

FACT SHEET

Climate Change and Wildfires

May 2026

Accelerating climate change, largely from the burning of fossil fuels, makes wildfires [bigger, hotter, and more](#) destructive (Climate Atlas of Canada n.d.). With Canada [warming twice as fast](#) as the global average (Government of Canada 2019), and home to more than a quarter of the world's boreal forests, the country is experiencing this consequence of global heating firsthand.

The last three fire seasons have been among the 10 [worst on record](#). Canada experienced its [most destructive wildfire season](#) ever in 2023, with fires consuming 16.5 million hectares—more than double the previous record and nearly seven times more than the historical average (Natural Resources Canada 2024). In 2024, the Jasper wildfire in Alberta [destroyed one-third of the town's structures](#) and was among the most expensive natural disasters in Canadian history, with [insured damages estimated to be \\$1.23 billion](#) (Insurance Bureau of Canada, 2025). 2025 was the second worst wildfire season in Canadian history, with over 8.3 million hectares burned, and fires impacting nearly every province and territory (Public Safety Canada, 2025).

Our research finds that to keep Canadians safe from wildfires and other worsening climate hazards, governments must play both defence and offence—protecting people and ecosystems while accelerating the transition away from fossil fuels to limit further climate heating (Sawyer et al. 2022).

Climate change makes wildfires worse

- While forest fires are naturally occurring [disturbances](#) that contribute to the health and renewal of many forest ecosystems (Canadian Council of Forest Ministers 2019), fires are burning hotter and wilder as the climate warms, causing much greater destruction.
- Canadian forests are more susceptible to [high-severity fires](#) in a warming climate (Wang et. al 2025). While there is no increase in the overall number of wildfires, the [number and size of large and very large fires is increasing](#), along with the annual area burned (Hanes et. al. 2025).
- Climate change [more than doubled](#) the likelihood of extreme fire weather conditions in Eastern Canada in 2023 (World Weather Attribution 2023).
- An overheating climate is making Canadian summers hotter and drier, with [more erratic rainfall](#), including [less summer rain](#) in some regions (Bush and Lemmen 2019; Gifford et al. 2022). Wildfires are more likely to [spread rapidly](#),

with dry, windy days increasing by up to 50% in western Canada and doubling or tripling in eastern Canada (Wang et. al 2017).

- Research has shown that climate change is [extending 'burning hours'](#) by weakening the natural day-night temperature cycle that once slowed wildfires, allowing them to burn more intensely overnight and spread faster (Luo 2026).
- A warming climate is leading to decreased annual [snow cover](#) across Canada's north in May and June, leading to drier conditions which increase wildfire risk (Environment and Climate Change Canada, 2025).
- Fire season is [starting earlier](#), is [lasting longer](#), and is [harder to contain](#) (Climate Atlas of Canada n.d.; Natural Resources Canada 2024b; Natural Resources Canada 2022). [Zombie fires](#) are even beginning to smoulder through the winter (Shingler 2024).
- Lighting strikes become [more frequent](#) as the climate warms (McKabe 2023). Ninety-three per cent of the area burned in Canada in 2023 was [from fires ignited by lightning](#); only 7 per cent by human-ignition (Jain et al. 2024).
- Elevated wildfire risk from climate change means that, whatever the cause, fires catch, spread, and get out of control much more easily.

Wildfires are damaging people's health and wellbeing

- The smoke from wildfires can spread [thousands of kilometres](#) (NASA Earth Observatory 2015), requiring school closures and causing other disruptions while threatening the health of [millions of people](#) (Lin 2023), particularly children, seniors, and people with heart or lung disease.
- Hot-burning wildfires release dangerous levels of particulate matter into the air, which is [associated with an increased risk](#) of issues like heart disease, cardiovascular disease, lung cancer, and brain cancer (Egyed et al. 2022; Korsiak et al. 2022).
- Between 2020-2024, increased wildfire smoke was responsible for an annual average of [1,400 deaths](#) in Canada (Romanello et. al 2025). Smoke from Canada's 2023 wildfires is estimated to have caused [more than 80,000 premature deaths globally](#) (Zhang et. al 2025).
- Heavy smoke takes a significant toll on the Canadian healthcare system. A single week of wildfire smoke in June 2023 was estimated to have [cost Ontario over \\$1.2 billion](#) (Sawyer et al. 2023) in health impacts such as premature deaths, increased hospital visits, and health emergencies.
- Poor air quality from smoke [hits the most vulnerable the hardest](#) (Government of Canada, 2022). The impacts of smoke are even more serious for groups like children, seniors, pregnant people, and those who work outdoors.

- Smoke from larger wildfires is [exacerbating asthma across parts of Western Canada](#) (Matz et al. 2020), and the aftermath of climate-related fires and floods takes a [significant toll](#) on mental health (Belleville et al. 2019).
- Wildfires can destroy homes and communities, devastate fragile ecosystems, and threaten economic security. These effects have been [linked](#) to post-traumatic stress disorder, depression, anxiety, and suicidal thoughts (Hayes et al. 2022).

Worsening wildfires are making life more expensive

- Wildfires can destroy property, homes, and [entire communities](#), driving up insurance costs and making life more expensive (Gerety 2024; Vaillant 2024).
- The [cost of wildfire protection](#) has risen by about \$150 million per decade since the 1970s (Government of Canada 2024). These costs exceeded \$1 billion for six of the last 10 years.
- The 2016 wildfire in Fort McMurray, Alberta, cost an [estimated](#) \$9 billion in direct and indirect physical, financial, health, and environmental impacts (Alam et al. 2019). It triggered the largest evacuation in Canadian history, destroying more than 2,400 structures and displacing 85,000 people.
- Wildfires impact key sectors of the economy, including [the forest industry](#), one of Canada's largest employers (Lindsay and Pelai 2024). Wildfires can disrupt forestry operations and reduce the amount of timber available, hurting workers and forest-dependent communities in the process. During the 2017 wildfires in British Columbia, [40 forestry companies](#) were temporarily shut down (Ministry of Environment and Climate Change Strategy 2019).
- The accumulating impacts of global heating, including bigger and more frequent wildfires, are raising the cost of living in Canada from lost jobs, reduced economic activity, and tax hikes to pay for disaster recovery and infrastructure repairs. The additional climate change impacts between 2015 and 2025 alone will cost the average household [\\$700 per year](#), and will continue to increase moving forward (Sawyer et al. 2022).

Governments can act to protect communities and slow further heating

- Scientists have warned that the consequences of climate change will only get worse as the concentration of heat-trapping gases in the atmosphere increases (IPCC 2022). Governments around the world, including Canada's, must act immediately to reduce greenhouse gas emissions and limit global warming.
- Because the impacts of climate change are already here and getting worse, communities and governments must work together to adapt and prepare for increased fire risks today.
- Federal and provincial governments [can promote fire resilience](#) by limiting development in areas at high risk of wildfires, strengthening building codes

and regulations (for example, building with fire-resistant materials), and improving forest and vegetation management through prescribed burns and other measures to help reduce fuel available to burn near at-risk communities (Bénichou et al. 2021).

- [Alberta](#) and [British Columbia](#)'s FireSmart programs are examples of initiatives that help communities and individuals reduce their fire risk (FireSmart Alberta 2024; FireSmart B.C. 2024).

Indigenous Peoples are disproportionately impacted, and leading on solutions

- Indigenous communities in Canada have used controlled fire as traditional land management practice since time immemorial. [Supporting these cultural burning practices](#) can help reduce the risk of out-of-control wildfires (BC Wildfire Service 2022).
- Eighty per cent of majority-Indigenous communities in Canada are [located](#) in fire-prone regions (Asfaw et al. 2019).
- More than [42 per cent of wildfire evacuations](#) have been from majority-Indigenous communities (Webber and Berger 2023).
- Between 1980 and 2021 in Canada, [16 communities](#) (Christianson et al. 2024) were evacuated five or more times, and all but two of those were First Nations reserves.

Resources

- [Public Health Risk Profile: Wildfires in Canada](#) (Public Health Agency of Canada 2023)
- [The Cost of Wildland Fire Protection](#) (Natural Resources Canada 2024c)
- [Flame Wars: Misinformation and Wildfire in Canada's Climate Conversation](#) (Climate Action Against Disinformation 2024)
- [Canadian Wildland Fire Information System](#) (2024)
- [Forest Fires and Climate Change](#) (Climate Atlas of Canada n.d.)
- [Reporting Extreme Weather and Climate Change: A Guide for Journalists](#) (World Weather Attribution 2024)
- [Canadian Interagency Forest Fire Centre Wildfire Statistics](#)

Experts available for comment and background information on this topic:

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