SCIENCE PANEL FOR THE AMAZON

POLICY BRIEF

THE AMAZON WE WANT
Science Panel for the Amazon

THE ROLE OF AMAZONIAN INDIGENOUS PEOPLES IN FIGHTING THE CLIMATE CRISIS

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KEY MESSAGES

(i) Indigenous territories (ITs) in the Amazon protect approximately 24.5 GtC aboveground, act as significant barriers to deforestation and forest degradation, and serve as an important buffer against climate change. Their role in climate mitigation and land stewardship has earned them scientific and political recognition, but that has not yet translated into full respect for their land rights.

(ii) ITs are critical in ensuring regional integrity, including water recycling and precipitation beyond the Amazon Basin, regulating local and regional land surface temperatures, and protecting biodiversity and its associated ecosystem services.

(iii) Deforestation and global climate change threaten Indigenous peoples and local communities (IPLCs), their territories, and the stability of regional and global climate systems. Amazonian Indigenous peoples are on the front lines of the climate crisis, facing many of the early impacts of climate change while contributing little to its underlying causes.

(iv) Demarcated ITs have significantly less deforestation than unrecognized lands, demonstrating the importance of demarcating ITs to both protect the livelihoods and cultures of the Amazon's native peoples and to conserve its forests and rivers. Protecting and recognizing Indigenous land rights is critical for mitigating global climate change, particularly if we hope to reach the Paris Accord's goal of preventing global temperatures from rising above 1.5°C.

RECOMMENDATIONS[a]

(i) Support and recognize Indigenous land rights through titling or other law-based recognition processes, and ensure that climate change mitigation and adaptation strategies are not oversimplified, focusing on carbon stocks and emissions at the expense of ecosystem and societal benefits.

(ii) Strengthen legal frameworks to safeguard the rights of Indigenous peoples, especially the right to Free, Prior, and Informed Consent (FPIC) and the right to life.

(iii) Provide technical and financial support to guarantee the conditions necessary for the implementation of IPLCs' territorial management and protection strategies. This includes recognition, protection, and financial mechanisms to support Indigenous languages, traditions, and cultures. It is critical to establish and scale up mechanisms that reach IPLCs' organizations directly, considering their local economies, governance structures, and diverse ways of life.

(iv) Invest in, strengthen, and scale-up intercultural education initiatives through well-defined, participatory development of curricula that include Indigenous and local knowledge (ILK). These initiatives should be supported by pedagogical support materials based on local realities and respect cultural dimensions and views.

(v) Recognize the multiple strategies, governance systems, and management practices that Indigenous peoples have developed and utilized for millennia. This knowledge is critical to ensure resilience and adaptation to climate change.

[a] This plan is captured by the targets set by the IUCN's World Conservation Congress in Marseille, which states that 80% of the Amazon must be conserved by 2025. It is also based on investigative research conducted by RAISG within the framework of the initiative "Amazonia for Life: protect 80% by 2025," and the initiative's coordinating organizations, COICA and stand.earth.

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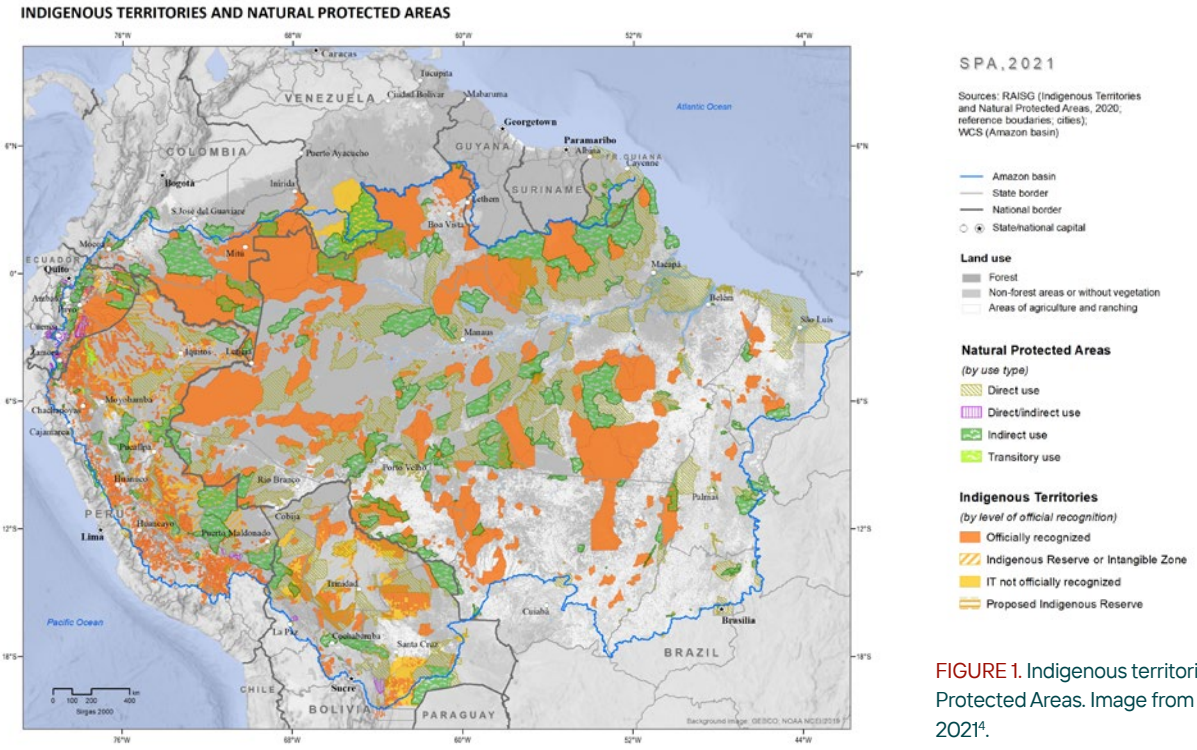

FIGURE 1. Indigenous territories and Natural Protected Areas. Image from Josse *et al.* 2021[4].

A. AN EXTRAORDINARY DIVERSITY OF PEOPLES, CULTURES, KNOWLEDGE, AND LANGUAGES SPANNING THOUSANDS OF TERRITORIES

1. The Amazon Basin is home to nearly 2.2 million Indigenous peoples from approximately 410 groups[1-3].

2. They span more than 6,000 Indigenous teritories, covering 170 million ha of forested area (27% of the entire region; Figure 1)[4].

3. They speak over 300 languages[5] and possess diverse knowledge, traditions, and cultures that have contributed to the conservation and sustainable management of Amazonian ecosystems for at least 12,000 years[3,6] (Figure 2).

FIGURE 2 Matipu's people village, Xingu Indigenous Park, Mato Grosso, Brazil. Photo: Paulo Junqueira / Instituto Socioambiental.

B. A GIANT CARBON WAREHOUSE AND BARRIER TO DEFORESTATION, DEGRADATION, WILDFIRES, GLOBAL AND REGIONAL CLIMATE CHANGE, AND BIODIVERSITY LOSS

1. Amazonian ITs protect approximately 24.5 GtC aboveground, or 10-20% of the global forest carbon stocks[7], making them an important buffer against climate change. This stock represents around 2.5 years of global greenhouse gas (GHG) emissions, taking 2019 as the reference year[8]. Protecting and recognizing the land rights of Indigenous peoples is critical for mitigating global climate change, particularly if we hope to reach the Paris Accord's goal of preventing global temperatures from rising above 1.5°C.

2. Amazonian ITs protect carbon stocks because they act as significant barriers to deforestation and forest degradation (Figure 3). ITs show significantly lower deforestation (6%) than all other land tenure categories, including private properties (~25%) and Natural Protected Areas (~8%)[2,7]. Moreover, they inhibit deforestation and associated fire spread within a 10-km buffer from their borders, thus reducing forest loss and degradation at the landscape scale[9].

3. Inhibiting deforestation is critical to ensure regional integrity, including water recycling and precipitation beyond the Amazon Basin[10]. It is estimated that reducing deforestation has prevented agricultural losses of up to USD 1 billion annually in the southern Brazilian Amazon[11]. Maintaining biodiversity is also critical, as an ethical imperative, a prerequisite for maintaining Amazonian resilience, and for protecting ecosystem services, such as pollination[12,13]. It helps guarantee food security for rural, urban, and peri-urban populations, Indigenous peoples, and local communities.

4. Maintaining forest cover also helps regulate local and regional land surface temperatures. For example, during the day, the air temperature inside the Xingu Indigenous Park is 2-3°C lower than surrounding agricultural lands. The Park functions as a natural air conditioner for that region. Unfortunately, deforestation around the Park has already resulted in a temperature increase of 0.3°C from 2001 to 2010. Modeling suggests that, in the absence of this large block of forest, the average regional temperature would be 1.7°C warmer still[14].

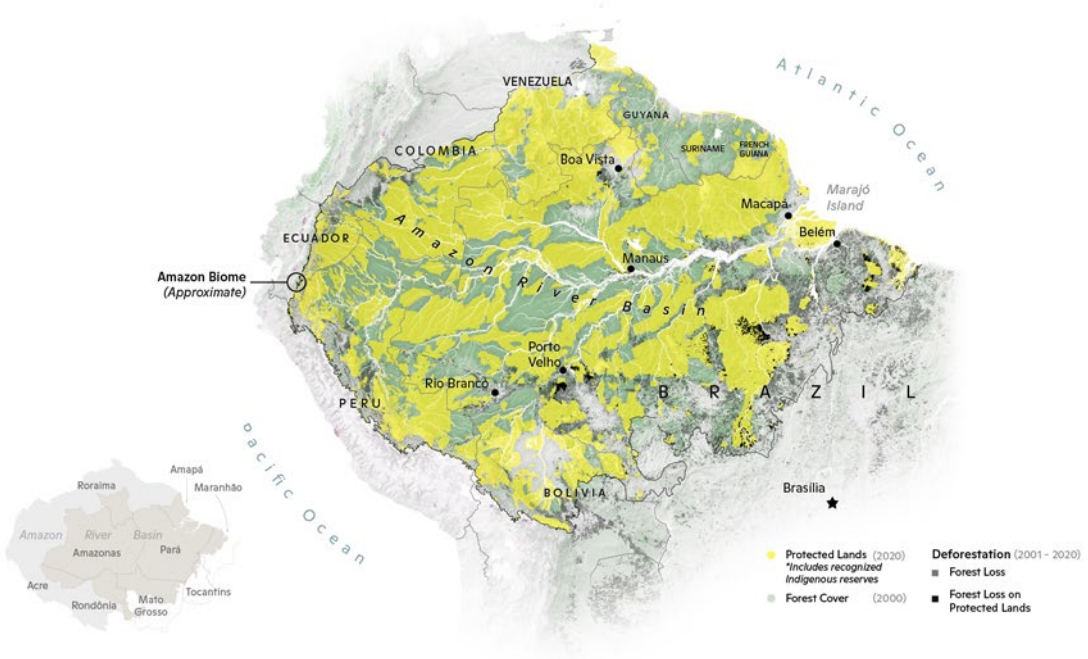

FIGURE 3. Forest cover and forest loss within and outside Protected Areas in the Amazon, including recognized Indigenous territories. Credit: Carl Churchill/Woodwell Climate Research Center.

C. AMAZONIAN INDIGENOUS PEOPLES AND TERRITORIES UNDER THREAT

1. Despite their essential role, the Amazon's Indigenous peoples and their territories are increasingly threatened (Figures 4 and 5), facing environmental destruction, forced displacement, assassination, illegal invasions, and extractive uses (i.e., legal and illegal mining) across the region. These are just the latest in a long history of colonial and post-colonial threats, including disease, attempts to erase knowledge systems and cultures, and violence which have devastated Indigenous peoples for over 500 years.

2. Over the last 10 years, Amazonian ITs have been subject to intense illegal invasions, clearing, and forest degradation. Between 2001 and 2018, 42,860 km^2 were converted to agriculture across the Basin, of which 71% was forested in 2000. It is estimated that 48% of ITs are under some pressure, with one-third of them facing high to very-high stress associated with unsustainable extractive activities (especially gold mining) and infrastructure development over half of the area[4,15,16].

3. In addition to illegal invasions, Indigenous people face the climate impacts of large-scale deforestation and GHG emissions outside their borders[14,17]. Regional drying and warming (Figure 6) caused by the combined effects of deforestation outside ITs and increasing atmospheric GHG concentrations globally have greatly intensified fire regimes and altered regional water cycling, driving further forest degradation and affecting the health and livelihoods of Indigenous peoples and local communities[17]. As the Amazon becomes drier and warmer, it is increasingly prone to positive feedbacks that may push it towards a "tipping point."[18] These factors also threaten Brazil's (mostly rainfed) agricultural production, which is increasingly at risk due to changes in rainfall, regional warming, and drying that significantly increases plant water demand[19].

FIGURE 4. Fire in the access way to the Bau Indigenous Territory (Pará, Brazil). Photo: Cícero Pedrosa Neto/Amazônia Real.

FIGURE 5. Illegal mining inside of the Yanomami Indigenous Territory. Photo: Bruno Kelly/Amazônia Real.

4. Natural and anthropogenic disturbances, such as illegal logging, fires, and droughts, have reduced the integrity of part of the forest inside ITs, including their carbon stocks[7]. While disturbances and degradation account for 75% of carbon losses inside ITs[20], deforestation is the main driver of carbon losses outside ITs. These disturbances interact synergistically, often causing positive feedbacks that induce more fires and further degradation[21,22]. In the Brazilian Amazon, fire has burned 11.6% of forests within ITs in the past 36 years, affecting a cumulative area of 188,372 km^2 [23,24]. A subset of these areas (65%) burned more than once in the last 36 years – a substantially higher fire return interval than is typical for humid tropical forests[25].

5. Once burned, an Amazonian forest may lose as much as 25% of its aboveground carbon stocks from direct combustion[26]. Additional carbon losses may occur in subsequent years due to tree mortality caused by fires, referred to as committed carbon losses[27]. Wildfires may also severely impact human health, particularly in groups regularly involved in fighting wildfires. More recently, smoke exposure has been shown to aggravate the negative health impacts of COVID-19 infections in Indigenous populations[28,29].

D. HELPING THE PLANET ADDRESS THE CLIMATE CRISIS BY PROTECTING AMAZONIAN INDIGENOUS TERRITORIES AND PROVIDING FINANCIAL AND TECHNICAL SUPPORT TO IPLCS' ORGANIZATIONS

1. The main mechanism to fight climate change is reducing the use of fossil fuels; however, maintaining large forested areas is paramount in balancing regional and global climate regimes.

Doing so will require the creation of new Indigenous territories and Protected Areas, including granting legal recognition to lands Indigenous peoples have occupied for hundreds of years, yet which still lack legal demarcation[30]; as well as restoring and remediating degraded areas elsewhere[31]. Comparative data show that demarcated ITs have significantly less deforestation than unrecognized lands[32], demonstrating the importance of demarcating ITs to both protect the livelihoods and cultures of the Amazon's native peoples and to conserve its forests and rivers.

2. Funding Indigenous peoples and local communities' organizations directly has proven challenging. Despite their outsized role in effective climate mitigation, over the last ten years less than one percent of Official Development Assistance (ODA) for climate change mitigation and adaptation has supported land tenure and forest management by Indigenous people and local communities in tropical countries. Without reform of the system, only a tiny fraction of available funding is likely to reach these groups, since smaller organizations, such as those of IPLCs, have difficulty meeting the exhaustive requirements of the large intermediary institutions and bureaucratic mechanisms which manage funds[33].

3. Indigenous peoples of the Amazon hold diverse knowledge systems, which are profoundly interconnected to local natural elements[3]. Their deep understanding of the nature that surrounds them allows them to identify climate anomalies, making them critical warning voices about climate change. Their longstanding leadership on the subject is recognized by academia and is starting to receive attention from policymakers, with national climate policies (e.g., the Brazilian National Adaptation Plan) acknowledging Indigenous and local knowledge as important tools for adaptation. Nevertheless, ILK is rarely recognized in formal education curricula, processes, and in capacity building[34].

The time has come to implement an emergency plan to protect Indigenous peoples' and local communities' rights, respect and recognize the importance of their sophisticated knowledge and management systems, and guarantee a healthy and livable planet for future generations. Concrete actions by governments, financial and multilateral institutions, and human rights and environmental organizations will be crucial for the success of this plan (see Recommendations box).

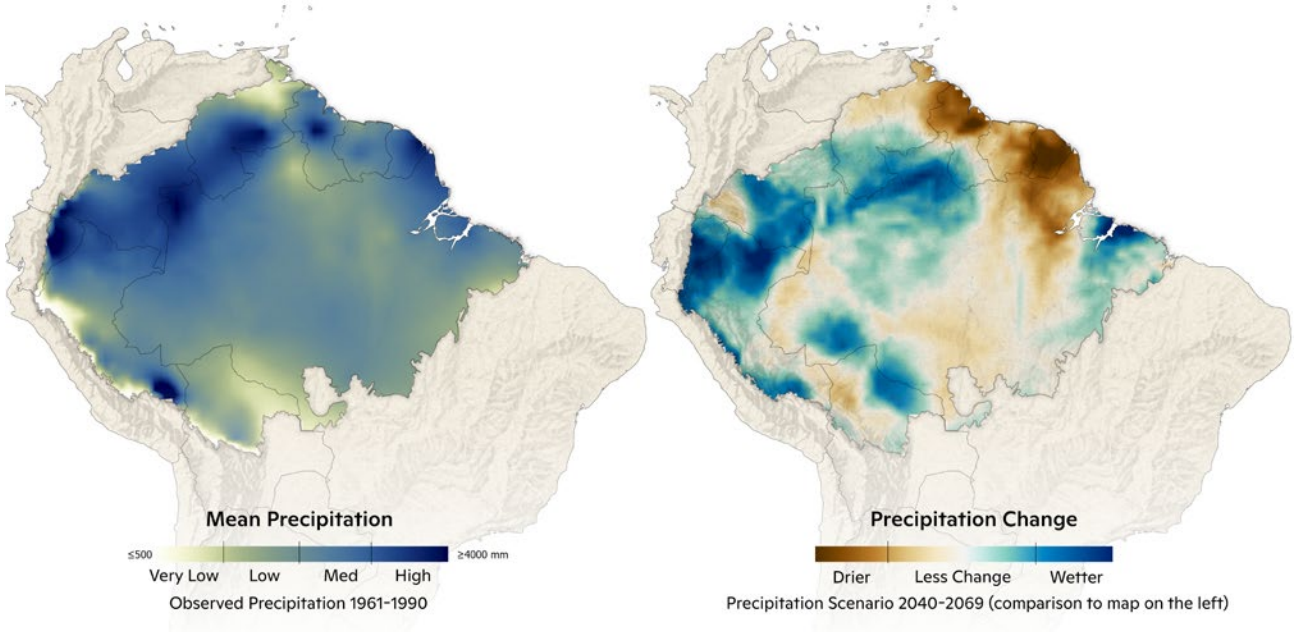

FIGURE 6. Precipitation Scenario for 2040-2069 (map on the right) in comparison to observed data for 1961-1990 (map on the left). Credit: Greg Fiske/Woodwell Climate Research Center.

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