



Coastal Habitat Integrated Mapping and Monitoring Program & Mangrove Working Group 2024 Workshop Agenda

Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Karen A. Steidinger Auditorium
100 8th Ave SE, St. Petersburg FL 33701
January 16 – 17, 2024

Workshop Goals:

- Bring together representatives from coastal wetland mapping and monitoring programs across the state to foster communication regarding mapping and monitoring methodology, gaps, and needs.
- Discuss the status and trends of Florida's mangroves and salt marshes.
- Facilitate communication between members of CHIMMP and the Florida Mangrove Working Group.
- Identify ways to improve data sharing and collaboration across local, regional, and statewide mapping and monitoring efforts.

Tuesday, January 16th

12:30 – 1:00 pm **Sign-in** (lobby of Karen A. Steidinger auditorium)

1:00 – 1:45 pm **Welcome to the workshop** – Heather Stewart, Kara Radabaugh, Jeremy Conrad
Attendee introductions
Overview of CHIMMP and data products – Kara Radabaugh
Overview of the Mangrove Working Group – Jeremy Conrad

1:45 – 2:30 pm **Oral presentations -- Theme: Mangrove distribution and dynamics**

<u>Time</u>	<u>Presenter, coauthors</u>	<u>Presenter affiliations</u>	<u>Title</u>
1:45 pm	Nicole Iadevaia , Jennifer Hecker, Sarina Weiss	Coastal & Heartland National Estuary Partnership (CHNEP)	The CHNEP Water Atlas: An interactive map-based estuaries and habitats report card
2:00 pm	Christopher Miller ¹ , Yiyang (Calvin) Kang ²	¹ Saint Leo University, ² University of Florida	Latitudinal and temporal changes in mangrove height on the Florida Gulf Coast
2:15 pm	Brendan V. Brown	CDM Smith	Using drones and machine learning for mapping mangroves and assessing salt marsh biomass

2:30 – 3:00 pm *Break*

3:00 – 4:45 pm

Oral presentations -- Theme: Mangrove distribution and dynamics part 2

<u>Time</u>	<u>Presenter, coauthors</u>	<u>Presenter affiliations</u>	<u>Title</u>
3:00 pm	Joshua Breithaupt ¹ , Havalend Steinmuller ²	¹ Florida State University Coastal & Marine Laboratory, ² Dauphin Island Sea Lab	Decoding the ‘virtual synonymy’ of terms describing spatial and temporal changes in mangrove distribution and extent
3:15 pm	Rachel Biton , Josh Breithaupt	Florida State University Coastal & Marine Laboratory	Effect of regional winter temperature gradients at an expanding mangrove range limit in Northern Florida
3:30 pm	Jenny Bueno , Sarah E. Lester, Josh Breithaupt, Sandra Brooke	Florida State University	Mangrove expansion rates at their northern range in the Apalachicola Bay, Florida
3:45 pm	Ilka C. Feller	Smithsonian Institution, SERC	Mangrove range shifts alter primary production & have dramatic, albeit cryptic, effects on canopy biodiversity & food web structure
4:00 pm	Nikki Dix ^{1,2} , Hans Prevost ^{1,3} , Jacob Berna ^{1,2}	¹ Guana Tolomato Matanzas National Estuarine Research Reserve (GTMNERR), ² University of North Florida, ³ Florida Department of Environmental Protection	Coastal wetland monitoring in the GTMNERR marsh-mangrove ecotone
4:15 pm	Samantha Chapman* , Jocelyn Bravo, Morgan Mack, Adam Langley, Tess Adgie	Villanova University	The fate of added nitrogen in mangrove ecosystems differs due to geomorphological position
4:30 pm	Jeremy R. Conrad ¹ , Ken W. Krauss ² , Brian W. Benscoter ^{3,4} , Ilka C. Feller ⁵ , Nicole Cormier ^{2,6} , Darren J. Johnson ²	¹ U.S. Fish and Wildlife Service ² U.S. Geological Survey, Wetland and Aquatic Research Center ³ Florida Atlantic University ⁴ U.S. Department of Energy ⁵ Smithsonian Institution, SERC ⁶ School of Natural Sciences	Impacts of eutrophication on surface elevation change

*remote presentation

4:45 – 5:00 pm

Day 1 Conclusion, Day 2 overview

6:00 – 8:00 pm

Social at the Hollander Hotel (421 4th Ave N, St. Petersburg, FL 33701)

Wednesday, January 17th

8:00 – 8:30 am Day 2 sign in, complete travel reimbursement paperwork (bring hotel receipts)

8:30 – 8:45 am **Welcome, discussion of online resources** – Kara Radabaugh, Heather Stewart

8:45 – 9:45 am **Oral presentations -- Theme: Interactions across ecosystems**

<u>Time</u>	<u>Presenter, coauthors</u>	<u>Presenter Affiliations</u>	<u>Title</u>
8:45 am	Hyun Jung Cho¹, Jonathan Linder²	¹ Bethune-Cookman University, ² Brevard County Mosquito District	Mosquito control mangrove impoundment as a potential seagrass nursery habitat
9:00 am	Loraé T. Simpson¹, Steve Canty², Ilka C. Feller²	¹ Florida Oceanographic Society, ² Smithsonian Institution, SERC	The effects of <i>Sargassum</i> on <i>Avicennia</i> seedling growth
9:15 am	Randall W. Parkinson, Zhaohui Jennifer Fu, Levente Juhasz, Jinwen Xu	Florida International University	A living shoreline site suitability decision support tool that incorporates future conditions based upon locally derived sea-level rise scenarios
9:30 am	Danielle H. Irwin, Jason Cummins, Jannek Cederberg	Cummins Cederberg	Adapting mangroves on Dinner Key breakwater islands

9:45 – 10:15 am *Break (finish travel reimbursement paperwork)*

10:15 – 11:30 am **Breakout groups** (in person and virtual)

11:30 am – 12:00 pm **Report results from breakout groups**

12:00 – 1:15 pm *Lunch Break*

1:15 – 2:00 pm **Poster session** (Posters displayed in lobby)

<u>Poster presenter and coauthors</u>	<u>Presenter affiliations</u>	<u>Poster Title</u>
Melinda Donnelly	University of Central Florida	Development of statewide coastal restoration plan for Florida
Scott Jones	University of North Florida	Initiating long-term monitoring in Northeast Florida to quantify state change from sea-level rise and saltwater intrusion
Shannon Brew	University of North Florida	Soil property shifts with marsh migration into natural and created upland islands
Nicole Iadevaia², Doug Robison¹, Justin Saarinen¹, Jennifer Hecker², John Kiefer³, Christopher Warn¹ and Brett Solomon¹, Kai Coshaw Rains⁴, Mark Rains⁴	¹ Environmental Science Associates, ² Coastal & Heartland National Estuary Partnership, ³ Wood Environmental, ⁴ Coshaw Environmental	Habitat restoration needs planning: uniting partners and resources to protect Central and Southwest Florida

Ali Gonzalez-Perez , Amr Abd-Elrahman, Benjamin Wilkinson	University of Florida	UAS LiDAR elevation corrections in mangals using machine learning
Edwin Everham III ¹ , Brian Bovard ¹ , Oscar Maradiaga ¹ , Jenny Morris ¹ , Megan King ^{1,2} , Gillian Stocking ¹ , Hannah Lafrenz ¹	¹ Florida Gulf Coast University, ² Ohio State University	Establishment and examination of a long-term mangrove forest dynamic plot in Estero Bay, Florida
Brian Bovard ¹ , Oscar Maradiaga ¹ , Edwin Everham III ¹ , Megan King ^{1,2} , Daniel Osborne ¹ , Cooper Blay ¹	¹ Florida Gulf Coast University, ² Ohio State University	The use of multiple remote sensing technologies to track mangrove forest responses to Hurricane Ian in Estero Bay, Florida
Gabriela (Bella) J. Reyes , Ashley Smyth, Laura K. Reynolds, Jiangxiao Qiu	University of Florida	Mangroves in unexpected places: Identifying and characterizing mangroves in Miami-Dade County
Yiyang (Calvin) Kang ¹ , David A. Kaplan ¹ , Michael J. Osland ²	¹ University of Florida, ² USGS Wetland and Aquatic Research Center	Mangrove freeze resistance and resilience across a tropical temperate transitional zone

2:00 – 3:15 pm

Oral presentations -- Theme: Habitat restoration and data applications

<u>Time</u>	<u>Presenter, coauthors</u>	<u>Presenter affiliations</u>	<u>Title</u>
2:00 pm	Cameron Ainsworth , Hallie Repeta, Josue Celiscar	University of South Florida College of Marine Science	Modeling habitat restoration using the Atlantis ecosystem model
2:15 pm	Heather A. Stewart ¹ , Kara Radabaugh ¹ , Ryan P. Moyer ^{1,2} , Casey Craig ¹ , Savanna Hearne ¹ , Nicole Silverman ¹ , Olivia Schlei ¹ , Nicole Szelistowski ¹	¹ Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute ² TerraCarbon LLC	Using mangrove monitoring to inform and guide restoration efforts
2:30 pm	Matt Kenworthy , Erika Burgess, Jeff Renchen, Jacob Espittia	Florida Fish and Wildlife Conservation Commission, Division of Marine Fisheries Management	Integrating coastal and aquatic habitat information and metrics into a holistic management approach to managing Florida's inshore recreational fisheries
2:45 pm	Shannon Whaley , Colin Shea, Christi Santi, David Gandy	Florida Fish and Wildlife Conservation Commission	Characterizing juvenile fish habitat using seascape context and freshwater inflow to help inform estuarine habitat restoration
3:00 pm	Kerry Flaherty-Walia ¹ , Kara Radabaugh ² , Marcus Beck ¹ , Ed Sherwood ¹	¹ Tampa Bay Estuary Program, ² Florida Fish and Wildlife Conservation Commission	Monitoring long-term trends in critical coastal habitats to inform preservation and restoration efforts in Tampa Bay

3:15 – 3:30 pm

Break

3:30 – 4:45 pm

Oral presentations -- Theme: Mangrove disturbance and management

<u>Time</u>	<u>Presenter, coauthors</u>	<u>Presenter affiliations</u>	<u>Title</u>
3:30 pm	Danielle E. Ogurcak ^{1,2} , Zoë I. Shribman ^{1,3} , Katherine Colon-Lozada ^{1,2} , Adrian Guarin ¹ , Jeff Carter ² , Jill Schmid ^{1,2} , Jay Black ² , Marissa Figueroa ^{1,2}	¹ Florida International University, ² Rookery Bay National Estuarine Research Reserve, ³ Tulane University	Mangrove forest recovery in Rookery Bay National Estuarine Research Reserve following Hurricanes Irma and Ian
3:45 pm	Casey Craig , Heather A. Stewart, Savanna Hearne, Nicole Silverman, Nicole Szelistowski, Kara Radabaugh	Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute	Mangrove mortality after Hurricane Ian in Charlotte Harbor
4:00 pm	Ryan P. Moyer	TerraCarbon LLC	Blue carbon 101: Science requirements for the voluntary carbon market
4:15 pm	Daniel Chomin-Virden	AECOM	Mangrove mitigation and permitting in Florida: The perspective from industry
4:30 pm	Armando J. Ubeda ¹ , Alyssa A. Vinson ²	¹ Florida Sea Grant - UF/IFAS Extension Sarasota County - University of Florida, ² UF/IFAS Extension Manatee County - University of Florida	Improving mangrove management through a comprehensive extension education program

4:45 – 5:00 pm Conclusion and future directions