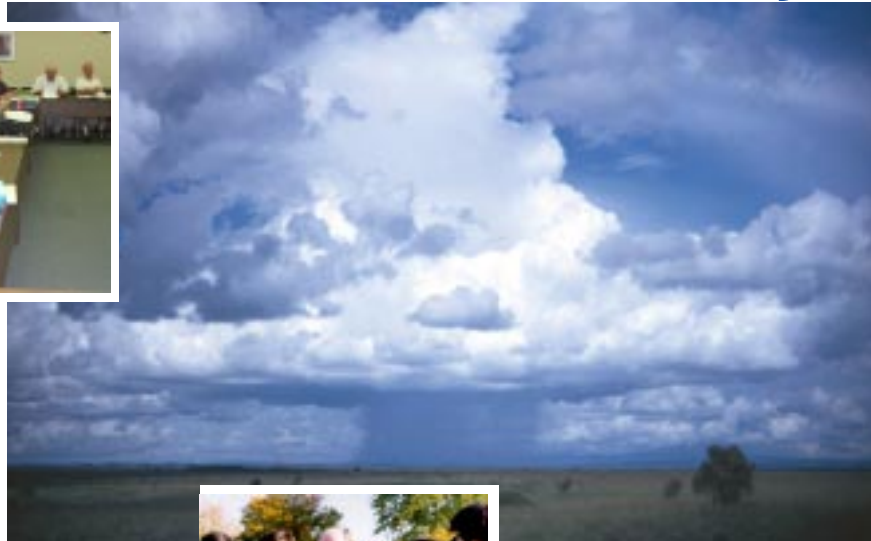


Science for Society



. . . this information provides a sound technical basis for the citizens and policymakers of Illinois and the nation to make wise social, economic, and environmental decisions.

...the primary agency in Illinois for research and information on surface water, ground water, and the atmosphere . . .

Abundant and clean water and clean air — these are resources most of us take for granted. But recent events and contemporary trends make it prudent that Illinois continues to manage, protect, and use these resources based on sound science.

A severe statewide drought in 1988 reduced streamflow and reservoir levels to critical levels. Just five years later in 1993, unprecedented rainfall drove Mississippi River levels to record high floods. Vigorous economic and population growth in northeastern Illinois is putting pressure on existing water resources and on the quality of air and water. Restructuring of the electric utility industry is resulting in new water-consuming electricity generation plants being built across the state. And looking to the future, the potential for global and regional climate change poses a risk of uncertain magnitude to water resources.

The Illinois State Water Survey (ISWS) has been a leader in the study of water resources for more than a century. Founded in 1895, its

original mission was to survey the waters of Illinois to trace the spread of waterborne disease, ensure health and safety of public water supplies, improve wastewater treatment, and help develop sanitary standards for drinking water.

The ISWS mission and scope have expanded to include varied scientific research and service programs relating to water and atmospheric resources of interest to Illinois. These programs are funded through state appropriations, as well as grants and contracts from local, state, and federal agencies, universities, private organizations, and businesses. Scientific information provided by the ISWS is used to manage natural resources, protect public health, and enhance public welfare and economic development.

The ISWS is a Division of the Office of Scientific Research and Analysis in the *Illinois Department of Natural Resources* and an affiliated agency of the *University of Illinois at Urbana-Champaign*. The main ISWS offices are in Champaign, with additional offices in Peoria and Carbondale.

Illinois State Water Survey
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Web: <http://www.sws.uiuc.edu>



. . . the mission is achieved through basic and applied research; by collecting, analyzing, archiving, and disseminating objective scientific and engineering data and information; and through service and extension programs . . .

Office of the Chief

The Chief is responsible for all services and the scientific direction of the ISWS. Services provided by the Office of the Chief include policy implementation, accounting, budgeting, staff development, procurement, capital development, computer and data management, library resources, publications, and external relations.



Two programs are also housed within the Office of the Chief:

- Geographic Information Systems, providing computer mapping capabilities.
- The Water and Atmospheric Resources Monitoring Program, providing long-term hydrologic and climate data.

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Atmospheric Environment Section

The Atmospheric Environment Section conducts research projects, monitoring, and outreach services that address key atmospheric issues of importance to Illinois, the Midwest, and the nation. Areas of study include climate variability and change, air chemistry and quality, agricultural meteorology, weather and climate impacts, cloud physics, mesoscale meteorology, and boundary-layer meteorology. The Midwestern Climate Center and the State Climatologist are the primary providers of weather and climate information for the Midwest and Illinois.



Analytical Chemistry and Technology Unit

The Analytical Chemistry and Technology Unit (ACTU) provides researchers with analytical chemistry support in a laboratory accredited by the Illinois Environmental Protection Agency. The ACTU also coordinates three public service programs that assist private citizens, state facilities, and small communities with solutions to water-related problems. The Public Service Laboratory provides mineral analysis and advice on water-quality issues for citizens in Illinois. The Institutional Water Treatment Program provides state agencies with direction on the purchasing, specification, and implementation of chemical treatment for their water plants. The Midwest Technology Assistance Center for Small Public Water Systems promotes development of technical, managerial, and financial capabilities of small water systems.



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State Climatologist: James Angel, (217) 333-0729

Watershed Science Section

The Watershed Science Section provides the technical basis for addressing water quantity and quality issues in lakes, reservoirs, rivers, streams, and wetlands. Programs document and analyze historical and spatial data, investigate watershed processes, and provide scientific and engineering analyses. Staff provide technical expertise in hydrologic, atmospheric, chemical, and watershed studies, including monitoring and data collection; analyses, assessment, and research; modeling; reconstruction, rehabilitation, and restoration; data management; and public outreach. Data provided to policymakers, planners, and resource managers are used to protect and restore rivers and watersheds and enhance the quality of life and economic growth in Illinois and other states. The Illinois River Decision Support System provides information for restoration of the Illinois River and its watershed.



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McConkey, (217) 333-5482

Water Quality Evaluation: Gary Peyton, (217) 333-59055

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Ground Water Section

The Ground Water Section (GWS) conducts research, collects and analyzes data, and provides information on ground water in Illinois. It is the primary repository of ground water records and data, and dissemination of these data is an integral part of all GWS programs. Staff work with communities seeking to expand their water supplies, provide yield estimates on known supplies, and conduct research on effects of contaminants on water quality. Staff also work with other ISWS programs to improve understanding of hydrological and biogeochemical systems.



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National Atmospheric Deposition Program

Contacts:

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Toxics and Mercury Deposition:

Clyde Sweet, (217) 333-7191



The National Atmospheric Deposition Program (NADP) is a cooperative effort among private, state, and federal organizations. Continuous collection and analysis of precipitation samples from the program's 220 sampling sites provides a record of the chemical climate of the United States (e.g., acid rain and nutrients). The NADP disseminates information on spatial and temporal trends in deposition of chemicals to the earth's surface. This information is used to address environmental, agricultural, and health issues, and to identify impacts on ecosystems and material and cultural resources. Using the data, relationships among pollutant sources, air quality, and precipitation quality can be established. Mercury deposition is an issue of increasing importance across the nation, and NADP hosts an evolving mercury deposition network.