

# Wildfire Smoke

Wildfire smoke is a mixture of fine particulate and gases which can lead to additional health risks for vulnerable populations and create harmful symptoms in healthy individuals. Wildfire smoke can travel large distances and can affect the air quality for extended periods of time. The best way to protect your health is to limit exposure.



## Health effects of wildfire smoke exposure

There are numerous different health effects which can be attributed to wildfire smoke. The likelihood of experiencing adverse health effects depends on the level and degree of exposure, age, and individual health. Smoky air makes daily activities harder, both physically and mentally.

- **Individuals at a higher risk** of experiencing health effects from wildfire smoke are:
  - Infants and young children.
  - Older adults.
  - Individuals with an existing illness or chronic health conditions, such as: cancer, diabetes, underlying respiratory and/or cardiovascular disease - [Health Effects of Wildfire Smoke \(BCCDC\)](#).
- **Symptoms** of wildfire smoke exposure:

### Mild or more common symptoms:

- headaches
- a mild cough
- a runny nose
- production of phlegm
- eye, nose, and throat irritation
- wheezy breathing

### More severe symptoms:

- dizziness
- chest pains
- severe cough
- shortness of breath
- heart palpitations (irregular heartbeat)

*If you're experiencing more severe symptoms contact 8-1-1, your medical practitioner, walk-in clinic or 9-1-1 if it's a health emergency.*

- **Resources:**
  - [Health Effects of Wildfire Smoke \(BCCDC\)](#) - Factsheet on the health effects of wildfire smoke and how to reduce exposure.
  - [Coping with Disaster Stress \(Canadian Mental Health Association\)](#) - Mental health tips and resources.

## How to prepare for wildfire smoke in your community

- **Develop a plan** for how you will continue to meet the health, safety and well-being needs of all persons in care during periods of poor air quality.

### Consider:

- Adding this to your emergency preparedness plan.
  - Child Care facilities - How you will continue to meet the requirements of active play.
  - Community Care Home facilities - How you will continue to provide an ongoing planned program of physical, social, and recreational activities.
  - How you will monitor and document programming when changed due to wildfire smoke.
  - The length of time spent outside related to transportation such as walking or waiting for public transit.
- **Monitor the Air Quality Health Index (AQHI)** regularly. It helps you understand what the air quality around you means to your health. It is a scale from 1 to 10+. The higher the number, the greater the health risk associated with the air quality.

1-HOUR PM <sub>2.5</sub> (µg/m <sup>3</sup> )	PROVINCIAL AQHI	AQHI RISK CATEGORY	HEALTH MESSAGE FOR PEOPLE AT HIGHER RISK	HEALTH MESSAGE FOR GENERAL POPULATION	ACTIONS TO REDUCE WILDFIRE SMOKE EXPOSURE
0-10	1	<b>LOW</b>	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.	Normal air quality in British Columbia.
11-20	2				
21-30	3				
31-40	4	<b>MODERATE</b>	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms.	No need to modify your usual outdoor activities unless you experience symptoms.	<ul style="list-style-type: none"> <li>• Use a portable air cleaner to reduce smoke in your home.</li> <li>• Stay inside with doors and windows closed, but keep cool – being too hot is more risky than breathing smoke for most people.</li> <li>• Visit places with cleaner and cooler air, such as libraries, community centres, and shopping malls.</li> <li>• If you cannot access cleaner air, consider using a well-fitted N95 respirator or relocating to an area with less smoke.</li> </ul>
41-50	5				
51-60	6				
61-70	7	<b>HIGH</b>	Reduce or reschedule strenuous activity outdoors.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms.	<ul style="list-style-type: none"> <li>• Visit places with cleaner and cooler air, such as libraries, community centres, and shopping malls.</li> <li>• If you cannot access cleaner air, consider using a well-fitted N95 respirator or relocating to an area with less smoke.</li> </ul>
71-80	8				
81-90	9				
91-100	10				
100+	10+	<b>VERY HIGH</b>	Avoid strenuous activity outdoors.	Reduce or reschedule strenuous activity outdoors, especially if you experience symptoms.	<ul style="list-style-type: none"> <li>• If you cannot access cleaner air, consider using a well-fitted N95 respirator or relocating to an area with less smoke.</li> </ul>

Table source: [BC Centre for Disease Control - Wildfire Smoke and Air Quality](#)

Table: 1-hour concentrations of fine particulate matter (PM<sub>2.5</sub>) can be used to estimate the Air Quality Health Index (AQHI) in British Columbia.

- You can monitor current conditions and subscribe for alerts at:
  - [BC Air Quality Advisories](#) - Current Air Quality Advisories and Smokey Skies Bulletin.
  - [Air Quality Health Index for BC](#) - Quick reference guide on reading the air quality health index for your area.

- If you live somewhere without an AQHI reading, you can check fine particulate matter (PM2.5) readings to give you an idea of how smoky it is.
      - PM2.5 data from [regulatory grade sensors in BC](#).
      - PM2.5 data from lower-cost air quality monitors (less reliable but still good) can be found in [areas where regulatory sensors may not be available](#).
  - **Resources:**
    - [Wildfire Smoke and Air Quality Health Index Factsheet \(BCCDC\)](#) - Quick reference guide on reading the air quality health index for your area.
    - [Wildfire Smoke and Air Quality \(BCCDC\)](#) -Where to find information on wildfire smoke related to your community.
    - [Air Quality Health Index \(BC Government\)](#) - Detailed guide Q&A on the Air Quality Health Index (AQHI) and air quality during wildfires.
- **Educate employees** on how to monitor and recognize the signs and symptoms of illness related to wildfire smoke exposure. Ensure employees know how to respond when medical care is required.
- **Keep rescue medications** adequately supplied and easily accessible for person in care with chronic health conditions such as asthma. Have a contingency plan to follow if the medications do not bring the condition under control.
- **Maintain hydration.** Drink plenty of water to limit inflammation. Hydrate before feeling thirsty.
- **Prepare your facility** to keep the cleaner air inside. Keeping windows and doors closed, along with filtered ventilation systems and air cleaners, while keeping cool, assist in maintaining better air quality indoors. Review resources below for guidance on how to create or maintain cleaner air indoors.

*Keeping windows and doors closed without an adequate cooling system will increase indoors temperatures especially on hot days. Heat poses a higher health risk than wildfire smoke for most people. Prioritize staying cool if susceptible to both wildfire smoke and heat. Indoor temperatures should be maintained below 26° C to prevent heat related illness.*

- **Resources:**
  - [Guidance for Cleaner Air Spaces during Wildfire Smoke Events \(Health Canada\)](#) – Detailed guidance and a simplified checklist to create cleaner air spaces for wildfire smoke events.
  - [Portable Air Cleaners for Wildfire Smoke \(BCCDC\)](#) – Guidance on the use and purchase of portable air cleaners.
  - [Do-It-Yourself Air Cleaners \(BCCDC\)](#) – Direction and information on creating your own portable air cleaner.
- **Limit exposure** to wildfire smoke as much as possible. This is especially important for persons at a higher risk of experiencing health effects. Monitor the current air quality and assess whether outdoor activities are safe for persons in care. Refer to the table on page 2.
  - When the air quality is poor, it is best to stay indoors with cleaner, cooler air to protect your health.
    - The more strenuous the activity, the more quickly and deeply you breathe in smoke. Consider moving outdoor recreation and active play activities indoors or reducing the intensity of the activity and/or the time spent outdoors.

- Community recreation centres and gymnasiums typically have clean, filtered air and air conditioning which make them a safer space for activities.
- If you cannot maintain cleaner air within the facility, especially during the hottest time of the day, consider outings to locations such as libraries, museums, malls, or other public spaces where the indoor temperatures are controlled, and the air is filtered.
  - Consider postponing or rescheduling planned outdoor events to a time when the air quality has improved.
- Encourage persons in care to tell an employee when they are feeling unwell due to exposure so steps can be taken to mitigate the symptoms and effect.
  - **Resources:**
    - [How to Prepare for the Wildfire Smoke Season \(BCCDC\)](#) – Guidance on ways to prepare for wildfire smoke.
    - [Wildfire Smoke and Outdoor Exercise \(BCCDC\)](#) – Considerations for exercise outdoors during smoking conditions.
    - [Respiratory Protection for Wildfire Smoke \(BCCDC\)](#) – How to protect yourself from wildfire smoke by using face masks.
    - [Wildfire Smoke During Extreme Heat Events \(BCCDC\)](#) – Information on the impact and risks of wildfire smoke during extreme heat events.

In the following video, Medical Health Officer Dr. Sue Pollock talks about air quality, tips to reduce risk and how smoke affects you: <https://youtu.be/-X5Qs6S9NX4>

### Additional Resources

- [Wildfires \(Interior Health\)](#)
- [Wildfire Smoke \(BCCDC\)](#)
- [Wildfire Smoke Response Planning \(BCCDC\)](#)
- [Wildfire smoke 101: How to Prepare for Wildfire Smoke \(Health Canada\)](#)
- [Wildfires in Canada: Toolkit for Public Health Authorities \(Health Canada\)](#)
- [Wildfires and Your Health \(HealthLinkBC\)](#)

Please check the [Interior Health \(https://www.interiorhealth.ca/health-and-wellness/natural-disasters-and-emergencies\)](https://www.interiorhealth.ca/health-and-wellness/natural-disasters-and-emergencies) website for more Emergency Information.