

POLICY BRIEF

PROTECTED AREAS AND INDIGENOUS TERRITORIES: PILLARS FOR ACHIEVING CONSERVATION GOALS IN THE AMAZON

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KEY MESSAGES

(i) Protected Areas (PAs) and Indigenous Territories (ITs) are crucial for conservation in the Amazon. PAs and ITs are key components of the biodiversity conservation of the Amazon, as combined they cover about 50% of the Amazon. These areas also play a crucial role in climate change mitigation, containing approximately 58% of the total aboveground carbon stock in the Amazon.

(ii) PAs and ITs face many challenges and threats in the Amazon. Increasing deforestation rates driven by agricultural expansion, illegal and legal mining, and infrastructure development pose significant threats to the Amazon. Extreme climate events, such as more frequent and intense droughts caused by climate change, are also putting increased pressure on PAs and ITs, leading to forest degradation and reduced resilience. Misguided policies, legal reversals, and organized crime further exacerbate these challenges and undermine efforts for securing conservation gains in the region.

(iii) The Amazon represents a complex set of ecological, cultural, and evolutionary connections that must be maintained. Ecological connectivity is essential for the functionality of Amazonian ecosystems and global climate stability. As landscapes become more fragmented, it is key to bolster conservation cornerstones (i.e., PAs and ITs) and create a shared vision for governance and integrated management.

(iv) Indigenous Peoples and their lands play a crucial role in protecting Amazonian ecosystems. Indigenous Peoples are stewards of vast, biodiverse areas, where their knowledge and sustainable land management practices help conserve ecosystems. By maintaining cultural practices that respect the environment, Indigenous communities contribute significantly to the conservation of the Amazon's biodiversity and the fight against climate change. Many Amazonian countries have advanced in designating Indigenous lands. However, much work remains to be done, as all of these countries still have a substantial backlog for formally recognizing existing Indigenous lands, including one country (Suriname) that has established no official recognition of Indigenous lands.

GRAPHICAL ABSTRACT



KEY RECOMMENDATIONS

(i) Strengthen Indigenous Rights and Governance for Ecosystem Protection and Sustainable Resource Management:

To protect remaining natural ecosystems and prevent further encroachment, it is crucial to enforce existing policies, strengthen legislation that safeguards land and water rights, and formally recognize Indigenous knowledge and territorial autonomy. Additionally, supporting autonomous, local participatory management of resources and strengthening Indigenous governance structures to ensure alignment between departments, municipalities, and Indigenous lands is essential. There is also an urgent need to demarcate a large number of demanded Indigenous Territories to further secure these areas and bolster conservation efforts.

(ii) Promote Conservation and Sustainable Livelihoods:

Respect territorial rights and support socio-bioeconomies through targeted investment plans and enabling policies. Implementing biocultural restoration approaches centered around ethnocultural identity, food security, biodiversity conservation, and community involvement is crucial. Additionally, innovations in financial mechanisms, such as REDD+ (Reducing Emissions from Deforestation and Forest Degradation, plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks), conservation bonds, payments for ecosystem services (PES), and Biodiversity Funds should be carefully designed to fund participatory investment plans.

(iii) Implement Climate Change Adaptation and Mitigation:

Urgently establish climate adaptation measures that prioritize environmental protection and safeguard the lives of Indigenous peoples and local communities, while strengthening the resilience of ecosystems by enhancing connectivity between PAs and ITs to mitigate the impacts of extreme climate events. Fostering collaboration between local governments and these communities in mitigation strategies can help reduce vulnerabilities and promote sustainable practices that protect both the environment and human populations.

(iv) Enhance PAs and ITs Governance for Connectivity:

Integrate terrestrial and freshwater conservation planning to maintain ecological flows and habitat connectivity, while fostering community-based resource management schemes to support sustainable use and conservation efforts. The existing overlap and adjacency between PAs and ITs should serve as a foundation for developing governance models that maintain and enhance both functional and cultural connectivity across expansive areas. Promote transboundary coordination through existing treaties and policies to ensure basin-wide ecological and cultural connectivity, supporting the establishment of sustainable use areas and conservation corridors at a landscape scale.

A. INTRODUCTION

Since the 1960s, designating Protected Areas (PAs) and recognizing Indigenous Territories (ITs) have been key commitments by South American governments to promote Amazonian conservation, with nearly 50% of the Amazon currently under some form of legal protection or

sustainable use classification (Figure 1). However, growing pressure on Amazonian resources from unsustainable extraction activities, policies and global markets favoring conventional development threaten the achievements of over half a century of these conservation efforts^{1,2}. Despite a recent decline in 2023, previous years' deforestation rates and accelerating climate change impacts are also putting PAs and ITs under more pressure^{3,4}.

While Parties to the Kunming–Montreal Global Biodiversity Framework (GBF) have committed to protect biodiversity through area-based strategies, such as achieving 30% protected coverage of marine and terrestrial areas by 2030 (Target 3)⁵⁻⁷, at least 80% of the Amazon forest must remain standing to avoid a tipping point⁸. Thus, even with nearly 50% of the Amazon under some form of protection or management by Indigenous Peoples and Local Communities, the current trajectory of development risks pushing the region across a tipping point, making the urgent, inclusive, and effective implementation of most GBF targets and the expansion of PAs and ITs in the Amazon region crucial. ITs and their inhabitants have played a crucial role in maintaining forests and

mitigating forest loss emissions more effectively than areas outside their boundaries, underscoring the importance of recognizing and enhancing ITs' contributions to biodiversity protection, and in consolidating a vision for safeguarding macro-regional connectivity in the Amazon⁹. PAs and ITs in the Amazon are also critical for mitigating climate change, acting as significant barriers to deforestation and forest degradation and protecting approximately 56% of forests and 58% of aboveground carbon in the basin¹⁰⁻¹². These areas are also vital for water recycling, guaranteeing precipitation, land surface temperature regulation, and other ecosystem services within and beyond the Amazon basin¹³.

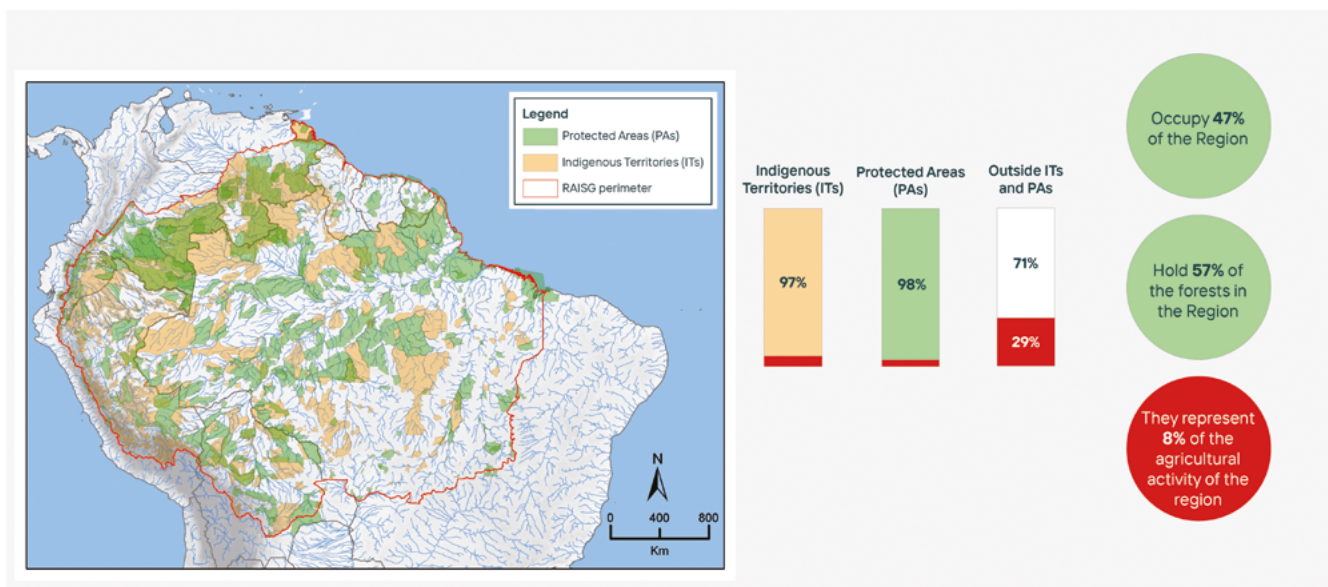


FIGURE 1. Distribution of Protected Areas (strictly protected and sustainable use categories) and Indigenous Territories (ITs) (left), and forest cover percentages inside and outside PAs and ITs (right) (Adapted from¹³).

B. AMAZONIAN INDIGENOUS PEOPLES: TERRITORIES AND RIGHTS

In Brazil, both PAs and ITs are considered conservation units, while in other countries of the basin, these two are different categories. Thus, given the evidence above, a broader

concept of conservation and management should be adopted that includes both PAs and ITs in its goals and measures to enhance conservation and sustainable management efforts in the Amazon. Amazonian Indigenous peoples have inhabited the Amazon for at least 14,000 years, with evidence of human occupation dating back to 11,200 years ago in

central Amazonia, as seen at the *Caverna da Pedra Pintada* site in Brazil¹⁴. Early inhabitants transformed the landscape by creating artificial forest islands and domesticating plants¹⁵⁻¹⁹, with archaeological sites showing anthropogenic activity²⁰⁻²². The discovery of such sites suggests pre-Columbian societies significantly influenced the Amazon's current landscape¹⁶. For Indigenous peoples, territory is not merely land, but an integral part of their existence, with a deeply interdependent relationship between the land, people, and beings that inhabit it²³. Indigenous leaders, such as Daniel Munduruku, emphasize that their fight for land rights is a struggle for life itself, not just for survival²⁴. Redressing the enduring impacts of colonialism, including the fragmentation of ITs and the violent exploitation of Amazonian lands and peoples, requires the formal recognition of Indigenous rights considering historical contexts and reparations²⁵. It also requires the safeguarding of endogenous research methodologies and knowledge management schemes, which are essential for preserving Indigenous cultures and ensuring Indigenous participation in conservation efforts, as outlined in Article 8J of the Global Biodiversity Framework²⁶⁻²⁸. This article promotes the equitable sharing of benefits from the sustainable use resulting from their knowledge and innovations.

Additionally, the protection of the rights and territories of Indigenous Peoples in Voluntary Isolation must be guaranteed in the Amazon. At least 100 to 185 groups of Indigenous peoples are living in voluntary isolation across the Amazon, primarily in Brazil, Peru, Bolivia, Colombia, and Ecuador²⁹. Over half of these records are not officially confirmed due to a lack of studies and, as a result, they remain invisible to countries. According to RAISG (*Red Amazónica de Información Socioambiental Georreferenciada*, or Amazon Geo-Referenced Socio-Environmental Information Network)

data³⁰, areas recognized as reserves for PIACI (*Pueblos Indígenas en Situación de Aislamiento y Contacto Inicial*, or "Indigenous Peoples in Isolation and Initial Contact"), cover 82,319 km² in Peru and Ecuador, while for other Amazonian countries, hundreds of recorded points of presence are distributed within other delimited ITs or undesignated lands. By choosing isolation, these peoples express their right to self-determination and signal the need for preserved, integral, and intangible territory. These are legitimate decisions, implicitly manifested, and must be recognized and guaranteed by legal frameworks and practices. This is especially crucial as isolated and recently contacted peoples face high levels of vulnerability in epidemiological, demographic, territorial, and political contexts.

C. THE CURRENT SITUATION OF PROTECTED AREAS AND INDIGENOUS TERRITORIES IN THE AMAZON

By mid-2023, PAs in the entire Amazon represented 25.5% of the territory (Figure 2), showing a significant commitment of the region's governments to conservation. However, half of these areas fall under less restrictive protection categories, where the use of natural resources is permitted, not always aligning with conservation objectives³. In terms of area, ITs represent 28.5% of the Amazon region, and there is an overlap between PAs and ITs corresponding to 5.1%, thus, the total net area covered by both is 49% of the Amazon (Table 1). In some countries, fossil fuel extraction has been allowed inside PAs, which contaminates the soil, water, and wildlife³⁰⁻³². The presence of toxic residues has been mapped in at least 50 ITs and 15 PAs spanning from Colombia to Bolivia, while the path of oil pipelines crosses over 200 PAs³³.

Country / National Territory	Protected Areas (PAs)	Indigenous Territories (ITs)	Overlapping Areas (PAs and ITs)	Total Area (Discounting Overlap)	% of Amazon
Bolivia	233,963	189,130	57,974	365,119	51.1
Brazil	1,285,528	1,161,224	103,923	2,342,829	44.7
Colombia	113,330	272,751	32,733	353,348	69.9
Ecuador	53,353	72,972	24,022	102,304	77.3
Guyana	10,402	31,784	1,015	41,171	19.5
French Guiana	34,760	7,154	6,653	35,262	41.9
Peru	207,330	354,900	31,613	530,617	54.9
Suriname	26,049			26,049	17.8
Venezuela	198,004	327,202	170,919	354,287	75.3
Total	2,162,720	2,417,117	428,852	4,150,985	49

TABLE 1. Aggregate area (km²) of PAs, ITs, overlapping areas under some protection status, and percentage of Amazon surface area (According to RAISG definition). Adapted from¹³.



FIGURE 2. Percentage of PAs, ITs, and overlapping areas under some protection status in the Amazon (According to RAISG definition). Adapted from¹³.

According to Mapbiomas Amazonia³⁰, land use and land cover analyses over the past four decades reveal that 88 million hectares of forest cover have been lost in the

Amazon basin from 1985 to 2023, equating to 12.5% of the forest present at the start of the study period. About 94% of this loss occurred outside ITs and PAs, with only 3%

occurring in PAs and 4.3% in ITs (Figure 3). In 2023, PAs accounted for 28% of the Amazon’s forest cover, while ITs represented 34%. Combined, and including overlapping areas, these two units encompassed 57% of the Amazon’s forest cover, most of which

consists of stable or old growth forest that has remained unchanged for the 39-year analysis period or longer³. Equally important, 42% of old growth forests are outside these conservation areas, putting them at risk of transformation.

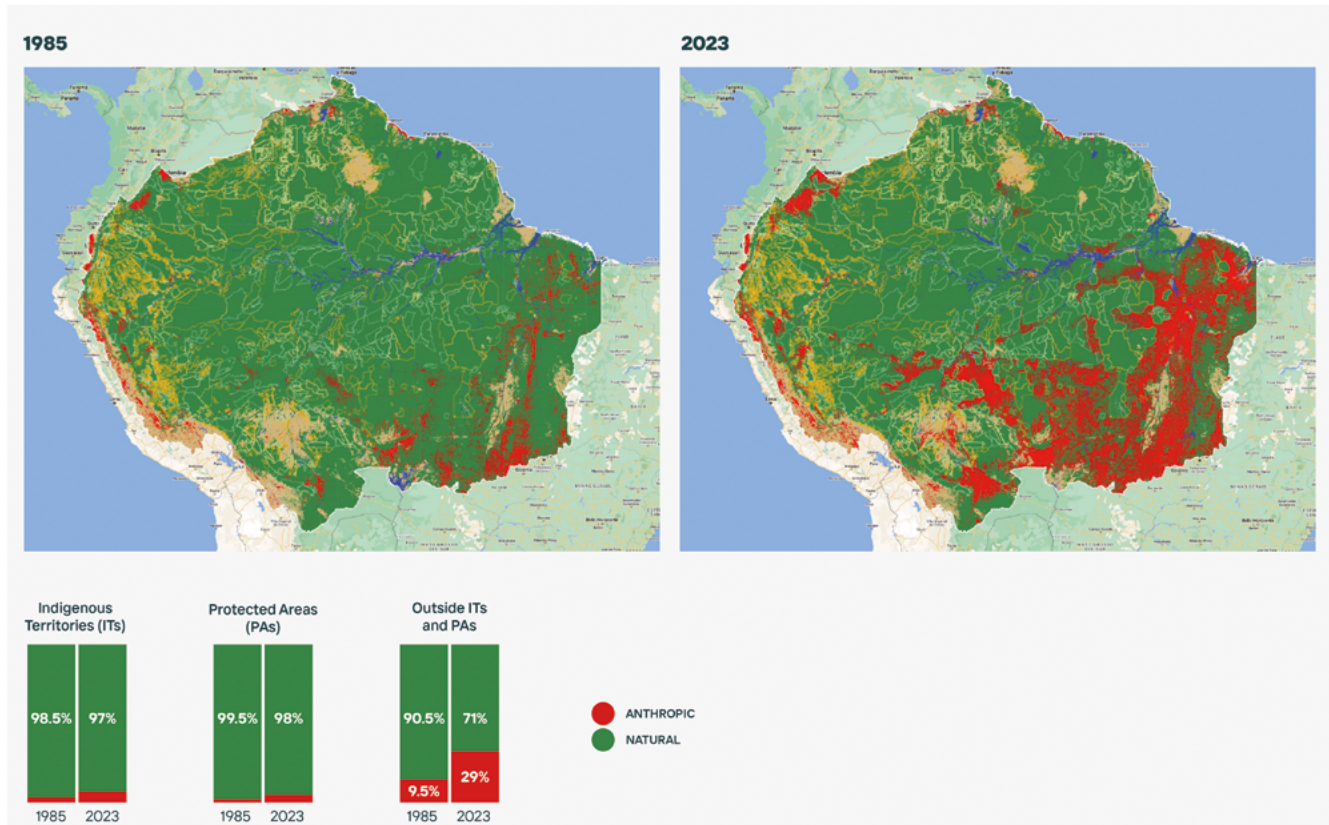


FIGURE 3. Change in natural land cover and anthropic land use in the Amazon basin in 1985 and 2023. Adapted from³⁰.

D. COMPOUNDED THREATS TO PROTECTED AREAS AND INDIGENOUS TERRITORIES

The Amazon is facing unprecedented, compounding threats that jeopardize its rich biodiversity, its functioning, and the livelihoods of Indigenous peoples and local communities. According to the “Amazonia Under Pressure Atlas”³⁴, 51% of PAs and 48% of ITs are facing moderate to high levels

of pressure from aggressive agricultural expansion, illegal logging, mining, and infrastructure development. These forces are driving extensive deforestation and environmental degradation across the region (Figure 4). The combination of weak governance, misguided policies, socio-economic pressures, global market demands, and extreme climate events is further exacerbating these challenges, undermining the protections intended to safeguard these critical regions.

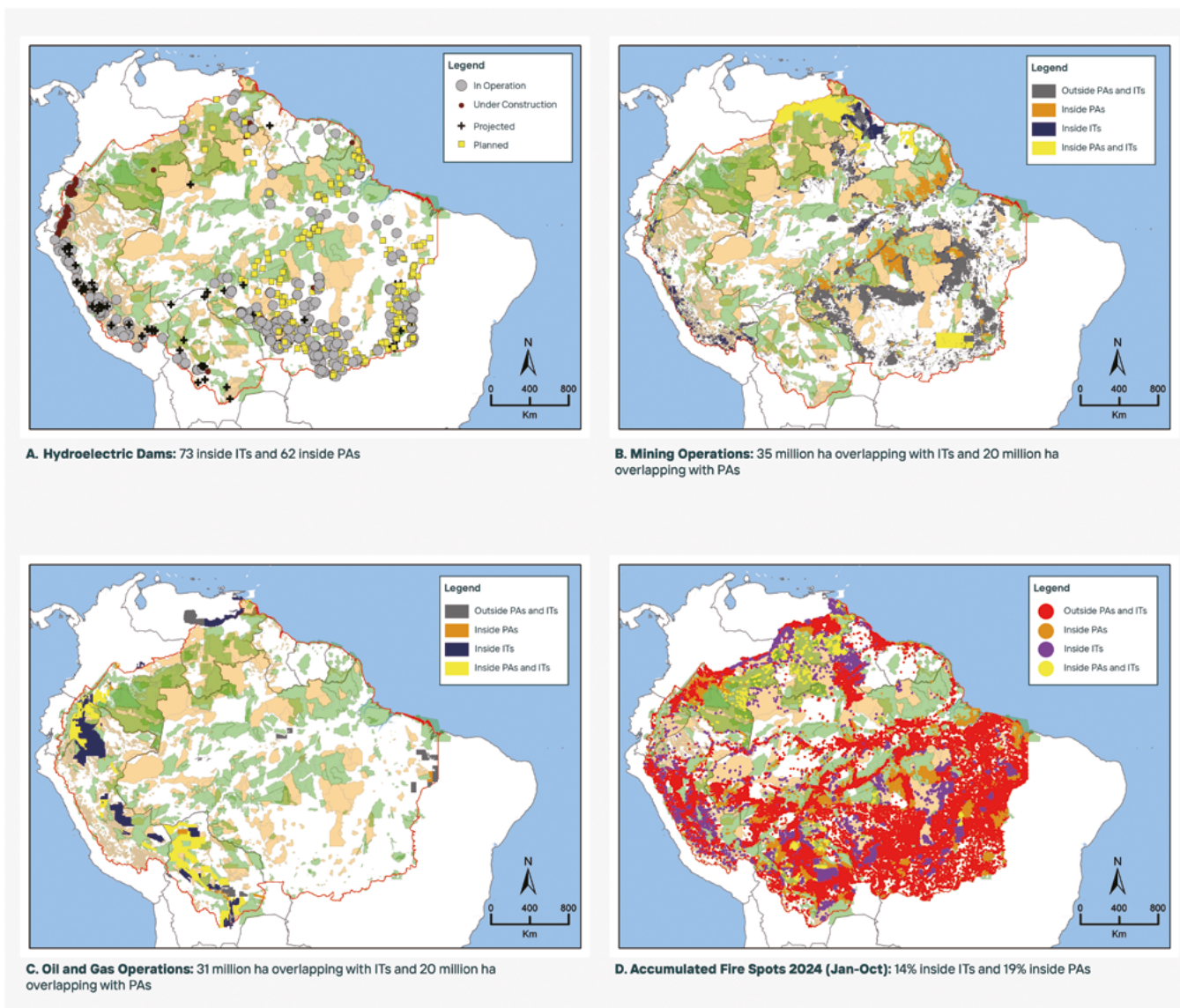


FIGURE 4. Major driving forces of deforestation and threats to PAs and ITs in the Amazon. Adapted from RAISG¹³ and INPE³⁵.

D.1 DRIVERS OF CHANGE IN CONSERVATION AREAS

Infrastructure projects like the Ferrogrão railway in Brazil and other road infrastructure plans across the region, along with agricultural expansion, pose significant threats to conservation areas. Agricultural expansion, particularly for cattle ranching, soybean, and oil palm cultivation, has led to deforestation in

PAs and ITs across the region, with agricultural use in these conservation areas increasing by over 100% between 2001 and 2023³⁰. The expansion of the agricultural frontier now covers 16% of the Amazon region³⁰. This encroachment, which usually begins illegally through land grabbing, not only undermines the environmental integrity of these areas, but also disrupts the livelihoods and cultural practices of Indigenous communities, who

depend on the forest for sustenance³⁶. Illegal logging, driven by the global market demand for valuable timber, and mining activities, both legal and illegal, also contribute to deforestation and environmental degradation. Mining operations, which covered 9.3% of PAs and 11.2% of ITs in 2020, result in direct deforestation, water pollution, and social erosion (Figure 4B). These unsustainable extractive activities frequently occur without the consent of Indigenous communities, violating their rights and disrupting their ways of life^{37,38}. Infrastructural development, such as road construction and hydroelectric dams, exacerbates these problems by increasing access to remote areas, facilitating further illegal activities and encroachment of PAs and ITs³⁹. Weak governance and enforcement, often compromised by corruption and insufficient resources, allow these activities to persist⁴⁰. Moreover, socioeconomic pressures, including poverty and limited economic opportunities, force some community members to partake in environmentally harmful activities like illegal logging, mining, and unregulated agriculture⁴¹, while global market demand for commodities like beef, soybean, and minerals further intensifies these pressures³⁹. Additionally, land market forces, influenced by institutional chaos and a weak state presence, lead to illegal land appropriation and concentrated land ownership, also contributing to deforestation and environmental harm. In most Amazonian countries illegal activities such as drug trafficking and gold mining are deeply intertwined with these issues, resulting in significant violence and environmental degradation⁴¹.

D.2 MISGUIDED POLICIES AND LEGAL REVERSALS

Some categories of PAs are legally shielded from extractive industries, but in the Amazon, conflicts frequently arise in PAs and ITs due to overlapping concessions for extractive industries or infrastructure projects, impacting the rights of Indigenous peoples. According to ILO (International Labour Organization) Convention 169 and the United Nations Declaration on the Rights of Indigenous Peoples, "Indigenous peoples must be consulted through culturally appropriate procedures, known as Free, Prior, and Informed Consent (FPIC), regarding any laws or projects affecting their territories and livelihoods, with the goal of obtaining their agreement or consent, including the possibility of modifying initial plans"⁴². As a matter of fact, states have two main duties: the duty of accommodation (adjusting or canceling plans based on consultation results) and the duty of approving reasoned decisions (considering Indigenous concerns in final plans)³. In practice, however, national regulations are often vague, reducing consultations to mere notifications of decisions already made, which also frequently divide Indigenous organizations.

Recent setbacks in the legal frameworks of most Amazonian countries undermine previous legislation and actively roll back acquired rights. These setbacks jeopardize efforts to combat the effects of the climate crisis and biodiversity loss by facilitating the expansion of extractive activities and infrastructure development within PAs and ITs, increasing violence and diseases among Indigenous and local peoples. Unfortunately, the congresses of several Amazonian countries are redefining their legislation to favor economic interests and extractive markets in Amazonian territories, with strategies that co-opt subnational governments that push legislative reforms undermining environmental ministries, as seen in Peru (Box 1) and Brazil (Box 2).

BOX 1: CASE STUDY IN PERU - LEGAL FRAMEWORKS FOR THE TRANSFORMATION OF THE AMAZON

The Peruvian Amazon is composed of 32% ITs, 17% PAs, 3% overlapping PAs and ITs, and 48% of lands not covered by conservation areas. 91% of deforestation in Peru is driven by the agricultural sector, facilitated by the rapid expansion of the national road network. While 31% of the Peruvian Amazon consists of oil blocks, illegal mining affects 17.3% of PAs and 10% of ITs. In 2023, the Peruvian Congress reviewed two significant bills that threaten Amazon conservation and Indigenous rights: the modification of Law 28736 (PIACI Law) and the Forestry and Wildlife Law. The PIACI Law project, which threatened 25 Indigenous Peoples in Voluntary Isolation and Initial Contact (PIACI) and their territories covering nearly 8 million

hectares of old-growth forest, was shelved after opposition from civil society, bilateral cooperation agencies, and the United Nations. In contrast, the modification to the Forestry Law was approved as a mechanism to benefit small farmers and producers. The most notable change is the final complementary provision, which allows the creation of “exclusion areas for agricultural purposes” without first classifying the land by its primary use capacity (forest or agricultural) or meeting the requirements outlined in Article 38 of the Forestry Law. As approved, the law also diminishes the Ministry of Environment’s role in controlling zoning issues. In summary, the law modification introduces three key changes: the suspension of forest zoning, the exclusion of the Ministry of Environment from forest zoning processes and technical reviews, and the elimination of the procedure for authorizing land-use changes in private areas⁴³.

BOX 2: CASE STUDY IN BRAZIL - INDIGENOUS RIGHTS THREATENED

For years, powerful economic and political lobbies have been working to weaken the legal framework that assigns the protection status of ITs and the constitutional enshrined land rights of Indigenous Peoples in Brazil. Some legislative changes in discussion intend to diminish land usufruct restrictions by non-Indigenous parties inside of ITs, including cropland leasing and mining enterprises. Another aims to weaken the institutional authority of FUNAI, the Brazilian Agency responsible for managing and protecting ITs, to physically demarcate new ITs. The constitutional authority of the Presidential Office to decree ITs as physically demarcated is also trying to be revoked. The public opinion of these attempts has been acutely negative⁴⁴. Additionally, a judicial interpretation called the “1988 Deadline Tenet” (“*Tese do Marco Temporal*”) has been part of this anti-indigenous

political agenda. It endorses Indigenous land rights legitimacy only if the Indigenous communities were occupying their land claims in September 1988, when the Brazilian Constitution was declared. The most concerning aspect of this legal interpretation is that it deliberately ignores that many Indigenous communities across the country had been evicted from their territories for several past decades at that time. A few years ago, the 1988 Deadline Tenet was brought to the Brazilian Constitutional Court (Supreme Federal Court, STF) through an extraordinary appeal arguing for the ancestral land rights of Indigenous Peoples, which led to the tribunal’s decision in favor of Indigenous Peoples. At the same time, however, the STF was called upon to judge another version of the 1988 Deadline Tenet, which was hastily approved as law by Congress. The litigation continues after a new decision of the tribunal that dismisses the law’s constitutionality. In response to another suit, a “Commission of Conciliation” was established by

the STF to deal with this matter, even objecting former jurisprudence of the tribunal. Indigenous Peoples' representative groups unsuccessfully tried to learn about the selection criteria for Commission members, of which they are a minority party, and the chairing judge warned them that the ruling will be based on majority of the votes of Commission members if no consensus is reached. In face of such unfair rules, the main representative body of

Indigenous Peoples withdrew from the Commission of Conciliation. Many law scholars have been critical about the creation of this Commission arguing that the fundamental rights of Indigenous Peoples are well-established in the Constitution, so the court plenary must enforce its own tribunal decision⁴⁵. Meanwhile, the land conflicts between Indigenous peoples, farmers, and land grabbers continue expanding across the region.

D.3 CLIMATE CHANGE, EXTREME EVENTS, AND FOREST FIRES

The increase in extreme climate events is already a reality in the Amazon, a region that is projected to experience a decline in precipitation, an increase in higher temperatures, shorter rainy seasons, and more frequent and intense droughts, fires (Figure 3D), and floods in the coming years⁴⁶⁻⁴⁸. These climate conditions, combined with the aforementioned drivers of change, create feedback loops that will only continue exacerbating these threats going forward. PAs and ITs also suffer from these compounded pressures, resulting in accelerating forest loss. This has been seen, for example, in the Tapajós Arapiuns Extractive Reserve (6,476 km² in the lower Tapajós River region, overlapping with six ITs), where fire has already degraded more than 100,000 hectares and forced Indigenous communities to relocate. Intense droughts, repeated fires, and the clearing of forests (such as the removal of mother trees and the formation of less diverse, more fragmented low forests) have caused these areas to lose resilience, making them less able to respond to fires. This has led to the loss of agrobiodiversity in the gardens and fields of forest peoples due to the lack of water, altered production cycles, seed loss, and increased pests. It has also resulted in ancient cultural practices like "slash-and-burn" becoming

no longer feasible and unmanageable. As climate extremes and forest degradation continue to rise, studies estimate that 20% of the remaining forest in eastern Amazonia will burn in the coming years⁴⁹. Therefore, urgent containment measures are necessary to avoid reaching the tipping point in the Amazon.

E. IMPORTANCE OF CONNECTIVITY IN THE AMAZON

The global goal to protect 30% of marine and terrestrial areas by 2030 will be insufficient to fully safeguard biodiversity on its own without the integration or connectivity of conservation units⁵⁰. Conserving biodiversity and its contributions to people in the Amazon requires a well-connected network of PAs and ITs. Currently, Amazon's PAs are among the least isolated globally and maintain some of the greatest functional connectivity⁵¹.

Freshwater and terrestrial ecosystems in the Amazon generally maintain a high connectivity status, with the basin containing the longest free-flowing rivers on Earth, originating in the Andes, flowing through the lowlands, and emptying into the Atlantic Ocean⁵²⁻⁵⁴. This longitudinal connectivity is essential to the life histories of many species⁵⁵. Rivers and forests are also laterally connected, exchanging nutrients that fertilize floodplains and facilitate the movement of animals that depend

on these resources for food and refuge⁵⁶. The vertical exchange of water, from the soils and sediments to the atmosphere through lakes, rivers, and vegetation, is foundational to the Amazon's climate⁵⁷. People are also culturally and economically connected to rivers and forests through cosmologies, cultural practices, and food⁵⁸. Maintaining connectivity across these dimensions is crucial both within and among PAs and ITs. Given the strong relationship between Indigenous knowledge systems used for land management and the well-being of forests in ITs, it is essential to broaden the concept of connectivity to include ecological and socio-cultural aspects. This broader perspective focuses on maintaining ecological flows, habitat networks, cultural and biological diversity, the water cycle, climate balance, and the overall resilience of the system by sustaining connectivity among its ecosystems, stakeholders, and systems of thought³. Integrating PAs and ITs through participatory planning, management, and governance can help maintain this multidimensional connectivity by supporting the expansion of sustainable use landscapes, conservation corridors, and community-based conservation areas across the region.

E.1 CONNECTIVITY AND CONSERVATION OPPORTUNITIES

The continuous transformation of natural landscapes, particularly in areas like the Andean–Amazon foothills and elsewhere across the Amazon, threatens the connectivity and future of the PAs and ITs network in the region. Factors that reduce connectivity, such as deforestation, fires, infrastructure (e.g., roads, dams), defaunation, agriculture expansion, and mining, affect rivers and ecosystems both inside and outside the conservation units. Coordinated national and transnational efforts are thus needed to consolidate connectivity in the Amazon across its diverse management categories, including PAs of varying stringency, ITs, forest reserves, and

extractive reserves (for sustainable use).

Maintaining connectivity within the existing PA and IT network will require integrating terrestrial and freshwater conservation planning, with ample opportunities to do so given the existing overlap and adjacency between these conservation areas. Community-based natural resource management schemes, which have a long history in the basin, can strengthen connectivity in the broader PA network. For example, community-based fisheries can produce measurable positive spillover effects for biodiversity and people within and outside protected water bodies^{53,59,60}. Other Effective Area-based Conservation Measures (OMECS), with support from conservation financing (e.g., REDD+, Water Funds), can achieve similar outcomes if properly implemented, with safeguards for Indigenous rights and autonomy. Additionally, as the Amazon becomes increasingly urbanized, maintaining biocultural connections through participatory science can empower people and draw them to conservation efforts. As the Amazon spans multiple political scales, including nations, territories, and subnational jurisdictions, maintaining connectivity requires transboundary coordination, and existing treaties, such as the Amazon Cooperation Treaty Organization (ACTO), provide crucial platforms for policy engagement at a basin-wide scale.

CONCLUSIONS

The Amazon PAs and ITs serve as pillars for achieving global conservation goals, especially under the Kunming–Montreal Global Biodiversity Framework. These areas play a critical role in maintaining biodiversity, regulating the global climate, and supporting ecological connectivity. Despite the substantial progress in establishing PAs and recognizing Indigenous rights, ongoing threats are undermining conservation efforts. The inclusion of ITs in conservation strategies is essential, as

Indigenous Peoples have demonstrated their ability to manage and protect these ecosystems effectively. Furthermore, to ensure the long-term sustainability of the Amazon, it is crucial to strengthen legal and institutional frameworks that recognize Indigenous rights and promote community-based management. A holistic approach, integrating terrestrial and freshwater conservation planning, is needed to maintain functional connectivity across the Amazon's ecosystems. The implementation of sustainable livelihoods, the preservation of traditional knowledge, and the protection of bio-cultural diversity must also be prioritized.

Recent droughts and extreme climate events have shown that global efforts to protect 30% of the Earth's surface by 2030 will not be sufficient without concerted action to safeguard much more of the Amazon's unique biodiversity and socio-cultural heritage (by protecting at least 70 to 80% of the Amazon). In this regard, the Amazon's future depends on transboundary cooperation, the protection of Indigenous Territories, the expansion and reinforcement of Protected Areas, and the development of innovative conservation financing mechanisms, ensuring that Indigenous rights are at the center of all conservation and development policies. Urgent measures are needed to address the compounded pressures of climate change, deforestation and degradation, and socioeconomic inequalities to prevent the Amazon from reaching a critical ecological tipping point.

RECOMMENDATIONS

Strengthening Indigenous Rights and Governance for Amazon Conservation and Protection

The formal recognition of Indigenous territorial rights is essential, and must consider historical contexts, ensure reparations for

land expropriation, and avoid the assumption that ethnic boundaries align with territorial boundaries. Indigenous Peoples should be empowered to develop and implement self-defined management plans, including life plans and protocols, to govern their territories effectively. Support is needed for the transmission of intergenerational knowledge, use of Indigenous languages, and sovereignty over Indigenous knowledge to reinforce autonomous decision-making. Legal frameworks must recognize and legitimize Indigenous governance structures, enabling coordination with State institutions. Colombia's Presidential Decree 632 (2018), is a key example of the full recognition of Indigenous governance structures as equivalent to State governing bodies in large areas of ITs in Amazonian departments. No other political jurisdiction is imposed and legal access to public funding is granted in these departments⁵⁹.

Moreover, increased resources must be allocated to agencies responsible for monitoring illegal activities, alongside anti-corruption measures to hold officials accountable. Modern surveillance technologies must be employed to enhance enforcement, and land tenure regularization must be implemented to reduce illegal land grabbing and promote responsible land use^{34,60-62}.

Promoting Sustainable Livelihoods and Conservation Strategies in the Amazon

To promote conservation-friendly livelihoods in the Amazon, funding should be provided for sustainable economic alternatives such as ecotourism, agroforestry, and socio-bioeconomies of healthy standing forests and flowing rivers through investment plans and enabling policies. Financial innovation

mechanisms, such as carbon markets, green bonds, and biodiversity funds, can channel investment into such conservation efforts. Strengthening local and Indigenous organizations is crucial for participatory territorial management, environmental monitoring, and aligning with public policies. Restoration initiatives should adopt a biocultural approach, integrating traditional knowledge and focusing on food security. Strict traceability measures for forest products and stronger corporate responsibility regulations are necessary to ensure legal and sustainable practices. Transparent and fair benefit-sharing mechanisms should guarantee that Indigenous and local communities receive equitable compensation and that REDD+ projects respect their rights through Free, Prior, and Informed Consent⁶³⁻⁶⁵.

Implementing Climate Change Mitigation and Adaptation

There is an urgent need to implement climate change mitigation and adaptation measures across all sectors, with a focus on land use change mitigation. Indigenous and Local Knowledge systems must be integrated into adaptation strategies, recognizing their vital role in maintaining forest health and resilience, including managing forest fires⁶⁶. Promoting ecosystem connectivity by enhancing links between PAs and ITs to bolster resilience against extreme climate events like droughts, fires, and floods is crucial. Additionally, community-based conservation and natural resource management initiatives must be supported to mitigate climate impacts and preserve biodiversity. The Indigenous Peoples' Policy of the Green Climate Fund (GCF),

implemented in the Amazon, for example, has successfully engaged Indigenous communities in GCF-funded projects to enhance forest management and resilience to climate impacts, while recognizing their territorial rights⁶⁷.

Enhancing Governance for Connectivity

Integrating the management of terrestrial and freshwater ecosystems within PAs and ITs is essential for maintaining connectivity, preserving ecological flows, species movement, and habitat integrity across the Amazon. Supporting community-based natural resource management schemes, which have a long history in the region, strengthens cultural and functional connectivity, benefiting both biodiversity and local communities through sustainable practices like fisheries and agroforestry systems. Financing mechanisms, such as REDD+ and Water Funds, can enhance conservation efforts if they include safeguards to protect Indigenous rights and autonomy. New governance models, like Brazil's "Common Use Territory (TUC)" offer promising avenues for collective territorial rights, but require further development. Transboundary coordination, facilitated by treaties like ACTO, is critical for addressing the multi-jurisdictional nature of the threats that the Amazon is facing. As urbanization increases, fostering bio and ethnocultural connections between urban and rural areas through participatory science and community engagement remains crucial for empowering local populations and ensuring their central role in conservation governance across the region⁶⁸⁻⁷⁰.

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