



Guidance for Schools During Wildfire Smoke Events

California Environmental Protection Agency
Office of Environmental Health Hazard Assessment

Wildfires in California can create smoke conditions that lead to unhealthy or hazardous air quality for extended periods. This factsheet provides guidance for school officials regarding the closure of schools and managing poor air-quality days due to a prolonged wildfire smoke event.

Reducing Outdoor Activity

- Encourage parents to arrange alternate transportation for students who usually walk or bike to school.
- Encourage using indoor waiting areas for students before and after school, if available.

Consider the following recommended actions for activity modifications based on the Air Quality Index (AQI):

AQI above 100

Air quality is "unhealthy for sensitive groups".
Move recess and lunch indoors.
Excuse children with sensitivity to air pollution (e.g., asthma) from outdoor physical education activities.

AQI above 150

Air quality is "unhealthy".
Exercise indoors or limit vigorous outdoor activities to a maximum of 15 minutes.
Move longer and more intense activities indoors.

AQI above 200

Air quality is "very unhealthy".
Move all activities indoors or re-schedule outdoor events. If appropriate, close school.

AQI above 300

Air quality is "hazardous".
If appropriate, close school.

Improving Indoor Air Quality

- Before fire season, determine optimal settings for the Heating, Ventilation and Air Conditioning system (HVAC) to keep smoke from coming indoors. If possible, install high-efficiency filters that are MERV 13 or greater (see Washington Dept. of Health link below). During smoke events, keep doors and windows closed.
- Do not add to indoor air pollution. Do not use odor-masking sprays or burn candles in classrooms. Postpone science labs and art class activities that use volatile chemicals, as well as any cleaning activities that use solvents.
- Use portable HEPA air cleaners in classrooms if feasible when the AQI is over 100. For a list of air-cleaning devices that comply with California's ozone emissions limits, school officials should refer to the California Air Resources Board's list of [California Certified Air Cleaning Devices](#).
- As an alternative to outdoor lunch or recess, create a cleaner air space in a large room with as few doors and windows as possible, such as a gym or cafeteria. To the extent possible, prevent smoke from entering the room and maintain the best air quality possible. Ensure that the room has adequate heating/cooling for the expected occupancy.
- Move students from portable classrooms into permanent buildings, if possible.
- Wearing N95 or similar masks may NOT always be beneficial to children to reduce exposure.

Sensitive Students

Students with existing respiratory and cardiovascular disease, especially those with asthma, are more sensitive to unhealthy air. They may begin experiencing symptoms such as coughing, wheezing, difficulty breathing, and chest tightness when air quality is "moderate" or worse (AQI above 51). Students should follow their asthma action plans and keep medication close. If individuals show adverse signs of smoke exposure, appropriate medical attention should be sought. Teachers, school nurses, and other adult staff should be instructed to pay especially close attention to sensitive students during wildfire events.

Considerations for School Closure

Consider the following risks and benefits when making decisions regarding school closure during a wildfire smoke event:

Benefits of Keeping Schools Open:

- School closures often require a working adult parent or guardian to stay home. Not all families have the same ability to meet this need. Unsupervised students may not adhere to health recommendations at home.
- Air quality may be worse at a student's home, particularly if the school is in a modern building with good filtration.
- Schools can provide a safe place with clean indoor air where health recommendations for students can be enforced.

Benefits of School Closure:

- Some schools do not have air conditioning. For these schools, keeping students indoors at school with doors and windows closed may be unhealthy, especially during hot days.
- Transportation to and from school may expose students to unhealthy air, especially for students who walk or bike to school.
- Students on large campuses that require walking long distances between classes may not be able to avoid exposures to unhealthy air.

Preparing for School Reopening

After an extended wildfire smoke event, the main concern is ash that may have settled on school grounds. Ash should be removed before students return to campus. If structures have burned, it is possible that ashes may contain metals, asbestos, burned plastics, and other toxic substances that may pose health risks. If possible, request professional help with clean-up.

Cleaning Ash Indoors

- Use N95 or P100 respirators, gloves, and protective clothing when cleaning indoor areas.
- If ash has settled indoors around doors and windows, it should be swept gently and disposed of. If ash has settled on hard surfaces, such as desks, counters, shelves, or non-carpeted floors, remove it using a damp microfiber cloth with water and mild detergent. Shampoo carpets. **Settled ash should not be vacuumed.**
- Have the ventilation ducts inspected and cleaned if needed.

Cleaning Ash Outdoors

- If ash has settled on a school garden, replace the soil if in a garden box or raised bed, and throw away affected crops.
- Thoroughly clean outdoor areas where children will be present, including playgrounds, lunch areas, and outdoor drinking fountains before children are allowed to return.

For more information:

- Get current air quality information: <https://airnow.gov/> or your local air quality agency webpage
- Learn more about outdoor activity guidance for schools: <https://www3.epa.gov/airnow/flag/school-chart-2014.pdf>
- Learn more about indoor air filtration options: https://www3.epa.gov/airnow/smoke_fires/indoor-air-filtration-factsheet-508.pdf
- Learn more about Washington State Department of Health, "Improving Ventilation and Indoor Air Quality During Wildfire Smoke Events": <https://www.doh.wa.gov/Portals/1/Documents/Pubs/333-208.pdf>
- Learn more about ash clean-up: https://www3.epa.gov/airnow/smoke_fires/protect-yourself-from-ash-factsheet.pdf
- Get Smart about Wildfire Smoke - Another example of School Air Quality Activity template: <https://www.cde.ca.gov/ls/ep/documents/airqualityguidance.pdf>
- California Air Resource's Board (CARB) Wildfire resources: <https://ww2.arb.ca.gov/our-work/programs/wildfires>
- California Environmental Protection Agency (CalEPA) wildfire resources: www.calepa.ca.gov/disaster/fire
- Protecting Children from smoke and ash: https://www3.epa.gov/airnow/smoke_fires/protecting-children-from-wildfire-smoke-and-ash.pdf