

Position Statement

The Association of American State Geologists (AASG) supports programs at the Federal, State, and local levels that map the distribution and characteristics of groundwater resources, monitor their quantity and quality, and analyze the impacts of groundwater use. Such programs are critical to assuring sustainable resources for the nation's fresh-water needs.

Background

The availability of adequate water supplies directly impacts the American economy and public health. Whether used for domestic consumption, agricultural irrigation, or industrial supply, water is needed more and more across the nation and, in many areas, demands are straining available water resources. Climate change, population growth and redistribution, economic expansion, energy production, and other factors exacerbate this situation.

Nationally groundwater provides **40%** of streamflow and constitutes 21% of all water used annually.

- Private groundwater wells serve **44** million people.
- Public groundwater systems serve 90 million people.
- Irrigation accounts for 68% of all groundwater use nationally.

All levels of government, many businesses, landowners, public interest organizations, and individuals use information obtained from programs that study our groundwater resources. Information from these programs is used for many essential purposes:

- Projecting future water needs and availability for agricultural, municipal, and industrial uses.
- Protecting water quality for both potable and environmental needs.
- Assessing the potential impact of energy resource production and CO2 sequestration on water resources.
- Developing policies that provide sustainable management of groundwater resources.

Programs designed to address these issues must recognize that although national interest in water issues is considerable, states maintain dominant roles in setting water policy.



Irrigation (courtesy J. Charlton, Kansas Geological Survey).



Groundwater well (courtesy Florida Geological Survey archives).

Key Federal Programs Supported by AASG

AASG supports the Water Census initiative of the U.S. Geological Survey (USGS), which promotes partnerships among Federal, State, and local participants, as well as the private sector, to fully characterize water resources for the nation, including groundwater. Critical components of this initiative are:

- National assessment of water availability and human and environmental water use.
- Regional-scale studies of water resources for each of the nation's 21 Water Resource Regions. Cooperative studies in selected watersheds to improve water planning and management.
- Cooperative mapping and characterization of the nation's aquifers.
- Modernizing the nation's 7,000 stream gages and expanding groundwater monitoring capacity.

AASG supports existing groundwater programs at Federal agencies. *These programs can be strengthened through partnerships with State and local agencies that are often better positioned to conduct local and regional groundwater investigations:*

National Cooperative Geologic Mapping Program (USGS)-geologic mapping that provides the framework for determining the distribution and characteristics of aquifers and geological units that protect water quality in aquifers.

Cooperative Water Program (USGS)-promotion of partnerships with State and local governments concerning groundwater monitoring, water supply, and water quality issues. Funding should be increased to ensure a 50-50 cost-sharing partnership with USGS cooperators.

National Water Quality Assessment Program (USGS)-study of quality of both surface water and groundwater in select regional watersheds and the effectiveness of water quality protection strategies.

National Water Information System (USGS)-both groundwater-level monitoring and groundwater quality assessment, which complements State efforts to maintain long-term groundwater networks essential to understanding the impacts of climate, water withdrawal, and land-use change on the resource.

Source Water Assessment Program (U.S. Environmental Protection Agency)-identification of zones of contribution around public water supply wells. This is a critical step in protecting important water resources.

State Water Resources Research Institute Programs-provision of funds in each of the 50 states for research programs to assist the nation in addressing needs in water resources and related technology. The institutes successfully leverage funds from State and local sources to amplify research opportunities on critical local issues that have national implications.

Advisory Committee on Water Information-piloting of components of a nationwide groundwater-level monitoring network built on partnerships with State and local entities. Such a network will allow uniform monitoring of groundwater, allow regional assessments, evaluate the impacts of climate change, and provide validation for remotely sensed groundwater data.



Irrigation satellite imagery (courtesy Texas Natural Resources Information Service/Texas Water Development Board).

For more information contact:

President
Steve Masterman
steve.masterman@alaska.gov
Alaska State Geologist

President-Elect
Karen Berry
kaberry@mines.edu
Colorado State Geologist

Chairs, Water Resources Committee
David Wunsch
dwunsch@udel.edu
Delaware State Geologist