

HEALTHY LIVING

Source: Wikimedia Commons

Making Sense of the Air Quality Index

The fire season in the Western United States this year has been unlike any before. In the last few weeks, fires have burned millions of acres of land in California, Oregon, and Washington. Tens of thousands of people have been forced to evacuate in the midst of a pandemic. Smoke has covered the entire western half of the U.S., degrading the air quality for millions of people.

But, many people are asking: If I'm healthy, do I really need to be concerned about air quality?

The answer is YES, **regardless of health, we all need to be concerned about poor air quality.** To help you understand your area's air quality and learn how to protect your family's health, we've compiled some frequently asked questions and answers.

What is the Air Quality Index?

The **Air Quality Index (AQI)** is a measurement created by the EPA to tell us how healthy our air is to breathe. It's important for everyone to understand -- whether you have existing respiratory conditions or are perfectly healthy. The numbers you are hearing on the news are simply a calculation of how poor the air quality is based on the presence of 5 pollutants: ground level ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particle pollution. Exposure to any of these pollutants can cause serious health effects for everyone. But with wildfire smoke, one of the most concerning types of pollutants is particle pollution, especially particles that are very small, referred to as PM 2.5. This type of particle pollution can cause devastating health effects for the lungs and heart.

Air Quality Index (AQI) Values	Levels of Health Concern	Colors
<i>When the AQI is in this range:</i>	<i>...air quality conditions are:</i>	<i>...as symbolized by this color:</i>
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

Air Quality Index Chart, source: EPA.gov

Who is most affected by poor air quality?

"Sensitive" groups include children, the elderly, and people with lung conditions, heart conditions, or diabetes (including asthma and viral infections). It's especially important to keep your kids inside when air quality is bad (even if they have been cooped up all day staring at a Zoom screen). Sensitive groups should try to remain inside with windows closed, *especially* in areas where the AQI is red, purple, or maroon.

Where do I find my local air quality?

You can find out your air quality from many different sources. Online sources include IQair.com and Purpleair.com. You can also try googling "AQI, my city." Many weather apps for mobile devices list air quality. Many local news stations for TV and radio may provide updates.



What should I do when I have poor air quality? What are the recommendations for each AQI level?

The smoke is a serious situation.

Orange - When the air quality is orange, everyone should reconsider their plans for the day. Sensitive groups should avoid outdoor exposure, and everyone should avoid extended periods of strenuous activity in the outdoors.

Red - Stay inside when you can; every hour of time spent outside adds to the health risk. Sensitive groups should be extra careful to limit time spent outside. Instead, find ways to exercise and entertain yourself indoors.

Here are some resources to get you started:

- [25 Kid-friendly challenges from U.S. PIRG](#)
- [50 Environmentally friendly activities for Kids from Environment America](#)

Purple or Maroon - Take extra precautions. Stay inside, close your windows and fireplaces, and place a damp cloth under all doors that open to the outdoors. Make sure you invest in a good air filter for your conditioning system. Try putting your system on the “recirculate” setting. If you must drive somewhere, close the windows and vents and put the AC on the “recirculate” setting.

How unhealthy is poor air quality, really?

Doctors and scientists are very concerned about the effects of the poor air quality in the West. Short term, poor air quality due to particle pollution can cause healthy people to develop headaches, throat and eye irritation, lung inflammation, and may cause them to be more prone to respiratory infections. PM 2.5 is of particular concern because the very small particles can bury deep into the lungs and even get into the bloodstream. Long term, exposure to particle pollution is linked to lung disease, heart disease, heart attacks, and decreased lung function.

Air Quality and COVID-19

Unfortunately, COVID-19 doesn't stop when fires start. Exposure to hazardous air, especially for days and weeks, can impact our immune systems and makes us more prone to viral lung infections. The evacuations in the west are making this situation even more complicated. To the best of our ability, we need to continue social distancing and avoiding exposure to smoke. While cloth masks do not protect us from smoke, they do protect us from spreading the virus.

Can I wear a mask to protect myself from the smoke?

Opt to stay indoors if possible, but if you must be outside, N-95 masks are effective. But remember, a mask is only effective if it fits correctly. N-95 masks reduce airflow; people with lung conditions should consult with their doctor before using them.

For citations and further information, refer to the version of this resource on our website:

<https://uspirg.org/resources/usp/making-sense-air-quality-index>