

## Where there's fire . . . there's smoke!

Every year, millions of acres of land burn across the United States. Some of these fires are prescribed – set under controlled conditions to manage forests or agricultural lands. Others are wildfires started by lightning or humans.

Fires can be a threat to life, natural resources and property. But flames aren't the only danger. Smoke also can be a threat to your health.



Smoke in Bitterroot Valley, Montana, August 2002.

## Smoke may smell good, but it's not good for you.

If you are healthy, you're usually not at a major risk from smoke. Still, it's a good idea to avoid breathing smoke if you can help it.

Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic matter burn. The biggest health threat from smoke comes from fine particles. These microscopic particles can get into your eyes and respiratory system, where they can cause health problems such as burning eyes, runny nose, and illnesses such as bronchitis. Fine particles also can

aggravate chronic heart and lung diseases – and even are linked to premature deaths in people with these conditions.

## Some people are more susceptible than others:

If you have heart or lung disease, such as congestive heart failure, angina, chronic obstructive pulmonary disease, emphysema or asthma, you may experience health effects earlier and at lower smoke levels than healthy people.

Older adults are more likely to be affected by smoke, possibly because they are more likely to have heart or lung diseases than younger people.

Children also are more susceptible to smoke for several reasons: their respiratory systems are still developing; they breathe more air (and air pollution) per pound of body weight than adults; and they're more likely to be active outdoors.

## How to tell if smoke is affecting you:

Smoke can irritate the eyes and airways, causing coughing, a scratchy throat, irritated sinuses, headaches, stinging eyes or a runny nose. If you have heart or lung disease, smoke might make your symptoms worse.

People with heart disease might experience chest pain, palpitations, shortness of breath, or fatigue. People with lung disease may not be able to breathe as deeply or as vigorously as usual, and they may experience symptoms such as coughing, phlegm, chest discomfort, wheezing and shortness of breath.

When smoke levels are high enough, even healthy people may experience some of these symptoms.

## Protect yourself!

It's important to limit your exposure to smoke – especially if you may be susceptible. Here are some steps you can take to protect your health:

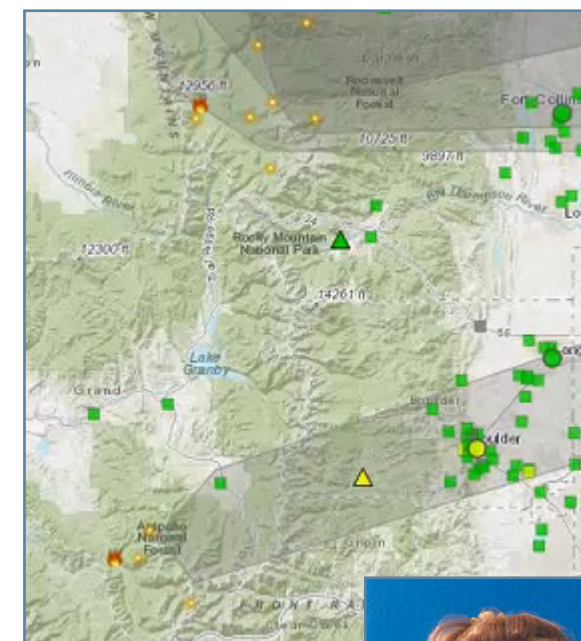
**Pay attention to local air quality reports.** Stay alert to any news coverage or health warnings related to smoke. Also find out if your community reports EPA's Air Quality Index (AQI). The AQI, based on data from local air quality monitors, tells you about the daily air quality in your area and recommends precautions you can take to protect your health. As smoke gets worse, the concentration of particles in the air changes – and so do the steps you should take to protect yourself.

**Use visibility guides, where they're available.** Not every community has a monitor that measures particle levels in the air. In the western United States, some areas without air quality monitors have developed guidelines to help people estimate the AQI based on how far they can see. Check with your local air quality agency to find out if there's a visibility guide for your area.

**Use common sense.** If it looks smoky outside, it's probably not a good time to mow the lawn or go for a run. And it's probably not a good time for your children to play outdoors.

## If you are advised to stay

**indoors,** take steps to keep indoor air as clean as possible. Keep your windows and doors closed – unless it's extremely hot outside. Run your air conditioner, if you have one. Keep the fresh air intake closed and the filter clean to prevent bringing additional smoke inside. Note: If you don't have an air conditioner, staying inside with the windows closed may be dangerous in extremely hot weather. In these cases, seek alter-native shelter.



If smoke is affecting your area, check the Fire and Smoke map ([fire.airnow.gov](http://fire.airnow.gov)) and your local media for information on how to protect your health.



Children with respiratory diseases should be monitored closely during smoke alerts.

**Help keep particle levels inside lower.** When smoke levels are high, try to avoid using anything that burns, such as wood fireplaces, gas logs, gas stoves – and even candles! Don't vacuum. That stirs up particles already inside your home. And don't smoke. That puts even more pollution in your lungs, and in the lungs of people around you.





United States Environmental Protection Agency

# How Smoke from Fires Can Affect Your Health

If you have asthma or other lung disease, make sure you follow your doctor's directions about taking your medicines and following your asthma management plan. Call your doctor if your symptoms worsen.

If you have heart or lung disease, if you are an older adult, or if you have children, talk with your doctor about whether and when you should leave the area. When smoke is heavy for a prolonged period of time, fine particles can build up indoors even though you may not be able to see them.

## Air cleaners can help indoors – but buy before a fire.

Some room air cleaners can help reduce particle levels

indoors, as long as they are the right type and size for your home. If you choose to buy an air cleaner, don't wait until there's a fire – make that decision beforehand. You can also make a box fan filter, as shown in the picture. Note: Don't use an air cleaner that generates ozone. That just puts more pollution in your home.

For more information about home air cleaners, go to: [epa.gov/iaq/pubs/residair.html](http://epa.gov/iaq/pubs/residair.html)

### Dust masks aren't enough!

Paper "comfort" or "dust" masks – the kinds you commonly can buy at the hardware store – are designed to trap large particles, such as sawdust. These masks generally will not protect your lungs from the fine particle in smoke.



This simple fan-filter combination can reduce the amount of the tiny, harmful particles in the air.

If you have heart or lung disease, if you are an older adult, or if you have children, talk with your doctor about steps you should take to protect yourself if smoke affects your community. If you live in a fire-prone area, plan ahead! Talk with your doctor before fire season, so you'll know what to do in a smoky situation.

Only your doctor can advise you about your specific health situation. But EPA's Air Quality Index can help you protect yourself when particle levels are high. Check the table to the left for specific steps you can take.

For more information:

- If there is an active fire in your area, follow your local news or fire web sites for up-to-date information.

- About smoke and health:

[airnow.gov/fires](http://airnow.gov/fires)

- About wildfires, including current status:

[nifc.gov/](http://nifc.gov/)

- About indoor air quality:

[epa.gov/indoor-air-quality-iaq](http://epa.gov/indoor-air-quality-iaq)

AIR QUALITY INDEX FOR PARTICLES		
AIR QUALITY INDEX	AIR QUALITY	AIR QUALITY INDEX
0 to 50	Good	None.
51 to 100	Moderate	Unusually sensitive people should consider reducing prolonged or heavy exertion.
101 to 150	Unhealthy for Sensitive Groups	People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.
151 to 200	Unhealthy	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion. Everyone else should reduce prolonged or heavy exertion.
201 to 300	Very Unhealthy	People with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion.
301 to 500	Hazardous	Everyone should avoid all physical activity outdoors; people with heart or lung disease, older adults, and children should remain indoors and keep activity levels low.

