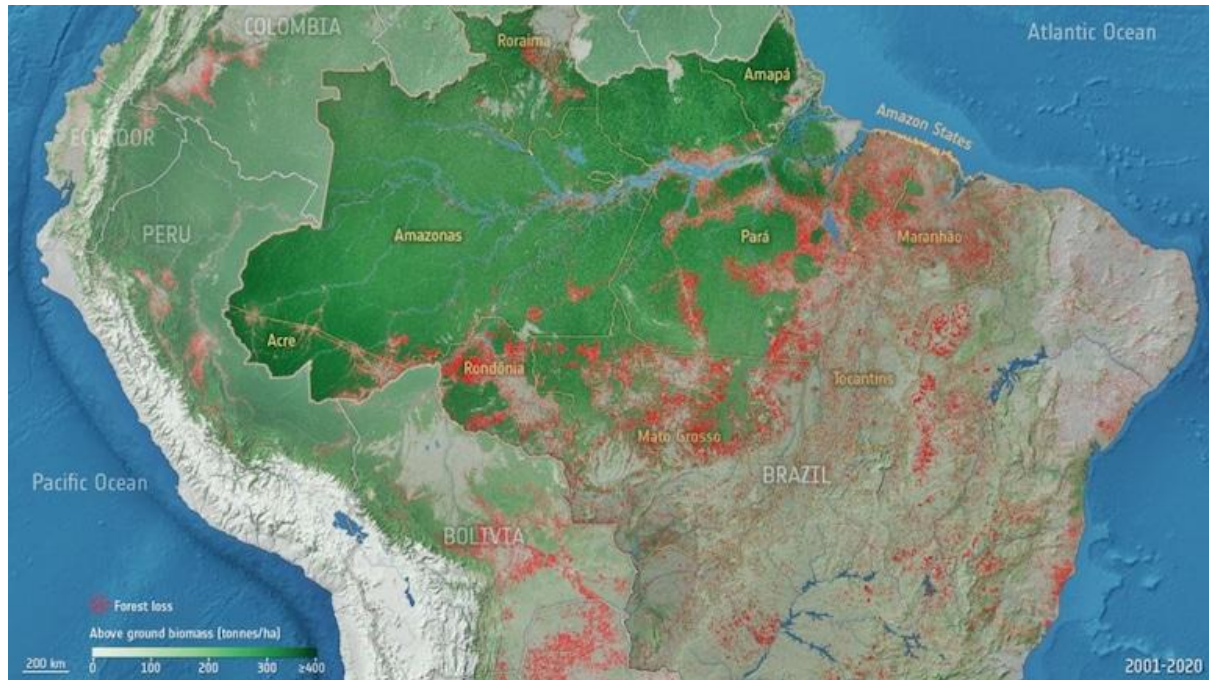


Amazon on the brink: Forest degradation driving carbon loss in the Brazilian rainforest

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This map shows cumulative forest loss from 2001 to 2020 in the Amazon basin. (Photo: ESA)

While the Amazon rainforest has been facing the brunt of deforestation, the degradation of natural resources is driving increasing carbon loss. New satellite observations indicate that the ability of the Amazon to support wildlife and humans is declining as the degradation continues.

The degradation is causing much of the stored carbon to be released back into the atmosphere, exacerbating climate change. Forests play a crucial role in maintaining Earth's carbon cycle by absorbing and storing large amounts of carbon from the atmosphere and keeping the planet cool. However, deforestation and the degradation of natural assets is leading to changing conditions in tropical regions, with [global warming intensifying](#).

The new study [published in Nature Climate Change](#) calls for putting more impetus by policymakers on the issue. The researchers found that the gross forest area loss was larger in 2019 than in 2015, possibly due to the recent loosening of forest protection policies.

The researchers investigated the dynamics of forest carbon in the Amazon rainforest from 2010 to 2019. They found that Amazon experienced a cumulative gross loss of 4.45 petagrams of carbon (PgC) against a gross gain of 3.78 PgC (1 PgC is equal to 1 Gigatonne of carbon).

"This net loss of carbon from the Brazilian Amazon forest is equivalent to seven years of fossil carbon dioxide emissions by the UK," study coauthor Philippe Ciais told the [European Space Agency](#).



Difficult to measure directly, terrestrial ecosystems absorb a third of year-on-year [carbon dioxide emissions](#), with tropical rainforests contributing significantly to the process. "Study shows that human activities that nibble away at forest carbon stocks by degradation induced by fires, logging and landscape fragmentation, contribute three times more to gross carbon loss from above-ground biomass compared to deforestation," Ciais said.

Researchers believe that reducing forest degradation in the Amazon should be a key priority for the Brazilian government to reach the carbon emission reduction commitment of the 2015 Paris Agreement.

While it is difficult to pinpoint degradation due to its small scale in the vastness of the forest cover by tree canopies, researchers used data from the Soil Moisture and Ocean Salinity (SMOS) mission along with forest area change datasets from Nasa's Moderate Resolution Imaging Spectroradiometer and JAXA's Phased Array type L-band Synthetic Aperture Radar.

Source: <https://www.indiatoday.in/science/story/amazon-rainforest-degradation-carbon-cycle-climate-change-global-warming-1814524-2021-06-14>