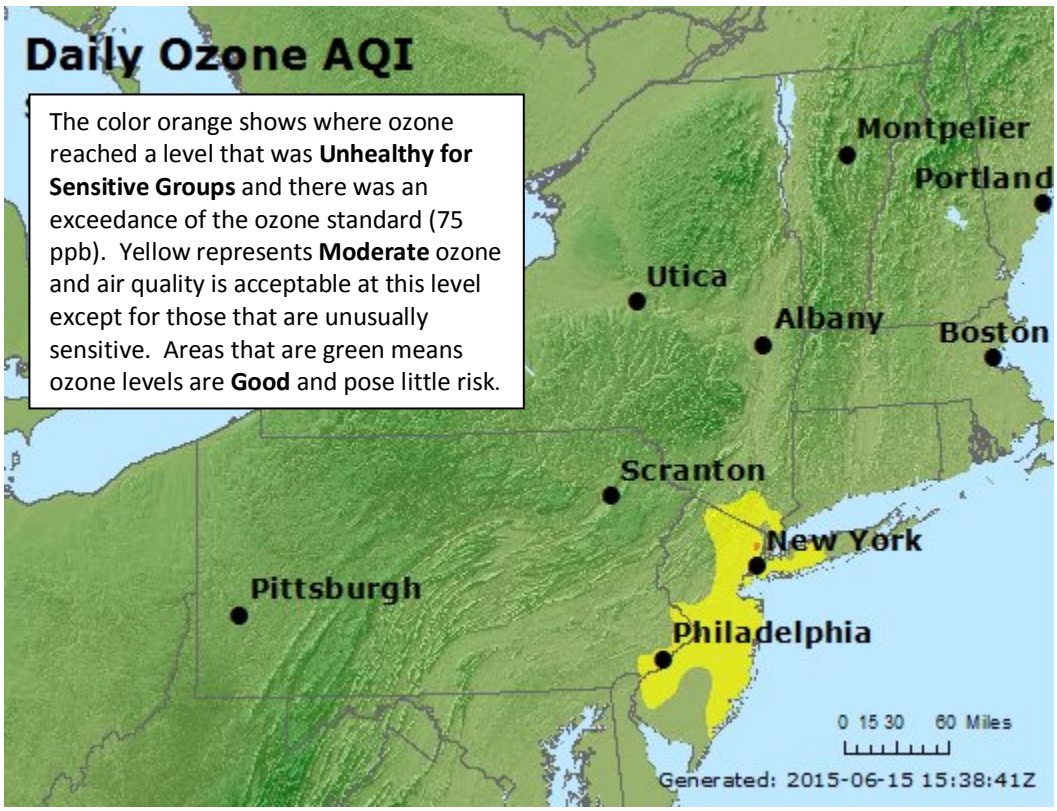
Ozone National Ambient Air Quality Standard Health Exceedance on June 14, 2015

Exceedances Locations and Levels

On Sunday, June 14, 2015, an exceedance of the 8-hour average 75 ppb NAAQS for ozone was recorded at one (1) New Jersey station: Leonia with a concentration of 76 ppb. The highest 1-hour average ozone concentration recorded on June 14, 2015 was 101 ppb at Bayonne, which is below the 1-hour NAAQS of 120 ppb. The Leonia, NJ ozone level was the only exceedance in the 5 states that make up the two Air Quality Control Regions that include New Jersey. Figure 1 shows the ozone AQI across the region for June 14.

Figure 1. Ozone Air Quality Index for June 14, 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

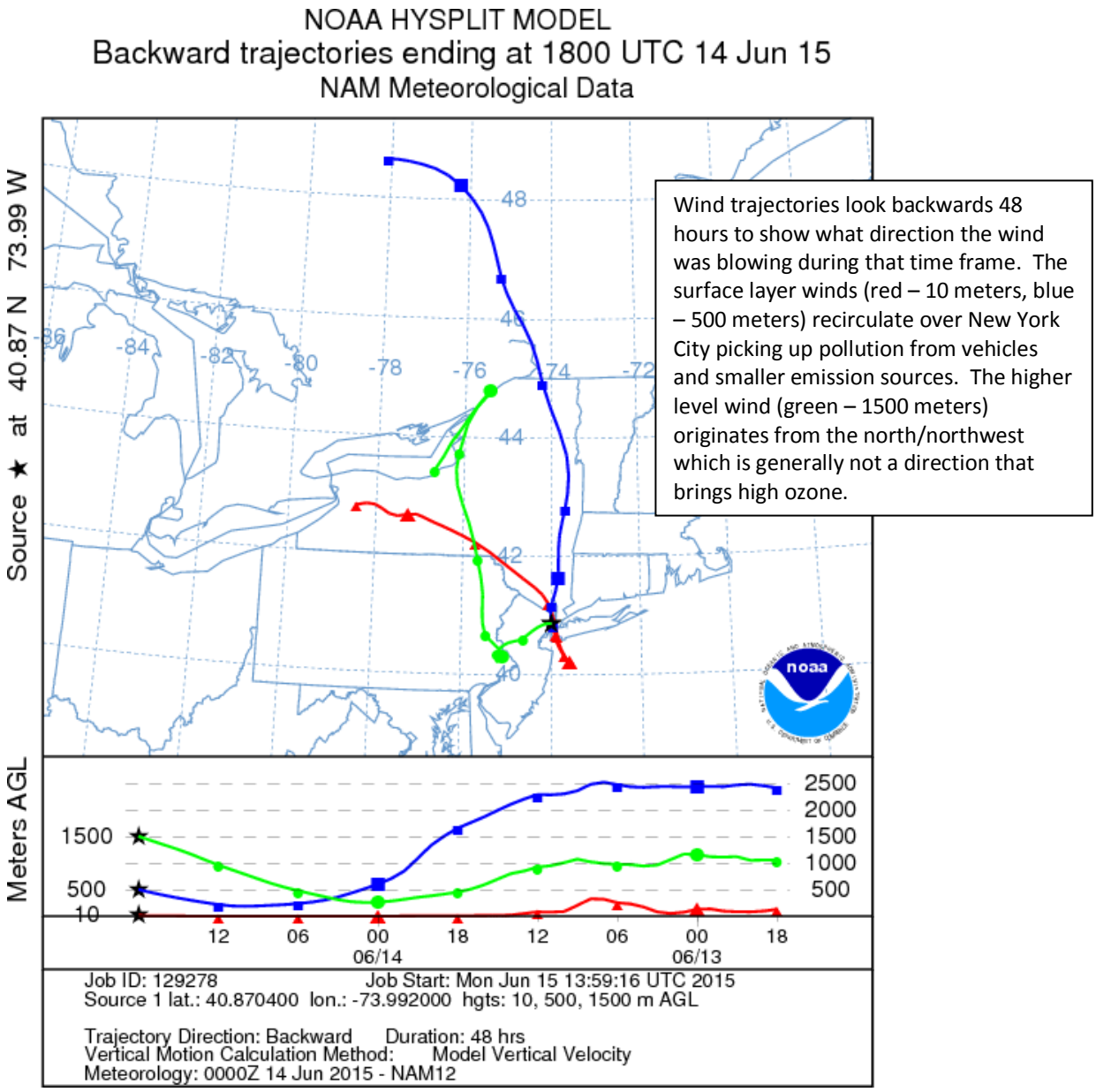
Weather

Meteorological data from Teterboro Airport shows temperatures reached 94^{o} F, while winds were calm and variable with an average wind speed of 1 mph. Skies were partly cloudy over New Jersey, but there was enough sunshine to promote ozone formation. Sufficient sunlight, combined with warmer temperatures are 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 June 14. Figure 2 shows that low and mid-level winds (red and blue lines) recirculated over the NYC metropolitan area, where there are significant amounts of air contaminant emissions from cars, trucks and industry. Higher level winds (green) lines show those winds came from the north northwest, across upstate New York and northeast Pennsylvania, which is not associated with high ozone levels. The lower level recirculating winds may have caused air pollution from mobile sources and New York City peak electricity generating turbines and diesel engines to be transported into the area of northern New Jersey that experienced high ozone on June 14.

Figure 2. 48-hour Back Trajectories for June 14, 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.