Ozone advisories in the parks

Since EPA published its new National Ambient Air Quality Standards, several national parks have exceeded the public health standard for ozone concentrations. The new standard for ozone is 85 ppb for an 8-hour average.

Last year the NPS Associate Director for Natural Resource Stewardship and Science issued a guidance memo on ozone advisories in the parks. Two parks, Great Smoky Mountains National Park, Tennessee, and Acadia National Park, Maine, issue warnings to the public when ozone concentrations are high. A third park, Shenandoah National Park, Virginia, issues notices to park staff.

Other parks could also issue ozone advisories. Seven mandatory Class I national parks and two Class II parks exceeded the 85 ppb limit for the 3-year average of the annual 4th highest daily maximum 8-hour averages.

Ozone advisories in the parks continued on page 2....
Ozone advisories in the parks continued from page 1....

Details on ozone concentrations observed at monitoring stations for the affected parks are listed in the following table.

<table>
<thead>
<tr>
<th>Park Unit Name</th>
<th>CAAA Designation</th>
<th>State</th>
<th>4th Highest 8 hr O3 3 yr Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joshua Tree NP - Black Rock</td>
<td>Class I</td>
<td>CA</td>
<td>109</td>
</tr>
<tr>
<td>Great Smoky Mtns. NP - Look Rock</td>
<td>Class I</td>
<td>TN</td>
<td>104</td>
</tr>
<tr>
<td>Sequoia NP - Lookout Point</td>
<td>Class I</td>
<td>CA</td>
<td>102</td>
</tr>
<tr>
<td>Great Smoky Mtns. NP - Cove Mountain</td>
<td>Class I</td>
<td>TN</td>
<td>100</td>
</tr>
<tr>
<td>Great Smoky Mtns. NP - Clingman's Dome</td>
<td>Class I</td>
<td>TN</td>
<td>98</td>
</tr>
<tr>
<td>Sequoia NP - Lower Kaweah</td>
<td>Class I</td>
<td>CA</td>
<td>96</td>
</tr>
<tr>
<td>Shenandoah NP - Big Meadows</td>
<td>Class I</td>
<td>VA</td>
<td>96</td>
</tr>
<tr>
<td>Cape Cod National Seashore</td>
<td>Class II</td>
<td>MA</td>
<td>95</td>
</tr>
<tr>
<td>Cowpens National Battlefield</td>
<td>Class II</td>
<td>SC</td>
<td>93</td>
</tr>
<tr>
<td>Mammoth Cave NP - Hansen Meadow</td>
<td>Class I</td>
<td>KY</td>
<td>92</td>
</tr>
<tr>
<td>Acadia NP - Cadillac Mountain</td>
<td>Class I</td>
<td>ME</td>
<td>89</td>
</tr>
<tr>
<td>Yosemite NP - Turtleback Dome</td>
<td>Class I</td>
<td>CA</td>
<td>86</td>
</tr>
<tr>
<td>Acadia NP - McFarland Hill</td>
<td>Class I</td>
<td>ME</td>
<td>85</td>
</tr>
</tbody>
</table>

Sites that measured 8-hour ozone averages greater than 85 ppb during the previous month are listed on the NPS AirWeb site at http://www2.nature.nps.gov/ard/gas/exceed.htm. If available, individual park advisories are also listed. Park staff can also view useful links, copies of the NPS guidance, and forecasting advice at http://www2.nature.nps.gov/ard/gas/advisory/ozone.htm. The new on-site PC systems for the monitoring stations and the DataView program may also provide assistance in identifying and forecasting exceedance days.

Late data submittals result in delayed resource management planning

Data packets from station operators should be completed and mailed within 15 days of the end of the month of record. Late data packets result in delayed validation, plotting, and posting, which delays reporting and AIRS submittals, and can ultimately affect land use designation decisions, deposition model runs, and other time-sensitive operations.

The states are preparing lists of non-attainment areas for EPA under the 8-hour standard. Late paperwork from stations has resulted in incomplete ozone data for the 1999 season to be in the EPA AIRS database, from which the states get their summary tables. This may result in states not including national parks in their non-attainment designations. The good news is that NPS pollutant data are used by the states and EPA; the bad news is that incomplete and late data submittals can lead to pollution problems in some parks that may not be recognized by the agencies that designate control measures.

Snowmobile ban coming to Yellowstone

Yellowstone National Park, Wyoming, announced in March that it expects to ban snowmobile use in the park beginning with the Winter 2002-03 season. The park has received numerous complaints about air and noise pollution stemming from snowmobiles, as well as safety concerns for both humans and wildlife.

Several alternatives to the problem were proposed in a draft environmental study, which is expected to be finalized and released in June. News of the proposed ban was not taken positively in neighboring towns, whose economies rely on winter tourism. In the 1998-99 season, 63,000 tourists snowmobiled in the park.

Recent studies show that snowmobiles produce more air pollution in the park than other vehicles, even though other vehicles outnumber snowmobiles 16:1. A pollution study in Yellowstone last fall found that snowmobiles emit 10 times as much carbon monoxide and 300 times as many hydrocarbons as cars. A complete report can be found on the Internet at http://www2.nature.nps.gov/ard/pubs/snowmobile_report.pdf.

NPS also announced a national ban on snowmobiles in the parks. ARD and Yellowstone performed monitoring and special studies on emissions in support of the ban that documented the high emissions of snowmobiles. Gary Bishop and Don Stedman from the University of Denver measured snowmobile emissions at Yellowstone in a joint project using their optical remote sensing instrument.

DATA COLLECTION SUMMARY

Data collection statistics for July through December 1999 are:

- Sites with final validation of ambient air quality parameter collection greater than 90% include:
  - Acadia
  - Great Basin
  - Great Smoky Mtns. (Cades Cove)
  - Joshua Tree
  - Olympic
  - Shenandoah
  - Yellowstone

- Sites with final validation of ambient air quality parameter collection greater than 80% include:
  - Big Bend
  - Denali
  - Great Smoky Mtns. (Clingmans Dome)
  - Mammoth Cave
  - Rocky Mountain
  - Sequoia
  -Virgin Islands

- The entire network achieved 89.4% final validation of ambient air quality parameters.
INTRODUCTION TO DATAVIEW

New system will allow easier instrument checks and documentation transmittal

Overview
DataView, a new computer software system, is being installed at NPS ambient air monitoring network sites beginning this spring. The system will allow station operators to more quickly and easily service air quality instrumentation by performing station checks electronically. It will replace the current pen-and-paper method of preparing log sheets.

The National Park Service DataView system is comprised of a laptop computer, printer, supporting hardware, and a comprehensive suite of software tools for reviewing air quality data and documenting operations at air quality monitoring sites. DataView continuously collects and stores data from the station datalogger. It allows the operator to review current and recent past air quality data, and assists with calibration, maintenance, operation, and troubleshooting of the station instrumentation.

Features
DataView supplements the station datalogger, the primary source of network data. Primary data will not be directly affected if DataView fails.

DataView operates with standard Microsoft Windows features such as pull-down menus and on-screen buttons. Screen displays are checklists that guide operators through each weekly and monthly site visit instrument check, and are specifically configured for the instruments installed at each site. Based on collected data, programs will automatically post messages, flags, or alarms on the screen to inform operators of required action.

With each station visit, instrument checks and documentation will be entered into DataView. The Information Management Center (IMC) will download this information daily by telephone modem, and will review data and resolve validation problems through the DataView system and/or datalogger. Station operators have the option to print hardcopies of the computer screens, however, there will be no regular need to mail hardcopy strip charts and handwritten log notes to the IMC. Paperwork will need to be forwarded to the CASTNet and PRIMENet contractors to meet their quality assurance requirements.

In the event of computer failure, backup forms (looking similar to the screen display checklists) will be completed by the operator and faxed to the IMC. The IMC will maintain all digital and hardcopy records of site documentation; monitoring sites will not need to maintain any long-term documentation.

Beginning June 1, 2000, each site will receive a Site Operator’s Manual for Ambient Air Quality Monitoring Systems containing backup forms, detailed hardcopy instructions for completing the DataView checklists, and other information. To get acquainted with the new system, operators should begin using the new forms for weekly station checks. After DataView installation, the forms will only need to be completed in the event of DataView failure.

Introduction to DataView continued on page 4...
Station upgrades continue in network

Network sites continue to be upgraded to improve monitoring operations. The following sites have or will soon see some changes:

- **Big Bend NP** - Big Bend received a new, larger shelter to better accommodate all its instrumentation. SO$_2$ sampling initiated for the 1999 BRAVO study continues.
- **Pinnacles NM** - The Dasibi ozone analyzer and calibrator were replaced by two TECO 49Cs in March. This change makes the Pinnacles air quality station one of the forerunners of new equipment.

NADP sampling coming to more sites

The NPS has added National Acid Deposition Program sites at Death Valley NP, Hawaii Volcanoes NP, Mount Rainier NP, and Pinnacles NM. Additional sampling sites at Joshua Tree NP, Lassen Volcanic NP, and Voyageurs NP will be installed this spring and summer.

ROMO and GRSM beta test DataView

The DataView computer software system, which will begin deployment in the network beginning this spring, has been beta tested at Rocky Mountain and Great Smoky Mountains National Parks. Operators at the two parks tested the system for several weeks this spring.