



## Health Effects of Smoke from Wildfire and Prescribed Burns

Wildfire smoke is a mixture of small particles, gases and water vapor. The primary health concern is the small particles. These small particles can cause burning eyes, runny nose, scratchy throat, headaches and illness (i.e., bronchitis). They can also worsen chronic heart and lung disease (i.e., asthma, emphysema and COPD).

Many factors play into a person's susceptibility to smoke. These factors include the level, extent, and duration of exposure, age, and individual susceptibility. Anyone who can see, taste or smell smoke should curtail outdoor activity. But people with heart disease, lung disease or asthma should avoid the outdoors entirely, as should children and the elderly.

When smoke levels are dangerously high, the appropriate protective measures should be followed.

### Ways to Protect Yourself

**Avoid breathing smoke if you can help it.** If you are healthy, you usually are not at a major risk from smoke. People at risk include those with heart or lung diseases, children and older adults.

**Use visibility guides.** Because smoke is highly visible, it is possible to visually estimate smoke levels and estimate potential health impacts. Generally, the worse the visibility is, the worse the smoke is.

**Use common sense.** If it looks smoky outside, it is probably not a good time for outdoor activities. And it's probably not a good time for your children to play outdoors.

**If you feel ill as a result of wildfire smoke, regardless of the Air Quality Index (AQI) level, take necessary precautions:** stay indoors, use a HEPA filter, and limit your activities. Contact your health care provider for additional instructions.

**Pay attention to local air quality reports.** Stay alert to any news coverage or health warnings related to smoke. In the event of dangerous smoke levels, the Local Health and Emergency Authorities will issue instructions based on the Environmental Protection Agency's (EPA) 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.

**If you are advised to stay indoors, keep your windows and doors closed.** Make sure air conditioning units have a clean filter in the air intakes. Devices with High Efficiency Particulate Air (HEPA) filters can reduce the indoor pollution.

**Do not add to indoor air pollution.** Don't use anything that burns, such as wood fireplaces, gas logs, gas stoves, or even candles. Don't vacuum; that stirs up particles already inside your home. Don't smoke; that puts even more pollution in your lungs, and in the lungs of people around you.

**Dust masks aren't enough!** Common masks will not protect your lungs from small particles in smoke. HEPA masks may filter out the small particles but are not suitable for people with lung diseases. Those with lung diseases should follow your respiratory management plan. Call your doctor if symptoms worsen.

Visit the Arizona Department of Health Services website at <http://www.azdhs.gov/preparedness/epidemiology-disease-control/extreme-weather/index.php#wildfires-home> for additional information regarding the dangers of wildfire and prescribed burn smoke and wildfire preparedness.

Information regarding scheduled prescribed burns in the Coconino National Forest is available at [www.fs.fed.us/r3/coconino](http://www.fs.fed.us/r3/coconino). Information about prescribed burns scheduled in the Kaibab National Forest is available at <https://www.fs.usda.gov/alerts/kaibab/alerts-notice>.

Arizona Department of Environmental Quality Portable Particulate Monitors:  
<http://www.phoenixvis.net/PPMmain.aspx>

Arizona Department of Environmental Quality: Fire, Smoke and Your Health Fire, Brochure  
[http://www.azdeq.gov/enviro/air/smoke/download/fire\\_smoke\\_your\\_health\\_brochure.pdf](http://www.azdeq.gov/enviro/air/smoke/download/fire_smoke_your_health_brochure.pdf)



2625 N. King Street, Flagstaff, AZ 86004  
928-679-7272  
Toll-free 1-877-679-7272  
[www.coconino.az.gov/health](http://www.coconino.az.gov/health)