



Preparing for Wildfire Smoke

Our region, and the entire west coast, is experiencing an increased number of unhealthy smoke events from wildfires of a historic magnitude not seen in over a 100 years. Fortunately, there are things that you and your family can do to become resilient against the harmful smoke pollution. The Northern Sonoma County Air Pollution Control District (NoSoCo Air) encourages district residents to plan now for poor air quality conditions caused by wildfire smoke.

NoSoCo Air is doing its best to assist you by providing this compilation of tips, but it cannot displace your personal physician, health officer directives, or other subject matter professionals. The best protection against wildfire smoke is to stay indoors as much as possible when smoke is present. *For additional air quality information and additional AQI activity recommendations, be sure to visit us online at www.NoSoCoAir.org/air-quality.

Tips for Wildfire Smoke Resiliency

- 1) Health First.** Anyone experiencing serious symptoms due to smoke should contact a health care professional. Persons who have a respiratory-related illness may also wish to consult their health care provider if they are experiencing smoke exposure.
 - Parents with children with respiratory-related illness or other pre-existing conditions are encouraged to develop a response plan with their health care professional and their children's school before a smoke event occurs.

- Smoke and ash from wildfires contain very small particles known as particulate matter. These particles harm the lungs and heart, and can cause coughing, wheezing, difficulty breathing, chest pain, nausea, and in severe instances, premature mortality. People with heart or lung disease, seniors, kids, and pregnant women are especially sensitive to smoke.

2) Know Your Air Quality. Check the Air Quality Index (AQI) frequently. The AQI is EPA's index for reporting air quality, displayed with color coding that includes descriptions of air quality.

- Keep in mind that air quality can change rapidly at different times during the day due to wind shifts; therefore, it is important to monitor the smoke and check the AQI throughout the day in your area and make outdoor plans accordingly.
- To check the AQI, NoSoCo Air recommends www.AirNow.gov for a *regional* AQI and forecast that is smart-phone friendly. For more *local* AQI detail of real-time conditions with monitor and sensor measurements, visit AirNow's Fire and Smoke map at Fire.AirNow.gov.
 - Monitors are operated by government agencies and are the most accurate; but due to their high cost, there may be a limited number near you.
 - Sensors like PurpleAir are operated by citizens and are inexpensive and less accurate but useful indicators. Due to their low cost, many more sensors have been deployed.
- Purple Air Sensors can greatly increase their accuracy when utilizing EPA's correction factor. The correction factor is applied automatically on the AirNow sites; for other sites, including Purple Air, you must select the EPA correction factor in the map legend or settings.
- The District home page includes a [recommended activity guidance chart](#) for the AQI index.
- Remember - If you can see or smell smoke, or if the Air Quality Index (AQI) is 150 or greater, minimize outdoor activities and try to stay indoors.

Upgrade Your Home's HVAC filter.

- If your residence has a Heating, Ventilation, Air Conditioning (HVAC) system that pushes air out air vents, it likely has a replaceable air intake filter.
- Upgrade your filter to a MERV filter, with a rating of at least 13. These can filter the fine particulate in wildfire smoke from the air.
 - Check with your HVAC professional to see what MERV rating your HVAC system can handle to ensure proper functionality.
 - MERV 13 filters range in price by size and, range in price from \$20-\$50.
- You may need to operate your HVAC system fan continuously to cycle your home's air through the filter.

3) Set Up a "Clean Room" in Your Home.

- Choose a room big enough to fit everyone in your household and comfortable to spend time in. A bedroom with an attached bathroom is a good choice.
- Prevent smoke from entering the room. Close windows and doors in the room, but don't do anything that makes it hard to get out. If there is an exhaust fan or range hood in the clean room space, only use it for short periods.
- Stay cool. Run fans, window air conditioners, or central air conditioning. If your HVAC system or window air conditioner has an outdoor air option, turn it off or close the intake.
- Filter the air in the room. Use a portable air purifier that is the right size for the room. Run the portable air purifier continuously if you can.

4) Purchase a Portable Air Purifier.

- Pick a HEPA (High-Efficiency Particulate Air) purifier to reduce particulate matter indoors by 90 percent. These can be purchased at hardware stores or online retailers.
- Make sure that the device doesn't create ozone – find a list of safe options online: <https://www.arb.ca.gov/research/indoor/aircleaners/certified.htm>
- HEPA purifiers come in various makes and models, suitable for different room sizes. Match the purifier to your room size and consider a slightly larger unit if you have tall ceilings.
- Use the purifier in a room where you spend a lot of time, like a bedroom.

- HEPA purifiers for an average-sized bedroom cost approximately \$75.
- Check your windows and doors and make sure the room is sealed tightly so smoke from the outdoors does not get pulled inside.

5) Consider Making Your Own Air Purifier.

- Assembling a DIY version of an air purifier can be a more affordable option, with materials costing approximately \$40. This DIY version has been shown to reduce harmful particulate matter indoors similarly to a HEPA purifier.
- Here's how to make your own:
 - Use tape to attach a 20x20 MERV-rated air filter — like what you would use for your HVAC system — to the **back** of a 20x20 box fan. Attaching to the back of the fan creates a better seal.
 - Use a filter with a MERV rating of 13.
 - Check the filter for the direction of the air flow, marked on the side of the filter.
- Check your windows and doors and make sure the room is sealed tightly so smoke from the outdoors does not get pulled inside.
- Replace the filter more frequently if used during a wildfire.
- As needed, disassemble the box fan to wipe away any accumulated dirt.
- For safety, follow these precautions:
 - Don't leave the device unattended.
 - Turn off the device while sleeping.
 - When the fan is modified in this way, use the device as an air cleaner, not as fan to cool your home.

6) Avoid Activities that Create Smoke or Other Particles Indoors, including:

- Smoking cigarettes, pipes, and cigars.
- Using gas, propane, or wood-burning stoves and furnaces.
- Spraying aerosol products.
- Frying or broiling food.
- Burning candles or incense.
- Vacuuming, unless you use a vacuum with a HEPA filter.

Dust or mop surfaces in the clean room with a damp cloth as needed to keep settled particles from getting back into the air.

7) If You Can't Stay Cool at Home or are especially sensitive to smoke, it may be best to seek shelter elsewhere. You may be able to:

- Stay with friends or family in a location that is not affected by the smoke.
- Relocate to a public cleaner air shelter.
- Seek relief from the smoke in a large commercial building with air conditioning and good air filtration, like a shopping mall.
- Reduce unnecessary driving. If traveling through smoke-impacted areas, be sure that your vehicle's ventilation system is set to recirculate.

8) Masks and Facial Coverings

- **Wildfire Smoke:** N95 or P100 masks or fitted respirators are effective against wildfire smoke. Be sure to read the manufacturer's recommendation for fitment, replacement, and use.
- **Wildfire Smoke and COVID:**
 - N95 masks or respirators with no exhalation valves are effective against COVID and also against wildfire smoke. Exhalation valves are not effective against the spread of COVID-19 because respiratory droplets are able to escape through the exhalation valves.
 - Cloth masks and surgical masks effective at reducing the spread of respiratory droplets are not effective at protecting you from wildfire smoke particles.

9) Employers

Cal-OSHA regulations require that employers protect workers from wildfire smoke if the AQI for PM-2.5 is 151 or greater with a change of outdoor location, a move to inside a structure with filtered air, or by providing respiratory protective equipment. The employer should reasonably anticipate that employees may be exposed to wildfire smoke by checking the AQI or by measuring PM-2.5 levels at the work site.

AQI Chart

AQI Basics for Ozone and Particle Pollution

Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

Source: US EPA

Clean Air. **Good Living.**

