

Ozone National Ambient Air Quality Health Standard Exceedances on September 08, 2015

Exceedances Locations and Levels

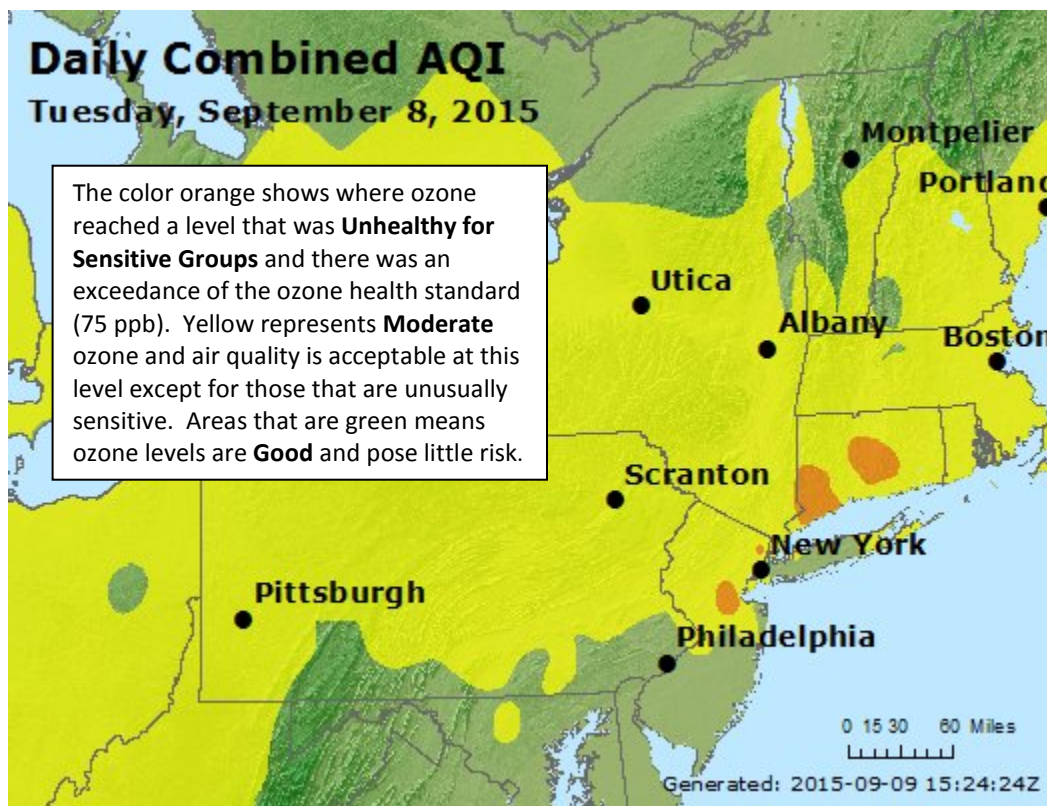
On Tuesday, September 8, 2015, two (2) exceedances of the 8-hour average NAAQS for ozone were recorded in New Jersey: Leonia station with a concentration of 76 ppb and Rutgers University station with a concentration of 76 ppb. The highest 1-hour average ozone concentration recorded on September 8, 2015 in New Jersey was 98 ppb at the Leonia station, which is below the 1-hour NAAQS of 120 ppb.

Tuesday marks the 17th day in 2015 on which exceedances of the 8-hour ozone NAAQS were recorded in New Jersey. By the 8th of September in 2014, there were a total of 3 days on which ozone exceedances were measured in New Jersey, and there were 9 days by this same date in 2013.

There is a group of monitoring stations in designated counties of 5 states, New York, Connecticut, Pennsylvania, Delaware, and Maryland, that are included in New Jersey's ozone non-attainment areas. From this group of stations in the other neighboring states, there were four (4) exceedances of the 8-hour ozone NAAQS recorded on Tuesday, September 8, 2015 in Connecticut: Danbury station with a concentration of 80 ppb, Middletown station with a concentration 79 ppb, Stratford station with a concentration of 77 ppb and Westport station with a concentration of 77 ppb. The highest 1-hour average ozone concentration recorded was 116 ppb at the Danbury station, which is below the 1-hour NAAQS of 120 ppb.

Tuesday marks the 19th day in 2015 on which exceedances of the 8-hour ozone NAAQS were recorded in Connecticut. The corresponding number of days for New York remains at eleven (11), seven (7) days for Pennsylvania, two (2) days for Maryland, and one (1) day for Delaware. Figure 1 shows the ozone AQI across the region for August 15.

Figure 1. Ozone Air Quality Index for September 8, 2015



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 into the low 90s° F, while winds were from the southwest circulating about a high pressure ridge located off the eastern seaboard. Skies were partly cloudy across the region, but there was enough sunshine to promote ozone formation. Sufficient sunlight, combined with warmer temperatures and a southwest wind component are all features commonly seen with an ozone episode.

Where Did the Air Pollution that Caused Ozone Come From?

Figures 2 and 3 show the back trajectories for the 6 monitored exceedances for September 8. Figure 2 shows where the low level winds came from during the 48 hours preceding the high ozone levels at various locations. This indicates that the low level winds carried pollutants up the I-95 Corridor, where there are air contaminant emissions from cars, trucks, and industry. Figure 3 shows that higher level winds traveled from Virginia across Pennsylvania where there are many coal fired power plants, before traveling across New Jersey and southern New England. The combination of these winds caused air pollution from mobile sources, industry, and power plants to be transported into New Jersey and other areas that experienced high ozone on September 8.

Figure 2. 48-hour Back Trajectories for Low Level Winds (10 meters)

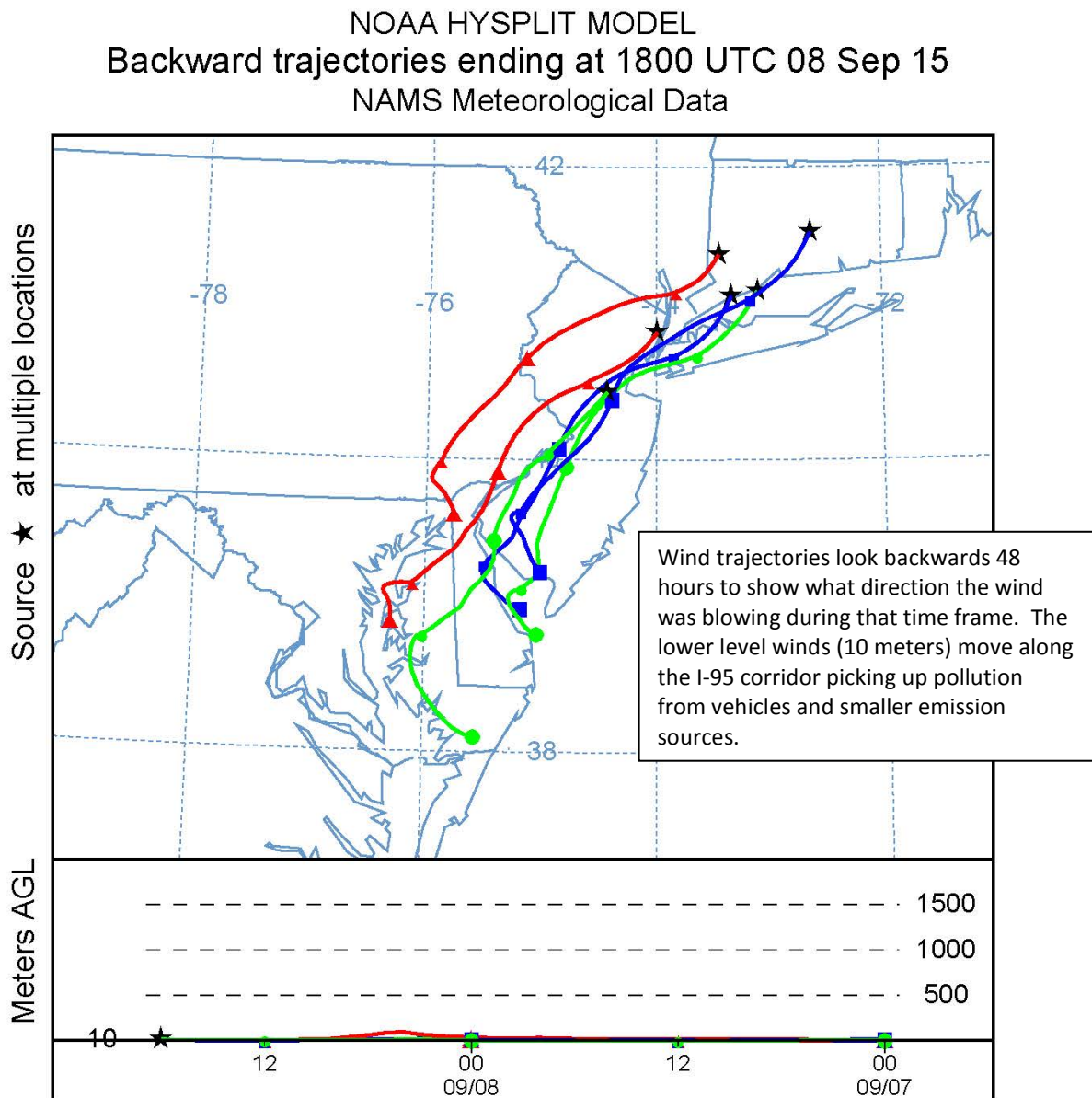
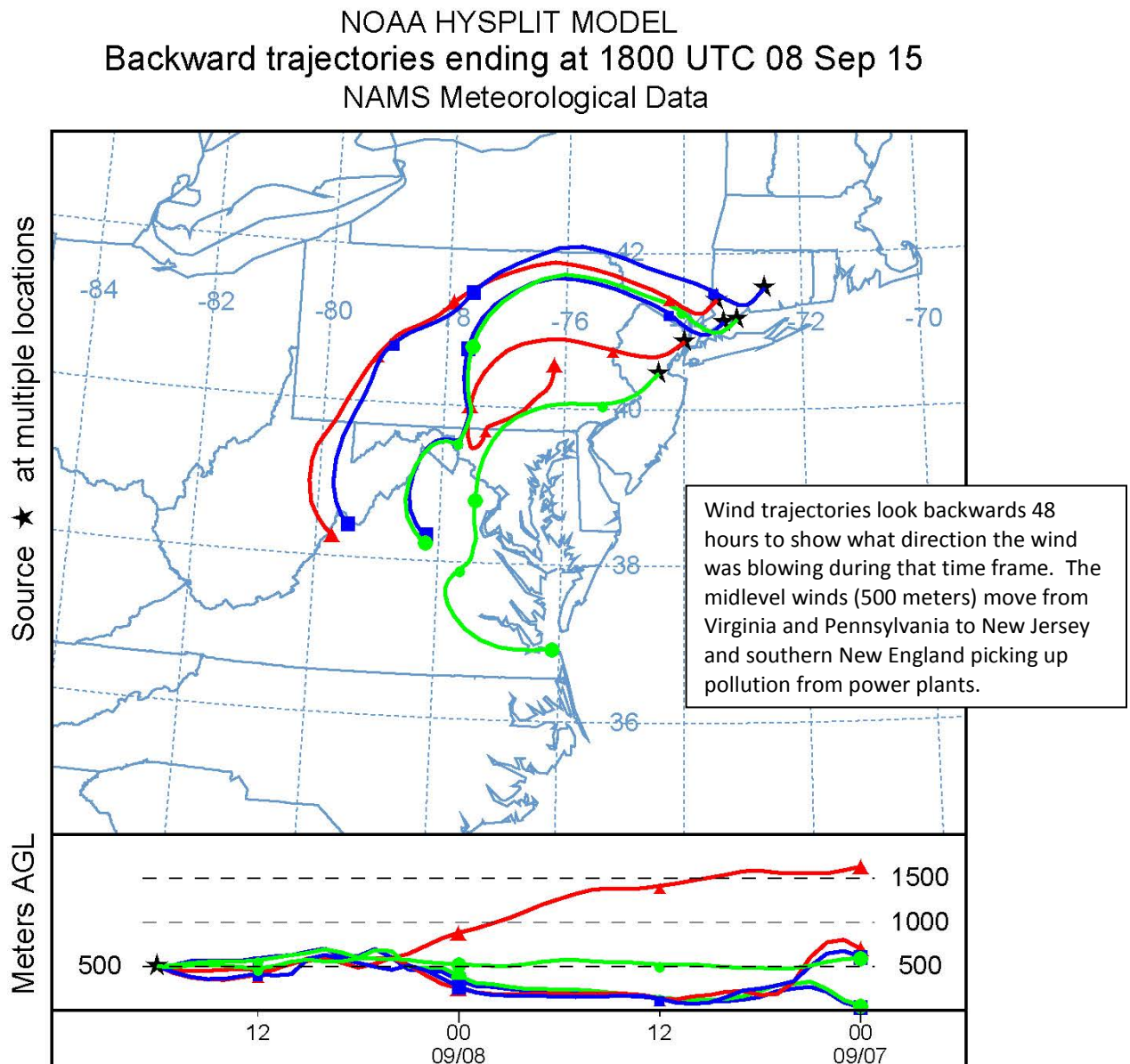


Figure 3. 48-hour Back Trajectories for Higher Level Winds (500 meters)



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.