

Science Panel for the Amazon

POLICY BRIEF

The Amazon is a regional entity with global relevance, spanning eight countries and one territory (Brazil, Bolivia, Colombia, Ecuador, Guyana, Peru, Venezuela, Suriname, and French Guiana). Concerned by the growing urgency of catastrophic threats to the Amazon and inspired by the Leticia Pact, a group of over 200 preeminent scientists from the region and global partners have united to form the unprecedented Science Panel for the Amazon (SPA). The Panel completed a first-of-its-kind scientific assessment of the state of the Amazon basin, current trends, and policy relevant considerations for the long-term sustainability of the ecosystem and its peoples. The Panel's recommendations aim to promote conservation and advance sustainable development pathways for the region, with a vision of a healthy, standing forest, flowing rivers bioeconomy based on exchange and collaboration between local and Indigenous knowledge, science, technology, and innovation.

A. The Amazon basin encompasses the largest tropical rainforest in the world, a place of immense natural and cultural wealth and diversity. 1. The Amazon basin is home to the largest tropical rainforest in the world and houses a remarkable share of unique and irreplaceable global biodiversity. This extraordinary diversity confers stability and resilience to terrestrial and aquatic ecosystems, and is a product of complex dynamics that have been co-evolving for millions of years.

2. The Amazon biome plays a critical role in the global water cycle and regulating climate variability. A significant amount of moisture flows to the southern part of South America via "aerial rivers", and it is an important source of water for ecosystems beyond the basin. It produces the largest river discharge on Earth, accounting for 16%-20% of the world's total river input to oceans. It is a crucial carbon storage and sink, storing approximately 150-200 billion tons of carbon in soils and vegetation.

3. The Amazon is home to around 47 million people, including nearly 2.2 million Indigenous people distributed among more than 400 groups speaking over 300 languages. Indigenous peoples and local communities (IPLCs) play a critical role in the generation, conservation, and sustainable management of Amazonian agricultural and biological diversity, as well as ecosystems.

B. In the face of a warming climate, increased deforestation and ecosystem degradation, and fiercer wildfires, the Amazon could soon reach a tipping point beyond which recovery may be impossible.

1. The Amazon's natural resources are intensively exploited, in both the past and the present, driven by national and international economic demands. The continuous expansion of agriculture and extractive industries and recent rise in illegal activities represent the main drivers of deforestation, wildfires, habitat fragmentation, environmental degradation, and threats to its biocultural diversity.

2. Approximately 17% of Amazonian forests have been converted to other land uses, with an additional 17% being degraded. Human disturbances have put many species at high risk of extinction, with several now restricted to minor portions of their original range, with further impacts to species interactions and interdependencies. They are also changing how the Amazon's forests and other ecosystems function, impacting carbon storage and sequestration, decreasing the Amazon basin's productivity and resilience to disturbance, and affecting its capacity to supply vital regional and global ecosystem services.

3. The Amazon rainforest is particularly vulnerable to climate change. Deforestation, forest degradation, and climate change interact to significantly increase the risk and prevalence of forest fires, reducing forest resilience, and increasing tree mortality and drought stress. The climate of the Amazon could soon reach a tipping point of global consequence, beyond which most of the remaining rainforest would irreversibly change to a different and highly degraded ecosystem.

4. Indigenous territories (ITs) and protected areas (PAs) cover around 50% of the Amazon basin and are essential for conserving terrestrial and freshwater ecosystems. Between 2000 and 2018, only 13% of the total deforested area in the Amazon basin occurred inside ITs and PAs. It is estimated that 51% of PAs and 48% of ITs face pressure from illegal deforestation, logging, mining, and land grabs, aggravating the threats to the Amazon and its peoples.

5. Besides current consequences, deforestation and the degradation of both terrestrial and aquatic systems put human health, food, and water security at risk and diminish the capacity of the Amazon's peoples and wildlife to adapt to further and future anthropogenic changes.

C. The Amazon We Want is a Living Vision to bring sustainable development and wellbeing to Amazonian peoples, while conserving the unique resources of the Amazon and advancing on a sustainable development trajectory that will reduce the risk of passing dangerous tipping points.

1. Scientists warn that the Amazon forest could soon cross a tipping point, resulting in a rapid shift from rainforest to degraded dry ecosystems with reduced tree cover. Crossing the Amazon's biophysical tipping point would have devastating effects both locally and globally; a sudden crash in biodiversity and rapid rainforest dieoff, the release of huge amounts of carbon into the atmosphere due to tree death, and drastic changes to the regional water cycle, with projected heavy impacts on Brazilian aquifers, agribusiness, and urban water supplies.

2. Tipping points will lead to abrupt and possibly irreversible shifts between alternative ecosystem states, potentially incurring high societal costs and significant impacts on regional economies.

3. We must urgently change course, and in order to do so the SPA recommends advancing a Living Vision for the Amazon We Want. This vision proposes sustainable development pathways that are ecologically healthy, socially fair, culturally inclusive, and support economic prosperity. The Living Vision aligns with the Sustainable Development Goals (SDGs). It aims to maximize synergies between the different dimensions of sustainable development, recognizing the natural limits of the Amazon's ecosystems, respecting human rights, deepening decentralized governance, combating illicit activities, strengthening partnerships for conservation, and advancing transformative development pathways.

4. This Living Vision is articulated around the following associated strategies:

Conserve, sustainably manage, restore,

and remediate ecosystems: (i) consolidate and restore protected areas, landscapes, and watersheds for maximizing multiple ecosystem services; (ii) reduce deforestation rates to zero in the next decade and halt degradation of terrestrial and aquatic ecosystems; (iii) implement systems to monitor, evaluate, incentivize, and hold stakeholders accountable for restoration and remediation.

Invest in a sustainable, standing forest, flowing rivers bioeconomy: (i) invest in education, science, research, technology, and innovation; (ii) create fiscal and financial incentives to engage the private sector and multilateral institutions in innovation and sustainable value chains; (iii) promote green job creation and capacity building; (iv) invest in rural, urban, and peri-urban sustainable infrastructure. **People empowerment and governance:** (i) implement a transparent and inclusive regional governance system to improve natural resource management and strengthen human and territorial rights; (ii) engage IPLCs in planning and policymaking processes and promote their political representation at all levels of governance; (iii) recognize different knowledge systems and promote intercultural education and dialogue.

5. The global socioecological crisis raised awareness of the importance of "planetary health", "well-being", and "living economies", which aim to promote human prosperity and protect the foundations of life on Earth. In this context, the Living Vision represents an opportunity for the region to establish new scientific-, evidence-, and nature-based solutions that recognize the intrinsic value of nature, culture, and people to advance sustainable development.

6. The transition to a Living Vision requires concrete and coordinated actions, implemented at scale, simultaneously and with urgency. Based on robust scientific evidence, the SPA lays out the following high-priority policy actions to conserve and restore the Amazon biome:

Achieve zero deforestation and ecosystem degradation, and combat wildfires. Ensuring the integrity of hydrological systems, biodiversity, and the fundamental role of the Amazon as a global climate regulator requires about 80% of forests to remain standing. To maintain 80%, the urgent priority is to achieve zero deforestation and ecosystem degradation, and combat wildfires in the Amazon before 2030. A complete and immediate deforestation, wildfire, and ecosystem degradation moratorium in areas that are nearing a tipping point is also needed. **Reforest and restore.** In parallel with conservation, there is an urgent need to accelerate reforestation and restoration activities. To safeguard the ecological integrity of the Amazon, it is not only necessary to cease loss and degradation, but also to restore and remediate terrestrial and aquatic ecosystems. These efforts must be transboundary and support the development and implementation of landscape-level initiatives that help maintain connectivity and the health of freshwater ecosystems, ecological functions, and conserve and restore the heterogeneous biomes and their biodiversity while improving livelihoods and generating new economic activities.

Protect Indigenous peoples, local communities, and their rights. Protecting

Indigenous peoples' and local communities' land and water rights in Amazonian countries is critical for social justice and conservation outcomes. Providing secure land tenure rights and the institutional environment for enforcing these rights is an important and cost-effective way for countries to protect their forests and cultural diversity, and attain their climate goals.

Advance sustainable development pathways: Combining technology and science with traditional knowledge. Circular bioeconomy research and development needs to be transdisciplinary as well as involve relevant stakeholders in the process. The emergence

of a new bioeconomy of healthy, standing forests and flowing rivers in the Amazon should be supported by ambitious policies based on the best science and advanced technologies combined with traditional knowledge. Investing consistently in education, science, technology, and innovation is of paramount importance.

Mobilize financing and foster partnerships for conservation, restoration, and sustainable development. Market signals and policy conditions currently favor deforestation over conservation or restoration. The scale of the Amazon basin, and the challenges it faces, call for ambitious, large-scale international finance development, and private and public financial partnerships to promote and sustain restoration, conservation, forest management, the development of sustainable value chains, payments for ecosystem services schemes, and investment in education, science, technology, and innovation.

7. The Amazon rainforest is a vital ecosystem for the entire planet and a part of the irreplaceable heritage for all of humanity. While stewardship rests first and foremost with the nations of the Amazon, this responsibility must also be shared globally. Financial support should be mobilized from advanced economies as they generate the largest share of greenhouse gas emissions and contribute to deforestation and forest degradation through their import of "forest-risk" commodities.

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