



# Tools to access data in AQS and the AQS data mart

Focusing on resources for examining the impact  
of new and proposed air quality standards

AQS Conference  
Colorado Springs  
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US EPA, Office of Air Quality Planning and Standards



# Working to improve data access

- Connection to AQS Data Mart
- Web services between AQS and AIRNow
- Consolidating public access points to AQS
- Lots still to do...

... in the meantime, we've updated some existing tools on AirExplorer to be relevant to new and proposed air quality standards

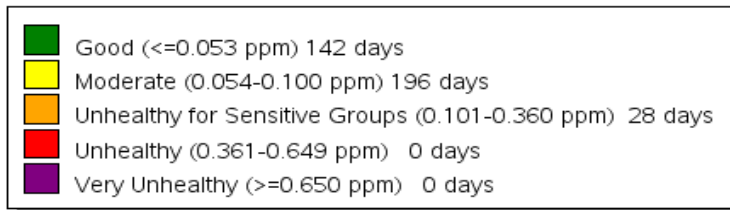
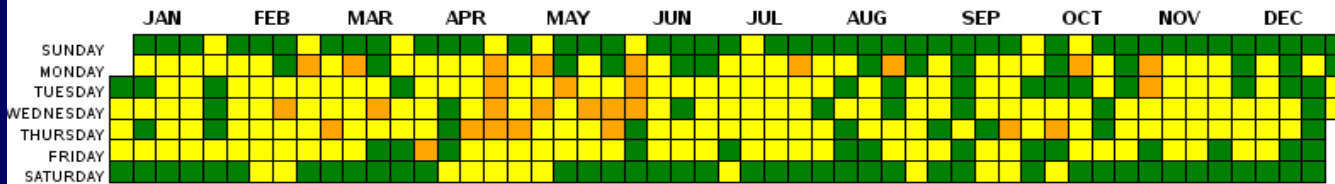


# Recent updates

- NO2 AQI values
- Ozone AQI values based on proposed NAAQS levels – hypothetical only!
- Ozone W126 data summaries
- Air quality data via Google Earth

# NO2 AQI values

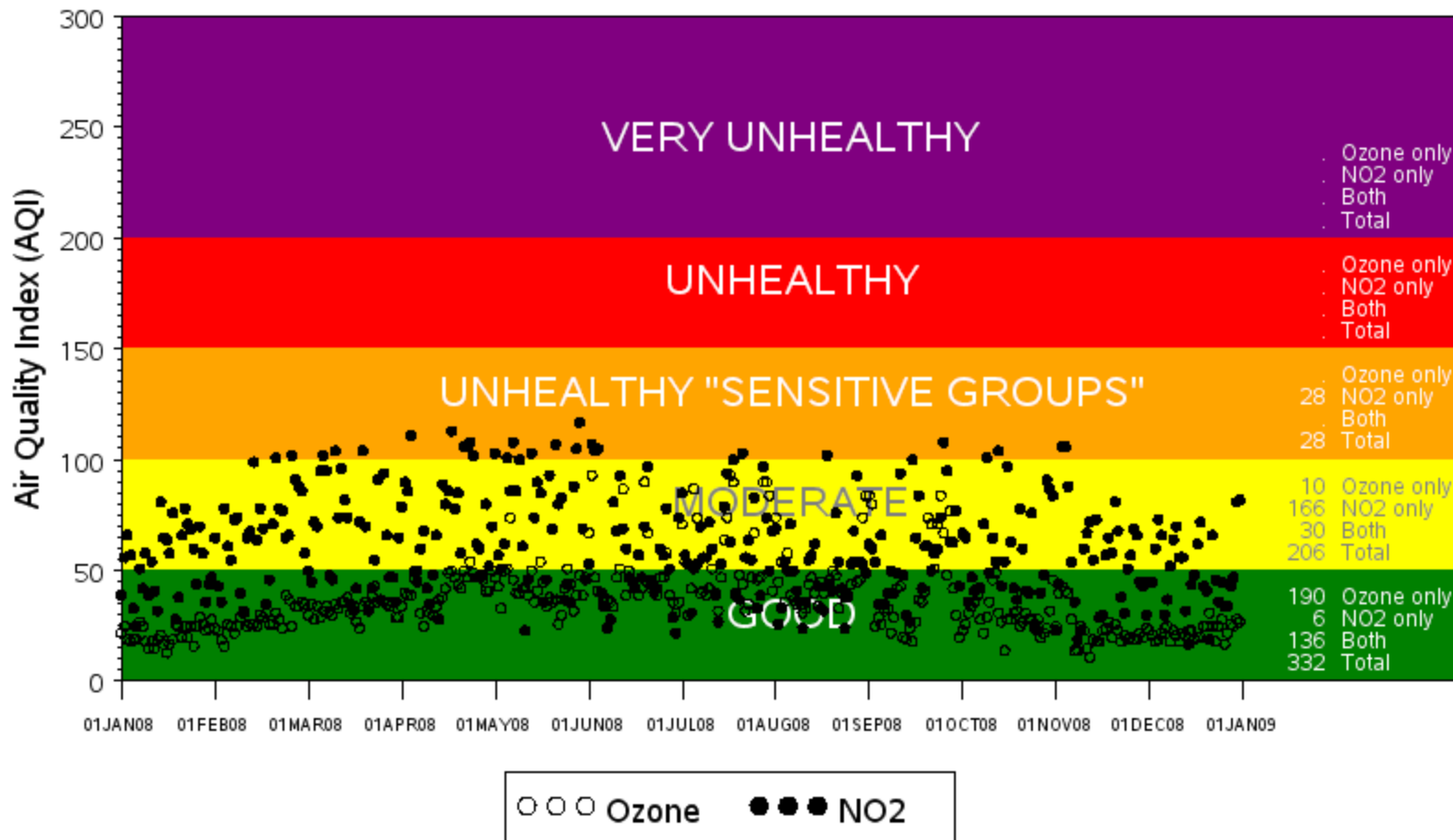
Daily NO2 AQI Levels in 2008  
Chicago, IL



Source: EPA's Air Explorer (<http://www.epa.gov/airexplorer/>)  
Generated on: 09MAR10

[http://www.epa.gov/cgi-bin/htmSQL/mxplorer/trend\\_tile.hsqli](http://www.epa.gov/cgi-bin/htmSQL/mxplorer/trend_tile.hsqli)

# Daily Ozone and NO2 AQI Values in 2008 Chicago, IL



Source: EPA's Air Explorer (<http://www.epa.gov/airexplorer/>)  
Generated on: 09MAR10

[http://www.epa.gov/cgi-bin/htmSQL/mxplorer/trend\\_aqi.hsqli](http://www.epa.gov/cgi-bin/htmSQL/mxplorer/trend_aqi.hsqli)

# Downtown Chicago NO2 monitor

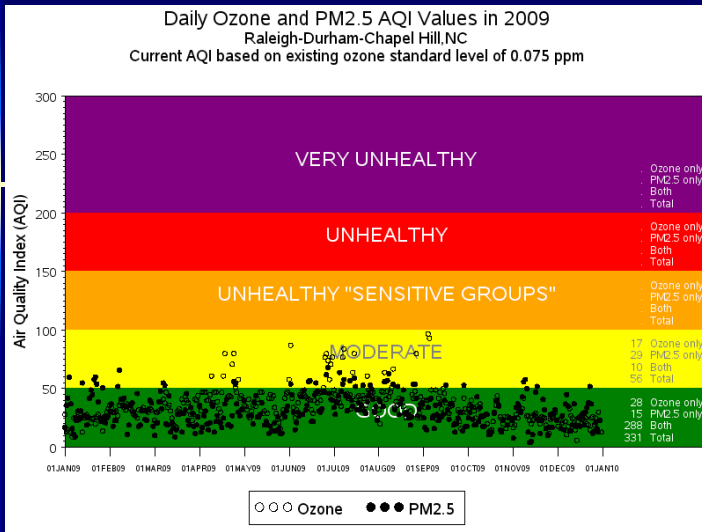
The image shows a Google Earth Pro interface with a satellite view of downtown Chicago. A white information window is open over a building, displaying the following data:

**CTA BUILDING**

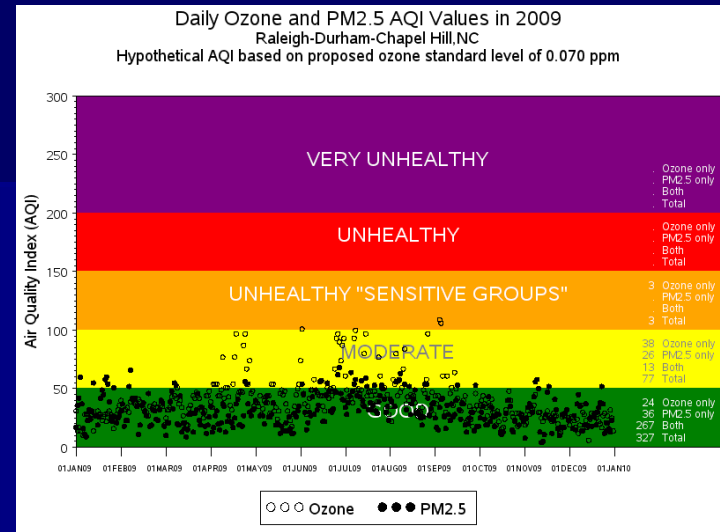
- AQS Site ID: 17-031-0063
- POC: 1
- State: Illinois
- City: Chicago
- MSA: Chicago,IL
- Local Site Name: CTA BUILDING
- Address: 321 S. FRANKLIN
- Datum: WGS84
- Latitude: 41.877682
- Longitude: -87.635027
- Lat / Lon Accuracy (meters): 20
- Elevation (meters): 181
- Parameter Name: Nitrogen dioxide
- Monitor Start Date: 30JUN88
- Last Sample Date: 31JAN10
- Measurement Scale: MIDDLE SCALE
- Measurement Scale Definition: 100 M TO 500 M
- Sample Duration: 1 HOUR
- Sample Collection Frequency:
- Sample Collection Method: INSTRUMENTAL
- Sample Analysis Method: CHEMILUMINESCENCE
- Method Reference ID: RFNA-1289-074
- FRM / FEM: Yes
- Monitor Objective: Multiple
- Monitor Type: SLAMS
- Reporting Agency: Illinois Environmental Protection Agency

The background map shows streets including S Riverside Plaza, S Canal St, S Franklins St, W Van Buren St, Congress Pkwy, S Wacker Dr, S Clark St, S Federal St, W Jackson Blvd, and W Congress Pkwy. The bottom left corner of the window displays coordinates: 41°52'37.81"N 87°38'04.93"W. The bottom right corner shows the Google logo, copyright information (©2008), and a scale of 2542 ft.

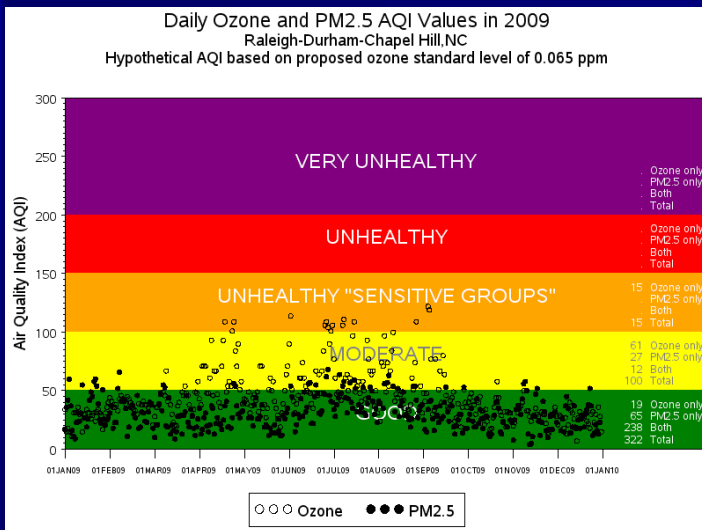
# Ozone AQI values



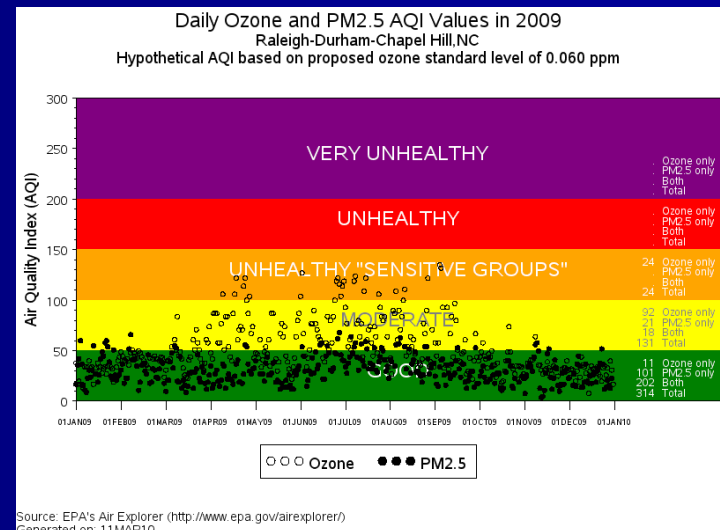
0  
.075



3  
.070



15  
.065



24  
.060

Source: EPA's Air Explorer (<http://www.epa.gov/airexplorer/>)  
Generated on: 11MAR10

[http://www.epa.gov/cgi-bin/htmSQL/mxplorer/trend\\_aqi\\_temp.hspl](http://www.epa.gov/cgi-bin/htmSQL/mxplorer/trend_aqi_temp.hspl)

# Ozone W126


Ozone W126 Resource Page | TTN - Air Quality Analysis | US EPA - Windows Internet Explorer provided by EPA

US EPA http://epa.gov/ttn/analysis/w126.htm

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## Ozone W126 Data Resources

On January 6, 2010, [EPA proposed to strengthen the national ambient air quality standards \(NAAQS\) for ground-level ozone](#). As part of this action, EPA is proposing to establish a distinct cumulative, seasonal "secondary" standard, designed to protect sensitive vegetation and ecosystems. The form of this new proposed secondary standard is a "cumulative peak-weighted index," called W126. EPA is proposing to set the level of the secondary standard within the range of 7-15 ppm-hours.

Here is a list of resources for accessing and calculating W126 index values.

- [Instructions for calculating the W126 index value](#) (PDF, 67 KB)
- [Excel file with Daily Index calculation programmed](#) (XLS, 22 KB)
- [Get calculated W126 data from AQS](#) [Note: The W126 statistics available here are based on the [proposed Part 50, Appendix P data handling guidelines](#) (pp.3051-3052), EXCEPT no hourly substitutions are made for months with less than 75% data completeness as prescribed in section 4.c.ii.]

Here is the 2006-2008 W126 data provided with the January 6, 2010 proposal.

- [List of Counties Violating Secondary Seasonal Ground-Level Ozone Standard, 2006-2008](#) (XLS, 85 KB)
- [Map of Counties Violating Secondary Seasonal Ground-Level Ozone Standard, 2006-2008](#) (JPG, 85 KB)

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Last updated on Tuesday, March 09, 2010  
<http://epa.gov/ttn/analysis/w126.htm>  
[Print As-Is](#)

Local intranet 100%

<http://www.epa.gov/ttn/analysis/w126.htm>



# Data via Google Earth

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## AirExplorer

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Air Explorer is a collection of user-friendly visualization tools for air quality analysts. The tools generate maps, graphs, and data tables dynamically. Currently, the tools access ambient criteria pollutant concentration data from EPA's [Air Quality System \(AQS\) Data Mart](#). PM2.5 speciation data are post-processed from AQS and were last updated on November 2, 2006.

**UPDATE** (2/22/2010) Consistent with the [new NO2 national air quality standards announced on January 22, 2010](#), this site now provides the daily max 1-hour values, in place of daily mean values, for NO2. In addition, the AQI graphics reflect the new break points for NO2.

**UPDATE** (11/13/2009) All tools (except those that access PM2.5 speciation data) are now connected directly to the AQS DataMart.

**UPDATE** (8/22/2008) The PM2.5 speciation data were updated to include data through 2007.

**UPDATE** (7/3/2008) The AQI graphics now reflect the [new ozone AQI break points](#).

MAPS	GRAPHS	DATA
<b>Map One Day</b> Generate a three-dimensional, interactive map of daily pollutant concentrations	<b>Plot Concentrations</b> Generate a time series plot for a specific location and time period	<b>Query Concentrations</b> View or download daily concentrations for a specific location and time period
<b>Map Several Days</b> Generate an animated series of daily concentration maps for a specific time period	<b>Plot Speciation Data</b> Plot daily PM2.5 speciation data for a specific location and time period	<b>Query Speciation Data</b> View or download daily PM2.5 speciation data for a specific location and time period
<b>Map Monitoring Sites</b> Explore monitoring locations with Google Earth. Download annual and daily data.	<b>Plot AQI Values</b> Compare AQI values for multiple pollutants for a specific location and time period	
	<b>Tile AQI Values</b> Plot daily AQI values for a specific location and time period	

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Last updated on Tuesday, February 23, 2010  
<http://www.epa.gov/airexplorer/>

[http://www.epa.gov/mxplorer/monitor\\_kml.htm](http://www.epa.gov/mxplorer/monitor_kml.htm)

# Next Steps

- Continuing to connect and consolidate
- Welcome your suggestions

# Acknowledgements

- W126 queries – Nick Mangus, OAQPS
- NO2 AQI – Rhonda Thompson, OAQPS
- Google Earth files – Josh Drukenbrod and Nick Mangus, OAQPS
- AQI plots – Mike Rizzo and Lance McCluney, OAQPS
- Tile plots – Tom Curran (retired), OAQPS