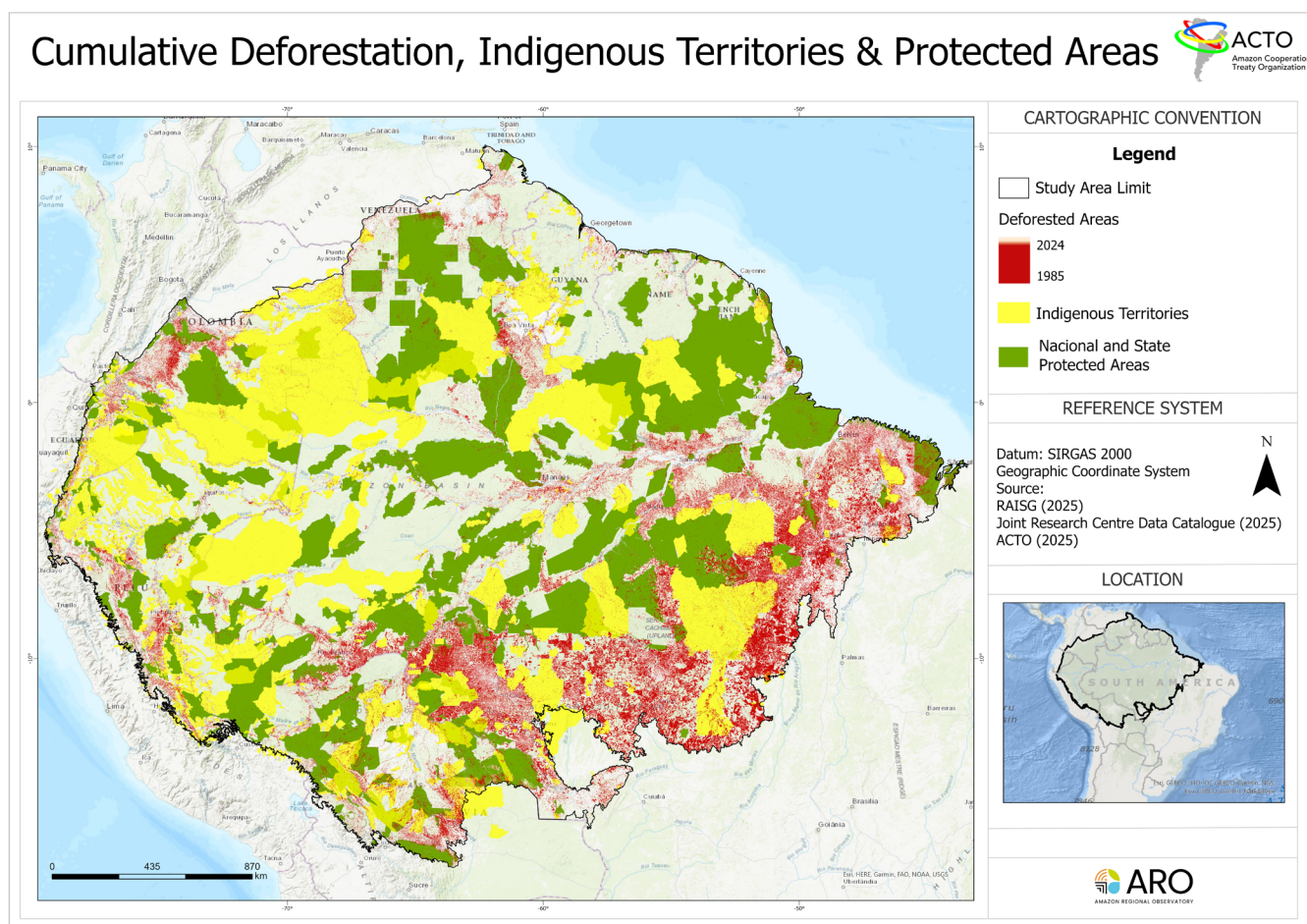
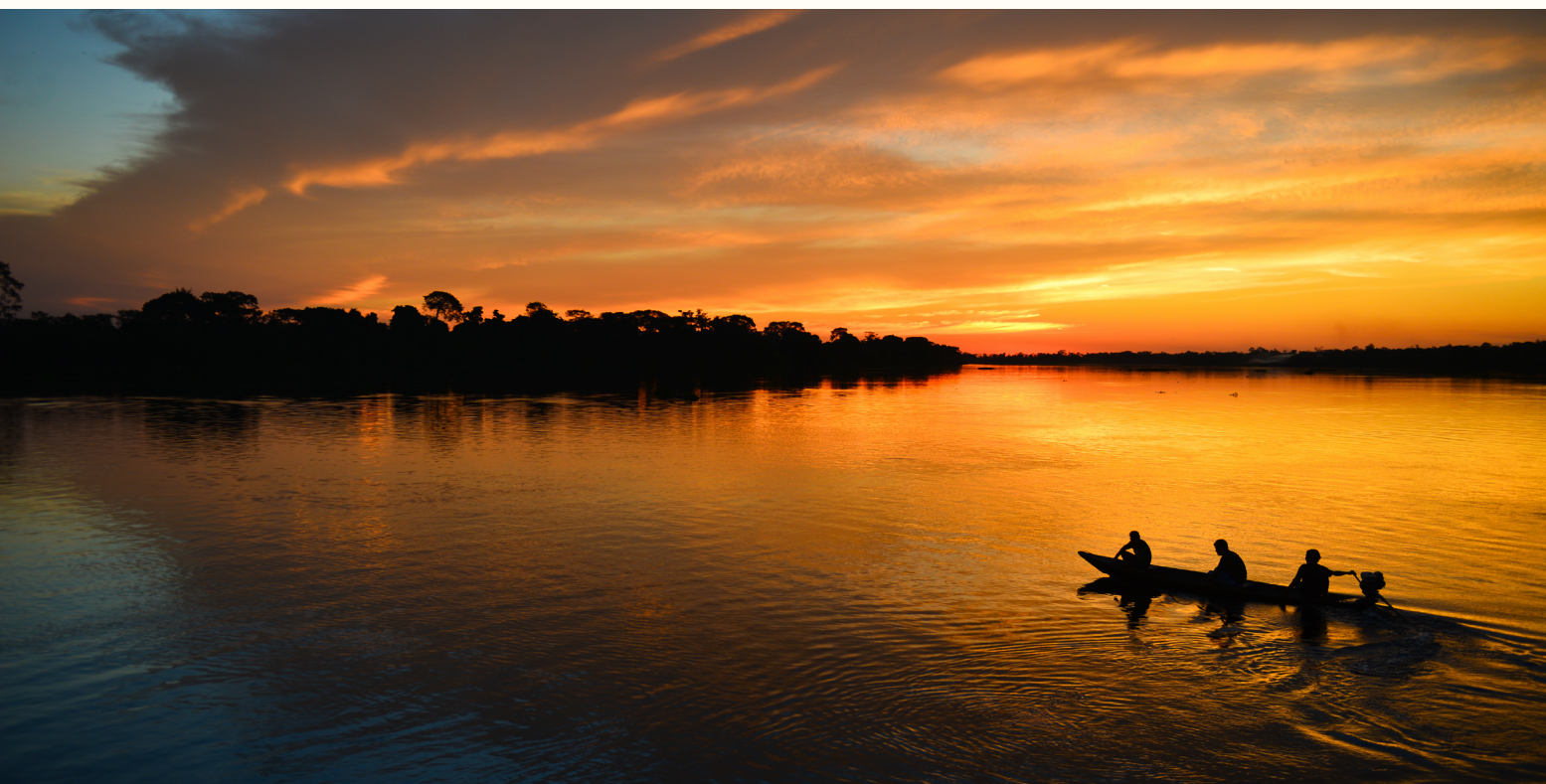


Figure 2. Percentage distribution of accumulated deforestation in the Amazon between 1985 and 2024, comparing areas within Indigenous Territories and other areas.

Studies demonstrate that Indigenous Territories (ITs) function as barriers to deforestation, favoring regional climate stability.² Accumulated deforestation in the Amazon reached 745,272 km² between 1985 and 2024, according to data from the Joint Research Centre (EC JRC)³ processed and analyzed by the ARO team. The vast majority of this deforestation, about 92%, occurred outside indigenous territories, while only 8.4% of forest loss occurred within ITs. If the same conservation patterns observed within ITs were replicated outside them, it is estimated that about 514,000 km² of forest would have been preserved between 1985 and 2024, with positive impact on carbon retention, biodiversity protection, and guarantee of essential ecosystem services.

Between 2001 and 2021, forests in Indigenous Territories of Amazonian countries functioned as net carbon sinks, removing 340 million tons of carbon dioxide (CO₂) from the atmosphere.⁴ Although carbon flows vary among countries, the role of indigenous territories as climate allies is undeniable.

The preservation of these areas, however, depends not only on the legal demarcation of territories, but above all on the daily action and ancestral knowledge of the Indigenous Peoples who inhabit and preserve these territories. Still, Indigenous Peoples remain among those most impacted by environmental degradation and climate change, which directly affect their subsistence.



Impacts of Climate Change on Indigenous Territories in the Amazon

The intensification of climate change is already causing tangible and growing effects on indigenous territories in the Amazon. Floods, rising average temperatures, extreme droughts, and recurrent wildfires have directly affected the ways of life and physical, food, water, and spiritual security of Indigenous Peoples in the region. Due to their deep interdependence with natural cycles, Indigenous Peoples acutely feel climate alterations.

FLOODS

Floods have caused increasingly severe impacts on Amazonian indigenous territories, evidencing the intensification of extreme climate events. In Brazil, the historic flood of the Acre River in 2024 affected 93 indigenous communities, 5,400 people from eight Indigenous Peoples, including the Kaxarari, Huni Kui, Manchineri, and Jaminawa, with losses of food crops for the entire year and

landslides that put homes at risk.⁵ In Peru, in early 2025, Asháninka and Kukama Kukamiria indigenous communities suffered destruction of houses, crops, and schools in 20 regions including Junín, Ucayali, and Loreto, also facing food shortages, drinking water scarcity, and medical assistance.⁶ In Bolivia, still in 2025, seven communities of the Tacana people, on the banks of the Beni River, remained isolated for weeks after prolonged floods. In all cases, indigenous leaders report damage to their ways of life and demand preventive measures and structural public policies that consider their vulnerability to the worsening climate crisis.

TEMPERATURE RISE

The rise in average temperatures, intensified by climate change and deforestation, profoundly affects indigenous territories and their ways of life. In 2024, the Amazon region recorded peaks of up to 5.1°C above the historical average (1991-2020).⁸ This anomalous warming, combined with drought and alteration of natural cycles, has harmed subsistence practices such as fishing, hunting, cultivation,

and gathering, already felt in regions such as Madre de Dios in Peru, which is home to seven Indigenous Peoples: Harakbut, Ese Eja, Yine, Matsigenka, Kichua Runa, Shipibo, and Amahuaca.⁹ As well as among the Curripaco, Sikuani, and Puinave, in Brazil, Colombia, and Venezuela.¹⁰

The traditional and ancestral knowledge of Indigenous Peoples, historically anchored in the observation of climate patterns and reading of the ecological calendar, continues to be fundamental for territorial management. However, the speed and intensity of climate change have altered these patterns abruptly, making adaptation of traditional and ancestral knowledge difficult and compromising sustainable resource management, as well as intergenerational knowledge transmission.

DROUGHTS

Extreme droughts have intensified in the Amazon, intensely affecting the territories and ways of life of Indigenous Peoples. In 2024, nine out of ten Indigenous Lands in the Brazilian Legal Amazon (92%) faced some degree of drought, representing a 37% increase compared to the previous year.¹¹ Prolonged dry season compromises river navigation, the main means of transport in the region, making access to food, drinking water, health, and education difficult.

According to a bulletin from the Coordination of Indigenous Organizations of the Brazilian Amazon (COIAB), 149 Indigenous Lands faced severe or extreme drought, affecting more than 3,000 indigenous households, 110 schools, and 40 health units. In at least 42 of them, the impacts were considered critical: entire harvests were lost, fish died, and water scarcity forced indigenous communities to resort to contaminated sources or emergency distribution of bottled water.¹²

This vulnerability echoes throughout the Amazon: abrupt drops in river levels interrupt transportation, impact supply chains, which in turn increase the risk of malnutrition and cause waterborne diseases. The intensification of these episodes, which have become more frequent since 2005 and aggravated by warming and deforestation, evidences the urgency of strengthening early warning systems, emergency logistical support, and community water storage

strategies (cisterns, reservoirs), in order to reduce human costs and preserve ancestral ways of life.

WILDFIRES

Wildfires in indigenous territories of the Amazon have intensified, driven by climate factors, permissive policies, deforestation, and illegal economic activities. In 2024, 99,349 fire hotspots were recorded in the Amazon,¹³ corresponding to 88,044 km² of burned area, an increase of approximately 66% compared to 2023.¹⁴

The vast majority of these hotspots occurred in Brazil and Bolivia. In Brazil, the Kayapó, Munduruku, and Xikrin do Cateté Indigenous Territories stand out, particularly IT Sararé, where the number of hotspots increased drastically, from less than 40 to more than 300 in just one year. Wildfires have direct impacts on health, food security, and mobility of indigenous communities, with air pollution indices, such as in Kayapó Territory, reaching 800% above WHO recommended limits.¹⁵ In Bolivia, the most affected Indigenous Territories were Chácobo-Pacahuara, Itonama, Cayubaba, Baures, and Cavineño. The department of Beni, which encompasses the northern and southern Amazonian regions of the country, recorded 29,116 heat hotspots in indigenous territories throughout 2024.¹⁶

The graph shows the areas burned within indigenous territories between 2010 and 2024. The data, sourced from NASA/MODIS and systematised by the ORA team, indicate an upward trend throughout the period, culminating in 2024 with a total of approximately 35,587 km² of burned areas.

The worsening drought and rising temperatures, driven by climate change, have made many wildfires uncontrollable, even those originating from traditional integral fire management practices. These wildfires have generated devastating impacts for Indigenous Peoples, with loss of food sources, access to water, health damage, and even forced displacements. The crisis, fueled by climate change, political and economic factors, requires a response that goes beyond immediate action, addressing its structural causes.

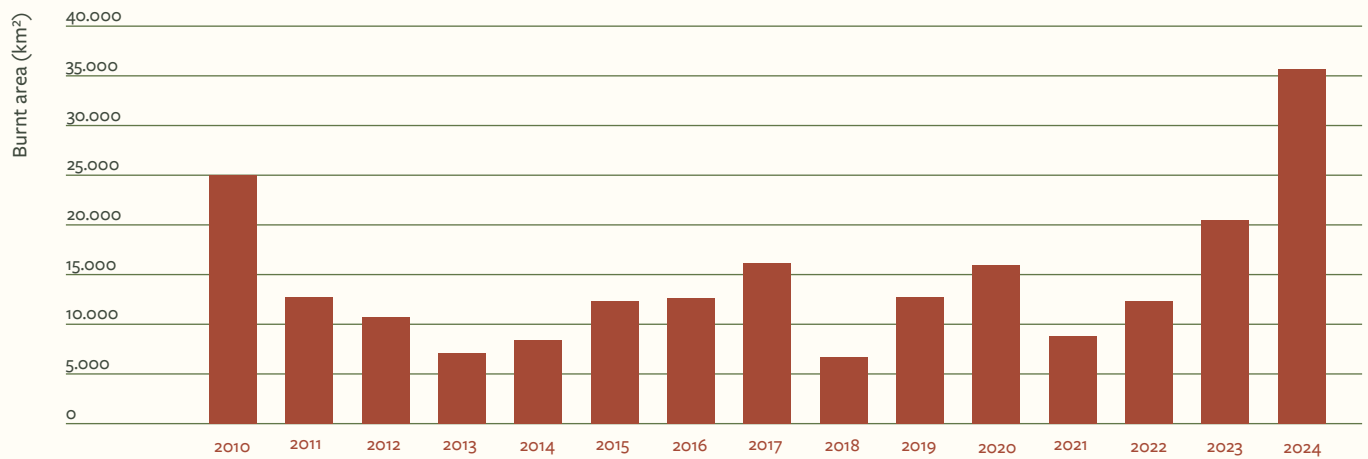


Figure 3: Annual evolution of burned area in Indigenous Territories of the Amazon between 2010 and 2024.



Adaptation and Mitigation by Indigenous Peoples in Face of Climate Change

VENEZUELA

The *conuco* agricultural system is central to family food security and biodiversity preservation. It is based on the rotation of native species and rest periods for cultivated areas, which allows soil and species recovery.

GUYANA

Indigenous peoples of southern Rupununi remain resilient to droughts and floods with ancestral practices including integrated fire management, adoption of natural pesticides, food preservation, and community water management.

COLOMBIA

The Amazonian Indigenous Environmental Climate Change Roundtable (MIACC) is a technical body created by Indigenous Peoples to influence the formulation of climate public policies based on their rights and knowledge.

SURINAME

In response to floods, indigenous people in the south of the country build stilt houses and cultivate on elevated terrain. During droughts, they dig wells and monitor water levels. Food preparation, use of fruits, and medicinal plants ensure food security.

ECUADOR

The Waorani have territorial and environmental monitoring that combines digital technologies and traditional knowledge to strengthen indigenous governance.

PERU

The Indigenous Peoples' Platform against Climate Change (PPICC), from 2019, coordinates and promotes mitigation and adaptation strategies to climate change, based on indigenous perspectives and knowledge.

BOLIVIA

In the Beni region, indigenous communities face drought by adopting ancestral water management practices, such as spring conservation through cultivation of the royal palm (*Roystonea regia*), which favors water recharge.

BRAZIL

The Indigenous Peoples of the Rio Negro use their own environmental and climate monitoring system that integrates traditional knowledge and modern technologies, with qualified Indigenous Environmental Management Agents. This monitoring strengthens territorial governance, intergenerational exchange, and climate resilience of communities.



ACTO Instruments for Climate Action with Indigenous Participation

ACTO has advanced efforts to include indigenous participation in regional governance through dedicated mechanisms. One of the main milestones in this process is the creation of the Amazon Mechanism for Indigenous Peoples, foreseen in the Belém Declaration (2023) and resolution 7 of Foreign Ministers (2023), which establishes a political and technical space aimed at the full and effective participation of Indigenous Peoples in building regional solutions. Its structure and base text were approved by member countries in 2025, an important advance in the implementation of this body that aims to strengthen and promote dialogue between Governments and Indigenous Peoples of the Amazon.

Integrated into the Mechanism, the Forum of Ancestral Knowledge of Indigenous Peoples and Local and Traditional Communities represents a strategic body for the protection, valorization, and transmission of ancestral knowledge. The Bogotá Declaration (2025) recognizes the importance of ancestral knowledge of Indigenous Peoples and their contribution to combating climate change and biodiversity loss.

The idea of the Amazon Regional Platform for Indigenous Peoples and Climate Change, an ACTO initiative within the framework of support from the Euroclima+ Programme, through the project “Construction of the Amazonian Regional Platform for Indigenous Peoples and Climate Change,” implemented by executing agencies AECID, GIZ, and ECLAC, seeks to promote the effective inclusion of this knowledge in climate mitigation and adaptation policies. This platform is structured on three fronts: the exchange of indigenous best practices related to climate; the articulation of the regional platform with global instances; and the formulation of an Amazon Regional Strategy for Indigenous Peoples and Climate Change, which will be addressed and incorporated into the Amazon Mechanism for Indigenous Peoples.

These tools seek to strengthen intercultural governance in the region and create conditions for Indigenous Peoples to act as protagonists in the climate agenda, contributing solutions based on nature and traditional knowledge.

Recommendations

GUARANTEE THE DEMARCATION AND EFFECTIVE PROTECTION OF INDIGENOUS TERRITORIES

Given the growing impacts of climate change in the Amazon and the essential role of Indigenous Peoples in protecting biodiversity and climate regulation, it is fundamental to guarantee territorial security through the demarcation and effective protection of Indigenous Territories. This is the foundation for Indigenous Peoples to continue exercising their sustainable practices and contributing to climate mitigation and adaptation.

ENSURE THE FULL AND EFFECTIVE PARTICIPATION OF INDIGENOUS PEOPLES IN CLIMATE POLICIES

At the same time, it is urgent to integrate participatory approaches into public policies and international frameworks on climate and biodiversity, ensuring the full and effective participation of Indigenous Peoples in decision-making processes, including through formal consultations prior to the implementation of policies or projects. The Amazon Mechanism for Indigenous Peoples exemplifies a participatory approach that should be strengthened and expanded, enhancing its capacity to influence national and international forums.

STRENGTHEN PARTICIPATORY MONITORING AND INTEGRATE TRADITIONAL KNOWLEDGE INTO CLIMATE STRATEGIES

The implementation of participatory monitoring systems, involving indigenous communities in the prevention of wildfires, illegal deforestation and invasions, as well as in environmental and climate monitoring, has proven effective in various indigenous territories. Strengthening these practices allows optimizing the use of traditional knowledge, promoting forest management, sustainable agriculture, and prevention of climate disasters. Integrating indigenous knowledge into regional climate resilience strategies ensures that public policies and conservation projects reflect successful ancestral practices.

EXPAND SUSTAINABLE FINANCING MECHANISMS AND ALIGN NATIONAL AND INTERNATIONAL POLICIES

It is also recommended to strengthen adaptive and sustainable financing mechanisms that respect the cultural, social, and environmental specificities of each territory and prioritize projects designed and implemented by Indigenous Peoples themselves. The alignment between national policies and international initiatives should promote synergies, support the strengthening of local capacities, and foster partnerships among governments, development banks, and civil society organizations, ensuring that international resources reinforce Indigenous-led mitigation and adaptation initiatives.

VALUE AND REVITALIZE TRADITIONAL KNOWLEDGE TO STRENGTHEN CLIMATE RESILIENCE

Finally, it is crucial to value and revitalize traditional knowledge, recognizing its strategic contribution to climate resilience and to building sustainable futures in the Amazon.

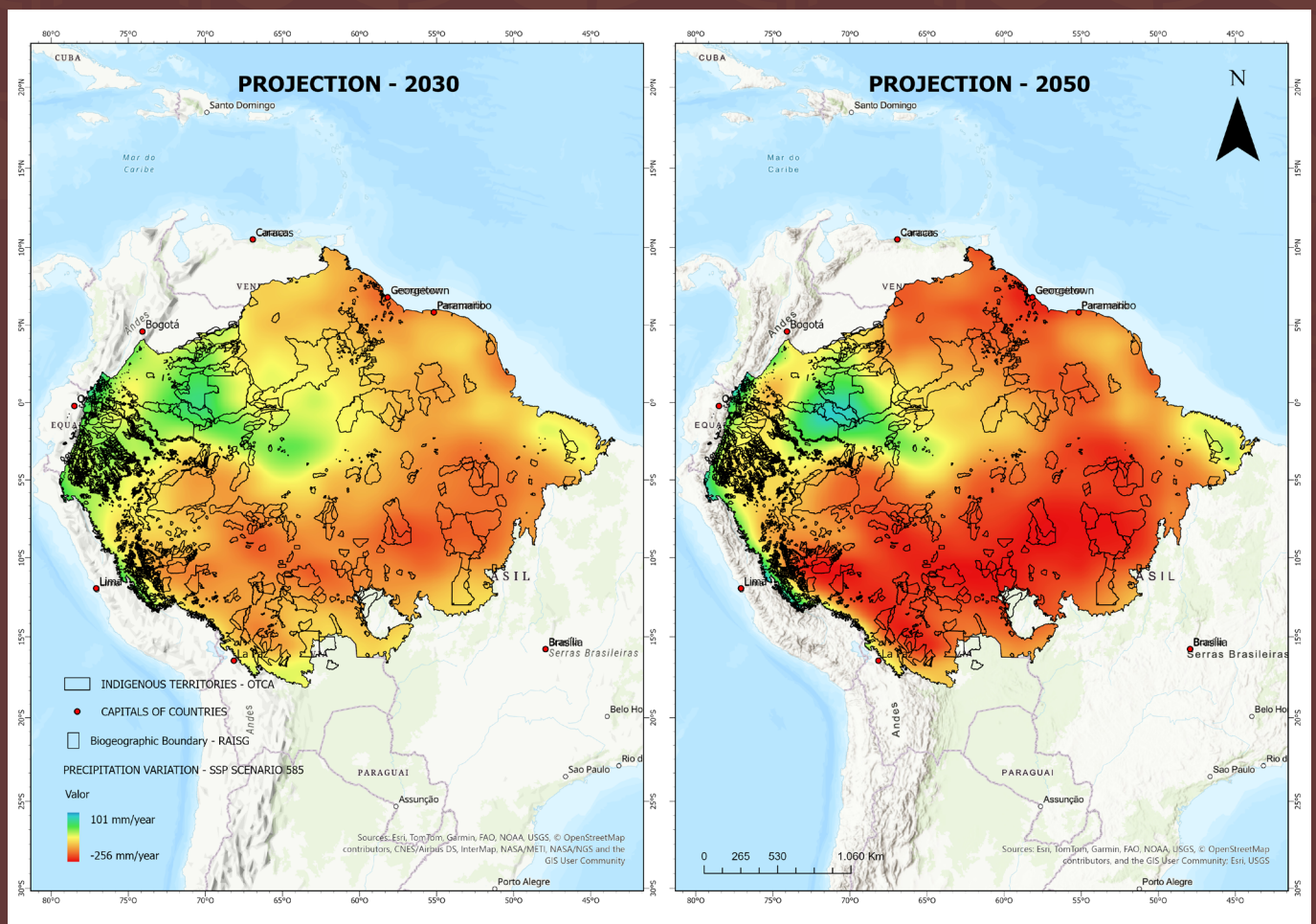
Amazonian Trajectories: Climate Projections and Indigenous Territories

The impacts of climate change in the Amazon tend to intensify in the coming decades, increasingly affecting indigenous territories. The maps show precipitation change projections for the periods of 2030 and 2050 from global climate models (CMIP6), under the high emissions scenario (SSP-585),¹⁷ which projects a future with low mitigation and adaptation ambitions. The climate data used were originally obtained from the ESGF database.¹⁸

By overlaying these projections on the IT map, it is observed that territories located in the southern half of the region show greater vulnerability to extreme droughts. A reduction in precipitation of up to 256 mm/year is estimated in the scenario predicted for 2050. This panorama points to a worsening of events already present in these

territories, such as wildfires, severe droughts, and temperature rise, with direct impacts on food security, river navigability, access to drinking water, and disease propagation.

Given this context, it is urgent to strengthen adaptation public policies based on active listening to Indigenous Peoples, recognizing their traditional knowledge, their own territorial management strategies, and their central role in regional climate resilience. Despite their essential contribution to the conservation of the Amazon rainforest and to climate change mitigation, Indigenous Peoples and their territories remain in a high state of vulnerability in face of these projections.



Map. CMIP6 multi-model ensemble average for Precipitation Changes (mm/year) - 2030 and 2050 projections for the SSP-585 scenario (high emissions) and Indigenous Territories (ITs)

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MARINA SPINDEL

spindelmarina@gmail.com
Graduated in Environmental Management from the University of São Paulo and holds a Master's in Applied Ecology from the Université de Poitiers (France). She works on strengthening Indigenous issues and socio-environmental development.

ARO SCIENTIFIC COORDINATION

Arnaldo Carneiro
arnaldo.carneiro@otca.org

ARO EDITORIAL COORDINATION

Paula Drummond

ARO CARTOGRAPHIC PRODUCTION AND MODELING

Isabelle Vilela, Maycon Castro, Maria Fernanda Ribeiro, Mathias Alvarez, Rafaela Cipriano

DESIGN AND LAYOUT

Patricia Sardá | Estúdio Abanico

PHOTOGRAPHY

ACTO Image Bank, Marina Spindel

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ARO is ACTO's reference center that integrates data, tests innovations, and disseminates information to support member countries in cooperation and decision-making.

AMAZON COOPERATION TREATY ORGANIZATION (ACTO)

ACTO is an intergovernmental organization formed by eight Amazon countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela, which signed the Amazon Cooperation Treaty, making it the only socio-environmental bloc in Latin America.

ACTO / ARO

SEPN 510, Bloco A, 3º andar – Asa Norte | Brasília (DF), Brazil, CEP: 70.750-52
ora@otca.org | <https://www.oraotca.org/>

