



## FAO Guidelines on Wildfire Management

**For Prelims:** [Food and Agriculture Organization \(FAO\)](#), [UN Environment Programme \(UNEP\)](#), [India State of Forest Report \(ISFR\) 2021](#)

**For Mains:** Significance of Forest Resources and Measures to Manage Forest Fires.

[Source: FAO](#)

### Why in News?

Recently, the [Food and Agriculture Organization \(FAO\)](#) released the updated "**Integrated Fire Management Voluntary Guidelines: Principles and Strategic Actions.**"

- These new guidelines revise the previous FAO **fire management guidelines** from two decades ago to address current **climate crisis challenges**.

### What are the New FAO Fire Management Guidelines?

- **Integration of Knowledge:**
  - The guidelines stress the importance of **integrating science and traditional knowledge** from **Indigenous Peoples and local knowledge holders**.
  - This approach enhances **fire management decisions**, helps in preventing wildfires, managing fire outbreaks, and restoring areas affected by severe burning.
  - **Gender inclusion** and **diverse fire management knowledge** are also promoted.
- **Impact and Adoption:**
  - Since the original guidelines' release nearly 20 years ago, many countries have developed public policies and training programs based on them.
  - The updated guidelines are expected to see broader adoption globally.

### Note:

- **FAO and the [UN Environment Programme \(UNEP\)](#)** established the **Global Fire Management Hub (Fire Hub)** at the **8<sup>th</sup> International Wildland Fire Conference** in May 2023.
- It is supported by the governments of **Canada, France, Germany, Portugal, the Republic of Korea and the United States of America**.
- It aims to unite the global fire management community and enhance national capacities for implementing integrated fire management strategies.

### What is a Wildfire?

- **About:**

- Also known as bush, vegetation, or forest fire, **a wildfire is any uncontrolled and non-prescribed burning** of plants in natural settings such as forests, grasslands, brushlands, or tundras.
- It consumes natural fuels and spreads based on environmental conditions like **wind and topography**.
- **Classification:**
  - **Surface Fire:** Burns primarily along the ground, consuming surface litter like leaves, twigs, and dry grasses.
  - **Underground Fire/Zombie Fire:** Low-intensity fires that consume organic matter beneath the surface. They spread slowly underground, making them hard to detect and control, and can burn for months.
  - **Canopy or Crown Fires:** Spread through the upper canopy of trees, often fueled by high winds and dry conditions, and can be very intense and difficult to control.
  - **Controlled Deliberate Fires:** Also known as prescribed burns, these are intentionally set by forest management agencies to reduce fuel loads, mitigate wildfire risks, and promote ecosystem health. They are carefully planned and executed under specific conditions.
- **Reasons:**
  - **Human Activities:** Many forest fires are caused by **human activities** such as discarded cigarettes, campfires, burning debris, and other similar actions.
    - Increased urbanisation and human presence in forested areas raise the risk of accidental fires.
    - Poachers and illegal smugglers may set fires to distract forest officials or eliminate evidence of their activities.
  - **Weather Conditions:** Exceptionally **hot and dry weather**, particularly in southern India during early summer, creates conditions conducive to fire spread. High temperatures, low humidity, and calm winds increase fire risks.
  - **Aridity: Above-normal temperatures**, clear skies, and lack of rainfall in southern India lead to increased aridity, drying out vegetation and making it more prone to ignition and rapid fire spread.
  - **Early Availability of Dry Biomass: Above-normal temperatures** before the summer season have led to an early buildup of dry biomass in forests, including the flammable leaves of chir forests, increasing fire risks and intensity.

## Forest Fires in India

- **Forest Fire Season:**
  - The forest fire season in India extends from **November to June**, with peak activity from February onward as summer approaches. April and May are typically the worst months for fires.
  - Based on the forest inventory records (of **Forest Survey of India**), **54.40%** of forests in India are exposed to **occasional fires**, **7.49% to moderately frequent fires** and **2.40% to high incidence levels**.
  - According to the [India State of Forest Report \(ISFR\) 2021](#) by the **Forest Survey of India (FSI)**, **35.47% of forest cover is classified as fire-prone**.
- **Regions:**
  - Severe fires are prevalent in dry deciduous forests, while evergreen, semi-evergreen, and montane temperate forests are less prone to fires.
  - Most vulnerable regions include **Northeast India, Odisha, Maharashtra, Jharkhand, Chhattisgarh, and Uttarakhand**.
- **Present Scenario (2024):**
  - The forest department of **Uttarakhand** has reported that between **January and June 2024**, there have been 1,309 forest fires in Uttarakhand up from 241 over the same period last year and 733 for the entirety of 2023.
  - The highest number of forest fires reported are in **Mizoram (3,738), Manipur (1,702), Assam (1,652), Meghalaya (1,252), and Maharashtra (1,215)**, according to FSI data.
  - **ISRO satellite data** indicates an increase in forest fires since early March 2024, affecting areas such as the **Konkan belt in Maharashtra, south-coastal Gujarat, southern Rajasthan, southwestern Madhya Pradesh, coastal and interior Odisha, and adjoining Jharkhand**. South India, including **Andhra Pradesh, Karnataka, and Tamil**

**Nadu**, has also seen recent fire incidents.

▪ **Government Initiatives:**

- **National Action Plan for Forest Fires (NAPFF):** Launched in 2018 to reduce forest fires by informing and empowering forest fringe communities and incentivizing collaboration with state forest departments.
- **Forest Fire Prevention and Management Scheme (FPM):** Launched in 2017, it is the only government-sponsored program dedicated to assisting states in managing forest fires.

## Way Forward - NDMA Recommendations on Wildfires Based on Best Global Practices

- **Fire Suppression Risks:** Relying solely on fire suppression increases fuel load and can lead to uncontrollable fires.
- **Prescribed Burning:** Must be carefully managed to prevent spreading; consider utilising organic forest material.
- **Community Engagement:** Involve local communities for forest stewardship and livelihood, enhancing ownership and reducing fire risks.
- **Trans-Boundary Management:** Forest fires do not adhere to political boundaries; management must be coordinated across borders.
- **Risk Communication:** Develop standardised, clear alerts including smoke/pollution levels to ensure accurate information during fires.
- **Urban-Forest Interface:** Implement building codes and manage construction materials to mitigate fire hazards in urban-forest areas.
- **Commercial Areas:** Ensure businesses and services in forest areas follow fire safety precautions and limit ignition sources.
- **Training Local Responders:** Train and equip local communities as first responders; consider remuneration for volunteer firefighters.
- **Specialised Forces:** Train specialised troops, similar to smokejumpers, to handle fires in remote areas.
- **Recovery Efforts:** Focus on ecosystem recovery and avoid monoculture; maintain seed banks for native plants.
- **Utility Management:** Place utilities underground or maintain them before fire seasons to reduce fire-related accidents.
- **Firefighting Plans:** Prepare action plans based on climate, terrain, vegetation, and water availability; include drought measures.
- **Bioeconomy Development:** Create functional value chains with community involvement to support livelihoods and control fires.

### **Drishti Mains Question:**

Q. Evaluate the role of human activities and climatic factors in the incidence and severity of forest fires in India. What measures can be implemented to reduce the occurrence of forest fires and their adverse effects?

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### **Prelims:**

**Q. Consider the following:**

1. Carbon monoxide
2. Methane

3. Ozone

4. Sulfur dioxide

**Which of the above are released into the atmosphere due to the burning of crop/biomass residue? (2019)**

**(a)** 1 and 2 only

**(b)** 2, 3 and 4 only

**(c)** 1 and 4 only

**(d)** 1, 2, 3 and 4

**Ans: (d)**

PDF Reference URL: <https://www.drishtiias.com/printpdf/fao-guidelines-on-wildfire-management>

