

PM₁₀ Air Quality Data Update 2006-2008 Design Values

The following is a brief summary of EPA's air quality update for PM₁₀ based on ambient monitoring data for the three-year period, 2006-2008. During this three-year period:

- Nineteen of the original 88* areas designated nonattainment for the PM₁₀ NAAQS, including one area that was subsequently redesignated to attainment (San Joaquin Valley, CA.) violated the NAAQS (Table 1).
- Thirty-five of the original 88* areas designated nonattainment for the PM₁₀ NAAQS met the (24-hour) PM₁₀ NAAQS in 2006-2008. (Table 1).
 - Ten of these 35 areas are still designated nonattainment and 25 have been redesignated to attainment.
- Thirty-three of the original 88* areas designated nonattainment for PM₁₀ had incomplete or no data for 2006-2008.
 - Eighteen of these 33 areas are still designated nonattainment and 15 have been redesignated to attainment.
- Thirty-three additional areas (counties), outside of the original 88* designated nonattainment areas, also failed to meet the (24-hour) PM₁₀ NAAQS in 2006-2008 (Table 2).

* Previously, the count of original, designated nonattainment areas was listed as 87. In November 2008, the San Joaquin Valley nonattainment area was split into two separate areas, San Joaquin Valley and East Kern.

Two primary PM₁₀ standards were established by the EPA in 1987 for the protection of public health. The 1987 PM₁₀ NAAQS consisted of both a short-term (24-hour) standard and a long-term (annual) standard. The EPA set the 24-hour PM₁₀ standard at 150 micrograms per cubic meter (µg/m³) and the annual PM₁₀ standard at 50 µg/m³. After the latest review of the PM NAAQS, the EPA revoked the annual PM₁₀ standard effective December 2007. Compliance with the 24-hour standard is judged on the basis of the most recent three years of ambient air quality monitoring data. The 24-hour PM₁₀ standard is not met at a monitoring site if the average number of estimated exceedances of the level of the standard is greater than 1.0 (1.05 rounds up).

Air quality data from EPA's Air Quality System (AQS) were used to calculate PM₁₀ estimated exceedances. The specific calculations are explained in footnotes to the tables. Most data used for these calculations were obtained from AQS on July 7, 2009; in some isolated situations, site data were re-extracted at later dates to encompass subsequent AQS changes. As of August 15, 2009, no regulatory decisions on attainment status have been made for any area based on these specific calculations.

For information concerning these data and/or calculations, contact:

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Table 1. Areas previously designated nonattainment for the PM₁₀ NAAQS, 2006-2008.

<u>State</u>	<u>Designated Area</u>	<u>EPA Region</u>	<u>Designation Status</u> ¹	<u>Area Classification</u>	<u>2006-2008 Expected Number of Exceedances</u> ^{2,3,4,5,6,7}	<u>Met NAAQS 2006-2008?</u> ⁷	<u>Comment</u> ⁶
AK	Eagle River	10	Nonattainment	Moderate	2.0	no	
AK	Juneau	10	Nonattainment	Moderate	0.0	incomplete	
AZ	Ajo	9	Nonattainment	Moderate	0.0	incomplete	
AZ	Bullhead City	9	Maintenance	Moderate	0.0	yes	
AZ	Hayden ⁸	9	Nonattainment	Moderate	5.2	no	Test ExEx = 3.4
AZ	Miami ⁸	9	Nonattainment	Moderate	0.0	incomplete	
AZ	Nogales	9	Nonattainment	Moderate	25.0	no	
AZ	Paul Spur / Douglas	9	Nonattainment	Moderate	2.2	no	
AZ	Payson	9	Maintenance	Moderate	0.0	yes	
AZ	Phoenix	9	Nonattainment	Serious	9.9	no	
AZ	Rillito	9	Nonattainment	Moderate	3.7	no	
AZ	Yuma	9	Nonattainment	Moderate	7.6	no	
CA	Coachella Valley	9	Nonattainment	Serious	16.4	no	Test ExEx = 10.9
CA	Coso Junction ⁹	9	Nonattainment	Moderate	1.0	incomplete	
CA	East Kern ¹⁰	9	Nonattainment	Serious	0.0	incomplete	
CA	Imperial Valley	9	Nonattainment	Moderate	7.6	no	
CA	Indian Wells Valley ⁹	9	Maintenance	Moderate	0.0	incomplete	
CA	Mammoth Lakes	9	Nonattainment	Moderate	0.0	incomplete	
CA	Mono Basin	9	Nonattainment	Moderate	19.4	no	Test ExEx = 19.4
CA	Owens Valley	9	Nonattainment	Serious	10.3	no	
CA	Sacramento County	9	Nonattainment	Moderate	5.8	yes	Test ExEx = 1.9
CA	San Bernardino county (part)	9	Nonattainment	Moderate	3.0	no	Test ExEx = 3.0
CA	San Joaquin Valley ¹⁰	9	Maintenance	Serious	3.5	no	
CA	South Coast Air Basin	9	Nonattainment	Serious	9.8	no	Test ExEx = 9.8
CA	Trona ⁹	9	Nonattainment	Moderate	1.2	no	Test ExEx = 1.2
CO	Aspen	8	Maintenance	Moderate	0.0	incomplete	
CO	Canon City	8	Maintenance	Moderate	0.0	yes	
CO	Denver	8	Maintenance	Moderate	0.0	yes	
CO	Lamar	8	Maintenance	Moderate	0.7	yes	
CO	Pagosa Springs	8	Maintenance	Moderate	0.0	yes	

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CO	Steamboat Springs	8	Maintenance	Moderate	0.0	incomplete	
CO	Telluride	8	Maintenance	Moderate	0.0	yes	
CT	New Haven	1	Maintenance	Moderate	ND	ND ⁷	
ID	Boise	10	Maintenance	Moderate	0.0	incomplete	
ID	Fort Hall	10	Nonattainment	Moderate	1.0	incomplete	
ID	Pinehurst	10	Nonattainment	Moderate	0.0	yes	
ID	Portneuf Valley	10	Maintenance	Moderate	0.0	incomplete	
ID	Sandpoint	10	Nonattainment	Moderate	0.0	incomplete	
ID	Shoshone County	10	Nonattainment	Moderate	0.0	yes	
IL	Granite City	5	Maintenance	Moderate	0.0	yes	
IL	Lyons Township	5	Maintenance	Moderate	0.0	yes	
IL	Oglesby	5	Maintenance	Moderate	0.0	yes	
IL	Southeast Chicago	5	Maintenance	Moderate	0.0	yes	
IN	East Chicago, Hammon	5	Maintenance	Moderate	0.3	yes	
IN	Vermillion	5	Maintenance	Moderate	ND	ND ⁷	
ME	Presque Isle	1	Maintenance	Moderate	0.0	yes	
MI	Detroit	5	Maintenance	Moderate	0.3	yes	
MN	Rochester	5	Maintenance	Moderate	0.0	incomplete	
MN	Saint Paul	5	Maintenance	Moderate	0.0	yes	
MT	Butte	8	Nonattainment	Moderate	0.0	incomplete	
MT	Columbia Falls	8	Nonattainment	Moderate	0.0	yes	
MT	Kalispell	8	Nonattainment	Moderate	0.0	incomplete	
MT	Lame Deer	8	Nonattainment	Moderate	0.0	incomplete	
MT	Libby	8	Nonattainment	Moderate	0.0	yes	
MT	Missoula	8	Nonattainment	Moderate	0.0	incomplete	
MT	Polson	8	Nonattainment	Moderate	0.0	incomplete	
MT	Ronan	8	Nonattainment	Moderate	0.0	incomplete	
MT	Thompson Falls	8	Nonattainment	Moderate	0.0	incomplete	
MT	Whitefish	8	Nonattainment	Moderate	0.3	incomplete	
NM	Anthony	6	Nonattainment	Moderate	9.5	no	
NV	Las Vegas	9	Nonattainment	Serious	1.1	no	

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NV	Reno	9	Nonattainment	Serious	0.0	yes	
NY	New York	2	Nonattainment	Moderate	ND	ND ⁷	
OH	Cuyahoga County	5	Maintenance	Moderate	0.0	yes	
OH	Mingo Junction	5	Maintenance	Moderate	0.0	yes	
OR	Eugene/Springfield	10	Nonattainment	Moderate	0.0	yes	
OR	Grants Pass	10	Maintenance	Moderate	0.0	yes	
OR	Klamath Falls	10	Maintenance	Moderate	0.0	yes	
OR	La Grande	10	Maintenance	Moderate	<u>0.0</u>	incomplete	
OR	Lakeview	10	Maintenance	Moderate	<u>0.0</u>	incomplete	
OR	Medford	10	Maintenance	Moderate	0.0	yes	
OR	Oakridge	10	Nonattainment	Moderate	0.0	yes	
PA	Clairton	3	Maintenance	Moderate	0.0	yes	
PR	Guaynabo	2	Nonattainment	Moderate	<u>0.0</u>	incomplete	
TX	El Paso	6	Nonattainment	Moderate	0.0	yes	
UT	Ogden	8	Nonattainment	Moderate	0.0	yes	
UT	Salt Lake County	8	Nonattainment	Moderate	2.9	no	
UT	Utah County	8	Nonattainment	Moderate	1.3	no	
WA	Kent	10	Maintenance	Moderate	<u>0.0</u>	incomplete	
WA	Olympia	10	Maintenance	Moderate	<u>0.0</u>	incomplete	
WA	Seattle	10	Maintenance	Moderate	<u>0.0</u>	incomplete	
WA	Spokane	10	Maintenance	Moderate	<u>0.3</u>	incomplete	
WA	Tacoma	10	Maintenance	Moderate	<u>0.0</u>	incomplete	
WA	Walla Walla	10	Maintenance	Serious	0.8	yes	
WA	Yakima	10	Maintenance	Moderate	0.0	yes	
WV	Follansbee	3	Maintenance	Moderate	0.0	yes	
WV	Weirton	3	Maintenance	Moderate	0.0	yes	
WY	Sheridan	8	Nonattainment	Moderate	0.8	yes	

1. Area designation status as of August 15, 2009.
2. The PM₁₀ NAAQS is an exceedance-based standard with a 24-hour averaging time and 150 micrograms per cubic meter (µg/m³) level; the NAAQS level is not to be exceeded more than once per year on average over three years. If exceedances are detected at monitors that do not operate on a daily sampling schedule, the exceedance count may be inflated to what would be expected if the monitor were operating on a daily sampling schedule; exceptions are granted for a monitor's first exceedance occurrence if monitoring is subsequently increased to a daily schedule. The values shown in the 2006-2008 Expected Number of Exceedances' column are the 3-year averages of the annual expected exceedance counts; values in this column greater than 1.0 (i.e., 1.1 and above) generally indicate a violation of the NAAQS. The computation procedures for calculating estimated expected exceedances follow 40 CFR Part 50, Appendix K (2006). The 3-year average exceedance counts are commonly called PM₁₀ exceedance-based design values.
3. The updated exceedance-based design values shown here are computed for the 2006-2008 period using federal reference or equivalent PM₁₀ data reported by the States, Tribes, and local agencies to EPA's Air Quality System (AQS) as of July 7, 2009. Concentrations flagged by States, Tribes, and local agencies as exceptional events (e.g. high winds, wildfires, volcanic eruptions, construction) and concurred by the associated EPA Regional Office are not included in the calculation of these design values.
4. In situations where there are two or more FRM/FEM PM₁₀ monitors operating at the same site location (i.e., "collocated" monitors ... the additional ones ostensibly for quality assurance, public AQI reporting, and/or instrument comparison purposes), each distinct monitor - method combination (i.e., the "primary" monitor(s) ... each POC with a different sampling / analysis methodology code) is used for NAAQS comparisons (assuming all regulatory requirements were met). For this data release, the primary monitor was determined according to the primary monitor designation/indicator in the AQS "monitor_collocations" table. If no such designation was present at the time of the data extraction, then each monitor-method(s) with the lowest numbered POC was assumed to be the primary monitor(s). In this Table (and also in Table 2), only the primary monitors were considered for selection.
5. Underlined values are based on incomplete data and are generally not valid for regulatory usage. Either there are no other sites in the area with complete data for this three-year period or a complete site(s) is located in the area but has an expected estimated exceedance value of zero and an incomplete monitor in the area registered the non-zero value shown.
6. In some cases, a conclusion that an area has an expected number of exceedances greater than 1.0 and accordingly has not met the PM₁₀ NAAQS in 2006-2008 is based on monitor data that did not meet the minimum 75 percent data capture requirement per quarter (for all 12 quarters). Expected exceedance values greater than 1.0 based on incomplete data are considered valid for regulatory usage per 40 CFR Part 50 Appendix K 2.3(c) if substitution of zeros for the incomplete (e.g., unmonitored) periods results in a 3-year exceedance "test" metric that still exceeds 1.0. These cases are identified in the table by an entry in the "Comment" column that provides a value for "Test ExEx". If the "Test ExEx" value is greater than 1.0 then the entry in the "Met NAAQS 2006-2008?" column will be "no" and the "2006-2008 Expected Number of Exceedances" entry will not be underlined. If the "Test ExEx" value is not greater than 1.0 then the entry in the "Met NAAQS 2006-2008?" column will be "incomplete" and the "2006-2008 Expected Number of Exceedances" entry will be underlined.
7. ND = No Data. Note that in some cases monitoring has been discontinued, with approval from the EPA, because the affecting sources have been shut down. For example, in the Vermillion, IN the monitor for that area last reported data in 1998; there are no longer any significant sources (former coal mine) so the Region does not think it is necessary to monitor in this rural location.
8. On March 28, 2007, EPA approved State of Arizona's boundary redesignation of the Hayden/Miami PM₁₀ nonattainment area into two separate PM₁₀ nonattainment areas: Hayden and Miami. EPA also made the determination that the Miami PM₁₀ nonattainment area is attaining the PM₁₀ national ambient air quality standard. Source: <http://www.epa.gov/oar/oaqps/greenbk/7214422.html>
9. On August 6, 2002, EPA finalized certain actions affecting the Searles Valley, California, PM₁₀ nonattainment area, which is located in the rural high desert and includes portions of Inyo, Kern, and San Bernardino Counties. The action splits the Searles Valley nonattainment area into three separate areas: Coso Junction, Indian Wells Valley and Trona. EPA's action also determines that the Trona area attained the PM₁₀ standards by December 31, 1994. On May 7, 2003, EPA finalized approval of the Indian Wells Moderate Area and Maintenance Plan and redesignated the area from nonattainment to attainment for particulate matter (PM₁₀). Source: <http://www.epa.gov/region9/air/searlespm/index.html>.

10. On November 8, 2008, EPA finalized certain actions affecting the San Joaquin Valley, California, PM₁₀ nonattainment area; the action splits the San Joaquin Valley nonattainment area into two separate areas: San Joaquin Valley and East Kern. EPA's action also determines that the San Joaquin Valley area attained the PM₁₀ standards and redesignated the area from nonattainment to attainment for particulate matter (PM₁₀). Source: <http://www.epa.gov/EPA-AIR/2008/November/Day-12/a26500.htm>

Table 2. Additional areas (counties) failing to meet the PM₁₀ NAAQS in 2006-2008.

<u>State</u>	<u>County</u>	<u>EPA Region</u>	<u>State FIPS</u>	<u>County FIPS</u>	<u>CBSA</u>	<u>2006-2008 Expected Number of Exceedances</u> ^{1, 2,3,4}	<u>2006-2008 Design Value Site</u> ³	<u>Comment</u> ⁴
AL	Jefferson Matanuska	4	01	073	Birmingham-Hoover, AL	1.7	010736004	Test ExEx =
AK	Susitna	10	02	170	Anchorage, AK	3.6	021700008	3.6
AZ	Maricopa	9	04	013	Phoenix-Mesa-Scottsdale, AZ	3.0	040134011	
AZ	Pima	9	04	019	Tucson, AZ	2.0	040191026	
AZ	Pinal	9	04	021	Phoenix-Mesa-Scottsdale, AZ	201.5	040213013	
CA	Los Angeles	9	06	037	Los Angeles-Long Beach-Santa Ana, CA	2.2	060379033	
CA	Mendocino	9	06	045	Ukiah, CA	3.1	060450006	
CA	San Diego	9	06	073	San Diego-Carlsbad-San Marcos, CA	4.1	060732007	
CA	Santa Barbara	9	06	083	Santa Barbara-Santa Maria-Goleta, CA	2.2	060831025	
CA	Shasta	9	06	089	Redding, CA	2.4	060890004	Test ExEx =
CA	Siskiyou	9	06	093		5.0	060932001	5.0
CA	Trinity	9	06	105		11.5	061050002	Test ExEx = 11.5
CA	Ventura	9	06	111	Oxnard-Thousand Oaks-Ventura, CA	2.0	061113001	
CA	Yolo	9	06	113	Sacramento--Arden-Arcade--Roseville, CA	2.2	061131003	
CO	Alamosa	8	08	003		2.5	080030003	Test ExEx = 2.5
CO	Garfield	8	08	045		1.4	080450005	Test ExEx = 1.4
MO	St. Louis City	7	29	510	St. Louis, MO-IL	21.4	295100092	Test ExEx = 7.1
MT	Big Horn	8	30	003		3.9	300030011	Test ExEx = 3.9
MT	Missoula	8	30	063	Missoula, MT	3.6	300630034	Test ExEx = 2.4
NV	Nye	9	32	023	Pahrump, NV	4.0	320230014	Test ExEx = 4.0
NM	Dona Ana	6	35	013	Las Cruces, NM	10.8	350130020	Test ExEx = 10.8
NM	Luna	6	35	029	Deming, NM	8.3	350290003	Test ExEx = 8.3

Table 2. Additional areas (counties) failing to meet the PM₁₀ NAAQS in 2006-2008.

<u>State</u>	<u>County</u>	<u>EPA Region</u>	<u>State FIPS</u>	<u>County FIPS</u>	<u>CBSA</u>	<u>2006-2008 Expected Number of Exceedances</u> ¹ _{2,3,4}	<u>2006-2008 Design Value Site</u> ³	<u>Comment</u> ⁴
NM	Sandoval	6	35	043	Albuquerque, NM	3.0	350439004	Test ExEx = 3.0
OH	Wyandot	5	39	175		2.2	391750008	Test ExEx = 1.4
OK	Tulsa	6	40	143	Tulsa, OK	4.4	401430110	Test ExEx = 4.4
PA	Philadelphia	3	42	101	Philadelphia-Camden-Wilmington, PA-NJ-DE- MD	32.9	421010649	Test ExEx = 32.9
TX	Harris	6	48	201	Houston-Sugar Land-Baytown, TX	6.2	482011035	Test ExEx = 2.4
WA	Stevens	10	53	065		3.6	530650004	Test ExEx = 1.3
WY	Albany	8	56	001	Laramie, WY	2.0	560010800	Test ExEx = 2.0
WY	Campbell	8	56	005	Gillette, WY	6.1	560050915	Test ExEx = 2.7
WY	Platte	8	56	031		2.7	560310805	Test ExEx = 2.8
WY	Sweetwater	8	56	037	Rock Springs, WY	2.8	560370847	Test ExEx = 2.3
VI	St Croix	2	78	010		3.4	780100008	

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