



CURRENT OZONE AND PM IN SOUTHWESTERN PENNSYLVANIA

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for ground-level ozone, fine particulate matter, and four other criteria pollutants. Ozone and fine particulate matter are two pollutants of concern to the Southwest Pennsylvania Air Quality Partnership.

Ozone

Ozone is formed in the atmosphere when nitrogen dioxide, which comes from power plants and high temperature engines, and volatile organic compounds, such as gasoline fumes, react on hot summer days. The current 8-hour ozone standard, designated in 2007, is set at 75 parts per billion (ppb). EPA is currently considering tightening this standard. The previous ozone standard was set in 1997 at 84 ppb.

Currently, the Pittsburgh-Beaver Valley region of Southwestern PA is designated by EPA as nonattainment of the both the 1997 and 2007 ozone standard. This area comprises Armstrong, Allegheny, Beaver, Butler, Fayette, Washington, and Westmoreland counties. However, the highest monitor in the Pittsburgh-Beaver Valley Area measured 0.082 ppm for 2007-2009, within the national standard of 1997. There is still work to be done to bring the area within the 2006 standard. To attain the 2007 8-hour 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.

Fine Particulates (PM_{2.5})

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including nitrates and sulfates, organic chemicals, metals, and soil or dust particles. "Fine" particulates such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They are also known as PM_{2.5} pollution.

The 2006 national standards for PM_{2.5} are a 24-hour average of 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and an annual average of 15 $\mu\text{g}/\text{m}^3$. The 1997 standards were a 24-hour average of 65 $\mu\text{g}/\text{m}^3$ and an annual average of 15 $\mu\text{g}/\text{m}^3$. EPA is presently considering tightening this standard, as well.

The "Pittsburgh-Beaver Valley Area" is designated by EPA as nonattainment for both the 1997 and 2006 PM_{2.5} standards. This area is composed of Allegheny, Beaver, Butler, Washington, Westmoreland counties and portions of Armstrong, Greene, and Lawrence counties. In addition, EPA designated a region within Allegheny County as a separate non-attainment area. This area is known as the "Liberty-Clairton nonattainment area" and is composed of the City of Clairton and the boroughs of Glassport, Liberty, Lincoln, and Port Vue.

The Pittsburgh-Beaver Valley area is presently measuring values within both the 1997 and 2006 standards. The Liberty-Clairton area is near attainment of the 1997 standards, but has more to do to come into attainment of the 2006 standards.