

Stability of Earth's climate depends on Amazonia

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There is growing alarm worldwide about the deforestation of the Amazon

The Amazon basin cradles the largest rainforest in the world, and plays an essential role in regulating regional and even global climates.

Here are some facts about the region:

Deforestation

Continued destruction of its tropical forests—measured in tens of thousands of square kilometres per year—could transform much of the Amazon into dry savannah, with massive impacts on climate and biodiversity worldwide, experts warn.

Covering more than five million square kilometres (two million square miles), the Amazon's dense tropical canopy store a huge amount of carbon, roughly equivalent to 10 times the amount humanity discharges into the atmosphere every year.

About 20 percent of the Amazon rainforest has disappeared over the last half-century.

Vast tracts of tree cover have been cleared, mostly for the production of lumber, soy, palm oil, biofuels or beef.

Carbon sink

When a tree is cut, its stored carbon will leak into the atmosphere gradually; when it is burned, the CO₂ escapes all at once. Either way, it contributes to [global warming](#).

At the same time, global forests—and especially the tropics—soak up 25 to 30 percent of the carbon dioxide that humanity spews into the atmosphere. (Oceans absorb another 20 percent.)

Without these CO₂ "sinks", Earth's surface temperature would already be hotter, and the risk of runaway global warming that much higher.

Of the approximately 160,000 km² of tropical tree cover lost worldwide in 2017, 35 percent was in the Amazon, and more than a quarter in Brazil, according to the World Resources Institute (WRI), an environmental policy think tank.

"The world's [tropical forests](#) are now in the [emergency room](#)," Frances Seymour, a distinguished senior fellow at the WRI, told AFP earlier this year.

"The health of the planet is at stake. With every hectare lost, we are that much closer to the scary scenario of runaway climate change."

'Lungs of the Earth?'

Besides Brazil, seven nations straddle the Amazon basin: Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, and the overseas territory of French Guiana.

In addition to capturing and storing carbon, forests also affect wind speed, rainfall patterns and the mix of chemicals in the atmosphere.

Amazonia is often described as the "lungs of the planet" and as producing a significant percentage world's oxygen, but this is inaccurate.

"There are numerous reasons to be worried about recent spikes in Amazonian deforestation—carbon, climate, water, biodiversity and people," noted environmental scientist Jonathan Foley, executive director of Project Drawdown.

"But oxygen, thank God, is not an issue we need to worry about."

Fire season

The huge number of fires across southeastern Brazil that have jolted world leaders into an emergency response have, in fact, become typical at this time of year over the last several decades.

The nearly 150,000 fires in Brazil so far in 2019 is fewer than in 2016. From 2002 to 2010, there were five years when the number of August fires topped 200,000.

The height of the "fire season" is September, when the number spikes even higher.

"It appears that many of the fires in the Amazon are happening on land that was previously deforested," Mikaela Weisse and Sarah Ruiz of Global Forest Watch, based in Washington DC noted in a blog post this week.

The Amazon is also home to one of Earth's most concentrated and extensive collections of biological diversity, including hundreds of plants used in traditional and modern medicines.

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