



On-line data and reports on acid rain, atmospheric deposition and precipitation chemistry.

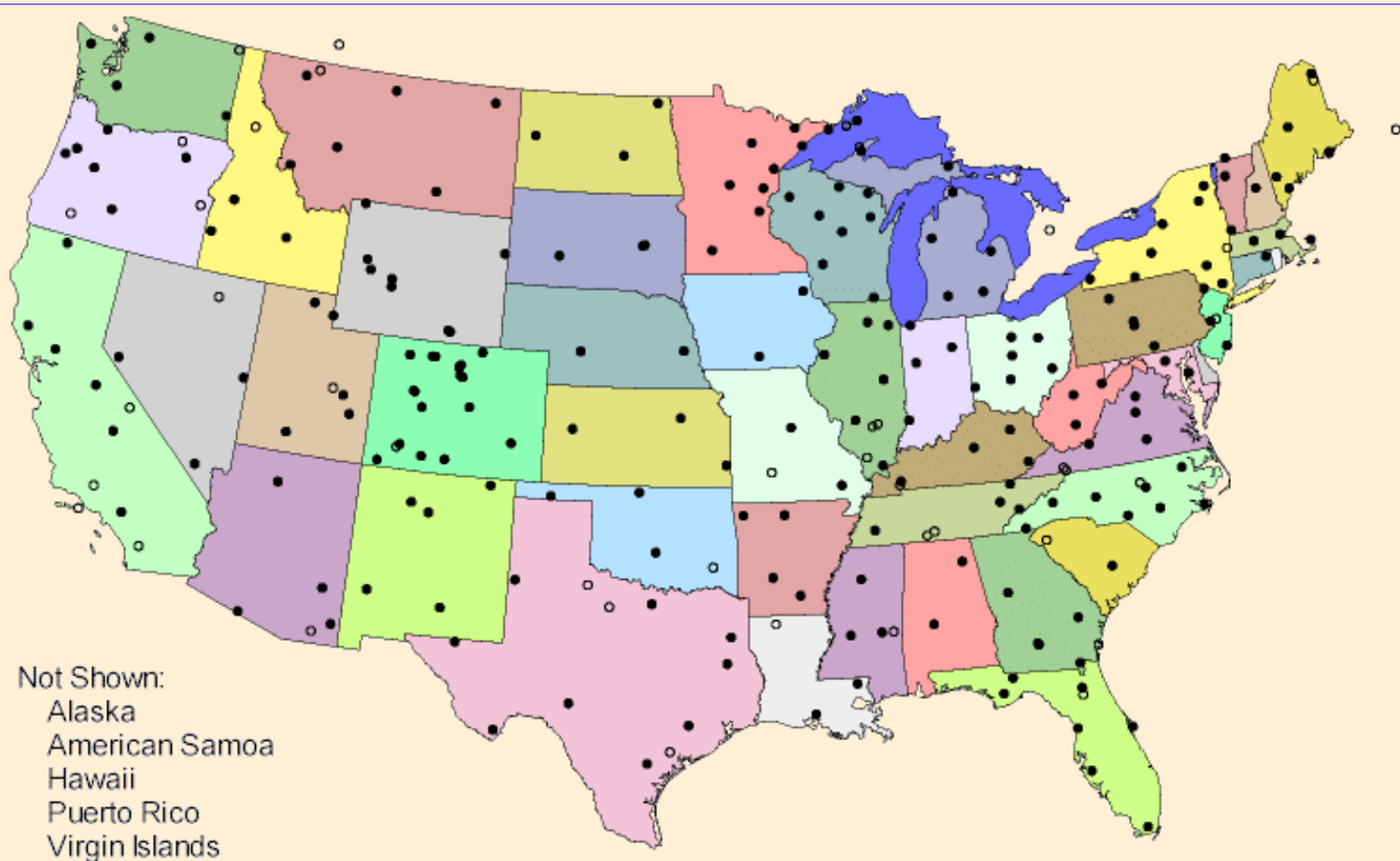
The USGS is the lead federal agency for the monitoring of wet atmospheric deposition (chemical constituents deposited from the atmosphere via rain, sleet and snow) in the United States. The USGS atmospheric deposition program provides:

- 1) participation and leadership in the [National Atmospheric Deposition Program](#), National Trends Network ([NADP/NTN](#)).
- 2) scientific research and assessment to evaluate the effects of atmospheric deposition on aquatic and terrestrial ecosystems.


- [Retrieve data from the NADP/NTN](#)
- [View and download U.S. maps of atmospheric deposition](#)

The NADP/NTN

The [National Atmospheric Deposition Program](#) monitors wet atmospheric deposition at over 220 [National Trends Network](#) sites throughout the United States. The USGS supports 72 of the 220 NADP/NTN sites. A fundamental NADP program objective is to provide scientific investigators world-wide with a long-term, high-quality database of atmospheric deposition for research support in the areas of air quality, water quality, agricultural effects, forest productivity, materials effects, ecosystem studies, watershed studies and human health.



Recent Presentations

-  [Wet deposition of ammonium and nitrate in the United States, 1985-2000](#). Presented at the 2nd International Conference on Nitrogen, Potomac, Maryland, October 14-18, 2001.
 - [An overview of the NADP Mercury Deposition Network](#). Presented at the USGS-EPA mercury roundtable, September 27, 2000.
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Recent Reports

-  [Acid Rain Revisited](#). An updated assessment (co-authored by USGS researchers and sponsored by the Hubbard Brook Research Foundation) into the causes and effects of acidic deposition in the Northeastern U.S. ([Requires Acrobat Reader](#))
 - [Atmospheric Deposition Program of the U.S. Geological Survey](#). A 6-page summary of the current USGS program to measure atmospheric deposition and evaluate its effects. ([Requires Acrobat Reader](#))
 - The National Science Teachers Association ([NSTA](#)) recently released [Inside Rain: Working with Precipitation Chemistry Data](#), a science activity book and package. Developed with support from the USGS, this innovative package enables high school students and teachers to answer environmental-chemistry questions using the actual online database of the [National Atmospheric Deposition Program \(NADP\)](#).
 - [Trends in Precipitation and Stream-water Chemistry in the Northeastern United States](#). How has stream chemistry responded to changes in acid rain levels? USGS scientists compare and contrast changes in precipitation chemistry to stream chemistry at long term USGS water quality monitoring stations. ([Requires Acrobat Reader](#))
 - [The Role of Monitoring Networks in the Management of the Nation's Air Quality](#). A report by the President's National Science and Technology Council describing the major air quality and atmospheric deposition networks and their relevance to the nation's air quality research strategy. ([Requires Acrobat Reader](#)).
 - [Soil-Calcium Depletion Linked to Acid Rain and Forest Growth in the Eastern United States](#). A new report by USGS researchers that summarizes recent finding on the role of acid rain in forest ecosystems and on the potential for recovery of acidified surface waters. ([Requires Acrobat Reader](#))
 - The latest [National Acidic Precipitation Assessment Program \(NAPAP\) Biennial Report to Congress](#) provides a comprehensive integrated assessment of acidic deposition in the United States including updated information on atmospheric emissions and deposition, aquatic effects, forest effects, visibility, human health, and cost/benefit analysis of the Acid Rain Control Program.
 - In 1995, sulfur dioxide emissions from 445 power plants in the eastern U.S. were reduced by 3 million tons as mandated by Title 4 of the Clean Air Act Amendments. NADP/NTN data was the basis for a 1996 report showing that these emission reductions have reduced the severity of acid rain in the Eastern United States. [USGS report on the effects of the Clean Air Act Amendments on Acid Rain](#).
 - [Acid Rain and our Nation's Capital -- A Guide to Effects on Buildings and Monuments](#) Defines acid rain, explains what effects it has on marble and limestone buildings, and shows, on a walking tour, some of the places in our Nation's capital where you can see the impact of acid precipitation.
 - The USGS operates a quality assurance program in support of the NADP/NTN. The latest report is "[External Quality-Assurance Results for the NADP/NTN during 1995-1996](#)" ([Requires Acrobat Reader](#))
 - In late 1995, NADP/NTN data were made available on the Internet. The 1997 report "[Uses of NADP/NTN Data for Science Education and Environmental Problem Solving](#)" describes nearly 500 applications of NADP/NTN data for science education and nearly 600 uses in environmental problem solving.
 - [Primer on acid rain -- how it is measured, and its effects](#)
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Additional Information:

- [Stream water quality data from USGS monitoring stations](#)
 - [EPA's Acid Rain Division page](#)
 - [EPA's dry deposition network \(CASTNet\)](#)
 - [USGS quality assurance work for the NADP/NTN](#)
 - [View a U.S. map showing recent data on the pH of precipitation](#)
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Maintained by [Mark Nilles](#). Your comments and suggestions are welcome.

[Return to USGS Water Page](#)