http://www.dw.com/en/how-climate-change-is-increasing-forest-fires-around-the-world/a-19465490

How climate change is increasing forest fires around the world

Have wildfires increased globally over recent years? And if so, is global warming to blame? Research has illuminated this, along with what wildfires do to us and our environment, and which areas are most vulnerable.

How climate change is increasing forest fires around the world

Have wildfires increased globally over recent years? And if so, is global warming to blame? Research has illuminated this, along with what wildfires do to us and our environment, and which areas are most vulnerable. Portugal forest fire (Reuters/R. Marchante)

Are wildfires increasing around the world?

Unusually large wildfires ravaged Alaska and Indonesia in 2015. The following year, Canada, California and Spain were devastated by uncontrolled flames. In 2017, massive fires devastated regions of Chile - and now, a deadly blaze in Portugal has claimed dozens of lives.

So, have wildfires actually increased globally, or does it just seem that way because we're tuned in more to bad news and social media?

Science suggests that over the past few decades, the number of wildfires has indeed increased, especially in the western United States. According to the Union of Concerned Scientists (UCS), every state in the western US has experienced an increase in the average annual number of large wildfires over past decades. Extensive studies have found that large forest fires in the western US have been occurring nearly five times more often since the 1970s and 80s. Such fires are burning more than six times the land area as before, and lasting almost five times longer.

What's more, wildfire season - meaning seasons with higher wildfire potential - has universally become longer over the past 40 years. This trend is something Jason Funk, senior climate scientist with UCS, is very worried about. "2015 was a record-breaking year in the US, with more than 10 million acres burned," he told DW in an interview. "That's about 4 million hectares, or an area of the size of the Netherlands or Switzerland."

What is the main reason wildfires are increasing?

Funk has been researching the impact of climate change on landscapes in the US, and says there is very well documented scientific evidence that climate change has been increasing the length of the fire season, the size of the area burned each year and the number of wildfires. Wildfires are typically either started accidentally by humans - such as a burning cigarette carelessly tossed out of a window - or by natural causes like lightning. These "ignition events" don't have a major effect on the scale of the fire, says Funk. But what does affect scale are prevailing climate conditions. And these have become warmer and drier - due to climate change.

What else is increasing wildfires?

A less direct climate-driven effect is pest outbreaks that have killed a lot of trees. Pests make forests more susceptible to wildfire, according to Funk.

"We know that these pest outbreaks have been caused by climate change, because there hasn't been anything like that in the past 500 years, perhaps even 1,000 years," he said.

Insects are responding to warmer conditions, Funk explained, taking advantage of the longer summer season which grants them longer breeding circles and faster reproduction. "We can link those effects to the warmer temperatures that we've seen in the places where wildfires have been taking place."

What threats do these wildfires pose?

Forest fires aren't necessarily bad. In fact, fire is a natural and beneficial part of many forest ecosystems, and we need to allow some fires to burn, as they are necessary for the ecosystems to stay healthy. Over the decades, undergrowth builds up on the forest floor - so when a fire burns through, that provides space for larger, more mature trees that are more fire-resistant.

But the unnatural increase in wildfires is causing entire forests to burn down uncontrollably. This is bad for the environment - and for us. Wildfires pose risks to human life, property and infrastructure - recent wildfires have already caused significant human health impacts across southeast Asia, says Funk.

But the biggest problem is that the scale of these fires has increased to the degree that they themselves have become significant contributors of greenhouse gas emissions. After all, trees absorb and store carbon from the atmosphere - so the more trees that burn down, the harder it is to combat climate change in the future. And this is dangerous, Funk said.

What areas are most affected by wildfire?

According to US federal research, humid, forested areas are most likely to face greater threats from wildfires, as conditions there grow drier and hotter due to global warming. Forests increasingly affected by fire and climate change, and which are thus the most vulnerable, are in the boreal region. This stretches across the northern hemisphere through Alaska, Canada, Scandinavia and Russia.