2023-2024 UF WATER INSTITUTE

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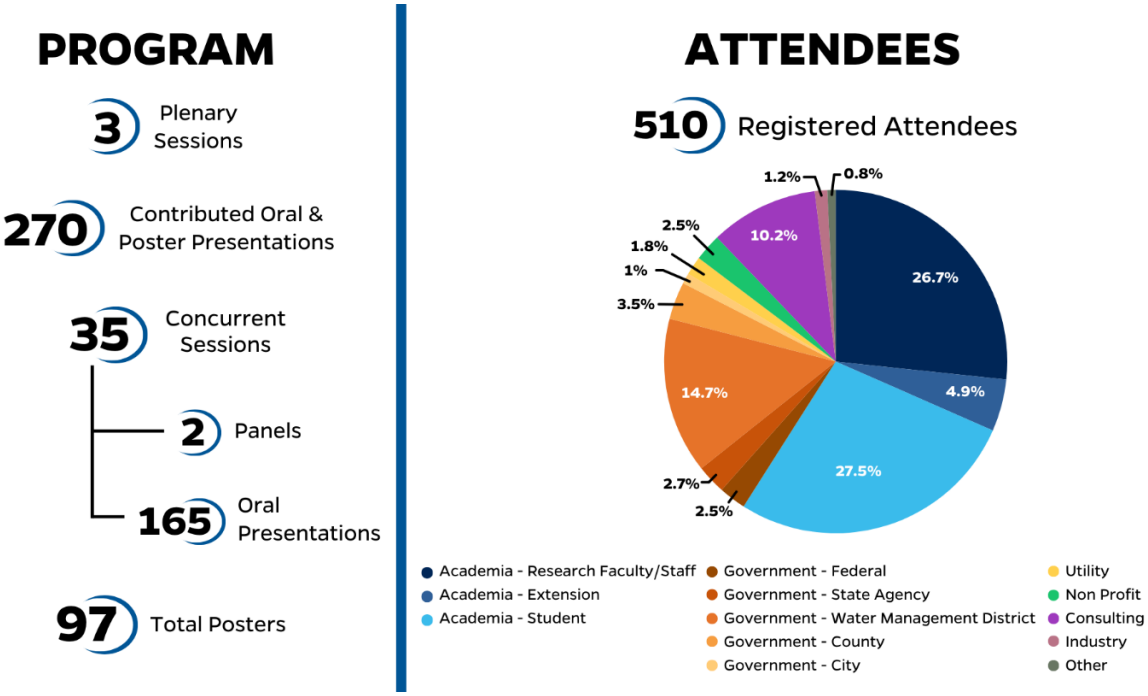
ACTION

Biennial Symposium

The UF Water Institute partnered with Duke Energy to host the 9th biennial UF Water Institute Symposium on February 20-21, 2024. The Symposium convened scientists, practitioners, policy experts, and others to address complex water issues and explore solutions from diverse perspectives. With over 500 participants, the event facilitated the sharing of cutting-edge science, technology, education, policy, and management advancements.

UF Water Institute Symposium by the numbers



Keynote Presentations were delivered by Dr. Stephen Loheide, Professor at the Department of Civil and Environmental Engineering, University of Wisconsin, and Dr. Catherine L. Kling, Professor at the Charles H. Dyson School of Applied Economics and Management, Cornell University. Over 270 contributed oral and poster presentations provided diverse perspectives and the latest research and technologies on Florida's water issues.

The Symposium's Final Plenary Session, titled "Translating Scientific Insights to Decision Making," provided a forum to explore the pathways through which scientific knowledge informs governance structures at all levels. It also examined the reciprocal pathways of

information guiding crucial research questions and the best practices for fostering open discourse among scientists, decision-makers, regulators, and the public.
A key goal of the Symposium is to provide students with professional development and networking opportunities. The 2024 UF Water Institute Symposium Student Scholarships provided financial support for twenty students to attend and present at the symposium. Funding for these scholarships comes from donations received through our Giving Day campaign and our planning fund. We held the pre-symposium event, "Navigating Waters: A Career Panel for Graduates in Water Science," to give travel awardees and an additional 15 students a unique opportunity to learn about diverse career pathways and network with professionals from various backgrounds that currently work in the realm of water science. From academia to public service, conservation advocacy to engineering, the panelists collectively represented a spectrum of experiences and expertise. The Symposium once again included a student poster competition, where students competed for four $1,000 awards to attend a professional conference and present their research. We partnered with the UF Thompson Earth Systems Institute and its Scientist in Every Florida School Environmental Leaders Fellowship to provide undergraduate students from diverse majors and backgrounds an opportunity to attend their first conference, practice their networking skills, and learn about career pathways.

Stakeholder Engagement

The Water Institute develops strong inclusive partnerships with diverse external stakeholders and UF faculty to increase dialogue between scientists and stakeholders, identify and develop priorities for interdisciplinary research, and facilitate the co-production of actionable research for water management and policy. Four current scientist-stakeholder partnership initiatives include:

The Florida Water and Climate Alliance (FloridaWCA): The UF Water Institute coordinates the FloridaWCA, a stakeholder-scientist partnership committed to increasing the 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 and supporters include NASA, NOAA, the Southeast Climate Adaptation Science Center, six major public water supply utilities, four Florida water management districts, local government representatives, and several academic institutions. Workshops and webinars, publications, outreach materials, proposal development, funded project coordination, and an active website contribute to the impact of the network. In 2023-2024, FloridaWCA hosted two webinars, each of which had 150-175 participants from utilities, government, water management districts, private industry, academic or research institutions, and non-governmental organizations around the State.

To date, FloridaWCA has hosted a total of 33 workshops/webinars and has expanded their reach with over 1,180 people that have joined our listserv from a multitude of organizations in Florida. Steering Committee members also actively participated in the 2024 Water Institute Symposium through various avenues including presentations, session moderation,

outreach table display, and networking events. In 2023-2024, FloridaWCA collaborated with SFWMD and others to develop and submit a Letter of Intent to submit a proposal to the NOAA Climate Resilience Regional Challenge. The proposed project, "Empowering Resilience: Advancing Water and Climate Resilience Metrics for Robust Adaptation Planning in South Florida", was not funded but received valuable feedback from reviewers on how to continue to build on this proposal idea to seek funding in the future. To date, FloridaWCA members have published over 38 journal articles that have been cited over 913 times.

Southeast Climate Adaptation Science Center (SECASC): The UF Water Institute is a consortium member of SECASC, a network funded by the USGS, focused on uniting researchers and natural/cultural resource managers to develop information and tools needed for climate change adaptation. The Water Institute has expanded the reach of several multi-institutional working groups by engaging UF faculty members and students in collaborative projects with external partners. With Dr. Graham's departure, two new focal points now support this endeavor: Dr. Mike Allen, Director of the UF/IFAS Nature Coast Biological Station, and Dr. Brett Scheffers, co-Director of the Florida Climate Institute. The Water Institute remains fully engaged to support communication efforts and coordination with the consortium. This year, we co-hosted an open house with these collaborating institutions, featuring Dr. Rebecca Irwin, Director of the consortium, who informed faculty and students about the opportunities provided by the consortium.

The Floridan Aquifer Collaborative Engagement for Sustainability (FACETS) Project: Funded by USDA, a team of interdisciplinary researchers, agricultural producers, foresters, government agency personnel, and non-governmental organizations in Florida and Georgia co-produced regional hydro-agro-economic models and explored the ability of alternative socio-ecological scenarios to sustain local agricultural/silvicultural economies and protect the Floridan aquifer. Over seven years, the project engaged 30 faculty/professional members, 25 postdocs/students, and 4 research coordinators from the University of Florida, University of Georgia, Albany State University, and Auburn University as well as more than 30 individuals from stakeholder organizations. To date, the project has produced 25 peer-reviewed publications, 16 graduate student dissertations, and 16 Extension publications. This final year the project has focused on writing publications and creating a new updated website with key achievements and findings: https://floridanwater.research.ufl.edu/.

Algal Bloom Research: The Water Institute is collaborating with scientists and engineers from the UF Center for Coastal Solutions, UF/IFAS, the University of South Florida, and the South Florida Water Management District in the development of a new, state-of-the-art system that allows water management districts to better predict and manage harmful algal blooms. To ensure that the project outcomes and products are trusted and useful, decision support tool end-users, tool developers, and project team members are engaging in a co-development process led by the Water Institute and UF/IFAS. Two facilitated co-

development workshops were held: one in November 2023 online with 29 project team members and 12 end-users, and one in May 2024 in-person with 24 project team members and 8 end-users. Through facilitated dialogue and interaction at working group meetings, the team has collaboratively identified knowledge gaps, assessed end-user needs and interests, and matched those with project team capabilities to iteratively integrate user and scientist perspectives in the co-development process. This research has been funded by the US Corps of Engineers through two projects: "Integrating Modeling Tools and Observations for Prediction and Management of Harmful Algal Blooms in the St. Lucie Estuary and Watershed (SLEW)" led by USF, and "Coupling Lake, Estuarine, and Watershed Models for the Caloosahatchee River and Estuary (CLEW)" led by UF.

The Carbonate Critical Zone Research Coordination Network: Funded by the NSF, this project aimed to advance transdisciplinary and collaborative science to enhance the understanding of carbonate-rich Critical Zones. The network hosted three workshops, nine webinars, two training sessions, and coordinated three working groups. Partners included the Karst Water Institute (KWI), USGS Karst Interest Group, National Cave and Karst Research Institute, and the Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI). In this final year, the working groups have concentrated on completing data synthesis, writing synthesis papers, identifying potential funding opportunities for future collaborations, and presenting results at professional meetings.

Expert Assistance

Since its inception, the UF Water Institute has been called upon by regional, state, and national managers and decision-makers to provide state-of-the-science expert assistance and synthesis reports addressing urgent water management challenges. This year, the Water Institute was approached to spearhead a synthesis project to provide an updated, independent assessment of the science and economics of Ocklawaha River restoration based on all relevant existing data and reports from federal, state, and regional agencies, universities, and other sources. Negotiations are ongoing for the terms of that agreement.

Water Institute Research Coordinator Darlene Velez serves on the steering committees for the Big Bend Estuary Restoration Team (Big BERT) and the Suwannee River Partnership (SRP). As a member of these steering committees, Mrs. Velez provides subject matter and regional expertise, guidance in the strategic direction of the program, and assistance in meeting facilitation as needed.

- The Big Bend Estuary Restoration Team's mission is to facilitate and implement restoration efforts, bringing together partners to develop a regional habitat initiative. This initiative focuses on maintaining, restoring, and enhancing estuarine and shoreline habitats, including coastal marsh, mangroves, oyster communities, and seagrass, for estuaries from the Ochlockonee to Anclote Rivers along Florida's west coast.

- The Suwannee River Partnership provides research-based solutions for protecting and conserving water resources within the Suwannee River Basin and Coastal Rivers Basin through voluntary or incentive-based programs. The partnership's strength lies in its diverse members, including federal, state, regional, and local governments, farmers, residents, and agricultural and environmental associations.

Water Institute Seminars

The **UF Water Institute Distinguished Scholar Seminar Series** showcases high-profile scholars and practitioners to provide seminars and panel discussions of interest to broad audiences. These events provide opportunities for speakers to meet with the Water Institute Faculty Advisory Committee as well as affiliate faculty and graduate students to discuss partnering opportunities.

2023-2024 Water Institute Seminars
Dr. Mike Allen, Assistant Professor, Fisheries and Aquatic Sciences, University of Florida *Evaluating Fisheries Responses to Changes in Water, Habitat, and Management Actions* (October 5, 2023) *Dr. Ruben Morales*, Research Scientist, Mexican Institute of Water Technology *A Particle Tracking Model to Forecast Sargassum Along the Mexican Caribbean Coast* (November 2, 2023). Co-hosted with Geological Sciences *Dr. Alex Mayer*, Professor of Civil Engineering and Director of the Center of Environmental Resource Management, University of Texas at El Paso *The Future of the Rio Grande Basin: How Will Climate Change, Competition for Water, and Migration Increase the Cost of Water for Urban Residents?* (November 9, 2023). Co-hosted with Geological Sciences *Dr. Andrea Pain*, Assistant Professor, University of Maryland *Biogeochemical Mineral Weathering in the Warming Arctic and Implications for Arctic Carbon Cycling* (November 30, 2023). Co-hosted with Geological Sciences *Dr. Sagy Cohen*, Professor, University of Alabama *Riverine Research Across Scales: From Flood Forecasting to Global Scale Sediment Modeling* (February 29, 2024), Co-hosted with Department of Geography *Dr. Vivek Sharma*, Assistant Professor, Agricultural and Biological Engineering, University of Florida *A Partnership to Advance Water Nutrient Best Management Practices in Florida* (April 4, 2024) *Dr. Jason Taylor*, Research Ecologist, USDA Agricultural Research Service *Identifying, Managing, and Monitoring Limiting Nutrients in Alluvial Plain Freshwater Agroecosystems* (April 11, 2024). Co-hosted with Department of Soil, Water, & Ecosystem Sciences

The **UF Water Institute Lunch by the Water** is a monthly seminar series that allows graduate students to present their ongoing research to a broad and diverse audience of water scientists. Participants can network with Water Institute faculty and other graduate students, which fosters an interdisciplinary exchange of ideas among colleagues with a mutual interest in water-related issues. Each seminar hosts two speakers and has been attended by dozens of students and faculty, quickly making it one of the premier networking spaces for students working on water-related issues on UF's campus.

2023-2024 Water Institute Lunch by the Water Seminar Speakers	
Bibek Acharya	Agricultural and Biological Engineering
Joshua Benjamin	Biology
Nick Chin	Engineering School of Sustainable Infrastructure & Environment
Lindsey Cromwell	School of Forest, Fisheries, and Geomatics Sciences
Copeland Cromwell	Department of Geological Sciences
Audrey Goeckner	Soil, Water, and Ecosystem Sciences
Lauren Hintenlang	Environmental and Global Health
Alexis Jackson	Engineering School of Sustainable Infrastructure & Environment
Abhishek Rajan	Food and Resource Economics
Jenna Reimer	School of Natural Resources and Environment
Sanneri Santiago Borrés	Engineering School of Sustainable Infrastructure & Environment
Sukhveer Singh Bhullar	Agronomy
Josue St Fort	School of Natural Resources and Environment

Public Outreach

The UF Water Institute engages actively in public outreach with statewide, regional, national, and international communities.

This year in partnership with the UF Thompson Earth Systems Institute and the and the Florida Museum of Natural History we hosted the post-symposium event "Science on Tap: Cheers from the Arctic". During this open-to-the-public event, students and faculty from the 2019 Water Institute Graduate Fellows cohort offered insights into conducting water research in Greenland. Approximately 100 attendees learned about the excitement and complexity of scientific exploration in Greenland and the deep connections to ongoing water challenges in Florida.

For the second year in a row, students and faculty of the WIGF 2019 cohort participated in the Florida Museum of Natural History - Geology Department Open House: "Can You Dig It?", with presentations on Greenland Ice Sheet, Sea Level, and Arctic Animal Habitat exhibits.

Online presence: The Water Institute website (https://waterinstitute.ufl.edu/) serves as the major outlet to communicate Water Institute research, education, and outreach activities. The Institute also manages the websites for the USDA NIFA-funded FACETS project (https://floridanwater.research.ufl.edu/), The NSF-funded Carbonate Critical Zone Research Coordination Network (https://carbonatecriticalzone.research.ufl.edu/), the NSF-funded SILA Project (https://sila.research.ufl.edu/), the Florida Water and Climate Alliance (http://www.floridawca.org/), and the Hydrologic Sciences Academic Concentration (HSAC) program (https://waterinstitute.ufl.edu/hsac/).

This year, we launched a new weekly digest called “The Droplet” to keep the Water Institute community informed about spotlights, events, announcements, new publications by our affiliates, as well as relevant announcements, events, funding, and job opportunities from our partners and the larger water-related community.

Social media is used to communicate the Water Institute’s events, spotlights, and news, as well as to feature water-related research, extension, and outreach conducted by affiliated faculty, staff, students, and colleagues.

UF Water Institute Social Media Followers Count