

## Air Quality Event Summary

June 19, 2006

New Hampshire experienced its first day of unhealthy air quality in 2006 on Monday, June 19, 2006 as temperatures reached into the 90s across the state and a persistent south to south-westerly wind resulted in the highest ozone and particle pollution (PM<sub>2.5</sub>) levels of the year so far.

Monitoring data showed elevated levels of particle pollution throughout the northeast and a visible haze was present over much of the region. PM<sub>2.5</sub> levels reached a 24-hr average of 42.5 ug/m<sup>3</sup> in Manchester, which is above the Unhealthy for Sensitive group threshold, but below the National Ambient Air Quality Standard (NAAQS) of 65.5 ug/m<sup>3</sup>.

Ozone levels at Miller State Park reached an 8- hr average of 86 ppb, which is above the NAAQS of 85 ppb. Typically, New Hampshire experiences 9 days per year of unhealthy ozone levels. This summer has been unusually cool so far, therefore we have not seen elevated ozone levels until now.

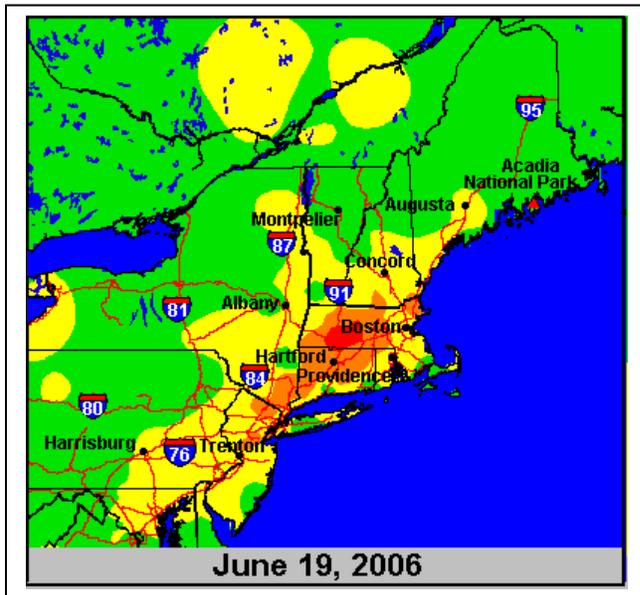
The tables below show the highest ozone and PM concentrations for the event. Pollution levels in the northeast rose throughout the day on the 18<sup>th</sup> and continued to rise until storms associated with an arriving cold front began to cause vertical mixing of the air mass. Levels of both pollutants decreased significantly on Tuesday, June 20<sup>th</sup> after the front passed through the region.

Ozone Values (ppb) June 19, 2006		
Monitoring Location	Max. 1-hr	Max. 8-hr
Claremont	76	65
Concord	81	73
Keene	100	75
Laconia	74	67
Lebanon	69	63
Manchester	86	76
Miller State Park	112	86
Mt. Washington	59	56
Mt. Washington base (Camp Dodge)	66	61
Nashua	91	84
Odiorne State Park	99	76
Pittsburg	66	62
Portsmouth	92	77

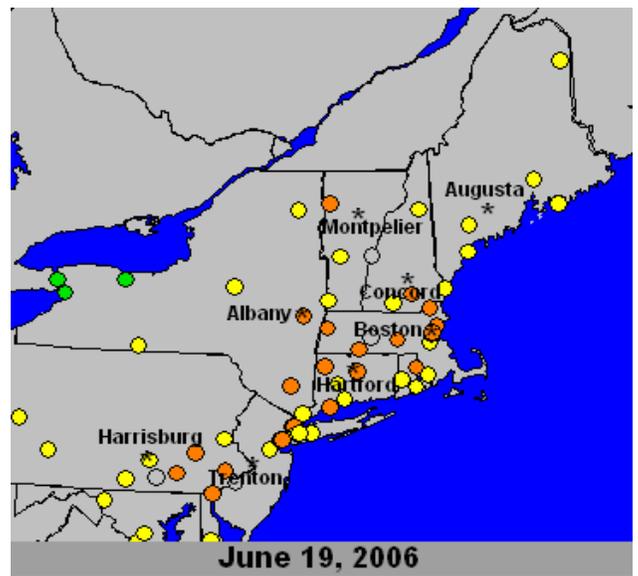
PM <sub>2.5</sub> Values (ug/m <sup>3</sup> ) June 19, 2006		
Monitoring Location	Max. 1-hr	Max. 24-hr
Manchester	65.2	42.5
Miller State Park	51.5	32.9
Mt. Washington base	40.8	23.2
Portsmouth	51.1	33.0

The maximum ozone and PM2.5 levels across the northeast are shown below, along with streamlines and back-trajectories showing the direction of the wind over time. Surface flow up along the northeast corridor is evident and is largely responsible for the high pollution levels. However, as the back-trajectory analysis shows, much of the air arriving in the state on the 19<sup>th</sup> originated in the Midwest days earlier and was transported into the region at higher elevations and later brought to the surface. The red trajectory shows the path of this higher elevation air as it arrived at Miller State Park on the day of the event.

**Maximum Ozone Levels  
June 19<sup>th</sup>**



**Maximum PM2.5 Levels  
June 19<sup>th</sup>**



**Streamlines and Back-Trajectories**

