



## Amazon Forest Fire

**For Prelims:** [Forest fires](#), [El Nino climate](#), [Amazon rainforest](#), [droughts](#), [Climate change](#)

**For Mains:** Status of the Amazon Forest Fires, Causes of the Amazon Forest Fires

[Source: TH](#)

### Why in News?

Recently, **Brazil's Amazon rainforest has experienced its largest forest fires** on record in the first four months of 2024.

- A record drought in the Amazon region, driven by the [El Nino climate](#) phenomenon and global warming, has contributed to dry conditions fueling the fires.

### What are Key Facts About the Amazon Rainforests?

- **About:**
  - These rainforests spans around 8 countries, representing an area **twice the size of India**.
  - Comprising about **40% of Brazil's total area**, the Guiana Highlands bounds it to the north, the Andes Mountains to the west, the Brazilian central plateau to the south, and the Atlantic Ocean to the east.
- **Characteristics:**
  - These are **large tropical rainforests** occupying the drainage basin of the Amazon River and its tributaries in northern South America and covering an area of 6,000,000 square km.
    - They are very wet places, receiving more than **200 cm of rainfall per year**, either seasonally or throughout the year.
    - The temperatures are **uniformly high**, ranging 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.
- **Significance:**
  - These rainforests host more than **400 different indigenous groups** and around **300 indigenous languages** are spoken signifying its cultural and linguistic diversity.
  - Despite covering only around 1% of the Earth's surface, the Amazon rainforest is home to 10% of all the wildlife species found on the Earth.
  - The Amazon rainforest is crucial in **curbing global warming** due to the vast amount of greenhouse gas it absorbs.

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## What are the Causes of the Amazon Forest Fires?

- **Deforestation and Slash-and-Burn Practices:**
  - Ranchers and farmers often use **slash-and-burn techniques** to clear land for cattle grazing or agriculture.
  - After cutting trees, they intentionally set fires to **clear the remaining vegetation** and prepare the land. These fires can often spread uncontrollably during dry seasons.
- **El Nino and Droughts:**
  - Research suggests a **link between [El Nino events](#)** (periods of warmer Pacific Ocean temperatures) and increased fire activity in the Amazon.
  - The **peak fire season** in the Amazon often **coincides with El Nino events**. For instance, the severe fires in 2019 and 2023 coincided with El Nino-related **[droughts](#)**.
- **Climate Change and Accidental Ignitions:**
  - **[Climate change](#)** is causing a **rise in global temperatures** and altering weather patterns. Studies suggest that climate change can lead to drier conditions in the Amazon, increasing the risk of fires.
  - **Accidental ignitions** from discarded cigarettes sparks from machinery, or lightning strikes can also contribute to fires.
- **Industrial Farming:**
  - Rising global demand for food, especially meat, has led to Brazil becoming the **world's biggest beef exporter**, and the second-biggest exporter of soya beans, mainly used for livestock feed. This results in further deforestation required to meet the exports needs.

## Forest Fire in India

#### ▪ **Recent Status:**

- In 2024, according to the **Forest Survey of India** data, the highest number of **forest fires** have been reported from Mizoram (3,738), Manipur (1,702), Assam (1,652), Meghalaya (1,252), and Maharashtra (1,215).
- Since early March 2024, satellite data shows numerous fire incidents along the **Konkan belt in Maharashtra**, south coastal Gujarat, southern Rajasthan, Madhya Pradesh, Odisha, Jharkhand, and parts of South India.
- Also, in May 2024, a forest fire broke out in the Tuti Kandi area of Shimla (**Himachal pradesh**), as well as **Uttarakhand**, threatening the ecologically sensitive Himalayan fauna.

#### ▪ **Causes:**

- A majority of forest fires are caused by **human activities** such as discarded **cigarettes, campfires**, burning of debris, and other similar processes.
- The **exceptionally hot and dry weather conditions** experienced in southern India, particularly during the early phase of the summer season, have created a conducive environment for the spread of forest fires.
- The **dry vegetation of forests**, including the leaves of chir forests, is particularly **prone to igniting** and spreading fires.

### Way Forward

- **Enforcing laws and regulations** related to forest fire prevention, such as restrictions on burning debris and campfire bans during dry periods, can help reduce the risk of accidental fires.
  - **Penalties** for violating **fire safety regulations** should be strictly enforced to deter irresponsible behaviour..
- Implementing **early detection systems**, such as **surveillance cameras, satellite monitoring**, and lookout towers, can help detect fires in their early stages when they are easier to contain.
  - Rapid detection allows for a quicker response, minimizing the size and impact of fires.
- **Indigenous communities** having a long history of **sustainable forest management** should be incorporated to play a key role in fire prevention.
  - **For Example:** The **Joint Forest Management (JFM)** program involves local communities in sustainable forest management practices, including controlled burns and fire line creation.
- Global efforts should be undertaken to reduce greenhouse gas emissions to lessen drought risk in the Amazon.
  - **For Example:** The **Amazon Fund** uses donations from developed countries to support conservation and sustainable development projects in the Amazon.

#### **Drishti Mains Question:**

Q. Mentioning the status of the Amazon forest fires, discuss the various causes associated with the Amazon Forest Fires.

### **UPSC Civil Services Examination, Previous Year Questions (PYQs)**

#### **Mains**

Q. Most of the unusual climatic happenings are explained as an outcome of the El-Nino effect. Do you agree? (2014)

