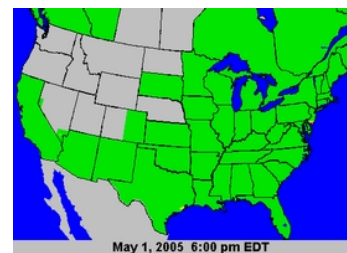**www.airnow.gov**

May 1, 2005 6:00 pm EDT

AIRNow Air Quality Mapping

Introduction

The U.S. Environmental Protection Agency's (EPA) AIRNow program collects real-time ground-level ozone data from over 1400 air quality monitors across the United States and Canada. 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 particle pollution.

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

Learn more at www.airnow.gov.

New This Year

AIRNow's air quality mapping program is growing:

- More states. New states coming online this year include North Dakota, South Dakota, and Nebraska. This brings the total states mapping air quality to 46.
- File format. Data are available in GRIB file format.

About the Air Quality Index

The EPA developed the Air Quality Index (AQI) which reports levels of ozone, particle pollution, and other common air pollutants on the same scale. An AQI reading of 101 corresponds to a level that is above the national air quality standard—the higher the AQI rating, the greater the health impact.

The AQI is divided into six color-coded categories, 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. The table below defines the AQI categories.

AQI and Health Effects Resources:
About the AQI (www.airnow.gov/aqi_cl.pdf)
Air Quality Guide for Ozone (www.airnow.gov/aqguide.pdf)
Air Quality Guide for Particle Pollution
(www.airnow.gov/airqualityguideparticles.pdf)
Smog: Who Does It Hurt? (www.airnow.gov/health/smog.pdf)
Ozone and Your Health (www.airnow.gov/ozone-c.pdf)
Particle Pollution and Your Health (www.airnow.gov/particle/pm-color.pdf)

AQI Numbers	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 the GRIB (Gridded Binary Data) format. Each file contains a grid that covers the contiguous United States and contains AQI observations for a given hour. Air quality agencies throughout the United States collect data each hour during the day and then send it to EPA for processing and quality control at 30 minutes past the hour. These grid files are available to weather service providers 45 minutes after the data are collected (for example, data collected at 2 p.m. are available at ~2:45 p.m.). Files only contain data from states and regions participating in the AIRNow program; thus, some states may be masked ("blanked"). This masking is more evident in the data-sparse western United States. The grid file specifications follow:

Format: For the hourly AQI files:
> *US-yymmddhh.grib*
> *where yy=year, mm=month, dd=day, hh=hour in GMT*

For the peak AQI files:
> *US-yymmdd-max.grib*

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

File Locations: The grid files are available at the AIRNow Data Management Center's (DMC's) ftp site. Please contact Alan Chan at 707-665-9900 or e-mail AIRNowDMC@sonomatech.com for details.

Data Specifications: Grid resolution: 8 km (approximate)

Time standard: GMT

Report units: Air Quality Index (AQI). Note that for the GRIB file, parameters and units are listed as "TOZNE=Total ozone [Dobson]" because ground level ozone with AQI units is not yet included in the GRIB reference tables.

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