



# 2003 Air Quality Index Summary

New Jersey Department of Environmental Protection

## WHAT IS THE AIR QUALITY INDEX (AQI)?

The Air Quality Index (AQI) is a national air quality rating system based on the National Ambient Air Quality Standards (NAAQS). Generally, an index value of 100 is equal to the primary, or health based, NAAQS for each pollutant. This allows for a direct comparison of each of the pollutants used in the AQI (carbon monoxide, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide). The AQI rating for a reporting region is equal to the highest rating recorded for any pollutant within that region. In an effort to make the AQI easier to understand, a descriptive rating, and a color code, based on the numerical rating are used (see Table 1).

For more information on the AQI, visit EPA's web site at [www.epa.gov/airnow/aqibroch](http://www.epa.gov/airnow/aqibroch).

**Table 1**  
**Air Quality Index**

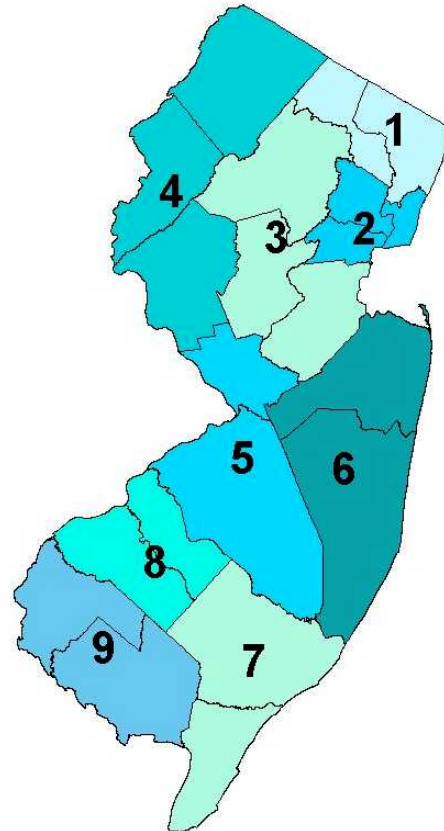
Numerical AQI Rating	Descriptive Rating	AQI Color Code
0-50	Good	Green
51-100	Moderate	Yellow
101-150	Unhealthy for Sensitive Groups	Orange
151-200	Unhealthy	Red
200-300	Very Unhealthy	Purple

Each weekday morning an air quality summary for the previous day, and a forecast are prepared using the AQI format. These are provided to the Associated Press wire service, the New York Times, and to participating radio and television stations. Each afternoon, an air quality update, which includes the current air quality information and a forecast for the following day, is issued to various newspapers. An extended forecast consisting of the

expected descriptor ratings over the next 72-hour period is also provided for each reporting region on weekdays. A telephone recording of the AQI forecast is taped by 11 a.m., Monday-Friday, and can be heard by dialing **1-800-782-0160**.

For purposes of reporting the AQI, the state is divided into 9 regions (see Figure 1). Table 2 shows the monitoring sites and parameters used in each reporting region to calculate the AQI values.

**Figure 1**  
**Air Quality Index Regions**



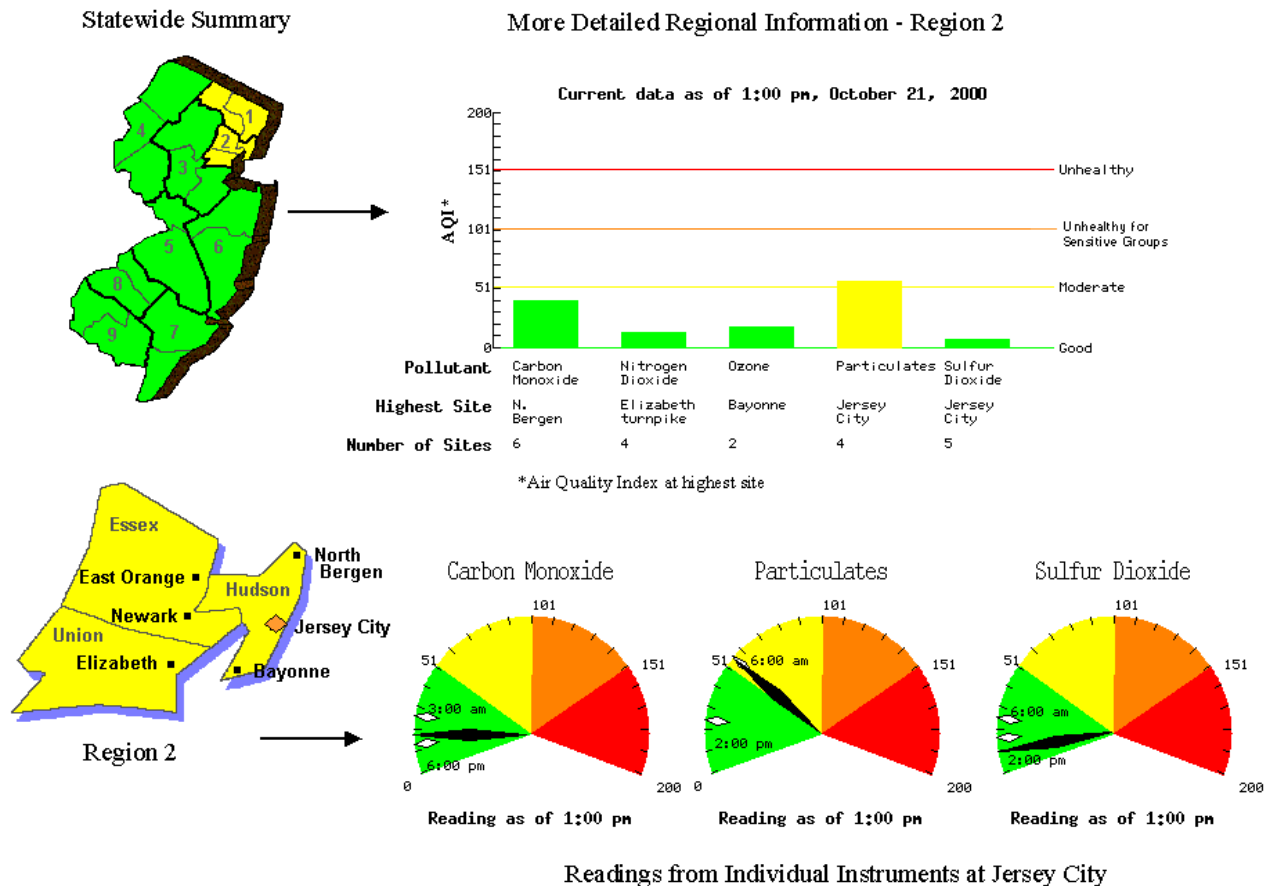
**Table 2**  
**Pollutants Monitored According to Air Quality Index Reporting Region - 2003**

CO - Carbon Monoxide                      O<sub>3</sub> - Ozone  
SO<sub>2</sub> - Sulfur Dioxide                      NO<sub>2</sub> - Nitrogen Dioxide  
PM - Particulate Matter

Reporting Region	Monitoring Site	CO	SO <sub>2</sub>	PM	O <sub>3</sub>	NO <sub>2</sub>
<b>1. Northern Metropolitan</b>	Fort Lee	X	---	X	---	---
	Hackensack	X	X	X	---	---
	Ramapo	---	---	---	X	---
	Teaneck	---	---	---	X	X
<b>2. Southern Metropolitan</b>	Bayonne	---	X	---	X	X
	East Orange	X	---	---	---	X
	Elizabeth	X	X	X	---	---
	Elizabeth Lab	X	X	X	---	X
	Jersey City	X	X	X	---	---
	Newark Lab	X	X	X	X	X
<b>3. Suburban</b>	Chester	---	X	---	X	X
	Morristown	X	---	X	---	---
	New Brunswick	---	---	X	---	---
	Perth Amboy	X	X	X	---	---
	Rutgers University	---	---	---	X	X
<b>4. Northern Delaware Valley</b>	Flemington	---	---	X	X	---
<b>5. Central Delaware Valley</b>	Burlington	X	X	X	---	---
	Rider University	---	---	---	X	X
<b>6. Northern Coastal</b>	Colliers Mills	---	---	---	X	---
	Freehold	X	---	X	---	---
	Monmouth University	---	---	---	X	---
<b>7. Southern Coastal</b>	Nacote Creek R. S.	---	X	---	X	---
<b>8. Southern Delaware Valley</b>	Ancora State Hospital	X	X	X	X	---
	Camden Lab	X	X	X	X	X
	Clarksboro	---	X	---	X	---
<b>9. Delaware Bay</b>	Millville	---	X	---	X	X

Along with the forecast, cautionary statements are provided for days when the air quality is expected to be unhealthy. A weekday ozone forecast map, introduced during the 1996 ozone season, is televised on New Jersey Network's (NJN) TV News Broadcast. After the ozone season, an air quality forecast map is substituted. A web page was also created in 1996 to show current air quality levels. This page can be accessed at the following internet address: <http://www.state.nj.us/dep/airmon>. Some examples of the air quality information available on our web site are shown below:

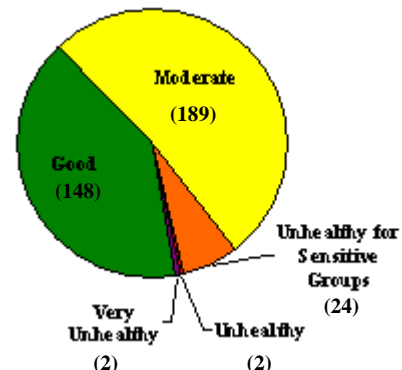
**Figure 2**  
Examples of NJDEP's Air Monitoring Website



## 2003 AQI SUMMARY

A summary of the AQI ratings for New Jersey in 2003 is presented in the pie chart to the right. In 2003 there were 148 "Good" days, 189 were "Moderate", 24 were rated "Unhealthy for Sensitive Groups", 2 were considered "Unhealthy", and 2 were rated "Very Unhealthy". This indicates that air quality in New Jersey is considered good or moderate most of the time, but that pollution is still bad enough to adversely affect some people on about one day in thirteen. Table 3 lists the dates when the AQI exceeded the "Unhealthy for Sensitive Groups" threshold at any monitoring location and shows which pollutant(s) were in that range or higher. Figure 4 shows the AQI ratings for the year broken down by AQI region.

**Figure 3**  
Air Quality Summary by Days



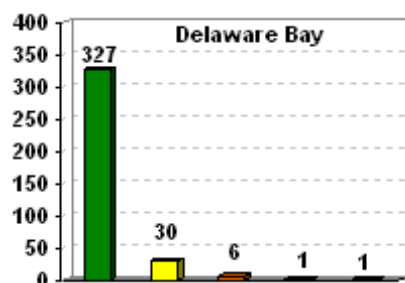
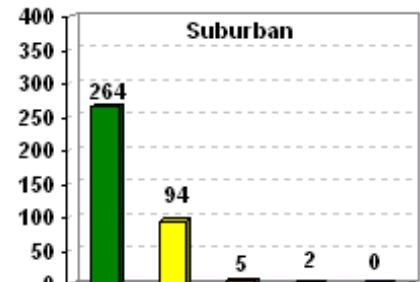
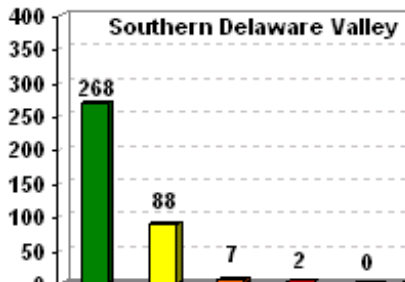
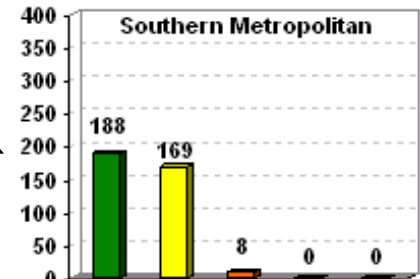
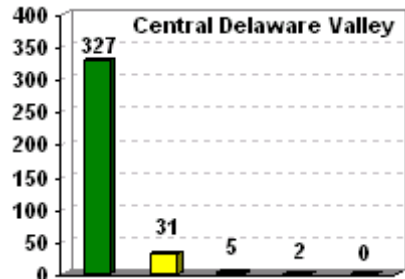
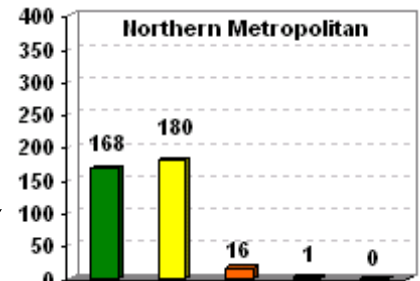
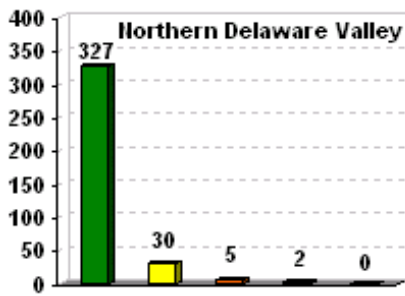
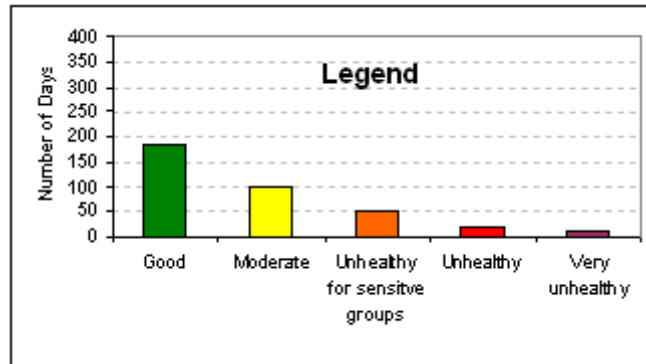
**Table 3  
Air Quality Index (AQI) Exceedances of 100 During 2003**

	<u>Ratings</u>		<u>Pollutants</u>
USG	- Unhealthy for Sensitive Groups	PM	- Fine Particle Matter
UH	- Unhealthy	O <sub>3</sub>	- Ozone
VUH	- Very Unhealthy		

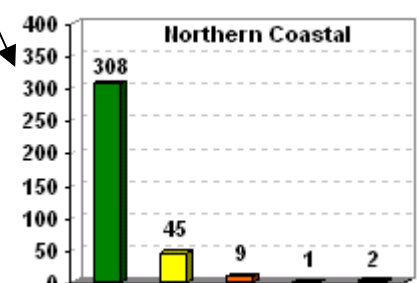
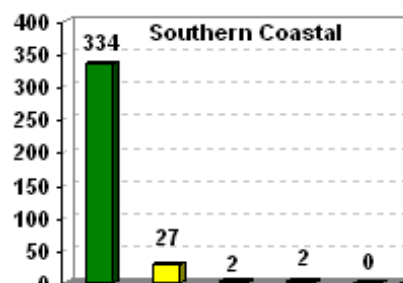
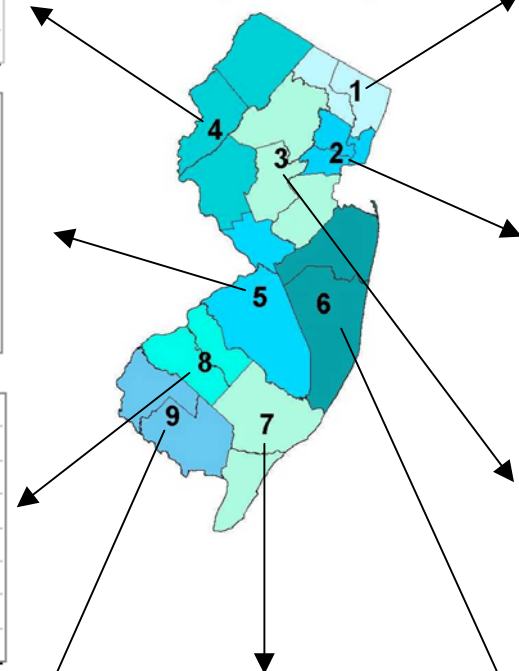
Date	Highest Location	Highest AQI Value	Highest Pollutant	Highest Rating	Pollutant(s) with AQI above 100 *	
April 16	Colliers Mills	109	O <sub>3</sub>	USG	O <sub>3</sub> (6)	
June 11	Fort Lee	141	PM	USG	O <sub>3</sub> (1)	PM(1)
June 12	Fort Lee	104	PM	USG		PM(1)
June 19	Fort Lee	118	PM	USG		PM(1)
June 23	Nacote Creek	101	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
June 24	Monmouth University	169	O <sub>3</sub>	UH	O <sub>3</sub> (7)	
June 25	Monmouth University	203	O <sub>3</sub>	VUH	O <sub>3</sub> (13)	
June 26	Ancora S.H.	203	O <sub>3</sub>	VUH	O <sub>3</sub> (13)	PM(4)
June 27	Fort Lee	154	PM	UH	O <sub>3</sub> (9)	PM(4)
June 28	Rutgers University	101	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
June 29	Flemington	104	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
June 30	Ancora S.H.	114	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
July 01	Ancora S.H.	104	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
July 02	Flemington	122	O <sub>3</sub>	USG	O <sub>3</sub> (5)	
July 04	Ancora S.H. / Clarksboro	132	O <sub>3</sub>	USG	O <sub>3</sub> (11)	
July 05	Monmouth Univ. / Fort Lee	104	O <sub>3</sub> /PM	USG	O <sub>3</sub> (1)	PM(1)
July 15	Ramapo	101	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
July 27	Colliers Mills	109	O <sub>3</sub>	USG	O <sub>3</sub> (2)	
August 13	Colliers Mills	114	PM	USG		PM(2)
August 15	Camden Lab	114	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
August 20	Camden Lab	129	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
August 21	Rider University	120	PM	USG		PM(1)
August 22	Ancora State Hospital	137	O <sub>3</sub>	USG	O <sub>3</sub> (3)	PM(3)
August 25	Rider University	104	O <sub>3</sub>	USG	O <sub>3</sub> (1)	
Oct. 09	Chester	130	PM	USG		PM(2)
Oct. 10	Colliers Mills	108	PM	USG		PM(2)
Nov. 03	Colliers Mills	108	PM	USG		PM(2)
Nov. 17	Chester	114	PM	USG		PM(1)

\* Number in parentheses ( ) indicates the number of monitoring sites exceeding 100 on a given day

Figure 4  
 2003 Air Quality Index Summary  
 Number of Days by Reporting Region



Air Quality Index Regions



## REFERENCES

*Air Quality Index, A Guide to Air Quality and Your Health*, USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC, June 2000, EPA-454/R-00-005, URL: [www.epa.gov/airnow/aqi\\_cl.pdf](http://www.epa.gov/airnow/aqi_cl.pdf)

*Guideline for Reporting of Daily Air Quality - Air Quality Index (AQI)*, USEPA, Office of Air Quality Planning and Standards, July 1999, EPA-454/R-99-010, URL: [www.epa.gov/ttn/oarpg/t1/memoranda/rg701.pdf](http://www.epa.gov/ttn/oarpg/t1/memoranda/rg701.pdf)

*Air Quality Index Reporting, Final Rule*: Title 40, Part 58, Code of Federal Regulations, August 4, 1999. URL: [http://www.epa.gov/ttn/oarpg/t1/fr\\_notices/airqual.pdf](http://www.epa.gov/ttn/oarpg/t1/fr_notices/airqual.pdf)

*National Air Quality and Emissions Trend Report, 1999*, EPA-454/R-01-004, USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC, March 2001, URL: [www.epa.gov/oar/aqtrnd99/](http://www.epa.gov/oar/aqtrnd99/)

*Latest Findings on National Air Quality: 2000 Status and Trends*, EPA-454/K-01-002, USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC, September 2001, URL: [www.epa.gov/oar/aqtrnd00/](http://www.epa.gov/oar/aqtrnd00/)