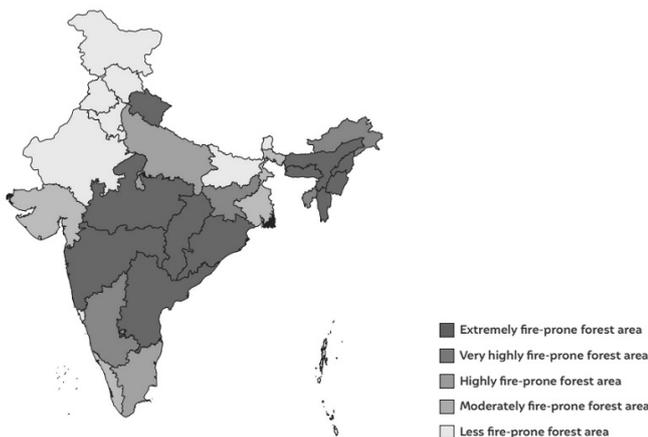
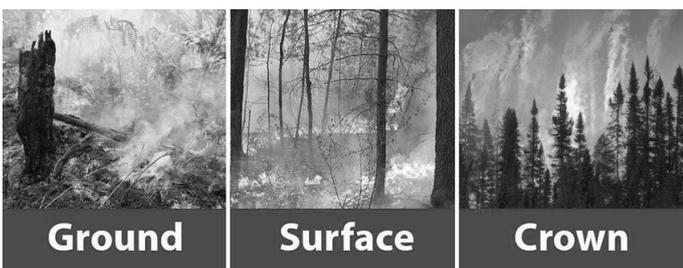


# FOREST FIRE

- A forest fire is an uncontrolled fire occurring in nature.
- Forest fires are a challenge across many countries and also a ubiquitous feature of India's forest landscape.
- Forest fires are considered to be a potential hazard with physical, biological, ecological and environmental consequences.
- In India, forests fires are the most significant and steadily increasing factor in the degradation process, although the extent of total damage is widely disputed.
- However, it is estimated that the proportion of forest areas prone to fire annually ranges from 33% in some states to over 90% in others.
- The Forest Survey of India (FSI) estimated that about 50% of the forest area of the country is fire prone.
- More than 36% of the country's forest cover has been estimated to be prone to frequent forest fires.
- Nearly 4 % of the country's forest cover is extremely prone to fire, whereas 6% of forest cover is found to be very highly fire prone.
- Fire is a vital and natural part of the functioning of numerous forest ecosystems.
- Human have used fire for thousands of years as a land management tool.
- However, in the latter part of the twentieth century, changes in the human fire dynamics and an increase in El Nino frequency have led to a situation where fires are now a major threat to many forests and the biodiversity therein.
- Forest fires are a regular phenomenon in our country often observed during summers.



## Types of Forest Fire:



## Causes:

### Natural:

- Natural causes of fires include:
  - ✓ Fires caused by lighting
  - ✓ Fires caused by rolling stones
  - ✓ Fires may be caused by volcanic eruptions
- Human Factors
  - ✓ The forest floor is often burnt by villagers to get a good growth of grass in the following season or for a good growth of mushrooms
  - ✓ Wild grass or undergrowth is burnt to search for animals
  - ✓ Firing by miscreants
  - ✓ Attempt to destroy stumps of illicit fallings

Unintentional: These fires are caused due to man's carelessness i.e., without intention to set fire. Such fires may be due to the following reasons:

- Un-extinguished campfires of trekkers, laborers, camp of roadside charcoal panniers etc.
- Spark of fire from railway engines
- Careless throwing of fire after honey collection
- Un-extinguished bidis, cigarette butts, matchsticks etc., by grazers, travellers, picnickers or even forest labourers
- Burning of agricultural fields adjacent to forested areas. Such fires is left unattended may spread to forest areas
- During controlled burning by the department, fire may spread to the forest due to negligence of the staff

## Impact:

### Negative Impact

- Damage of Biodiversity- Damage to the trees, new saplings as well as the regeneration ability, loss of various species, some of them can be highly threatened as well
- Damage to the soil: The soil ecosystem gets negatively impacted due to heat, loss of moisture, humus etc.
- Change in micro-climatic conditions – Impact on the evaporation and rainfall in the concerned area.
- Damage to the Economy: Loss of forest as a recreation hub, loss in terms of wood and forest produce, etc.
- Floods, Landslides, Soil Erosion, Air Pollution may also be counted as the impact of Forest Fire.

### Positive Impact

- Occasional fires can reduce the fuel loads which otherwise could lead to larger uncontrolled fires
- Getting rid of waste material like dry grass, tree needles, thick bushes, etc.
- Insect pest control.
- Removal of exotic, or non-native, species that compete with native species for nutrients and other needs.
- Addition of nutrients for trees and other vegetation provided by ashes that remain after a fire.

- Removal of undergrowth, thereby allowing sunlight to reach the forest floor to encourage growth of native species.
- Encourage the growth of fire-dependent species.

#### Government Steps:

- The Ministry of Environment, Forest and Climate Change has prepared National Action Plan on Forest Fire to minimize forest fires during 2018.
1. Fire Risk Zonation and mapping
    - ✓ Risk factors
    - ✓ Use of fire risk zones in forest planning
  2. Preventing forest fires
    - ✓ Effective communication strategy for awareness generation
    - ✓ Empowering Communities to deliver on their responsibilities
    - ✓ Capacity building of communities
  3. Increasing the resilience of forests to fires
    - ✓ Moisture and water conservation
    - ✓ Forest floor biomass management
    - ✓ Weed Management
  4. Forest Fire Preparedness
    - ✓ Forest fire detection and alert
    - ✓ Digitize the location of critical resources and assets
    - ✓ Forest Fire Lines
    - ✓ Control Burning
  5. Fire Suppression
    - ✓ Training for field staff, fire watchers, and community firefighters
    - ✓ Equipping the firefighters
    - ✓ Development of adequate infrastructure for fire suppression
    - ✓ Arrangements for adequate manpower in fire prone areas
  6. Post Fire management
    - ✓ Assessment of loss due to forest fires
    - ✓ Proper investigation of the causes
    - ✓ Restoration of fire affected areas
  7. Coordination with Other Agencies
  8. Centre of Excellence for Forest Fires
  9. Mobilization of Financial resources

#### Way Forward:

##### Indirect Methods:

###### A. Restriction of entry into the forest:

- ✓ The entry of the general public can be restricted in the forest during fire season (hot weather season)
- ✓ Collection of honey, seeds etc. should be restricted during the summer to reduce the chances of accidental fire.
- ✓ Denial of benefits of grazing in fire burnt areas by invoking section 26(3) and 33(2) of the Indian Forest Act 1972 for people, who set fire to burn the dry grass to get an early new flush of green grass.

###### B. Public awareness/public opinion

- ✓ Creating public awareness through press, radio, television, posters and films shows about the causes of fire and their effect will go a long way in preventing the fire.

##### Direct preventive measures

###### A. Clearing camping sites and areas along paths and roads

- ✓ A large number of accidental fires start from camping sites where people stay for short periods of time. Inflammable material around such sites should be cleared before the onset of dry season.
- ✓ Fires starting from Bidi or Cigarette slumps thrown carelessly by the roadside can be prevented by controlled burning all grass and leaves.

###### B. Early burning

- ✓ Early burning is done to burn down all inflammable material such as grass, fallen leaves and broken branches before the commencement of hot weather to prevent the occurrence of fire and even when it does occur it can be easily controlled.