



# 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 8<sup>th</sup> 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 16<sup>th</sup>**

**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	<b>Nicole Iadevaia</b> , 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	<b>Christopher Miller</b> <sup>1</sup> , Yiyang (Calvin) Kang <sup>2</sup>	<sup>1</sup> Saint Leo University, <sup>2</sup> University of Florida	Latitudinal and temporal changes in mangrove height on the Florida Gulf Coast
2:15 pm	<b>Brendan V. Brown</b>	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	<b>Joshua Breithaupt</b> <sup>1</sup> , Havalend Steinmuller <sup>2</sup>	<sup>1</sup> Florida State University Coastal & Marine Laboratory, <sup>2</sup> Dauphin Island Sea Lab	Decoding the ‘virtual synonymy’ of terms describing spatial and temporal changes in mangrove distribution and extent
3:15 pm	<b>Rachel Biton</b> , 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	<b>Jenny Bueno</b> , 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	<b>Ilka C. Feller</b>	Smithsonian Institution, SERC	Mangrove range shifts alter primary production & have dramatic, albeit cryptic, effects on canopy biodiversity & food web structure
4:00 pm	<b>Nikki Dix</b> <sup>1,2</sup> , Hans Prevost <sup>1,3</sup> , Jacob Berna <sup>1,2</sup>	<sup>1</sup> Guana Tolomato Matanzas National Estuarine Research Reserve (GTMNERR), <sup>2</sup> University of North Florida, <sup>3</sup> Florida Department of Environmental Protection	Coastal wetland monitoring in the GTMNERR marsh-mangrove ecotone
4:15 pm	<b>Samantha Chapman*</b> , 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	<b>Jeremy R. Conrad</b> <sup>1</sup> , Ken W. Krauss <sup>2</sup> , Brian W. Benscoter <sup>3,4</sup> , Ilka C. Feller <sup>5</sup> , Nicole Cormier <sup>2,6</sup> , Darren J. Johnson <sup>2</sup>	<sup>1</sup> U.S. Fish and Wildlife Service <sup>2</sup> U.S. Geological Survey, Wetland and Aquatic Research Center <sup>3</sup> Florida Atlantic University <sup>4</sup> U.S. Department of Energy <sup>5</sup> Smithsonian Institution, SERC <sup>6</sup> 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 17<sup>th</sup>

**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	<b>Hyun Jung Cho<sup>1</sup>, Jonathan Linder<sup>2</sup></b>	<sup>1</sup> Bethune-Cookman University, <sup>2</sup> Brevard County Mosquito District	Mosquito control mangrove impoundment as a potential seagrass nursery habitat
9:00 am	<b>Loraé T. Simpson<sup>1</sup>, Steve Canty<sup>2</sup>, Ilka C. Feller<sup>2</sup></b>	<sup>1</sup> Florida Oceanographic Society, <sup>2</sup> Smithsonian Institution, SERC	The effects of <i>Sargassum</i> on <i>Avicennia</i> seedling growth
9:15 am	<b>Randall W. Parkinson, Zhaohui Jennifer Fu, Levente Juhasz, Jinwen Xu</b>	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	<b>Danielle H. Irwin, Jason Cummins, Jannek Cederberg</b>	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>
<b>Melinda Donnelly</b>	University of Central Florida	Development of statewide coastal restoration plan for Florida
<b>Scott Jones</b>	University of North Florida	Initiating long-term monitoring in Northeast Florida to quantify state change from sea-level rise and saltwater intrusion
<b>Shannon Brew</b>	University of North Florida	Soil property shifts with marsh migration into natural and created upland islands
<b>Nicole Iadevaia<sup>2</sup>, Doug Robison<sup>1</sup>, Justin Saarinen<sup>1</sup>, Jennifer Hecker<sup>2</sup>, John Kiefer<sup>3</sup>, Christopher Warn<sup>1</sup> and Brett Solomon<sup>1</sup>, Kai Coshow Rains<sup>4</sup>, Mark Rains<sup>4</sup></b>	<sup>1</sup> Environmental Science Associates, <sup>2</sup> Coastal & Heartland National Estuary Partnership, <sup>3</sup> Wood Environmental, <sup>4</sup> Coshow Environmental	Habitat restoration needs planning: uniting partners and resources to protect Central and Southwest Florida

<b>Ali Gonzalez-Perez</b> , Amr Abd-Elrahman, Benjamin Wilkinson	University of Florida	UAS LiDAR elevation corrections in mangals using machine learning
<b>Edwin Everham III</b> <sup>1</sup> , Brian Bovard <sup>1</sup> , Oscar Maradiaga <sup>1</sup> , Jenny Morris <sup>1</sup> , Megan King <sup>1,2</sup> , Gillian Stocking <sup>1</sup> , Hannah Lafrenz <sup>1</sup>	<sup>1</sup> Florida Gulf Coast University, <sup>2</sup> Ohio State University	Establishment and examination of a long-term mangrove forest dynamic plot in Estero Bay, Florida
<b>Brian Bovard</b> <sup>1</sup> , Oscar Maradiaga <sup>1</sup> , Edwin Everham III <sup>1</sup> , Megan King <sup>1,2</sup> , Daniel Osborne <sup>1</sup> , Cooper Blay <sup>1</sup>	<sup>1</sup> Florida Gulf Coast University, <sup>2</sup> Ohio State University	The use of multiple remote sensing technologies to track mangrove forest responses to Hurricane Ian in Estero Bay, Florida
<b>Gabriela (Bella) J. Reyes</b> , Ashley Smyth, Laura K. Reynolds, Jiangxiao Qiu	University of Florida	Mangroves in unexpected places: Identifying and characterizing mangroves in Miami-Dade County
<b>Yiyang (Calvin) Kang</b> <sup>1</sup> , David A. Kaplan <sup>1</sup> , Michael J. Osland <sup>2</sup>	<sup>1</sup> University of Florida, <sup>2</sup> 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	<b>Cameron Ainsworth</b> , Hallie Repeta, Josue Celiscar	University of South Florida College of Marine Science	Modeling habitat restoration using the Atlantis ecosystem model
2:15 pm	<b>Heather A. Stewart</b> <sup>1</sup> , Kara Radabaugh <sup>1</sup> , Ryan P. Moyer <sup>1,2</sup> , Casey Craig <sup>1</sup> , Savanna Hearne <sup>1</sup> , Nicole Silverman <sup>1</sup> , Olivia Schlei <sup>1</sup> , Nicole Szelistowski <sup>1</sup>	<sup>1</sup> Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute <sup>2</sup> TerraCarbon LLC	Using mangrove monitoring to inform and guide restoration efforts
2:30 pm	<b>Matt Kenworthy</b> , 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	<b>Shannon Whaley</b> , 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	<b>Kerry Flaherty-Walia</b> <sup>1</sup> , Kara Radabaugh <sup>2</sup> , Marcus Beck <sup>1</sup> , Ed Sherwood <sup>1</sup>	<sup>1</sup> Tampa Bay Estuary Program, <sup>2</sup> 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	<b>Danielle E. Ogurcak</b> <sup>1,2</sup> , Zoë I. Shribman <sup>1,3</sup> , Katherine Colon-Lozada <sup>1,2</sup> , Adrian Guarin <sup>1</sup> , Jeff Carter <sup>2</sup> , Jill Schmid <sup>1,2</sup> , Jay Black <sup>2</sup> , Marissa Figueroa <sup>1,2</sup>	<sup>1</sup> Florida International University, <sup>2</sup> Rookery Bay National Estuarine Research Reserve, <sup>3</sup> Tulane University	Mangrove forest recovery in Rookery Bay National Estuarine Research Reserve following Hurricanes Irma and Ian
3:45 pm	<b>Casey Craig</b> , 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	<b>Ryan P. Moyer</b>	TerraCarbon LLC	Blue carbon 101: Science requirements for the voluntary carbon market
4:15 pm	<b>Daniel Chomin-Virden</b>	AECOM	Mangrove mitigation and permitting in Florida: The perspective from industry
4:30 pm	<b>Armando J. Ubeda</b> <sup>1</sup> , Alyssa A. Vinson <sup>2</sup>	<sup>1</sup> Florida Sea Grant - UF/IFAS Extension Sarasota County - University of Florida, <sup>2</sup> 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