

Northern Colorado Plateau Network

Monitoring Brief

National Park Service
U.S. Department of the Interior

Intermountain Region
Inventory & Monitoring Program



2008

Air Quality Monitoring

Importance

Both the Clean Air Act and the National Park Service (NPS) Organic Act protect air resources in national parks. Understanding changes in air quality can aid in interpreting changes in other monitored vital signs. The Northern Colorado Plateau Network (NCPN) has identified several components of air quality as high-priority vital signs for monitoring. Over the past three decades, the NPS has developed several internal and cooperative programs for monitoring various measures of air quality. These programs (see table) are currently monitoring air quality at six NCPN parks (see box). The NCPN will acquire and analyze data from existing stations and report on data specific to park units.

Long-term Monitoring

The NCPN will acquire, analyze, and report on air quality data on from the web-based program archives of four ongoing air quality monitoring programs: the Clean Air Status and Trends Network (CASTNET), the National Atmospheric Deposition Program (NADP), the National Park Service–Air Resources Division ozone monitoring program, and the Interagency Monitoring of Protected Visual Environments (IMPROVE) Program. The network's air quality monitoring draft protocol was completed in 2008 and was undergoing final review in the winter of 2008–2009. The first NCPN air quality report will be produced in 2009.

NCPN air quality monitoring objectives are to:

1. Determine the seasonal and annual status and trends in concentrations of nitrogen- and sulfur-containing, and other selected ions from wet deposition at BRCA and CANY;



NADP air quality site at Repeater Hill, Bryce Canyon National Park.

2. Determine the seasonal and annual status and trends in dry deposition chemistry at CANY and DINO;
3. Determine the seasonal and annual status and trends in ozone concentration at CANY, COLM, DINO, and ZION; and
4. Determine the seasonal and annual status and trends in concentrations of visibility-reducing pollutants at BRCA, CANY, CARE, and ZION.

Management Applications

Information gathered from this protocol will:

- Support evaluation of compliance with legislative requirements of the Clean Air Act and Regional Haze Guidelines; and
- Facilitate interpretation of other NCPN vital signs, such as vegetation and water quality measurements.

Contact

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Air quality monitoring stations in NCPN parks.

Program	No. of stations	No. of parks
Interagency Monitoring of Protected Visual Environments (IMPROVE)	6	4
Ozone Monitoring (NPS-ARD)	4	4
National Atmospheric Deposition Program (NADP)	2	2
Clean Air Status and Trends Network (CASTNET)	1	1

Network park units where air quality will be monitored

Bryce Canyon National Park (BRCA)
Canyonlands National Park (CANY)
Capitol Reef National Park (CARE)
Colorado National Monument (COLM)
Dinosaur National Monument (DINO)
Zion National Park (ZION)

Internet: <http://science.nature.nps.gov/im/units/ncpn/index.cfm>

Intranet: <http://www1.nrintra.nps.gov/im/units/ncpn/>