

## Air Quality Event Summary

June 22, 2006

New Hampshire experienced its second day of unhealthy air quality in 2006 on June 22<sup>nd</sup>, at the high elevation research site on the summit of Pack Monadnock at Miller State Park (Miller). Temperatures were in the low 80's throughout the southern portion of the state with light south-southwesterly winds and clear skies.

Monitoring data showed moderate levels of particle pollution occurring throughout most of the northeast. PM<sub>2.5</sub> levels reached a 24-hr average of 27.0 ug/m<sup>3</sup> at Miller S.P., which is 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 .085 ppm which is above the NAAQS of .080 ppm. Several other sites in the Northeast also exceeded the ozone NAAQS that day.

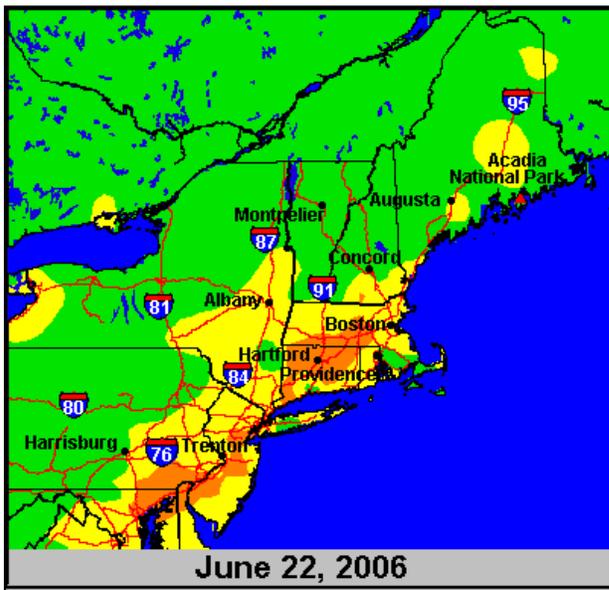
The tables below show the highest ozone and PM concentrations for the event. Pollution levels in the northeast rose throughout the day on the 22<sup>nd</sup> and continued to rise until the morning of the 23<sup>rd</sup> when a cold front moved thru New England. The front caused vertical mixing and precipitation which lowered pollution levels.

| Ozone Values (ppb) June 22, 2006 |           |           |
|----------------------------------|-----------|-----------|
| Monitoring Location              | Max. 1-hr | Max. 8-hr |
| Claremont                        | 60        | 50        |
| Concord                          | 70        | 64        |
| Keene                            | 70        | 62        |
| Laconia                          | 62        | 57        |
| Lebanon                          | 57        | 51        |
| Manchester                       | 68        | 65        |
| Miller State Park                | 89        | 85        |
| Mt. Washington                   | 64        | 62        |
| Mt. Washington base (Camp Dodge) | 56        | 45        |
| Nashua                           | 77        | 73        |
| Odiorne State Park               | 80        | 73        |
| Pittsburg                        | 54        | 51        |
| Portsmouth                       | 78        | 71        |

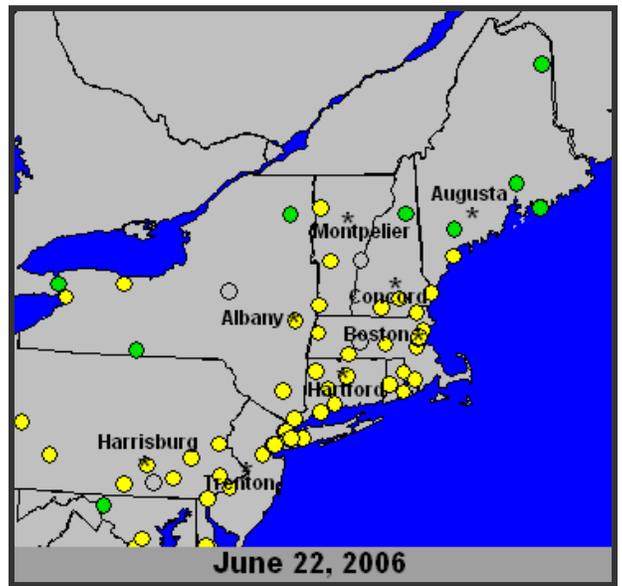
| PM <sub>2.5</sub> Values (ug/m <sup>3</sup> ) June 22, 2006 |           |            |
|-------------------------------------------------------------|-----------|------------|
| Monitoring Location                                         | Max. 1-hr | Max. 24-hr |
| Manchester                                                  | 40.6      | 24.9       |
| Miller State Park                                           | 44.9      | 27.0       |
| Mt. Washington base (Camp Dodge)                            | 20.8      | 9.0        |
| Portsmouth                                                  | 42        | 22.1       |

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 winds were very light in the NYC area, causing a build up of pollutants that were then transported into New England. In addition, as the back-trajectory analysis shows, much of the air arriving at Miller was transported from the Midwest. The blue trajectory shows the path of this higher elevation air as it arrived at Miller on the night of the event. The combination of the pollution transport from two air masses was enough to bring the ozone values at the summit of Pack Monadnock just over the exceedance threshold.

**Maximum Ozone Levels  
June 22<sup>nd</sup>**



**Maximum PM2.5 Levels  
June 22<sup>nd</sup>**



**Streamlines and Back-Trajectories**

