



# Wildfires in California

## Why in News

California (USA) is facing [sprawling wildfires](#) destroying more than 400,000 acres of forests in Northern and Central California.

- The spark for many of these fires come from around 11,000 **lightning strikes** California has been hit by.

## Key Points

- Historically, California has had many wildfires, which have increased manifold in recent times.
  - The 10 largest fires have occurred since 2000, including the **2018 Mendocino Complex Fire**, the largest in history of the USA..
  - The frequency of western U.S. wildfires has **increased by 400%** since 1970.
- California has **two distinct fire seasons**:
  - **First or western fire season:** From June through September
    - Due to **warmer and drier weather**.
    - Fires are more inland and in **higher-elevation forests**.
  - **Second Fire Season:** From October through April
    - Due to **Santa Ana Winds**.
    - Burn closer to **urban areas**.
    - **Three times faster** than first season fires
    - Responsible for 80% of the economic losses over two decades

## Santa Ana Winds

## Santa Ana winds



- The winds' name derives its name from the Santa Ana canyon in Orange County, California.
- Santa Anas are dry, warm (often hot) winds that blow **westward through Southern California toward the coast**.
- They're usually **seasonal**, and typically occur between October and March and peak in December.
- They originate when high pressure systems form over the **high-elevation deserts** of the **Great Basin** between the Sierra Nevadas and the Rocky Mountains.
- As they flow downwards and cross deserts, they become **very dry, warm, and gain speed**. The lack of humidity in Santa Ana winds dries out vegetation, making it better fuel for a fire.
- The wind also **fan the flames** and helps spread them.

### ▪ Reasons for California's Wildfires:

- **Climate:** California, like much of the West, gets most of its moisture in the fall and winter. Its vegetation then stays dry throughout the summer because of a **lack of rainfall and warmer temperatures**, which ultimately serves as ignition for fires.
  - However with **global warming**, the temperature has increased by 1-2 degree Celsius, leading to an upsurge in cases of wildfires.
- **Human intervention:** The spark for many fires arise due to human-made causes such as fallen power lines, accidents etc.
  - Due to urbanization, human habitation is increasingly moving areas near forests, known as the **urban-wildland interface**, that are inclined to burn.
- **Suppressing Fires:** Owing to suppression of natural fires artificially for a long time, which would consume the dry inflammable materials in the forest, a lot of **dry material has accumulated** causing even more fires.
  - The United States Forest Service is now trying to rectify the previous practice through the use of prescribed or **"controlled" or cool burning**.
  - **Cool Burning :** Cool burning is done in a controlled manner by artificially creating small, localised fires to limit the amount of vegetation available in any given area. It means that any fires will not have any build-up of "vegetative fuel" to use to become a large, uncontrollable fire.
- **Santa Ana Winds:** Santa Ana winds **dry out vegetation** and also move **embers** around, spreading fires.

### ▪ Impact:

- **Economic loss** from destruction of life and property.
- **Air pollution** by small particulate matter and also acids, organic chemicals, and metals along with dust and allergens.
- **Land degradation** as high temperatures consume all nutrients and vegetation from a land, leaving it barren and infertile.
- **Loss of biodiversity.**

## Way Forward

- Some immediate solutions to wildfires include **not planting easily flammable tree species** such as eucalyptus and pine in forest fire regions, **not allowing human development** near forest zones, and **promoting policies that conserve water** like waste-water recycling, desert landscaping, and low-water consumption appliances.
- However in long -term working on **controlling greenhouse gas emission** and thus, climate change is crucial to controlling such incidents which have affected the whole world and not just California. Recent **Australian Bushfires**, and **Forest Fires in Uttarakhand** are some other examples.

**Source: IE**

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