

# Best way to fight climate change? Plant a trillion trees

This is by far — by thousands of times — the cheapest climate change solution, study co-author says

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Young Macedonians plant seedling on the Vodno mountain near the capitol Skopje, The Former Yugoslav Republic of Macedonia. A new study estimates that planting a trillion new trees could suck up nearly 750 billion tonnes of heat-trapping carbon dioxide from the atmosphere. (Georgi Licovski/EPA)

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The most effective way to fight global warming is to plant lots of trees, a trillion of them, maybe more, according to a new study.

Swiss scientists also say that even with existing cities and farmland, there's enough space for new trees to cover nine million square kilometres, roughly the size of the United States.

Their [report is in Thursday's edition of the journal Science](#).

The study calculated that over the decades, those new trees could suck up nearly 750 billion tonnes of heat-trapping carbon dioxide from the atmosphere — about as much carbon pollution as humans have spewed in the past 25 years.

A female adult jaguar sits atop a tree at the Mamiraua Sustainable Development Reserve in Uarini, Amazonas state, Brazil. Planting more trees could also preserve biodiversity, scientists say. (Bruno Kelly/Reuters)

Much of that benefit will come quickly because trees remove more carbon from the air when they are younger, the study authors said. The potential for removing the most carbon is in the tropics.

## Canada has lots of room for trees

"This is by far — by thousands of times — the cheapest climate change solution" and the most effective, said study co-author Thomas Crowther, a climate change ecologist at the Swiss Federal Institute of Technology in Zurich.

Russia, the United States, Canada, Australia, Brazil and China have the most room for new trees, the report said.

Before his research, Crowther figured there were other more effective ways to fight climate change besides cutting emissions, such as people [switching from eating meat to vegetarianism](#). But, he said, tree planting is far more effective because trees take so much carbon dioxide out of the air.

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Thomas Lovejoy, a conservation biologist at George Mason University in Fairfax, Va., who wasn't part of the study, called it "a good news story" because planting trees would also [help stem the loss of biodiversity](#).

A worker plants seedlings for reforestation at Huayquecha Biological Station near Paucartambo, Cusco. Trees remove more carbon from the air when they are younger, the study authors said. The potential for removing the most carbon is in the tropics. (Enrique Castro-Mendivil/Reuters)

Planting trees is not a substitute for weaning the world off burning oil, coal and gas, the chief cause of global warming, Crowther emphasized.

"None of this works without emissions cuts."

Nor is it easy or realistic to think the world will suddenly go on a tree-planting binge, although many groups have started , Crowther said.

"It's certainly a monumental challenge, which is exactly the scale of the problem of climate change."

As Earth warms, and especially as the tropics dry, tree cover is being lost, he noted.

Pine trees are pictured on the International Day of Forests in the Landes forest near Le Pyla, France March 21, 2019. Researchers estimate that even with existing cities and farmland, there's enough space for new trees to cover 9 million square kilometres around the globe or about the area of the United States. (Regis Duvignau/Reuters)

The researchers used Google Earth to see what areas could support more trees, while leaving room for people and crops. Lead author Jean-François Bastin estimated there's space for at least one trillion more trees, but it could be 1.5 trillion. That's on top of the three trillion trees now on Earth, according to earlier Crowther research.

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The study's calculations make sense, said Chris Field, an environmental scientist at Stanford University in California who also wasn't part of the study.

"But the question of whether it is actually feasible to restore this much forest is much more difficult," Field said in an email.

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