

Climate Change, Wildfires and Canadians' Health

HEALTH OF CANADIANS IN A CHANGING CLIMATE: SCIENCE ASSESSMENT 2022

Risks to the health of Canadians from wildfires are increasing

The Canadian climate is warming and this is having profound and immediate impacts on fire activity in Canada. The area burned by wildfire in Canada has doubled since the early 1970s, with climate change being a key driver. Canadians must prepare for a future with more wildfires and increased air pollution due to the changing climate.

The health effects of wildfires can be serious

The health effects of wildfire smoke include exacerbations of asthma and chronic obstructive pulmonary disease, increased respiratory infections and premature death. Wildfire smoke is estimated to have contributed to 620–2700 deaths related to air pollution per year between 2013 and 2018.

Along with effects on air quality, wildfires can impact:

- The mental health of those living near or exposed to wildfires including increased risk of post-traumatic stress disorder, anxiety, worry, and depression in adults and children.
- Food sources, when contaminated by pollutants from smoke (e.g., deposited on agriculture or pasture lands)
- Water quality, through changes in watershed characteristics, such as surface runoff, and through contamination with heavy metals, chemicals, and other pollutants resulting from fires and fire-suppression efforts
- Health care facilities, through damage to infrastructure and impacts on staff and patients

Severe wildfires in British Columbia in 2017 resulted in the temporary closure of 19 health care facilities or sites, the evacuation of 880 patients, and the displacement of more than 700 health services staff.



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Some Canadians are at higher risk to the health impacts of wildfires

All Canadians can experience health issues on days when the air is heavily polluted, including when wildfire smoke is present, but some groups are more at risk:

- People with lung conditions such as asthma or chronic obstructive pulmonary disease
- Seniors
- Children
- First Nations, Inuit, and Métis peoples
- Wildland firefighters

Adaptation helps to protect Canadians

Monitor health risks and provide warning:

- Environment and Climate Change Canada has implemented Canada's Wildfire Smoke Prediction System (FireWork) to estimate wildfire smoke trajectory across North America over the coming 48 hours

- The Air Quality Health Index (AQHI) conveys the health risks of air pollution to the public on a day-to-day basis, including risks from wildfires.

Preventing fire risk and reducing smoke exposures

- Use portable air cleaners or install high quality air filters in HVAC systems in homes, schools, workplaces and other indoor environments
- Use non-combustible materials for the home and thin surrounding vegetation up to 30 metres from the building to reduce risks of fire damage
- Increase green space to attenuate the health effects of air pollution, without increasing fire risk
- Use clean air shelters to reduce exposures to dangerous air quality during wildfires

Air Quality Health Index | Cote air santé



Raising awareness of risks and measures to protect health:

- Spread awareness among health care professionals about the effects of wildfires and wildfire smoke and associated adaptation measures to support preparedness efforts.
- Raise public awareness of protective actions, ensuring the most isolated are reached
- Provide advice on outdoor activities

Helpful resources

- [Air Quality Health Index \(AQHI\): “What are you breathing today?” \(video\)](#)
- [Wildfire smoke 101: Wildfire smoke and your health](#)
- [Wildfire smoke 101: How to prepare for wildfire smoke](#)
- [Wildfire smoke 101: Combined wildfire smoke and heat](#)
- [Wildfire smoke 101: Using a portable air cleaner to filter wildfire smoke](#)
- [Portable air cleaners for wildfire smoke](#)
- [How to prepare for wildfire smoke season](#)

Sources

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