

**Ozone National Ambient Air Quality Standard Health Exceedances on July 28, 2016**

**Exceedance Locations and Levels**

On Thursday, July 28, 2016, there was one (1) exceedance in New Jersey of the new 8-hour average ozone NAAQS of 70 ppb that became effective in December 2015 (see Table 1):

**Table 1: Ozone NAAQS Exceedances in New Jersey on July 28, 2016**

STATION	Daily Maximum 8-Hr Average (ppb)
Newark Firehouse	71

The highest 1-hour average ozone concentration recorded on July 28, 2016, in New Jersey was 94 ppb at the Newark Firehouse station, which is below the 1-hour ozone NAAQS of 120 ppb.

Thursday marks the 20th day in 2016 on which exceedances of the new 8-hour ozone NAAQS of 70 ppb were recorded in New Jersey. By the 28th of July in 2015, there were a total of nine (9) days on which ozone exceedances were measured in New Jersey (based on the former 75 ppb NAAQS of 2008), and there were two (2) days 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 neighboring states, there was one (1) exceedance of the new 8-hour ozone NAAQS of 70 ppb recorded on Thursday, July 28, 2016 (see Table 2):

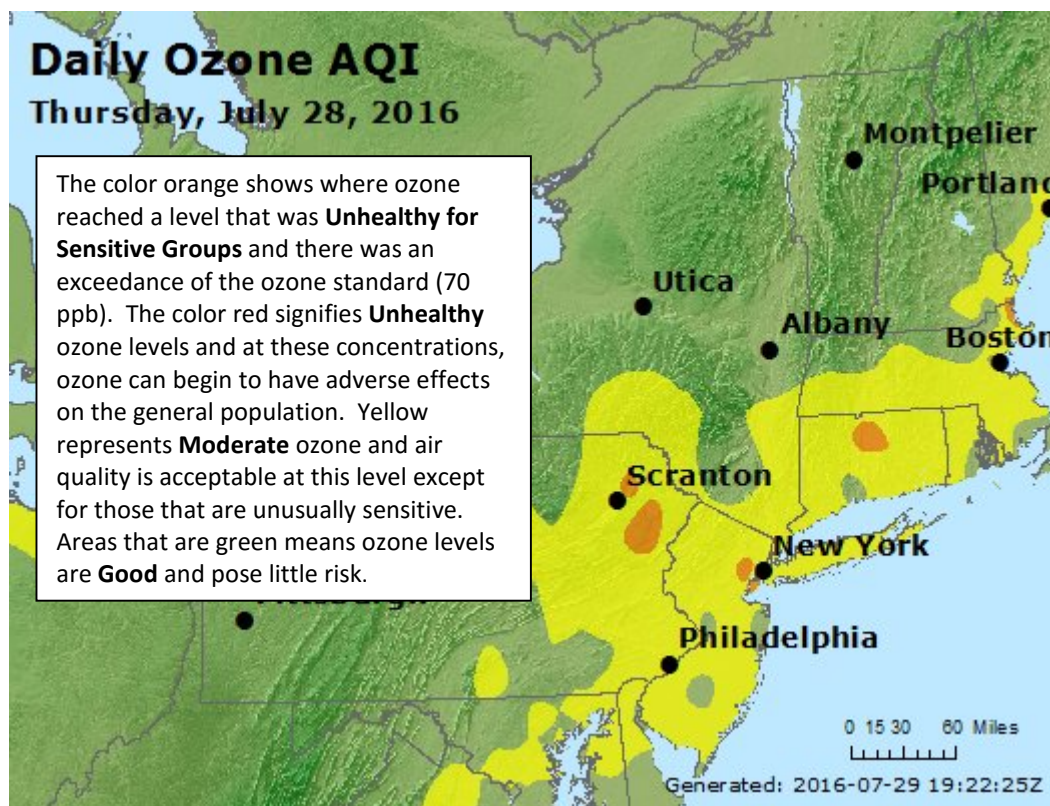
**Table 2: Ozone NAAQS Exceedances at Other Monitoring Stations in New Jersey's Ozone Nonattainment Areas on July 28, 2016**

STATE	STATION	Daily Maximum 8-Hr Average (ppb)
MD	Susan Wagner	71

The highest 1-hour average ozone concentration recorded was 95 ppb at the Stratford station in Connecticut, which is below the 1-hour ozone NAAQS of 120 ppb.

Thursday marks the 16th day in 2016 on which an exceedance of the new 8-hour ozone NAAQS of 70 ppb was recorded in New York. The number of days remains at nineteen (19) for Connecticut, ten (10) for Pennsylvania, seven (7) for Delaware, and six (6) for Maryland.

Figure 1. Ozone Air Quality Index for July 28, 2016



Source: [www.airnow.gov](http://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 mid to upper 80°F, while winds were from the east-southeast. A stationary frontal boundary was located directly over the I-95 corridor with low pressure systems riding along the boundary. These low pressure systems provided afternoon clouds and triggered scattered showers and thunderstorms throughout the region. These clouds and showers kept ozone levels in the moderate range across most of the region. Where the sunshine lasted the longest there were isolated ozone exceedances

### Where Did the Air Pollution that Caused Ozone Come From?

Figures 2, 3, and 4 show the back trajectories at different wind heights for the monitored exceedances on July 28, 2016. The figures illustrate where the winds came from during the 48 hours preceding the high ozone event. The two (2) monitoring stations were chosen to run back trajectories. The selected sites and the maximum 8-hr ozone levels recorded are listed in Table 3 below.

**Table 3. Monitoring Stations with 8-hr Ozone Exceedances that Were Selected to Run 48-hr Back Trajectories**

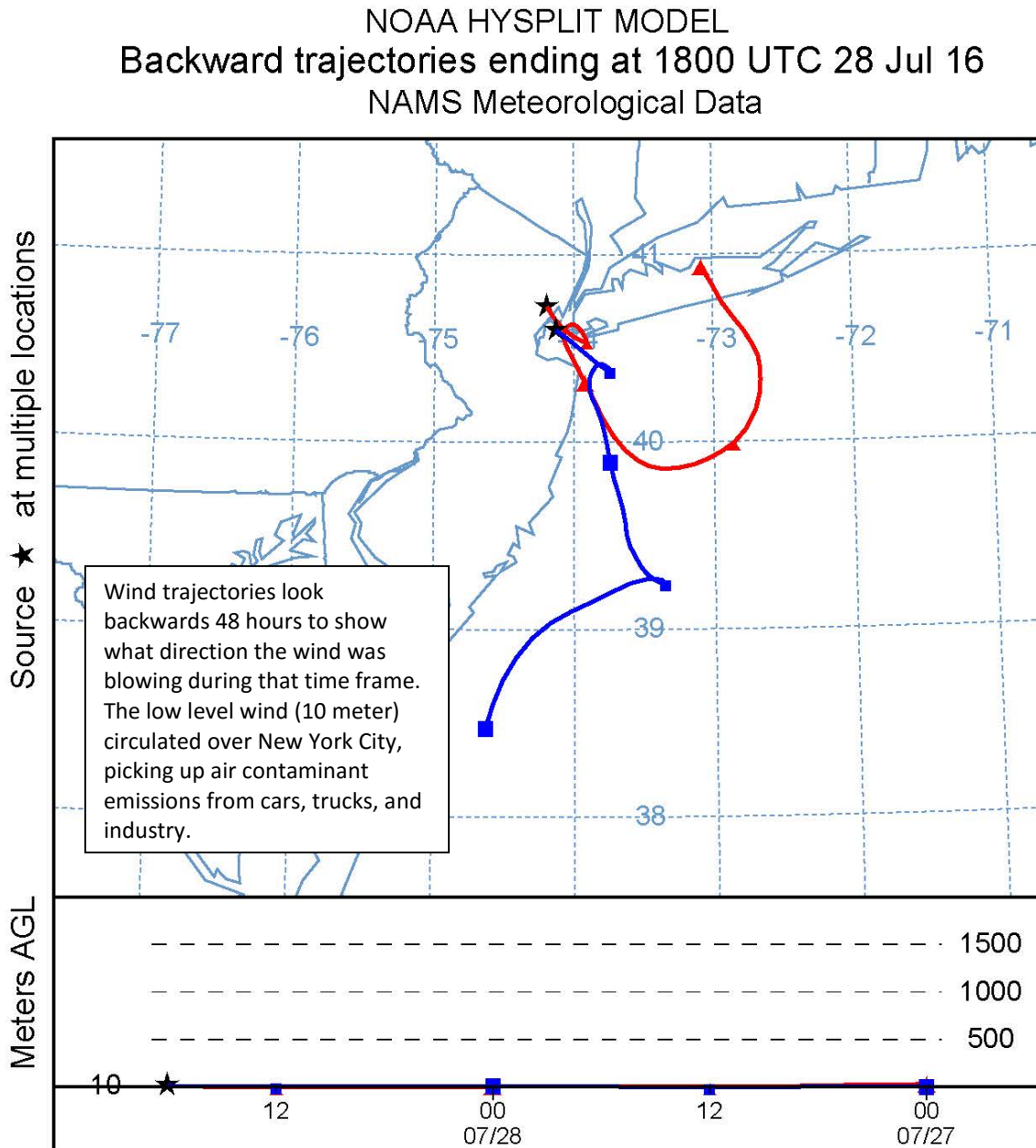
Agency	Site Name	Maximum 8-hr Ozone Conc. (ppb)
NY	Susan Wagner	71
NJ	Newark Firehouse	71

The low level winds (Figure 2) originated over Long Island and off the New Jersey coast and circulated over New York City. These winds picked up local air contaminant emissions generated by cars, trucks, and industry.

Mid-level wind (Figure 3) originated in up-state New York and northeast Pennsylvania and circulated over central New Jersey and the New York metropolitan area. These winds mixed with local emissions from cars, trucks, and industry.

Higher level wind (Figure 4) traveled from the Finger Lakes region of New York and traveled southeast through Pennsylvania and New Jersey. The higher level winds, in combination with the low and mid-level winds, caused air pollution from a variety of mobile and stationary sources, including power plants, to be transported to the exceedance monitors.

**Figure 2. 48-hour Back Trajectories for July 28, 2016 at 10 meters**



**Figure 3. 48-hour Back Trajectories for July 28, 2016 at 500 meters**

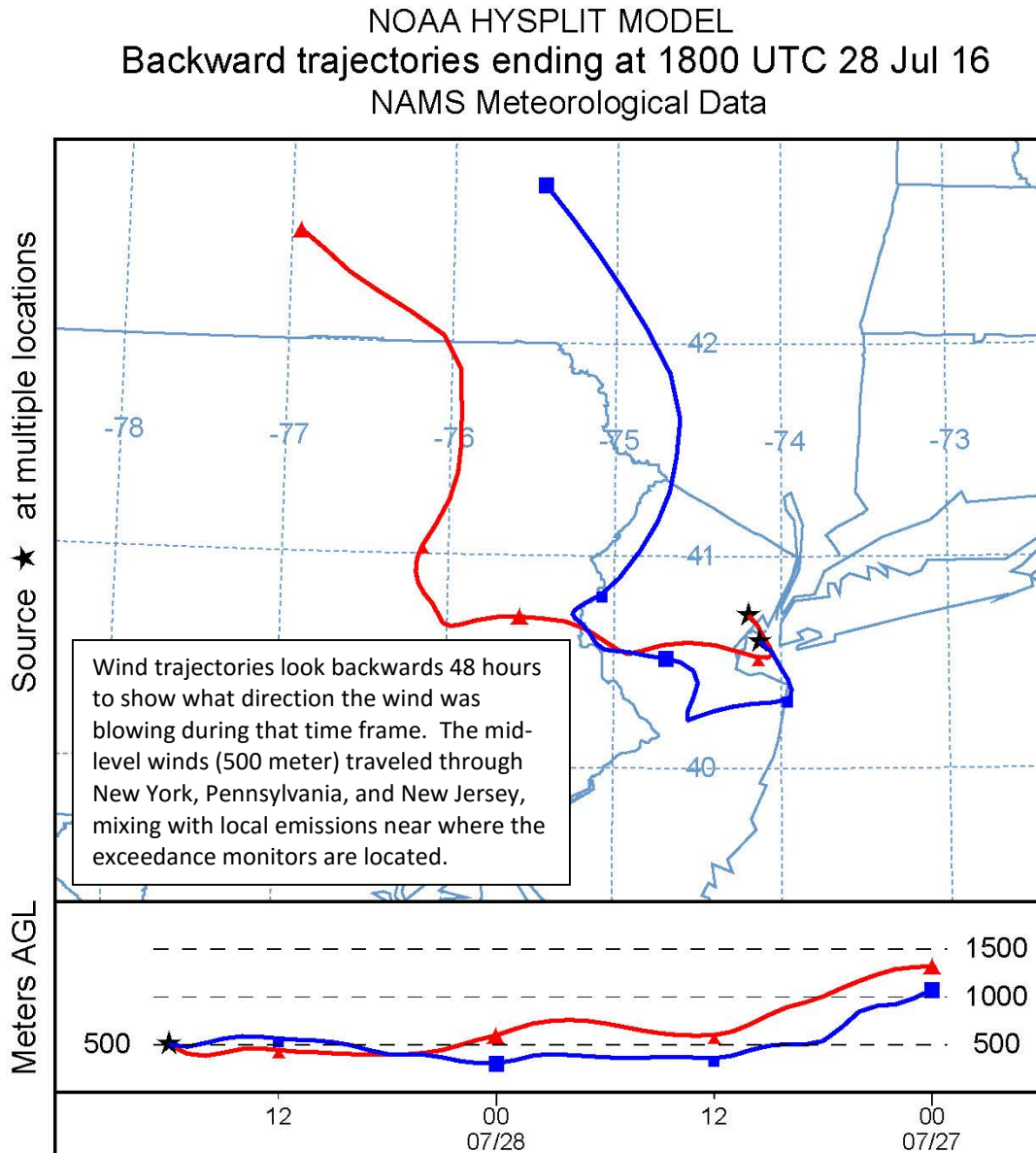
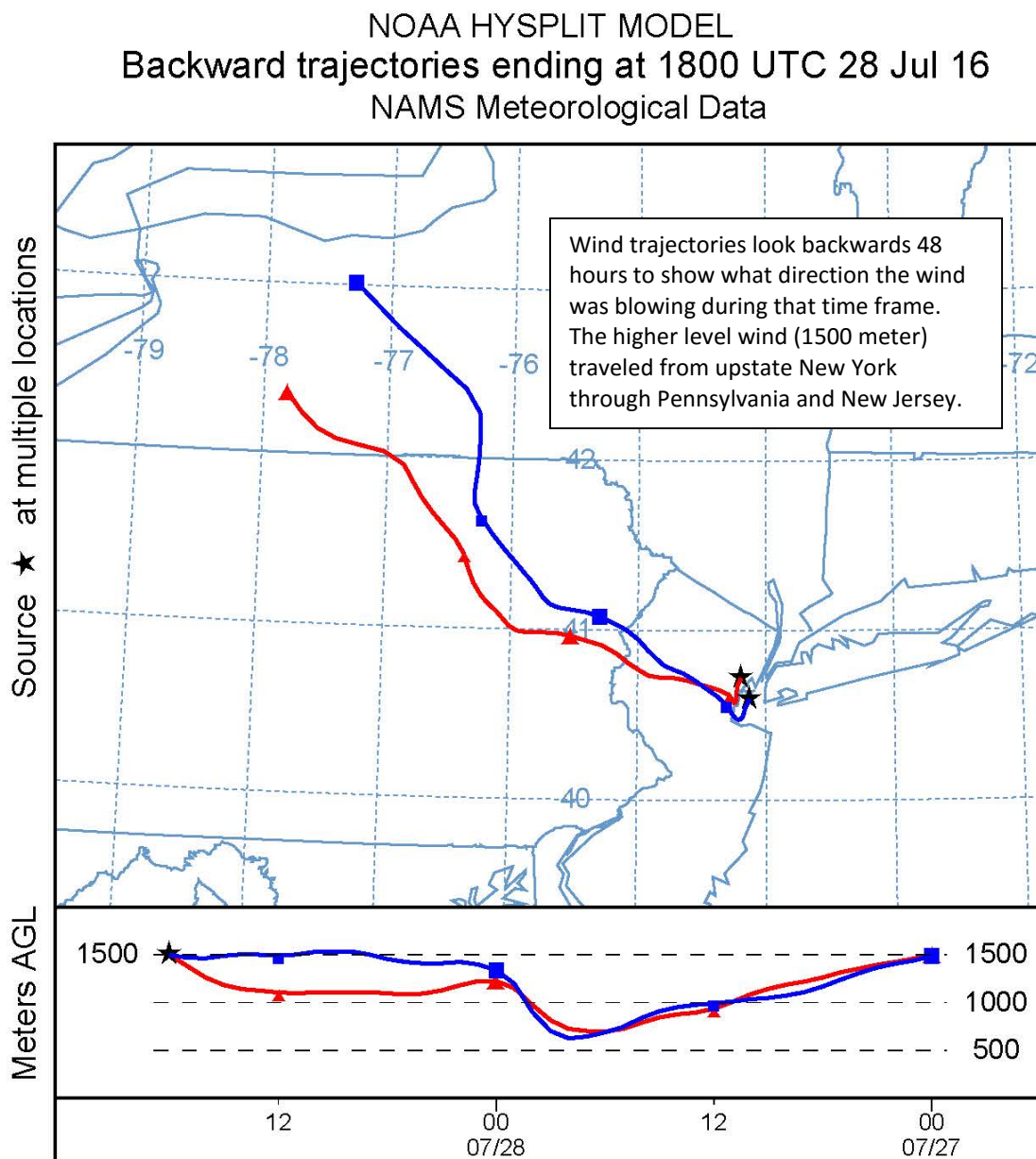


Figure 4. 48-hour Back Trajectories for July 28, 2016 at 1500 meters



### **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.