Final Updates to the Air Quality Index (AQI) for Particulate Matter

Fact Sheet and Common Questions

Summary

- On February 7, 2024, the U.S. Environmental Protection Agency (EPA) announced a final rule to strengthen the nation's National Ambient Air Quality Standards (NAAQS) for fine particle pollution, also known as fine particulate matter ($PM_{2.5}$) or soot. EPA is setting the level of the primary (health-based) annual $PM_{2.5}$ standard at 9.0 micrograms per cubic meter (µg/m3) to provide increased public health protection, consistent with the available health science.
- In addition, after considering public comments, EPA is changing some breakpoints in the U.S. Air Quality Index (AQI) to reflect the revised level of the primary annual $PM_{2.5}$ standard and to reflect recent health science on $PM_{2.5}$. The AQI is EPA's color-coded tool for communicating air quality to the public.
- EPA is also updating AQI reporting requirements to reflect current reporting practices.
- EPA sets AQIs for the following common pollutants: particulate matter (also called particle pollution, soot, or PM), ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide.
- The AQI updates will become effective 60 days after the final rule is published in the Federal Register. EPA will update its tools for communicating the AQI to reflect the changes. This includes the AirNow website.

What's New in the AQI for PM

- The table below shows the previous and updated AQI for particle pollution. EPA bases each category on a range of particle pollution concentrations in the air. The Agency measures particle pollution in micrograms per cubic meter of air. Sometimes, you will see micrograms per cubic meter written as "µg/m^3."
- The table on the next page shows the color code and index values for each category. EPA converts pollution concentrations to index values to make AQI categories consistent across pollutants. Together, the category color and the index values help you quickly know what your air quality is like.

2023 AQI for Fine Particle Pollution *(Breakpoints are in micrograms per cubic meter)*			
AQI Category and Index Value	**Previous AQI Category Breakpoints**	**Updated AQI Category Breakpoints**	**What changed?**
Good (0 – 50)	0.0 to 12.0	0.0 to 9.0	EPA updated the breakpoint between Good and Moderate to reflect the updated annual standard of 9 micrograms per cubic meter
Moderate (51 – 100)	12.1 to 35.4	9.1 to 35.4	
Unhealthy for Sensitive Groups (101 – 150)	35.5 to 55.4	35.5 to 55.4	No change, because EPA retained the 24-hour fine PM standard of 35 micrograms per cubic meter.
Unhealthy (151 – 200)	55.5 to 150.4	55.5 to 125.4	EPA updated the breakpoints at the upper end of the unhealthy, very unhealthy, and hazardous categories based on scientific evidence about particle pollution and health. The Agency also collapsed two sets of breakpoints for the Hazardous category into one.
Very Unhealthy (201 – 300)	150.5 to 250.4	125.5 to 225.4	
Hazardous (301+)	250.5 to 350.4 and 350.5 to 500	225.5+	

- About the columns in the table:
    - The first column shows the color-coded AQI categories, which range from “Good” to “Hazardous.”
    - The second column shows the previous AQI category breakpoints for particle pollution, which were set in 2012. The term “breakpoint” refers to the particle pollution concentration where the AQI category changes.
    - The third column shows the new AQI category breakpoints for fine particle pollution.
    - The fourth column explains why EPA changed breakpoints.

Changes to AQI Reporting Requirements

- The daily AQI must be reported for metropolitan areas with more than 350,000 people. The final rule requires that the daily AQI be reported seven days a week. EPA made this change,

because many states are already doing this. The updated reporting requirement applies for all AQI pollutants.

- The previous requirement was issued in 1999. It required the daily AQI to be reported five days a week. Since then, technology has made it easier for state, local and tribal air agencies to automatically report the AQI. Today, most air quality agencies report the AQI every day.
- Technology also makes it possible for EPA to estimate a near-real time AQI, called the "NowCast AQI." Using automated processes, state, local and Tribal air quality agencies provide hourly air quality monitoring information to the AirNow program for nearly 900 areas across the country. The agencies provide this information as a public service.
- AirNow converts the monitoring data to the NowCast AQI and displays it on the AirNow website and app. AirNow and the air quality agencies provide this information to help people make decisions about their outdoor activities based on the most recent monitoring data. Many agencies also report the NowCast AQI on their own websites and applications.
- The final rule recommends that air quality agencies report the AQI in near real time, but the rule does not require this. Similarly, the final rule recommends that agencies continue submitting hourly air quality monitoring data to EPA's air quality database but does not require them to do so.

Common Questions about Changes to the AQI

Did EPA update the AQI because my air quality is getting worse?

- No. EPA updated the AQI because it has learned more about the health impacts of breathing air containing particle pollution. The changes to the AQI reflect the latest science on particle pollution and health, and the updates EPA has made to the annual standard for fine particle pollution.

Will I see more Code Orange or Code Red days in my community because of the AQI changes?

- Many areas can expect to see more days in the Moderate (Code Yellow) category because of the changes in the AQI breakpoints. The Moderate category now begins when fine particle pollution concentrations reach 9 micrograms per cubic meter of air (the level of the updated annual air quality standard). Previously, the Moderate category began at 12 micrograms per cubic meter.
- The Agency does not expect significant increases in days in the other AQI categories as a result of the updates to the category breakpoints. However, when events like wildfires affect air quality, the revised breakpoints in the upper AQI categories may shift some days from Unhealthy to Very Unhealthy, or from Very Unhealthy to Hazardous.

When will the updated AQI show up on AirNow or other air quality applications?

- EPA anticipates updating its AirNow products when the changes to the AQI breakpoints take effect. That will be 60 days after the final rule is published in the Federal Register. The AirNow products include the AirNow website, the AirNow app, and the AirNow API, which is the application EPA uses to share data with other agencies and application developers. The AirNow Fire and Smoke Map, which is a partnership project between EPA and the U.S. Forest Service, will also use the updated breakpoints.