

Climate Change Make Wildfires Harder to Control

Mains: GSIII – Environment

Why in News?

The climate change, prolonged droughts and invasive vegetation are increasing the intensity and difficulty of controlling wildfires.

What are the Major Factors Increasing Wildfire Risks?

- **Climate change** – Rising temperatures, low humidity and strong winds create favourable conditions for rapidly spreading and intense wildfires.
- **Prolonged droughts** – Dry vegetation increases fuel availability, while water scarcity limits firefighting capacity.
- **Invasive alien vegetation** – Woody species such as acacia, pine, eucalyptus and hakea accumulate combustible biomass, increasing fire intensity and severity.
- **Changing land use** – Forestry plantations, dry agricultural fields and settlements near fire-prone landscapes increase exposure to wildfire risks.
- **Human activities** – Arson, escaped controlled burns and unattended cooking or warming fires are major causes of unwanted wildfires. Lightning can also trigger fires.
- **El Nino** – The developing 2026 El Nino may cause hotter and drier conditions in parts of southern Africa, potentially increasing wildfire risks.

What are the Impacts of Increasing Wildfires?

- **Loss of lives and livelihoods** – Wildfires destroy homes, agricultural land, grazing areas and infrastructure, affecting vulnerable communities and local economies.
- **Ecological degradation** – They damage forests, biodiversity and natural ecosystems.
- **Economic losses** – Damage to timber, crops and infrastructure affects employment and increases recovery costs.
- **Firefighting challenges** – Extreme heat, dryness and changing wind conditions make firefighting operations more dangerous and expensive.

What are the Major Challenges in Wildfire Management?

- **Increasing fire intensity** – The number of fires alone does not indicate their severity; their size, intensity and difficulty of containment are equally important.
- **Invasive vegetation management** – Accumulation of combustible biomass increases fire severity, as demonstrated by the 2017 Knysna fires in South Africa.
- **Human-wildlife landscape interface** – Expanding settlements and infrastructure near fire-prone areas increase human exposure and potential damage.

- **Institutional limitations** - Limited resources, uneven implementation of fire-management measures and unclear responsibilities weaken preparedness.
- **Ecological considerations** - Grasslands, fynbos and savannas depend on periodic natural burning, making it necessary to distinguish beneficial ecological fires from destructive wildfires.

What Measures are Needed for Effective Wildfire Management?

- **Early warning systems** - Strengthen weather forecasting and satellite-based monitoring to identify high-risk areas and provide timely warnings.
- **Preventive vegetation management** - Control invasive alien species and reduce the accumulation of combustible vegetation.
- **Community participation** - Involve local communities in identifying fire causes, preparing village-level fire-management plans and implementing preventive measures.
- **Capacity building** - Provide firefighting training, affordable equipment and awareness programmes to vulnerable communities.
- **Scientific research** - Use satellite data and research to understand fire behaviour and develop region-specific management strategies.
- **Institutional coordination** - Strengthen coordination among forest departments, local authorities, communities and other stakeholders.
 - **Example** - A fire-management project in Tanzania's Southern Highlands used satellite data to identify wildfire-prone areas.
 - They involved villagers in developing local fire-management bylaws, training programmes and village-specific plans.

What lies ahead?

- Wildfire management must shift from reactive firefighting towards climate-informed prevention, ecosystem management, early warnings and community-based preparedness.
- The objective should be to maintain ecologically beneficial fires while preventing uncontrolled wildfires that threaten lives, livelihoods and biodiversity.

Reference

[Down To Earth| Climate Change Make Wildfires Harder to Control](#)