

## ENCYCLOPEDIC ENTRY



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# Megafire

Once a rare occurrence, megafires are now becoming more prevalent throughout the world, in large part due to climate change.

**GRADES**

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IMAGE

# Yellowstone 1988 Megafire

In 1988, what began as a small series of wildfires in the Yellowstone National Park became a megafire that burned 36 percent of its forests.

PHOTOGRAPH BY JEFF HENRY



## ARTICLE

## VOCABULARY

In August 1988, high winds changed small, smoldering wildfires in Yellowstone National Park into raging firestorms—an event that came to be known as “Black Saturday.” Today, wildfire experts call the burning of Yellowstone, located in the western United States, something else: a “megafire.” When the smoke finally cleared, a vast area of forest—0.5 million hectares (1.2 million acres), nearly 36 percent of the park—had burned.

The Yellowstone fire focused national attention on a growing wave of big fires eating up forests in the West as well as in other parts of the world. The U.S. Interagency Fire Center defines a megafire by its size: It is a wildfire that burns more than 40,500 hectares (100,000 acres) of land. Other wildfire experts expand the definition of a megafire beyond “acres burned” to mean wildfires that have an unusually large impact on people and the environment.

## Once Rare, Now Common

Megafires were once rare, but they are becoming increasingly common. Over the past 40 years, the average number of acres of forested land consumed by wildfire each year in the United States has increased by 1,000 percent. Scientists say one of the main reasons causing the increase in megafires is climate change. The weather is warmer and dryer, and in the West, snow melts earlier in the year than it once did. This means that the dry season, when forests are most vulnerable to fire, lasts longer.

### **Preventing Fires Is Making Them Worse**

Well-intentioned but ineffective land management policies over the past century have also contributed to the problem. Until recently, the U.S. Forest Service had a strict policy of suppressing all wildfires. People did not understand that some forests have evolved to burn. Periodic, brief fires strip away undergrowth and help new trees sprout, actually keeping these forests healthy.

Throughout the 20th century, as forest rangers tried to snuff out every fire, dead wood piled up on the forest floors—like laying the foundation for a bonfire. Now, when a wildfire gets started in these long-unburned areas, it is more likely to burn bigger and hotter, potentially turning it into a megafire.

In contrast to ordinary wildfires, megafires have the potential to permanently transform the landscape. For example, studies of the area burned by the 2011 Las Conchas megafire in New Mexico found some areas converted permanently to grassland or other nonforested habitat.

## Can Anything Stop Megafires?

So-called “controlled burns”—fires set intentionally to burn off the dead and decaying matter on the forest floor without harming the healthy, living plants—have limited the destructive impact of wildfires in some U.S. states, including Florida, as well as in Australia. But right now, the U.S. Forest Service spends a large portion of its budget fighting megafires, which are growing more and more common with each passing year.

In an ironic feedback loop, megafires are not only fueled by climate change, they also contribute to it by releasing greenhouse gases into the atmosphere. As a result, megafires could become even more common in the decades ahead.

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