

2.1 Air Quality

The Importance

Local Air quality affects how we live and breathe. Air quality changes on a daily basis. The American Lung Association reports that 75% of Americans who live in areas that are monitored, breathe unhealthy amounts of ozone. Ozone is a powerful respiratory irritant and is the primary ingredient of smog. Particulate matter in the air (fine pieces of dust or soot) can also trigger respiratory illness, and create haze. Although it was previously removed from the list, in September of 2001, the EPA reclassified the Albany MSA as a 1-hour Ozone Non-attainment Area.

About this Indicator

The U.S. Environmental Protection Agency has created the Air Quality Index (AQI) to measure and track the five major air pollutants regulated by the Clean Air Act. The five pollutants are: ground level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide. The AQI has a scale of 0 through 500. Each pollutant is scored daily and the highest score for an individual pollutant is the AQI score for the day. Scores of 0-100 range from Good to Moderate. Scores of 101 to 150 are Unhealthy for Sensitive Groups while scores of 151 to 500 are considered Unhealthy, Very Unhealthy, and Hazardous.

The CDRPC indicator measures the annual number of days that the Capital Region has an AQI score of greater than 100. In 2001, a new monitoring station was located in Rensselaer County, downwind from the Region's urban centers. The new station has recorded significantly higher pollution levels than the other stations.

Sources for this Indicator

- The U.S. Environmental Protection Agency
- American Lung Association
- N.Y.S. Department of Environmental Conservation.

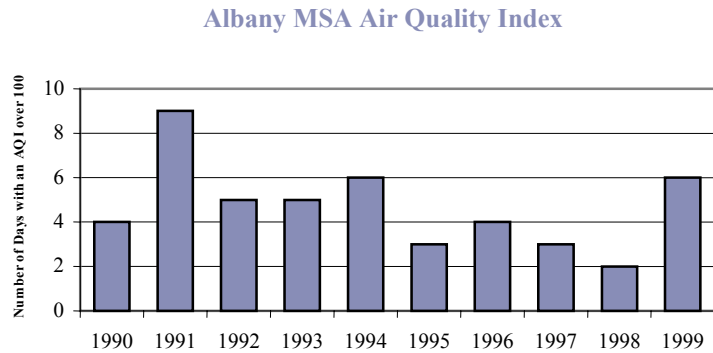
Air Quality in the Capital District

Air Quality depends on numerous factors. The primary factors are weather, local pollution sources, and up-wind pollution sources. Ozone, a respiratory irritant, is formed when pollutants from cars and other sources react chemically in the sunlight. In order to form, ozone requires sunlight and heat. As a result, ozone is a greater concern during the summer months. Carbon monoxide, which reduces the amount of oxygen reaching the body's organs and tissues, is formed when carbon in fuels does not completely burn. Carbon monoxide has its highest concentrations during cold weather because cold weather makes combustion less complete.

Nationally and in the Capital Region, ozone is by far the most frequent cause of an AQI score over 100. Throughout the United States in 2000, ozone accounted for 99% of the AQI scores over 100. That percentage has been increasing since 1991 when it was 93%, indicating success in reducing the other pollutants. In the coming years, smaller particle matter will be measured on a regular basis and the percentage of days that ozone is the AQI pollutant will decline.

2.1 ENVIRONMENT

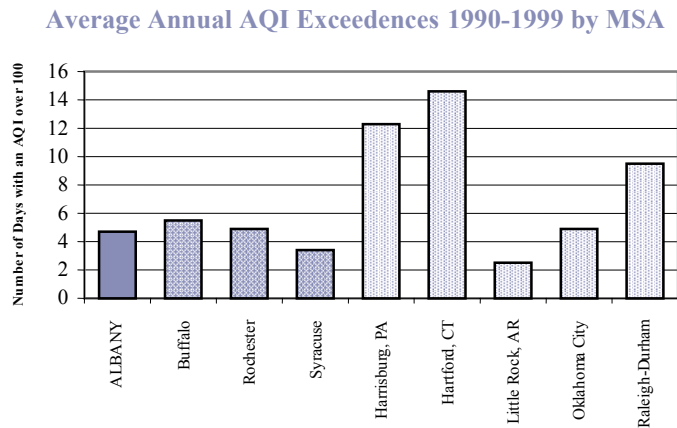
Between 1990 and 1999, the Region's monitoring stations showed the Albany MSA to have relatively few days with an AQI score of 100. The monitoring stations also showed no identifiable pattern of improvement or decline during the ten-year period. A score of 101 to 150 indicates that the air is Unhealthy for Sensitive Groups such as those with respiratory or heart disease.



In its 2000 National Air Quality and Emissions Trends Report, the EPA reported that between 1990 and 1999, the concentrations of carbon monoxide, lead, and sulfur dioxide declined significantly nationwide while the concentrations of ozone and particulate matter had no significant pattern. In 2001, the EPA reclassified the Albany MSA as a 1-hour Ozone Nonattainment Area. It was previously removed from the list of 127 Nonattainment areas.

The American Lung Association reported that in 2002, the newly installed monitor at Grafton Lake State Park in Rensselaer County recorded 16 days with ozone levels exceeding an AQI score of 100. Sixteen days exceeding an AQI of 100 is more than all of the Region's other monitors combined have shown in any single year. Grafton Lake State Park is directly down-wind of the Region's most urban and highly traveled areas, indicating that air pollution is not distributed evenly over the region. It also shows that air quality is better to the west of the urban centers and that the Region's air quality may not be as healthy as previously indicated. The EPA has not yet released its analysis of the Grafton Lake data.

When compared with the other MSA's in the Peer Group, the Albany MSA fared well over the ten-year period reported by the EPA. With an average of 4.7 AQI days, the Region reported better air quality than all but Syracuse and Little Rock and was far better than Harrisburg and Hartford. Raleigh-Durham had a large number of new monitoring stations installed during this period, which resulted in dramatic increases in the number of AQI scores over 100.



It is uncertain what effect the new monitoring station at Grafton Lake State Park will have on the EPA's AQI reports, but it will most likely result in an increase in AQI days.