National Park Service
U.S. Department of the Interior

Air Resources Division
Natural Resource Program Center
Denver, Colorado

Guidance for Evaluating Air Quality in Natural Resource Condition Assessments

This document is intended to assist parks in assessing air quality conditions for Natural Resource Condition Assessments (NRCA). It is not meant to be prescriptive, and the Air Resources Division (ARD) recognizes that parks may choose to analyze air quality data and information differently to meet their particular needs.

To assess basic air quality conditions:

1. Look up specific park estimates for ozone, deposition, and visibility in the most recent table of interpolated AQ data at http://www.nature.nps.gov/air/Maps/AirAtlas/IM_materials.cfm.

2. Refer to the guidance document "Rating Air Quality Conditions" at http://www.nature.nps.gov/air/planning/docs/20100112_Rating-AQ-Conditions.pdf to determine whether air quality condition for each parameter at the Park is a "Significant Concern," "Moderate," or "Good". The document also includes information on how the data was processed and the rational for determining condition. Values that represent "Good" condition can be used as the reference condition. However, we encourage parks to use site-specific reference conditions when available (e.g., critical loads for deposition).

3. In addition to this basic air quality condition assessment, an NRCA may choose to address current or potential effects to air quality sensitive resources (e.g., vegetation, lakes and streams, soils, wildlife, and visibility), particularly if air quality condition for any of the parameters is rated "Moderate" or "Significant Concern." Information on air quality sensitive resources may be available from the following sources:
    a. For ozone, refer to the Ozone Risk Assessments at http://www.nature.nps.gov/air/permits/aris/networks/ozonerisk.cfm to determine what level of risk may exist for ozone injury to vegetation in the Park.
    b. For visibility, if the Park is a Class I area, a specific discussion of the national regional haze goals for the Park should be included; i.e. achieving natural visibility conditions by the year 2064. If completed, the regional haze State Implementation Plan (SIP) aimed at achieving the national visibility goal for the park could be discussed. If you do not have a copy of this information at your park, contact the ARD.
    c. For deposition of sulfur or nitrogen compounds, information on sensitive soils, lakes, streams, or vegetation may be available from http://www.nature.nps.gov/air/permits/aris/index.cfm. In addition, park data can be used to assess potential sensitivity of lakes, streams, and soils to acidification from sulfur and nitrogen compounds (e.g., acid-neutralizing capacity, ANC, less than 100 microequivalents per liter). Are there issues with invasive plant species

in the park that could be exacerbated by nitrogen deposition? Has there been research in the park to evaluate effects from deposition or determine critical loads (the amount of nitrogen or sulfur deposition below which resources are not likely to be harmed)? If critical loads have been calculated for ecosystems in the park, the critical loads can be used for reference conditions.

4. Air quality trend information for many parks is available from the ARD Annual Air Quality Report at http://www.nature.nps.gov/air/who/npsPerfMeasures.cfm.
    a. Note that trends are based on slightly different metrics than condition for deposition and visibility, and use a 10-yr period instead of a 5-yr average.

5. In addition to these basic air quality issues, parks may have concerns about other air pollutants, including mercury and other toxics.
    a. Information from the Western Airborne Contaminants Assessment Project for certain parks in the West and Alaska is available at http://www.nature.nps.gov/air/Studies/air_toxics/wacap.cfm. Park- and network-specific information may be available at http://www.nature.nps.gov/air/permits/aris/index.cfm.
    b. Monitoring information for mercury is at http://nadp.sws.uiuc.edu/mdn/; information on mercury impacts to park resources is available at http://www.nature.nps.gov/air/AQBasics/mercury.cfm.