School of Civil and Environ. Engineering

Georgia Water Resources Institute

The **Georgia Water Resources Institute (GWRI)** at Georgia Tech was authorized by US Congress through the Water Resources Research Act of 1964 (P.L. 101-397). This Act mandated the creation of a water resources research institute in each of the fifty states, the District of Columbia, and the trust territories of the US. The institutes are members of the National Institute for Water Resources (www.niwr.org).

The GWRI **mission** is to help improve water resources management in Georgia, the US, and the world through innovative new research, education, technology transfer, and information dissemination.

SELECTED ACTIVITIES IN GEORGIA: In collaboration with the Georgia Environmental Protection Division, GWRI is developing information and modeling tools aiming to provide stakeholder organizations and groups with objective facts and information useful in developing a sound and sustainable water resources planning and management framework for Georgia. The GWRI planning tools are used to (i) determine flow regime requirements for environmental management and aquatic life protection in individual sub-basins as well as basinwide; (ii) assess the water amounts available in each sub-basin to meet current and future water supply demands; and (iii) quantify the benefits and impacts of basin storage, inter-basin transfers, drainage/sewer infrastructure, and conservation practices. In addition to research activities, GWRI sponsors and organizes major water resources conferences and workshops in Georgia including the Georgia Water Resources Conference, the Mega-City Water Forum, and the Kindsvater Symposium.

SELECTED NATIONAL ACTIVITIES: With funding from National Oceanic and Atmospheric Administration, CALFED, and the California Energy Commission, GWRI is collaborating with the California Department of Water Resources, the US Bureau of Reclamation (USBR), the US Army Corps of Engineers (USCOE), the Sacramento Flood Control Agency (SAFCA), and the Hydrologic Research Center to develop and operationalize a comprehensive forecast-decision system for all major river basins in Northern California. This prototype decision support system is intended to assist the State of California in securing water supplies for urban, industrial, and agricultural use, provide adequate flood protection along the Sacramento River, generate energy, and sustain the environmental and ecological integrity of the Bay Delta.

SELECTED INTERNATIONAL ACTIVITIES: Under the aegis of United Nations Agencies, International Aid Agencies, and the World Bank, GWRI has developed a state-of-the-science decision support system to support the information and decision making needs of the Nile Basin nations. With 250 million people spread into ten different countries

(Egypt, Ethiopia, Sudan, Eritrea, Uganda, Tanzania, Kenya, Rwanda, Burundi, and Congo) and rapidly rising populations and economic pressures, The Nile Basin nations are in urgent need to set forth equitable and lasting water development and utilization agreements. The purpose of the GWRI decision support system for the Nile is to evaluate the merits of various water development and management strategies and support the negotiation of water use agreements among the Nile Basin nations. As part of this effort, GWRI conducts extensive training and technology transfer programs for water scientists and engineers in the Nile Basin. Similar activities are undertaken in many other world regions including China, Europe, Middle East, and South Africa.

SPONSORSHIP

Sponsorship of GWRI's activities comes from (1) the Department of the Interior/USGS as part of the national institute program state allocation, and (2) other agencies and organizations that provide funding through competitive programs. GWRI uses the USGS institute allocation to award research projects to Georgia Universities through an annual statewide research competition. The state competition includes submission of technical proposals, technical peer review, and review by the GWRI Advisory Board for relevance to Georgia needs. GWRI generates additional funding by routinely participating in national and international competitive research programs. Such funding has been secured from various organizations including NOAA, NASA, US EPA, US AID, USGS, California Energy Commission, CALFED, World Bank, Food and Agriculture Organization of the United Nations, European Development Agencies, the Chinese Ministry of Water Resources, and several other foreign Governments.

Additional information on the GWRI educational, research, and technology transfer activities can be found at the GWRI website (www.gwri.org) or can be obtained from the GWRI Director, Professor Aris P. Georgakakos, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0355. Phone (404) 894-2240; E-mail: ageorgak@ce.gatech.edu.