



## Guidelines for Working in Smoky Conditions

Smoke from wildfires contain chemicals, gases, and fine particles that can harm health. Because the Pacific Crest Trail is in areas of high-risk for wildfire and smoke from wildfires – volunteers, partners, and staff are often presented with adverse conditions that demand specific safety considerations. Decision making is complicated by quickly shifting conditions that are often hard to identify and monitoring stations that are many miles from work sites. Field locations are often exposed and hot with crews maintaining high levels of physical exertion for prolonged periods of time, putting them in even higher risk.

The following guidelines are based on criteria from the California Division of Occupational Safety and Health, Center for Disease Control and Prevention, and the North Coast Unified Air Quality Management District. Crew leaders should use this guide to better recognize hazardous conditions and decide when mitigation or evacuation are prudent.

**Pay attention to local air quality reports and the US Air Quality Index.** When a wildfire occurs near you, watch for news or health warnings about smoke. If you can reschedule your trail maintenance activities to avoid unhealthy conditions, you should. Below are resources to help monitor conditions. There may be other region-specific resources available as well.

- General Air Quality Reports from the EPA: <https://airnow.gov/>
- Interagency Real Time Smoke Monitoring: <https://app.airsis.com/usfs/>
- Blue Sky Daily Runs: <https://tools.airfire.org/websky/v1/#status>

**Keep an eye on visibility.** Any amount of time in unhealthy categories (red) constitute evacuation criteria. Prolonged periods in moderate categories (yellow) advise consideration of evacuation.

Categories	Visibility in Miles	Particulate Matter Levels (1-hour avg, ug/m3)*
Good	10+	0-40
Moderate	6 - 9	41-80
Unhealthy for Sensitive Groups	3 - 5	81-175
Unhealthy	1.5 – 2.5	176-300
Very Unhealthy	1 – 1.25	301-500
Hazardous	¾ and below	Over 500

From North Coast Unified Air Quality Management District

\* - ug/m3 is micrograms per cubic meter of air

**Avoid spending prolonged time in smoky environments.** During exercise typical of trail crews, people can increase their air intake as much as 10 to 20 times over their resting level. Increased breathing rates bring more pollution deep into the lungs. If experiencing sporadically smoky conditions, consider resting the crew when smoke is present. If smoky conditions persist more than intermittently, leave the work site and relocate to a different project if necessary.



**Be careful of sensitive populations and watch for signs and symptoms of smoke exposure.**

Assess your group. If there are sensitive populations present be extra vigilant in gauging conditions. Watch for signs of smoke exposure. If numerous people show symptoms, trail projects should be cancelled.

<b>Signs and Symptoms:</b>	<b>Sensitive Groups Include:</b>
<ul style="list-style-type: none"><li>• Coughing</li><li>• Trouble breathing normally</li><li>• Stinging eyes</li><li>• Scratchy throat</li><li>• Runny nose</li><li>• Irritated sinuses</li><li>• Shortness of breath</li><li>• Chest pain</li><li>• Headaches</li><li>• Asthma attack</li><li>• Lingering fatigue</li><li>• Fast heartbeat</li></ul>	<ul style="list-style-type: none"><li>• Persons with asthma</li><li>• Persons with chronic respiratory disease</li><li>• Persons older than 65</li><li>• Infants and children</li><li>• Pregnant women</li><li>• Smokers</li></ul>

**Do not rely on dust masks for protection.** For adults, NIOSH N95 or P100 masks, when worn correctly, have been shown to filter particles and improve the quality of the air being inhaled. During field season it may be prudent to keep these in your bag in case you encounter smoky conditions. However, this is only a single mitigation measure and should not be thought to render dangerous conditions safe.