

Amazon rainforest could disappear within the next century

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The world's largest tropical rainforest may be approaching an ecological 'breaking point,' a study published on August 1 in the journal *Geophysical Research Letters* warns. Scientists used a 'single-column model' - a simulation of a single point representing the entire Amazon basin - to assess the combined effects of climate change and deforestation. The results showed that when the Amazon passes three dangerous thresholds: a **65% decrease in forest area**; a 10% decrease in moisture from the Atlantic Ocean ; **and a 6% decrease in rainfall** , even a small change in climate or forest cover could push the ecosystem from rainforest to grassland.

This conversion system operates in a closed loop:

1. Plants absorb water from the soil and release moisture into the atmosphere through their leaves.
2. Moisture creates clouds, rain returns to nourish plants.

If trees are lost, evapotranspiration and rainfall will drop dramatically, causing the soil to dry out and forests to rapidly turn to grasslands. This could be due to deforestation or to climate change reducing the amount of moisture coming into the region from the Atlantic Ocean.



The Amazon rainforest covers more than **6 million km²** , contains about **10%** of all species on the planet and stores **90–140 billion tons of carbon** . On average, the region receives more than **1,800mm** of rain each year, playing an important role in the global water and carbon balance, thereby regulating the planet's climate.

However, the Amazon is under increasing pressure from drought, wildfires, climate change and deforestation. In 2024 alone, the Brazilian Amazon lost about **28,000 square kilometers** of forest, according to a report by the World Resources Institute.

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