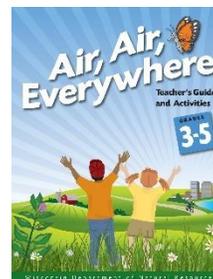


# Wisconsin air quality facts and information

## A teacher's tool for the Air, Air Everywhere Poetry Contest

Hello teachers!

This document is intended to provide basic background information to students. Please use this document and the Air, Air Everywhere Teacher's Guide in the classroom to aid students in creating poems or riddles for the Air, Air Everywhere Poetry Contest.



Air quality throughout the state is good and has been improving for decades. Concentrations of most pollutants regulated by the U.S. Environmental Protection Agency (U.S. EPA) have been decreasing over the past decade in all regions of the state. This is something for students to celebrate by writing positive poems that focus on how important clean air is and how much air quality has improved!

### Air Quality Standards

The U.S. EPA determines what levels of pollutants can be in the air without causing harm to human health. The U.S. EPA sets air pollution standards for six main pollutants, which include ozone, particle pollution, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead. Everyone can be sensitive to air pollution, but children, older adults, people with asthma, and people with heart or lung problems are typically more sensitive to poor air quality.

### Air Quality Index (AQI)

- The [Air Quality Index](#) (AQI) is the U.S. EPA's color-coded tool for communicating information about current air quality to the public.
- Air quality is measured by monitors that record concentrations of various pollutants.
- The AQI uses the information from the monitors and categorizes the air quality as good, moderate, unhealthy for sensitive groups (which includes those people that are more sensitive to air pollution), unhealthy, and very unhealthy.
- Refer to the chart below to understand the different categories.



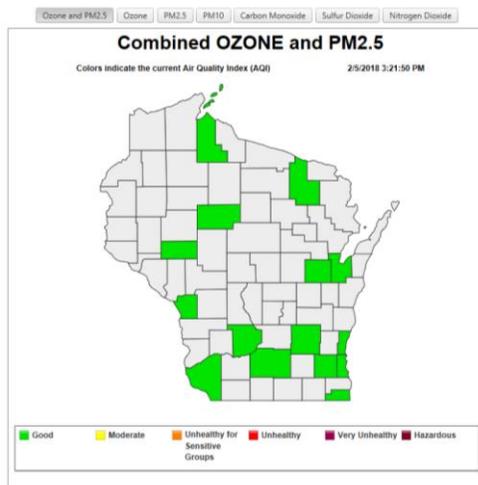


## Air Quality Guide for Ozone

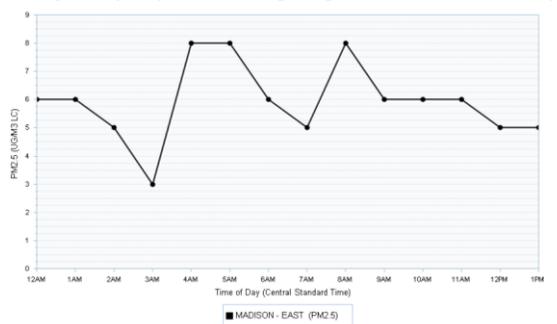
Air Quality	Air Quality Index	Protect Your Health
Good	0-50	No health impacts are expected when air quality is in this range.
Moderate	51-100	Unusually sensitive people should consider limiting prolonged outdoor exertion.
Unhealthy for Sensitive Groups	101-150	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
Unhealthy	151-200	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
Very Unhealthy (Alert)	201-300	Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.

### Air Quality in Wisconsin

To find out more about the AQI in Wisconsin, visit DNR's [Air Quality mapping tool](#) for current air quality conditions across the state. The images below show a sample of the mapping tool's capabilities. Users can view the AQI for different pollutants for counties that have monitors. Clicking on a county will show a plotted graph of hourly data for a particular pollutant. This is a great resource for those trying to understand more about air quality in the state.



Hourly Detail (Data plotted at the beginning of the measured hour in CST)



Another great resource for understanding air quality trends in Wisconsin is the annual “Trends” report prepared by the Wisconsin Department of Natural Resources. The latest version of the [Air Quality Trends report](#) is available on DNR’s [Air Quality Trends webpage](#) and includes a lot of information on Wisconsin’s air quality. The report uses maps and graphs to show how concentrations of most pollutants regulated under the Clean Air Act have been decreasing in all regions of the state since monitoring data has been collected.

### **Success Stories**

- SO<sub>2</sub> emissions from sources like power plants, paper mills, and other industrial facilities decreased 77% statewide in just six years.
  - Emissions reductions for SO<sub>2</sub> are important because, at high concentrations, SO<sub>2</sub> can cause human health impacts, contribute to the formation of other pollutants like fine particles, harm trees and plants, and contribute to acid rain.
- The pollutants that form ozone have decreased by 50% in the last 15 years.
  - Ozone is created by chemical reactions between oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) in the presence of sunlight. Sources of pollution do not directly emit ozone, but instead can emit these precursors that form ozone, and these precursor pollutants have decreased steadily.
- Over the last decade, fine particle concentrations have decreased by 30%. Fine particles are tiny solid or liquid droplets that can either be directly emitted by vehicles, smokestacks, or fires, or can be formed when other air pollutants react in the atmosphere. With these reductions in fine particle pollution, all counties in Wisconsin are now monitoring concentrations well below the U.S. EPA standard.