# 2016 Uttarakhand forest fires

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| **2016 Uttarakhand forest fires** | |
| [Forest fire in Almora District 2016.jpg](https://en.wikipedia.org/wiki/File:Forest_fire_in_Almora_District_2016.jpg)  Forest fire in [Almora district](https://en.wikipedia.org/wiki/Almora_district" \o "Almora district) of Uttarakhand state | |
| **Location** | [Uttarakhand](https://en.wikipedia.org/wiki/Uttarakhand) and [Himachal Pradesh](https://en.wikipedia.org/wiki/Himachal_Pradesh) |
| **Statistics** | |
| **Date(s)** | April – May 2016 |
| **Burned area** | 4,048 hectares (10,000 acres)[[1]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-1) |
| **Fatalities** | 7 (as of 4 May 2016)[[2]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-IE4May16-2) |

[](https://en.wikipedia.org/wiki/File:India_UK.svg)

The state of Uttarakhand within India

In 2016, [forest fires](https://en.wikipedia.org/wiki/Wildfire) have been noted in numerous places across the Indian state of [Uttarakhand](https://en.wikipedia.org/wiki/Uttarakhand" \o "Uttarakhand). These fires, set mainly in pine forests in the slopes of the sub-Himalayan region, produced clouds of smoke. Widespread comments in the Indian news media led to the government taking action, deploying the [National Disaster Response Force](https://en.wikipedia.org/wiki/National_Disaster_Response_Force) and making use of [Indian Air Force](https://en.wikipedia.org/wiki/Indian_Air_Force) [Mi-17](https://en.wikipedia.org/wiki/Mil_Mi-17) helicopters fitted with ["Bambi buckets"](https://en.wikipedia.org/wiki/Helicopter_bucket) to douse the fires with water.[[3]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-Hindu30Apr16-3) The forest department estimated that 3,500 hectares (8,600 acres) of forest had been burnt.[[2]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-IE4May16-2) Nearly 1,600 incidents of fires were detected which were brought under control by 2 May. The rains on 3 May helped to reduce the impact of the fires.[[4]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-4)[[5]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-5)

## History and impacts[[edit](https://en.wikipedia.org/w/index.php?title=2016_Uttarakhand_forest_fires&action=edit&section=1" \o "Edit section: History and impacts)]

Human-made forest fires in the Himalayan state of Uttarakhand have been a regular and historic feature. Major fires have been noted in 1911, 1921, 1930, 1931, 1939, 1945, 1953, 1954, 1957, 1958, 1959, 1961, 1964, 1966, 1968, 1970, 1972 and 1995. Some fires during 1921, 1930 and 1942 have been associated with popular movements against the then British government's forestry policies and for independence. Most of these fires occur in the chir pine zone. Forests with chir pine (*[Pinus roxburghii](https://en.wikipedia.org/wiki/Pinus_roxburghii" \o "Pinus roxburghii)*) are very prone to fire, as their foliage easily catches fire. But the pine itself is resistant to it and these fires help in their regeneration by reducing coverage of broad-leaf trees leading to an increase in the land covered by chir pine and oak. The broad-leaved forest is dominated by oak species, including Banj oak (*[Quercus leucotrichophora](https://en.wikipedia.org/wiki/Quercus_leucotrichophora" \o "Quercus leucotrichophora)*). Resin is harvested from these pines, and fires are often intentionally set to remove the carpet of pine needles that come in the way of harvesting activity.[[6]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-6) In June 1981, a blanket ban was introduced against felling of standing trees 1000 metres above sea level, and this ban comes in the way of removing pine trees in the areas where they are invading. Apart from accidental fires, a number of causes and motivations for setting fires have been noted which include encroachment on forest lands and concealing illegal timber extraction. Fires are also set by honey and sal seed collectors, to scare away wild animals, or to improve grass growth.[[7]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-7)[[8]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-8)

[](https://en.wikipedia.org/wiki/File:Resin_Extraction_from_Chir_Pine_.jpg)

Resin extraction from Chir pine

Fires destroy biodiversity directly and have more indirect long-term impacts including the encouragement of fire and pioneer species. It has been suggested that the dark carbon dust emitted by the fires deposited on Himalayan glaciers could hasten their melting. This could affect the hydrology of the rivers that are a source of water for human populations in northern India.[[9]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-9) The average temperature of northern India saw increase of 0.2 °C.[[10]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-Rediff3May16-10)

[](https://en.wikipedia.org/wiki/File:Chir_pine_trees_felled_by_forest_fires_.jpg)

Burnt Chir pine

Seven fatalities were reported as of 4 May 2016.[[2]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-IE4May16-2) The [Pinegrove School](https://en.wikipedia.org/wiki/Pinegrove_School), a boarding school at Kasauli, was evacuated as fires had reached the compound walls.[[11]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-11) Tourism and wildlife at the [Corbett National Park](https://en.wikipedia.org/wiki/Corbett_National_Park) and [Rajaji Tiger reserve](https://en.wikipedia.org/wiki/Rajaji_Tiger_reserve" \o "Rajaji Tiger reserve) regions were affected.[[12]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-12) Various other locations in these Himalayan states of Uttarakhand and Himachal Pradesh are tourist attractions in summer, and they now face heavy air pollution.[[13]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-NDTV3May16-13) The forest fires also disrupted the functioning of the [Kalka–Shimla Railway](https://en.wikipedia.org/wiki/Kalka%E2%80%93Shimla_Railway) line.[[14]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-14) On 3 May, the forest department estimated the monetary losses at approximately ₹29 lakh (US$42,000). The estimate is based on the standard rule book followed by the department with empirical formulae for such calculations. Various ecologists and environmental activists have disregarded the estimate, noting that it does not take into account ecological and wildlife losses. They added that these fires have also destroyed vegetation which holds rainfall, which might result in floods in the monsoon season.[[15]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-15)

[](https://en.wikipedia.org/wiki/File:Vegetation_destroyed_after_2016_Uttarakhand_Forest_Fires.jpg)

Vegetation destroyed in a forest near Dhaulinag Temple in [Bageshwar district](https://en.wikipedia.org/wiki/Bageshwar_district" \o "Bageshwar district)

Scientists of the [Govind Ballabh Pant Institute of Himalayan Environment and Development](https://en.wikipedia.org/w/index.php?title=Govind_Ballabh_Pant_Institute_of_Himalayan_Environment_and_Development&action=edit&redlink=1" \o "Govind Ballabh Pant Institute of Himalayan Environment and Development (page does not exist)) formed a team to survey the area and study the effects of the fires on the melting of glaciers.[[10]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-Rediff3May16-10) Ecologists suggested that clearing of forest floors of the fallen pine leaves, which are readily combustible, should be undertaken by forest department as well as locals on a grassroots level to prevent such major fire outbreaks. Production of [biomass briquettes](https://en.wikipedia.org/wiki/Biomass_briquettes) from these pine needles should be promoted, serving as a source of fuel as well as a solution to prevent wildfires.[[16]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-16) [[17]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-17) On 30 April, [National Disaster Response Force](https://en.wikipedia.org/wiki/National_Disaster_Response_Force) was deployed for rescue operations in the [Kumaon](https://en.wikipedia.org/wiki/Kumaon_division" \o "Kumaon division) and [Garhwal](https://en.wikipedia.org/wiki/Garhwal_division" \o "Garhwal division) areas. Around 6,000 personnel from the Forest Department were deployed. As of 30 April 2016, 922 incidences of fire were reported affecting around 2,000 hectares (4,900 acres) of forest area.[[3]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-Hindu30Apr16-3) The [Mi-17](https://en.wikipedia.org/wiki/Mil_Mi-17) helicopters of the [Indian Air Force](https://en.wikipedia.org/wiki/Indian_Air_Force) with ["Bambi buckets"](https://en.wikipedia.org/wiki/Helicopter_bucket) were used to douse the fires with water. However, the heavy [smog](https://en.wikipedia.org/wiki/Smog) that developed in the area affected the aerial operations of the army.[[18]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-18) The affected area later increased to around 3,500 hectares (8,600 acres), extending into [Himachal Pradesh](https://en.wikipedia.org/wiki/Himachal_Pradesh). The regions saw rainfalls on 3 May ranging from 7 mm to 11 mm, which helped in controlling the fire.[[2]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-IE4May16-2)

## Recurrence[[edit](https://en.wikipedia.org/w/index.php?title=2016_Uttarakhand_forest_fires&action=edit&section=2" \o "Edit section: Recurrence)]

Soaring temperatures reignited the forest fires on 18 May 2016 covering an area of nearly 180 hectares of green land being spread over 111 districts. Rangers and Divisional Forest Officers were asked to rush to the spot and extinguish the fire as soon as possible so as to reduce the damage done. This was the result of the temperatures of Uttarakhand which are about 4 to 5 degrees higher than the average temperatures at this time of the year. According to government sources, the forest fires combined have destroyed nearly 4048 hectares of land in 1857 incidents. [[19]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-19)

## News debates[[edit](https://en.wikipedia.org/w/index.php?title=2016_Uttarakhand_forest_fires&action=edit&section=3)]

Reports were published in the local media which variously blamed local people and timber mafia for the forest fires. Environmental journalist [Bahar Dutt](https://en.wikipedia.org/wiki/Bahar_Dutt" \o "Bahar Dutt) blamed the television media for their "Delhi centric world view" that disregarded the historical and ecological natural causes of fire, due to the high density of pine trees that increases the fire hazards.[[20]](https://en.wikipedia.org/wiki/2016_Uttarakhand_forest_fires#cite_note-20) Various tourism-related associations noted that the exaggerated representation of the fires by the media could reduce tourism, a major part of the state economy. Drops in tourism were seen after the [2013 North India floods](https://en.wikipedia.org/wiki/2013_North_India_floods) and [April 2015 Nepal earthquake](https://en.wikipedia.org/wiki/April_2015_Nepal_earthquake) due to the media reports.