



Wildfire Smoke and Health

Wildfire smoke is a mixture of gases and particles primarily from the burning of trees and plants. In the case of fires that enter nearby communities, additional pollutants are emitted from the burning of human-made materials and structures. Of these air pollutants, fine particulate matter, also called particle pollution or PM_{2.5}, is the biggest threat to your health. Even if you breathe smoky air for only one day, it can affect your health.

Most healthy people recover quickly from wildfire smoke exposure and will not experience immediate severe or long-lasting health effects. However, some groups of people—including children, older adults, pregnant women, people with heart or lung disease, and people with higher exposures, such as outdoor workers—are at higher risk of experiencing health effects. This fact sheet explains how wildfire smoke can affect your health and what you can do to reduce your risk of experiencing health effects.

Basics of Wildfire Smoke Exposure

The types of health effects that can occur in response to wildfire smoke exposure depend on how much smoke you are exposed to and how long the exposure lasts. Wildfire smoke exposures can occur over a short time (e.g., a few hours, a single day, up to a few days) or over a longer time (e.g., weeks, multiple times within a year, across years). These longer wildfire smoke exposures vary in frequency (how often smoke occurs), intensity (how much smoke occurs), and duration (how long smoke occurs).

Wildfire Smoke Exposure and Health Effects

Most of what is known about the health effects of wildfire smoke comes from studies that examine short-term exposures (i.e., over a day or up to a few days). The health effects associated with short-term wildfire smoke exposure builds on the decades of scientific evidence on short-term PM_{2.5} exposures. Less is known about the health effects from longer duration wildfire smoke exposures (including persistent, repeated, episodic, and cumulative exposures) that vary within and across years. This is why it is always a good idea to take exposure reduction measures when smoke is in the air.

Short-term wildfire smoke exposure can lead to:

Headaches

Eye irritation

Respiratory symptoms

- Coughing
- Increased phlegm
- Wheezing
- Difficulty breathing
- Chest tightness

Respiratory effects

- Bronchitis
- Reduced lung function
- Asthma exacerbation and aggravation of other lung diseases
- Emergency department visits and hospital admissions for respiratory conditions

Cardiovascular effects

- Heart failure exacerbation
- Heart attack
- Stroke
- Emergency department visits and hospital admissions for cardiovascular conditions

Birth outcomes

- Preterm birth

Premature death

In addition, there is some evidence that exposure to a single wildfire smoke event lasting in some cases up to a month can have health consequences in the future, including reductions in lung function and increased risk of respiratory infections.

How to Reduce Your Risk of Experiencing Health Effects

- ☑ Make a plan with your health care provider to protect your health during a wildfire smoke event, including keeping a supply of food and medicine on hand so you can stay inside in cleaner and cooler air if smoke levels are high for several days.
- ☑ Stay informed about air quality conditions. Check your local Air Quality Index (AQI) on the [Fire and Smoke Map](#) and check updates from local air quality or fire officials.
- ☑ [Reduce your smoke exposure:](#)
 - Stay indoors or limit your time outdoors if smoke is present. If you cannot stay cool indoors, spend time in a place with cleaner and cooler air.
 - Keep activity levels low when you go outdoors. Try to avoid vigorous activities, such as doing yard work or going for a run.
 - Wear a NIOSH Approved® respirator, such as an N95®, to [protect your lungs from smoke](#) if you need to go outside when smoke levels are high.
 - Keep indoor air as clean as possible through [indoor air filtration](#).
 - Check with a heating, ventilation, and air conditioning (HVAC) technician to learn the most efficient filters that can be used in your HVAC system. Use a high-efficiency filter (rated MERV 13 or higher) if your system can safely use one. You can also buy a portable air cleaner or make a do-it-yourself (or DIY) air cleaner.
 - [Create a cleaner air room](#) at home for a cleaner indoor air environment.

Resources

Scan the QR code to the right to access an online version of this fact sheet.



Information on Air Quality and Reducing Exposure

Check out the AirNow Fire and Smoke Map, your state air quality website, or your local news for air quality information. Access these resources using the links below.

- [AirNow Fire and Smoke Map](#)
 - [IOS App](#)
 - [Android App](#)
- [Wildfire Guide Fact Sheets](#)
- [Resources and Information on Wildland Fires and Smoke](#)
- [Infographics on Staying Safe Before, During and After Fires](#)
- [EPA's Do-It-Yourself Air Cleaner Infographic](#)

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