

23% OF THE AMAZON HAS LOST ITS ECOLOGICAL CONNECTIVITY COMPLETELY AND COULD BE ACCELERATING THE “POINT OF NO RETURN”

The fragmentation and destruction of Amazonian habitats renders ecosystems less resilient and less able to regulate vital cycles that are essential for there to be life on Earth such as oxygen, fresh water and global climate-regulation cycles.

The Amazonian Network of Georeferenced Socio-Environmental Information (RAISG) and the North Amazonian Alliance (ANA) present an initial analysis of the state of ecological connectivity in the Amazon between 1985 and 2022.

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On the eve of the COP16 on Biodiversity in Colombia, Amazon forests are at their most vulnerable and could reach what is known as the “point of no return” faster than previously suspected. 23% of the Amazon (193 million hectares) has a total loss of continuous forest, in other words, has lost its ecological connectivity, and an additional 13% (108 million hectares) is at risk of losing it, according to the latest analysis on the state of ecological connectivity in the 9 Amazonian countries between 1985 and 2022, developed jointly by the Amazonian Network of Georeferenced Socio-Environmental Information (RAISG) and the North Amazonian Alliance (ANA).

Ecological connectivity refers to the state of a forest's continuity, none other than an ecosystem's ability to allow the free movement of animals and all natural flows that sustain life on this planet. Think for a moment of the woolly monkey (*Lagothrix lagothericha*). This primate can travel up to 100 kilometers to forage, mate, migrate during times of drought or shelter from forest fires. As it moves along its path, dozens of processes flow along with it: the woolly monkey disperses tree seeds, parasites for the soil and pollen for flowers and attracts predators that also play key roles in promoting biodiversity. When ecological connectivity is good, everything flows and ecosystems fulfill their roles and maintain equilibrium.

Unfortunately, in recent decades, many wild habitats have been destroyed, fragmenting the continuity of forests, due to economic activities such as animal and crop farming and mining, resulting in large losses of ecological connectivity. Between 1985 and 2022, more than 92 million hectares of forest and other natural cover were lost and converted to crops, grasslands, land for mining, among other uses, according to the latest data from MapBiomás Amazonía, a RAISG initiative. For every hectare that is lost, almost half a hectare more is ecologically disconnected and almost another full hectare is degraded..

"When areas of forest or other natural cover are lost, ecological connectivity is interrupted, thus impacting the surrounding areas. This can lead to the collapse of ecosystems, as the natural diversity of species is reduced and the complex processes that occur in undisturbed ecosystems are restricted," explains Adriana Rojas, technical leader of Connectivity for ANA and RAISG.

According to the expert, if ecological connectivity continues to suffer, the Amazon could reach the "point of no return", as it is called, at a much faster rate than previously thought. This refers to a threshold of irreversible degradation that would directly impact the lives of more than 47 million inhabitants in the Amazon Basin (Brazil, Peru, Bolivia, Colombia, Ecuador, Venezuela, Guyana, Suriname and French Guiana), including 410 Indigenous Peoples as well as dwellers in Andean cities that depend on the Amazon for their water supply. Moreover, the global climate crisis we are facing would be exacerbated.

THE CONNECTION BETWEEN THE ANDES AND THE AMAZON IS AT RISK

The Andean-Amazon corridor in Colombia, located between Serranía de Chiribiquete and Tinigua National Parks and the Cordillera Los Picachos mountain-chain and Sierra De La Macarena, is one of the most critical points of the analysis. In just 38 years, its ecological connectivity has been dramatically destroyed. By 1985, 11% of the corridor connecting these protected areas (more than 69,000 hectares) had lost its ecological connectivity completely; however, the figure reached 76% (more than 477,000 hectares) by 2022. The situation derived from deforestation caused by land grabbing, a phenomenon that accelerated following the peace agreement between the Colombian government and the FARC guerrilla group in 2016.

"This was the most important connection point between the Andes and the Amazon in Colombia. Many species, such as jaguars, spider monkeys and Heliconius butterflies, come and go from both biomes to forage, migrate or mate. The Andes and the Amazon are two mutually nourishing systems. As such, if this corridor is lost, it is very likely that the entire connection between the two regions will collapse and put at risk the biodiversity, seed dispersal, pollination, and genetic exchange that they share. The latter occurs, for example, when an animal travels several kilometers looking for a mate in other families of its species to avoid inbreeding and thus ensure a gene pool less prone to disease," explains Néstor Espejo, biologist and member of the technical team conducting the study for ANA and RAISG..

INDIGENOUS TERRITORIES AND NATURAL PROTECTED AREAS ARE CONFIRMED TO BE SPACES OF RESISTANCE

Another point of concern is the state of Rondônia, in Brazil, near the border with Bolivia, south of the Amazon. Due to the dizzying change in land use from forest to cattle pasture, this state went from 15% of its territory (more than 3 million hectares) suffering disconnection or an ecological barrier in 1985, to 49% (more than 11 million hectares) presenting a total loss of ecological connectivity by 2022. The analysis shows how decades of deforestation have turned Indigenous Territories such as Pacaas Novos and the Natural Protected Areas (NPA) of Guaporé and Noel Kempff Mercado Park into the few remaining bastions of conservation with healthy forests in them.

As in the rest of the Amazon, NPAs and Indigenous Territories seem to be resisting the advance of those human activities, which are growing out of control. However, they are becoming trapped, disconnected, in the midst of numerous threats to biodiversity and the lives of ancestral communities, such as monoculture agriculture, large-scale cattle ranching, mining, illegal logging, drug trafficking, and even the appropriation of their lands using forged documents. In fact, in the case of Rondônia, some of these activities have already infiltrated NPAs, such as the Jaru Reserve, the Jacundá National Forest and Jamani and Bom Futuro Parks. These areas are already showing high levels of degradation and fragmentation, threatening their conservation and ecological connectivity functions.

"Despite valuable conservation efforts on the part of Indigenous Peoples and Local Communities, based on their knowledge and territorial management systems, and the willingness of governments to declare natural protected areas, these alone are not nor will they be sufficient. If deforestation trends in neighboring areas continue, these protected areas will become isolated," warns Rojas.

ANCESTRAL KNOWLEDGE AND REGIONAL COOPERATION CAN SAVE THE AMAZON

On the eve of the COP16 on Biodiversity in Colombia (October 2024) and the COP30 on Climate Change in Brazil (November 2025), this analysis demonstrates the crucial role of Indigenous Peoples and Local Communities in safeguarding ecological connectivity. In this regard, the North Amazonian Alliance (ANA) and the RAISG recommend integrating the knowledge and territories of indigenous and traditional communities into local, regional, and global strategies for the protection of biodiversity, based on the full exercise of their autonomy, the recognition of their rights, and their participation in environmental decisions.

Likewise, since the Amazon is an interdependent system, there is an urgent need for coordinated measures among the different Amazonian countries. These measures should halt deforestation and expand areas of protection and sustainable use to improve the conditions of ecological connectivity between well-conserved areas so as to ensure sustainability in the long term. "The advance of economic activities in a disorderly manner, as well as the growth of drug trafficking groups, demand coordinated and collaborative action between and among national governments. In addition to halting the destruction, strengthening and expanding natural protected areas, indigenous territories, and other forms of protection and sustainable use is a strategic measure to maintain connectivity in and resilience of the Amazon," concludes Angelica Garcia, executive secretary of RAISG.