

## DEFORESTATION MAY SHIFT MONSOONS, LEAVING INDIA HIGH AND DRY

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Large-scale deforestation could cause monsoon rains to shift south, cutting rainfall in India by nearly a fifth, scientists say. Deforestation has long been known to cause temperature increases in local areas, but new research published on Tuesday shows a potentially wider impact on monsoon rains. While releasing carbon dioxide into the atmosphere, deforestation also causes changes in how much light reflects off the earth's surface and the amount of moisture in the atmosphere from plants transpiring.

Researchers from the Indian Institute of Science in Bangalore used a model simulating atmosphere circulation, as well as photosynthesis, transpiration, warming of the ocean surface and ice melt. "We wanted to get a basic understanding of the effects of large-scale deforestation at different locations on monsoon rainfall," the authors said in a statement. They performed three deforestation experiments, removing all trees in tropical, temperate and high-latitude areas to look at the impacts.

Deforestation in temperate and high latitudes caused changes in atmospheric circulation resulting in a southward shift in the monsoon rains. This would translate to a significant fall in precipitation in the northern hemisphere monsoon regions of East Asia, North America, North Africa and South Asia, and moderate increases in rainfall in the southern hemisphere monsoon regions of South Africa, South America and Australia.

"Our study is showing that remote deforestation in mid- and high-latitudes can have a much larger effect on tropical rainfall than local tropical deforestation," the statement said. The South Asian monsoon region would be affected the most, with an 18 per cent decline in precipitation over India, the scientists wrote in the paper published in the Proceedings of the National Academy of Sciences.

**Source:**

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