

# Iowa Exceedances of the National Ambient Air Quality Standards, 2012 (Draft)



*Iowa DNR  
Ambient Air Monitoring Group*

# What Are the NAAQS?

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards.

*Primary standards* set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.

*Secondary standards* set limits to protect public welfare, including protection against decreased visibility, or damage to animals, crops, vegetation, and buildings. The table and key on the following page lists the NAAQS for the six criteria pollutants.

## National Ambient Air Quality Standards

Pollutant	Averaging Period	Exceedance Level	Units
Ozone	8hr <b>(1)</b>	76	ppb
PM <sub>2.5</sub>	24hr <b>(2)</b>	35.5	micrograms per cubic meter
	annual <b>(3)</b>	15.05	micrograms per cubic meter
PM <sub>10</sub>	24hr <b>(4)</b>	155	micrograms per cubic meter
Sulfur dioxide	1hr <b>(5)</b>	75.5	ppb
	3hr <b>(6)</b>	0.55	ppm
Carbon monoxide	1hr <b>(6)</b>	35.5	ppm
	8hr <b>(6)</b>	9.5	ppm
Nitrogen dioxide	annual	0.0535	ppm
	1 hr <b>(7)</b>	100.5	ppb
Lead	Rolling 3-month average <b>(8)</b>	0.155	micrograms per cubic meter

**(1)** To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 75 ppb.

**(2)** To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35.5 µg/m<sup>3</sup> (effective December 17, 2006).

**(3)** To attain this standard, the 3-year average of the weighted annual mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.05 µg/m<sup>3</sup>.

**(4)** Not to be exceeded more than once per year on average over 3 years.

**(5)** Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

**(6)** Not to be exceeded more than once per year.

**(7)** To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

**(8)** Final rule signed October 15, 2008.

**See 40CFR Part 50 for details on attainment calculations**

# Ozone Data in This Report

Nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC's) react in sunlight and hot weather and can cause ground-level ozone to form in harmful concentrations in the air. Ozone is considered a summertime pollutant and data is collected seasonally from April 1 through October 31.

Both urban and rural areas may experience high ozone levels because wind can carry ozone and the pollutants that form it hundreds of miles away from their original sources.

Ozone monitors are continuous instruments that report hourly averages for each hour of each day of the ozone season.

## **Particulate Data Used for this Report**

Particulate data in this report is from filter based samplers where the data is collected over a 24-hour period and then analyzed in a laboratory. Filter samplers are normally operated on a schedule of one sample every third day (1 in 3). In areas of high population or high concentration, the samplers may be operated on an accelerated schedule (1 in 2 or daily).

EPA has encouraged States to use automated continuous samplers to inform the public of current air quality levels. Recently, EPA has approved the use of data from certain types of continuous samplers for regulatory purposes. Data from continuous monitors that pass EPA equivalency tests may be included in this report in the future.

# Iowa NAAQS Exceedances, 2012

(Draft)

Date	PM <sub>2.5</sub>	PM <sub>10</sub>	Ozone	SO <sub>2</sub>	Lead**
1/3/12				1	
1/15/12				1	
1/16/12				1	
1/18/12				1	
2/15/12	1				
2/26/12				2	
3/6/12				2	
3/7/12				1	
3/12/12				1	
3/16/12				2	
3/17/12				1	
3/18/12				1	
3/19/12				2	
3/20/12				2	
3/22/12				1	
3/26/12	1				
3/27/12				1	
4/2/12	1				
4/28/12	1				
4/29/12	1				
5/11/12				1	
5/18/12			1	1	

# Iowa NAAQS Exceedances, 2012

(Draft), continued

Date	PM <sub>2.5</sub>	PM <sub>10</sub>	Ozone	SO <sub>2</sub>	Lead**
5/22/12				1	
6/9/12			2		
6/14/12			1		
6/15/12			1		
6/27/12			1		
7/12/12			2		
7/17/12			1		
7/30/12			2		
8/1/12			1		
8/3/12			3		
8/30/12			3		
9/11/12				1	
10/12/12				1	
June-August					1
10/24/12				1	
10/25/12				1	
11/10/12				1	
11/11/12				2	
11/16/12				1	
11/22/12				1	
July-September					1

\*\* EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m<sup>3</sup> represent violations of the NAAQS.

# Iowa NAAQS Exceedances, 2012

(Draft), continued

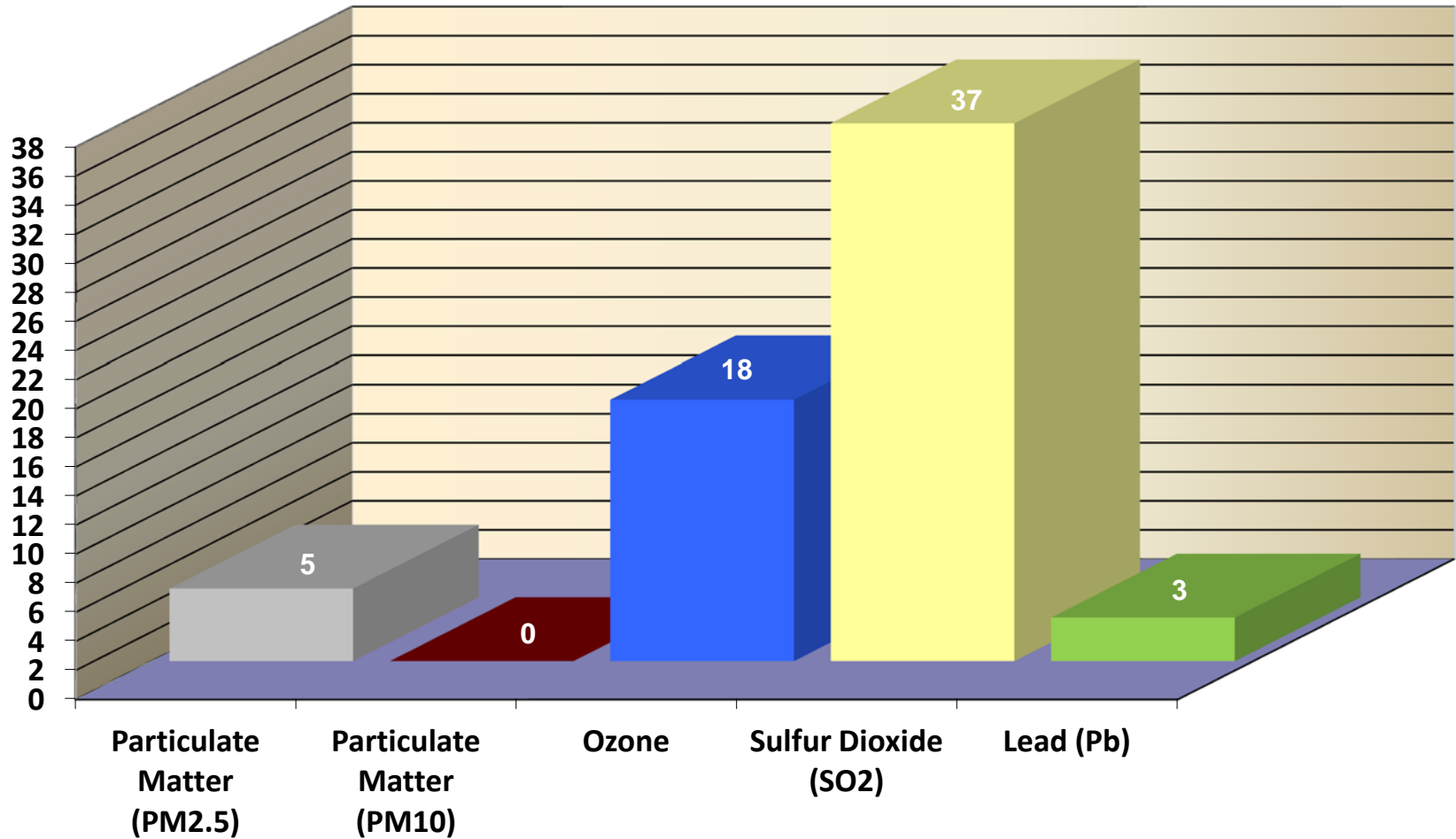
Date	PM <sub>2.5</sub>	PM <sub>10</sub>	Ozone	SO <sub>2</sub>	Lead**
12/3/12				1	
12/5/12				1	
12/9/12				1	
12/12/12				1	
12/15/12				1	
August-October					1
<b>TOTAL</b>	<b>5</b>	<b>0</b>	<b>18</b>	<b>37</b>	<b>3</b>

\*\* EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m<sup>3</sup> represent violations of the NAAQS.



# Iowa NAAQS Exceedances, 2012

(Draft)



### 2012 NAAQS Exceedances (Draft)

Monitor Type	Site Location	Site Name	Exceedance			AQI
			Date	Concentration	Units	
SO <sub>2</sub>	Muscatine	Musser Park	1/3/12	80.6	ppb	103
SO <sub>2</sub>	Muscatine	Musser Park	1/15/12	142.8	ppb	131
SO <sub>2</sub>	Muscatine	Musser Park	1/16/12	155.7	ppb	137
SO <sub>2</sub>	Muscatine	Musser Park	1/18/12	127.7	ppb	124
PM <sub>2.5</sub>	Emmetsburg	Iowa Lakes College	2/15/12	35.5	µg/m <sup>3</sup>	101
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	2/26/12	138.8	ppb	129
SO <sub>2</sub>	Muscatine	Musser Park	2/26/12	249.9	ppb	178
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	3/6/12	94.5	ppb	110
SO <sub>2</sub>	Muscatine	Musser Park	3/6/12	196.7	ppb	156
SO <sub>2</sub>	Muscatine	Musser Park	3/7/12	212.8	ppb	162
SO <sub>2</sub>	Muscatine	Musser Park	3/12/12	127.5	ppb	124
SO <sub>2</sub>	Muscatine	Musser Park	3/16/12	139.4	ppb	129
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	3/16/12	166.5	ppb	142
SO <sub>2</sub>	Muscatine	Musser Park	3/17/12	103.9	ppb	114
SO <sub>2</sub>	Muscatine	Musser Park	3/18/12	86.1	ppb	105
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	3/19/12	104.2	ppb	114
SO <sub>2</sub>	Muscatine	Musser Park	3/19/12	102.2	ppb	113
SO <sub>2</sub>	Muscatine	Musser Park	3/20/12	108.3	ppb	115

**2012 NAAQS Exceedances (Draft) continued**

Monitor Type	Site Location	Site Name	Exceedance			
			Date	Concentration	Units	AQI
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	3/20/12	170.5	ppb	144
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	3/22/12	75.5	ppb	101
PM <sub>2.5</sub>	Muscatine	Garfield School	3/26/12	39.7	µg/m <sup>3</sup>	108
SO <sub>2</sub>	Muscatine	Musser Park	3/27/12	146.7	ppb	133
PM <sub>2.5</sub>	Muscatine	Garfield School	4/2/12	60.2	µg/m <sup>3</sup>	141
PM <sub>2.5</sub>	Muscatine	Garfield School	4/28/12	36.1	µg/m <sup>3</sup>	102
PM <sub>2.5</sub>	Muscatine	Garfield School	4/29/12	47.3	µg/m <sup>3</sup>	120
SO <sub>2</sub>	Muscatine	Musser Park	5/11/12	76.5	ppb	101
Ozone	Clinton	Rainbow Park	5/18/12	76	ppb	101
SO <sub>2</sub>	Muscatine	Musser Park	5/18/12	85.1	ppb	105
SO <sub>2</sub>	Clinton	Chancy Park	5/22/12	76.4	ppb	101
Ozone	Pisgah	Forestry Office	6/9/12	76	ppb	101
Ozone	Pisgah	Highway Shed	6/9/12	76	ppb	101
Ozone	Keosauqua	Lake Sugema	6/14/12	79	ppb	109
Ozone	Clinton	Rainbow Park	6/15/12	77	ppb	104
Ozone	Keosauqua	Lake Sugema	6/27/12	76	ppb	101
Ozone	Pisgah	Forestry Office	7/12/12	80	ppb	111
Ozone	Pisgah	Highway Shed	7/12/12	79	ppb	109

**2012 NAAQS Exceedances (Draft) continued**

Monitor Type	Site Location	Site Name	Exceedance		Units	AQI <sup>(1)</sup>
			Date	Concentration		
Ozone	Pisgah	Highway Shed	7/17/12	76	ppb	101
Ozone	Clinton	Rainbow Park	7/30/12	76	ppb	101
Ozone	Central Davenport	Jefferson Elementary	7/30/12	76	ppb	101
Ozone	Clinton	Rainbow Park	8/1/12	78	ppb	106
Ozone	Cedar Rapids	Linn Co. Public Health	8/3/12	76	ppb	101
Ozone	Cedar Rapids	Kirkwood College	8/3/12	76	ppb	101
Ozone	North Cedar Rapids	Coggon	8/3/12	77	ppb	104
Ozone	Pisgah	Forestry Office	8/30/12	77	ppb	104
Ozone	Pisgah	Highway Shed	8/30/12	78	ppb	106
Ozone	Emmetsburg	Iowa Lakes College	8/30/12	76	ppb	101
SO <sub>2</sub>	Muscatine	Musser Park	9/11/12	107.8	ppb	115
SO <sub>2</sub>	Muscatine	Garfield School	10/12/12	170.6	ppb	143
Pb	Council Bluffs	Griffin Pipe	June-August	0.2	µg/m <sup>3</sup>	n/a
SO <sub>2</sub>	Muscatine	Musser Park	10/24/12	130.5	ppb	125
SO <sub>2</sub>	Muscatine	Musser Park	10/25/12	177.8	ppb	146
SO <sub>2</sub>	Muscatine	Musser Park	11/10/12	308.8	ppb	>200 <sup>(2)</sup>
SO <sub>2</sub>	Muscatine	Musser Park	11/11/12	229.7	ppb	169
SO <sub>2</sub>	Muscatine	Greenwood Cemetery	11/11/12	78.7	ppb	102

<sup>(1)</sup> EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m<sup>3</sup> represent violations of the NAAQS.

<sup>(2)</sup> The AQI is not defined for 1-hour SO<sub>2</sub> values greater than 304 ppb (AQI of 200).

**2012 NAAQS Exceedances (Draft) continued**

Monitor Type	Site Location	Site Name	Exceedance			AQI <sup>(1)</sup>
			Date	Concentration	Units	
SO <sub>2</sub>	Muscatine	Garfield School	11/16/12	79.2	ppb	102
SO <sub>2</sub>	Muscatine	Musser Park	11/22/12	121.3	ppb	121
Pb	Council Bluffs	Griffin Pipe	July-September	0.19	µg/m <sup>3</sup>	n/a
SO <sub>2</sub>	Muscatine	Musser Park	12/3/12	224.0	ppb	167
SO <sub>2</sub>	Muscatine	Garfield School	12/5/12	151.7	ppb	135
SO <sub>2</sub>	Muscatine	Garfield School	12/9/12	125.5	ppb	123
SO <sub>2</sub>	Muscatine	Musser Park	12/12/12	119.0	ppb	120
SO <sub>2</sub>	Muscatine	Musser Park	12/15/12	96.2	ppb	110
Pb	Council Bluffs	Griffin Pipe	August-October	0.20	µg/m <sup>3</sup>	n/a

<sup>(1)</sup> EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m<sup>3</sup> represent violations of the NAAQS.

# Web Resources

## **Real-time Air Monitoring Data:**

*In Polk County:*

<http://www.polkcountyiowa.gov/airquality/Pages/Monitoring.aspx>

*In Linn County:*

<http://www.linncleanair.org/>

*Outside Polk and Linn Counties:*

<http://www.shl.uiowa.edu/env/ambient/data.xml>

*Attainment Calculations:*

<http://epa.gov/airtrends/values.html>

*National Ozone and Particulate Maps:*

<http://airnow.gov/>

*Historical Air Monitoring Data for Iowa and Other States:*

<http://www.epa.gov/airdata/>