

Georgia Water Resources Institute: A Brief Summary of 2006-2007 Activities

Aris P. Georgakakos
Director, Georgia Water Resources Institute
Professor, Georgia Institute of Technology



A 2007 View Lake Lanier (11AliveNews.com)

2007 ushered in a new era in Georgia's water resources history. In this year, a modest drought that begun in 2006 developed into an unprecedented drought rapidly depleting the state's storage reserves, threatening city water supplies, slowing down the economy, exacerbating conflicts and inconsistencies between federal statutes (such as the Endangered Species Act) and state water supply priorities, and increasing tensions among water users in Georgia and across the borders with Alabama and Florida. Above all, the present water crisis is making it ominously clear that the *unplanned* economic growth that Georgia and the Southeast US are currently experiencing can have disastrous consequences. An integrated water plan to balance growth and environmental sustainability is not only necessary from a water resources standpoint; it is now seen as the only sustainable *business* plan for Georgia and the southeast.

For the Georgia Water resources Institute (GWRI) at Georgia Tech, this has been an intense service year. In addition to coordinating the 104B and 104G research funding programs and other routine annual initiatives (such as state, regional, and international conferences and symposia), GWRI worked closely with the White House (Council on Environmental Quality), Georgia Governor's Office, Georgia's lead water resources agency (Georgia Environmental Protection Division), and the US Congress to provide technical assistance, policy advice, and expert testimony on the southeast drought, the state water planning process, and House Bill 135 proposing the creation of a National Water Commission to study and develop recommendations for a comprehensive water strategy to address future water needs.

White House: The Council on Environmental Quality (CEQ) advises President Bush on a broad range of environmental matters, including requests for emergency declaration by the states. In November 2007, Governor Perdue declared such a drought emergency for

85 Georgia counties and asked for federal assistance. In response, CEQ asked GWRI to provide an assessment of the Georgia drought situation. Our report included several drought indicators showing clear evidence of the state-wide drought severity and extent, and elaborated on the serious risks facing Atlanta and other state regions. CEQ followed up with a visit to Georgia, held productive discussions with Governor Perdue and members of Georgia's Congressional Delegation, and convened meetings among the Georgia, Alabama, and Florida governors and their lead water resources planning agencies to develop a regional drought relief plan.

Governor's Office: Evaluating potential drought relief strategies, Governor Perdue requested information on the water supply risks and economic implications of various drought management options. Such options include aggressive conservation, inter-basin transfers, and possible modifications of federal reservoir release policies to balance municipal and industrial water supply priorities versus endangered species needs, fishing industry interests, and power generation requirements. In recent years, GWRI has been working closely with state and federal agencies and has developed detailed data bases and assessment models for Georgia's shared river basins. Using this information and modeling tools, GWRI carried out a comprehensive assessment for the Apalachicola-Chattahoochee-Flint (ACF) River Basin to quantify the implications of (a) various inflow scenarios and forecasts, (b) water conservation strategies, (c) in-stream flow targets, and (d) power generation options. The study demonstrated that it is imperative that the Corps of Engineers revise their reservoir release policy (from Lakes Lanier and West Point on the Chattahoochee River) down to more realistic and sustainable levels. GWRI proposed a specific reservoir regulation and conservation strategy, under which Atlanta and the whole of Apalachicola-Chattahoochee-Flint basin will have enough water supplies for at least another year even under unprecedented drought circumstances. The GWRI recommendations included short (drought related), medium (3 to 5 years), and long term (5 to 10 year) intervention measures and strategies. These recommendations were presented to the Governor's Office and to the Georgia Environmental Protection Division in several meetings. Governor Perdue adopted these recommendations as the basis for his drought relief strategy calling for a 10% reduction of permitted water withdrawals and 15 to 20% reduction of the Corps reservoir release policy. Both measures are now being implemented and are beginning to have measurable positive impacts.

Georgia Environmental Protection Division (EPD): The Georgia EPD is the agency responsible for the management of the state's water resources. GWRI has been working closely with the Georgia EPD helping to develop a comprehensive water resources plan. The plan advocates a scientifically integrated and institutionally participatory approach to water resources planning. GWRI and the Georgia EPD worked with many stakeholder groups across Georgia to incorporate their input and raise support for the state water plan. On Friday, January 18, 2008, the Georgia General Assembly passed the state water plan, and Governor Perdue released the following statement: *"I applaud both the Senate and the House for the passage of the Statewide Water Plan today. This process has been one of the most inclusive and transparent ones I have ever seen, with each stakeholder offered a seat at the table. With this plan now in place, we have a framework from which to work to conserve, protect and sustain Georgia's precious water resources."*

As part of the state water plan, a critical investment area is the establishment of a GWRI managed water resources laboratory to bring to bear experts from Georgia universities, state and federal agencies, and private organizations. The purpose of this laboratory will be to provide the state with the best possible data, tools, knowledge, people, and policy advice on all aspects of water resources planning. GWRI has been active in presenting and raising awareness for this critical need among Georgia Congressmen; the Offices of the Governor, Lieutenant Governor, and Speaker of the House; state and federal agencies; environmental organizations; and the general public through formal and informal meetings and newspaper, radio, and television interviews including one with Georgia Public Broadcasting on “Georgia Weekly.”

US Congress: At the national level, on November 8, 2007, the GWRI Director testified before the Subcommittee on Water Resources and the Environment, Committee of Transportation and Infrastructure, US House of Representatives in support of House Resolution 135 advocating the establishment of a National Century Water Commission to study and develop recommendations for a comprehensive water strategy to address future water needs. The GWRI testimony emphasized that Georgia as well as most US regions are un-prepared to manage the unprecedented water stresses occurring due to demand and climate changes. The main reasons listed include:

- Lack of comprehensive knowledge and information on the interdependencies of natural processes and water uses;
- Narrow perspective on the part of water user groups acting to protect their short term interests with disregard of long term risks;
- Lack of federal and state agency coordination and cooperation;
- Insufficient federal and state research investments for the development and implementation of innovative, adaptive, and integrated management technologies, systems, and processes; and
- Weakening of water resources research and education programs.

Specifically, the GWRI testimony identified a critical investment need in water resources education and research programs, and in particular the Water Resources Research Institutes, to create the scientific and policy basis for inter-disciplinary solutions to 21st Century water challenges.