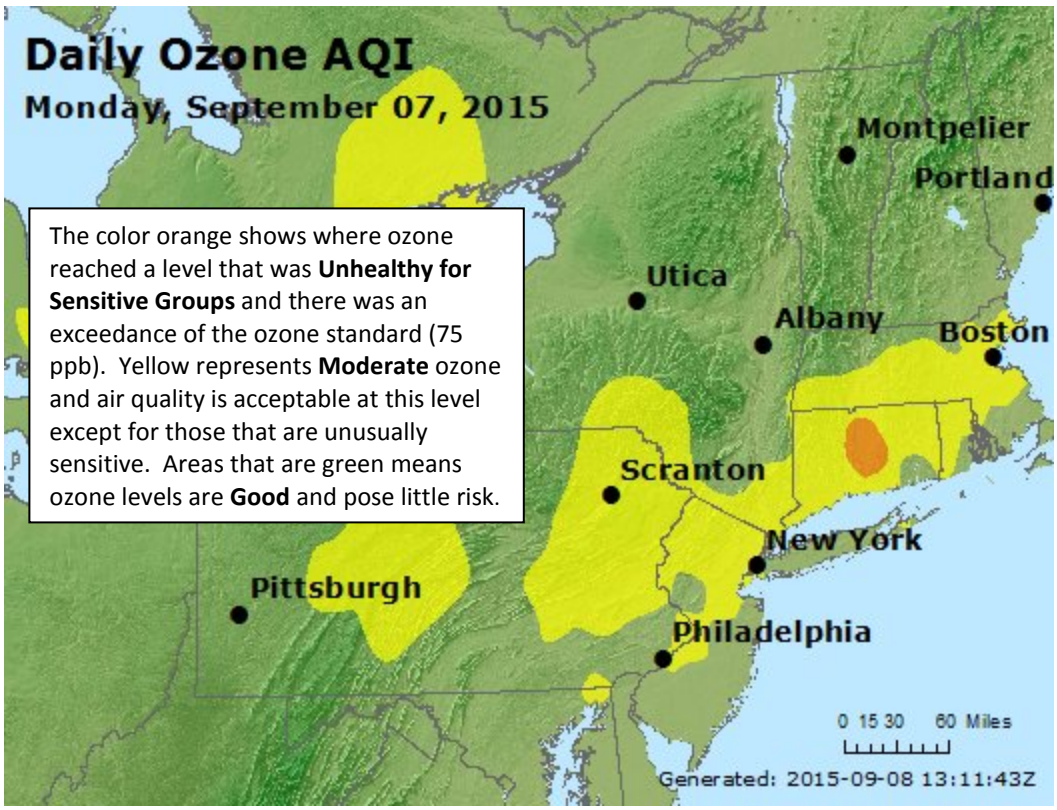
Ozone National Ambient Air Quality Standard Health Exceedance on September 7, 2015

Exceedances Locations and Levels

On Monday, September 7, 2015, an exceedance of the 8-hour average 75 ppb NAAQS for ozone was recorded at one (1) Connecticut station: Middletown station with a concentration of 78. The highest 1-hour average ozone concentration recorded on September 7, 2015 in Connecticut was 95 ppb at the Middletown and New Haven stations, which is below the 1-hour NAAQS of 120 ppb. The Middletown, CT ozone level was the only exceedance in the 5 states that make up the Air Quality Control Region that includes New Jersey. Figure 1 shows the ozone AQI across the region for September 7.

Figure 1. Ozone Air Quality Index for September 7, 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

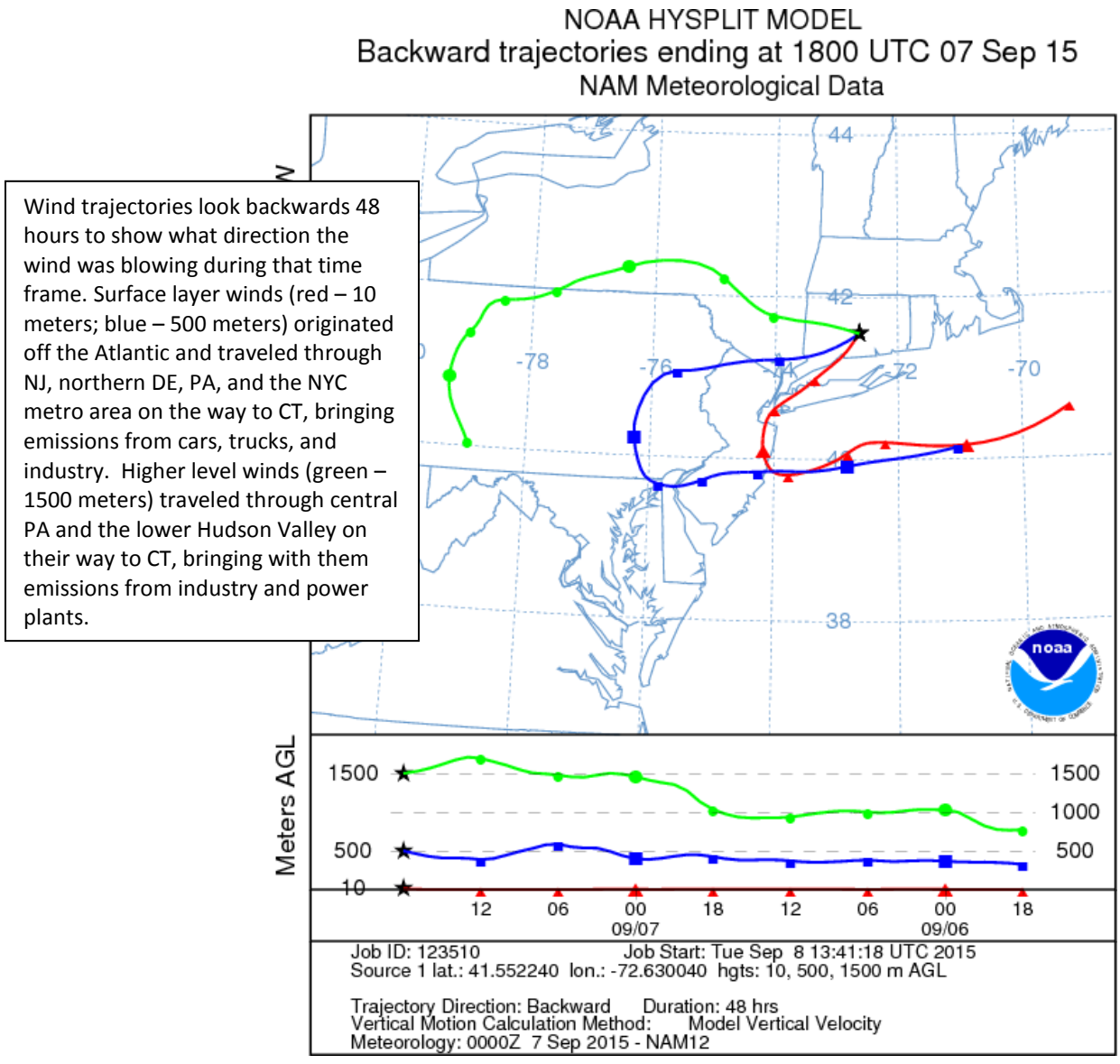
Weather

Meteorological data from Meriden Markham Municipal Airport in Meriden, CT shows temperatures reached 91^{o} F, while winds were very light and variable. Skies were mostly sunny across the area. Sufficient sunlight, combined with warm temperatures and stagnant conditions, are all features commonly seen with an ozone exceedance.

Where Did the Air Pollution that Caused Ozone Come From?

Figure 2 shows the back trajectories for the monitored exceedance for September 7. Figure 2 shows that surface layer winds (red and blue lines) originated off the Atlantic and traveled through New Jersey, northern Delaware, eastern Pennsylvania, and the New York metropolitan area before reaching Connecticut, bringing emissions from cars, trucks, and industry. Higher level winds (green line) traveled through central Pennsylvania and the lower Hudson Valley on the way to Connecticut, carrying with them emissions from large industrial sources and power plants. The combination of these winds caused air pollution from a variety of mobile sources, industry, and power plants to be transported into the area of Connecticut that experienced high ozone on September 7.

Figure 2. 48-hour Back Trajectories for September 7, 2015



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.