



Live Well, Work Well



HOW AIR QUALITY IMPACTS YOUR HEALTH

As wildfires become more frequent and intense across the United States and Canada, the need to understand and monitor air quality has become more important for your health than ever. These fires can release massive amounts of smoke and fine particulate matter into the atmosphere, often traveling hundreds of miles and affecting regions far from the source. This growing threat has made the air quality index (AQI), a standardized tool for measuring and communicating air pollution, an essential resource for public health and safety.

Understanding how air quality impacts your health and how to read the AQI can help you protect yourself and your loved ones from the harmful effects of polluted air.

What Is Air Quality?

Air quality refers to the condition of the air in our environment, specifically how clean or polluted it is. It's measured by the concentration of pollutants such as ground-level ozone, particulate matter (PM2.5 and PM10), carbon monoxide, sulfur dioxide and nitrogen dioxide. These pollutants can come from various sources, including vehicle emissions, industrial activity, wildfires, and even natural events like dust storms or volcanic eruptions.

Air quality across the United States varies widely depending on geography, climate and human activity. While regions such as the Pacific Northwest and parts of the Northeast often benefit from relatively clean air due

to lower industrial emissions and favorable weather conditions, other areas like Los Angeles frequently contend with persistent pollution caused by vehicle emissions, industrial activity and geographical features that can trap smog.

However, even areas that typically enjoy good air quality, such as the Midwest and New York, have seen dramatic declines during wildfire season. In recent years, smoke from large-scale wildfires in Canada has drifted across the border, blanketing cities and rural areas alike in hazardous levels of particulate matter. These pollution events are becoming more common and severe, underscoring the urgent need to monitor and respond to air quality threats even in places once considered safe.

Impacts of Poor Air Quality

Poor air quality can significantly impact human health, especially among sensitive groups such as children, older adults, pregnant individuals, outdoor workers, and those with respiratory or heart conditions. While short-term exposure may not cause noticeable symptoms in healthy individuals, these vulnerable populations may experience health problems even when pollution levels are relatively low. Over time, prolonged exposure to polluted air can lead to serious health issues, even in people without preexisting conditions.



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As a result, public health advisories during poor air quality days often focus on protecting these sensitive groups. The following are the potential health risks of poor air quality:

- **Respiratory issues**—Polluted air can lead to coughing, wheezing and shortness of breath. It can also worsen preexisting health conditions, such as asthma.
- **Cardiovascular problems**—Fine particles can enter the bloodstream and contribute to heart attacks, strokes and high blood pressure.
- **Increased risk of chronic diseases**—Long-term exposure has been linked to the development of chronic respiratory diseases like chronic obstructive pulmonary disease (known as COPD).
- **Weakened immune system**—Air pollution can reduce the body's ability to fight off infections, making people more susceptible to illnesses.

Understanding the AQI

The AQI is a tool used to communicate how safe or unhealthy the air is to breathe on any given day. It simplifies complex air pollution data into a single number and color-coded scale, making it easier for the public to understand. The AQI ranges from 0 to 500, with lower numbers indicating cleaner air and higher numbers representing more polluted air. You can find the daily AQI on [AirNow.gov](https://airnow.gov), most weather apps, and state and local agency websites.

Using the AQI to Make Informed Choices

The following is a breakdown of the AQI levels and their respective safety warnings from the Environmental Protection Agency:

- **Good (0 to 50)**—This air quality is satisfactory, and air pollution poses little or no risk. Special precautions are typically unnecessary at this level.
- **Moderate (51 to 100)**—This air quality is acceptable. However, there may be a risk for those with a sensitivity to air pollution. Sensitive individuals may want to limit prolonged outdoor exposure.
- **Unhealthy for sensitive groups (101 to 150)**—Members of sensitive groups are encouraged to make outdoor activities shorter and less intense. The general public is unlikely to be affected.
- **Unhealthy (151 to 200)**—Some individuals may experience health effects, with sensitive groups potentially facing more serious impacts. It is recommended to limit prolonged or strenuous outdoor activities.
- **Very unhealthy (201 to 300)**—The risk of health effects is increased for everyone. Consider rescheduling or moving activities indoors.
- **Hazardous (301+)**—This is considered a health emergency for everyone. Avoid all physical activity outdoors.

When the AQI rises above 100, especially during events like wildfires or high pollution days, wearing an N95 mask can help reduce your exposure to harmful airborne particles. However, cloth masks, surgical masks or other lower-grade face coverings are not effective at filtering out fine particles from polluted air. While they may help reduce the spread of germs, they do not offer meaningful protection against air pollution.

Protect Yourself Year-Round

Poor air quality can be a risk to your health no matter the time of year. It's essential to know how to determine air quality with the AQI to make informed decisions for your well-being.

For more information about air quality and how to protect yourself, speak to your doctor or qualified health professional.