

# HEALTH & SAFETY GUIDANCE FOR REOPENING LĀHAINĀ SCHOOLS

Fall 2023



King Kamehameha III Elementary  
Princess Nāhi'ena'ena Elementary  
Lāhainā Intermediate  
Lāhaināluna High

Oct. 15, 2023  
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Hawai'i State  
Department of Education



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## Introduction

The Aug. 8, 2023 Maui wildfires devastated West Maui communities and directly impacted the Hawai'i State Department of Education's (HIDOE) four Lāhainā public schools, which have been physically closed to students and staff for the past two months.

The King Kamehameha III Elementary School campus on Lāhainā Town's Front Street was damaged beyond repair in the fires. The Princess Nāhi'ena'ena Elementary, Lāhainā Intermediate and Lāhaināluna High campuses sustained wind and debris damage and were closed from Aug. 8 through Oct. 6, 2023 as the community worked to recover.

After preliminary assessments determined that the remaining three schools could physically reopen, the HIDOE initiated extensive environmental testing and clean-up efforts, working with county, state and federal partners and agencies. Results of the testing, "Campus Status Updates," are available on the HIDOE's website at [bit.ly/LahainaSchoolsProgressReport](https://bit.ly/LahainaSchoolsProgressReport).

Following weeks of comprehensive air, drinking water and soil quality testing at the three Lāhainā campuses, the HIDOE announced plans to welcome staff and students back as part of a phased reopening plan, starting with staff on Oct. 6 and students after fall break.

Governor Josh Green, M.D., HIDOE Superintendent Keith Hayashi and State Health Department Director Dr. Kenneth Fink announced the reopening plans at a Sept. 26, 2023, news conference in Lāhainā, where officials emphasized that the campuses are safe from a public health standpoint and staff and students can return.

## About this Guidance

As part of the HIDOE's commitment to ensuring the health, safety and well-being of students and staff, these health-related guidelines were developed in consultation with the state Department of Health (DOH) as part of the HIDOE's reopening plans for Lāhainā schools. As new information becomes available, the guidance is being reviewed and revised based on recommendations from DOH and other subject matter experts.

This guidance focuses on the responsibility of the HIDOE and schools with respect to monitoring and responding to changes in air quality. It includes a color-coded chart outlining the actions schools would take based on corresponding air quality readings on particulate matter sensors installed at the Lāhainā schools ([Table 1](#)).

This guidance is based on the U.S. Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention's (CDC) Air Quality and Outdoor Activity Guidance for Schools and Wildfire Smoke: A Guide for Public Health Officials.<sup>1</sup> The guidelines are designed to assist

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<sup>1</sup> [https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?dirEntryId=347791&Lab=NHEERL](https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=347791&Lab=NHEERL)

in the school-level decision-making process when air quality is poor. Short-term school closure and event cancellation are a school-level decision by a principal in consultation with their complex area superintendent, based on local conditions.

Schools should consult the guidance ([Table 1](#)) when making decisions about school activities and closures – in consultation with complex area and state office leadership – based on air quality measurements and local conditions, such as the availability and quality of school building air filtration and direct observation of onsite indoor/outdoor air quality.

### Summary of Significant Updates as of Oct. 15, 2023

- **Adding** a section on Debris Removal under the Monitoring Air Quality section.
- In Table 1. Air Quality Action Plan for Schools:
  - **Taking a more cautious approach** to avoid students’ and employees’ exposure to harmful air particles by:
    - **Adding** that schools will contact and consult with HIDOE’s Environmental Services Unit beginning in the *Yellow/Moderate* concentration level. **Adding** that schools would be advised to take action based on the hazard evaluation by HIDOE’s Environmental Services Unit.
    - **Revising** actions at the *Orange/Unhealthy for Sensitive Groups* concentration level to have students and employees conduct indoor activities only. Also, windows and doors for classrooms and offices will be closed, and indoor HEPA air filters will be turned on.
    - **Revising** actions at the *Red/Unhealthy* concentration level to prepare for transition to distance learning if air quality monitors show sustained *Red/Unhealthy* concentration levels.
    - **Removing** the word “consider” from the action to relocate or reschedule activities in the *Purple/Very Unhealthy* concentration level.
    - **Revising** actions at *Maroon/Hazardous* concentration level; school campuses would already be closed at this level.
- **Adding** information about the recent opening of a secondary emergency access route to the Responding to Emergency Situations section.

## Monitoring Air Quality

The EPA and DOH have installed air quality monitors at the three schools: Princess Nāhi’ena’ena Elementary, Lāhainā Intermediate and Lāhaināluna High. These monitors are part of a network of sensors that will be used as the primary tool for tracking fine particulate matter with a diameter of 2.5 micrometers (PM2.5) or smaller. Fine particulates can travel deeply into the lungs and cause inflammation and damage to the lung tissue. Particulates come from many different sources such as dust, soot, smoke or car exhaust.

The network of monitors is maintained and operated by trained government agencies and measured in context with multiple data points considering a variety of factors. These monitoring tools are reliable, accurate and provide continuous real-time air quality information.

- The EPA website – [fire.airnow.gov](https://www.airnow.gov) – provides an hourly update of air quality for each monitor.
- Each school will have a designated administrator responsible for monitoring changes in air quality.
- Actions at schools will be based on the Air Quality Action Plan for Schools ([Table 1](#)).

In addition to the outdoor air monitors, each school administrator will have a handheld air sensor to monitor trends in PM2.5 levels indoors.

If you have any questions about the air quality on Maui, please contact DOH's Clean Air Branch toll free at (808) 984-2400 between 7:45 a.m. and 4:15 p.m. Call the number, then enter 64200#.

### **Debris Removal**

Governor Josh Green, M.D., announced in late August that the state and the County of Maui selected the U.S. Army Corps of Engineers to lead efforts to remove ash and fire-damaged material in Lāhainā. The County will oversee priorities during the fire clean up while working in partnership with state and federal agencies. Debris removal is still being planned and is not expected to begin until 2024.

The debris removal poses a risk of toxic ash becoming airborne. DOH identified the period of debris removal as being the highest risk for unhealthy air quality. Those responsible for debris removal will implement a dust mitigation plan and take measures that would reduce the risk. The HIDOE will coordinate with the DOH to revise HIDOE's school safety guidelines as debris removal plans are made.

### **Considerations for Schools Related to Air Quality**

Outdoor air quality is one of the factors schools need to consider when making a decision to modify activities or close a school campus. Schools should consider the factors below, in addition to any other relevant local conditions or concerns, in consultation with their complex area superintendent and state office subject matter experts and leadership.

#### **Health and Safety**

- **Indoor air quality.** HEPA air filtration systems at schools may offer a higher level of protection than residential systems.
- **Supervision.** The school environment provides appropriate student supervision by trained and caring adults who can help ensure students follow all emergency protocols.

- **Student support services.** School may be the primary place where students receive needed health and counseling services.
- **Meals.** Schools serve healthy meals and provide food security for a significant proportion of students.

### **Using an Equity Lens**

Schools are aware of the equity issues below and will develop contingency plans if needed to address them:

- Socioeconomically disadvantaged families may not have options for alternate child care.
- Working parents and guardians are disproportionately affected by school closures and could suffer significant professional or economic consequences as a result.
- Students receiving free or reduced-price meals may not have a reliable alternate source of healthy food.
- Students with Individualized Education Programs (IEPs) may not have access to needed services during school closure.
- Instructional time is foundational to all students' academic achievement.

### **Reducing Exposure**

As air particulate matter increases it is important to protect health by limiting time and intensity of outside physical activity, staying indoors when possible, closing windows and doors, and keeping indoor air clean. Keep your air clean by using a HEPA air filter or Corsi-Rosenthal box. If indoor temperature is high, get to a location with clean filtered air and air conditioning. Walking, biking, or riding in a bus with windows opened is considered time outdoors.

### **Symptoms of Reaction to Particulate Levels**

Reactions to particulate levels vary depending on an individual's sensitivity and the amount of exposure. Air particulates can make breathing problems such as asthma worse and trigger attacks. Symptoms of asthma include coughing, wheezing, difficulty breathing and chest tightness. Even students who do not have asthma could experience these symptoms. Poor air quality is also associated with burning or watery eyes, throat and nose irritation, fatigue, headache, wheezing, and shortness of breath.

When a student is affected by air quality and develops symptoms, they might need to take a break, do a less intense activity, stop all activity, go indoors, go to the school health room (see School Health Assistant Manual Section 3-3-9), or follow the steps in their school's Emergency Action Plan.

If a student or staff member develops severe symptoms (e.g., unable to breathe, turning blue, chest pain, shortness of breath that does not resolve with rest) call 9-1-1.

### **Sensitive Groups**

Groups sensitive to air quality include all children ages 18 and younger, older adults, pregnant people and individuals with health conditions such as asthma and other lung diseases and heart disease. Children breathe in more air than adults for their body weight, increasing their total

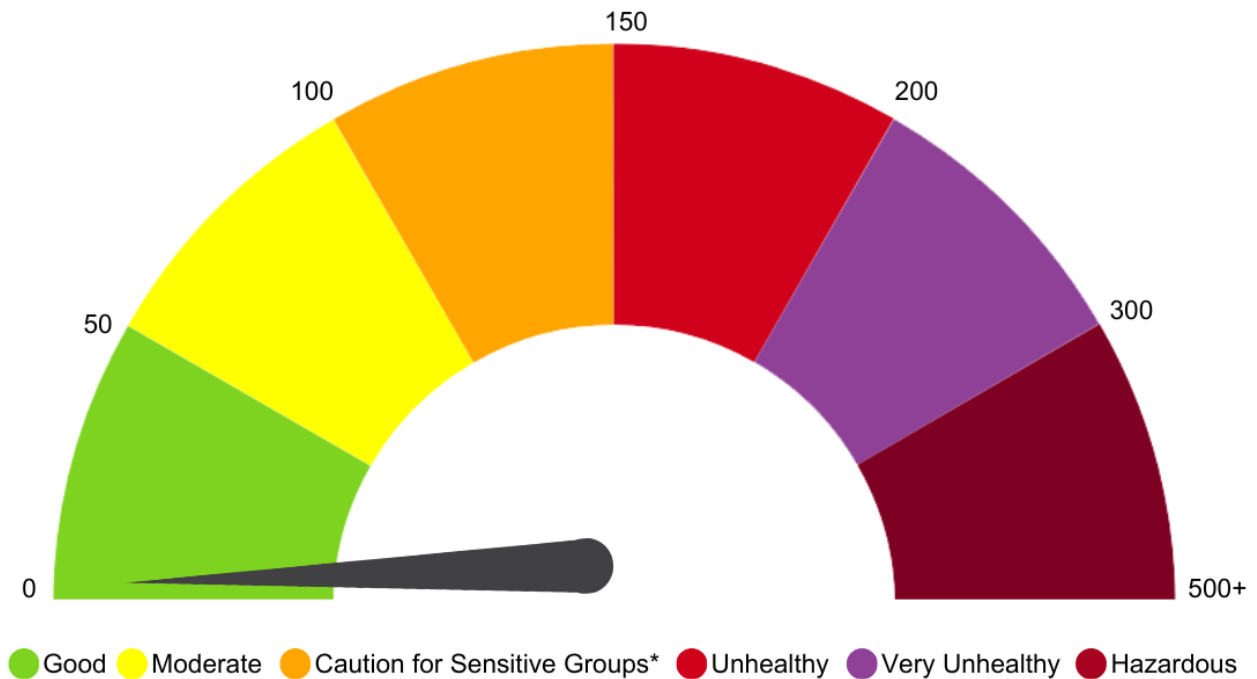
exposure to air pollution. Individuals sensitive to air quality should consult with a health care provider to discuss their health concerns.

For questions about a student health concern, call your primary care provider or talk with a Hawai'i Keiki nurse by calling the Health Hotline toll free at (844) 436-3888, Monday through Friday from 8 a.m. to 3 p.m., excluding holidays and school intersession.

## Air Quality Action Plan

Since the air quality monitors were installed at the Lāhainā schools in late August, the air quality readings have been good. Until debris removal begins, DOH anticipates a low likelihood of significant changes in air quality.

- Conditions are continuously monitored by a school administrator using AirNow: Fire and Smoke Map ([fire.airnow.gov](http://fire.airnow.gov)).
- The color-coded guide with recommended actions should be followed when applicable.
- When the Air Quality Index (AQI) is 51 or higher, the school administrator will consult with the HIDOE's Environmental Services Unit to assess the situation. Based on the assessment, actions will be taken.
- The HIDOE's Safety, Security and Emergency Preparedness Branch will communicate with the Maui Emergency Management Agency on the elevation and duration of air quality levels and related threats to recommend appropriate actions to schools.



\*Increasing likelihood of health effects for children and especially for children or adults with pre-existing respiratory or heart disease.

**Table 1. Air Quality Action Plan for Lāhainā Schools**

Information as of Oct. 15, 2023

Categories as defined by U.S. EPA's Air Quality Index		Recommended School Actions
EPA AQI <i>Air Quality Index</i>	PM2.5 Concentration <i>Particulate Matter</i>	
0-50	<b>Green - Good</b> 0-12.0 µg/m3 Little to no risk	<ul style="list-style-type: none"> <li>• It's a good day to be active outside.</li> <li>• Maintain normal school operations, including outdoor activities.</li> <li>• Windows and doors can be open.</li> <li>• Monitor air quality using <a href="https://fire.airnow.gov">fire.airnow.gov</a>.</li> </ul>
51-100	<b>Yellow - Moderate</b> 12.1-35.4 µg/m3 Unusually sensitive individuals may experience symptoms	<ul style="list-style-type: none"> <li>• <b>Schools will contact and consult with HIDOE Environmental Services Unit for a hazard evaluation.</b></li> <li>• <b>Based on hazard evaluation by the Environmental Services Unit, schools will take actions which may include turning on indoor air filters, closing doors and windows, and reducing outdoor activities.</b></li> <li>• <b>Watch for symptoms of reactions to particulate matter. Follow school health room procedures for students and staff who are reporting or showing symptoms.</b></li> <li>• <b>Communicate with families about operational actions that are taken (ensure school has accurate contact information on file).</b></li> <li>• Monitor air quality using <a href="https://fire.airnow.gov">fire.airnow.gov</a>.</li> </ul>
101-150	<b>Orange - Unhealthy for Sensitive Groups*</b> 35.5-55.4 µg/m3 Increasing likelihood of health effects experienced by children, and especially children or adults with existing health conditions.	<ul style="list-style-type: none"> <li>• Schools will contact and consult with HIDOE Environmental Services Unit.</li> <li>• <b>Turn on indoor air filters and turn off central air conditioners to limit unfiltered outside air. Close doors and windows.</b></li> <li>• <b>Suspend all outdoor activities such as PE, sports and recess.</b></li> <li>• <b>Cancel, relocate or reschedule outdoor extracurricular activities.</b></li> <li>• Watch for symptoms. Follow school health room procedures for sending students and staff who are reporting or showing symptoms.</li> <li>• Communicate with families about operational actions that are taken.</li> <li>• Monitor air quality using <a href="https://fire.airnow.gov">fire.airnow.gov</a>.</li> </ul>
151-200	<b>Red - Unhealthy</b> 55.5-150.4 µg/m3 Sensitive individuals expected to	<ul style="list-style-type: none"> <li>• Schools will contact and consult with HIDOE Environmental Services Unit.</li> <li>• Keep indoor air filters on and keep central air conditioners off. Keep doors and windows closed.</li> </ul>

	<p>experience increased aggravation of pre-existing respiratory or heart conditions. Increased respiratory or heart effects likely in general population.</p>	<ul style="list-style-type: none"> <li>● Suspend all outdoor activities such as PE, sports and recess.</li> <li>● <b>Cancel, relocate or reschedule all extracurricular activities.</b></li> <li>● Watch for symptoms. Follow school health room procedures for sending students and staff who are reporting or showing symptoms.</li> <li>● Schools will communicate with families.</li> <li>● Monitor air quality using <a href="http://fire.airnow.gov">fire.airnow.gov</a>.</li> <li>● Communicate with families about operational actions that are taken.</li> </ul>
<p>201-300</p>	<p><b>Purple - Very Unhealthy</b>  <b>150.5-250.4 µg/m3</b>          Significant health effects expected for individuals with pre-existing conditions. Significant increase in respiratory effects in general population.</p>	<ul style="list-style-type: none"> <li>● <b>If school is in session, shelter-in-place.</b></li> <li>● <b>If school is not yet in session, do not report to campus.</b></li> <li>● Cancel, relocate or reschedule extracurricular activities.</li> <li>● Contact and consult with HIDOE Environmental Services Unit and Maui emergency services.</li> <li>● Communicate with families.</li> <li>● Monitor air quality using <a href="http://fire.airnow.gov">fire.airnow.gov</a>.</li> </ul>
<p>301-500</p>	<p><b>Maroon - Hazardous</b>  <b>250.5-500.4 µg/m3</b>          Serious health effects expected for individuals with preexisting conditions. Serious risk of respiratory effects in the general population.</p>	<p>If this situation occurs, we anticipate that school campuses would already be closed.</p>

\*Sensitive groups include children ages 18 and younger, older adults, pregnant people, and individuals with health conditions such as asthma and other lung diseases and heart disease.

## Drinking Water Quality

After the Aug. 8, 2023 wildfires, Maui County conducted water sampling from the treatment plant from above Lāhaināluna, which provides water to all three campuses. There was no destruction or fire damage to any of the properties in that water distribution area and there is no recorded loss of water pressure. Multiple rounds of water testing have demonstrated the absence of any fire-related contaminants in the drinking water source feeding the three schools. Results of the testing are posted at [bit.ly/LahainaSchoolsProgressReport](https://bit.ly/LahainaSchoolsProgressReport).

Currently, drinking water quality is not a concern and standard procedures will be maintained. Maui County's Department of Water Supply and the state Department of Health conduct regular testing on water and will remain the lead agencies if conditions change. Refer to [mauicounty.gov/126/Department-of-Water-Supply](https://mauicounty.gov/126/Department-of-Water-Supply) for updated information.

## Soil Quality

Because there was no visible ash observed at the three schools after the fires, the state Department of Health did not recommend testing the soil at the three campuses. Out of an abundance of caution, the HDOE hired an independent consultant — Ford & Associates — to conduct soil testing for heavy metals and dioxins at the three schools.

For the testing at Princess Nāhi'ena'ena Elementary and Lāhainā Intermediate, the soil results were all within standards and are safe. For Lāhaināluna High, the results showed an isolated finding in half the samples of a slightly elevated nickel level. The state Department of Health said this is not uncommon in volcanic soil across the state, and the findings were still well below the EPA threshold and considered safe.

Results of the testing are posted at [bit.ly/LahainaSchoolsProgressReport](https://bit.ly/LahainaSchoolsProgressReport).

## Responding to Emergency Situations

All HIDOE public schools have their own site-specific and confidential Emergency Action Plan (EAP) to protect the health and safety of everyone on campus. The EAP guides emergency responses at school and is designed to ensure employees will be able to provide the best response possible when responding to emergency situations

Evacuation procedures are included in school-level EAPs. Wildfire threats are also monitored under these school-level plans and include best practices to minimize the potential of fire threats. The plans consider the terrain, geography, weather and fuel conditions present in the surrounding areas, along with changes that occur over time.

On Oct. 13, 2023, Gov. Green, the Department of Transportation and HIDOE announced the opening of a secondary emergency access route that will allow the Princess Nāhi'ena'ena Elementary, Lāhainā Intermediate and Lāhaināluna High campuses to safely exit the area in the event of a mass evacuation. The 2.5-mile route connects a Lāhaināluna fire lane to the Lāhainā Bypass. A second phase to add access points at Ho'okahua Street and on Lāhaināluna Road near the Bypass is under construction.



## Mental Health

It is difficult to predict how some students will respond to disasters and traumatic events. Because parents, teachers, and other adults see students in different situations and environments, it is important for them to work together to share information about how each child is coping after a traumatic event.

The CDC has recommendations on supporting students who return to school after an emergency or disaster<sup>2</sup>. The following strategies may help students cope when experiencing trauma:

- Talk to students about what happened in a way they can understand. Keep it simple and appropriate for each child's age. (See the CDC's guide on helping children cope with emergencies and common reactions by age range<sup>3</sup>.)
- Provide students with opportunities to talk about what they went through or what they think about it. Encourage them to share concerns and ask questions.
- Students react, in part, to what they see around them. When adults deal with a disaster calmly and confidently, they can provide the best support for their students.
- Daily routines, such as following familiar schedules when to eat and when to play, can help reduce stress. However, while recovering from disasters, students may have a hard time focusing on learning; they may need more time than usual to master new skills and concepts.
- Students who were directly exposed to a disaster can become upset again; behavior changes resulting from the event may be long-lasting and can worsen or return if these students see or hear reminders of what happened. Be aware that this could happen, and know what resources are available to provide support.

To ensure every student has what they need to thrive and reach their full potential, the HIDEO's Here to Help program focus areas provide a comprehensive approach that supports the mental health and overall well-being of students. As part of this approach, in-person mental health and well-being services are available on every campus. To learn more, please reach out to your current school or visit [heretohelp.hidoe.us](http://heretohelp.hidoe.us). Additional mental health resources for staff and students may be found at [bit.ly/HIDOE-West-Maui-Resources](http://bit.ly/HIDOE-West-Maui-Resources).

Community-based health services are available at:

### **Lāhainā Comprehensive Health Center**

Akoakoa Place  
(Just below the Lāhainā Civic Center)  
Daily from 8 a.m.-5 p.m.  
(808) 984-2150

### **Maui Family Guidance Center**

Wailuku Office  
Monday - Friday, 7:45 a.m.-4:30 p.m.  
Please call ahead at (808) 243-1252\*  
*\*If you happen to get a voicemail, please leave a message.*

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<sup>2</sup> <https://www.cdc.gov/childrenindisasters/school-return-after.html>

<sup>3</sup> <https://www.cdc.gov/childrenindisasters/helping-children-cope.html>

## Frequently Asked Questions

**1. How can I find out the daily air quality?**

Go to [fire.airnow.gov](https://fire.airnow.gov) to learn about the air quality near you in real-time.

**2. How long can people stay outside when the air quality is unhealthy?**

There is no exact amount of time. Use the color-coded guide as a reference and monitor for symptoms. In the case of the Lāhainā schools following the wildfires, the concern is about the amount of exposure to toxic substances that are associated with ash from the debris from fire-damaged material. Toxicologists are advising the state Department of Health (DOH) and Hawai'i State Department of Education (HIDOE) regarding the type of substances in the debris and the harm associated with substances in the ash. Being outside has more risk than being indoors with the indoor air filters.

DOH identified the period of debris removal as being the highest risk for unhealthy air quality. Those responsible for debris removal will implement a dust mitigation plan and take measures that would reduce the risk. The HIDOE will coordinate with the DOH to revise HIDOE's school safety guidelines as debris removal plans are made.

**3. How are the schools maintaining healthy indoor air quality?**

The HIDOE has done extensive specialized, professional cleaning of all interior and exterior spaces at the campuses. DOH and the EPA have installed air quality monitors outside all Lāhainā schools to detect fine particulate matter. Readings have been in the "Green/Good" level for the vast majority of time since installation. Each school also has a hand-held monitor. HEPA air filters are in all spaces at school. The HIDOE's Environmental Services Unit will be immediately notified if there are any changes. A weather station has been installed at Lāhainā Intermediate to track wind patterns and trends. Bi-weekly wipe tests in classrooms will continue to test for any particles settling on surfaces. The HIDOE's safety guidance that was developed with DOH includes a list of actions the schools will take whenever there are changes in the air quality.

**4. What should families do when schools are closed due to air quality?**

Stay indoors. Keep doors and windows closed. If it is too hot indoors at home, go someplace with air conditioning. Consult your primary care provider if you have concerns about your child's health. Understand that schools will contact families as needed if actions are initiated due to air quality.

**5. Do all schools have an emergency action plan?**

Each school in the HIDOE system has its own site-specific and confidential Emergency Action Plan (EAP) to protect the health and safety of everyone on campus. The EAP guides emergency responses of the school.

## Resources

- [California: Guidance for Schools During Wildfire Smoke Events](#) (7/2019)
- [CDC Stay Safe After a Wildfire](#) (5/2023)
- [CDC Wildfire Smoke and Children](#) (7/2023)
- [EPA Air Quality Guide for Particle Pollution](#) (2/2023)
- [EPA Air Quality Index: A Guide to Air Quality and Your Health](#) (2/2014)
- [Air Quality and Outdoor Activity Guidance for Schools](#) (8/2014)
- [EPA/AAP Wildfire Smoke Factsheet: Protecting Children from Wildfire Smoke and Ash](#) (“pre-COVID”)
- [EPA Recommendations for Reducing Wildfire Smoke in Commercial Buildings and Schools](#) (pre-2022)
- [Spokane Air Quality Guide for School Activities & Sports](#) (6/2022)
- [Washington Children and Youth Activities Guide for Air Quality](#) (7/2023)