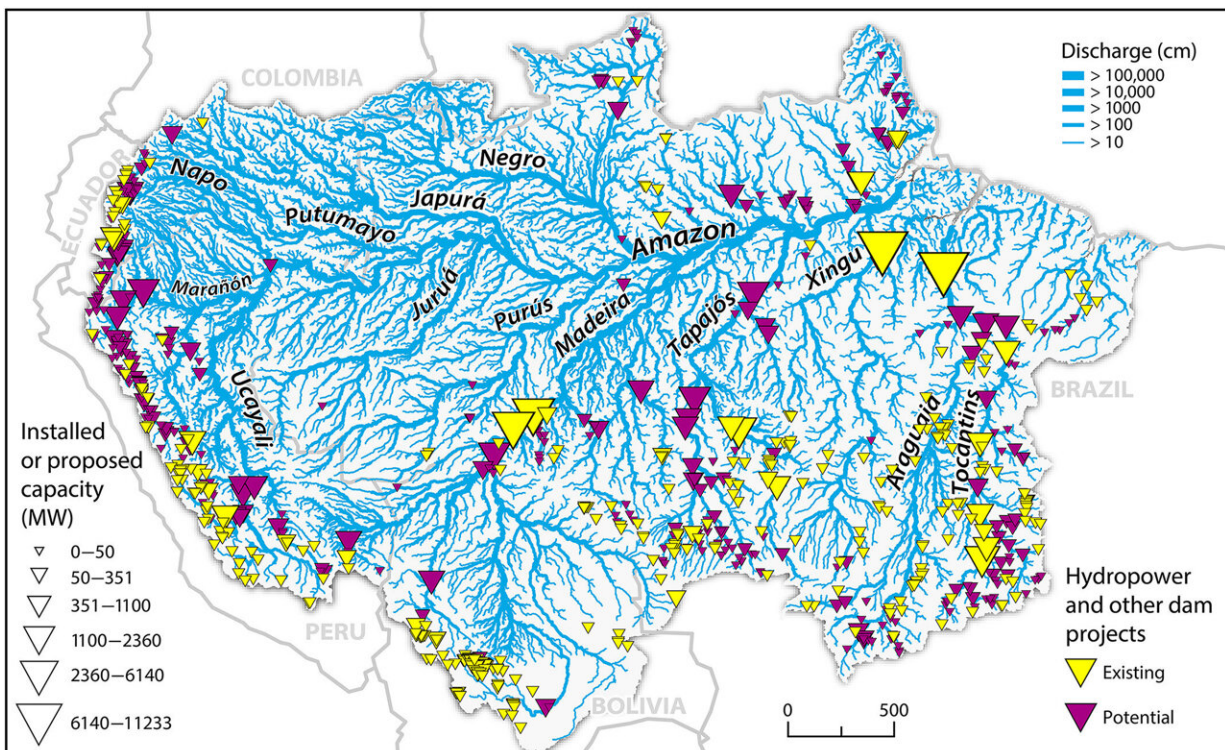


Keep on flowing: The importance of freshwater corridors in the Amazon

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Existing and potential dam projects in the Amazon region. Our data included mainly hydropower projects, with a small number of existing dam projects without hydropower production (installed capacity = 0). Credit: *Conservation Science and Practice* (2022). DOI: 10.1111/csp2.12853

The Amazon rainforest and basin are crucial for the balance of the Earth's environmental systems that enable life as we know it. The world's

largest rainforest covers 6.7 million square kilometers and encompasses the largest network of forests and rivers in the world, housing around 10% of the world's biodiversity and 20% of the planet's freshwater.

However, there are few studies on monitoring freshwater corridors and their importance for biodiversity and related [ecosystems](#) services. A new study published in *Conservation Science and Practice*, assesses the critical areas that need to be protected to maintain this delicate balance. The study was co-authored by Bernardo Caldas, Alliance of Bioversity and CIAT researcher and MEL Director for CALPE, and Michele Thieme.

"The data and information generated by this research group are crucial for the conscious and integrated management of freshwater ecosystems in the Amazon. Besides biodiversity, the health of these freshwater systems is crucial for food production and climate change adaptation strategies," said Caldas.

Protecting multiple ecosystem services

Rivers and related freshwater systems (floodplains and temporary lakes) in the Amazon serve multiple functions: they provide habitats for freshwater fish populations that provide [food security](#) both for [local communities](#) and cities in the region, they deliver sediment downstream, mitigate the impacts of extreme weather events such as droughts or floods, and provide habitats for biodiversity. Safeguarding healthy, free-flowing rivers is crucial to maintaining these critical ecosystem services over time.

This new research provides an understanding of where these freshwater corridors or "swim ways" currently exist, and where they might disappear due to future hydropower development that block the movement of key migratory species in the Amazon Basin including fish, dolphins and turtles. The intention of this research is to provide a case

for the protection of these key corridors as part of the larger Amazonian Regional Protected Area system in order to ensure the vitality and health of the local ecosystems, freshwater flows, [water quality](#) and quantity, forested and stable banks, and species for people and nature.

In conducting the research, scientists of several organizations and academia, led by WWF, analyzed more than 340,000 km of Amazonian rivers, beginning with an assessment of the connectivity status of all rivers and then combining that with occurrence of migratory fish, migratory turtles and dolphins. The resulting map shows where Freshwater Connectivity Corridors (FCCs) exist and where they would be disrupted under a hydropower development scenario considering currently proposed or planned dams.

More information: Bernardo Caldas et al, Identifying the current and future status of freshwater connectivity corridors in the Amazon Basin, *Conservation Science and Practice* (2022). [DOI: 10.1111/csp2.12853](https://doi.org/10.1111/csp2.12853)

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