

1998-2000 Ozone and 1999-2000 Carbon Monoxide Air Quality Data Update

The following is a brief summary of EPA's 2000 air quality update for ozone and carbon monoxide nonattainment areas.

Ozone (O₃): Today's list updates ozone air quality monitoring data for the three year period, 1998-2000. During this current three year period,

- 30 of the original 98 areas designated nonattainment for the 1-hour O₃ National Ambient Air Quality Standard (NAAQS) in 1991 failed to meet the NAAQS in 1998-2000 (Table 1).
- 6 additional counties failed to meet the 1-hour O₃ NAAQS in 1998-2000 (Table 2).
- 329 counties have average annual 4th maximum 8-hour daily maximum O₃ concentrations in 1998-2000 greater than the level of the 8-hour O₃ NAAQS (Table 3).

EPA set the 1-hour O₃ standard at 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. Compliance with the 1-hour ozone standard is judged on the basis of the most recent three years of ambient air quality monitoring data. The 1-hour ozone standard is not met at a monitoring site if the average number of estimated exceedances of the ozone standard is greater than 1.0 (1.05 rounds up). The level of the 8-hour O₃ NAAQS is 0.08 ppm¹. The 8-hour O₃ standard is not met if the 3-year average of the annual 4th highest daily maximum 8-hour O₃ concentration is greater than 0.08 ppm (0.085 rounds up).

Carbon Monoxide (CO): Today's list updates CO air quality data for the two year period, 1999-2000. During this two year period,

- 2 of the original 42 areas designated nonattainment for the 8-hour CO NAAQS in 1991 failed to meet the CO NAAQS in 1998-99 (Table 4).
- 1 additional areas failed to meet the CO NAAQS in 1998-99 (Table 4).

EPA's National Ambient Air Quality Standard for carbon monoxide is 9 parts per million (ppm) non-overlapping 8-hour average concentration not to be exceeded more than once per year. The CO standard is not met at a monitoring site if there are two or more exceedances of the level of the CO NAAQS in either of the two most recent calendar years of monitoring data.

Notes:

¹ In 1997, EPA revised the national ambient air quality standards for ozone. The standards were challenged by several business and state groups who claimed that EPA misinterpreted the Clean Air Act to give itself unlimited discretion to set air standards. On February 27, 2001, the U.S. Supreme Court unanimously upheld the constitutionality of the Clean Air Act as EPA had interpreted it in setting those health-protective air quality standards. The Supreme Court also reaffirmed EPA's long-standing interpretation that it must set those standards based solely on public health considerations with consideration of costs. The case is now back in the U.S. Court of Appeals to decide issues not addressed in their initial opinion. Updates on this action can be found at <http://www.epa.gov/airlinks>.

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Table 1. Areas designated nonattainment in 1991 ⁽¹⁾ that fail to meet the 1-hr ozone NAAQS in 1998-2000

State	Designated Area	O ₃ Design Value ⁽²⁾ (ppm)	Avg. Expected Exceedance Rate ⁽³⁾
		1998-2000	1998-2000
GA	Atlanta	0.157	10.6
MD	Baltimore	0.145	2.5
LA	Baton Rouge	0.135	2.1
AL	Birmingham	0.137	2.4
NC	Charlotte-Gastonia ⁽⁴⁾	0.132	2.0
TX	Dallas-Fort Worth	0.131	1.3
CT	Greater Connecticut	0.145	2.0
TX	Houston-Galveston-Brazoria	0.199	10.2
WV	Huntington-Ashland ⁽⁴⁾	0.127	2.0
IL	Jersey Co. ⁽⁴⁾	0.125	1.3
MD	Kent County and Queen Anne's Co.	0.128	1.7
TN	Knoxville ⁽⁴⁾	0.138	4.0
LA	Lake Charles ⁽⁴⁾	0.127	1.7
CA	Los Angeles South Coast Air Basin	0.211	35.4
TN	Memphis ⁽⁴⁾	0.128	2.0
WI	Milwaukee-Racine	0.126	1.3
TN	Nashville ⁽⁴⁾	0.126	1.4
NY	New York-N. New Jersey-Long Island, NY-NJ-CT	0.140	2.7
PA	Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD	0.147	3.0
NC	Raleigh-Durham ⁽⁴⁾	0.127	1.4
VA	Richmond -Petersburg ⁽⁴⁾	0.127	2.0
CA	Sacramento Metro	0.148	5.3
CA	San Diego	0.131	2.7
CA	San Francisco-Bay	0.139	3.4
CA	San Joaquin Valley	0.161	13.1
WI	Sheboygan ⁽⁴⁾	0.130	1.3
CA	Southeast Desert Modified AQMD	0.164	7.4
MO	St. Louis	0.127	2.0
CA	Ventura Co	0.132	2.3
DC	Washington, DC	0.128	2.7

Notes:

1. Designations and classifications for ozone nonattainment areas as published in the Federal Register, 40 CFR Part 81. *Unclassified and transitional nonattainment areas are not included in Table 1.*

2. The updated air quality design value is estimated for the 1998-2000 period using all air quality data reported

to EPA's Aerometric Information Retrieval System (AIRS). The computation procedures follow EPA guidance for calculating design values (Laxton Memorandum, June 18, 1990). For sites with three complete years of monitoring data, the air quality design value is the fourth highest daily maximum 1-hour ozone concentration, because the standard allows one exceedance per year on average. It is important to note that the 1990 Clean Air Act Amendments required that nonattainment areas be classified on the basis of the design value at the time the Amendments were passed, generally the 1987-89 period was used.

3. The level of the 1-hour ozone Ambient Air Quality standard is 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. The average estimated number of exceedances column shows the number of days the 0.12 ppm 1-hour ozone standard was exceeded on average at the site recording the highest updated air quality value. This computation is performed after adjustment for any missing sampling days during the 3-year period, 1998-2000.

4. Areas presently designated attainment for the 1-hour ozone NAAQS that fail to meet the standard in 1998-2000.

5. Areas to be reinstated to nonattainment for the 1-hour NAAQS that fail to meet the standard in 1998-2000.

6. At the publication date for this update, air quality data for Poughkeepsie, NY are still under review and evaluation. Currently, it is unclear whether or not these areas violate the 1-hour ozone NAAQS. When a final determination is made, this table will be updated.

Table 2. Additional counties failing to meet the 1-hour ozone NAAQS in 1998-2000

State	County (Area)	O ₃ Design Value ⁽¹⁾ (ppm)	Avg. Expected Exceedance Rate ⁽²⁾
		1998-2000	1998-2000
CA	Amador Co. ⁽⁴⁾ (adjacent to Sacramento)	0.126	1.5
CA	Imperial Co. ⁽³⁾ (Calexico, CA)	0.166	5.7
GA	Bibb Co. ⁽⁴⁾ (Macon, GA)	0.134	3.6
TN	Hamilton Co. ⁽⁴⁾ (Chattanooga, TN-GA)	0.127	1.4
TX	Ellis Co. ⁽⁴⁾ (Dallas-Fort Worth, TX)	0.128	1.4
TX	Gregg Co. ⁽⁴⁾ (Longview-Marshall)	0.134	3.7

Notes:

1. The updated air quality design value is estimated for the 1998-2000 period using all air quality data reported to EPA's Aerometric Information Retrieval System (AIRS). The computation procedures follow EPA guidance for calculating design values (Laxton Memorandum, June 18, 1990). For sites with three complete years of monitoring data, the air quality design value is the fourth highest daily maximum 1-hour ozone concentration, because the standard allows one exceedance per year on average. It is important to note that the 1990 Clean Air Act Amendments required that nonattainment areas be classified on the basis of the design value at the time the Amendments were passed, generally the 1987-89 period was used.

2. The level of the 1-hour ozone Ambient Air Quality standard is 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. The average estimated number of exceedances column shows the number of days the 0.12 ppm 1-hour ozone standard was exceeded on average at the site recording the highest updated air quality value. This computation is performed after adjustment for any missing sampling days during the 3-year period, 1998-2000.

3. Section 185a nonattainment area that fails to meet the standard in 1998-2000.

4. Areas presently designated attainment for the 1-hour ozone NAAQS that fail to meet the standard in 1997-99.

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Alabama	Clay Co	88
Alabama	Jefferson Co	94
Alabama	Lawrence Co	86
Alabama	Madison Co	91
Alabama	Mobile Co	90
Alabama	Montgomery Co	90
Alabama	Shelby Co	102
Arizona	Maricopa Co	87
Arkansas	Crittenden Co	90
Arkansas	Pulaski Co	87
California	Alameda Co	86
California	Amador Co	99
California	Calaveras Co	100
California	El Dorado Co	107
California	Fresno Co	111
California	Imperial Co	89
California	Kern Co	111
California	Kings Co	102
California	Los Angeles Co	115
California	Madera Co	90
California	Mariposa Co	94

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
California	Merced Co	106
California	Nevada Co	95
California	Placer Co	102
California	Riverside Co	114
California	Sacramento Co	105
California	San Bernardino Co	146
California	San Diego Co	100
California	San Joaquin Co	88
California	Shasta Co	93
California	Solano Co	85
California	Stanislaus Co	96
California	Sutter Co	89
California	Tehama Co	91
California	Tulare Co	102
California	Tuolumne Co	96
California	Ventura Co	105
California	Yolo Co	85
Colorado	Jefferson Co	86
Connecticut	Fairfield Co	96
Connecticut	Litchfield Co	93
Connecticut	Middlesex Co	95
Connecticut	New Haven Co	96

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Connecticut	New London Co	87
Connecticut	Tolland Co	89
Delaware	Kent Co	97
Delaware	New Castle Co	97
Delaware	Sussex Co	98
Dist. Columbia	Washington	96
Florida	Escambia Co	94
Florida	Hillsborough Co	86
Florida	Pinellas Co	85
Georgia	Bibb Co	105
Georgia	Dawson Co	89
Georgia	De Kalb Co	110
Georgia	Douglas Co	104
Georgia	Fayette Co	108
Georgia	Fulton Co	121
Georgia	Gwinnett Co	104
Georgia	Muscogee Co	93
Georgia	Paulding Co	98
Georgia	Richmond Co	93
Georgia	Rockdale Co	111
Georgia	Sumter Co	85
Illinois	Cook Co	86

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Illinois	Jersey Co	91
Illinois	Madison Co	86
Indiana	Allen Co	90
Indiana	Clark Co	92
Indiana	Floyd Co	90
Indiana	Hamilton Co	95
Indiana	Hancock Co	91
Indiana	Johnson Co	89
Indiana	Lake Co	88
Indiana	La Porte Co	86
Indiana	Madison Co	90
Indiana	Marion Co	91
Indiana	Morgan Co	90
Indiana	Perry Co	94
Indiana	Porter Co	91
Indiana	Posey Co	91
Indiana	St. Joseph Co	86
Indiana	Vanderburgh Co	90
Indiana	Warrick Co	89
Kentucky	Bell Co	86
Kentucky	Boone Co	86
Kentucky	Bullitt Co	88

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Kentucky	Carter Co	89
Kentucky	Christian Co	86
Kentucky	Edmonson Co	94
Kentucky	Fayette Co	85
Kentucky	Graves Co	88
Kentucky	Greenup Co	90
Kentucky	Hancock Co	89
Kentucky	Henderson Co	85
Kentucky	Jefferson Co	94
Kentucky	Kenton Co	89
Kentucky	Livingston Co	90
Kentucky	McCracken Co	89
Kentucky	McLean Co	89
Kentucky	Oldham Co	96
Kentucky	Pulaski Co	88
Kentucky	Simpson Co	90
Louisiana	Ascension Par	91
Louisiana	Bossier Par	91
Louisiana	Caddo Par	88
Louisiana	Calcasieu Par	88
Louisiana	East Baton Rouge Par	96
Louisiana	Iberville Par	88

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Louisiana	Jefferson Par	90
Louisiana	Lafayette Par	85
Louisiana	Lafourche Par	87
Louisiana	Livingston Par	91
Louisiana	St. Charles Par	87
Louisiana	St. James Par	85
Louisiana	St. John The Baptist Pa	87
Louisiana	St. Mary Par	86
Louisiana	West Baton Rouge Par	88
Maine	Hancock Co	87
Maryland	Anne Arundel Co	107
Maryland	Baltimore Co	93
Maryland	Calvert Co	91
Maryland	Carroll Co	94
Maryland	Cecil Co	106
Maryland	Charles Co	101
Maryland	Frederick Co	92
Maryland	Harford Co	100
Maryland	Kent Co	101
Maryland	Montgomery Co	90
Maryland	Prince George's Co	99
Massachusetts	Barnstable Co	89

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Massachusetts	Bristol Co	87
Massachusetts	Essex Co	86
Massachusetts	Hampden Co	86
Massachusetts	Hampshire Co	87
Massachusetts	Middlesex Co	85
Massachusetts	Worcester Co	88
Michigan	Allegan Co	89
Michigan	Benzie Co	89
Michigan	Berrien Co	88
Michigan	Cass Co	88
Michigan	Genesee Co	86
Michigan	Macomb Co	89
Michigan	Mason Co	89
Michigan	Muskegon Co	91
Michigan	St. Clair Co	87
Michigan	Wayne Co	88
Mississippi	Adams Co	85
Mississippi	De Soto Co	91
Mississippi	Hancock Co	89
Mississippi	Jackson Co	92
Mississippi	Lee Co	88
Missouri	Cedar Co	88

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Missouri	Clay Co	89
Missouri	Jefferson Co	91
Missouri	Platte Co	85
Missouri	St. Charles Co	94
Missouri	Ste. Genevieve Co	90
Missouri	St. Louis Co	90
Nevada	Clark Co	85
New Jersey	Atlantic Co	90
New Jersey	Camden Co	101
New Jersey	Cumberland Co	96
New Jersey	Gloucester Co	102
New Jersey	Hudson Co	92
New Jersey	Hunterdon Co	98
New Jersey	Mercer Co	102
New Jersey	Middlesex Co	101
New Jersey	Monmouth Co	95
New Jersey	Morris Co	96
New Jersey	Ocean Co	107
New Jersey	Passaic Co	89
New York	Chautauqua Co	88
New York	Dutchess Co	87
New York	Erie Co	89

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
New York	Niagara Co	85
New York	Orange Co	86
New York	Putnam Co	89
New York	Queens Co	88
New York	Richmond Co	96
New York	Suffolk Co	94
New York	Westchester Co	92
North Carolina	Alexander Co	89
North Carolina	Buncombe Co	88
North Carolina	Caldwell Co	92
North Carolina	Caswell Co	93
North Carolina	Chatham Co	85
North Carolina	Cumberland Co	93
North Carolina	Davie Co	98
North Carolina	Duplin Co	86
North Carolina	Durham Co	91
North Carolina	Edgecombe Co	89
North Carolina	Forsyth Co	96
North Carolina	Franklin Co	90
North Carolina	Granville Co	89
North Carolina	Guilford Co	94
North Carolina	Haywood Co	94

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
North Carolina	Johnston Co	91
North Carolina	Lenoir Co	87
North Carolina	Lincoln Co	90
North Carolina	Mecklenburg Co	104
North Carolina	Person Co	91
North Carolina	Pitt Co	88
North Carolina	Rowan Co	100
North Carolina	Wake Co	98
Ohio	Allen Co	89
Ohio	Ashtabula Co	89
Ohio	Butler Co	90
Ohio	Clark Co	93
Ohio	Clermont Co	94
Ohio	Clinton Co	99
Ohio	Cuyahoga Co	86
Ohio	Delaware Co	95
Ohio	Franklin Co	89
Ohio	Geauga Co	89
Ohio	Greene Co	89
Ohio	Hamilton Co	87
Ohio	Knox Co	91
Ohio	Lake Co	95

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Ohio	Lawrence Co	92
Ohio	Licking Co	92
Ohio	Madison Co	93
Ohio	Medina Co	86
Ohio	Miami Co	87
Ohio	Montgomery Co	90
Ohio	Portage Co	93
Ohio	Stark Co	91
Ohio	Summit Co	92
Ohio	Trumbull Co	91
Ohio	Warren Co	92
Ohio	Washington Co	90
Oklahoma	Tulsa Co	93
Pennsylvania	Allegheny Co	96
Pennsylvania	Armstrong Co	93
Pennsylvania	Beaver Co	90
Pennsylvania	Berks Co	92
Pennsylvania	Blair Co	89
Pennsylvania	Bucks Co	102
Pennsylvania	Cambria Co	91
Pennsylvania	Clearfield Co	87
Pennsylvania	Dauphin Co	93

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Pennsylvania	Delaware Co	96
Pennsylvania	Erie Co	90
Pennsylvania	Franklin Co	95
Pennsylvania	Greene Co	96
Pennsylvania	Lackawanna Co	87
Pennsylvania	Lancaster Co	97
Pennsylvania	Lehigh Co	97
Pennsylvania	Mercer Co	92
Pennsylvania	Montgomery Co	102
Pennsylvania	Northampton Co	95
Pennsylvania	Perry Co	85
Pennsylvania	Philadelphia Co	89
Pennsylvania	Washington Co	94
Pennsylvania	York Co	93
Rhode Island	Kent Co	88
Rhode Island	Washington Co	85
South Carolina	Abbeville Co	88
South Carolina	Aiken Co	91
South Carolina	Anderson Co	95
South Carolina	Barnwell Co	90
South Carolina	Cherokee Co	92
South Carolina	Chester Co	88

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
South Carolina	Darlington Co	89
South Carolina	Edgefield Co	85
South Carolina	Oconee Co	87
South Carolina	Pickens Co	90
South Carolina	Richland Co	96
South Carolina	Spartanburg Co	95
South Carolina	York Co	85
Tennessee	Anderson Co	91
Tennessee	Blount Co	104
Tennessee	Davidson Co	91
Tennessee	Hamilton Co	97
Tennessee	Haywood Co	92
Tennessee	Jefferson Co	101
Tennessee	Knox Co	102
Tennessee	Lawrence Co	89
Tennessee	Putnam Co	91
Tennessee	Rutherford Co	89
Tennessee	Sevier Co	102
Tennessee	Shelby Co	97
Tennessee	Sullivan Co	94
Tennessee	Sumner Co	100
Tennessee	Williamson Co	93

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Tennessee	Wilson Co	89
Texas	Bexar Co	85
Texas	Brazoria Co	93
Texas	Collin Co	101
Texas	Dallas Co	93
Texas	Denton Co	102
Texas	Ellis Co	97
Texas	Galveston Co	106
Texas	Gregg Co	102
Texas	Harris Co	112
Texas	Jefferson Co	87
Texas	Marion Co	88
Texas	Smith Co	91
Texas	Tarrant Co	99
Texas	Travis Co	88
Virginia	Arlington Co	92
Virginia	Caroline Co	88
Virginia	Charles City Co	88
Virginia	Chesterfield Co	87
Virginia	Fairfax Co	97
Virginia	Fauquier Co	86
Virginia	Frederick Co	87

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998-2000

State	County	Design Value (ppb)
Virginia	Henrico Co	91
Virginia	Loudoun Co	89
Virginia	Madison Co	93
Virginia	Prince William Co	88
Virginia	Roanoke Co	89
Virginia	Stafford Co	87
Virginia	Alexandria city	89
Virginia	Hampton city	89
Virginia	Suffolk city	87
West Virginia	Cabell Co	94
West Virginia	Greenbrier Co	89
West Virginia	Wood Co	92
Wisconsin	Door Co	92
Wisconsin	Jefferson Co	85
Wisconsin	Kenosha Co	93
Wisconsin	Kewaunee Co	89
Wisconsin	Manitowoc Co	92
Wisconsin	Milwaukee Co	89
Wisconsin	Ozaukee Co	92
Wisconsin	Racine Co	85
Wisconsin	Rock Co	86
Wisconsin	Sheboygan Co	92

Notes:

The level of the 8-hour ozone (O₃) National Ambient Air Quality Standard (NAAQS) is 0.08 parts per million (ppm). The air quality design value for the 8-hour O₃ NAAQS is the 3-year average of the annual 4th highest daily maximum 8-hour average O₃ concentration. The 8-hour O₃ NAAQS is not met when the 8-hour ozone design value is greater than 0.08 ppm (85 ppb rounds up).

In 1997, EPA revised the national ambient air quality standards for ozone. The standards were challenged by several business and state groups who claimed that EPA misinterpreted the Clean Air Act to give itself unlimited discretion to set air standards. On February 27, 2001, the U.S. Supreme Court unanimously upheld the constitutionality of the Clean Air Act as EPA had interpreted it in setting those health-protective air quality standards. The Supreme Court also reaffirmed EPA's long-standing interpretation that it must set those standards based solely on public health considerations with consideration of costs. The case is now back in the U.S. Court of Appeals to decide issues not addressed in their initial opinion. Updates on this action can be found at <http://www.epa.gov/airlinks>.

For additional information on air quality data relative to the 8-hour ozone NAAQS, refer to <http://www.epa.gov/ttn/rto/areas/aqdata.htm>

Table 4. Areas not meeting the 8-hour Carbon Monoxide National Ambient Air Quality Standard, 1999-2000

Metropolitan Area	1999-2000 Design Value ⁽¹⁾ (ppm)	1999		2000	
		2 nd Max ⁽²⁾	# Exc ⁽³⁾	2 nd Max ⁽²⁾	# Exc ⁽³⁾
Designated CO nonattainment areas					
Fairbanks, AK	10.3	10.3	2	8.9	1
Los Angeles-Long Beach, CA	11.1	11.1	8	9.9	2
Additional areas					
Calexico, CA	14.4	14.4	13	9.6	2
Number of areas not meeting the NAAQS	3		3		2

Notes:

1. The level of the 8-hour National Ambient Air Quality Standard for carbon monoxide is 9 parts per million (ppm) not to be exceeded more than once per year. The design value for the 8-hour CO NAAQS is the highest annual second maximum non-overlapping 8-hour concentration during the most recent two years.

2. Annual second highest non-overlapping 8-hour average CO concentration.

3. Number of non-overlapping exceedances of the 8-hour CO NAAQS.

SOURCE: U.S. EPA's Aerometric Information Retrieval System (AIRS)