

Ozone National Ambient Air Quality Standard Health Exceedances on June 25, 2016

Exceedance Locations and Levels

On Saturday, June 25, 2016, there were no exceedances in New Jersey of the new 8-hour average ozone NAAQS of 70 ppb that became effective in December 2015. The highest 8-hour average ozone concentration was 68 ppb recorded at both the Ramapo and Rutgers University stations.

The highest 1-hour average ozone concentration recorded on June 25, 2016 in New Jersey was 79 ppb at the Ramapo station, which is below the 1-hour ozone NAAQS of 120 ppb.

The number of days in 2016 on which exceedances of the new 8-hour ozone NAAQS of 70 ppb were recorded in New Jersey remains at eleven (11). By the 25th of June in 2015, there were a total of five (5) days on which ozone exceedances were measured in New Jersey (based on the former 75 ppb NAAQS of 2008), and there was one (1) day by this same date in 2014.

There is a group of monitoring stations in designated counties of five (5) states, New York, Connecticut, Pennsylvania, Delaware and Maryland, that are included in New Jersey's ozone nonattainment areas. From this group of stations in the other neighboring states, there was one (1) exceedance of the new 8-hour ozone NAAQS of 70 ppb recorded on Saturday, June 25, 2016 (see Table 1):

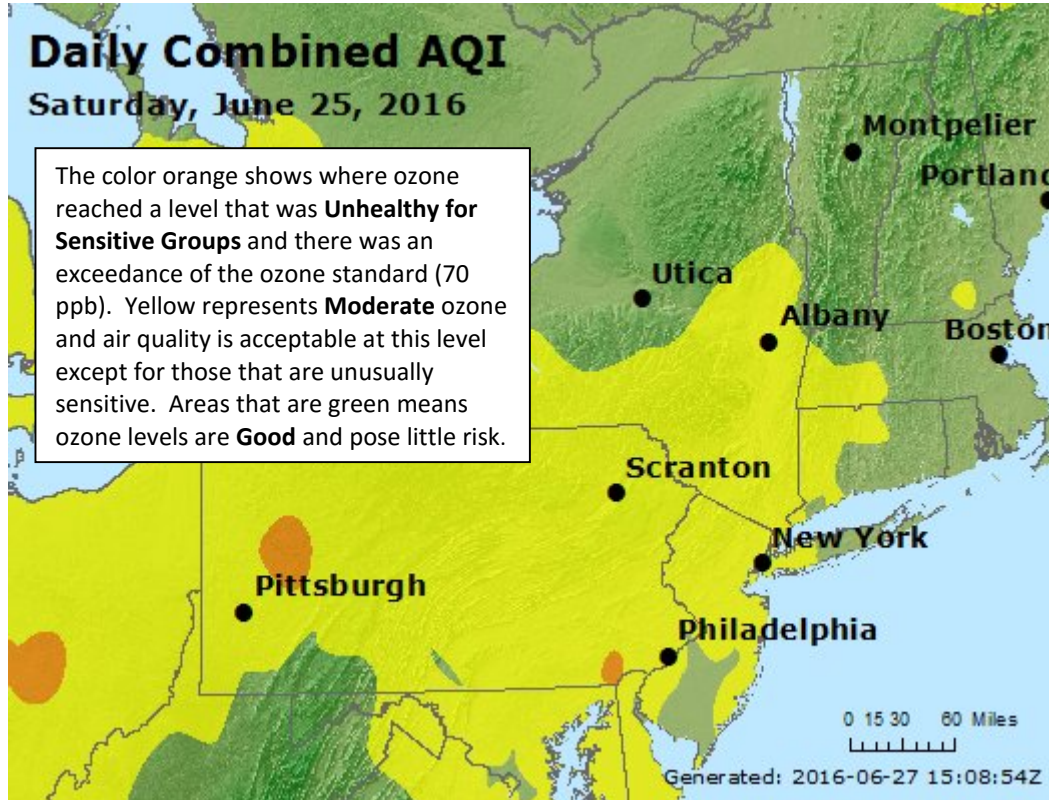
Table 1: Ozone NAAQS Exceedances at Other Monitoring Stations in New Jersey's Ozone Nonattainment Areas on June 25, 2016

STATE	STATION	Daily Maximum 8-Hr Average (ppb)
PA	NEWG (Chester Co.)	72

The highest 1-hour average ozone concentration recorded was 76 ppb at the Chester County (NEWG) station in Pennsylvania, which is below the 1-hour ozone NAAQS of 120 ppb.

Saturday marks the 7th day in 2016 on which exceedances of the new 8-hour ozone NAAQS of 70 ppb were recorded in Pennsylvania. The number of days in Connecticut remains at eleven (11), nine (9) days for New York, and four (4) days each for Delaware and Maryland.

Figure 1. Ozone Air Quality Index for June 25, 2016



Source: www.airnow.gov

For ozone terminology definitions see NJDEP Air Quality Planning's Glossary and Acronyms webpage: <http://nj.gov/dep/baqp/glossary.html>

Weather

Meteorological data from across the region showed temperatures reached the high 70°F's to mid 80°F's, while winds were light and from the east. Skies were mostly sunny. A high pressure system was centered over Pennsylvania. Light winds, adequate sunlight, and warm temperatures, are all meteorological conditions known to contribute to the formation of ground level ozone.

Where Did the Air Pollution that Caused Ozone Come From?

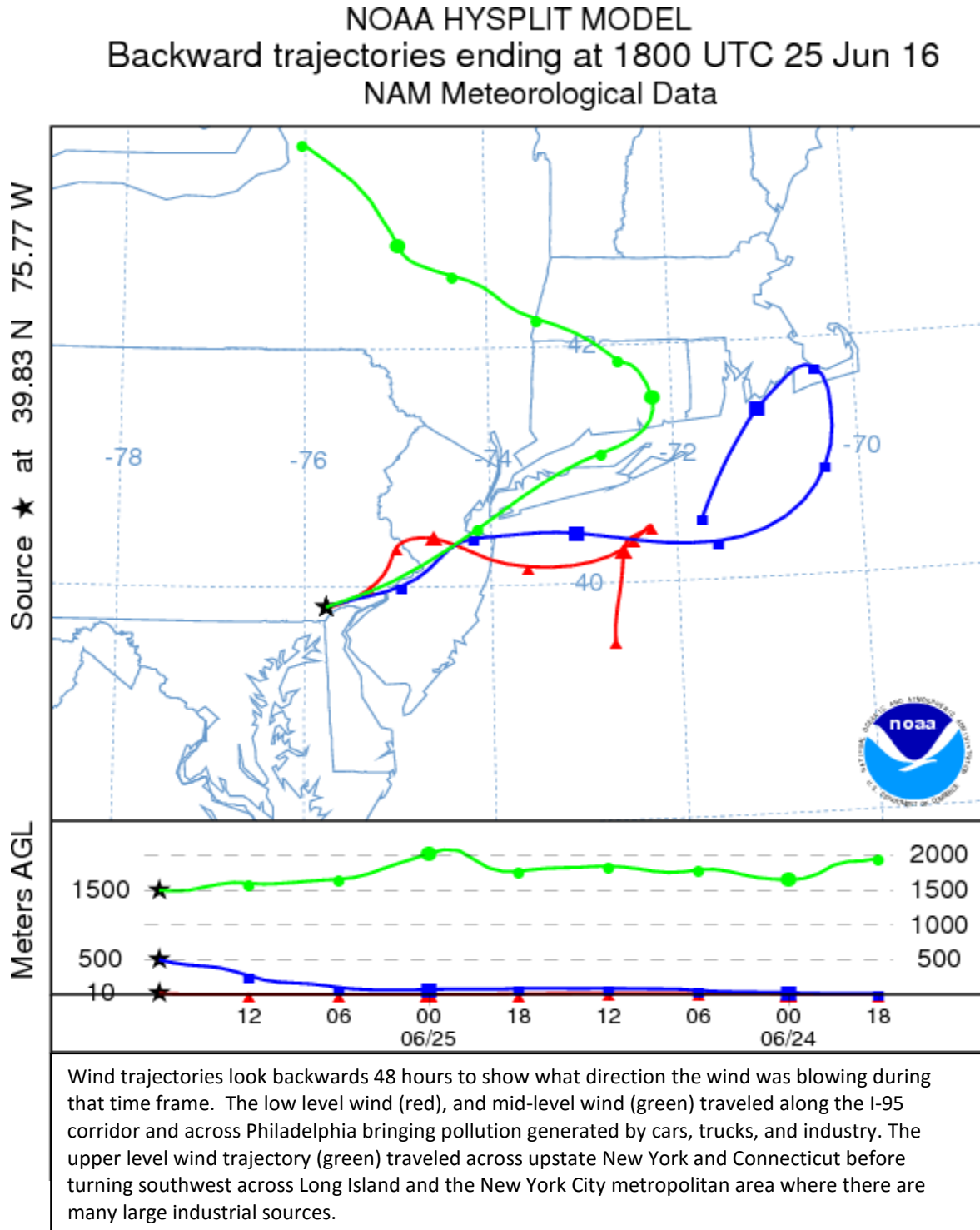
Figure 2 shows the back trajectories at different wind heights for the monitored exceedance on June 25, 2016. The figure illustrates where the winds came from during the 48 hours preceding the high ozone event.

The back trajectories for the low level (10 meter) and mid-level (500 meter) winds illustrate similar transport pathways. Winds originated over the Atlantic Ocean and traveled southwest along the I-95 corridor and across the Philadelphia metropolitan area bringing local emissions generated by cars, trucks, and industry.

The upper level wind trajectory (1500 meter) traveled across upstate New York and Connecticut before turning southwest across Long Island and the New York City metropolitan area where there are many

large industrial sources. The higher level wind, in combination with low and mid-level winds transported pollutants into the area of Pennsylvania that experienced high ozone on June 25, 2016.

Figure 2. 48-hour Back Trajectories for Jun 25, 2016 at 10 meters



How is Smog Created?

Ground-level ozone, also known as smog, is an air pollutant known to cause a number of health effects and negatively impact air quality and the environment in the state of New Jersey. Smog is formed when oxides of nitrogen (NOx) and volatile organic compounds (VOCs) react in the presence of sunlight. Smog can irritate any set of lungs, but those with lung-related deficiencies should take extra precautions on bad ozone days.

Find Out About Air Quality Every Day

The “What's Your Air Quality Today?” page at <http://www.nj.gov/dep/cleanairnj/> tells you how to sign up to receive notifications and find out when your local air has reached unhealthy ozone levels.