

Extreme wildfires likely fueled by climate change

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A study led by Michigan State University geographer Lifeng Luo suggests climate change is fueling the larger and more destructive wildfires scorching vast areas of the American West. Credit: Michigan State University

Climate change is likely fueling the larger and more destructive wildfires that are scorching vast areas of the American West, according to new research led by Michigan State University scientists.

These erratic fires are harder to contain and often result in catastrophic damage and loss of property and life. Although not analyzed in the study,

the recent Arizona wildfire that began with a [lightning strike](#) and killed 19 firefighters appeared to be such an unpredictable, fast-spreading blaze, according to a state report.

The MSU-led study, which appears in the *Journal of Applied Meteorology and Climatology*, predicts the trend will continue in the western United States.

"Our findings suggest that future lower [atmospheric conditions](#) may favor larger and more extreme wildfires, posing an additional challenge to fire and forest management," said Lifeng Luo, MSU assistant professor of geography and lead author on the study.

The researchers analyzed current and future [climate patterns](#) projected by multiple regional climate models and their effect on the spread of fire in a mountainous region that includes Arizona, Idaho, Nevada, New Mexico, Utah and Wyoming. The study focused on August, the most active month for wildfires in the western United States.

August 2012 saw 3.6 million acres burn in the region, the most of any August since 2000. However, there were only 6,948 fires in August 2012—the second fewest in that 12-year timeframe—meaning the fires were much larger.

Large wildfires are mainly driven by [natural factors](#) including the availability of fuel (vegetation), precipitation, wind and the location of lightning strikes. In particular, the researchers found that exceptionally dry and unstable conditions in the earth's lower atmosphere will continue contributing to "erratic and extreme [fire behavior](#)."

"Global climate change may have a significant impact on these factors, thus affecting potential wildfire activity across many parts of the world," the study says.

Provided by Michigan State University

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