

Using nature to help the climate: Four ways that work

March 26 2024



Conservation and reforestation of tropical forests are two well-proven nature-based climate solutions that can reduce atmospheric carbon. Here, a recently cut section of the Peruvian Amazon. Credit: Kevin Krajick/Earth Institute

A new study finds that four nature-based climate solutions—the ones that companies and other entities use most often to claim carbon

credits—have robust scientific foundations. The four pathways are conservation or reforestation of tropical forests; and conservation or reforestation of temperate forests.

The majority of other such methods need additional research before their potential can be assessed, say the authors. [The research](#) was just published in the journal *Nature Climate Change*.

Nature-based climate solutions are [conservation](#), restoration or management strategies whose primary purpose is to mitigate greenhouse-gas emissions or remove carbon from the atmosphere. More than 100 of the 167 signatories to the Paris Accords include them as part of their mitigation plans. Many, including Indonesia, Colombia and China are already using them to demonstrate progress on their climate commitments.

The study looked at the scientific basis of, and expert confidence in, 43 solutions. It did not examine implementation of individual projects, methods of calculating [carbon credits](#) or co-benefits of carbon-reduction projects.

Carbon-crediting protocols exist for 35 of the solutions that the researchers considered, and various entities have used 28 of the solutions to garner credits. The good news: Some 70% of nature-based credits tracked by the researchers have been for projects in the four forest-based categories that they found most credible. Other methods, such as agroforestry, conservation of mangroves and peatlands, and [restoration](#) of grasslands, need more research, said the authors.

Study co-author Ruth DeFries, chief academic officer of the Columbia Climate School, said, "The urgency for climate mitigation demands approaches based on sound science that can deliver effective action. The study is a call for ensuring that nature-based climate solutions focus on

those actions that can deliver true mitigation, while continuing to develop the technical and scientific foundation for other types of nature-based actions."

Another co-author of the study, Steven Hamburg, chief scientist at the Environmental Defense Fund, said, "Nature-based climate solutions are critical for meeting our climate goals. This study reaffirms the strength of the science underlying four major types of nature-based solutions, and emphasizes the need to engage in additional research to clarify the mitigation potential of others."

More information: B. Buma et al, Expert review of the science underlying nature-based climate solutions, *Nature Climate Change* (2024). [DOI: 10.1038/s41558-024-01960-0](https://doi.org/10.1038/s41558-024-01960-0)

This story is republished courtesy of Earth Institute, Columbia University
<http://blogs.ei.columbia.edu>.

Provided by State of the Planet

Citation: Using nature to help the climate: Four ways that work (2024, March 26) retrieved 27 April 2024 from <https://phys.org/news/2024-03-nature-climate-ways.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.