

**UNIVERSITY OF FLORIDA WATER INSTITUTE
ANNUAL ACCOMPLISHMENT REPORT
July 1, 2017- June 30, 2018**

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1 EXECUTIVE SUMMARY

The University of Florida Water Institute coordinates interdisciplinary water-related research, education and outreach programs. Dedicated efforts have forged linkages among diverse groups of faculty and graduate students representing a breadth of water specialties from geophysical to biological to social sciences, engineering, law and humanities. The Water Institute adds value to the University of Florida through research coordination and collaboration, synthetic cross-disciplinary studies and projects, joint proposal development, seminars and symposia. Highlights of 2017-2018 activities and accomplishments are included below.

Research: During 2017-2018, faculty affiliated with the Water Institute led active research projects totaling approximately \$160 million, and received new sponsored research awards totaling approximately \$30.5 million. During this same time period the Water Institute coordinated interdisciplinary faculty teams conducting 8 interdisciplinary projects (\$8.1M), including a new \$5M USDA NIFA funded Water Challenge for Agriculture project. The Water Institute supported 6 additional interdisciplinary projects (\$4.1M) and facilitated submission of 7 new interdisciplinary proposals (\$23.5M). Two of these proposals with combined budgets of ~\$10M have been recommended for funding.

Education: [The Water Institute Graduate Fellows \(WIGF\) program](#) supports faculty-graduate teams to conduct interdisciplinary research in emerging areas of water science, including the social, natural, and engineering sciences. The Deans of the UF/IFAS College of Agricultural and Life Sciences, UF College of Liberal Arts and Sciences, and the Director of the School of Natural Resources and Environment have committed UF Graduate School Fellowships for biennial cohorts of 5 Ph.D. students to participate in this program. The Water Institute leverages this UF investment using gifts provided by the Carl S. Swisher Foundation and the Sherwood-Stokes Foundation to support field, laboratory and computer analyses by the student cohorts. In addition each WIGF cohort has been successful in obtaining additional national research grants to support their work, including 2 grants from NSF totaling \$940K and a \$5.1M grant from US DOD MURI program. The fourth cohort of Water Institute Graduate Fellows began in the fall semester 2017.

Outreach: [Biennial Water Institute Symposia:](#)

- Biennial Water Institute Symposia bring together researchers, engineers, policy makers, water managers, industry representatives, lawyers, students and citizens to increase awareness of key water related issues, consider the challenges to water resources sustainability and explore solutions to the most pressing problems. The 6th Water Institute Symposium was held at the UF Reitz Union in Gainesville on February 6th -7th, 2018, with 335 people attending.
- Haiti Water Summit: The UF Water Institute partnered with the UF Emerging Pathogens Institute and the State University of Haiti School of Medicine to plan a Water Summit that was held on November 16-17, 2017 in Port au Prince, Haiti. During the event engineers, hydrologists, ecologists, agronomists, and other scientists came together to discuss how water access is related to Haiti's economic, environmental and health concerns, and to lay the groundwork for future research programs.
- Partnership with UF/IFAS Extension: The Water Institute partners with UF/IFAS Extension and the Natural Resources Leadership Institute ((NRLI) to support and expand water-related outreach efforts throughout the state.

2 INTRODUCTION

Florida's burgeoning population, and the vulnerability of its water resources to climate and other human-induced environmental change, make the state a unique living laboratory in which to develop new knowledge and test solutions to global water problems. In recognition of the importance of water issues and the need to address them in an interdisciplinary manner, the University of Florida (UF) established a campus-wide, interdisciplinary Water Institute in May 2006. Since its inception, the Water Institute has emerged as a leader in coordinating interdisciplinary research, education and outreach programs.

Scientific, public and political awareness of water issues is growing, emphasizing the need for interdisciplinary research, education and outreach programs that are relevant across local, national and global scales. Understanding complex water issues in a holistic manner and exploring integrated solutions to managing problems requires sustained high-level effort. It calls for bold action to obtain, integrate and share new data; design and conduct comprehensive experiments to further basic understanding; and develop new simulation tools to allow scientists, managers, citizens and policy makers to explore alternative scenarios of the impacts of climate change, population growth, land-use change, and water management and policy alternatives.

2.1 Mission

The Water Institute brings together talent from throughout the University and builds internal and external partnerships to address urgent water research challenges; implement innovative interdisciplinary academic programs to train excellent students; and provide state-of-the-art expert assistance and educational programs for external stakeholders.

2.2 Vision

Interdisciplinary Water Institute teams comprised of leading water researchers, educators and students develop new scientific breakthroughs; design creative engineering, policy and legal solutions; and pioneer innovative educational programs that are renowned for addressing state, national, and global water problems.

2.3 Values

Excellence: The Water Institute is committed to provide excellent interdisciplinary water-related research, education and outreach programs that are recognized for their preeminence in Florida, the nation and the world.

Partnerships: The Water Institute recognizes the importance of developing strong inclusive partnerships among Water Institute Affiliate Faculty and with external stakeholders to identify and prioritize critical water issues requiring interdisciplinary study.

Expertise: The Water Institute is committed to developing the basic knowledge, practical experience, and infrastructure required to respond to emerging water issues affecting a broad suite of stakeholders.

Respect: The Water Institute provides services that acknowledge, respect and promote the expertise of all Water Institute Affiliate Faculty, and embrace the personal values, cultures, and socioeconomic context of its diverse stakeholders, both internal and external to the University of Florida.

2.4 Goals

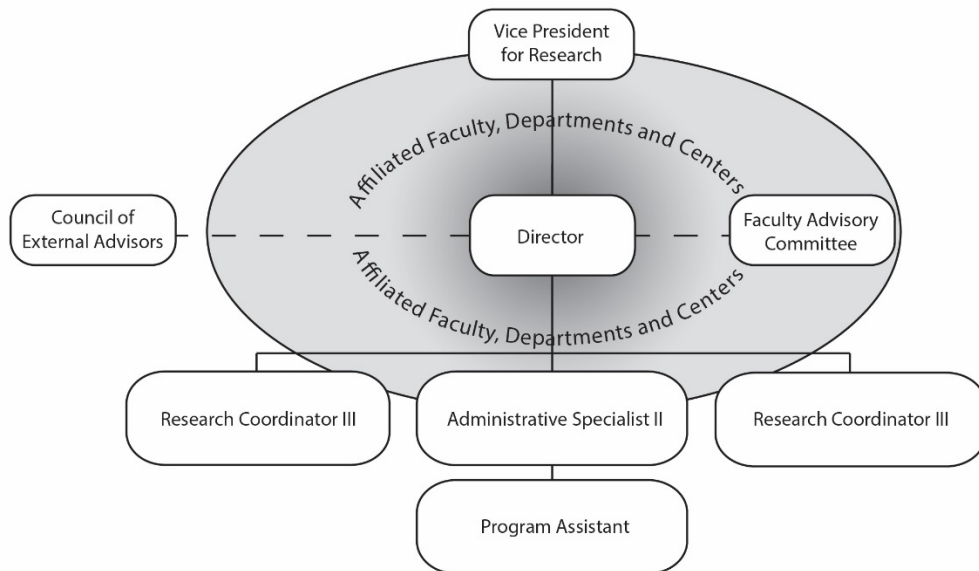
The Water Institute strives to achieve preeminence through successful research, education and outreach programs that:

- Improve basic knowledge of physical, chemical, and biological processes in surface and groundwater systems.
- Enhance understanding of interactions and interrelationships among humans (attitudes, behaviors and activities) and aquatic ecosystems.
- Develop improved methodologies for water management and policy - including quantity, quality and ecosystem services - based on a foundation of science, engineering, management and law.

3 ORGANIZATION

The Water Institute is led by a full-time Director who reports to the Vice President for Research (Figure 1). Two Research Coordinator IIIs assist the Director in development, execution and evaluation of Water Institute programs. An Administrative Specialist II, assisted by a Program Assistant, serves as office accountant, office manager, and website/database developer.

Figure 1: Organizational Chart for University of Florida Water Institute
August 11, 2017



Individual UF faculty affiliation with the Water Institute is through voluntary registration in an on-line database. All registered faculty are considered [Water Institute Affiliate Faculty](#) and are eligible to vote on Water Institute governance issues. All Affiliate Faculty members retain their positions in their tenure departments where all administrative and performance review functions are carried out. Currently there are over 300 University of Florida faculty members from more than 65

departments and centers affiliated with the Water Institute. Table 1 provides a summary of Water Institute affiliate faculty membership by College.

Table 1: Summary of Faculty Membership by College

College	Total No.
IFAS	214
College of Liberal Arts and Sciences	41
College of Engineering	28
College of Design, Construction and Planning	7
Center for Latin American Studies	5
College of Law	4
Warrington College of Business Administration	4
College of Health and Human Performance	4
Florida Museum of Natural History	1
Pharmacy - Medicinal Chemistry	1
College of Public Health and Health Professions	3
Florida Sea Grant	1
International Center	1
Marston Science Library	1
College of Veterinary Medicine	8
Total	323

The [UF Water Institute Faculty Fellow](#) awards program recognizes UF faculty who are making outstanding research, extension, or education contributions to interdisciplinary water programs. The purpose of the award is to recognize recent contributions that contribute significantly to UF's interdisciplinary communities of science in water and to provide incentives for Fellows' continued contributions to the goals of the Water Institute. Faculty Fellows receive a salary supplement of \$2,000 per year for a duration of three years. Funds used for the salary supplement are earned from retained indirect costs from external grant awards funded through the Institute. Faculty Fellows elected to date are included in Table 2.

Table 2: Water Institute Faculty Fellows

Year	Faculty Fellow
2013	Dr. Matthew Cohen, Forest Resources and Conservation, UF/IFAS
2013	Dr. Rafael Muñoz-Carpena, Agricultural and Biological Engineering, UF/IFAS.
2014	Dr. Jonathan Martin, Department of Geologic Sciences, CLAS.
2014	Dr. James Jawitz, Soil and Water Sciences, UF/IFAS
2015	Dr. Mark Clark, Soil and Water Sciences, UF/IFAS
2015	Dr. Michael Dukes, Agricultural and Biological Engineering, UF/IFAS
2016	Dr. Kati Migliaccio, Agricultural and Biological Engineering, UF/IFAS
2016	Dr. Arnoldo Valle-Levinson, Civil and Coastal Engineering, College of Engineering
2017	Dr. Sanjay Shukla, Agricultural and Biological Engineering, UF/IFAS
2017	Dr. David Kaplan, Environmental Engineering Sciences, College of Engineering

An internal Faculty Advisory Committee (FAC) for the Water Institute consists of 15 members of the Water Institute Affiliate Faculty. Ten members of the FAC are elected by the Water Institute Affiliate Faculty on staggered 3-year terms. Five members are appointed by the Water Institute Director to ensure balance among disciplines. Table 3 shows the 2017-2018 membership of the Water Institute Faculty Advisory Committee.

Table 3. 2017-2018 Water Institute Faculty Advisory Committee

Name	Department	College
Christine Angelini	Environmental Engineering Sciences	Engineering
Mary Jane Angelo	Environmental and Land Use Law	Law
Thomas Bianchi	Geology	Liberal Arts and Sciences
Tatiana Borisova	Food and Resource Economics	Agricultural and Life Sciences
Mark Brenner	Geology	Liberal Arts and Sciences
Matthew Cohen	Forest Resources and Conservation	Agricultural and Life Sciences
Nancy Denslow	Environmental and Human Toxicology	Veterinary Medicine
Michael Dukes	Agricultural and Biological Engineering	Agricultural and Life Sciences
James Gillooly	Biology	Liberal Arts and Sciences
David Kaplan	Environmental Engineering Sciences	Engineering
Kai Lorenzen	Fisheries and Aquatic Sciences	Agricultural and Life Sciences
Jonathan Martin	Geology	Liberal Arts and Sciences
Kati Migliaccio	Agricultural and Biological Engineering	Agricultural and Life Sciences
Todd Osborne	Soil and Water Science	Agricultural and Life Sciences
Thomas Waltzek	Veterinary Medicine	Veterinary Medicine

An ad-hoc External Council of Advisors consists of speakers who have participated in the Water Institute Distinguished Scholar Seminar Series. These individuals are representatives of leading academic institutions in a wide range of water-related fields, many of whom are National Academy members and two of whom are Stockholm Water Prize winners.

4 ACCOMPLISHMENTS

4.1 Research

During 2017-2018 faculty affiliated with the Water Institute led active research projects totaling approximately \$160 million, and received new sponsored water-related research awards totaling approximately \$30.5 million.

During 2017-2018 the Water Institute coordinated 8 active funded interdisciplinary projects (\$8.1M), supported 6 funded interdisciplinary projects (\$4.1M) and supported the submission of 7 new interdisciplinary proposals (\$23.5M). Two of these proposals, with combined budgets of ~\$10M, have been recommended for funding. (See Table 4 below for details).

Highlights in 2017-2018 included launching of the new \$5M USDA-NIFA Agricultural Water Security Coordinated Agricultural Project and completion of the \$2.2M Springs Protection Initiative project funded by the St. Johns River Water Management District. In addition an independent Water Institute technical review commissioned Florida Senate resulted in state legislation in 2017 intended to accelerate the restoration of the Greater Everglades System, including its Northern Estuaries. While potentially controversial the Water Institute report findings were undisputed and generally well received.

Table 4. 2017 Active Water Institute Projects and Grant Proposals Submitted

Principal Investigator	Dates	Title	Amount	Co-PIs	Agency	Status
Water Institute Coordinated Projects						
Graham, Wendy, WI	7/2017-6/2020	Agricultural Water Security through Sustainable Use of the Floridan Aquifer: An Integrated Assessment of Economic and Environmental Impacts	\$4,918,926	Adams, Damian Barrett, Charles Bartels , Wendy-Lin Borisova, Tatiana Dukes, Michael Kaplan, David Monroe, Martha plus faculty from AU, ASU and UGA	USDA-NIFA	Funded
Graham, Wendy WI	10/2016-9/2020	Department of the Interior Southeast Climate Science Center consortium membership	\$81,162	Staal, Lisette	North Carolina State University/US Geological Survey	Funded
Graham, Wendy, WI	10/2017-12/2018	Comparison of dynamic versus statistical downscaling of the CCSM4 Global Circulation Model predictions for simulating hydrologic response in the Tampa Bay region	\$65,400	Chang, Jason Misra, Vasu	Tampa Bay Water	Funded
Graham, Wendy, WI	6/2017-6/2018	Support services for collaborative stakeholder-scientist partnership: Florida Water and Climate Alliance	\$25,000	Irani, Tracy Martinez, Chris Staal, Lisette	Tampa Bay Water Authority	Funded
Michael Dukes, ABE	1/2015-12/2018	Evaluation of water use, water quality and crop yield impacts of corn and peanut irrigation and nutrient BMPs in the springsheds of Suwannee River Water Management District	\$432,888	Rowland, Diane Graham, Wendy	Suwannee River Water Management District, Florida Dept of Agriculture, Florida Dept of Environmental protection	Funded
Kaplan, David, ESSIE	3/2016-2/2018	Water Resources Research Institute Annual Base Program	\$32,000	Adams, Damian Graham, Wendy	US Geological Survey	Funded

Reddy, K. Ramesh, SWS	6/2014-9/2017	Springs Protection Initiative - Collaborative Research Initiative on Sustainability and Protection of Springs [CRISPS]	\$2,170,468	Graham, Wendy Annable, Mike Cohen, Matthew Jawitz, James Frazer, Tom Kaplan, David Kramer, Marc	St. Johns River Water Management District	Funded
Graham, Wendy, WI	4/2007-12/2017	Use of Seasonal Climate Forecasts to Reduce Risk in Regional Public Water Supply Management	\$374,800	Martinez, Chris	Tampa Bay Water Authority	Funded
Water Institute Supported Projects						
Martin, J., GLY	5/2018-4/2020	Collaborative Research: How does groundwater inundation of carbonate island interiors from sea level rise impact surface water-aquifer interactions and evaporative losses?	\$187,892	Mayer, Alex (Michigan Technological University) Gulley, Jason (University of South Florida)	National Science Foundation	Funded
Loiselle, Bette A., CLATAM	8/2016-7/2021	CNH-RCN: Amazon Dams Network: Advancing Integrative Research and Adaptive Management of Social-ecological Systems Transformed by Hydroelectric Dams	\$499,818	Athayde, Simone, Bohlman, Stephanie Kaplan, David	National Science Foundation	Funded
Southworth, Jane GEO	9/2016-8/2020	CNH: Emerging land transactions in Ethiopia and their impacts on food and energy security	\$364,164	Agrawal, Arun Brown, Daniel	National Science Foundation	Funded
Cohen, Matthew, SFRC	08/2016-7/2019	Collaborative Research: Continuous Metabolism and Nutrient Uptake Across the River Continuum	\$475,565	Hensley, Robert	National Science Foundation	Funded
Reddy, K. Ramesh, SWS	6/2015-5/2018	Evaluation of soil biogeochemical properties influencing phosphorus flux in the everglades stormwater treatment areas	\$1,210,164	Inglett, Patrick Osborne, Todd Wright, Alan Gerber, Stefan	South Florida Water Management District	Funded

Grogan, Kelly, FRED	3/2015-3/2018	Innovative Policies to Optimize the Allocation of Water Quality and Conservation Investments and Maximize Multiple Benefits	\$659,676	Martinez, Chris Bi, Xiang Borisova, Tatiana Hodges, Alan Monaghan, Paul	USDA NIFA	Funded
Martin, J	8/2013-7/2017	Coastal SEES (Track 1): Planning for hydrologic and ecological impacts of sea level rise on sustainability of coastal water resources	\$476,904	Ogram, Andrew Peng, Zhong-ren Valle-Levinson, Arnoldo	National Science Foundation	Funded
Reddy, K. Ramesh, SWS	9/2015-9/2017	Identification And Quantification of Organic Phosphorus Forms in the Water Column and Sediments of Stormwater Treatment Areas	\$139,995		South Florida Water Management District	Funded
Interdisciplinary Proposals Submitted						
Muneepeera kul, Rachata	11/2017	Towards a Multi-Scale Theory on Coupled Human Mobility and Environmental Change	\$5,135,704	Munoz-Carpena, Rafael Johnson, Jeffrey	US Dept of Defense Multidisciplinary Research Program of the University Research Initiative	Funded
McLamore, Eric	8/2017	SmartPath: Grower-directed convergence of nanotechnology and smart decision analytics for irrigation water quality management related to pathogens	\$5,067,725	Broaddus, Brent Danyluk, Michelle Migliaccio, Kati Onel, Gulcan Smith, Plato Useche, Maria	USDA NIFA	Recommended for Funding
Kadyampak eni, Davie	8/2017	Irrigation Management Innovations To Reduce Water Use, Improve Water Quality And Enhance Crop Yields	\$4,693,452	Ferrarezi, Rhuanito Singh, Aditya Vashisth, Tripti Vincent, Christopher Wade, Tara Warner, Laura	USDA NIFA	Declined

Martinez, Christopher	8/2017	Water Integrated Supply Evaluation and Sourcing Tool (WISEST) for Water Supply Planning in the Face of Variable and Extreme Precipitation Events	\$171,603	Irani, Tracy	NOAA	Declined
Simmons, Cynthia	1/2018	CNH-L: Mega Infrastructure Development in Resource Frontiers: Modeling the impacts of Industrialization on Amazonias Natural and Human Systems.	\$1,594,845	Munoz-Carpena, Rafael Walker, Robert	National Science Foundation	Pending
Migliaccio, Kati	2/2018	NRT-INFEWS: Interdisciplinary Graduate Training through Innovative Technologies in Future Food Systems	\$2,978,577	Asseng, Senthold Barrera, Jorge Eisenstadt, William Glenn, Alina McLamore, Eric Munoz-Carpena, Rafael Nishida, Toshikazu Watson, Jonathan	National Science Foundation	Pending
Shukla, Sanjay	3/2018	Compact Bed Geometry for Streamlining Growing Environments to Changing Realities of the Fresh Produce Industry	\$3,970,483	Desaeger, Johan Noling, Joseph Roka, Fritz Hoogenboom, Gerrit Roberts, Pamela Strauss, Sarah	USDA NIFA	Pending
Wendy Graham (collaborator on Virginia Tech led proposal)	6/2018	Planning Grant: Engineering Research Center for Smart Water Infrastructure System (SWIM)	\$100,000	Sunil Sinha - PI, Virginia Tech David Dzombak - Co-PI, Carnegie Mellon University Paolo Gardoni - Co-PI, University of Illinois Urbana-Champaign Jesse Keenan - Co-PI, Harvard University	National Science Foundation (Virginia Tech lead)	

4.2 Investment of Water Institute Funds in Program Initiation

Table 5 below summarizes investment of Water Institute funds in program initiation in 2017-2018

Table 5. Water Institute Program Initiation Funds 2017-2018

Date	Principal Investigator	Description	Amount
January 2018- January 2019	Damian Adams, SFRC IFAS	Research Faculty funding support	\$32,000
April 2018- March 2019	David Kaplan, ESSIE COE	Research Faculty funding support	\$33,000
August 2017- July 2020	Rachata Muneepeerakul ABE IFAS	2017 Water Institute Graduate Fellows Cohort	\$25,000

4.3 Water Institute Distinguished Scholar Seminar Series

The Water Institute Distinguished Scholar Seminar Series invites high-profile scholars to UF to conduct a Water Institute seminar 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 and education issues. Eight speakers were hosted during 2017-2018 (see Table 6 for details). For a complete listing of speakers since the Water Institute's inception see <http://waterinstitute.ufl.edu/seminars/seminars.asp>.

Table 6. 2017-2018 Distinguished Scholar Seminar Speakers

Date	Distinguished Scholar Seminar Speaker
October 31, 2017	W. Berry Lyons, Ph.D. - Professor, Director - School of Earth Sciences, Ohio State University
November 13, 2017	Thomas Bianchi, Ph.D. - Jon and Beverly Thomson Endowed Chair, Department of Geological Sciences, University of Florida
November 27, 2017	Forrest "Ed" Harvey, Ph.D., P.G. - Chief, Water Resources Division, National Park Service 2017 Birdsall-Dreiss Distinguished Lecturer (Geological Society of America)
December 5, 2017	Edgardo Latrubesse, Ph.D. - Raymond Dickson Centennial Professor, Department of Geography and the Environment, University of Texas at Austin
January 11, 2018	Sanjay Shukla, Ph.D. - Professor, Agricultural and Biological Engineering Department, University of Florida 2017 Water Institute Faculty Fellow
February 20, 2018	Masaki Hayashi, Ph.D. - Professor & Canada Research Chair in Physical Hydrology Department of Geoscience, University of Calgary, Canada Henry Darcy Distinguished Lecturer in Groundwater Sciences for 2018
March 21, 2018	David Kaplan, Ph.D. - Assistant Professor, Engineering School of Sustainable Infrastructure & Environment, University of Florida 2017 Water Institute Faculty Fellow

April 18, 2018	Larry Hipps, Ph.D. - Professor, Department of Plants, Soils & Climate, Utah State University
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4.4 Symposia and Conferences

Biennial Water Institute Symposium: Six Water Institute Biennial Symposia have brought together researchers, engineers, policy makers, water managers, industry representatives, lawyers, students and citizens to consider the challenges to water resources sustainability; explore solutions for pressing issues; and provide broad-based recommendations for research, education, technology and policies to ensure water resources sustainability for Florida and beyond. An 18-member program committee planned the 6th Water Institute Symposium that was held at the UF Reitz Union in Gainesville on February 6th - 7th, 2018. The keynote speaker in the opening plenary session was Dr. Sandra Postel, Director of the Global Water Policy Project. The first closing plenary featured a panel, moderated by Cynthia Barnett with UF Graham Center and College of Journalism and Communications. The final plenary, moderated by Dr. Wendy Graham, consisted of a leading group of scientists, engineers, managers and policy makers discussing progress and challenges toward shaping Florida’s water future. There were 335 symposium registrants, 113 presentations in 5 concurrent sessions, and 58 posters. See Water Institute [Symposium website](#) for details regarding programs, presentations and attendees.

A graduate student poster competition is sponsored during each of the UF Water Institute Biennial Symposia, during which graduate students compete for \$1,000 awards to attend a professional conference to present their research. Since 2008, over 265 students have competed and a total of 19 students have won \$1,000 each in travel support.

Haiti Water Summit: The UF Water Institute partnered with the UF Emerging Pathogens Institute and the State University of Haiti School of Medicine to plan a Water Summit that was held on November 16- 17, 2017 in Port au Prince, Haiti. During the event engineers, hydrologists, ecologists, agronomists, and other scientists came together to discuss how water access is related to several of Haiti’s economic, environmental and health concerns. Several UF Water Institute professors were featured on the program, including Dr. Tom Frazer, director of the UF School of Natural Resources and Environment; Dr. Mary Jane Angelo, professor of law and director of the Environmental and Land Use law program; and Dr. Wendy Graham, director of the University of Florida Water Institute. Other speakers included Dr. Eric Nelson, a pediatrician and member of the Emerging Pathogens Institute; Dr. J. Glenn Morris, director of the Emerging Pathogens Institute; as well as scientists from the US Centers for Disease Control and Prevention, Stanford University, the State University of Haiti, and the Caribbean business community.

4.5 Graduate Education Programs

A Water Institute priority is to foster, support, and synergize innovative interdisciplinary water education. Although the Water Institute is not a degree granting entity, its research and education activities contribute substantially to graduate education at the University. The Water Institute Graduate Fellows (WIGF) Program was created in 2010 to support faculty-graduate teams to conduct interdisciplinary research in emerging areas of water science, including the social, natural, and engineering sciences. The Deans of the UF/IFAS College of Agricultural and Life Sciences,

UF College of Liberal Arts and Sciences, and the Director of the School of Natural Resources and Environment have committed funding for UF Graduate Research Fellowships in support of this program. This funding provides 4 years of support (stipend and tuition) to biennial cohorts of 5 Ph.D. students. In addition, participating faculty involve additional students to the WIGF cohorts using other acquired grant funds.

The Water Institute leverages the UF investment in the WIGF program using gifts provided by the Carl S. Swisher Foundation and the Sherwood L. Stokes Foundation. These funds support field, laboratory and computer analyses by the faculty/student cohort as well as other integrative activities. The Deans and Directors of the participating colleges and schools have agreed to provide funding for three additional cohorts that will begin in 2019 and 2021. Table 7 summarizes the students and faculty who have participated in the WIGF program to date.

Table 7. Water Institute Graduate Fellows and Advisors

WIGF Cohort	Fellow	Faculty Advisor	Department	Date Graduated / Professional Placement
2011	Arnold, Elliott	Brenner, Mark	Geological Sciences	Spring 2017 / Post-Doctoral Scholar, University of Pittsburgh
2011	Henson, Wesley	Graham, Wendy	Agricultural and Biological Engineering	Fall 2016 / Research Hydrologist, U.S. Geologic Survey
2011	Laing, Joelle	Frazer, Tom	School of Natural Resources and Environment	Fall 2016 / Environmental Consulting and Design
2011	Nealis, Charles	Clark, Mark	Soil and Water Science	Fall 2015 / Assistant Professor, Virginia State University
2011	Weinkam, Grant	Brown, Mark	Environmental Engineering Sciences	Spring 2016 / Post-Doctoral Scholar, University of Arizona
2013	Branyon, Jaqueline	Valle Levinson, Arnoldo	Civil and Coastal Engineering	Fall 2015 / Coastal Engineer & Research Scientist, Mofatt & Nichol
2013	Chutcharavan, Peter	Dutton, Andrea	Geological Sciences	Graduation anticipated Spring 2019
2013	Deng, Yujun	Peng, Zong-Ren	Urban and Regional Planning	Spring 2018
2013	Glodzik, Katie	Kaplan, David	School of Natural Resources and Environment	Spring 2018, Post-Doctoral Associate Florida International Univ.
2013	Huang, Labin	Ogram, Andrew	Soil and Water Sciences	Summer 2017 / Post-Doctoral Scholar, University of Florida, Fort Lauderdale Research and Education Center
2013	Pain, Andrea	Dutton, Andrea	Geological Sciences	Fall 2017 / Post-Doctoral Scholar, University of Florida, Geological Sciences

2013	Skrivanek, Alexandra	Dutton, Andrea	Geological Sciences	Graduation anticipated Spring 2019
2013	Vyverberg, Karen	Martin, Jon	Geological Sciences	Fall 2017. Post-Doctoral Scholar, University of Florida, Geological Sciences
2015	Hyde, Jacy	Bohlmann, Stephanie	School of Forest Resources and Conservation	Graduation anticipated Summer 2019
2015	Lehmensiek, May	Lorensen, Kai	School of Natural Resource and Environment	Graduation anticipated Summer 2019
2015	Sabo, Alexandra	Simmons, Cynthia	Geography	Graduation anticipated Summer 2019
2015	Swanson, Christine	Valle, Dennis	School of Forest Resources and Conservation	Graduation anticipated Summer 2020
2015	Crouch, Trey	Kaplan, David	Environmental Engineering Sciences	Graduation anticipated Summer 2019
2015	De Carvalho, Roberta	Walker, Bob	Geography	Graduation anticipated Summer 2019
2017	Kati Vazquez	Rachata Muneeppeerakul	Agricultural and Biological Engineering	
2017	Caroline Huguenin	Peter Waylen	Geography	
2017	Matt Foster	Rafael Muñoz-Carpena	Agricultural and Biological Engineering	
2017	Stefano Barchiesi	Christine Angelini & Greg Kiker	School of Natural Resources and Environment	
2017	Oswaldo Medina Ramirez	Jeffrey Johnson	Anthropology	

The 2013 “Sea Level Rise” WIGF concluded with graduation of eight Ph.D. students in Geological Sciences, Soil and Water Sciences, Civil and Coastal Engineering, School of Natural Resources and Environment and Urban and Regional Planning (5 funded by WIGF, 3 funded by supplemental grants). Over their 4 years together, the cohort participated in biweekly seminar meetings, a day-long fieldtrip to Cedar Key to observe coastal processes, and a 3-day fieldtrip in south Florida during which students observed mitigation efforts for sunny day flooding in Miami Beach, impacts of sea-level rise on the Everglades ecosystem, and met with scientists from water management agencies responsible for mitigating potential coastal water hazards associated with sea-level rise. In addition the cohort completed two research trips to the Yucatan coast in Quintana Roo, Mexico. Most of the WIGF students based their dissertation research on data collected during the Yucatan trips. Results of these trips also provided preliminary data and experiences that served in part as the basis for submission of additional proposals. The cohort submitted 4 proposals totaling \$2.7 million for external funding and obtained two grants from NSF, totaling \$665K, to support their work. To date 11 refereed journal articles have been published by members of the cohort and 4 are currently in review.

The 2015 “Amazon Dams” WIGF cohort faculty (5), student fellows (6) and collaborating partners (15+) continued to expand their research and activities across disciplinary and international borders, and to develop their specific research efforts. Since the cohort began, core faculty have

reported 11 publications (6 of which were published in 2017). Cohort members have submitted over 10 proposals with 1 fully funded (\$500K from NSF) and 2 currently pending. In addition student fellows have been active in seeking out additional funding and reported a total of 15 funded grants supporting their travel, research, and language skills development. With over 35 presentations at national and international conferences in total, the cohort delivered 11 oral, 8 posters in 2017-2018. In addition, they have made multiple presentations at workshops and seminars have engaged co-developing several joint presentations. The linkage of the WIGF program with the Amazon Dams Network has afforded opportunities for student fellows to participate in, organize and network during 2 international workshops focused on their interests and experience and support some of their travel.

The 2017 “Tempisque Basin” WIGF launched its first year with biweekly seminars focused on building faculty-student research teams and laying the groundwork for transdisciplinary research. A diverse set of speakers presented at the seminars, beginning with ongoing work (available data, modeling efforts, legal analyses) of WIGF faculty already working in the Tempisque Basin. The cohort hosted a Costa Rican researcher who provided insight on the interbasin water transfer issue in the Tempisque watershed. One of the seminars was dedicated to theoretical discussion of resilience and robustness - key concepts of the WIGF project. The cohort also welcomed a graduate student from Belgium who will contribute to hydrological modeling. In addition to biweekly meetings, the students met regularly on their own, and are developing a keen sense of how their individual research might interface with other disciplines in the WIGF cohort. This is evidenced by a draft conceptual diagram showing how their research might fit together - a significant milestone for year one, given the challenges of transdisciplinary research. Faculty members from the Tempisque cohort recently received a \$5.1 M grant from the US Dept of Defense Multidisciplinary Research Program of the University Research Initiative to fund their interdisciplinary research.

In addition to the WIGF program the UF Water Institute coordinates [the Hydrologic Sciences Academic Cluster \(HSAC\)](#), an interdisciplinary program designed to broaden the skills of science and engineering students interested in all aspects of water. [Water Institute Research Projects](#) support many additional graduate students pursuing M.S. and Ph. D. degrees in water-related fields.

4.6 Public Outreach and Communication Programs

The UF Water Institute engages actively with statewide, regional and national communities. In 2017-2018 these activities included:

UF/IFAS Extension Water Initiative: Since 2012 the Water Institute has been assisting UF/IFAS Extension with implementation of its Water Initiative, a priority in the UF/IFAS Extension Roadmap through 2023. The goal of the UF/IFAS Extension Water Initiative is enhancing and protecting water quality, quantity, and supply through public programming offered by Extension faculty. Water Institute staff serve as actively contributing members of the Water Initiative Leadership Team and of the Public Awareness team. Results have included development of a [UF/IFAS water website](#), a Delivery-Ready-Outreach-Plug In on laws protecting water quality, and a [pilot Florida Waters Stewardship Program](#) in Pinellas County. In addition the Water Institute

serves on the [Advisory Board](#) of the IFAS Center for Landscape Ecology and Conservation, helping shape, refine and achieve its mission, vision and goals.

[Water Resource Regional Specialized Agents](#) – UF/IFAS in 2015-2016 hired a cohort of 5 new Water Regional Specialized Agents (Water RSAs) who are developing public programming on statewide water-resource issues. The Water Institute entered into an MOU with UF/IFAS Extension to plan and lead fieldtrips to the 5 Extension Districts. This year the Water Institute co-planned and led 2-day fieldtrips for IFAS Extension’s 5 new Water Regional Specialized Agents, providing an opportunity for them to learn about water resources & water issues and to meet key water stakeholders in the Central and NW Extension Districts. Similar fieldtrips to the other 3 Extension Districts were conducted last year.

The fieldtrips have been providing an opportunity for the Water RSAs to learn about regional and statewide water-resources and issues. During fieldtrips, the Water RSAs are meeting with Extension staff working on water-related topics, actual & potential partners in local government and state/federal agencies, and other water-related stakeholders. This is enabling them to develop timely and effective water-related public education programs across Florida in topics ranging from innovative agricultural Best Management Practices to high-performance residential septic systems.

This year the Water Institute co-planned (with 2 of the Water RSAs) and facilitated a 2-day In-Service Training for 30 IFAS Extension Agents, building their capacity to effectively respond to the media on controversial water issues before and as they arise. The case study for this IST was the 2017 Lake Okeechobee water discharges and impacts on the coastal estuaries.

[UF Natural Resources Leadership Institute](#) (NRLI) – The Water Institute assisted with planning a 3-day training session for 2018 NRLI Fellows that focused on the unique issues associated with management of water flowing to Blue Spring in Volusia County, a major winter refuge for manatees. The Water Institute also participated in the Alumni Roundtable Discussion during the session, which focused on the challenge of increasing water flow to Blue Spring for manatee habitat, while simultaneously reducing nitrate concentration in that water.

[The Institute for Learning in Retirement](#) - The Water Institute collaborated on several outreach programs with Oak Hammock at the University of Florida, a retirement community in Gainesville, involving over 10 faculty and 4 WIGF students. The Water Institute and Oak Hammock residents co-planned a 7-part seminar series that featured talks by 4 Water Institute Faculty (Wendy Graham, Arnoldo Valle-Levinson, Kati Migliaccio and David Kaplan). The series culminated with a day-long fieldtrip led by the Water Institute for 24 participants. The theme of the “Corn to Clams Tour” was understanding how irrigation and fertilizer use by farms in the watershed of the Suwannee River influence the health of springs along the river and of commercial and sport fisheries at the Suwannee estuary.

[The Florida Water and Climate Alliance](#) – The UF Water Institute coordinates the Florida Water and Climate Alliance (FloridaWCA), a stakeholder-scientist partnership committed to increasing relevance of climate-science data and tools at relevant time and space scales to support decision-making in water resource management, planning and supply operations in Florida. FloridaWCA collaborators and funders included NOAA, six major public water supply utilities, three Florida

water management districts, local government representatives and several academic institutions. The FloridaWCA facilitates interactions that help to define important questions that result in valuable research and actionable information. Workshops, publications, proposal development and an active website contribute to the impact of the network. There were 2 workshops held this year (18 to date) reaching over 200 people from scores of organizations in Florida. According to a recent Utility funded citation impact analysis report (Qu, S., & Irani, T., 2017) FloridaWCA members have published 28 journal articles and cited 240 times. Over 11 proposals have been submitted to state, regional and national organizations (WERF, WRF, NOAA, EPA, NSF and local utilities and water management districts) ranging from values of \$5000 to \$1.5 million. All publications, workshop reports and presentations are available on the FloridaWCA website.