

**UF WATER INSTITUTE ANNUAL ACCOMPLISHMENT REPORT:  
W. D. Graham, May 2012**

The UF Water Institute coordinates interdisciplinary research, education and outreach programs designed to develop and share new knowledge, and to develop and encourage the implementation of new technology and policy solutions, for water issues. These programs develop partnerships between and among Water Institute faculty, students and external stakeholders; identify and prioritize critical water issues requiring interdisciplinary expertise; and provide expertise and support for addressing these issues. A summary of programs conducted during 2011-2012 is included below.

**1. Biennial UF Water Institute Symposium: sponsored by Progress Energy**

The third biennial Water Institute Symposium was held in Gainesville Feb15-16 2012. The symposium brought together over 375 scientists, engineers, academics, policy makers, water managers, industry representatives, lawyers, students, artists and members of the public to focus on issues surrounding *Nutrient Dynamics, Policy and Management in Watersheds*.

Over 150 oral, poster and panel presentations were presented by faculty, graduate students, artists, writers, consultants and state and federal agency scientists. A group of nationally- and internationally-recognized invited speakers from academia, non-governmental organizations, and industry participated in the opening and closing plenary sessions of the symposium. A graduate student poster competition was held and 3 awards totaling \$3000 were made to support graduate student travel to a national/international meeting to present their work. For a complete summary of the Symposium including the program, presentations, and participant lists see [http://waterinstitute.ufl.edu/symposium2012/Post\\_index.asp](http://waterinstitute.ufl.edu/symposium2012/Post_index.asp) .

**2. UF Water Institute Distinguished Scholar Seminar Series**

The Water Institute Distinguished Scholar Seminar Series invites high profile scholars to UF on a monthly basis to conduct a general Water Institute seminar that will be of interest to a broad audience; meet with the Water Institute Faculty Advisory Committee to discuss strategic planning and partnering opportunities; and meet with interested Water Institute faculty and graduate students to discuss specific research/education issues. Each scholar is also asked to serve on the External Council of Advisors for the Water Institute for a 12 month period following his/her visit. Six Distinguished Scholar Seminars were hosted during 2011-2012. For a complete listing of speakers, who represent leading experts in the fields of engineering, biophysical sciences, social sciences and law see <http://waterinstitute.ufl.edu/seminars/seminars.asp> .

**3. Interdisciplinary Working Groups, Workshops and Expert Panels**

Periodic interdisciplinary working groups, workshops and expert panels are coordinated to develop partnerships between and among UF Water Institute Faculty, external academics and external stakeholders. The purpose of these activities is to identify and prioritize critical water issues requiring interdisciplinary expertise, as well as to provide expertise and support for addressing these issues. For a complete listing of working groups, workshops and expert panels to date see [http://waterinstitute.ufl.edu/workshops\\_panels/workshops\\_panels.asp](http://waterinstitute.ufl.edu/workshops_panels/workshops_panels.asp) ). During 2011-12 the following externally funded working groups and reviews were coordinated to provide advice to Florida agencies and stakeholders:

- Public Water Utilities Climate Impacts Working Group, a series of 6 meetings with 3 Water Management Districts and 9 Public Water Supply Utilities sponsored by UF Water Institute in

partnership with the Florida Climate Institute and the UF IFAS Center for Public Issues Education.

- TriCounty Agricultural Areas (TCAA) Growers Group, series of 2 meetings with FDEP, FDACS, SJRWMD and TCAA stakeholders to conduct a review of the information used to estimate nutrient loadings and establish nutrient load reduction allocations associated with the Lower St. Johns River (LSJR) Total Maximum Daily Load (TMDL).
- Ichetucknee Preservation Research Workshop, a 1-day workshop of state experts and managers interested in springs ecosystem restoration. The focus of the meeting was to discuss important restoration priorities and research needed to inform restoration. Sponsored by Three Rivers Trust.

#### **4. The Water Institute Graduate Fellows program (WIGF)**

The WIGF program supports interdisciplinary faculty-graduate fellow teams to conduct integrative research in emerging areas of water science, including the social, natural, and engineering sciences. The Deans of the UF College of Agricultural and Life Sciences, College of Liberal Arts and Sciences, and the Directors of the Engineering School for Sustainable Infrastructure and Environment and the School of Natural Resources and Environment committed funding for UF Graduate Research Fellowships in support of this program. Using gifts provided by the Swisher Foundation and the Sherwood-Stokes Foundation, the Water Institute leverages this UF investment by providing a competitive graduate fellow research grants program for the student cohort as well as integrative activities to support their development into a cohesive interdisciplinary cadre of professional researchers. The Water Institute also provides a Research Coordinator for group facilitation; assistance with design, execution and evaluation of integrative activities; and proposal-writing assistance for development of external funding for the project.

The 2011 Water Institute Graduate Fellows Program focuses on *Watershed Management in the face of EPA's New Numeric Nutrient Criteria for Florida Waters*. This topic was proposed by the winning faculty team from an internal competitive RFP process. An excellent cohort of six Ph.D. students began this program in Fall 2011 working with 6 Water Institute affiliate faculty from four colleges and the Water Institute Director. The admitted students' grade point averages ranged from 3.8 to 4.0 and their GRE scores ranged from 1100 to 1400. An internal RFP for the 2013 WIGF cohort was issued in May 2012, and the winning faculty team will be selected in October 2012. See <http://waterinstitute.ufl.edu/WIGF/index.html> for more details on the Water Institute Graduate Fellows program.

#### **5. Administration of the Hydrologic Sciences Academic Cluster**

The UF academic cluster for graduate studies in Hydrologic Sciences (HSAC) is an interdisciplinary program designed to broaden the skills of science and engineering students who are interested in all aspects of water; i.e., occurrence and quantity, distribution, circulation, quality, and management/policy. Currently 49 faculty members and 30 graduate students from 9 departments and 3 colleges participate in the HSAC. Since 1994 125 M.S. and Ph. D. students have graduated from the program.

The Water Institute provides administrative services to the HSAC including developing and maintaining an on-line database for the HSAC student, faculty and meeting records, and developing and maintaining the [HSAC website](#). In addition The UF Water Institute Director serves as a permanent voting member on the Hydrologic Sciences Academic Cluster Faculty Coordinating Committee.

## 6. Externally Funded Research Projects

The Water Institute brings together interdisciplinary faculty and graduate student teams to develop proposals to external agencies. There are four categories of externally funded Water Institute projects, depending on the level of involvement of Water Institute staff in the project development (for details see [WI Project Classification Policy](#)). These efforts have created new collaborative linkages among UF faculty, as well as agencies and institutions across the country, and have resulted in external awards of Class 2 and 3 projects totaling approximately \$10 million to date. In addition Water Institute faculty members individually manage over \$100 million in externally funded Class 1 projects.

To explore all externally funded Water Institute projects by research thrust area, ecosystem of study, or classification level, see the [on-line searchable awards database](#).

In 2011-2012 research proposals totaling over \$2.4 Million, and NSF STC and SRN pre-proposals totaling \$37 Million were submitted for external funding. A brief summary of active projects, by classification level is included below. Appendix A presents a table of submitted proposals that are either pending or were not funded.

### Active Class 3 Water Institute Coordinated Projects

- Tampa Bay Water, “Use of Seasonal to Multi-Decadal Climate Forecasts to Reduce Risk in Regional Public Water Supply Management”, \$225K, April 2007- December 2013, Principal Investigator.
- National Science Foundation, Collaborative Research: Controls on Delivery and Fate of Water, Nitrogen and Calcium in a Spring-Fed Karst River, \$325K, Mar 2009- Mar 2013, Principal Investigator.
- National Science Foundation, Collaborative Research: High Resolution Sensor Networks for Quantifying and Predicting Surface Water/Groundwater Mixing and Nutrient Delivery in the Santa Fe River, \$457K, Aug 2009- Aug 2012, Principal Investigator.
- National Atmospheric and Oceanographic Administration Climate and Societal Interactions (CSI) Program, Collaborative Development of Public Water Supply Utility Relevant Climate Information for Improved Operations and Planning, \$300K, October 2011-October 2013, Principal Investigator.
- Florida Water Resources Research Institute, Watershed Management in the Face of EPA's New Numeric Nutrient Criteria Year, \$32K, May 2011-May 2013, Principal Investigator.

### Active Class 2 Water Institute Assisted Projects

- National Atmospheric and Oceanographic Administration Sectoral Applications Research Program (SARP), Use of Intra-seasonal and Seasonal Forecasts to Reduce Risk in Regional Public Water Supply Management, \$300K, July 2008-June 2011, C. Martinez Principal Investigator, W. Graham Co-Principal Investigator.
- National Science Foundation, U.S.-Costa Rican Workshop: Interdisciplinary workgroup on water sustainability in the Tempisque Basin; Palo Verde NP, Costa Rica, \$30K, October 2011- October 2012, R Munoz-Carpena Principal Investigator, W. Graham Co-Principal Investigator.
- Florida Department of Agriculture and Consumer Services, TriCounty Agricultural Area Water Quality Data Review and Information Sharing Program, \$58K, October 2011-June 2012, M. Clark Principal Investigator, W. Graham Co-Principal Investigator.
- National Science Foundation, Reversals of karst springs: Implications for water budgets, water quality, and speleogenesis, \$385K, August 2009- July 2012, J. Martin Principal Investigator.
- NASA, Understanding and Predicting the Impact of Climate Variability and Climate Change on Land Use and Land Cover Change via Socio-Economic Institutions in Southern Africa, \$ 574K, May 2009-April 2012. J. Southworth Principal Investigator.

**Appendix A: Water Institute Class 3 Projects Submitted 2011-2102**

<b>Funding Agency</b>	<b>Proposal Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Amount</b>	<b>PI</b>	<b>Status</b>
NSF	Residence Times and Carbonate Dissolution: Mutual Casuality in Eogenic Karst Aquifers	5/1/2013	4/30/2016	\$802,379	M. Cohen	Pending
Department of Commerce NOAA	The use of seasonal climate forecasts to minimize short-term operational risks for water supply and ecosystem restoration	10/1/2012	9/30/2014	\$149,717	W. Graham	Pending
Department of Commerce NOAA	Improving Hydrologic Drought Information in the Apalachicola-Chattahoochee-Flint Basin	5/1/2012	5/31/2014	\$290,583	C. Martinez	Pending
NSF	Wetland Ecosystems: Windows of Discovery for Global Change (WEDGE)	6/1/2013	5/31/2018	\$25,000,000	W. Graham	Not Funded
NSF SRN	Research Network for Wetland Ecosystem Sustainability	10/1/2012	10/1/2015	\$12,000,000	R. Reddy	Not Funded
EPA (through FSU)	Extreme rainy seasons along the Gulf coast United States and their impact on water quality in the 20th and 21st century	1/1/2012	12/31/2014	\$126,389	W. Graham	Not Funded
NSF	Collaborative Strategy Project: Science to Systems to Sustainability (S3)	1/1/2012	12/31/2014	\$952,524	L Hayes	Not Funded