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Forest Fires in the Himalayan Region

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Forest Fires in the Himalayan Region

Most Himalayan forest fires start with a match, not lightning. But a 2026 study found that temperature drives how far they spread. **One extra degree Celsius of summer heat means roughly 128 more fires. What else do we know?**



A forest fire moving through Chir Pine forest near Almora, Uttarakhand, 2016. Fires like this recur nearly every dry season across the Western Himalaya. Photo: Ramwik, CC BY-SA 3.0, via Wikimedia Commons.

At a Glance

Four numbers to remember.

01
Nov-June

The fire season. It peaks in March, April, and May.

02
39 variables

The 2026 study found temperature the strongest driver.

03
128 fires

Extra fires for every 1°C rise in mean summer temperature.

04
1 km

Fire counts drop sharply beyond this distance from a road.

FSIForest Survey of India. It runs the fire alert system.
FASTForest Fire Alert System. It uses MODIS satellite sensors.
NAPFFNational Action Plan on Forest Fire, 2018. A national coordination policy.
Van Agni Geo-Portal An FSI portal showing near-real-time fire detections and danger ratings.

When and Where Fires Strike

Must Know

The season, the worst-hit state, and what starts them

- Himalayan forest fires typically occur from November to June, in the drier months. The season peaks in the pre-monsoon months of March, April, and May.
- **Uttarakhand** is the most fire-prone state in the Indian Western Himalaya, according to the Forest Survey of India. See Uttarakhand.
- Most forest fires in India are triggered by human activity. But a 2026 study found temperature the single strongest driver among 39 variables.
- In that study, every 1°C rise in mean summer temperature meant roughly 128 additional fires.

How fires get caught early, and the national plan

- FSI runs the Forest Fire Alert System (FAST). It uses MODIS satellite sensors to send near-real-time alerts to State Forest Departments.
- The National Action Plan on Forest Fire (NAPFF), 2018, coordinates prevention, active control, and post-fire community response nationwide.

> **Quick check 1.** According to a 2026 study, temperature was the single strongest driver of Himalayan forest fires, among 39 variables analysed. *(True or False?)* See answer ↓

What the 2026 Study Actually Found

Good to Know

The study's scale, and where fires cluster

- The study was by the Forest Research Institute (Dehradun) and IIT Roorkee. It analysed over 18,000 independent fire locations from

2013 to 2022.

- It covered Uttarakhand, Himachal Pradesh, Jammu, Kashmir, and Ladakh. It examined 39 bioclimatic, human, and terrain variables.
- Fires cluster close to roads and settlements. Fire counts drop sharply beyond about 1 kilometre from a road.

Why dry forests burn easier, and what is at stake

- Less winter snow and rain dries out forest floors. Dead pine needles and leaf litter then burn more easily.
- The Indian Institute of Remote Sensing reported an alarming decline in winter precipitation from October to December 2025.
- Uttarakhand's Forest Department names four causes: deliberate fires by locals, carelessness, farming-related activity, and natural causes.
- Himalayan forests, including the Eastern Himalaya, hold about 3,273 million tonnes of carbon. Repeated burning puts that stock at risk. See Himalayan Forest Zonation.

> **Quick check 2.** Fire counts drop sharply beyond about 1 kilometre from a road, according to the 2026 study. *(True or False?)* See answer ↓

Human-Lit, Climate-Driven, and a Record Season

Great to Know

Human-lit, climate-driven: the real traps

- Most fires start with human activity. Rising heat and a winter rainfall deficit let them spread further and faster. Do not mix up “what starts a fire” with “what drives how far it spreads”.
- Do not treat NAPFF and FAST as one thing. NAPFF is the national policy. FAST is the satellite alert system FSI runs under it.
- Fire risk clusters near roads and settlements. That points to human ignition, even though climate governs the spread.

A record fire season

- In the first two months of 2026, forest fires nationwide rose over 80% above the 2014-2023 average.
- Fire activity in 2026 was also over 50% higher than in 2024, the previous warmest year on record.
- From 15 February to 29 May 2026, Uttarakhand recorded 476 fires over 402.38 hectares. Himachal Pradesh logged 295. Jammu & Kashmir recorded 926.

Think it through: why is “caused by climate change” the wrong answer for Himalayan fires?

Humans light most fires. Deliberate burning, carelessness, and farm fires are the usual sparks. That is why fires cluster near roads and settlements. Climate does not start the fires. But heat and dry winters dry the forest floor, so lit fires spread far and fast. Climate drives the scale of the season, not the spark.

Quick check 3. NAPFF and FAST refer to the exact same single system. *(True or False?)* See answer ↓

Quick check 4. Forest fire activity nationwide in 2026 was over 50% higher than in 2024, the previous warmest year on record. *(True or False?)* See answer ↓

Quick check 5. Between 15 February and 29 May 2026, Jammu & Kashmir recorded more forest fires than Uttarakhand did. *(True or False?)* See answer ↓

Current Affairs

Current Affairs

2026’s early and severe season

- Uttarakhand’s 2026 season began unusually early. It recorded 54 fire incidents from 1 November 2025 to 14 February 2026, well before the usual peak.

- Severe fires in Arunachal Pradesh and Nagaland in February 2026 led to aerial firefighting by the Indian Air Force. Over 12,000 litres of water were dropped in Arunachal's Lohit valley alone.
- FSI's Van Agni Geo-Portal now shows near-real-time fire detections, danger ratings, and fire-prone areas for State Forest Departments.

> **Quick check 6.** The Indian Air Force conducted aerial firefighting in Arunachal Pradesh and Nagaland in February 2026, dropping over 12,000 litres of water in the Lohit valley alone. *(True or False?)* See answer ↓

Quick Q&A

Which state is most fire-prone in the Western Himalaya?

Uttarakhand.

When does the fire season peak?

March, April, and May.

Which variable drove fires most in the 2026 study?

Temperature.

What does FAST use?

MODIS satellite sensors.

Is NAPFF the same as FAST?

No. NAPFF is a policy. FAST is an alert system.

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Practice MCQs

1. According to the Forest Survey of India (FSI), which state is the most fire-prone in the Indian Western Himalaya?

A. Ladakh

B. Jammu and Kashmir

C. Uttarakhand

D. Himachal Pradesh

See answer ↓

2. A 2026 study by the Forest Research Institute and IIT Roorkee analysed 39 variables affecting Himalayan forest fires.

Which variable proved the strongest driver?

A. Wind intensity

B. Soil moisture

C. Topography

D. Temperature

See answer ↓

3. In which months does the Himalayan forest fire season typically peak?

A. March, April, and May

B. June, July, and August

C. December, January, and February

D. September, October, and November

See answer ↓

4. The 2026 fire-driver study also examined where fires cluster geographically. What did it find about proximity to roads?

A. Fires clustered heavily within about 1 kilometre of roads, then dropped sharply beyond that

B. Fires were evenly distributed regardless of distance from roads

C. Fires occurred almost exclusively more than 5 kilometres from any road

D. Fire counts were unrelated to distance from roads

See answer ↓

5. What does FSI's Forest Fire Alert System (FAST) use to send near-real-time fire alerts to State Forest Departments?

A. MODIS satellite sensors

B. Weather radar stations

C. Citizen-reported mobile app data only

D. Ground-based sensor networks only

See answer ↓

Answer Key

1. **C.** Uttarakhand is the most fire-prone state in the Indian Western Himalaya, according to the FSI. Between 15 February and 29 May 2026, it alone recorded 476 forest fires, affecting 402.38 hectares. ↑ Q1
2. **D.** Temperature proved the strongest driver, among 39 variables analysed. Every 1°C rise in mean summer temperature was linked to roughly 128 additional fire incidents, in the study. ↑ Q2
3. **A.** The fire season peaks in the pre-monsoon months of March, April, and May, when dry winter biomass, rising heat, and low humidity converge. Fires overall typically occur between November and June. ↑ Q3
4. **A.** Fires clustered heavily close to roads and human settlements, with fire counts dropping sharply beyond about 1 kilometre. This reflects the fact that most Indian forest fires are ultimately triggered by human activity, even though temperature is the strongest single driver of how far they spread. ↑ Q4
5. **A.** FAST uses MODIS satellite sensors to send near-real-time fire alerts to State Forest Departments, via SMS and email. It was last upgraded to FAST 3.0 in 2019. ↑ Q5

Quick-check answers

1. **True.** ↑ 1
2. **True.** ↑ 2
3. **False.** ↑ 3
4. **True.** ↑ 4
5. **True.** ↑ 5
6. **True.** ↑ 6

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