Wildfires set to increase 50 percent by 2050

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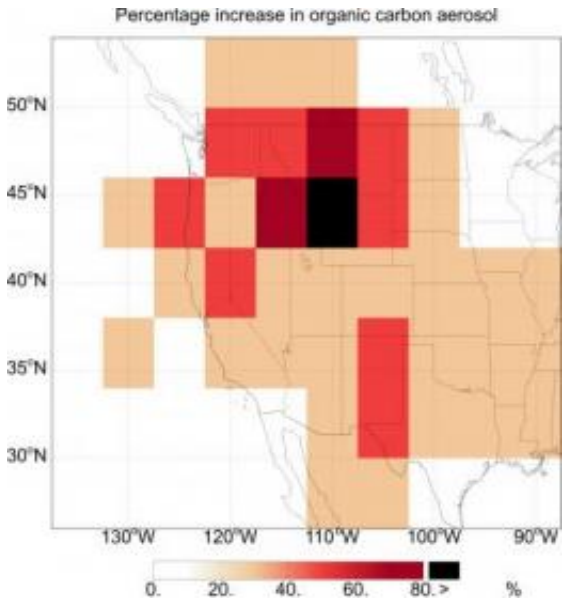


This graph shows the percentage increase in organic carbon particles at the surface, from the present-day to the 2050s, as calculated by the model of Spracklen et al. [2009] for the May-October fire season. The increase is due mainly to the simulated rise in wildfire frequency in the future, warmer climate. Credit: Loretta Mickley, Harvard School of Engineering and Applied Sciences

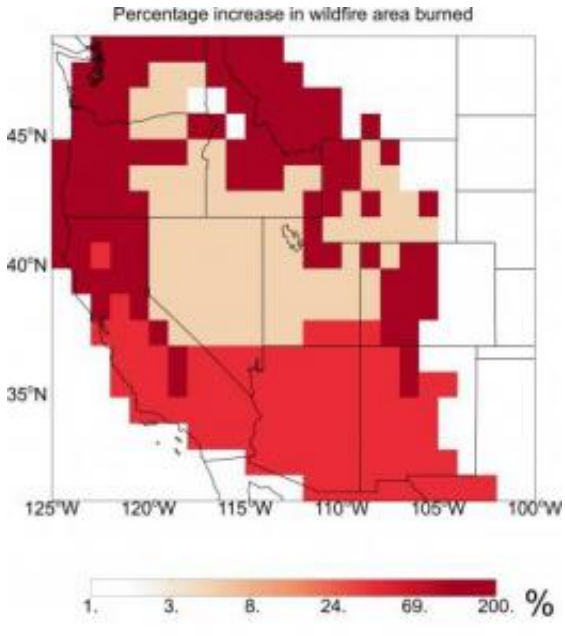
The area of forest burnt by wildfires in the United States is set to increase by over 50% by 2050, according to research by climate scientists.

The study predicts that the worst affected areas will be the forests in the Pacific Northwest and the Rocky Mountains, where the area of forest

destroyed by wildfire is predicted to increase by 78% and 175% respectively.

The research is based on a conservative temperature increase of 1.6 degrees Celsius over the next 40 years.

Published in the *Journal of Geophysical Research*, scientists also say that the increase in wildfires will lead to significant deterioration of the air quality in the western United States due to greater presence of smoke.



This graph shows the percentage increase in area burned by wildfires, from the present-day to the 2050s, as calculated by the model of Spracklen et al. [2009] for the May-October fire season. The model follows a scenario of moderately increasing emissions of greenhouse gas emissions and leads to average global warming of 1.6 oCelsius (3oFahrenheit) by 2050. Warmer temperatures can dry out underbrush, leading to more serious conflagrations in the future climate. Credit: Loretta Mickley, Harvard School of Engineering and Applied Sciences

"Wildfires, such as those in California earlier this year, are a serious problem in the United States and this research shows that climate change is going to make things significantly worse," says Dr Dominick Spracklen, from the School of Earth and Environment at the University of Leeds who is the lead author of the research.

"Our research shows that wildfires are strongly influenced by temperature. Hotter temperatures lead to dryer forests resulting in larger and more serious fires," explains Spracklen.

"In the Rocky Mountains we are predicting that the area burnt by wildfires will almost triple by 2050."

Scientists used data documenting the area of forest burned on federal land since 1980 along with weather data from the United States Department of Agriculture Forest Service, to construct a computer model that takes into account the factors that can best predict the area burned in each ecosystem in the western US.

Significantly, the research also predicts a 40% increase in the western United States in the concentration of tiny soot particles in the air, known to scientists as organic carbon aerosol. This will have important consequences on western US air quality and visibility.

"The US government has introduced legislation to try to improve air quality and visibility by 2064. Currently the main focus for environment agencies and campaigners is industry, but this research shows that, especially in the western US, wildfires will become an increasing source of air pollution," explains Dr Spracklen.

More information: The paper 'Impacts of climate change from 2000 to 2050 on wildfire activity and carbonaceous aerosol concentrations in the western United States', published in the Journal of Geophysical Research

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Source: University of Leeds (news : web)