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Amazon Forests: No Longer Carbon Sinks

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Why in News

According to a recent study, **Amazon Forests have started emitting Carbon dioxide (CO₂) instead of absorbing it.**

Growing trees and plants have taken up about a quarter of all fossil fuel emissions since 1960, with the Amazon playing a major role as the largest tropical forest.

Key Points

- **Findings:**
 - **A significant amount of deforestation (over the course of 40 years) in eastern and southeastern Brazil** has turned the forest into a source of CO₂ that has the ability to warm the planet.
 - It might have also **affected a long-term decrease in rainfall and increase in temperatures** during the dry season.
 - Not only the Amazon rainforests, **some forests in Southeast Asia have also turned into carbon sources** in the last few years as a result of **formation of plantations and fires.**
 - **Forest fires have doubled since 2013.** One reason that they happen is when farmers burn their land to clear it for the next crop.
 - Most of the emissions are caused by fires.**
 - A **part of the Amazon emitting carbon even without fires** was particularly worrying. This was most likely the **result of each year's deforestation and fires making adjacent forests more susceptible** the next year.
- **Reasons for Deforestation:**
 - State policies that encourage economic development, such as railway and road expansion projects **have led to "unintentional deforestation"** in the **Amazon and Central America.**
 - Deforestation started **in the 1970s and 1980s** when large-scale **forest conversion for cattle ranching and soy cultivation began.**

Amazon Rainforests

- These are **large tropical rainforests** occupying the drainage basin of the **Amazon River** and its tributaries in **northern South America**.
 - Tropical forests are **closed-canopy forests** growing within 28 degrees north or south of the equator.
 - They are **very wet places**, receiving **more than 200 cm rainfall per year**, either seasonally or throughout the year.
 - Temperatures are uniformly high - **between 20°C and 35°C**.
 - Such forests are found in Asia, Australia, Africa, South America, Central America, Mexico and on many of the Pacific Islands.
- The Amazon rainforests **cover about 80% of the Amazon basin and they are home to nearly a fifth of the world's land species** and is also **home to about 30 million people** including hundreds of indigenous groups and several isolated tribes.
 - The Amazon basin is huge with an area covering over **6 million square kilometres**, it is **nearly twice the size of India**.
 - The **basin produces about 20% of the world's flow of freshwater** into the oceans.
- Comprising about **40% of Brazil's total area**, it is bounded by the **Guiana Highlands to the north**, the **Andes Mountains to the west**, the **Brazilian central plateau** to the south, and the Atlantic Ocean to the east.



Way Forward

If the ability of tropical forests to act as carbon sinks is to be maintained, **fossil fuel emissions need to be reduced and temperature increases need to be limited** as well.

Source: IE