

## Florida Water Resources Research Center FY 2008 Activities

The primary mission of the Florida Water Resources Research Center is to maximize the amount of graduate student funding available to the state of Florida under the provisions of section 104 of the Water Resources Research Act of 1984. For fiscal year 2008 total funding through the Center was \$1,309,521.00 including affiliated research projects and agreements with four of Florida's universities (Florida Atlantic University, Florida State University, University of South Florida, and the University of Florida) and four state agencies (South Florida Water Management District, Southwest Florida Water Management District, St. Johns River Water Management District, and the Florida Geological Survey) and has supported the research of 16 Ph.D. students and 2 Masters students focusing on water resources issues.

The supported research projects consider a wide range of water resources related issues while maintaining focus on topics specific to Florida. Activities and notable accomplishments of the Florida WRRC for FY 2008 are summarized below:

- **Development of new tools for characterizing groundwater contaminant source zones.** University of Florida flux meter research has received national recognition as one of the center affiliated projects was named project of the year for 2006 by the Department of Defense. As such, two new multi-year research projects have been awarded to further the field of characterizing subsurface contaminant flux. The Department of Defense has funded a three-year \$700,000 project to develop a fractured rock passive flux meter, and the Department of Energy has funded a three year 1.2 million dollar project for investigation of subsurface uranium flux.
- **Investigation of the geochemical processes that control the mobilization of arsenic during aquifer storage recovery (ASR).** A prior 104B seed project has been extended to a multi-year project with cooperating state agencies (Southwest Florida Water Management District and Florida Geologic Survey) to investigate arsenic mobilization during aquifer storage recovery (ASR). With the topic of alternative water supply becoming a critical issue within the state and nation this is a vital research area to pursue.
- **Measurement of evapotranspiration, recharge, and runoff in a shallow water table environment** characteristic of much of the Gulf of Mexico coastal plain. Results from this study will provide new information and insight into the magnitude and causative mechanisms of runoff, recharge and ET processes and will provide useful parameterization and conceptualization of processes for integrated surface water and groundwater models.
- **Water resources modeling projects** have been established with South Florida Water Management District (SFWMD): Sensitivity Analysis of South Florida Regional Modeling, and Addition of Ecological Algorithms into the RSM Model.
- **Development of methods for in-filling missing historical daily rain gauge data using NEXRAD.** This research is highly relevant and critical to a number of water resources management agencies that use NEXRAD based rainfall data for modeling and management of day-to-day operations of water resources systems.
- **Development of new techniques for karst aquifer modeling.**
- During the review period, the Florida Water Resources Research Center supported publication of **31 peer-reviewed journal articles.**