

**UNIVERSITY OF FLORIDA WATER INSTITUTE
ANNUAL ACCOMPLISHMENT REPORT
July 1, 2019- June 30, 2020**

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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 interdisciplinary proposal development, research coordination and collaboration, synthetic transdisciplinary studies and projects, seminars and symposia. Highlights of 2019-2020 activities and accomplishments are included below.

Research: During 2019-2020, faculty affiliated with the Water Institute led active research projects totaling approximately \$171 million, and received new sponsored research awards totaling approximately \$34 million. During this time period the Water Institute coordinated multidisciplinary faculty teams conducting 7 interdisciplinary projects (\$7.5M), including a 5-year [NSF-funded Research Coordination Network](#) (\$500K), a 3-year [NASA funded Earth Science Applications: Water Resources Project](#) (\$1.7M), and a 5-year [USDA NIFA funded Water Challenge for Agriculture project](#) (\$5M). The Water Institute supported 7 additional interdisciplinary projects (\$11.7M) and participated in the submission of 3 new interdisciplinary proposals that have recently been recommended for funding (NSF \$2.2M, NASEM \$1.1M, USGS \$400K).

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 integrative research and education activities undertaken by the cohorts. The 2019 Water Institute Graduate Fellows cohort focused on [High Latitude Hydrology: Water in a Changing World](#) was recently recommended for a \$2.2 million award from the NSF Arctic System Science Program. An RFP for the 2021 Water Institute Graduate Fellows cohort has been released.

Outreach and Expert Assistance: Highlights in 2019-2020 include:

- [The 7th University of Florida Water Institute Symposium](#) was held at the UF Reitz Union in Gainesville on February 25-26, 2020. The Symposium brought together a record 500 individuals from a broad range of disciplines and organizations to explore complex water challenges from multiple perspectives.
- As a result of our reputation for unbiased research excellence, the State of Florida funded the UF Water Institute to conduct an independent scientific review to the inform the State of Florida and US Army Corps of Engineers as they develop a new Lake Okeechobee Regulation Schedule.
- Water Institute Director Wendy Graham was appointed by Governor Ron DeSantis to serve on the State of Florida Blue-Green Algae Task Force. This Task Force was formed to aid the Department of Environmental Protection in fulfilling its mission to protect, conserve and manage the state's natural resources and enforce its environmental laws.

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 outreach 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, diverse, 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

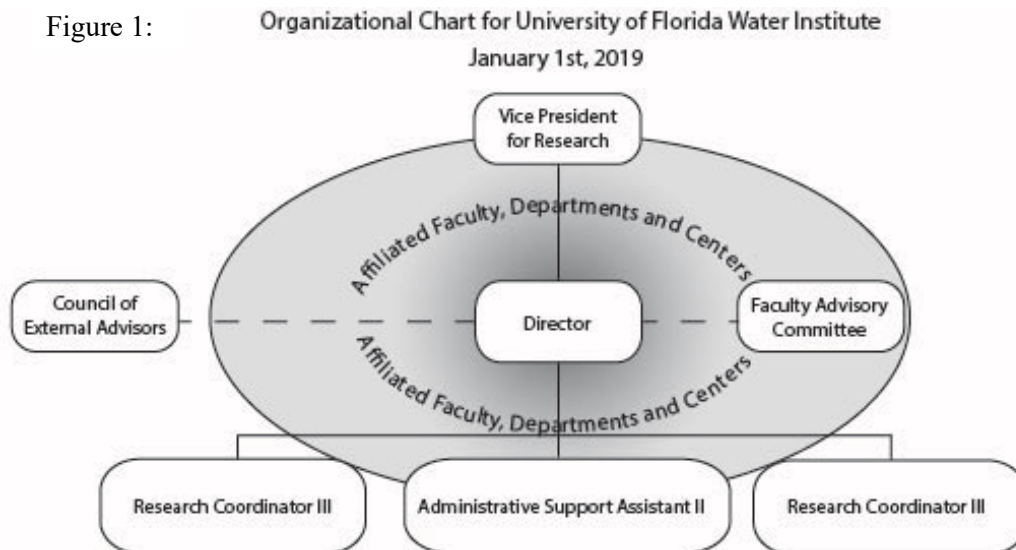
The Water Institute strives to achieve preeminence through successful research, education and outreach programs that:

- 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, Wendy Graham, who reports to the Vice President for Research (Figure 1). Two Research Coordinator IIIs, Paloma Carton de Grammont Lara and Karen Schlatter, assist the Director with the development, execution, evaluation and outreach of Water Institute programs. An Administrative Support Assistant II, Robyn Screws, serves as office accountant and manager, event coordinator, and website manager.

Figure 1:



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 307 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	202
College of Liberal Arts and Sciences	43
College of Engineering	24
College of Veterinary Medicine	9
College of Design, Construction and Planning	5
Center for Latin American Studies	2
College of Health and Human Performance	4
College of Law	3
College of Public Health and Professions	3
Warrington College of Business Administration	2
Water Institute	2
Center for Women's Studies	1
College of Journalism and Communications	1
College of Pharmacy	1
Florida Center for Solid and Hazardous Waste Management	1
Florida Museum of Natural History	1
International Center	1
Marston Science Library	1
One Health Center of Excellence	1
Grand Total	307

The [UF Water Institute Faculty Fellow](#) awards program recognizes UF faculty who are making outstanding contributions to interdisciplinary research, extension, and education 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. Dr. Rafael Muñoz-Carpena , Agricultural and Biological Engineering, UF/IFAS.
2014	Dr. Jonathan Martin , Department of Geologic Sciences, CLAS. Dr. James Jawitz , Soil and Water Sciences, UF/IFAS
2015	Dr. Mark Clark , Soil and Water Sciences, UF/IFAS Dr. Michael Dukes , Agricultural and Biological Engineering, UF/IFAS
2016	Dr. Kati Migliaccio , Agricultural and Biological Engineering, UF/IFAS Dr. Arnoldo Valle-Levinson , Civil and Coastal Engineering, College of Engineering
2017	Dr. Sanjay Shukla , Agricultural and Biological Engineering, UF/IFAS Dr. David Kaplan , Environmental Engineering Sciences, College of Engineering
2018	Dr. Mark Brenner , Geological Sciences, CLAS. Dr. Todd Osborne , Soil & Water Sciences, Whitney Laboratory, UF/IFAS.
2019	Dr. Christine Angelini , Environmental Engineering Sciences, College of Engineering Dr. Davie Kadyampakeni , Soil & Water Sciences, Citrus Water and Nutrient Management, UF/IFAS

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 2019-2020 membership of the Water Institute Faculty Advisory Committee.

Table 3. 2019-2020 Water Institute Faculty Advisory Committee

Name	Term	Department	College
Micheal Allen	2019-2022	Fisheries and Aquatic Sciences	Agricultural and Life Sciences
Christine Angelini	2017-2020	Environmental Engineering Sciences	Engineering
Mary Jane Angelo	2018-2021	Environmental and Land Use Law	Law
Wendy-Lin Bartels	2019-2022	School of Forest Resources and Conservation	Agricultural and Life Sciences
Thomas Bianchi	2017-2020	Geology	Liberal Arts and Sciences
Mark Brenner*	2017-2020	Geology	Liberal Arts and Sciences

Nancy Denslow**	2019-2022	Environmental and Human Toxicology	Veterinary Medicine
David Kaplan	2018-2021	Environmental Engineering Sciences	Engineering
Kai Lorenzen	2017-2020	Fisheries and Aquatic Sciences	Agricultural and Life Sciences
Kati Migliaccio	2019-2021	Agricultural and Biological Engineering	Agricultural and Life Sciences
Todd Osborne	2017-2020	Soil and Water Science	Agricultural and Life Sciences
Ramesh Reddy	2018-2021	Soil and Water Sciences	Agricultural and Life Sciences
Tara Sabo-Attwood	2019-2022	Environmental and Global Health	Public Health and Health Professions
Tara Wade	2018-2021	Southwest Florida Research and Education Center Immokalee	Agricultural and Life Sciences
Matt Whiles	2019-2022	Soil and Water Sciences	Agricultural and Life Sciences

* Chair

**Past Chair

4 ACCOMPLISHMENTS

4.1 Research

During 2019-2020, faculty affiliated with the Water Institute led active research projects totaling approximately \$171 million, and received new sponsored research awards totaling approximately \$34 million.

During 2019-2020 the Water Institute coordinated interdisciplinary faculty teams conducting 7 interdisciplinary projects (\$7.5M), supported 7 additional interdisciplinary projects (\$11.7M) and participated and participated in the submission of 3 new interdisciplinary proposals that have recently been recommended for funding (\$3.7 M). See Table 4 below for details.

Highlights in 2019-2020 included completing the 1st year of a 5-year NSF-funded Research Coordination Network (\$500K), completing the 1st year of a 3-year NASA funded Earth Science Applications: Water Resources Project (\$1.7M), and completing the 3rd year of a 5-year USDA NIFA funded Water Challenge for Agriculture project (\$5M). In addition, the UF Water Institute completed a State of Florida funded independent scientific review to inform the development of the new Lake Okeechobee Regulation Schedule.

Table 4. 2019-20120 Active Water Institute Projects and Grant Proposals Submitted

Principal Investigator	Dates	Title	Amount	Co-PIs	Agency	Status
Water Institute Coordinated Projects						
Graham, Wendy, WI	10/2016-9/2020	Department of the Interior Southeast Climate Science Center consortium membership	\$81,162	Staal, Lisette, Plus faculty from NCSU, Duke, Auburn U, and U Tenn	North Carolina State University/USGS	Funded
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 Auburn, Albany State U and UGA	USDA-NIFA	Funded
Graham, Wendy, WI	2/2019-1/2020	Independent Scientific Review to Inform Development of the new Lake Okeechobee Regulation Schedule	\$306,303	Brenner, Mark Staal, Lisette plus faculty from FIU	South Florida Water Management District	Funded
Martin, Jonathan, GLY	6/2019-5/2023	Carbonate Critical Zone Research Coordination Network	\$499,121	Graham, Wendy Carton de Grammont, Paloma plus faculty from U Kansas, U Arkansas, Temple U, Penn State U and Duke	NSF	Funded
Martinez, Christopher, ABE	7/2019-6/2021	Integrating NASA Earth Systems Data into Decision-Making Tools of Member Utilities of the Florida Water and Climate Alliance	\$1,613,754	Irani, Tracy, Judge, Jasmeet Staal, Lisette plus faculty from FSU, and personnel from Tampa Bay Water and Peace River Manasota Regional Water Supply Authority	NASA	Funded
Graham, Wendy, WI	8/2019-12/2020	Support services for collaborative stakeholder-scientist partnership: Florida Water and Climate Alliance.	\$12,500	Irani, Tracy Martinez, Chris Staal, Lisette plus faculty from FSU	Tampa Bay Water Authority	Funded
Graham, Wendy, WI	10/201-09/2021	Evaluating potential risks of climate change on surface water quality in the Hillsborough and	\$91,359	Reisinger, AJ	Tampa Bay Water Authority	Funded

		Alafia River watersheds.				
Water Institute Supported Projects						
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	8/2016-8/2020	CNH: Emerging land transactions in Ethiopia and their impacts on food and energy security	\$364,164	Agrawal, Arun Brown, Daniel	National Science Foundation (subaward from U Michigan)	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
Muneepeera kul, Rachata ABE	2017-2022	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 ABE	2017-2022	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	Funded
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

Ramesh Reddy, SWS	2/2019-2/2022	Collaborative Research Initiative for the Greater Everglades Ecosystem [CRIGEE]	Task Ordering Contract up to \$3M	Adams, C; Annable, M; Baiser, B; Bhada J; Bianci, T; Calrk, M; Daroub, S; Fujimoto, M; Gerber, S; Her, YG;Inglette, K; Inlgett, P; Judy, J; Martin C; Meyer, J,; Li, Y; Osborne, T; Reisnger, AJ; Reynolds, L; Smyth, A; Whiles, M; Wilson, C; Wright, A.	SFWMD	Funded
Interdisciplinary Proposals Recommended for Funding						
Allen, Micheal, SFRC	2020-2023	Ecological and Economic Impacts of Land-Use and Climate Change on Coastal Food Webs and Fisheries	\$1.1M	Kaplan, D; Graham, W; Xiang, B.; Court, C; Chagaris, D. Grogan, K; Scheffers, B., Telg, R.	National Academy of Sciences, Engineering and Medicine Gulf of Mexico Program	Recommended for funding
Martin, Jonathan, GLY	2020-2024	Significance of Ice-loss to Landscapes in the Arctic: SILA).	\$2.2M	Barnett, C.; Christner, B., Cohen, M; Jawitz, J; Martin, E. ; McDaniel, S.	National Science Foundation	Recommended for funding
Brett Scheffers, WEC	2021-2023	An assessment of invasive species range shifts in the southeast USA and actions to manage them	\$400K	Fletcher, R. Romagosa, C, Hallet M, and personnel from USGS, FFWC, USFWS.	US Geological Survey	Recommended for funding

4.2 Water Institute Distinguished Scholar Seminar Series

The Water Institute Distinguished Scholar Seminar Series invites high-profile scholars 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. Four speakers were hosted during 2019-2020 (see Table 5 for details). For a complete listing of speakers since the Water Institute’s inception see <https://waterinstitute.ufl.edu/past-distinguished-scholar-seminars/>.

Table 5. 2019-2020 Distinguished Scholar Seminar Speakers

Date	Distinguished Scholar Seminar Speaker
September 13, 2019	Dr. Daniella Rempe , Assistant Professor, Department of Geological Sciences, Jackson School of Geosciences, University of Texas at Austin
November 12, 2019	Dr. John Doherty , Distinguished Lecturer, Groundwater Foundation Darcy Distinguished Lecturer
January 30, 2020	Dr. Christine Angelini , Assistant Professor, Department of Environmental Engineering, University of Florida
April 16, 2020	Dr. Jonathan Martin , Professor and 2020 Birdsall-Dreiss Distinguished Lecturer, Department of Geological Sciences, University of Florida*

* This was the first online webinar hosted by the Water Institute with an attendance of 86 people, some joining from Greenland.

4.3 Symposia and Conferences

Biennial Water Institute Symposium: The University of Florida Water Institute and Duke Energy partnered to host the 7th biennial UF Water Institute Symposium in February 2020. The Symposium brought together individuals from a broad range of disciplines and organizations to explore complex water challenges from multiple perspectives. Over 500 participants came to the University of Florida campus to understand and share research on innovative science, technology, cultural, policy, and management solutions. Keynote presentations were provided by Dr. Bryan Brooks, Director of the Environmental Health Science Program at Baylor University and Dr. Hans Pearl, Distinguished Kenan Professor of Marine and Environmental Sciences, UNC-Chapel Hill Institute of Marine Sciences. Over 240 contributed oral and poster presentations provided insight to new research, technologies, and possible solutions to Florida's water issues.

The Symposium included a graduate student poster competition during which graduate students competed for four \$1,000 awards to attend a professional conference to present their research. See Water Institute [Symposium website](#) for details regarding program, presentations, poster award winners and attendees.

4.4 Graduate Education Programs

A Water Institute priority is to foster, support, and synergize innovative interdisciplinary water-related graduate 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 (1) support faculty-graduate teams to conduct innovative interdisciplinary research in emerging areas of water science, including the social, natural, and engineering sciences, (2) promote the establishment of diverse and inclusive research teams and long-lasting research connections and (3) provide students with a comprehensive understanding of the multidimensional challenges to sustaining water resources and equip them with a broad range of interdisciplinary skills. 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 bring 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. Table 7 summarizes students and faculty who have participated in the WIGF Program to date.

Table 7. Water Institute Graduate Fellows and Advisors

Fellow	Faculty Advisor	Department	Date Graduated
<u>WIGF Cohort 2011:</u>			
Watershed Management in the face of EPA's New Numeric Nutrient Criteria for Florida Waters			
Arnold, Elliott	Brenner, Mark	Geological Sciences	Spring 2017
Henson, Wesley	Graham, Wendy	Agricultural and Biological Engineering	Fall 2016
Laing, Joelle	Frazer, Tom	Natural Resources and Environment	Fall 2016
Nealis, Charles	Clark, Mark	Soil and Water Science	Fall 2015
Weinkam, Grant	Brown, Mark	Environmental Engineering Sciences	Spring 2016
<u>WIGF Cohort 2013:</u>			
Impacts of Sea-Level Change on Coastal Aquifers, Water Resources and Ecosystems			
Branyon, Jaqueline	Valle Levinson, Arnoldo	Civil and Coastal Engineering	Fall 2015
Chutcharavan, Peter	Martin, Ellen*	Geological Sciences	Anticipated Summer 2020
Deng, Yujun	Peng, Zong-Ren	Urban and Regional Planning	Spring 2018
Glodzik, Katie	Kaplan, David	Natural Resources and Environment	Spring 2018
Huang, Labin	Ogram, Andrew	Soil and Water Sciences	Summer 2017
Pain, Andrea	Martin, Jon	Geological Sciences	Fall 2017
Skrivanek, Alexandra	Dutton, Andrea	Geological Sciences	Summer 2019
Vyverberg, Karen	Martin, Jon	Geological Sciences	Fall 2017
<u>WIGF Cohort 2015:</u>			
Hydrologic transformation in the Amazon basin: reconciling economy, society, and the environment in the world's largest watershed			
De Carvalho, Roberta	Fik, Timothy	Geography	Summer 2019
Crouch, Trey	Kaplan, David	Environmental Engineering Sciences	Anticipated Fall 2020
Hyde, Jacy	Bohlmann, Stephanie	Forest Resources and Conservation	Summer 2019
Lehmensiek, May	Lorensen, Kai	Natural Resource and Environment	Anticipated Spring 2021
Sabo, Alexandra	Simmons, Cynthia	Geography	Fall 2019

Swanson, Christine	Valle, Dennis	Forest Resources and Conservation	Anticipated Summer 2021
<u>WIGF Cohort 2017:</u> Inducing Resilience for Water-Subsidized Systems			
Barchiesi, Stefano	Angelini, Christine	Natural Resources and Environment	Anticipated Summer 2021
Huguenin, Caroline	Waylen, Peter	Geography	Anticipated Summer 2021
Medina Ramirez, Oswaldo	Johnson, Jeffrey	Anthropology	Anticipated Summer 2021
Pazmiño-Hernandez, Marco	Muñoz-Carpena, Rafael	Agricultural and Biological Engineering	Anticipated Summer 2021
Sosnowski, Pierre	Muñoz-Carpena, Rafael	Agricultural and Biological Engineering	Anticipated Summer 2021
Vazquez, Kati	Muneepeerakul, Rachata	Agricultural and Biological Engineering	Anticipated Summer 2021
<u>WIGF Cohort 2019:</u> High Latitude Hydrology: Water in a Changing World			
Black, Megan	Martin, Jon	Geological Sciences	Anticipated Summer 2023
Ezukanma, Izuchukwu	McDaniel, Stuart	Biology	Anticipated Summer 2023
Faber, Quincy	Christner, Brent	Microbiology and Cell Sciences	Anticipated Summer 2023
Munroe, Michael	Hmielowski, Jay	Journalism and Communications	Anticipated Summer 2023
Lee, Jaehyeon	Jawitz, Jim	Soil and Water Sciences	Anticipated Summer 2023
Shin, Yuseung	Cohen, Matt	Natural Resources and Environment	Anticipated Summer 2023
Fernanda Gastelu	Valle-Levinson, Arnoldo	Engineering School of Sustainable Infrastructure & Environment	Anticipated Summer 2023
	Martin, Ellen	Geological Sciences	
	Screaton, Liz	Geological Sciences	
	Hatfield, Robert	Geological Sciences	
	Barnett, Cynthia	Journalism and Communications	

* Peter Chutcharavan was originally advised by Dr. Andrea Dutton who left UF in the summer 2019. Peter is scheduled to defend June 2020.

The 2017 WIGF Cohort, focused on understanding the resilience of water subsidized systems, has established a strong working relationship with the Ramsar Regional Center for Training and Research for the Western Hemisphere (CREHO) headquartered in Panama. This collaboration has facilitated the field work of the students in the Palo Verde National Park, a Wetland of International Importance under the Ramsar Convention. To support such efforts, and to extend the benefits to other Water Institute Affiliate Faculty, the Water Institute (in collaboration with [The Howard T. Odum Center for Wetlands](#) and the [Conservation Clinic at the Levin College of Law](#)) signed a [collaborative agreement](#) with CREHO. CREHO personnel are now collaborating with Faculty from the Center for Latin American Studies, the Howard T. Odum Center for Wetlands, and the School of Forest Resources and Conservation, extending the reach of the WIGF Program.

The 2019 WIGF cohort focusing on High Latitude Hydrology: Water in a Changing World has been recommended to receive a \$2.2 million award from the NSF Arctic System Science Program which will allow the cohort to support the fieldwork of the WIGF students and add 2 more graduate students, a postdoc and 16 undergrad students to the cohort.

An internal RFP for the [2021 Water Institute Graduate Fellows](#) cohort was recently released with proposals due September 2020. To encourage participation and provide information about the Program to interested faculty a [Water Institute Graduate Fellows Program Online Panel](#) was hosted in April 2020. During the panel, faculty and students from past cohorts provided an overview of their interdisciplinary projects, shared success stories and highlighted how students benefit from being part of the Program. The session was attended by 25 faculty and students.

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. To date, 208 students have graduated with this concentration and there are currently 24 active students registered. [Water Institute Research Projects](#) support many additional graduate students pursuing M.S. and Ph. D. degrees in water-related fields.

4.5 Public Outreach and Communication Programs

The UF Water Institute engages actively with statewide, regional and national communities. In 2019-2020 these activities included:

[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 to support decision-making in water resource management, planning and supply operations in Florida. FloridaWCA collaborators and funders include NASA, NOAA, six major public water supply utilities, four 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, outreach materials, proposal development and an active website contribute to the impact of the network. Twenty-one workshop have been held to date. FloridaWCA members have published over 30 journal articles and have been cited more than 250 times. The group currently has an article in review that describes the learning network of the FloridaWCA, its history of co-development, and its accomplishments over the past 10 years. The group has submitted 12 proposals to state, regional and national organizations (WERF, WRF, NOAA, NASA, EPA, NSF and local utilities and water management districts) ranging in value from \$5000 to \$1.7 million. The most recent award, a \$1.7 million NASA grant, funds research to customize seasonal climate forecasts and monitoring tools using NASA products to anticipate variations in the forthcoming seasons for peninsular Florida. Stakeholder utilities will integrate the products into their decision-making processes about water resource allocations through streamflow forecasts and Aquifer Storage and Recover (ASR) operations respectively. All FloridaWCA related publications, workshop reports and presentations are available on the [FloridaWCA website](#).

[Southeast Climate Adaptation Science Center \(SECASC\)](#): The UF Water Institute is a consortium member of SECASC, a network that is focused on bringing together researchers and natural/cultural resource managers to develop information and tools needed for climate change adaptation. The Water Institute receives funding to participate in and expand the reach of several multi-institutional working groups, including groups focused on coastal resilience, water supply and demand in a changing climate, and ecosystem services mapping. The Water Institute has engaged several UF faculty members in the working groups with the goal of developing collaborative proposals and successful water-related research initiatives with external partners. During 2019-2020, the Institute collaborated with faculty from UF and NCSU and stakeholders from USGS, Florida Wildlife Commission, and USFWS to submit two different Letters of Intent to a SECASC funding opportunity; one was selected for full proposal submission and has been recommended for funding (\$400,000 project). The Water Institute hopes to build additional momentum this year by hosting a Coastal Resilience roundtable at UF with invited participants from UF, Duke and Auburn University as well as interested stakeholders in Florida.

[Water Resources Journalism Intensive \(WRJI\)](#): In an effort to reach out to broader audiences and share Florida's biggest water stories, the University of Florida Water Institute partnered with the UF Thompson Earth Systems Institute, Florida Sea Grant and the UF Institute of Food and Agricultural Sciences to organize the Water Resources Journalism Intensive (WRJI). The WRJI was a crash course on how to cover a scientific conference for journalism students pursuing careers in science writing and communication. The WRJI centered around the [2020 UF Water Institute Symposium](#) where five students from the College of Journalism and Communications were assigned a topic to cover, attended related sessions and worked with experienced science communicators to prepare stories for publication on the Water Institute's website and distribution through social media. The day the stories were published on the Water Institute website, there were 487 page views.

Online presence: The Water Institute website (<https://waterinstitute.ufl.edu/>) serves as the major outlet to communicate our research, education and outreach activities. Since May 2019 the webpage has had 19,440 page views. The Water Institute also manages the websites for the USDA NIFA funded project FACETS (<http://floridanwater.org/>), The NSF Funded Carbonate Critical Zone Research Coordination Network (<https://carbonatecriticalzone.research.ufl.edu/>), the Florida Water and Climate Alliance (<http://www.floridawca.org/>) and the Hydrologic Sciences Academic Concentration (HSAC) program (<https://hydrology.ufl.edu/>).

Twitter is used as means to communicate the Water Institute's events, spotlights and news, and to feature water-related research conducted by our affiliated faculty and their colleagues. To date, the Water Institute twitter account (@ufwater) has 1,346 Followers, and this year its reach (measured by tweet impressions) steadily increased in comparison to previous years (Figure 1).

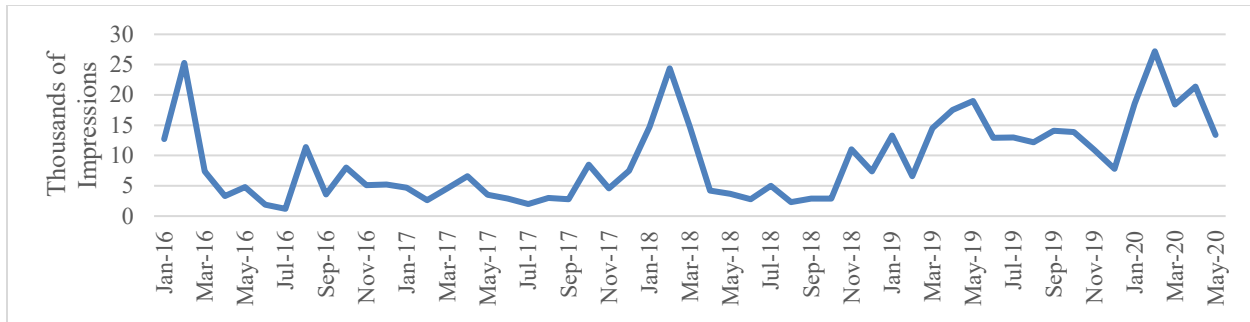


Figure 1: Water Institute Twitter Account Impressions from January 2016 through May 2020

4.6 Water Institute Strategic Goals 2020-2021

- Update the Water Institute Strategic Plan
- Increase diversity of individuals involved in water institute programs
- Successfully execute ~\$11M in large interdisciplinary Water Institute projects that have been funded, or recommended for funding by USDA, NSF, NASA, NASEM, and USGS.
- Coordinate and expand participation in the Florida Water and Climate Alliance and the USGS South East Climate Adaptation Science Center
- Build and strengthen the Water Institute Graduate Fellows Program and the Hydrologic Sciences Academic Concentration.
- Continue supporting the establishment of diverse and inclusive interdisciplinary research teams and long-lasting research connections.
- Continue to support submission of proposals for large interdisciplinary grants from national/international funding agencies.
- Build and strengthen collaborative relationships with the Thompson Institute of Earth Systems, Climate Institute and Biodiversity Institute.
- Continue collaboration with UF/IFAS Extension.
- Continue to bring in internationally known water experts to a well-attended Distinguished Scholar Seminar Series.
- Maintain the Water Institute website and other social media outlets.
- Maintain and build network with state funders, national funders and academic partners through National activities such as participation on the National Academies Water Science and Technology Board and the State of Florida Blue Green Algae Task Force.