

## Part of the Answer to Climate Change May Be America's Trees and Dirt, Scientists Say NY Times Article

Planting trees near Modesto, Calif., where the state's conservation corps is working to convert 2,100 acres of farmland back to floodplain. CreditJosh Haner/The New York Times



Image

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By [Brad Plumer](#)

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WASHINGTON — When people think of potential solutions to global warming, they tend to visualize technologies like solar panels or electric cars. A new study published on Wednesday, however, found that better management of forests, grasslands and soils in the United States could offset as much as 21 percent of the country's annual greenhouse gas emissions.

At the high end of the projections, that would be roughly equivalent to taking every single car and truck in the country off the road.

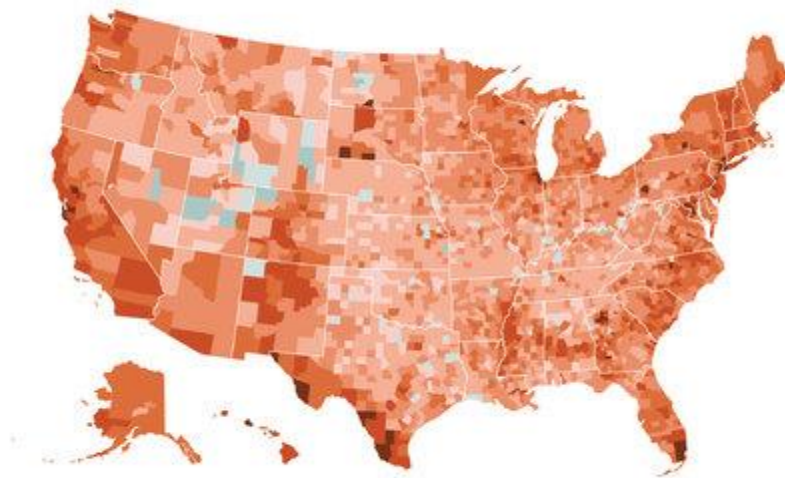
The paper, [published in the journal Science Advances](#), identified a number of promising strategies, like replanting trees on degraded lands, changing logging practices to better protect existing forests and sequestering more carbon in farmland soils through new agricultural techniques.

“We’re not saying these strategies are a substitute for getting to zero-carbon energy; we still need to do that too,” said Joseph E. Fargione, a scientist at the Nature Conservancy and lead author of the study. “But we think that natural climate solutions generally get overlooked. And we found a lot of opportunities here to help mitigate climate change.”

Other scientists agreed that storing more carbon in forests and soils could be a potent tool, though some were more cautious about how much was feasible in practice. For instance, the authors of the study used remote-sensing data to identify more than 100 million acres of land in the United States that is not currently being used for crops or pasture but that could be suitable for planting more trees, which absorb carbon from the air.

“I’m intrigued and hopeful but also a little skeptical,” said Timothy D. Searchinger, a researcher at Princeton University and the World Resources Institute. “They’ve provided a very rough map of these lands, and it would be a good idea to go out and examine this land more closely to see if they’re right and if so, more closely determine what it would take to reforest it.”

A growing number of states are now looking at better managing their natural landscapes to store more carbon. California, for example, is [investing hundreds of millions of dollars](#) in programs to restore degraded wetlands and forests and in efforts to reduce the risk of severe wildfires through improved forest management. (Wildfires release millions of tons of carbon into the air, and it takes many years for the burned trees to fully grow back.)



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### [Where Americans \(Mostly\) Agree on Climate Change Policies, in Five Maps](#)

[Americans are politically divided over climate change, but there’s broader consensus around some of the solutions.](#)

[Nov. 1, 2018](#)

This year, California formed a partnership with 15 other states, including New York and Hawaii, [to explore how better land management](#) could help tackle climate change.

It's not an easy task. While many states track the emissions coming out of their power plants and vehicles, they have not traditionally studied how much carbon is released into the atmosphere when, say, grasslands are plowed up and converted into cropland. And it takes detailed modeling to figure out which ecosystems should get priority for restoration.

"I'd say we're still learning," said Claire Jahns, the assistant secretary for climate issues at the California Natural Resources Agency. "But there's a growing recognition that we're not going to hit our state climate targets without paying attention to our lands and the physical environment."

The study looked at nearly two dozen possible approaches. For instance, policymakers could encourage more farmers to plant cover crops between their main harvests rather than leaving their fields bare, which would help pull more carbon from the air into the soil. While cover crops [are becoming increasingly common in the United States](#), the practice often requires extra labor or equipment, so financial incentives may be needed to speed adoption.

Other steps could prove more contentious. The study noted that large swaths of forests in the South and Pacific Northwest are being cleared as cities expand. But restricting urban sprawl, as cities in Oregon [have tried to do](#), can be tricky in practice.

The researchers contended that many of these actions are relatively affordable. For example, they calculated that reforesting unused land around the United States would cost between \$10 and \$50 per ton of carbon dioxide avoided. That is cheaper than many subsidies to encourage clean energy, and in line with the cost per ton of [several recent carbon tax proposals](#).