



AIRNow Air Quality Mapping

The U.S. Environmental Protection Agency's (EPA) AIRNow program collects real-time air quality data (ground-level ozone) from over 1500 monitors located in 45 states, Canada, and parts of Mexico. These data are used to generate hourly gridded maps that vividly show smog developing and moving. The gridded data are available free to weather service providers.

Every year over 125 million Americans are exposed to unhealthy levels of smog, primarily ground-level ozone and particulate matter.

Air quality maps show where air pollution is bad right now and allows the public to avoid exposure and alter their behavior when unhealthy air occurs.

Learn more at www.epa.gov/airnow.

New This Year

AIRNow's air quality mapping program is expanding:

- **Hourly updates.** Gridded data files are updated hourly from 8:00 a.m. to 8:00 p.m., and 24-hrs a day starting mid-summer.
- **Previous day peak map.** A map with the previous day's maximum AQI for ozone is available.
- **Quicker updates.** Grid files will be available at 40 minutes past the hour.

About the Air Quality Index

The EPA developed the Air Quality Index (AQI) to help the public understand what local air quality (levels of ozone, particulate matter, and other air pollutants) means to their health. An AQI value of 100 corresponds to the national air quality standard for the pollutant—the higher the AQI rating, the greater the health impact.

The AQI is divided into six color-coded categories (shown below), and each category is identified by a simple informative descriptor. The descriptors are intended to convey to the public information about how air quality within each category relates to public health.

AQI and Health Effects Resources

About the AQI www.epa.gov/airnow/aqi_cl.pdf

Air Quality Guide for Ozone www.epa.gov/airnow/aqguide.pdf

Smog: Who does it Hurt? www.epa.gov/airnow/health/smog.pdf

Ozone and Your Health www.epa.gov/airnow/ozon-c.pdf

AQI Values	AQI Category (Descriptor)	AQI Color	Color Formulas	
			(RGB)	(CMYK)
0 - 50	Good	Green	0,228,0	224,0,224,30
51 - 100	Moderate	Yellow	255,255,0	0,0,255,0
101 - 150	Unhealthy for Sensitive Groups	Orange	255,126,0	0,132,255,0
151 - 200	Unhealthy	Red	255,0,0	0,255,255,0
201 - 300	Very Unhealthy	Purple	153,0,76	0,153,80,102
301 - 500	Hazardous	Maroon	76,0,38	0,76,38,179

File Format Specifications

Gridded data files are stored in a Grib format. The Grib file contains a grid that covers the contiguous United States and contains AQI observations for a given hour, or the maximum AQI for the previous day. Air quality agencies throughout the United States collect data each hour during the day and send it to the EPA for processing and quality control. These grid files are made available to weather service providers 40 minutes after the data are collected (for example, data from 1:00 p.m. to 2:00 p.m. are available at 2:40 p.m.). Files only contain data from states and regions participating in the AIRNow program; thus, some states may be masked (“blanked out”). This masking is more evident in the data-sparse western United States. The grid file specifications are as follows:

Format: For the hourly AQI files:
US-yyymmddhh.iii
where *yy=year, mm=month, dd=day, hh=hour in GMT*
iii=grib for WMO Grib format

For the max files:
US-yyymmdd-max.iii

File Contents: Each file contains one hour’s worth of gridded observations (or previous day’s peak).

File Locations: Grid files are available at the Data Management Center’s (DMC’s) ftp site. AIRNow can also “push” the grid files to your ftp site. (Contact Craig Anderson or Alan Chan at 707-665-9900 for details.)

DMC FTP Site:

Address:	www.airnowdata.org
Directory:	outgoing\grids
User ID:	WSPuser
Password:	Bobcat8

Data Specifications: Grid resolution: 8 km (approximate)

Time standard: GMT

Report units: Air Quality Index (AQI). Note that for Grib files, parameter and units are listed as “TOZNE=Total ozone [Dobson]” because ground-level ozone data with AQI units are not yet included in the Grib reference tables.

Contacts

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Guidelines for the use of AIRNow data, forecasts, and advisories

- Credit should be given to the appropriate source, either the EPA AIRNow or state/local air quality agency if known.
- Air quality data, forecast values, and advisory statements should not be altered in any way and should be disseminated as received.
- State and local agencies are the authority for issuing Air Quality forecasts and advisories. Forecasts, advisories, advisory names, and notifications should not be altered in anyway.
- Air quality observed and forecast values should be disseminated in accordance with the Air Quality Index (AQI) and corresponding RGB colors as follows

AQI Level	Color	R	G	B
Good	Green	0	228	0
Moderate	Yellow	255	255	0
Unhealthy for Sensitive Groups	Orange	255	126	0
Unhealthy	Red	255	0	0
Very Unhealthy	Purple	153	0	76
Hazardous	Maroon	76	0	38

- All end-users that receive these data should be updated with the most current data available when possible and, in particular, when advisories are issued by the state/local air quality agencies. The AIRNow program updates all data hourly.
- AIRNow observational data are not fully verified or validated and should be considered preliminary. As such, they should not be used to formulate or support regulation, guidance, or any other government or public decision.
- Questions regarding AIRNow data, forecasts, and advisories should be directed to AIRNowDMC@sonomatech.com and white.johne@epa.gov.