

WILDFIRE SMOKE and AIR QUALITY

INFORMATION SHEET

KEY MESSAGES



- **Fine particulate matter (PM2.5)** is the **main health risk** from wildfire smoke exposure.
- Health effects from wildfire smoke exposure can occur even at low levels, especially for people at higher risk.
- Air quality can be poor even when smoke is not visible or easy to smell.
- As smoke levels increase, health risks increase. People should **use local air quality information** to decide when to reduce exposure.

What is fine particulate matter (PM2.5)?



PM2.5 refers to **very small particles in the air**. During wildfire smoke events, PM2.5 is the pollutant of greatest health concern because it can travel deep into the lungs and **affect breathing, heart health, and overall well-being**.

PM2.5 is created when fuels and materials burn, including forests, and it can also form through chemical reactions in the air.

Map source: UNBC Air Quality Map (<https://cyclone.unbc.ca/aqmap/>), accessed June 15, 2026.

Who is at Higher Risk?



- People with asthma, chronic obstructive pulmonary disease (COPD), heart disease, or other chronic health conditions
- Older adults, infants, and young children
- Pregnant people
- People who work, exercise, or spend long periods outdoors
- People without access to cleaner indoor air or air conditioning

Recommended Actions:

- ✓ Check local air quality before participating in outdoor activities, programs, sports, camps, or community events.
- ✓ Reduce or reschedule strenuous outdoor activities when smoke levels are high, especially for people at higher risk.
- ✓ Keep indoor air as clean as possible by closing windows and doors when smoke is present, as long as the temperature is comfortable. Use filtered air where available.
- ✓ Follow advice from local public health, emergency management, and Environment and Climate Change Canada air quality alerts.
- ✓ Seek medical advice if you experience symptoms such as wheezing, chest pain, severe cough, shortness of breath, dizziness, or heart palpitations. Call 9-1-1 for a medical emergency.



Wildfire Smoke Health Guidance

by 1-Hour Average PM_{2.5} Level

	AQHI Category	PM2.5 (µg/m³)	People at Higher Risk	General Population
Low Risk	1-3	0-30	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities
Moderate Risk	4-6	31 - 59	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High Risk	7-10	60-100	Reduce or reschedule strenuous activities outdoors. Children and older adults should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High Risk	10+	101+	Avoid strenuous activities outdoors. Children and older adults should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.

How to Use Air Quality Information: AQHI & PM2.5



Public health messaging during wildfire smoke events is guided by real-time air quality information, including PM2.5 levels and the Air Quality Health Index (AQHI).

During wildfire smoke events, short-term PM2.5 levels can rise quickly.

Community members and partners should use real-time PM2.5 and AQHI information to make decisions about outdoor activities, events, programs, and services.



In Ontario, the AQHI is reported as **7 or higher**, which is in the **high-risk category**, when 1-hour PM2.5 reaches or exceeds 60 µg/m³.



Monitoring PM2.5 in Renfrew County & District



RCDHU has coordinated a **network of PM sensors** across Renfrew County and District to support local monitoring during wildfire smoke events.

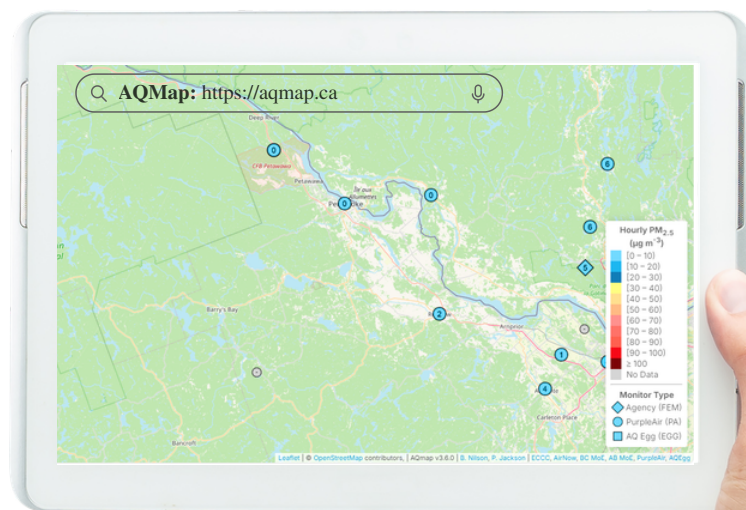
Community members and partners are encouraged to use the [AQMap](https://aqmap.ca) and other trusted sources to monitor PM2.5 levels and follow the health guidance above when considering activity restrictions or program changes.



Note: When the [AQMap](https://aqmap.ca) opens, it automatically displays the 1-hour PM2.5 levels.

Sources:

- [AQMap](https://aqmap.ca)
- Government of Canada: [Wildfire smoke, air quality and your health](#)
- CCME: [Air Quality](#)
- Government of Ontario: [Wildfire Smoke and Air Quality Reference Document, 2024](#)
- World Health Organization: [WHO global air quality guidelines](#)
- BC Centre for Disease Control: [Wildfire Smoke and the Air Quality Health Index \(AQHI\)](#)



Map source: UNBC Air Quality Map (<https://cyclone.unbc.ca/aqmap/>), accessed June 15, 2026.

TRUSTED LOCAL PM2.5 MONITORING SITES



- **Renfrew:** PurpleAir monitor
- **AQSU-Petawawa-2:** PurpleAir monitor
- **Pembroke:** PurpleAir monitor
- **AFFES-Smoke Lake:** PurpleAir monitor
- **Barry's Bay:** PurpleAir monitor

