

Health Effects of Smoke from Wildfires

Although a wildfire may be very far away, people should pay attention to ambient smoke.

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](#)).

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.

The [Arizona Department of Health Services](#) has developed a tri-fold brochure to aid in preparedness and health concerns during a wildland fire. The brochure contains a color-coded scale that ties visibility to [health impacts](#), as well as a list of things to bring if evacuation is necessary, including food, water, medical supplies, documents and identification cards, and pet supplies.

Use common sense to protect yourself and your family. If it looks smoky outside, it is not a good time for outdoor activities. It is also a good time for children to remain indoors. Use the following visibility guidelines to determine air quality conditions, identify health effects, and determine the exertion levels based on the visibility range:

Visibility Range: 10+ miles

Health Category: Good

Health Effects: None

Visibility Range: 5-10 miles

Health Category: Moderate

Health Effects: People who are usually sensitive should consider reducing prolonged or heavy exertion.

Visibility Range: 3-5 miles

Health Category: Unhealthy for sensitive groups

Health Effects: Sensitive people should reduce prolonged or heavy exertion.

Visibility Range: 1.5-3 miles

Health Category: Unhealthy

Health Effects: People who are sensitive should avoid prolonged or heavy exertion.

Everyone else should reduce prolonged or heavy exertion.

Visibility Range: 1-1.5 miles

Health Category: Very unhealthy

Health Effects: People who are sensitive should avoid all physical activity outdoors.

Everyone else should avoid prolonged or heavy exertion.

Visibility Range: 1 mile or less

Health Category: Hazardous

Health Effects: People who are sensitive should remain indoors and keep activity levels low. Everyone else should avoid all physical activity outdoors.

Generally speaking, the worse the visibility, the worse the conditions. To use the visibility guidelines, face away from the sun, determine the limit of your visibility range by looking for targets at known distances (miles). The visibility range is the point at which even high contrast objects totally disappear. This is not the point at which you can see the smoke.

People who are sensitive include those with heart or lung disease, older adults and children.

If you are advised to stay indoors, keep your windows and doors closed. Run your air conditioner, if you have one. Avoid using anything that burns inside, such as wood and gas stoves, candles and cigarettes.

Air filtration devices that use HEPA filters can reduce the level of particles indoors. Do not use an air cleaner that works by generating ozone.

If you have asthma or other lung diseases, be vigilant about taking the medications prescribed by your doctor.

If you are supposed to measure your peak flows, make sure you do so. Call your doctor if your symptoms worsen.

The same particles that cause problems for people may cause some problems for animals. Don't force your animals to run or work in smoky conditions. If your pet has heart or lung disease, follow the same visibility guidelines as for sensitive people.

(Source: [Arizona Department of Health Services](#))