

SCHOOLS AND WILDFIRE SMOKE

Why should I pay attention to wildfire smoke?

Wildfire smoke is a complex mixture of different air pollutants and is an important health concern for our region. As the climate warms, the number, size and length of wildfires have increased and seriously impacted air quality in British Columbia. Wildfire smoke causes episodes of the worst air quality that most people will ever experience in British Columbia.

Signs of illness from wildfire smoke may include: lung irritation, eye irritation, runny nose, sore throat, wheezing, mild cough, and headaches. More severe signs of sickness needing medical attention include shortness of breath, bad cough, dizziness, chest pain, or the feeling of a fast-beating or fluttering heart. Infants and young children are especially sensitive to the health effects of wildfire smoke.

Students most sensitive to wildfire smoke are children with chronic heart and lung disease (especially asthma), diabetes, and in lower grades (younger age). However when the Air Quality Health Index (AQHI) is in the very high health risk category, even healthy children and adults may experience effects from the smoke: cough, scratchy throat, wheeze, nasal and eye irritation, and perhaps even shortness of breath.

In general indoor air quality at schools may be better than the air quality in some students' homes, especially newer schools with good filtration. Closing schools due to poor air quality from wildfire smoke must be the very last resort.

Reducing exposure to wildfire smoke is the best way to protect health.

What can I do to prepare for the wildfire season?

1. Create and/or update your **wildfire smoke response plan** and provide training to staff to make sure they know what to do to protect the health of children and themselves during wildfire smoke events.
2. Prepare staff to **recognize the signs of illness** from wildfire smoke exposure and know when medical care is needed.
3. Know where to access the **Air Quality Health Index (AQHI)**, **air quality advisory alerts and real-time air quality readings** (see resources below).
4. Understand how to **improve the indoor air quality** of your facility.
 - Ensure the building HVAC is well maintained and functioning, and filters are in good working order. Use the highest rated minimum efficiency reporting value (MERV) filter possible (ideally MERV 13 or higher). Talk to your building provider about making existing building ventilation system HEPA (high efficiency particulate air) filter ready. Then during a wildfire smoke event, the existing building ventilation filters could be switched to the upgraded filter for the length of the event.
 - For some schools (particularly older schools), consider buying portable air cleaners with HEPA filtration, which are mobile units that can be plugged into a regular wall socket and used during wildfire events. Different units treat different sized rooms, so do your research and make sure the one you buy is good for your space. Some portable air cleaners also have activated carbon filters that can address the other pollutants in wildfire smoke. Avoid air cleaners that produce ozone. More



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information on choosing portable air cleaners can be found here: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/BCCDC_WildFire_FactSheet_PortableAirCleaners.pdf

- Note that air cleaners work best when windows and doors are closed, so heat may become an issue on days that are also hot outdoors. Energy efficient active cooling (e.g. ductless heat pump or air conditioner) may also be needed in addition to air cleaners to create a cool space with clean air.
- Arrange a maintenance plan to replace all filters regularly.

What should I do during a wildfire smoke event?

NOTE: These measures are recommended even in the context of the COVID-19 pandemic. With some thought, poor air quality from wildfire smoke and COVID 19 can readily be managed together. The school COVID safety plans that are in place should be adequate to protect students and staff even when they are indoors.

1. Because the smoke levels are different from place to place and could change quickly, schools should **monitor the hourly air quality health index (AQHI+)** using the AQHI Canada app or on this provincial website: <https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-quality/aqhi>.
2. **Monitor children in your care for signs of illness** as required. Make sure children drink plenty of water and stay cool.
3. Ensure that children with chronic health conditions (e.g. asthma) who are prescribed "**rescue**" **medications** have these medications easily available.
4. **Reduce outdoor activity** during poor air quality episodes. Understand that the harder a person breathes the more smoke they inhale.
 - When the AQHI is in the very high category, consider moving activities requiring intense physical activity (e.g. PE, track and field or outdoor team sports) indoors or canceling them.
 - For younger students (e.g. primary grades), consider moving recess and lunch indoors when the AQHI is in the very high category.
 - When it is smoky outside, students in general should be permitted to remain indoors if they so wish during lunch, recess or other planned outdoor activities.
5. **Improve indoor air quality** as much as possible.
 - Consider keeping windows and doors closed during high smoke times; however, make sure that indoor temperatures can be maintained at a comfortable level to prevent heat-related illnesses. Remember that closing windows and doors can be dangerous on hot days if you don't have air conditioning.
 - Ensure the building HVAC is well maintained and functioning, and filters are in good working order. Use the highest rated minimum efficiency reporting value (MERV) filter possible (ideally MERV 13 or higher).
 - For some schools (particularly older schools), consider using appropriately sized portable HEPA filters for individual class rooms.
 - Take advantage of times when the smoke has decreased to open windows and doors.

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Wildfire Smoke Resources

- BC Centre for Disease Control: Factsheets on the health effects, how to prepare, how to choose a portable air cleaner for wildfire smoke, Air Quality Health Index, and more can be found here <http://www.bccdc.ca/health-info/prevention-public-health/wildfire-smoke>
- AQHI Canada app with notifications
 - <https://open.alberta.ca/interact/aqhi-canada>
- Real time air quality data
 - For Metro Vancouver and the Lower Fraser Valley communities: Air quality and weather map: [AirMap.ca](http://airmap.ca)
 - For elsewhere in BC: <http://www.env.gov.bc.ca/epd/bcairquality/readings/find-stations-map.html>
- Stay informed by signing up for air quality advisories and alerts:
 - Metro Vancouver and the Lower Fraser Valley: <http://www.metrovancouver.org/services/air-quality/mailling-list/Pages/default.aspx>
 - Elsewhere in BC: <https://aqss.nrs.gov.bc.ca/subscription.html>
 - Wildfire alerts and forecasts are available by downloading “the BC Wildfire Service App (for Android or Apple):
http://bcfireinfo.for.gov.bc.ca/hprScripts/wildfirenews/DisplayArticle.asp?ID=3186&WT.cg_n=HootSuite
- Interactive wildfire smoke forecast map:
https://weather.gc.ca/firework/firework_anim_e.html?type=em&utc=00®ion=pacific