# **Warming beyond borders: Amazon deforestation heats up Tibet, says new study**

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**Body**

India, Feb. 3 -- There are no borders in the fight against climate change, cooperation is the key, says study published in Nature

***Deforestation*** in the ***Amazon*** rainforest can directly influence temperatures in Tibet, which is more than 15,000 kilometres away from the tropical biome, according to a new report.

Climate tipping elements are remotely correlated, meaning that there are no borders in the fight against climate change. Countries must cooperate and take objective actions in cooperation toward the international goal, noted the findings of the study published in Nature Climate Change journal.

Also read: Germany commits over $200 million for shattered Brazillian ***Amazon***; but is it enough?

Tipping points are thresholds that, if crossed, cause significant changes in a specific region of the Earth system that may be irreversible.

The ***Amazon*** rainforest is one such tipping point. Even modest, incremental changes in this biome might eventually result in massive, abrupt and permanent changes to the planet.

Experts from Beijing Normal University discussed the potential long-term effects and ramifications of the ***Amazon*** rainforest's ***deforestation*** in their Teleconnections among tipping elements in the Earth system report.

The document provided detailed research and evidence on the relationship between tipping elements.

Contemporary global discussions suggest that the climate tipping point attainment could occur with a 1-2degC temperature rise. Consequently, the Paris Agreement calls for limiting warming to below 2degC and below 1.5degC as a long-term goal.

Also read: Third of ***Amazon*** rainforest lost or degraded: Report

"Logging, road construction, and warming are already today stressing the ***Amazon*** rainforest, and will likely do so even more in the future - and while the ***Amazon*** region is, of course, an important Earth system element by itself, it's also a burning question if and how changes in that region could affect other parts of the world," Jingfang Fan from Beijing Normal University told ANI.

Some scientists define tipping points as systems that change rapidly once a threshold is crossed. The Earth has 16 climate systems essential for its sustenance.

These are tagged 'tipping elements' and have certain temperature thresholds, or tipping points, beyond which even a slight change may lead to irreparable and catastrophic consequences on our planet.

Once ***deforestation*** reaches this critical stage, even if all tree-cutting were to cease and new trees were to be planted, the rainforest would be irrevocably altered.

The researchers have pondered what impact the gradually abating rainforest might have on distant regions across the globe. They procured and analysed global climate data from 1979 to 2019, looking for associations.

Giant ice sheets, ocean currents and permafrost regions may have already degraded irreversibly. Other crucial climate systems like the ***Amazon*** might be lost forever if the world keeps its emissions open, the scientists warned.

Also read: Amazonian biodiversity: Indigenous convoy to bring focus to threats during Montreal summit

Proposing a climate network approach to analyse the global impacts of a prominent tipping element, they concluded that the harsh and warmer temperatures in the ***Amazon*** correlated with rising temperatures in Tibet and the West Antarctic ice sheet.

They have evidence that when it rained more in the ***Amazon***, the other two regions were prone to receive less precipitation. The paper also highlighted that the snow cover on the Tibetan Plateau has been on a decline since 2008.

The researchers analysed and studied near-surface air temperature changes in a network of more than 65,000 subregions using data from the last 40 years.

In doing so, they could see how changes at one node influenced those at another. The researchers succeeded in detecting a pronounced propagation pathway over more than 20,000 kilometres.

They observed that its general trajectory could be plotted from southern Africa through the Arabian Peninsula, then across to Tibet. It was discovered that the journey lasted barely about two weeks.

Furthermore, the experts used climate computer simulations to comprehend how global warming, caused by greenhouse gas emissions from burning fossil fuels, might modify the long-distance linkages until 2100.

"We've been surprised to see how strongly climate extremes in the ***Amazon*** are connected to climate extremes in Tibet," Jurgen Kurths from PIK, a co-author of the paper, told ANI.

When it's getting warmer in the ***Amazon***, it also does so in Tibet. Hence for temperature, there's a positive correlation, Kurths added.

Read more:

\* ***Deforestation*** embargoes in Brazilian ***Amazon*** not followed in over 85% area: Report

\* More than 75% of ***Amazon*** rainforest near tipping point, may transform into dry savanna: Study

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