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# CURRENT AFFAIRS

**Date:** 23 January 2024

## FOREST FIRES IN HIMALAYAN REGION

THIS ARTICLE COVERS 'DAILY CURRENT AFFAIRS' AND THE TOPIC DETAILS OF "FOREST FIRES IN HIMALAYAN REGION". THIS TOPIC IS RELEVANT IN THE "ENVIRONMENT" SECTION OF THE UPSC CSE EXAM.

**UPSC MAINS GS3 SYLLABUS:** CONSERVATION, DISASTER MANAGEMENT

### WHY IN THE NEWS?

This winter, there have been multiple incidents of forest fires in the Himalayan region, particularly in Himachal and Uttarakhand, due to a lack of rainfall. According to the **Forest Survey of India (FSI)**, there have been 2,050 instances of fires in the forests between 16th October 2023 and 16th January 2024, whereas there were just 296 incidents of forest fires during the same period the previous year.

### ANALYSIS OF THE CURRENT SITUATION

- Uttarakhand had the greatest number of fire alerts in India from January 9 and 16, 2024. A **shortage of snowfall and precipitation** in Uttarakhand has increased the frequency of forest fires.
- There wasn't any rain or snow from January 1 to 16. Nainital received only 0.8 millimetres (mm) of rain, compared to the 14 mm average. Almora and Bageshwar regularly have more than 15 mm of rain, Chamoli has 20 mm, and Rudraprayag and Uttarkashi have 28 and 26 mm, respectively.
- However, Chamoli, Uttarkashi, Pithoragarh, and other hill regions in Uttarakhand have recorded a 100% shortfall in rainfall this season, according to the **India Meteorological Department's** Dehradun centre.

### REASONS BEHIND FOREST FIRES IN THE HIMALAYAN REGION:

#### • LESS SNOWFALL AND PRECIPITATION:

Snowfall and precipitation are critical for retaining soil moisture and keeping the forest floor from getting too dry.

#### • DRY CONDITIONS:

The absence of moisture in the soil and vegetation provides ideal conditions for forest fires. Dry leaves, when paired with dry soil, have the ability to spark a fire. Rising temperatures, presumably

due to climate change, lead to forest dryness. Higher temperatures increase evaporation rates, further diminishing soil moisture.

- **HUMAN ACTIVITIES:**

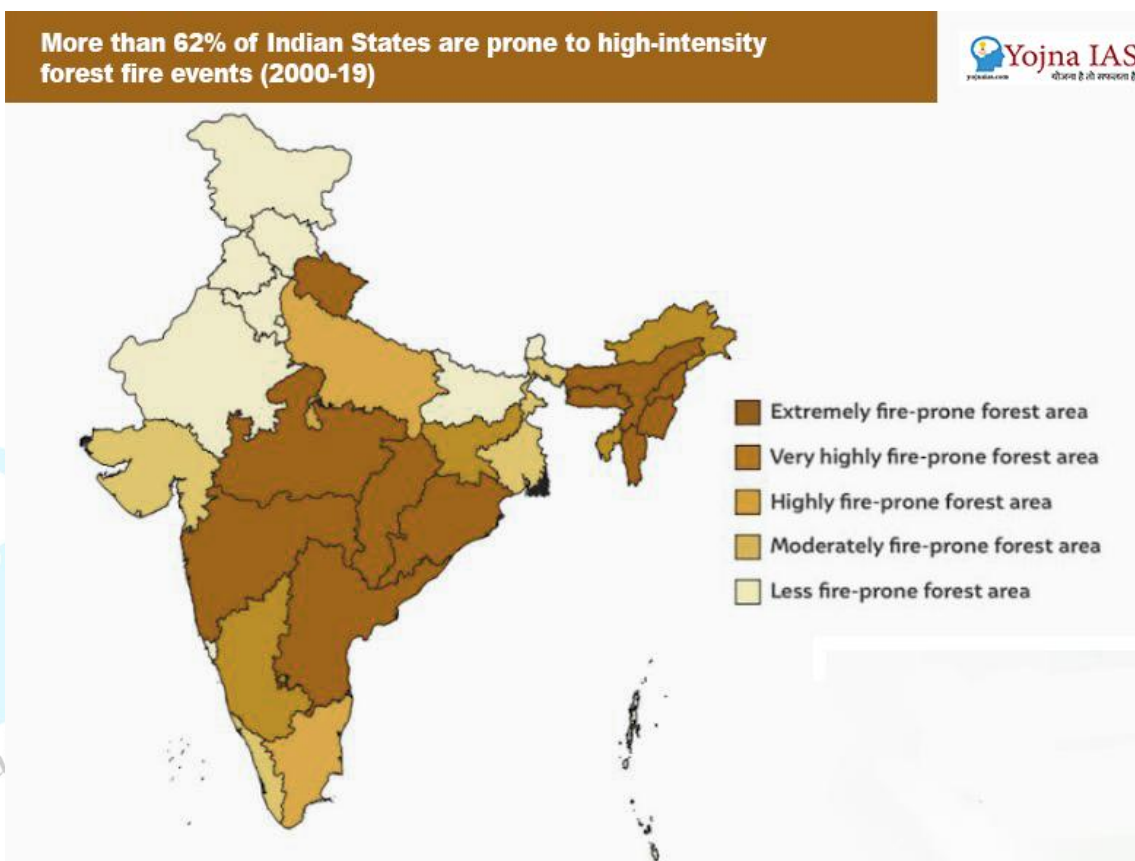
Human activity, such as carelessly discarding cigarettes or indulging in uncontrolled burning, can start a forest fire. Controlled burning by the forest department may also contribute to the problem if not handled correctly.

- **FIRE PRONED TREE SPECIES:**

Fire-prone and combustible trees, such as Chir pine, enhance the risk of forest fires. Chir pine accounts for around 15% of Himachal's forest area.

- **LONG DRY SPELL PERIOD:**

A lengthy dry spell occurs when there is no rain or snowfall for several months, increasing the risk of fires in the region.



### **DIFFERENT TYPES OF FIRES**

- **SURFACE FIRES:**

These fires spread throughout the forest floor, fueled by dry leaves, grass, and debris. They move slowly and help manage undergrowth, which contributes to ecosystem health.

- **CROWN FIRES:**

Crown fires are more intense, causing the burning of treetops and upper branches. They spread quickly and generate great heat, frequently causing substantial ecological damage and disrupting wildlife habitats.

- **GROUND FIRES:**

Ground fires occur in organic soils beneath the surface and are distinguished by the slow combustion of roots, peat, and other below-ground plants. They are difficult to extinguish and can remain smouldering over long periods of time.

- **SURFACE FIRES:**

These fires start on or near the forest floor and consume ground-level vegetation. They contribute to nutrient cycling and can benefit some types of ecosystems

## **NEGATIVE IMPACT OF FOREST FIRES ON HIMALAYAN REGION**

- **BIODIVERSITY LOSS:**

Data from the Forest Survey of India suggests a gradual loss in forest cover in the Himalayan region owing to fires. For example, between 2017 and 2019, Himachal Pradesh recorded a loss of about 826 square kilometres of forest cover.

- **EROSION AND SOIL DEGRADATION:**

According to data from the Indian Council of Agricultural Research (ICAR), forest fires have a substantial impact on soil erosion and degradation. Between 2015 and 2020, topsoil loss in Uttarakhand increased by 15%.

- **LOSS OF LIVELIHOODS:**

A World Bank study found that forest-dependent people in the Himalayan region are severely impacted. Loss of livelihoods owing to destroyed forests and disrupted ecosystems has made approximately 20 percent of the population in these regions prone to poverty.

- **HEALTH HAZARDS:**

Air quality reports from the Central Pollution Control Board show that in peak fire seasons, air quality in Uttarakhand and Himachal Pradesh deteriorates dramatically. Respiratory infections have significantly increased, harming the health of local inhabitants.

## **METHODS TO MITIGATE FOREST FIRES AND INITIATIVES TAKEN BY GOVERNMENT**

- **PREVENTIVE MEASURES:**

According to data from the **National Disaster Management Authority (NDMA)**, preventive measures such as controlled burning and firebreaks are increasingly being implemented. States such as Himachal Pradesh have claimed a 30% drop in forest fire incidence since implementing preventive techniques.

- **COMMUNITY PARTICIPATION:**

Examples- **Uttarakhand's Van Panchayats** demonstrate the benefits of community involvement. These local forest management committees are active in fire prevention, resulting in a 25% reduction in fire incidence in their managed regions.

- **INTERNATIONAL COOPERATION:**

The **International Centre for Integrated Mountain Development (ICIMOD)** promotes data and technology cooperation among Himalayan countries. Cooperation in early detection with satellite imagery has increased reaction times, reducing the spread of flames across borders.

- **TECHNICAL INTEGRATION:**

Real-time monitoring is carried out by the Indian Forest Survey using advanced technology such as satellite images and remote sensing. This technology integration has increased early detection rates by 40%, facilitating timely response and containment.

## CONCLUSION :

The situation of forest fires in the Himalayas, reinforced by statistics and examples, emphasises the critical need for a comprehensive strategy. Policy initiatives, involving communities, and international collaboration, together with technical improvements, are critical for minimising the impact of forest fires and guaranteeing the Himalayan ecosystem's long-term viability.

## PRELIMS PRACTICE QUESTION

**Q1) Consider the following statements regarding National Disaster Management Authority:**

- 1) The President is the head of the National Disaster Management Authority in India.
- 2) National Disaster Management Authority (NDMA) was established in 2005
- 3) Disaster Management Act, 1999 provides the legal framework for the functioning of the National Disaster Management Authority in India

**Which of the above statements is/are correct?**

- a) 1 and 2
- b) 2 only
- c) 3 only
- d) 2 and 3

**ANSWER: B**

## MAINS PRACTICE QUESTION

- Q1) Examine the role of the National Disaster Management Authority (NDMA) in India. How does NDMA coordinate disaster preparedness, response, and recovery efforts at the national level?**
- Q2) Analyze the role of technology, including geospatial mapping and remote sensing, in disaster management in India. How can these technologies enhance preparedness and response efforts?**

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