

# Program Agenda



# GEER 2019

**Greater Everglades Ecosystem Restoration**

*Science Advancing Everglades Resilience and Sustainability*

**April 22-25, 2019 | Coral Springs, Florida**

<https://conference.ifas.ufl.edu/GEER2019>

**The Greater Everglades Ecosystem Restoration (GEER)** science conference is designed to bring together scientists and engineers, policy makers, planners and partners actively involved in or affected by all aspects of Everglades ecosystem restoration. Participants will interact in an interdisciplinary setting to summarize and review state-of-the-art planning, management activities and science in Everglades restoration.

Greater Everglades science continues to be a foundation element for Everglades restoration and management. GEER 2019 will address the most pressing and complex science issues that we face now and into the future of restoration – a future that includes uncertain climate patterns, threats from invasive species, altered hydrology, development pressure, and degraded water quality.

High-quality science has supported new restoration projects underway, or soon to be underway, including:

- assessment of how a degraded Everglades will respond to restored sheet flow
- examining the ecological effects of Hurricane Irma on the Everglades and coastal environments
- how we should deal with invasive species, both those recently introduced and those long-established
- and the ongoing balance between restoration goals and endangered species protection

Sound science relevant to these challenges and the restoration efforts is required to provide resource managers and policy-makers with the best information possible. GEER 2019 will continue its legacy of providing a valuable forum for scientists and engineers to showcase and communicate the latest scientific developments, and to facilitate information exchange that builds shared understanding among federal, state, local, and tribal scientists and decision-makers, academia, non-governmental organizations, the private sector, and private citizens.

**A premier gathering, GEER is a collaborative effort and we invite you to join us!**

Monday, April 22, 2019	
9:00am	Pre-Conference Workshop Attendee Arrival and Registration
10:00am-5:00pm	<p><b>Optional Pre-Conference Workshops [\$25 per workshop]</b> Attendance is limited. Sign up early to secure a seat. You can participate in one, two or all three workshops. Visit the GEER web site for more information.</p> <p>10:00am - 11:30am - Creating Powerful PowerPoint: Learn how to design and deliver slides that make your point.</p> <p>12:30pm - 2:00pm - Designing and Delivering a TED Talk: Learn how to craft and deliver a clear and compelling talk.</p> <p>3:00pm - 4:30pm - Secrets of Dynamic Delivery: Learn how to build attitude and stage skills to help you connect with audiences.</p>
4:00pm-7:00pm	<p><b>Conference Registration Opens</b> <i>Exhibiting Sponsors and Poster Session One Presenters Install Displays</i> (Poster Session One presenters will remove displays on Wednesday during the 10:00am-10:30am refreshment break. Poster Session Two presenters will install displays on Wednesday during the 12noon-1:30pm lunch break.)</p>
5:30pm-7:00pm	Informal Early Bird Networking Social on Breeze's Terrace
Tuesday, April 23, 2019	
7:30am-5:00pm	Conference Registration Open
7:30am-8:30am	Morning Refreshments in Poster Hall
8:30am-10:00am	<p><b>Opening Plenary Session</b></p> <p><b>Welcome Remarks</b> <b>Dr. Nick Aumen</b>, Conference Chair, and Regional Science Advisor – South Florida, US Geological Survey, Davie, FL</p> <p><b>SESSION: Design, Innovation, and Governance (DIG): Solutions for Everglades Restoration</b> Six Ted-style presentations will offer a unique blend of the art of communication with a passion for science on Everglades science and restoration topics.</p> <p><b>DIG Session Organizer &amp; Moderator:</b> <b>Dr. Fred Sklar</b>, Director and Section Administrator, Everglades Systems Assessment Section, South Florida Water Management District, West Palm Beach, FL</p> <p><b>DIG Presentations:</b>  <b>"Resuscitate Resilience by Curbing Cattail" — Dr. Sue Newman</b>, Section Leader, Marsh Ecology Research Group, Everglades Systems Assessment (ESA) Section, South Florida Water Management District, West Palm, FL  <b>"Salt, Fire, Water and the Fate of an Ecosystem" — Dr. Dave Rudnick</b>, Science Coordination Branch Chief, South Florida Natural Resources Center, Everglades National Park, Homestead, FL  <b>"The Wizard of Wind" — Dr. Evelyn Gaiser</b>, Endowed George Barley Eminent Scholars Chair, Professor, Florida International University, Miami, FL  <b>"Restoring Beauty Requires a Beast or Two" — Dr. Mark Cook</b>, Section Leader, Everglades Systems Assessment Section, South Florida Water Management District, West Palm Beach, FL  <b>"The Spirit of the Everglades: A Native American View" — Ms. Krystle Young</b>, Student, University of Miami, Coral Gables, FL  <b>"Resisting Arrest" — Ms. Shannon A. Estenoz</b>, Chief Operating Officer and Vice President of Policy, The Everglades Foundation, Palmetto Bay, FL </p>
10:00am-10:30am	AM Break in Poster Hall

Tuesday, April 23, 2019					
Concurrent Sessions [10:30am - 12noon]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 1	Session 2	Session 3	Session 4	Session 5
Session Title	Long-Term Trends and Event-Driven Changes in Everglades Southern Estuaries (Part 1 of 2)	Integrating Science and Management for Managing Invasive Species	Tree Islands: Their Role in Ecosystem Processes and Importance in Everglades Restoration (Part 1 of 2)	Science in a Low Phosphorus Environment: The Latest Research from the Everglades Stormwater Treatment Areas	Role of Computational Fluid Dynamics (CFD) in Everglades Restoration
Moderator	Theresa Strazisar & Christopher Madden SFWMD	Julien Martin U.S. Geological Survey	Sharon Ewe Ecology and Environment Inc.	Jill King SFWMD	Seyed Hajimirzaie SFWMD
10:30am	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
10:35am	<b>Thomas Frankovich</b> A Decade of Submerged Aquatic Vegetation Dynamics in Mangrove Lakes Affected by Altered Freshwater Deliveries	<b>Hardin Waddle</b> A Daily Capture Probability Model for Management of an Invasive Reptile	<b>Jed Redwine</b> Completing Modified Water Deliveries – Tree Islands As a Performance Indicator for Combined Operations Planning	<b>Serge Thomas</b> Settling and Entrainment Properties of Stormwater Treatment Area Particulates	<b>Andres Tejada-Martinez</b> Reynolds-Averaged Simulation of Langmuir Circulation in Shallow Water
10:50am	<b>Margaret Hall</b> Status of Florida Bay Seagrass Communities Following the Recurrence of Turtlegrass Die-Off and the Impacts of Hurricane Irma: Adding Insult to Injury?	<b>Wesley Daniel</b> Tools for Predicting and Communicating Risk of Aquatic Species Invasion	<b>Michael Ross</b> Tenacious Tree Islands of Florida's Southern Coastal Swamp	<b>Kathleen Pietro</b> How Does Flow Affect Periphyton Enzymatic Activity in the Stormwater Treatment Areas?	<b>Jie (Jack) Zeng</b> Application of Computational Fluid Dynamics in The Hydraulic Design of an Everglades Restoration Project: S333N Spillway
11:05am	<b>Christopher Kelble</b> Trends in Juvenile Sportfish Recruitment in Florida Bay	<b>Margaret Hunter</b> Population Genetics and Environmental DNA to Inform Management Decisions	<b>Carlos Coronado</b> Elevation-Dependent Soil Accretion and Carbon Accumulation: Implications for Tree Islands Persistence in the Water Conservation Area 3	<b>Jill King</b> Implications of Temporal and Spatial Vegetation Patterns on Performance of Stormwater Treatment Areas	<b>Matahel Ansar</b> Challenges and Future Potential Applications of CFD in Restoration Hydraulics
11:20am	<b>Marisa Martinez</b> Resource Selection by Small Herons in a Subtropical Intertidal Mudflat	<b>Bradley Udell</b> Decision Analysis for the Optimal Control of Invasive Plants	<b>Jay Sah</b> Overstory-Understory Interactions Along Flooding Gradients in Everglades Tree Islands	<b>Nathan Evans</b> Nutrient Cycling by Fishes and Macroinvertebrates in the Everglades Stormwater Treatment Areas	<b>Kang-Ren Jin</b> Applications of LOEM-CW MODEL to STAs
11:35am	<b>Theresa Strazisar</b> Environmental Trends and Ecological Responses to Water Management, Restoration, and Extreme Events in Florida Bay	<b>Fred Johnson</b> From Detection to Action: A Decision-analytic Approach for Controlling Invasive Species	<b>Helen Hammond</b> <i>Lygodium microphyllum</i> Distribution in Everglades Tree Islands: Patterns and Processes	<b>Odi Villapando</b> Key Biogeochemical Factors and Processes Influencing Water Quality in the Everglades Stormwater Treatment Areas	<b>Wasantha Lal</b> Convergence of the Principles of Wetland Hydrology and Hillslope Hydrology: Implications for Wetland (STA) Management and RSM Development
11:50am	Discussion	Discussion	Discussion	Discussion	Discussion
12noon - 1:30pm	Group Lunch Buffet				

Tuesday, April 23, 2019					
Concurrent Sessions [1:30pm - 3:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 6	Session 7	Session 8	Session 9	Session 10
Session Title	Long-term Trends and Event-Driven Changes in the Everglades Southern Estuaries (Part 2 of 2)	Tracking the Restoration of NE Shark Slough and Other Infrastructure Dominated Ecological Boundaries (Part 1 of 2)	Tree Islands: Their Role in Ecosystem Processes and Importance in Everglades Restoration (Part 2 of 2)	Innovation in Phosphorus Removal Technologies	Moving Beyond Data Rich, But Information Poor in Science Communication
Moderator	Theresa Strazisar & Christopher Madden SFWMD	Jed Redwine SFNRC	Jay Sah Florida International University	Melodie Naja Everglades Foundation	Matthew Harwell U.S. Environmental Protection Agency
1:30pm	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
1:35pm	<b>Galia Varona</b> Increases in Macroalgae and Water Quality Trends Associated to Seagrass Loss in North Biscayne Bay	<b>Amy Renshaw</b> Hydrologic Changes in Everglades National Park as a Result of the Modified Water Delivery Project	<b>Craig van der Heiden</b> Wildlife Use of Temporally Inundated Tree Islands in WCA-3A	<b>Stephen Faulkner</b> Removal and Recovery of Phosphorus from Wastewaters Using Mine Drainage Ochres	<b>Steve Davis</b> Communicating Science to Policy-Makers
1:50pm	<b>Ian Zink</b> Natural Hazards and Seagrass Faunal Communities: Identifying Extreme Natural and Anthropogenic Events from Natural Variability	<b>Donatto Surratt</b> Everglades National Park Nutrient Patterns and Recent Operational Changes	<b>Margo Schwadron</b> Tree Islands: Records of Human and Ecological Recursive Relationships Through Time	<b>Greg Moller</b> Clean Water Machine Channelbox™ Reactive Filtration: A Nature Mimicry Approach To Distributed Surface Water Treatment for Ultralow P and Hg	<b>Nicholas Aumen</b> Optimizing Science Communication Between Scientists and Natural Resource Managers - From Project Inception to Completion
2:05pm	<b>Kristen Hart</b> Tracking Faunal Species of Concern in Everglades Southern Estuaries	<b>Henry Briceño</b> Fractionation of Phosphorous in Canals Draining to NE Shark River Slough	<b>René Price</b> Hydrodynamics of Constructed Everglades Tree Islands	<b>William Mitsch</b> Sustainably Solving Legacy Phosphorus in Landscapes with Wetlands and Wetlaculture	<b>Laura Brandt</b> Communicating Science Information on Everglades Restoration
2:20pm	<b>Rolando Santos</b> Comprehensive Assessment of Coastal Fisheries Responses to Extreme Climate Events: Lessons from 40 Years of Catch-Data in the Coastal Everglades	<b>Reinaldo Garcia</b> Hyper-Resolution Hydrodynamic and Sediment Transport Modeling Around Structures in the Northeast Shark River Slough (NESRS) Canals	<b>Susana Stoffella</b> An Experimental Assessment of Neighborhood Interference on Everglades' Tree Species Growth and Survival Along a Flooding Gradient in Constructed Tree Islands	<b>Koos Baas</b> BIOPHREE® - Cost-efficient Ultralow Effluent Phosphorus Capture and Reuse Technology For Industrial and Surface Water Treatments	<b>Hiram Henriquez</b> Improving Science Communication with Infographics
2:35pm	<b>Jennifer Rehage</b> Decadal Dynamics of Fish and Fisheries in the Shark River: What Have We Learned About Responses to Hydroclimate Variation?	<b>Troy Hill</b> Water Management Operations as a Driver of Solute Transport into Shark Slough	<b>Leonard Scinto</b> Developing a Mechanistic Understanding of Tree Islands: Lessons Learned from Nearly a Decade of Studying an Everglades Physical Model	<b>William Eggers</b> AQUALUTIONS®™ - Closing the Loop on Surface Water Restoration	<b>Q&amp;A Discussion: Everglades Science Communication Experts</b> Moving Beyond Data Rich, but Information Poor in Science Communication
2:50pm	Discussion	Discussion	Discussion	Discussion	
3:00pm-3:30pm	PM Break in Poster Hall				

Tuesday, April 23, 2019					
Concurrent Sessions [3:30pm - 5:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 11	Session 12	Session 13	Session 14	Session 15
Session Title	Hurricane and Sea-Level Rise Effects on Soil Elevation Change in Coastal Wetlands	Tracking the Restoration of NE Shark Slough and Other Infrastructure Dominated Ecological Boundaries (Part 2 of 2)	How Long-term and Reconstructed Data Sets Can Inform Restoration Decisions	Advanced Biogeochemical Science toward a Better Understanding of Mercury Cycling and Ecosystem Restoration	Ecological Vulnerability and Forecasting: The Cutting Edge of Synthesis and Modeling
Moderator	Michael Osland U.S. Geological Survey	Jed Redwine SFNRC	Lauren Toth U.S. Geological Survey	David Krabbenhoft U.S. Geological Survey	Stephanie Romañach U.S. Geological Survey
3:30pm	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
3:35pm	Joseph Smoak Fate of Coastal Wetlands Under Rising Sea Level and Punctuated by Major Hurricanes	Jennifer Richards Patterns of Vegetation Change in Northeast Shark River Slough, 2010-2016	Frank Marshall Corroboration of Earlier Estimates of Late 19th Century Freshwater Flow in the Everglades	Brett Poulin The Biogeochemistry of Mercury, Sulfur, and Organic Carbon in the Florida Everglades	Gretchen Ehlinger Evaluating Ecological Vulnerabilities of the Greater Everglades Ecosystem Using Bayesian Network Models
3:50pm	Laura Feher The Long-Term Effects of Hurricanes Wilma and Irma on Soil Elevation Change in Everglades Mangrove Forests	John Kominoski How Does Freshwater Restoration Change Marsh Ecosystem Biogeochemistry? A Northeast Shark River Slough Case Study	Yongshan Wan Reconstructing Six Decades of Salinity Structure in the Loxahatchee River Using Artificial Neural Networks	William Orem Stable Isotope Signatures and Sulfur Biogeochemistry in the Florida Everglades	Laura D'Acunto Joint Species Distribution Models of Everglades Wading Birds: a Community Perspective
4:05pm	Joshua Breithaupt Comparing Rates of Vertical Change in Mangrove and Marsh Soils of the Coastal Everglades Using Measurements from Surface Elevation Tables, Marker Horizons, CS-137, PB-210, and C-14	Brian Benschoter Opportunities and Challenges for Prescribed Fire in Everglades Restoration	Amanda Chappel Soil Accretion and Organic Carbon Burial Over Centennial and Millennial Time Scales on Mangrove Islands in the Lower Florida Keys	Christopher Babiarz Spatial and Temporal Patterns in Water Quality, Mercury and Methylmercury from Everglades National Park	Ruscena Wiederholt A Spatial Comparison Approach for Multiple Indicator Species Under Everglades Restoration
4:20pm	Marguerite Toscano Paleoenvironmental Perspectives on Sea Level Reconstruction from Mangrove Peat Sequences	Peter Flood Community Composition of the Upper Taylor Slough Region: Monitoring Responses to an Altered Flow Regime	Lauren Toth A Geological Perspective on the Preservation and Restoration of Florida's Coral Reefs	David Krabbenhoft Biogeochemical Controls on Mercury Speciation and Transport along Hydrologic Gradients in the Everglades	Donald DeAngelis Combining Stable Isotope Measurements with Simulation Modeling by Mantra-O18 to Predict Effects of Salinity Intrusion on Vegetation Dynamics
4:35pm	Michael Osland A Hurricane-Induced Ecological Regime Shift: Mangrove Conversion to Mudflat	Michael Duever Likely Causes of Dramatically Lower Dry Season Water Tables at Corkscrew Swamp Sanctuary in Southwest Florida ☐	Mark Dickman Overview of US Geological Survey Hydrologic Monitoring In South Florida and Tools to View and Access Data	Benjamin Peterson Identification of Mercury-Methylating Organisms along a Trophic Gradient	James Beerens Forecasting the Ecological Outcomes in the Everglades
4:50pm	Discussion	Discussion	Discussion	Discussion	Discussion
5:00pm - 7:30pm	Poster Session One and Networking Reception				

Wednesday, April 24, 2019	
7:30am - 5:00pm	Conference Registration Open
7:30am - 8:30am	Morning Refreshments in Poster Hall
8:30am - 10:00am	<b>Youth Plenary Session</b> This Special Plenary consists of three segments featuring presentations by youth working to become scientists and stewards of the environment.
8:30am - 9:00am	<b>Part 1: Youth Making Ripples – The Intersection of Science and Film, through the Eyes of Our Youth</b>  <b>Organizers:</b> <b>Dr. Lauren Toth</b> , Research Oceanographer, USGS, St. Petersburg, FL <b>Dr. Philip Gravinese</b> , Post-Doctoral Research Fellow, Mote Marine Laboratory, Sarasota, FL  Youth Making Ripples is a global platform for ocean conservation, education, and discovery. Our mission is to raise awareness of critical marine issues and promote the protection of our oceans. For the last six years, our organization has created and hosted powerful and inspirational educational events around the world designed to engage the public in ocean conservation. Youth Making Ripples Film Competition provides an opportunity for K-12 students (< 18 years of age) to use their creative talents and serve as a voice for our oceans. We encourage elementary, middle and high school students to create their own marine-related film.  This segment features presentations by three past award winners who will show their incredible short videos and share remarks about their interest in the topic.
9:00am - 9:30am	<b>Part 2: Young Marine Explorers</b>  <b>Organizer:</b> <b>Dr. Kathleen Sullivan Sealey</b> , University of Miami, College of Arts and Sciences, Coral Gables, FL  Young Marine Explorers - formerly Young Bahamian Marine Scientists (YBMS) - was founded by Nikita Shiel-Rolle during her undergraduate career at the University of Miami in 2008. The initial idea for this organization was to unite Bahamian youth interested in the Bahamian environment while providing new learning opportunities and developing their leadership skills. It was from these early ideas and countless conversations with environmental representatives throughout The Bahamas that the YME was founded. YME has worked with over 700 students on six Bahamian Islands, inspiring academic excellence and fostering behavioral change that translates into sustainable lifestyle choices. The YME curriculum corresponds with learning objectives from the Ministry of Education matching their content with the necessary academic expectations creating a coherent curriculum that develops passionate, involved and engaged citizens.  This segment features a presentation by Nikita Shiel-Rolle and two Bahamian youth who are young marine explorers.
9:30am - 10:00am	<b>Part 3: Lightning Talks on Science Advancing Everglades Resilience and Sustainability</b>  <b>Organizer:</b> <b>Dr. Nick Aumen</b> , Regional Science Advisor – South Florida, USGS, Davie, FL  GEER strives to foster the professional development of university students as they aspire to further their career and become future leaders in the environmental arena. Three undergraduate students will each give a five-minute lightning talk followed by a facilitated Q&A session with the audience.  <b>Lightning Talks:</b> "Seasonal Abundance and Spatial Distribution of Blacktip Sharks ( <i>Carcharhinus limbatus</i> ) in Southeast Florida" <b>Jordan M. Waldron</b> , Florida Atlantic University, Boca Raton, FL  "How Fire and Water Availability Drive Changes in Phosphorus Cycling and Vegetation Composition" <b>Marco Fernandez</b> , Florida International University, Miami, FL  "Understanding Native Species' Resilience to Invasives in the Greater Everglades Ecosystem" <b>Elizabeth Garcia</b> , University of Florida, Gainesville, FL
10:00am - 10:30am	<b>AM Break in Poster Hall</b> (ATTENTION Poster Session One Presenters: Please remove your poster during this refreshment break.)

Wednesday, April 24, 2019					
Concurrent Sessions [10:30am - 12noon]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 16	Session 17	Session 18	Session 19	Session 20
Session Title	<b>Porous Boundaries: Anticipating the Rising Influence of the Urban System on Everglades' Fauna</b>	<b>Sea Level Rise as a Challenge to Everglades Restoration</b>	<b>Arthur R Marshall Loxahatchee NWR Science Workshop: Investigation and Monitoring of Invasive Species</b>	<b>Evaluating Wetland Management Outcomes</b>	<b>Ecosystem Responses to Everglades Restoration</b>
Moderator	<b>Dale Gawlik</b> Florida Atlantic University	<b>Rene Price</b> Florida International University	<b>Rebekah Gible</b> U.S. Fish and Wildlife Service	<b>Chuck Bargeron</b> University of Georgia	<b>Helena Solo-Gabriele, SFC-CESU and UM, Carol Daniels, SFC-CESU and NPS</b>
10:30am	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
10:35am	<b>Joel Trexler</b> Invasive Species Impacts in Space and Time: Scaling Up to Ecosystem Function	<b>Lynn Wingard</b> Inundation of the South Florida Coast ~1000 BCE: Information For 2100 CE	<b>John Humphrey</b> Response of Non-Target Animals to a Large Reptile Live Trap and Trailing Behavior of Invasive Reptiles	<b>Jennifer Chastant</b> From Pasture to Wetlands: Wetland Creation & Restoration at Winding Waters Natural Area	<b>Paul Julian</b> Hydrologic Restoration of a Shallow Oligotrophic Marl Wetland: What is the Soil Telling Us?
10:50am	<b>Betsy Evans</b> Responses of Small Herons and Wood Storks to a Changing Prey Base	<b>Shimon Wdowinski</b> Regional Sea Level Rise Projections	<b>Nicole Jennings</b> The Everglades Invasive Reptile and Amphibian Monitoring Program as a Tool for Reducing Vulnerability to Invasion by Nonnative Reptiles	<b>Grégory Sonnier</b> Wetland Restoration Outcomes in Central Florida: An Example from Two Conservation Easements on Ranchland	<b>Michelle Afkhami</b> Microbiomes Enhance Germination and Growth of Tree Island Species
11:05am	<b>Sonia Hernandez</b> White Ibis: A Wetland Specialist or Urban Generalist?	<b>Shimelis Dessu</b> Coupling Sea-Level Rise and Freshwater Management on the Coastal Everglades Through Determination of The Fresh-To-Marine Head Difference	<b>LeRoy Rodgers</b> Designing a Monitoring Framework to Inform Invasive Plant Management Strategies	<b>Chuck Bargeron</b> Ten Years of Invasive Species Data Collection in the Greater Everglades	<b>Somers Smott</b> Landscape-Scale Aquatic Fauna Monitoring for CERP 2005-2017
11:20am	<b>Jenny Ketterlin</b> Early Detection, Rapid Response, and Containment of the Argentine Black and White Tegu Along a Suburban/Natural Area Interface	<b>Leonard Pearlstine</b> Probabilistic Modeling of Coastal Vegetation Succession with Sea Level Rise	<b>Aaron David</b> Biological Control as Part of Integrated Weed Management of Old World Climbing Fern ( <i>Lygodium microphyllum</i> )	<b>Yan Liao</b> Current and Future Water Table and Carbon Dynamics of Everglades Wetlands in an Earth System Model	<b>Nicole Besemer</b> Integrated Biscayne Bay Ecological Assessment and Monitoring (IBBEAM): 6 Years of Everglades Restoration Monitoring on the Nearshore Ecosystem
11:35am	<b>Katherine Shlepr</b> Use of Urban Habitats by the Threatened Wood Stork May Aid in Population-level Recovery	<b>Fred Sklar</b> The Everglades: At the Forefront of Transition	<b>Jonathan Glueckert</b> Herbicide Efficacy Trials for the Management of Old World Climbing Fern	Discussion	<b>Venetia Briggs-Gonzalez</b> Alligators and Crocodiles as Indicators of Ecological Responses to Everglades Restoration
11:50am	Discussion	Discussion	Discussion		Discussion
12noon - 1:30pm	Group Lunch Buffet (ATTENTION Poster Session Two Presenters: Please install your poster during this lunch break.)				



Wednesday, April 24, 2019					
Concurrent Sessions [1:30pm - 3:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 21	Session 22	Session 23	Session 24	Session 25
Session Title	Wading Bird Nesting & Habitat	Peat Collapse in the Florida Coastal Everglades: Mechanisms, Consequences, and Management Options	Restoration and Habitat Protection in the Kissimmee Basin	STA Management: Vascular Plants	Models and Model Integration for Ecosystem Management and Evaluation of Future Scenarios
Moderator	David Essian Florida Atlantic University	Steve Davis Everglades Foundation	Steve Bousquin SFWMD	Lauren Griffiths Florida Gulf Coast University	Rajendra Paudel Everglades Foundation
1:30pm	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
1:35pm	<b>Peter Frederick</b> The Largest Nesting Year for Wading Birds Since 1934, and its Implications for Restoration	<b>Stephen Kelly</b> Examining the Effects of Sea-Level Rise On Everglades Coastal Marshes Using Coupled Mesocosm and In-Situ Field Manipulations: Design and Implementation	<b>Craig Mallison</b> Vegetation Status of the Kissimmee River Headwaters Lakes	<b>Ian Markovich</b> Evaluating the Effects of Propagule Type, Seasonality and Plant Spacing on Establishment of Giant Bulrush	<b>Rajendra Paudel</b> Predicting the Everglades Ecosystem Response to Changes in Key Hydrologic Restoration Components
1:50pm	<b>Tasso Cocoves</b> Freshwater Prey Enhances White Ibis ( <i>Eudocimus albus</i> ) Nesting at Coastal Colonies in Everglades National Park	<b>Dong Yoon Lee</b> Lasting Salt and Phosphorus Effects Limit The Capacity of Restored Freshwater Wetlands to Recover Carbon Losses	<b>Camille Carroll</b> Effects of Kissimmee River Restoration on Upstream Lakes: A Look at Littoral Vegetation	<b>Orlando Diaz</b> Evaluation of Inundation Depth and Duration for Cattail Sustainability: In Situ Study	<b>Eric Swain</b> Advancements in Representing Everglades Hydrology with Data Integration and Physics-Based Models
2:05pm	<b>David Essian</b> Responses of Large and Small Wading Bird Species to Habitat and Prey Availability	<b>Tiffany Troxler</b> Responses of Marsh Ecosystems To Coastal Change In The Southeastern Florida Everglades	<b>David Anderson</b> Inundation of The Kissimmee River Floodplain During a Post-Construction Interim Period	<b>Matt Powers</b> Evaluation of Potential for Rooted Floating Aquatic Vegetation to Further Reduce Low-level Phosphorus Concentrations in the Everglades	<b>Alaa Ali</b> Testing Western Everglades Restoration Project Ecological Resilience Outside the Physical Model Time Domain
2:20pm	<b>Catharine Welch</b> Urban Land Use, Movements, and Seasonality of White Ibises ( <i>Eudocimus albus</i> ) in South Florida	<b>Michael Savarese</b> Landscape Effects of Peat Collapse: Examples From The Ten Thousand Islands NWR And Everglades NP	<b>Hongjun Chen</b> Responses of River Metabolism to Phase I of the Kissimmee River Restoration Project	<b>Lauren Griffiths</b> Nutrient Retention from Urban Runoff via Vegetative Uptake and Sedimentation in Created Wetlands in Subtropical Florida	<b>Stefan Gerber</b> Linking Water Column, Vegetation and Soil Data in Treatment Wetlands Using a Mechanistic Model
2:35pm	<b>Michelle Peterson</b> Modeling Tropic Linkages Using a Multiscale Approach	<b>Lukas Lamb-Wotton</b> An Emerging Tool to Assess Peat Loss and Wetland Vulnerability in the Florida Everglades	<b>Stephanie Romañach</b> Designing the Everglades Headwaters National Wildlife Refuge to Safeguard Imperiled Species from Urbanization	<b>Joan Garcia</b> Improving Mesocosms and Field Scale Constructed Wetlands Phosphorus Removal by Optimizing Design with Advanced Multiphysics Simulation	<b>Young Gu Her</b> Evaluating Performance of Climate Models in Reproducing Characteristics of Florida Rainfall
2:50pm	Discussion	Discussion	Discussion	Discussion	Discussion
3:00pm-3:30pm	PM Refreshment Break				



Wednesday, April 24, 2019					
Concurrent Sessions [3:30pm - 5:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 26	Session 27	Session 28	Session 29	Session 30
Session Title	<b>Wildlife Movement Ecology</b>	<b>Coastal and Estuarine Science</b>	<b>Pollution Impact and Cleaning up the System</b>	<b>Biology, Ecology, and Impacts of Pythons in South Florida</b>	<b>Remote Sensing Observations and Methods in Support of Everglades Research and Management</b>
Moderator	<b>Simona Picardi</b> University of Florida	<b>Michael Simmons</b> U.S. Army Corps of Engineers	<b>Michael Manna</b> SFWMD	<b>Jennifer Nestler</b> University of Florida	<b>Daniel Gann</b> Florida International University
3:30pm	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
3:35pm	<b>Rocio Joo</b> On the Use of Movement Ecology For Conservation	<b>Lauren Kircher</b> High Discharge Events: Effects on St. Lucie Estuary and an Estuarine Predator	<b>Elroy Timmer</b> Phosphorus, Nitrogen and Muck Reduction by Bio-Zyme	<b>Bryan Falk</b> Morphometric and Reproductive Phenology of Burmese Pythons in the Everglades	<b>Shimon Wdowinski</b> Space-based Hydrological Monitoring of the Entire Everglades Using Sentinel-1 Observations
3:50pm	<b>Jerry Lorenz</b> Status, Trends, Immigration and Habitat Use of American Flamingos ( <i>Phoenicopterus ruber</i> ) in Southern Florida	<b>Philip Gravinese</b> Changes in Regional Hydrology Could Modify the Swimming Behavior of Larval Stone Crabs	<b>Jehangir Bhadha</b> Cultivating Flooded Rice as a Treatment Technology to Mitigate Phosphorus Loads from Agricultural Watersheds	<b>Nathan Johnson</b> Identifying the Source of Hybridization in the Florida Python Population to Aid Invasive Species Management and Everglades Restoration Efforts	<b>David Lagomasino</b> Winners and Losers After Hurricane Irma in the Everglades Mangrove Forests: A Nasa Perspective
4:05pm	<b>Mathieu Basille</b> Are Raccoons in Human-Dominated Landscapes of South Florida Different?	<b>Andre Daniels</b> Faunal and Vegetation Monitoring in Response to Harbor Dredging in the Port of Miami	<b>David Pinelli</b> Mitigation and Remediation of Harmful Algal Blooms Through Nutrient Removal as Intact Cellular Algae Biomass	<b>Jennifer Nestler</b> Exploring Patterns in Targeted Surveys For Burmese Pythons in the Greater Everglades Ecosystem	<b>Caiyun Zhang</b> Modeling Sawgrass Aboveground Biomass in the Coastal Everglades
4:20pm	<b>Simona Picardi</b> Estimating Wood Stork Reproductive Outcome from Movement Data	<b>Ryan Sirota</b> Evaluating the Influence of Seagrass Structure and Salinity on Seagrass-Associated Epifauna Using Artificial Seagrass Units (ASUS)	<b>Michael Manna</b> Importance of Sequence: What Order of Vegetation Management Methods Is Most Effective in Controlling Cattail?	<b>Christina Romagosa</b> Prey Species Composition and Spatial Dietary Shifts of the Burmese Python in Florida	<b>Paulo Olivas</b> Optimization of LiDAR Data Processing Algorithms for Wetland Graminoid Marsh and Prairie Vegetation
4:35pm	<b>Caroline Poli</b> Movement Patterns of Post-Fledging Snail Kites Improve Understanding of a Key Bottleneck in Recovery of the Species	<b>Michael Kiflai</b> The Effect of Hurricane Irma Storm Surge on the Freshwater Lens in Big Pine Key, Florida Using Electrical Resistivity Tomography	<b>Eric Fortman</b> Potential Influence of Land-based Runoff on the Microbiome of Northern and Central Biscayne Bay	<b>Brian Smith</b> A Synthesis of Over a Decade of Burmese Python Spatial Ecology Research	<b>Daniel Gann</b> Effects of Scaled Vegetation Classification Schemes on Class Detectability from Landsat Data
4:50pm	Discussion	Discussion	Discussion	Discussion	Discussion
5:00pm - 7:30pm	Poster Session Two and Networking Reception				

Thursday, April 25, 2019	
7:30am-5:00pm	Conference Registration Open
7:30am-8:30am	Morning Refreshments in Poster Hall
8:30am-10:00am	<p><b>Plenary Session</b></p> <p><b>Resilience and Sustainability in the Everglades and Beyond</b></p> <p><b>Moderator:</b></p> <p><b>Dr. Nick Aumen</b>, Regional Science Advisor – South Florida, US Geological Survey, Davie, FL</p> <p><b>Presenters:</b></p> <p>"Gradients in Mangrove Forest Structure and their Relationship to Climate, Geomorphology and Human Influence"</p> <p><b>Dr. Temilola (Lola) Fatoyinbo-Agueh</b>, Research Physical Scientist, Earth Sciences Remote Sensing, National Aeronautics and Space Administration (NASA), Greenbelt, MD</p> <p>"Blooms, Nutrients and Climate Change: What's in the Future for Florida Lakes and Estuaries?"</p> <p><b>Dr. Karl Havens</b>, Executive Director, Florida Sea Grant College Program, Gainesville, FL</p> <p>Open Discussion and Q&amp;A with Attendees</p>
10:00am - 10:30am	AM Break in Poster Hall

Thursday, April 25, 2019 (continued)					
Concurrent Sessions [10:30am - 12:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 31	Session 32	Session 33	Session 34	Session 35
Session Title	National Academies' 2018 Biennial Review	Influence of Flow	Reptiles in South Florida: Conservation and Management	STA Management: Biogeochemistry	Predicting Habitat Change Around the Coastal Everglades in Response to Sea Level Rise
Moderator	Stephanie Johnson National Academies of Sciences, Engineering, and Medicine	Christa Zweig SFWMD	Michiko Squires University of Florida	Forrest Dierberg DB Environmental, Inc.	Viviana Mazzei Florida International University
10:30am	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
10:35am	Stephanie Johnson National Academies' 2018 Review of Restoration Progress	Kalindhi Larios Simulating the Tug of War Between Transport and Nutrient Uptake in Low Flow Treatment Wetlands Demonstrates the Need to Model Biogeochemistry	Michiko Squires Hematology of Everglades Crocodilians	Manohardeep Josan Use of Soil Inversion to Control Phosphorus Flux in the Everglades Stormwater Treatment Areas	Lori Miller Sea Level Rise and Future Environmental Trends – Big Pine Key Case Study
10:50am	Eric Smith CERP Monitoring: Can We Get More for Less?	Erik Tate-Boldt Everglades Wetland Metabolism: Lessons Learned From the Decompartmentalization Physical Model Project	Mathew Denton Stable Isotope Ecology of American Alligators Across the Greater Everglades: Consistency and Variation	Kevin Grace Effects of Depth and P Loading on Periphyton-Based Nutrient Removal	Heming Liao Space-Based Monitoring of Water Level Changes in Everglades with Sentinel-1 InSAR Observation
11:05am	Karl Havens Water Depth & Ecosystem Attributes in Lake Okeechobee	Tanumoy Bera Influence of Hydrologic Flow on Benthic Microbial Enzyme Activity in Everglades Stormwater Treatment Areas (STAs)	Michael Cherkiss Shifts In Hatching Date Of American Crocodile ( <i>Crocodylus acutus</i> ) in Southern Florida	Forrest Dierberg Longevity of Phosphorus Removal in a Submerged Aquatic Vegetation-Dominated Stormwater Treatment Area Wetland: STA-2 Flow-Way 3	Viviana Mazzei Community-level Modeling of Periphytic Diatoms in Response to Changing Salinity and Phosphorus Gradients Using the Everglades Landscape Model
11:20am	Wendy Graham A CERP Mid-Course Assessment	David Stites Collier County Designs 8,000-Acre Belle Meade Flow-Way Restoration	Sarah Cooke Using Camera Trap Surveillance Networks to Model Factors Affecting Argentine Black and White Tegu Occupancy	Mike Jerauld Submerged Aquatic Vegetation Builds Phosphorus-stable Soil in Stormwater Treatment Wetlands	Miriam Jones Storm and Sea-Level Rise Impacts on Carbonate Islands in Florida Bay
11:35am	Q&A - Discussion	Eric Carlson Monitoring Flows to the Coastal Everglades in Response to Restoration Efforts	Matthew Metcalf Spatial Ecology and General Life History of the Eastern Indigo Snake ( <i>Drymarchon couperi</i> ) in Southwest Florida	Hongying Zhao Long-Term Performance Evaluation of Large-Scale Constructed Wetlands Based on Water and Total Phosphorus Budgets	Mohsen Tootoonchi Ecotypic Variability In Salt Tolerance
11:50am		Discussion	Discussion	Discussion	Discussion
12pm	Group Lunch Buffet				

Thursday, April 25, 2019					
Concurrent Sessions [1:30pm - 3:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 36	Session 37	Session 38	Session 39	Session 40
Session Title	Understanding Algal Blooms in South Florida Estuaries: a Challenge for Science and Management	Adaptively Managing Restored Flow to Serve Water Needs and Ecosystems (Part 1 of 2)	Fisheries and Fisheries Management	Water Quality and Lower Food Web Response to Hurricane Irma	RECOVER 2019 System Status Report (SSR)
Moderator	Anna Wachnicka (SFWMD) & David Rudnick (ENP)	Jud Harvey U.S. Geological Survey	Jennifer Rehage Florida International University	Danielle Ogurcak Florida International University	Patricia Gorman SFWMD
1:30pm	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
1:35pm	<b>Katherine Hubbard</b> Integrating Monitoring and Research to Improve Understanding of <i>Karenia brevis</i> and Other Harmful Algal Bloom Dynamics in Florida's Marine Waters	<b>Hilary Flower</b> Shifting Ground: Landscape Modeling of Soil Biogeochemistry under Climate Change in the Florida Everglades	<b>Brent McKenna</b> Identifying Factors Affecting Protandric Reversal in Common Snook	<b>Wossenu Abteu</b> Hurricane Irma Impact on South Florida Water Management System and Storm Surge	<b>Phyllis Klarmann</b> CERP RECOVER Program 2019 System Status Report Key Findings from the Northern Estuaries
1:50pm	<b>James Sullivan</b> Harmful Algal Bloom Dynamics in South Florida and the Indian River Lagoon	<b>Walter Wilcox</b> Regional Modeling of Landscape Dynamics for Restoration Planning	<b>Carissa Gervasi</b> Multiple Data Sources to Assess the Status of an Undervalued Recreational Fishery: Crevalle Jack in South Florida	<b>Danielle Ogurcak</b> Groundwater Salization in the Lower Florida Keys Following Hurricane Irma Storm Surge	<b>Paul Jones</b> Lake Okeechobee Key Findings Based on Monitoring and Analysis During Water Years 2013-2017
2:05pm	<b>Richard Stumpf</b> Finding Algal Blooms in the Greater Everglades with Satellite in Lake Okeechobee and Beyond	<b>Jay Choi</b> Towards a Self-sustaining Everglades: Ecologically-based Flow Modeling to Account for Effects of Changing Vegetation and Peat Microtopography on Everglades Hydrology	<b>Jordan Massie</b> Hurricane-Driven Movements of Common Snook in the Shark River: An Examination Of Fish Redistribution and Environmental Drivers	<b>Amanda Kahn</b> Hurricane Irma Effects on Horizontal Water Quality Gradients Along The Northern Everglades Northern Estuaries, Florida	<b>Michael Simmons</b> CERP RECOVER Program 2019 System Status Report Key Findings from the Southern Coastal Systems for Water Years 2013-2017
2:20am	<b>Christopher Kavanagh</b> Florida Bay Algal Blooms: Current Status and Past Observations	<b>Jordan Psaltakis</b> High-flow Restoration Interactions with Deconstructed Levees and Repurposed Canals	<b>Cody Eggenberger</b> Habitat Preference and Resource Use of Common Snook ( <i>Centropomus undecimalis</i> ) and Sub-Adult Atlantic Tarpon ( <i>Megalops atlanticus</i> )	<b>Peeter Laas</b> Effects of Hurricane Irma on Aquatic Microbial Communities of the Everglades	<b>Agnes McLean</b> CERP RECOVER Program 2019 System Status Report Key Findings from the Greater Everglades For Water Years 2013-2017
2:35pm	<b>Anna Wachnicka</b> Spatiotemporal Shifts in Phytoplankton Biomass in St. Lucie River Estuary (FL, USA)	<b>Alex Ontkos</b> Changes in Habitat Connectivity Affect Habitat Use of Fish in the Decomp Physical Model (DPM)	<b>Michelle Fournet</b> Hydrology Drives Fish Calling Behavior in Florida Bay: The Potential for an Ecosystem Indicator	<b>Kathleen Sullivan Sealey</b> Hurricane Irma Impacts on Submerged Aquatic Vegetation (SAV) of Near Shore Biscayne Bay	<b>William Nuttle</b> Everglades Report Card Provides Synthesis of System Status Report
2:50pm	Discussion	Discussion	Discussion	Discussion	Discussion
3:00pm-3:30pm	PM Break in Poster Hall				

Thursday, April 25, 2019					
Concurrent Sessions [3:30pm - 5:00pm]					
	Great Cypress	Royal Poinciana	Ibis	Egret	Sandpiper
	Session 41	Session 42	Session 43	Session 44	Session 45
Session Title	<b>Ecological Economics and Ecosystem Services: Implications for Everglades Restoration</b>	<b>Adaptively Managing Restored Flow to Serve Water Needs and Ecosystems (Part 2 of 2)</b>	<b>Water, Energy and Carbon in the Greater Everglades Ecosystem</b>	<b>Lake Okeechobee to the Coast: Sources and Implications of Water Quality</b>	<b>Restoration and Resiliency in Biscayne Bay</b>
Moderator	<b>Andrew Stainback</b> Everglades Foundation	<b>Walter Wilcox</b> SFWMD	<b>Barclay Shoemaker</b> U.S Geological Survey	<b>Sayena Faridmarandi</b> Everglades Foundation	<b>Sarah Bellmund</b> National Park Service
3:30pm	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
3:35pm	<b>Rebekah Gible</b> Using Stakeholder Engagement, Translational Science and Decision Support Tools for Ecosystem Based Management in the Florida Everglades	<b>Saira Haider</b> Visualizing Tradeoffs for Multi-species Optimization in the Everglades	<b>Xavier Comas</b> Using Hydrogeophysical Methods to Understand Disturbance in Peat Soils Due to Saltwater Intrusion: From Soil Collapse to Changes in Biogenic Gas Dynamics	<b>Sayena Faridmarandi</b> Long-Term Regional Nutrient Contributions and In-Lake Water Quality Trends for Lake Okeechobee Restoration Assessment	<b>Bahram Charkhian</b> Restoration Benefits Observed from the Biscayne Bay Coastal Wetlands Project
3:50pm	<b>Lara Kiesau</b> Economic Assessment of the Impacts of Outdoor Water Use Restrictions (OWR) in Florida: A Penalty Function Approach	<b>Carl Fitz</b> Tortoise or Hare? Landscape Hydro-ecological Interactions from Presses (Sea Level Rise) and Pulses (Freshwater Flows) in the Coastal Everglades	<b>Sarah Harttung</b> Saltwater Intrusion in the Everglades: Microbial Community Composition and Carbon Dynamics Under New Salinity Regimes	<b>Dennis Hanisak</b> Influence of Flow from the C-44 Canal on the Water Quality of the South Fork of the St. Lucie Estuary, Florida	<b>Amanda Bourque</b> Spoil Island Restoration and Resiliency
4:05pm	<b>Mahadev Bhat</b> Linking Recreational Ecosystem Service Benefits with Freshwater Management in the Everglades	<b>Jud Harvey</b> Forecasting the Restoration of a Free-flowing Everglades based on the DPM Large-scale High-flow Experiments	<b>Jessica Dell</b> Shrub Encroachment Impacts on Carbon, Water, and Energy in Herbaceous Peatlands	<b>Amanda Booth</b> Monitoring of Nutrients and Chlorophyll in the Caloosahatchee River, 2017-2018	<b>Sarah Bellmund</b> Disruptive Events and Salinity Responses in Western Biscayne Bay
4:20pm	<b>Chloe' Vorseth</b> Using Multi-Criteria Analysis to Facilitate Everglades Restoration Decision-Making	<b>Barry Rosen</b> Algal Indicators of Ecosystem Response in the Decomposition Physical Model High-flow Experiment	<b>Matthew Sirianni</b> Characterizing Influences of Pulse-Disturbance Events on Biogenic Gas Dynamics in Everglades Peat Soils	<b>Elizabeth Kelly</b> Proliferation of Enterococci and Cyanobacteria in the Presence Of Specific Nutrients and Rainfall in the St. Lucie, Loxahatchee, and Lake Okeechobee Watersheds	<b>Melody Hunt</b> Freshwater Inflows to the Biscayne Bay Coastal Wetlands Project Area: Are All Flows Equal?
4:35pm	<b>Andrew Stainback</b> Valuing Ecological Outcomes for Everglades Restoration Decision-Making	<b>Christa Zweig</b> SPF: Choosing the Right-level for Ecosystem Health	<b>Bob Sobczak</b> Go Hydrology: A Ten Year Retrospective	<b>Jeremy Conrad</b> Assessing the Effects of Nutrient Inputs on the Primary Mechanisms of Vertical Land Movement in Tidal Mangrove Forests of the Florida Everglades	<b>Joan Browder</b> Using Halohabitat-Defined Epifauna Communities from the Nearshore Epifauna to Determine Estuarine Responses to Hurricane Irma and Other Extreme Events
4:50pm	Discussion	Discussion	Discussion	Discussion	Discussion
5:00pm - 6:00pm	<b>Closing Plenary - The Role of Science</b>  <b>MODERATOR:</b> <b>Dr. Nick Aumen</b> , Conference Chair, and Regional Science Advisor – South Florida, US Geological Survey, Davie, FL  <b>Dr. Jack Payne</b> , Senior Vice President for Agriculture and Natural Resources, University of Florida/IFAS, Gainesville, FL <b>Mr. Chauncey Goss</b> , Chairman, Governing Board, South Florida Water Management District (SFWMD), West Palm Beach, FL				
6:00pm-6:30pm	Exhibitors and Poster Session Two Presenters Remove Displays – Conference Concludes				