



Tips for Wildfire Smoke Resiliency

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Our region, and the entire west coast, is currently being inundated by dense smoke 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 (NoSoCoAir) encourages district residents to plan now for poor air quality conditions caused by present, and future, wildfire smoke.

NoSoCoAir 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.

Tips for Wildfire Smoke Resiliency:

- 1) **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.
 - 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.
 - For a regional AQI and forecast with a smart-phone friendly update visit www.AirNow.gov. For more local AQI detail 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 due to their low cost, many more have been deployed.

- With regards to Purple Air: Fire.AirNow has added Purple Air sensors to its map and utilizes a built-in EPA correction factor to improve sensor accuracy. If you do choose to track AQI using the Purple Air map site, be sure to engage the EPA correction factor in the map legend.
- The District home page includes a [recommended activity guidance chart](#) for the AQI index.
- 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 throughout the day in your area and make outdoor plans accordingly.
- 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.

3) 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.

4) 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.

5) 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.

6) 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.

7) 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.

8) 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 who are 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.

9) Masks and Facial Coverings. The co-existence of the COVID pandemic with wildfire smoke is a new phenomenon and it is challenging.

- If you are leaving your home always take a facial covering or a mask in case you cannot maintain social distancing in public and wear it to help prevent the spread of COVID-19.
- Cloth masks and surgical masks effective at reducing the spread of respiratory droplets are not effective at protecting you from wildfire smoke particles.
- N95 or P100 masks or fitted respirators are effective against wildfire smoke.
- N95 masks and respirators with exhalation valves are not effective against the spread of COVID-19 because respiratory droplets are able to escape through the exhalation valves.
- N95 masks or respirators with no exhalation valves are effective against COVID and also against wildfire smoke.
- If you are using an N95 or respirator with an exhalation valve(s), in order to be effective against COVID-19 you must tape the valve closed, or layer a cloth or surgical facial covering over the N95 mask.
- For more information, please review the following articles:
 - https://www.cdc.gov/disasters/covid-19/reduce_exposure_to_wildfire_smoke_covid-19.html
 - <https://www.cdc.gov/coronavirus/2019-ncov/php/cleaner-air-shelters.html>