



World on fire

The wildfires of 2020

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Wildfires were a part of nature long before human activity started to have a significant impact on the planet. On the one hand, they can be seen as an ecosystem service that benefits humans and nature alike. Fires are an integral part of many ecosystems and can be actively used for ecosystem management, especially in areas where humans and nature co-exist. Smaller fires are also necessary to prevent larger, potentially catastrophic fires.

At the same time, however, climate change appears to be causing an increase in the number of wildfires in many regions around the world, and more extreme events in areas where wildfires used to be less common. The fires in Greenland in 2017 and 2019 were a good

example. Across the Arctic region as a whole, the recent extent of wildfires in boreal forests has been unprecedented when considering the past 10,000 years.

Wildfires themselves may also directly and indirectly contribute to climate change. Fires release carbon into the atmosphere, while at the same time potentially reducing the ability of forests to store carbon.

This cartogram shows the locations of wildfires around the world in 2020. The fires were detected through the Moderate Resolution Imaging Spectroradiometer (MODIS) aboard NASA's Terra and Aqua satellites. Data collected by MODIS provides information on the location of a fire, its emitted energy, the flaming and smoldering ratio, and an estimate of area burned. It's recorded at a 1,000-square-kilometre area resolution. In the cartogram, the size of the land is proportional to the number of fires detected there; areas that experienced the most fires in 2020 are shown

largest. The colour overlay helps to further distinguish the most intense areas, with the bright-yellow parts having the highest fire count in an area. The small accompanying map displays the number of fires on a normal world map, so that the geographical distribution can be seen in a more familiar way.

It's estimated that through human activity – by far the largest cause of fires – 71 million hectares of forest and grassland are burned every year. Around three quarters of burned biomass is located in the tropical and subtropical regions. This map quite clearly shows the burning of the Amazon rainforest as well as agricultural burning across large parts of the African continent. Yet it also becomes obvious that higher latitudes aren't unaffected. Noteworthy are larger areas across the Mediterranean region and the aforementioned (usually naturally occurring) fires in the northern boreal forests. ●