# Wildfires on the rise: Ten ways climate change can make fires worse

By Agence France-Presse, adapted by Newsela staff on 08.15.18
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A firefighter walks toward the flames as a wildfire advances into a residential district July 28, 2018, in Redding, California. Photo: AP/Marcio Jose Sanchez

This summer, wildfires have been making the news. They have scorched large areas in Europe and California. Scientists are studying why recent fires have been so severe.

People are creating some of the wildfire problems. They have not managed forests well. Builders have put houses near wooded areas. These homes can easily burn if a fire spreads.

Climate change, though, is making matters worse. That is the conclusion of climate experts. The earth is heating up. This is called climate change. Most scientists agree that climate change is caused by humans. People use fossil fuels such as oil and coal. It is how we heat our homes and power our cars. Fossil fuels emit greenhouse gases. Greenhouse gases trap heat in the air. This causes the temperatures to rise.

**More Hot, Dry Weather**

Any firefighter can tell you the recipe for "fire weather": hot, dry and windy.

The surge in wildfires has been happening where the climate is getting hotter and drier.

These areas include parts of France and Portugal. In the last 20 years, this area of Europe has had several bad droughts. Before, such dry periods were expected to happen only once every 100 years. Countries there are now experiencing more wildfires.

### More Dead Plants

Dry weather means more dead trees, shrubs and grass. They provide good fuel for the fire, said Michel Vennetier. He works for a research organization in France.

### New Plants That Burn More Easily

To make matters worse, new kinds of plants are growing in these places. These new plants prefer dry conditions. They also burn more easily, said Vennetier, making fires more likely.

### Less Water In The Ground

Rising temperatures and less rain also affect how plants behave. Trees and shrubs get thirsty. They send their roots deeper into the soil. They suck up every drop of water they can reach.

That means needed water has been taken from the ground. This leaves the soil without moisture. The moisture could have helped slow down a wildfire. Now, it is not there.

### Fire Seasons Getting Longer

Earth has three temperature zones. There is the tropical zone near the equator. The polar zones are located near the North Pole and the South Pole. Finally, there is the temperate zone. In North America, this zone includes almost all of the United States. Most of Europe and Asia is also in the temperate zone.

In the past, fire seasons were shorter in many temperate areas. Fires usually happened in July and August.

Fire seasons have grown longer. Today, they might last from June to October, according to scientists.

In California, a five-year drought recently ended. Some experts now say there's no longer a fire season there. Wildfires can now happen year round.

### Warmer Weather Means More Lightning

"The warmer it gets, the more lightning you have," said Mike Flannigan. Flannigan is a professor at the University of Alberta, Canada.

"Especially in the northern areas, that translates into more fires."

Worldwide, he notes, 95 percent of wildfires are started by humans.

### Weaker Wind Currents

Normal weather patterns over North America and Eurasia depend heavily on the powerful, high-altitude air currents. The air currents are called jet streams. They are made by two air currents. One comes from where the equator is. The other comes from the North Pole or the South Pole.

But global warming has raised temperatures in the Arctic. They are rising twice as fast as the global average. This has weakened the wind currents.

Flannigan said the rising temperatures have led to blocked ridges. Blocked ridges are areas in the current where the air sinks. Then, the air gets warmer and drier as it moves along. Warm and dry air only makes fires worse.

### Hotter Fires

A dryer, hotter climate changes how fires act. They are likely to become more intense. In other words, they burn hotter and faster.

More intense fires are a big problem. According to Flannigan, if a fire gets too intense it is almost impossible for firefighters to put it out. "It's like spitting on a campfire," he said.

### New Insects

Temperatures are rising rapidly in northern countries. Warmer winters in the far north are welcoming new critters. For example, bark beetles have moved north into Canada's forests. They are killing pine forests. More dead trees provide more fuel for wildfires.

### More Carbon In The Air

Carbon is a chemical element. It is found in greenhouse gases that are causing temperatures to rise.

Forests hold about 45 percent of Earth's carbon on land. They soak up about 25 percent of greenhouse gases that humans create.

As forests die and burn, some of their carbon is released into the air. Having more carbon in the air is not good. It causes heat to get trapped in the air. The more heat is trapped, the more forests will die and burn. Scientists have a name for this kind of cause-and-effect loop. They call it "positive feedback."

## Quiz

1 Read the paragraph from the section "More Hot, Dry Weather."

> *These areas include parts of France and Portugal. In the last 20 years, this area of Europe has had several bad droughts. Before, such dry periods were expected to happen only once every 100 years. Countries there are now experiencing more wildfires.*

How does the paragraph above support the main idea of the article?

(A) It explains why droughts are more common in Europe now.

(B) It shows that wildfires are a concerning problem in all parts of the world.

(C) It gives an example of how climate change has made conditions for wildfires more common.

(D) It explains why the climate in parts of Europe is getting hotter and drier.

2 How does the information in the section "Fire Seasons Getting Longer" support the main idea of the article?

(A) by highlighting that fires can now happen during many times of the year

(B) by explaining how temperate areas do not get as many fires as other areas

(C) by showing that a five-year drought ended recently in California

(D) by helping the reader understand how climate change has caused droughts

3 Complete the sentence.

Because of warmer weather conditions:

(A) Wind currents have gotten stronger in the Arctic.

(B) There are fewer droughts in summer.

(C) There is more rain to slow down wildfires.

(D) More plants are dying that can burn in wildfires.

4 How has climate change affected the soil?

(A) There are more wildfires that burn up the plants that provide moisture to soil.

(B) Plants have to take water from the soil around them because there is less rain.

(C) Warmer temperatures have led to more lightning, which burns up the soil.

(D) Greenhouse gases have trapped so much heat in the forests that there is no soil left.

## Answer Key

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