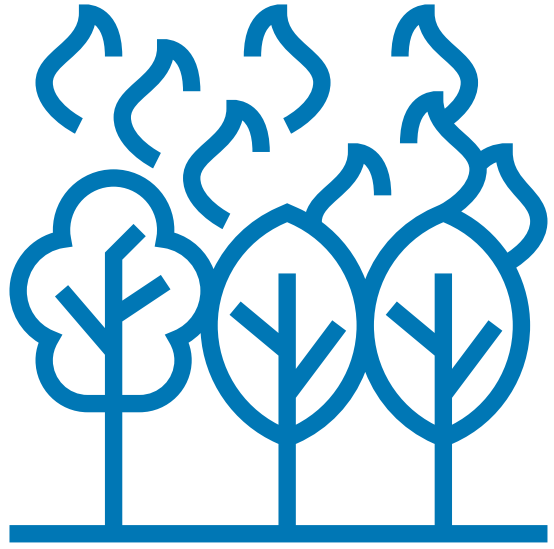


# Wildfires

## What Is It?

A large and destructive and uncontrolled fire that spreads unpredictably over natural woodland or brush.



## How is it Caused?

Wildfire causes include lightning strikes, human activity, and utility or equipment issues. Up to 85% of wildfires are caused by human-related activity, such as failure to put out a campfire, dropped cigarettes, fireworks, or even arson.



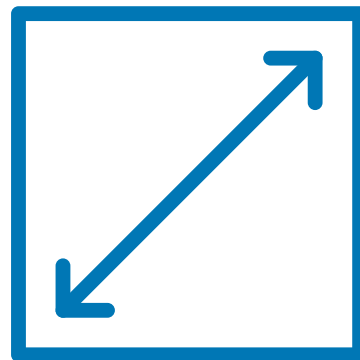
## What Does it Cost?

When accounting for all direct and indirect costs, from fire suppression to property losses, infrastructure damage, insurance claims, environmental destruction, and recovery, among many other costs, the U.S. faces as much as \$100 billion each year. Many of these costs arise from government policies.



## Space

Over the last decade, an average of 6.8 million acres of land have been burned annually by wildfires. During the same period, states and federal agencies have together conducted an average of around 3.6 million acres of prescribed burns annually.



## Point

- Wildfire costs are increasing due to human activity.
- Climate-related conditions, like drought, are primary factors behind wildfires being larger than ever.
- Human activity has fundamentally altered the natural cycle, and without corrections, both environmental and economic consequences may worsen.
- Smoke from wildfires can cause health issues for people across the nation.
- Forest management and controlled burns can be bad for wildlife and sometimes 'escape' to become uncontrolled.

## Counterpoint

- ↔ ○ Cost increases are in part due to more buildings and infrastructure being present, not necessarily larger or more intense fire.
- ↔ ○ Misguided policy and forest management have led to increased forest density and deadfall, increasing risks and later severity.
- ↔ ○ The overall number of wildfires recorded has decreased significantly since the late 19th century when livestock grazing and fire fighting became common in the west.
- ↔ ○ Smoke can be easy for most people to avoid in the 21st century and only appears for relatively short periods of time.
- ↔ ○ Forest thinning and controlled or prescribed burns can mimic the natural cycle to reduce the amount of flammable material, minimize risk for an out of control blaze, and provide nutrients to the ecosystem.

## How Does It Work?

1. Dry season, drought, or underbrush growth can contribute to the accumulation of highly flammable material. Fire requires heat, oxygen, and fuel.
2. A spark, ember, or flame is created near brush or a forest environment. This may be lightning, an unattended campfire, a discarded cigarette, a vehicle, an equipment or utility malfunction, or volcanic activity. In some cases intentional arson is responsible and even prescribed or controlled burns by officials that escape control.
3. Hot, windy, and dry conditions can make the wildfire spread, growing rapidly. Wildfires can spread at up to 14 miles per hour, but certain conditions can exacerbate it.
4. A fire continues to expand until a change in conditions or firefighting efforts stop it from spreading. The air temperature and moisture has a large impact on fire spread, and firefighting efforts can eventually 'contain' it. Government evacuations and mitigation actions may be decisive in the eventual cost and overall impact of the fire, regardless of its initial cause.
5. The fire burns itself out or it put out by weather, leaving behind a scarred landscape.
6. Complete environmental recovery varies greatly, but the remaining ash fertilizes the soil and new life emerges from the blackened earth quickly.



## Did You Know?

Wildfires spread more quickly up slopes because wind and smoke carry the flames upward. Wildfires sometimes burn out at the top of a ridge because they struggle to move downhill.

## What's Next?

Some conservation areas in the U.S. have utilized drones to monitor at-risk areas for forest fires. Detection systems on drones that can sense smoke can be triggered and that will alert the local fire department and cut down on response times to fires. Drones may also prove useful in dispersing fire retardant substances and to expedite replanting efforts to reforest an area after a fire.