

‘A war of attrition’: Humans and extreme drought damaging Amazon rainforest much more than thought, study suggests

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Human activity and drought have degraded more than a third of the remaining Amazon rainforest, on top of the impacts of deforestation.

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CNN –

Human activity and extreme drought is causing far more damage to the Amazon rainforest than previously thought, exacerbating climate change, according to a new study.

While many climate studies focus on Amazon deforestation – where trees are completely cleared and land use changes – this study looks at “degradation.” This is when the rainforest becomes damaged and weakened, undermining its ability to store carbon and support nature and local communities.

Up to 38% of remaining rainforest – an area of 2.5 million square kilometers, equivalent to 10 times the size of the UK – has been damaged by human activity and drought, according to the report.

This is happening as some scientists warn the Amazon is approaching a critical tipping point, which could see the forest release huge amounts of carbon pollution and accelerate climate change.



As scientists warn Brazil's rainforest is nearing a point of irreversible decline, Lula makes ambitious deforestation pledge

The report, published in the journal Science on Friday, was authored by an international team of 35 scientists and researchers from institutions including the University of Campinas in Brazil and Lancaster University in the UK, who analyzed satellite imagery and other data showing the changes in the rainforest between 2001 and 2018.

They identified four main drivers of damage: forest fires, habitat fragmentation along edges where deforested areas meet forest, logging and extreme drought.

“Despite uncertainty about the total effect of these disturbances, it is clear that their cumulative effect can be as important as deforestation for carbon emissions and biodiversity loss,” Jos Barlow, a professor of conservation science at Lancaster University and co-author of the paper, said in a statement. “It is a really significant contribution to the global climate,” he told CNN.

The report found that degradation emits amounts of carbon pollution equivalent to or even greater than those from deforestation.

As well as increasing carbon pollution, there is also evidence that degraded rainforest is less good at recycling water back into the atmosphere, which will then fall as rain somewhere else, Barlow said.



Crucial tropical forests were destroyed at a rate of 10 soccer fields a minute last year

These disturbances to the forest are likely to continue to be a major source of carbon pollution in the next two decades, according to projections made by the report.

“Even in an optimistic scenario, when there is no more deforestation, the effects of climate change will see degradation of the forest continue, leading to further carbon emissions,” said David Lapola, a lead study author and researcher at the University of Campinas, in a statement.

However, he added, “preventing the advance of deforestation remains vital” and could help tackle other drivers of deforestation.

It could also help people who live in the forests. “The activities that drive degradation often provide benefits for a few wealthy actors who often live quite far away from that location ... whereas the costs and burdens of degradation are borne mostly locally,” Barlow told CNN.

Richard Allan, professor of climate science at the University of Reading, who was not involved with the study, told CNN that the findings pointed to “a war of attrition from multiple sides that includes fire, timber extraction and severe drought.”

“The Amazon is a custodian of biodiversity and possesses a vital ability to pull in carbon dioxide from the atmosphere, so it is clearly concerning that its health is deteriorating,” he added.

Recently-elected Brazilian President Luiz Inacio Lula da Silva has promised to tackle Amazon deforestation and repair the damage to the Amazon caused by his predecessor, Jair Bolsonaro, under whose presidency deforestation surged.

The report authors suggest a forest monitoring system to better understand rainforest degradation, as well as action to tackle illegal logging and control the use of fire. They also call for global action to combat climate change to help reduce the impact of extreme droughts.