



Technology Transfer Network National Ambient Air Quality Standards (NAAQS)



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Area Designations for 2006 24-Hour PM_{2.5} NAAQS - Technical Information

Announcements

XXXX XX, 2007

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EPA plans to designate geographic areas as attaining or not attaining the 2006 24-hour PM_{2.5} standards by December 18, 2008. States must submit their recommendations for area designations to EPA by December 18, 2007. Tribes are requested to submit their recommendations by December 18, 2007 as well.

The information on this page is intended to support the area designation process for the 24-hour PM_{2.5} NAAQS by providing States and Tribes with current data and tools that may be useful in evaluating each area on a case-by-case basis and in making boundary recommendations. The data and tools that could be of use for these evaluations are not limited to the data and tools provided here.

PM_{2.5} Designations

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You will need Microsoft Excel to view some of the files on this page.

You will need Adobe Reader to view some of the files on this page. See [EPA's PDF page](#) to learn more.

A. EPA Guidance on the Area Designations for the 2006 24-Hour PM_{2.5} NAAQS

States and Tribes should refer to the June 2007 guidance for area designations for the 2006 24-hour PM_{2.5} NAAQS when preparing their recommendations on area designations.

- o [June 2007 Guidance for Area Designations for the 2006 24-Hour PM_{2.5} NAAQS \(PDF\)](#) (5 pp, 321KB)

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B. Data for Nine-Factor Analysis

The nine factors identified in the June 2007 Guidance for Area Designations for the 2006 24-Hour PM_{2.5} NAAQS are listed below, along with data and data sources that may be useful in evaluating each area on a case-by-case and in making boundary recommendations. The following is not an exclusive list of factors, data, or sources of data that could be considered in assessing an area. EPA is providing this list as a useful tool for the designations process, and it should not be construed as representing a decision by EPA to rely solely on this list for final designation determinations. EPA intends, at a minimum, to evaluate these factors, data and/or data sources in making final determinations regarding area designations for the 2006 24-hour PM_{2.5} NAAQS.

1. Factor 1: Air Quality Data

The air quality analysis is an examination of PM_{2.5} air quality monitoring data, including the daily design value calculated for each area based on air quality data for a 3-year period.

1. PM_{2.5} Air Quality Data for 2004-2006
 1. [Summary of 2004-2006 PM_{2.5} Design Values](#)
 2. [Map showing 24-hour PM_{2.5} air quality status for 2004-2006 \(PDF\)](#) (1 pp, 267KB)
 3. [Map showing counties with sites violating the 24-hour PM_{2.5} air quality standatd for 2004-2006 \(PDF\)](#) (1 pp, 50KB)
 4. **Chemical Composition Data**
 - Summary of data from routine CSN monitoring
 - See [Contributing Emission Score \(CES\) Technical Documentation \(PDF\)](#) (1068 pp, 9.4MB)
 - Additional data for some areas
 - [Description of Speciation Measurements from FRM/FEM Teflon filters \(PDF\)](#) (16 pp, 165KB)
 - [Teflon filter speciation data file \(XLS\)](#) (772KB)
2. PM_{2.5} Air Quality Data for 2003-2005
 1. [Summary of 2003-2005 PM_{2.5} Design Values](#)
 2. [Map showing 24-hour PM_{2.5} air quality status for 2003-2005 \(PDF\)](#) (1 pp, 274KB)
 3. [Map showing counties with sites violating the 24-hour PM_{2.5} air quality standatd for 2003-2005 \(PDF\)](#) (1 pp, 50KB)
 4. [Chemical Composition Data](#) (Data To Be Added)

For additional information about PM_{2.5} air quality data, visit EPA's [Air Trends](#) site.

2. Factor 2: Emissions Data

The emissions analysis is an examination of emissions that contribute to ambient PM_{2.5}, including carbonaceous particles (carbon), inorganic particles (crustal), SO₂, NO_x, VOCs, and ammonia. Emissions data are derived from the 2005 NEI, version 1, and are given in tons per year. Emissions data indicate the potential for a county to contribute to observed violations, making it useful in assessing boundaries of nonattainment areas. For more information about the NEI, go [here](#).

1. [Summary of National and State Air Emissions by Source Sector](#)
2. Detailed monthly and annual emissions data by county are provided below in Microsoft Excel spreadsheet format
2005 National Emission Inventory (version 1) Data

If the links from this website get broken, contact the Docket Office for a CD containing these 2005 national emission inventroy files

- [Alabama \(XLS\)](#) (714KB)
 - [Alaska \(XLS\)](#) (246KB)
 - [Arizona \(XLS\)](#) (187KB)
 - [Arkansas \(XLS\)](#) (713KB)
 - [California \(XLS\)](#) (664KB)
 - [Colorado \(XLS\)](#) (607KB)
 - [Connecticut \(XLS\)](#) (111KB)
 - [Delaware \(XLS\)](#) (61KB)
 - [District of Columbia \(XLS\)](#) (38KB)
 - [Florida \(XLS\)](#) (725KB)
 - [Georgia \(XLS\)](#) (1588KB)
 - [Hawaii \(XLS\)](#) (74KB)
 - [Idaho \(XLS\)](#) (395KB)
 - [Illinois \(XLS\)](#) (975KB)
 - [Indiana \(XLS\)](#) (918KB)
 - [Iowa \(XLS\)](#) (850KB)
 - [Kansas \(XLS\)](#) (962KB)
 - [Kentucky \(XLS\)](#) (1029KB)
 - [Louisiana \(XLS\)](#) (674KB)
 - [Maine \(XLS\)](#) (176KB)
 - [Maryland \(XLS\)](#) (270KB)
 - [Massachusetts \(XLS\)](#) (167KB)
 - [Michigan \(XLS\)](#) (781KB)
 - [Minnesota \(XLS\)](#) (778KB)
 - [Mississippi \(XLS\)](#) (768KB)
 - [Missouri \(XLS\)](#) (1069KB)
 - [Montana \(XLS\)](#) (438KB)
 - [Nebraska \(XLS\)](#) (791KB)
 - [Nevada \(XLS\)](#) (196KB)
 - [New Hampshire \(XLS\)](#) (124KB)
 - [New Jersey \(XLS\)](#) (264KB)
 - [New Mexico \(XLS\)](#) (334KB)
 - [New York \(XLS\)](#) (662KB)
 - [North Carolina \(XLS\)](#) (1050KB)
 - [North Dakota \(XLS\)](#) (451KB)
 - [Ohio \(XLS\)](#) (858KB)
 - [Oklahoma \(XLS\)](#) (727KB)
 - [Oregon \(XLS\)](#) (371KB)
 - [Pennsylvania \(XLS\)](#) (675KB)
 - [Puerto Rico \(XLS\)](#) (662KB)
 - [Rhode Island \(XLS\)](#) (73KB)
 - [South Carolina \(XLS\)](#) (516KB)
 - [South Dakota \(XLS\)](#) (526KB)
 - [Tennessee \(XLS\)](#) (851KB)
 - [Texas \(XLS\)](#) (2347KB)
 - [Tribal Data \(XLS\)](#) (92KB)
 - [Utah \(XLS\)](#) (301KB)
 - [Vermont \(XLS\)](#) (143KB)
 - [Virgin Islands \(XLS\)](#) (50KB)
 - [Virginia \(XLS\)](#) (1162KB)
 - [Washington \(XLS\)](#) (395KB)
 - [West Virginia \(XLS\)](#) (506KB)
 - [Wisconsin \(XLS\)](#) (670KB)
 - [Wyoming \(XLS\)](#) (233KB)
- To download all of the above 2005 NEI data [Click here \(ZIP\)](#) (8657KB)

3. Factor 3: Population Density and Degree of Urbanization

This analysis is an examination of the population for each urban area, as well as the population density for each county in that area. Population data indicate the likelihood of population-based emissions that might contribute to violations.

1. Census Information

- [U.S. Census population data](#)
- [2000 Census population data](#) (Data To Be Added)
- [2005 Census population data](#) (Data To Be Added)

2. Data on Urban and Rural Classification

- [Census 2000 Urban and Rural Classification](#)
- [CBSAs](#) (Data To Be Added)
- [CSAs](#) (Data To Be Added)

3. Other Information (Data To Be Added)

4. **Factor 4: Traffic and Commuting Patterns**

The traffic and commuting analysis includes an examination of the number of commuters in each county who drive to another county within an urban area, the percent of total commuters in each county who commute to other counties within the metropolitan area, and the total Vehicle Miles Traveled (VMT) for each county in thousands of miles.

1. Commuting Patterns in Urban Areas

- [County-to-County Worker Flow Files](#)
- [Additional journey to work and place of work information](#)

2. Vehicle Miles Traveled (VMT)

- [2005 VMT by County \(XLS\)](#) (345KB)
The total Vehicle Miles Traveled (VMT) for 2005 are provided for each county in millions of miles.

5. **Factor 5: Growth Rates and Patterns**

The growth analysis is an evaluation of actual and/or projected percent population growth for counties in an area over a period of time (e.g., ten years).

1. Population Growth Data

- [County Population Estimates, U.S. Census Bureau](#)
- [FSCPPP - The Federal State Cooperative Program for Population Projections](#)

6. **Factor 6: Meteorology**

The analysis of meteorological data considers the contribution of meteorological conditions such as wind speed and wind direction to high PM_{2.5} concentrations.

7. **Factor 7: Geography/Topography**

The geography/topography analysis includes an examination of physical features of the land that might have an effect on the airshed and, therefore, on the distribution of particulate matter over an area. For example, an area located in a valley bordered by mountains could experience very different effects to the airshed from an area with generally uninterrupted flat terrain.

1. [EPA Tool](#) for geographical visualization of emission sources using Google Earth

This geographical tool provides an interface for creating Google Earth layer files of emission source facilities to overlay these features in Google Earth. Click [here](#) to learn more about this new tool to view the geographical distribution of emission sources.

2. Geography/Topography Viewing and Mapping Tools
 - [Google Earth](#) is one tool that can be used for geography/topography analysis
 - [Microsoft Virtual Earth](#) is a tool that can also be used for geography/topography analysis

8. **Factor 8: Jurisdictional Boundaries**

The analysis of jurisdictional boundaries identifies the planning and organizational structure of an area to provide insights into how air quality planning and enforcement in a potential nonattainment area can be carried out. Examples of jurisdictional boundaries include counties, air districts, Reservations, metropolitan planning organizations (MPOs), and existing nonattainment areas.

9. **Factor 9: Level of Control of Emission Sources**

The level of control of emission source analysis includes an examination of emission controls currently implemented in each area.

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C. Illustrative Analyses

Presentations at PM_{2.5} Implementation and Designations Workshop, held June 20-21, 2007 in Chicago, IL

- [The Chemical Composition of PM_{2.5} to support PM Implementation \(PDF\)](#) (43 pp, 3.7MB)
- [Designations for 24-Hour PM_{2.5} NAAQS: Overview and Guidance \(PDF\)](#) (16 pp, 910KB)
- [Designations for the 2006 PM_{2.5} Standards: Evaluating the Nine Factors in Setting Nonattainment Area Boundaries Part 1 — Overview \(PDF\)](#) (34 pp, 3.9MB)
- [Designations for the 2006 PM_{2.5} Standards: Evaluating the Nine Factors in Setting Nonattainment Area Boundaries Part 2 — Conceptual Model for Evaluating High PM_{2.5} Days and its Influencing Emission Sources \(PDF\)](#) (22 pp, 662KB)

- [NAAQS Home](#)
- [Ozone Standards](#)
- [Ozone Implementation](#)
- [Particulate Matter Standards](#)
- [PM₁₀ Implementation](#)
- [PM_{2.5} Implementation](#)
- [Carbon Monoxide Standards](#)
- [Carbon Monoxide Implementation](#)
- [Sulfur Dioxide Standards](#)
- [Sulfur Dioxide Implementation](#)
- [Nitrogen Oxides Standards](#)
- [Nitrogen Oxides Implementation](#)
- [Lead Standards](#)
- [Lead Implementation](#)

- [Techniques Utilizing Ambient PM_{2.5} Air Quality Data to Aid in the 24-hour Designation Process \(PDF\)](#) (54 pp, 2.2MB)

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http://www.epa.gov/ttn/naaqs/pm/pm25_2006_techinfo.html

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