

ARS National Research Program on Water Availability and Watershed Management

The Agricultural Research Service's national program on Water Availability and Watershed Management (#211), described on the Web at www.nps.ars.usda.gov,

coordinates research that will enhance the effective and safe management of water resources for agricultural production while protecting the environment and health of people, wildlife, and livestock.

Water is necessary for virtually all agricultural, industrial, urban, and recreational activities as well as for the sustained health of the natural environment. Today, competition for water resources is at an all-time high. Depleted groundwater reserves, degraded water quality, and adverse climatic conditions are reducing the amount of available fresh water. At the same time, allocations of our freshwater resources are

shifting among different users and different needs, especially from agriculture to other uses.

The program is organized into these six areas:

- Effectiveness of conservation practices
- Irrigation-water management
- Drainage-water management systems
- Integrated erosion and sedimentation technologies
- Watershed management, water availability, and ecosystem restoration
- Water-quality-protection systems.

ARS is uniquely situated to address these areas of water management, because the agency's scientists examine water-resource issues at scales from individual fields to watersheds covering millions of

acres and multiple jurisdictions. In addition, ARS research involves multiyear and long-term studies of watersheds. Such studies provide baseline data and ongoing monitoring against which future changes in water quantity and quality can be analyzed. This research is supported through ARS's benchmark watershed-research network, composed of about 20 U.S. watersheds that have as many as 50 years of records on water quantity and quality.

The knowledge and technologies that flow from ARS research provide producers, action agencies, local communities, and resource advisors with the practices, tools, models, and decision-support systems they need to improve water conservation and water-use efficiency in agriculture, enhance water quality, protect rural and urban communities from the ravages of droughts and floods, improve agricultural and urban watersheds, and prevent degradation of riparian areas, wetlands, and stream corridors. *

