

As climate change increases forest fires, smoke forecasting could help protect public health

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Satellite images, air quality measurements and smoke forecasting models are useful tools to help individuals and public health professionals prepare for smoke episodes in areas at risk from forest fire smoke, according to University of British Columbia researcher Michael Brauer.

Brauer shares his insight into the health impacts of smoke exposure and suggests effective strategies to mitigate them today at the [American Association for the Advancement of Science](#) (AAAS) Annual Meeting in Vancouver, Canada.

Vegetation fire frequency and intensity are expected to increase as a consequence of climate change, according to Brauer. While there are other potentially [harmful pollutants](#) in fire smoke, increases in [fine particulate matter](#) are of most concern. Particulate matter can remain suspended in the air for days, or even weeks, affecting air quality across large regions. These particles are fine enough to easily penetrate [indoor environments](#).

Brauer and colleagues at the BC Centre for Disease Control have conducted a number of studies to demonstrate that particles from [forest fires](#) pose an increased risk to public health, causing a wide range of respiratory health effects. Their current work, with graduate student Jiayun Yao, evaluates the ability of smoke forecasting tools such as the BlueSky Western Canada Wildfire Smoke Forecasting System to predict

health impacts.

"Given the health effects related to fire smoke exposure and the likelihood of increased fire smoke episodes resulting from climate change, strategies to mitigate the public health impacts are required," says Brauer, a professor in the School of Population and Public Health at UBC and co-lead of the School's Occupational and Environmental Health theme. "Smoke forecasting tools can help individuals and public health professionals prepare for smoke episodes."

He suggests that at risk communities establish clean air shelters, and that individuals use properly-sized HEPA-filter air cleaners or air conditioners in their homes.

"Individuals with pre-existing heart and lung conditions need to limit their exposure to fire smoke and to also ensure they have adequate supplies of reliever medications when the fire season begins."

Provided by University of British Columbia

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