South Florida Water Management District

RESILIENCY COORDINATION FORUM
AGENDA

September 3, 2025
9:30 AM
District Headquarters, B-1 Auditorium
3301 Gun Club Road
West Palm Beach, FL 33406

FINAL

1. Opening Remarks - Drew Bartlett, Executive Director, SFWMD

2. Statewide Office of Resilience - Eddy Bouza, Chief Resilience Officer, Florida Department of Environmental Protection

3. District Resiliency Updates - Carolina Maran, Ph.D., P.E., Division Director of Flood Control and Water Supply Planning, Chief of District Resiliency, SFWMD

4. Hazard Mitigation Program Updates - Laura Dhuwe, Chief of Mitigation, Florida Division of Emergency Management

5. Osceola County Flood Vulnerability and Resiliency Adaptation Planning - Susan Gosselin, Water Resources and Policy Advocate, Osceola County; and Liuliu Wu, Ph.D., P.E., Water Resources Director, Osceola County

6. Upper Kissimmee Basin: Increasing Flood Control Resiliency with Improvements, Restoration, and Partnerships - Nicolle Masters, External Affairs Specialist, SFWMD

7. Break

8. 2025 Silver Jackets Projects: Flood Planning Tools in Florida - Stephanie Verhulst, Florida Silver Jackets Coordinator, U.S. Army Corps of Engineers (USACE) - Jacksonville District

9. Analysis of High Tide Events at SFWMD Coastal Structures - Brian McNoldy, Senior Research Associate, University of Miami

10. C&SF Flood Resiliency Study Updates - Tim Gysan, P.E., Resilience Senior Project Manager, USACE; Eva Velez, P.E., Ecosystem Branch Chief, USACE; and Jennifer Smith, Project Manager, USACE

11. Around the Table Updates from Local, State, and Tribal Partners

12. Public Comment

13. Closing Remarks - Carolina Maran, Ph.D., P.E., Division Director of Flood Control and Water Supply Planning, Chief of District Resiliency, SFWMD

14. Adjourn

Final Presentations (Staff contact, Yvette Bonilla)

Agenda Item Background:

03 Maran District Resiliency Updates
04 Dhuwe Hazard Mitigation
05 Gosselin Osceola County
06 Masters Upper Kissimmee Basin
08 Verhulst Silver Jackets
09 McNoldy Analysis of High Tide Events
10 Gysan C&SF Update
13 Maran Closing Remarks

District Resiliency Updates

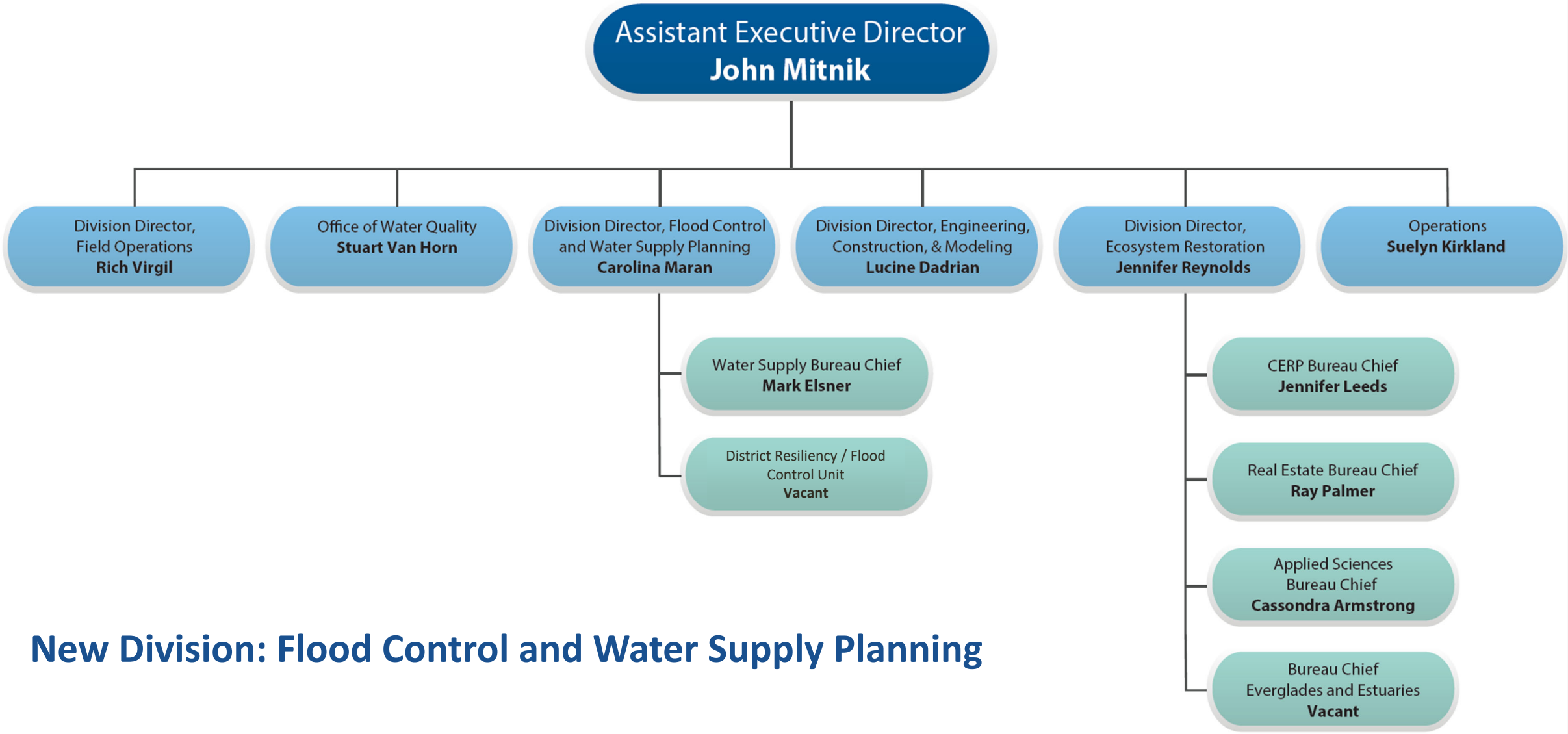
Resiliency Coordination Forum – September 3, 2025

Carolina Maran, Ph.D., P.E.

Division Director, Flood Control and Water Supply Planning

Chief of District Resiliency

South Florida Water Management District



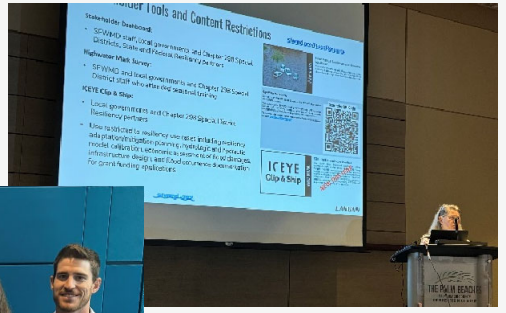
New Division: Flood Control and Water Supply Planning

Florida Flood Hub Visits SFWMD

Florida Flood Hub for Applied Research and Innovation, Scientific Liaisons full-day visit to SFWMD (last month)

Highlights – Knowledge Exchange:

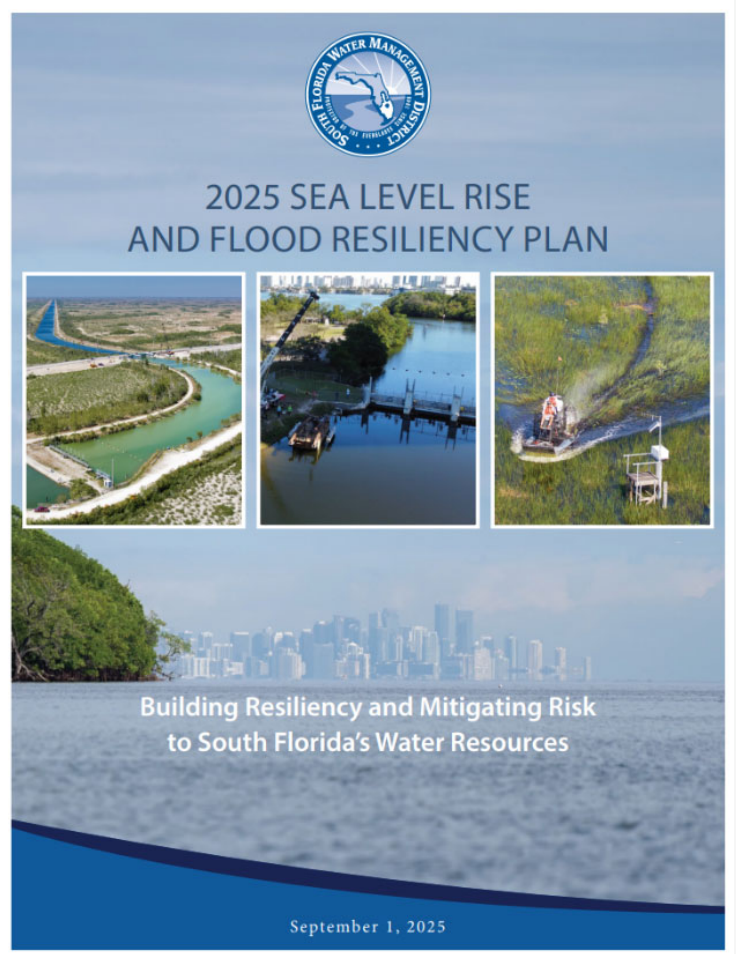
- Ongoing and future collaboration
  - Long-term trends in water and climate data
  - Flood documentation, flood tools, new project with the Florida Silver Jackets
  - 2025 King Tide Season
  - FPLOS flood modeling for vulnerability assessments and adaptation planning
  - Operations/ Water Control Room



2025 SFWMD Sea Level Rise and Flood Resiliency Plan

- 2025 Update is Published
- Comprehensive document, flood risk assessments covering most of the urban areas within SFWMD
- Supported 9 grant applications to Resilient Florida
- Thank you, all project partners, for your contributions
- Thank you Carollo, Brizaga and Delta teams

SFWMD.gov/FloodResiliencyPlan

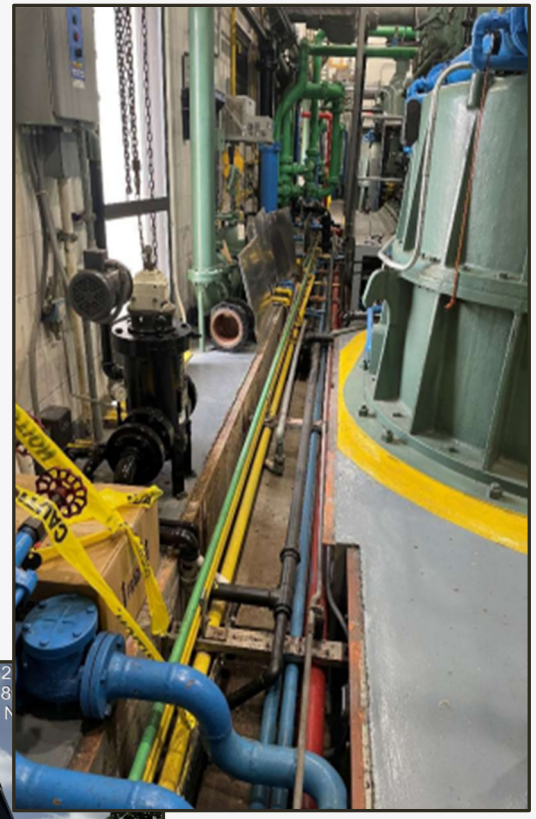


2025 SFWMD Priority Resiliency Projects Map

Implementation Projects

Ongoing Coordination with:

- **FDEM/FEMA HMGP Grants Implementation:**
  - Environmental and Historic Preservation Deliverables submitted for all 3 projects
  - 3 draft MOAs with key stakeholders ongoing
- **FDEP Resilient Florida Grants Implementation:**
  - 3 new grant award received for FY25-26
  - Periodic Site visits and quarterly reports for 6 ongoing implementation grants
  - Flood Adaptation Planning Study ongoing for Martin/St. Lucie Counties and Broward Basins
- **FDEP Innovative Tech Grant Implementation:**
  - WIPE OUT project, in collaboration with Miami-Dade County – design being finalized.
  - Governing Board for approval in November 2025.



Implementation Projects (continued)

Coordination with project partners and key stakeholders ongoing:

- Town Hall Meeting on C-8 Basin Project - August 14, 2025

- Design and real estate coordination with Miami Shores Village and Miami-Dade County (Parks, DERM, Office of Resilience, Aviation), South Broward Drainage District, Miami-Dade County Schools and City of North Miami Beach

LMS Coordination and HMGP Projects for Review and Award Consideration

- FDEM Hurricane Ian HGMP DR4673 (Waiting Tier II Allocation)
  - S-61 Structure Enhancement & S-61 Navigation Lock Erosion Control
  - S-59 Structure Enhancement and C-31 Canal Conveyance Improvements
  - S-58 Structure Enhancement

- FDEM Hurricane Milton DR4834 (Submitted Application on July 25)
  - S-57 Structure Resiliency, Flood Risk Reduction
  - S-60 Structure Resiliency, Flood Risk Reduction
  - S-63 Structure Resiliency, Flood Risk Reduction
  - C-29, C-29A, C-29B, C-29C, Canal Embankment Resiliency, Flood Risk Reduction
  - Lake Mary Jane Pump Station, Flood Risk Reduction
  - C-7, C-8 and C-9 Basin Resiliency (Milton and Helene)

Resilient Florida FY25 Submissions

- Implementation Projects:
  - STA & C&SF Control Panel Upgrades (Automation Upgrades)
  - STA-1W Structure Refurbishments and Enhancement
  - Water Control Structures Gate Hoist Conversion
  - S-25B and S-26 Pump Station Generator Replacements
  - G150, G151W, G136 Replacement & Automation
  - S-49 Coastal Structure Replacement
  - Self Preservation / Coastal Enhancement (additional funding request)

- Planning Projects:
  - Lee County Real Time Flood Forecasting
  - South Florida Flood Adaptation Studies

C&SF Flood Resiliency Studies – Broward Basins (Section 203)

Upcoming Public Meeting on September 9

- Final Array of Alternatives Results
- Comprehensive Benefits Results
- Draft Tentatively Selected Plan
- Initial Design Plans

Register Here

South Florida Water Management District

CENTRAL AND SOUTHERN FLORIDA (C&SF) SECTION 203 FLOOD RESILIENCY STUDY - BROWARD BASINS PROJECT PUBLIC MEETING
AGENDA

September 9, 2025
10:00 AM
City of Oakland Park Public Works
Emergency Operations Center, 2nd Floor
5100 NE 12th Terrace
Oakland Park, FL 33334

Zoom Registration Link:
https://broward-org.zoomgov.com/meeting/register/nxal3cNKT0CH_t_vTRK20g

1. Welcome and Opening Remarks - Steven A. Geller, Commissioner, Broward County; and Carolina Maran, Ph.D., P.E., Division Director of Flood Control and Water Supply Planning, Chief of District Resiliency, SFWMD
2. Final Array of Alternatives and Comprehensive Benefits Analysis Results - Walter Wilcox, Bureau Chief of Water Resources Systems Modeling, SFWMD; and Katie Magoun, Planner/NEPA Specialist, J-Tech
3. Draft Tentatively Selected Plan - Walter Wilcox, Bureau Chief of Water Resources Systems Modeling, SFWMD
4. Next Steps - David Griffin, CFM, PWS, Resiliency Project Manager, SFWMD
5. Public Comment
6. Closing Remarks - Carolina Maran, Ph.D., P.E., Division Director of Flood Control and Water Supply Planning, Chief of District Resiliency, SFWMD
7. Adjourn

Visit www.sfwmd.gov/C&SF for more information.

FPLOS Program Updates – Ongoing Studies

- St. Lucie/Martin Counties FPLOS Phase I & II Study
  - Model Calibration and Validation report is ongoing
- C-7 Basin (Miami-Dade County) FPLOS Phase II Study
  - Future with Project Alternatives model runs finalized (04/2025)
  - Damage Assessment Technical Memo for review (08/20)
- Western Basins (Hendry & Collier Counties) FPLOS Phase I Study
  - Model Calibration and Validation (model & report) revision is ongoing
- Taylor Creek/Nubbin Slough (S-154C) and Basin 8 – Lake Okeechobee Watershed / Okeechobee County
  - Data Collection is ongoing

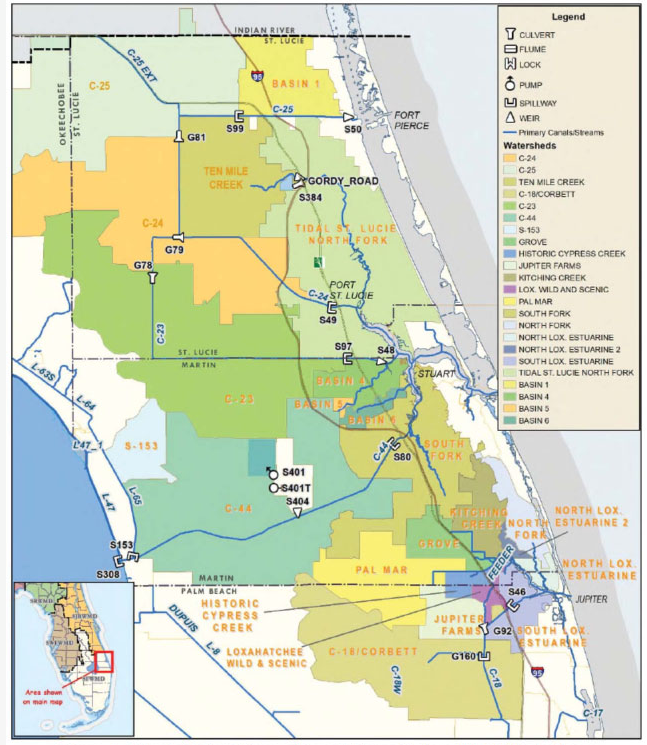


Figure 1: St Lucie/Indian River and Loxahatchee System FPLOS Study Areas

Phase I: Flood Vulnerability Assessment
Phase II Adaptation and Mitigation Planning

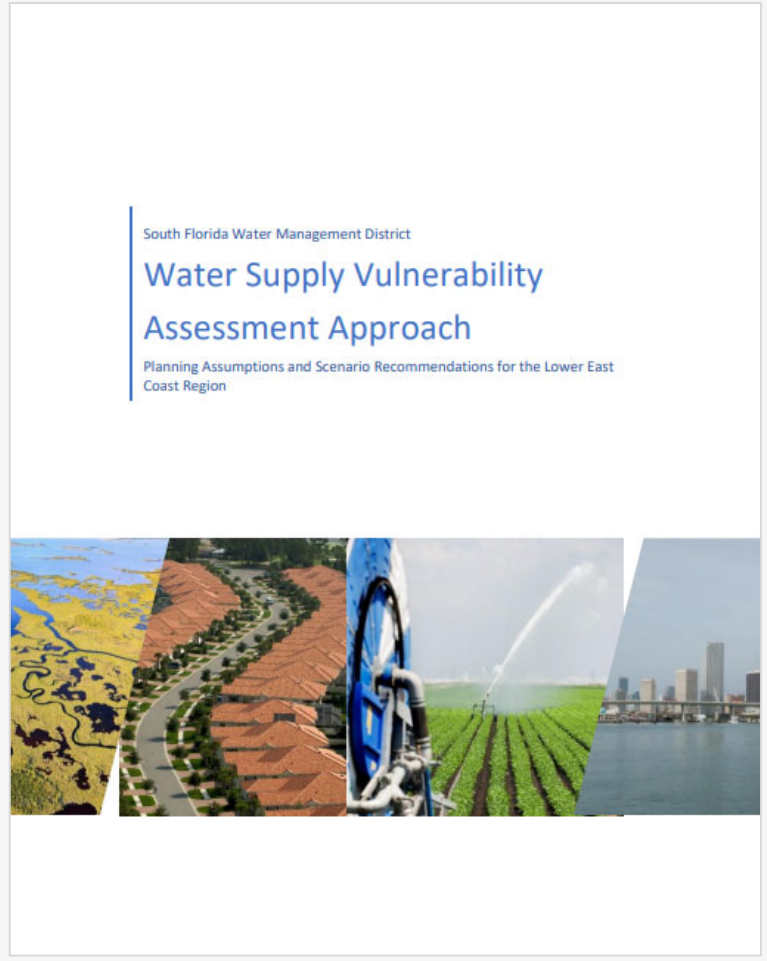
Water Supply Vulnerability Assessment Update

Modeling Effort

- Utilize the East Coast Surficial Model (ECSM) – Upper/Lower East Coast
- 50-year look ahead (2075) at growth
- Sea Level Rise Intermediate Curves and Future Climate Scenarios
- Characterize future potential impacts on water supply sources
- Future iterations will inform strategies and projects to build resiliency

Current Status

- Model data inputs under development:
  - Drought rainfall, ET & temperature data - COMPLETE
  - Future land use
  - Future population distribution per utility service area - COMPLETE
  - Public supply and irrigation well withdrawals
- Model runs anticipated in Late 2025/Early 2026



Water and Climate Resilience Metrics Update

Ongoing Phase 2 Metrics

2026 South Florida Environmental Report (SFER) – *analyses and content development are underway!*

- **Chapter 2A:** Water Year 2025 Hydrology, Water Management, and Event Summaries
- **Chapter 2B:** Long-term Trends in Rainfall, Drought, High Tide Events, Saltwater Intrusion

SFER Chapter 2B

Important Dates

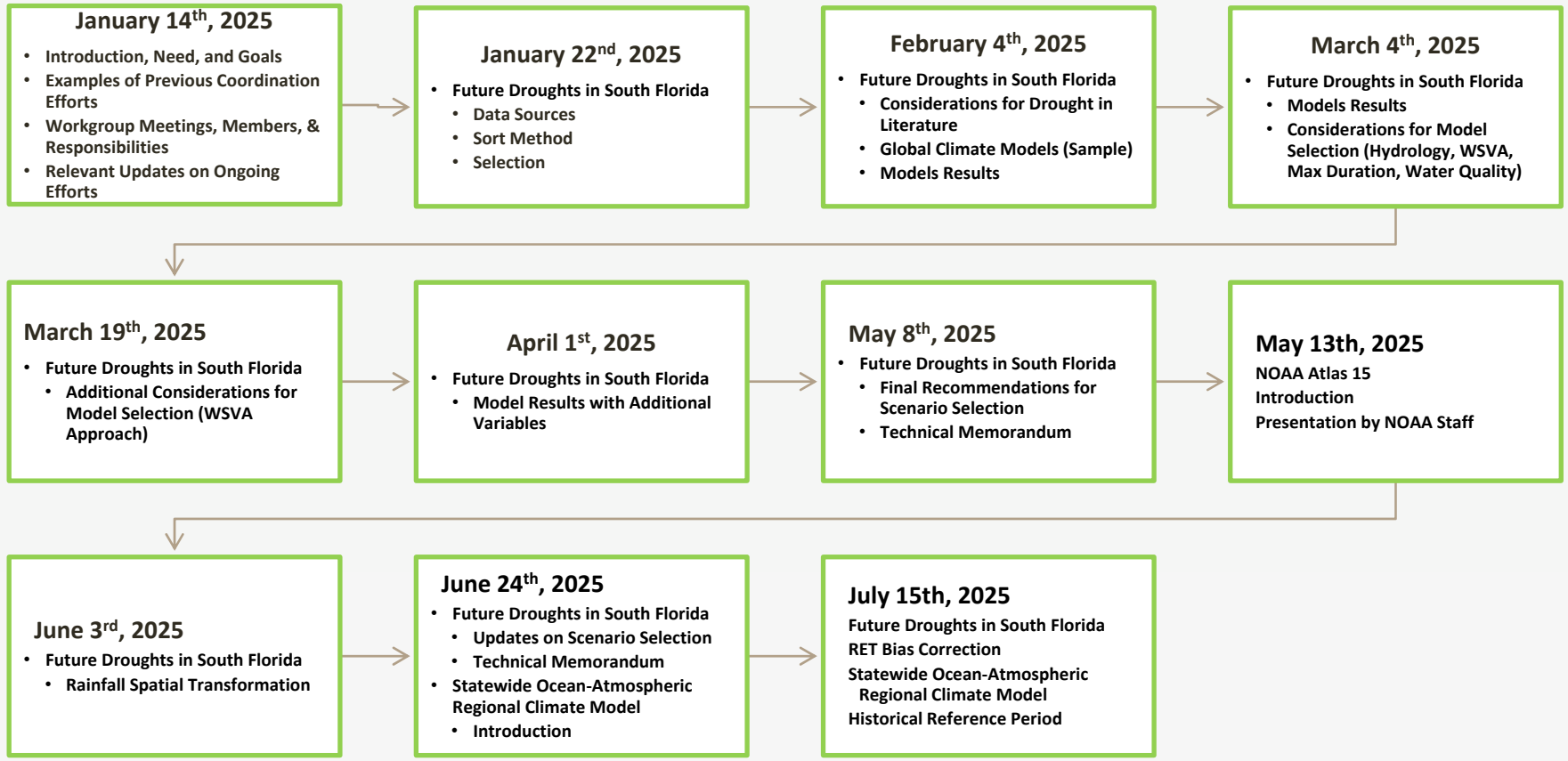
- **Fall 2025 – Public Comment Period**
- March 1, 2026 – Publication date

Future Water and Climate Scenarios Workgroup

- First Agenda Item: **Drought** (supporting WSVA)
- Future Agenda Items: Rainfall, NOAA Atlas 15, Multidecadal Variations, and more.

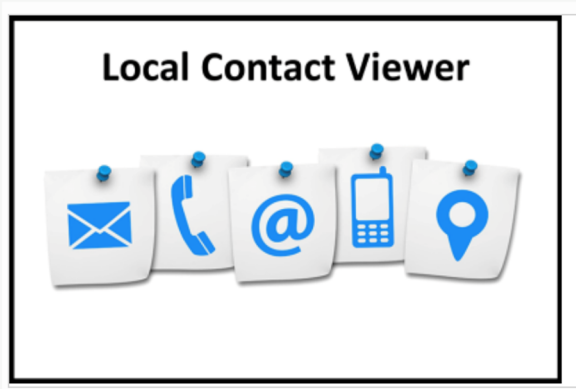
Florida Flood Hub

- Ongoing collaboration on Coupled Ocean-Atmospheric Statewide Regional Model



Flood Observations & South Florida Flood Information Resource

- Resiliency partners can now:
  - Submit flood observations at sfwmd.gov/FloodingApp
  - View flood event data at sfwmd.gov/FloodResource*
  - Find who to contact via the Local Contact Viewer



**Note: Users will be asked to create their own accounts and accept terms and conditions.*

**Dashboard functionalities will be added mid-June*

South Florida Flood Information Resource

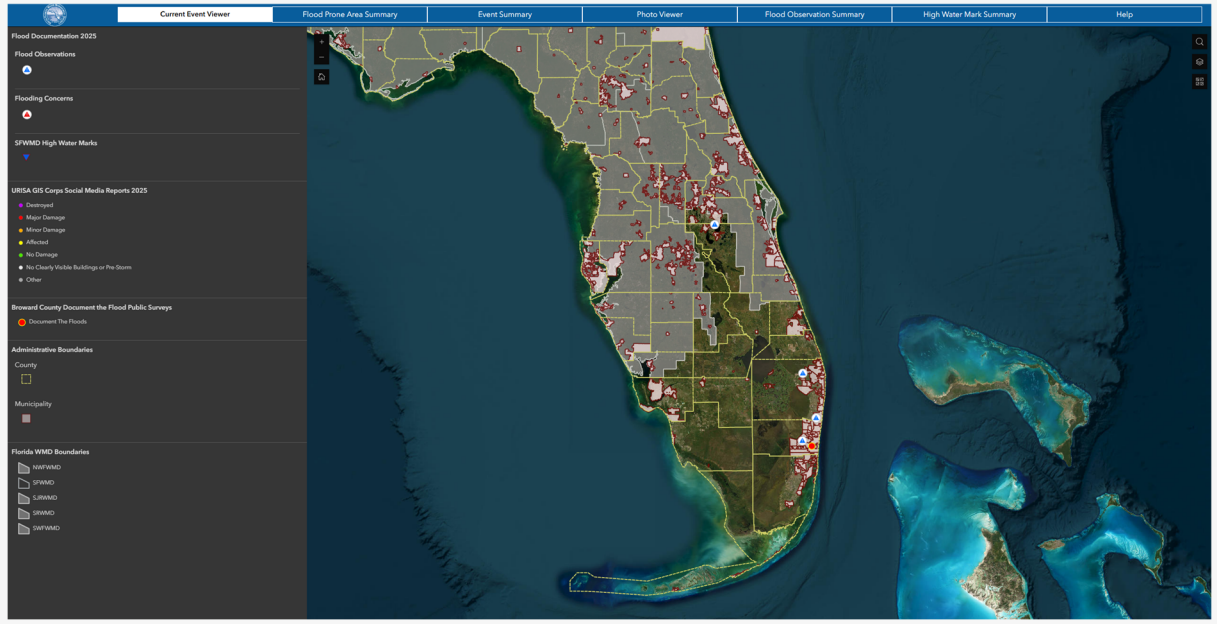
Latest Training:

- Instructions for stakeholder access are available in the 2025 South Florida Flood Information Resource Training Materials provided in July.

Local Contact Notification System:

- Automatically notifies County, City, and Drainage District contacts by email when reports are submitted in their area
- For informational purposes only
- A resource account is required for full access to reports

Notification system testing will begin in October



sfwmd.gov/FloodResource

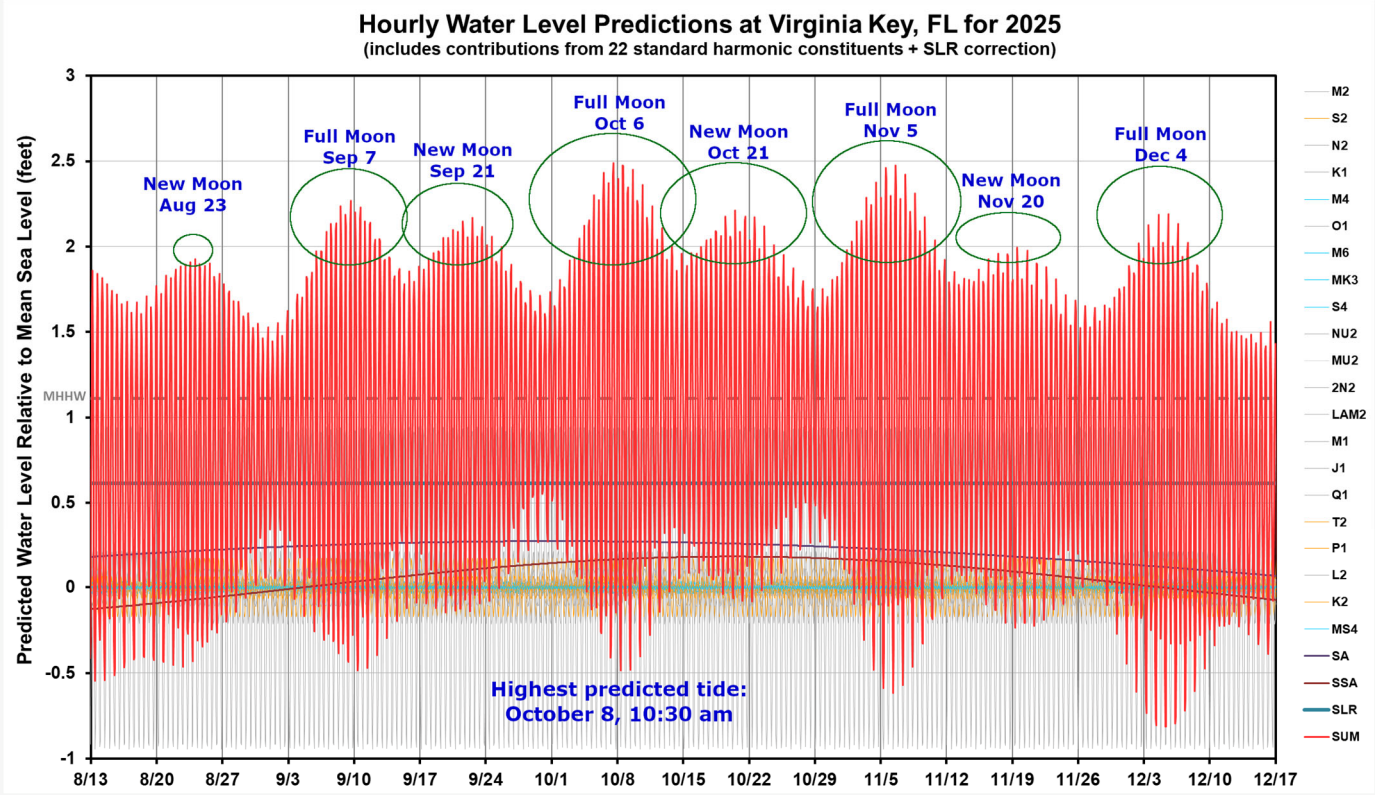
2025 King Tide Season

Higher tides are anticipated around the following dates:

(based on the Virginia Key Tide Gauge)

- September 6-12 (Full Moon)
- September 19-25 (New Moon)
- October 3-25* (Full and New Moon)
- November 1-10* (Full Moon)
- November 18-20 (New Moon)
- December 2-7 (Full Moon)

**** The highest tides are predicted October 7-10 and November 5-9***



During these periods, high tides will approach the National Weather Service (NWS) "Minor Flooding" threshold – within 0.5' (>1.9" MSL).

Mitigation Bureau Updates

Laura Dhuwe, Chief of Mitigation
Florida Division of Emergency Management

PROGRAM OBJECTIVES

The **Elevate Florida Program** aims to **protect homes and communities** by **reducing damage** caused by natural disasters like hurricanes and floods. Elevate Florida is designed to **expedite the hazard mitigation** process and complete a resident's mitigation project more quickly than other initiatives.

Elevate Florida uses federal funding from the **Hazard Mitigation Grant Program (HMGP)** and **Flood Mitigation Assistance (FMA) Swift Current** grant program to cover up to 75% of project costs for Property Owners. Four types of residential mitigation projects are eligible under these grants:

Structure Elevation

Mitigation Reconstruction

Acquisition / Demolition

Wind Mitigation

PROGRAM ACCOMPLISHMENTS

ELEVATE FLORIDA

Vendor Support and Program Stakeholders

3 Project Management vendors

13 Inspection vendors

28 Construction vendors

64 Counties & Local Municipalities

FEMA, SHPO

Volunteer FL, Long-Term Recovery Groups

SBA, FloridaCommerce

800+ Pre-construction inspections completed for the 305 properties

12,000+ Applicants applied representing 64 counties

30,234+

Cumulative calls handled since the call center opened on 2/7/25

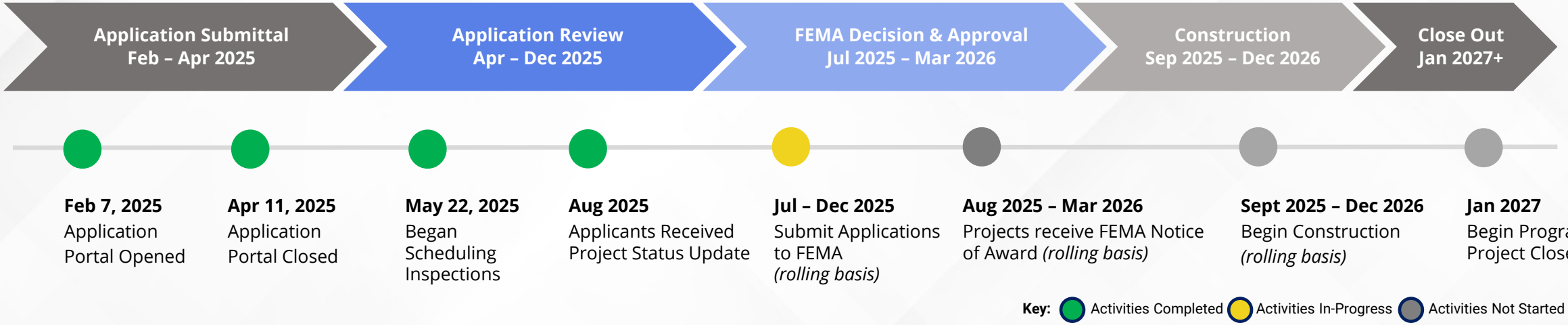
1,100+ Attendees for in-person outreach events

305 Applications sent to FEMA for award at this time

PROGRAM STATUS: **APPLICATION REVIEW STAGE**

Elevate Florida is an innovative statewide initiative aimed at improving the resilience of around **2,000*** homes by using more than **$400 million** in federal funding.

**This is subject to change based on project complexity, available funding, and program requirements.*

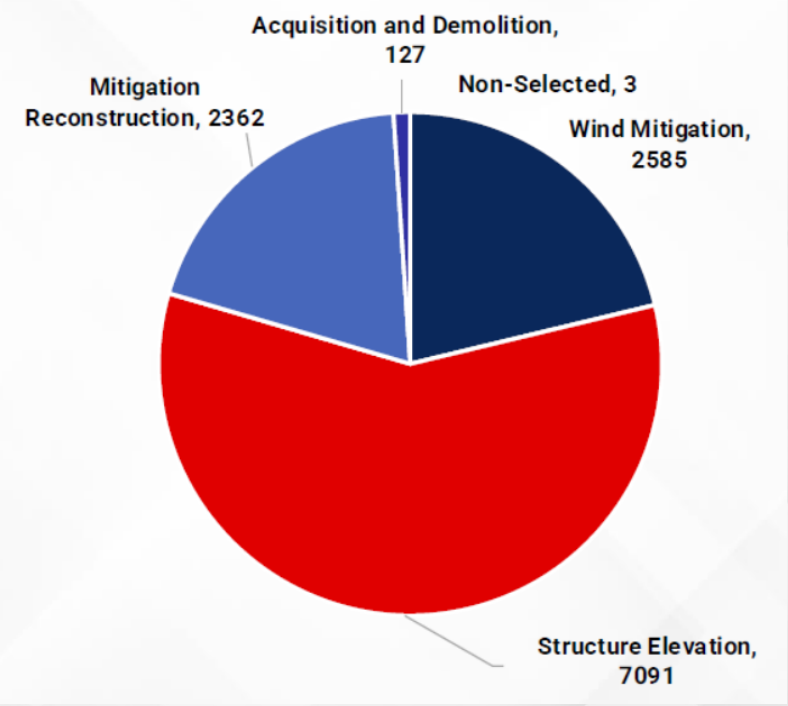


*As of August 11, 2025, Elevate Florida has submitted **305** applications to FEMA.*

MITIGATION

Elevate Florida

- Elevate Florida Applications Received: 12,168
- Notices have been sent to approximately 9,000 residents that are not moving forward in the program
- Pre-Mitigation Agreements will be sent to residents prioritized for HMGP
- There is a waitlist in case those prioritized withdraw



Elevate Florida Program Snapshot
Reporting Period: July 2025

ELEVATE FLORIDA

Elevate Florida is an innovative statewide initiative aimed at improving the resilience of **around 2,000*** homes by using more than **$400 million** in federal funding.

**This is subject to change based on project complexity, available funding, and program requirements.*

Estimated Elevate Florida Timeline

Key: Completed | In-Progress | Not Started

Elevate Florida has sent 305 applications to FEMA for funding determination.

Application Submittal Feb – Apr 2025 → **Application Review*** Apr – Dec 2025 → **FEMA Decision & Approval** Jul 2025 – Mar 2026 → **Construction** Sep 2025 – Dec 2026 → **Close Out** Jan 2027+

Feb 7, 2025	Apr 11, 2025	May 22, 2025	Aug 2025	Jul – Dec 2025	Aug 2025 – Mar 2026	Sept 2025 – Dec 2026	Jan 2027
Application Portal Opened	Application Portal Closed	Began Scheduling Inspections	Applicants Received Project Status Update	Submit Applications to FEMA *(rolling basis)*	Projects receive FEMA Notice of Award *(rolling basis)*	Begin Construction *(rolling basis)*	Begin Program Project Closeout

***Elevate Florida's prioritization process has been completed.*

Program Accomplishments as of August 4th, 2025

- Applications for **305 properties** sent to FEMA for review
- Updated **Property Owner Guide** posted on the Elevate Florida portal
- **28** construction vendors selected

Program Update

In July, the Elevate Florida program sent applications for 305 properties to FEMA for final award determination. While FEMA reviews these applications for funding, Environmental & Historic Preservation consultations will be conducted, if needed.

By the end of August 2025, all applicants will have been notified that they are either moving forward in the program, not moving forward in the program, or been put on a waitlist to possibly move forward if others withdraw.

Hot Topic: Duplication of Benefits

Duplication of Benefits (DOB) refers to situations where an entity receives financial assistance from multiple sources for the same purpose, loss, or need, resulting in an overpayment or "duplication" of aid. Federal law (the *Stafford Act* – *42 U.S.C. § 5155* and *44 CFR 206.191*) prohibits DOB.

During the Application Review stage, applicants submit a DOB Disclosure form and, if necessary, documentation of other assistance, reinvestments, support for funding received, and receipts showing that previous funding was spent in accordance with outlined requirements. DOB review is a continuous process; the program conducts another review for DOB before the Homeowner Grant Agreement is signed and construction begins. At that time, unspent funds would count as DOB. Property owners are responsible for maintaining receipts and documentation, reporting any changes in payouts, settlements, awards, and gifts, filing insurance claims prior to receiving hazard mitigation grants, and communicating with their Case Manager. These tasks must be completed directly by the property owner to align with compliance and proper grant processing. We will review again at project closeout to comply with federal requirements. **For more information, see Elevate Florida's DOB Information Guide.**

For example, Applicant A's total eligible project cost for structure elevation is expected to be $100,000 but they previously received $10,000 for foundation repairs from an NFIP payout. If they hadn't yet spent the NFIP funds, their total eligible project cost under Elevate Florida would be reduced to $90,000. If the applicant spent the NFIP payout appropriately, documented all costs, and submitted adequate documentation on time to Elevate Florida, it may not be considered a DOB, and the eligible project cost could remain at $100,000.

MITIGATION

Hazard Mitigation Grant Program

- **DR-4734 Hurricane Idalia HMGP**
  - 77 applications remaining in review
  - Reviewed 240 applications for determination
    - Submitted to FEMA: 126
    - Awarded by FEMA: 4
  - Federal Lock-in Amount: $217,094,931
  - Federal Share Obligated: $1,479,633 (.68%)
- **DR-4709 Broward Flooding HMGP**
  - All applications are reviewed and submitted
    - Submitted to FEMA: 18
    - Awarded by FEMA: 8
  - Federal Lock-in Amount: $24,956,394
  - Federal Share Obligated: $2,731,812.72 (10.95%)
- **DR-4680 Hurricane Nicole HMGP**
  - All applications are reviewed and submitted
    - Submitted to FEMA: 67
    - Awarded by FEMA: 27
  - Federal Lock-in Amount: $37,661,846
  - Federal Share Obligated: $8,060,587.36 (21.40%)
- **DR-4673 Hurricane Ian HMGP**
  - All applications reviewed and submitted
    - Submitted to FEMA: 346
    - Awarded by FEMA: 103
  - Federal Lock-in Amount: $1,165,933,863
  - Federal Share Obligated: $54,556,461.87 (4.68%)

MITIGATION

Hazard Mitigation Grant Program

- **DR-4794 Severe Storms, Straight-line Winds, and Tornadoes**
  - Reviewing 18 applications for determination
  - Federal Lock In Amount (including set-asides): $10,684,766.06 (12-month lock-in)
  - Federal Share Obligated $0
- **DR-4806 Hurricane Debby**
  - Reviewing 108 applications for determination
  - Current federal funding estimate (including set-asides): $74,348,438 (6-month estimate)
  - Federal Share Obligated: $1,758,276.34 (2.36%)
- **DR-4828 Hurricane Helene**
  - 277 total applications submitted
  - Current federal funding estimate (including set-asides): $471,149,368.25 (6-month estimate)
  - Federal Share Obligated $24,976,336.58 (5.3%)
- **DR-4834 Hurricane Milton**
  - 277 total applications submitted
  - Current federal funding estimate (including set-asides): $581,912,527.50 (6-month estimate)
  - Federal Share Obligated: $42,597,742.05 (7.32%)

HMGP projects within SFWMD counties:

At least 477 projects
Totaling over $256.5 million in federal share

Osceola County

Steps to Resiliency

Susan Gosselin, Water Resources and Policy Advocate
Liuliu Wu, Ph.D., P.E., Water Resources Director

Where we were.

OSCEOLA COUNTY be first to what's next.

Steps to Resiliency

- Shingle Creek Basin Study
- Osceola County Master Surface Water Management Plan
- Osceola County Vulnerability Assessment

OSCEOLA COUNTY be first to what's next.

Shingle Creek Basin Study

Update

- 90,000-acre drainage basin
- Several areas known for flooding

Goals

- Create a unified model of Shingle Creek and associated tributaries.
- Create conceptual solutions to reduce flood stage and duration for properties in the Shingle Creek basin.

Conceptual Projects

- Shoaling Removal within Shingle Creek
- Remove “island” within Shingle Creek
- Add storage along Shingle Creek via wetland restoration in various locations

OSCEOLA COUNTY be first to what's next.

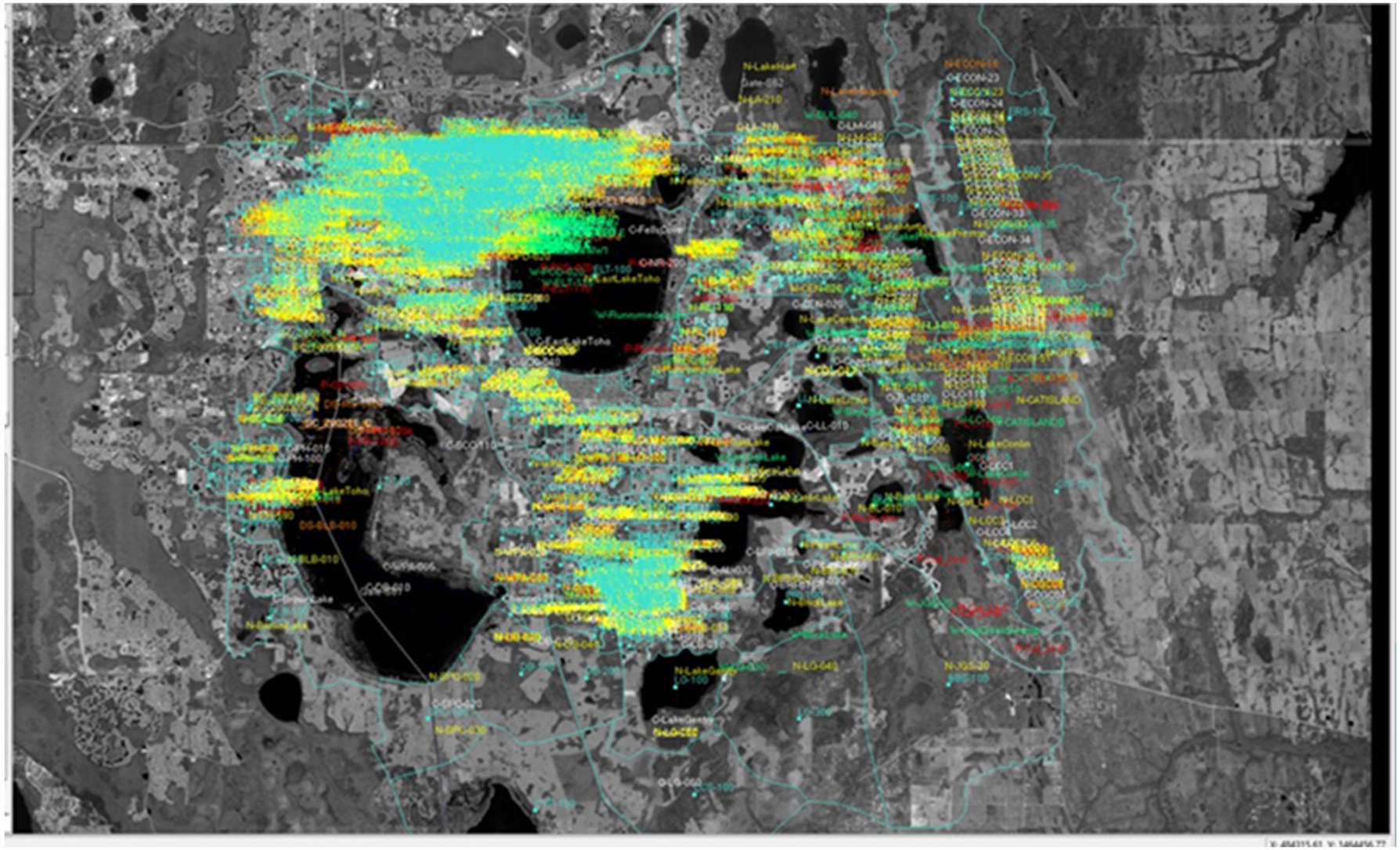
Master Surface Water Management Plan Update

Master Surface Water Management Plan is to cover all of Osceola County

Where we are

- Create a high-level model of current drainage conditions within Osceola County – in review
- Produce policy recommendations for the County's Comprehensive Plan and Land Development Code- not completed
- Propose expansions to the current water quality and quantity monitoring network – in review
- Utilize model and water quality data to create conceptual dispersed water project(s) to reduce the nutrient impact from high flow events such as Hurricane Irma to the downstream Lake Okeechobee watershed – not completed
- Model conceptual improvements in the secondary system to reduce flood risk – not completed

OSCEOLA COUNTY be first to what's next.



OSCEOLA COUNTY be first to what's next.

Osceola County Vulnerability Study

Funded by Florida Department of Environmental Protection for grant funding under the Resiliency Planning Grant program

Goals

- Create a high-level model of future drainage conditions within Osceola County merging the model from the SFWMD FPLOS for the Upper Kissimmee Basin and the model from the SJRWMD Flood Forecasting Model of the Upper St. Johns River Basin
- Determine at-risk critical infrastructure to flood from increase storm intensity and duration in the 50-year timeline.
- Produce policy recommendations for the County's Comprehensive Plan and Land Development Code
- Suggest improvements to critical infrastructure

Status

- Awaiting Peer-review completion of Master Surface Water Management Plan.

OSCEOLA COUNTY be first to what's next.

Shingle Creek and Kissimmee River WRDA

Project Description

The Shingle Creek and Kissimmee River Ecosystem Restoration Feasibility will focus on improving conditions in the creek, Kissimmee Chain of Lakes, and the Kissimmee River by improving the hydrology, providing for water storage, and restoring environmental conditions for native riparian, upland, and riverine habitat, which will contribute to related improvements to fish and wildlife habitat.

Link to South Florida Water Management District Resiliency

SFWMD manages primary drainage system in Osceola County through a series of gates and channels.

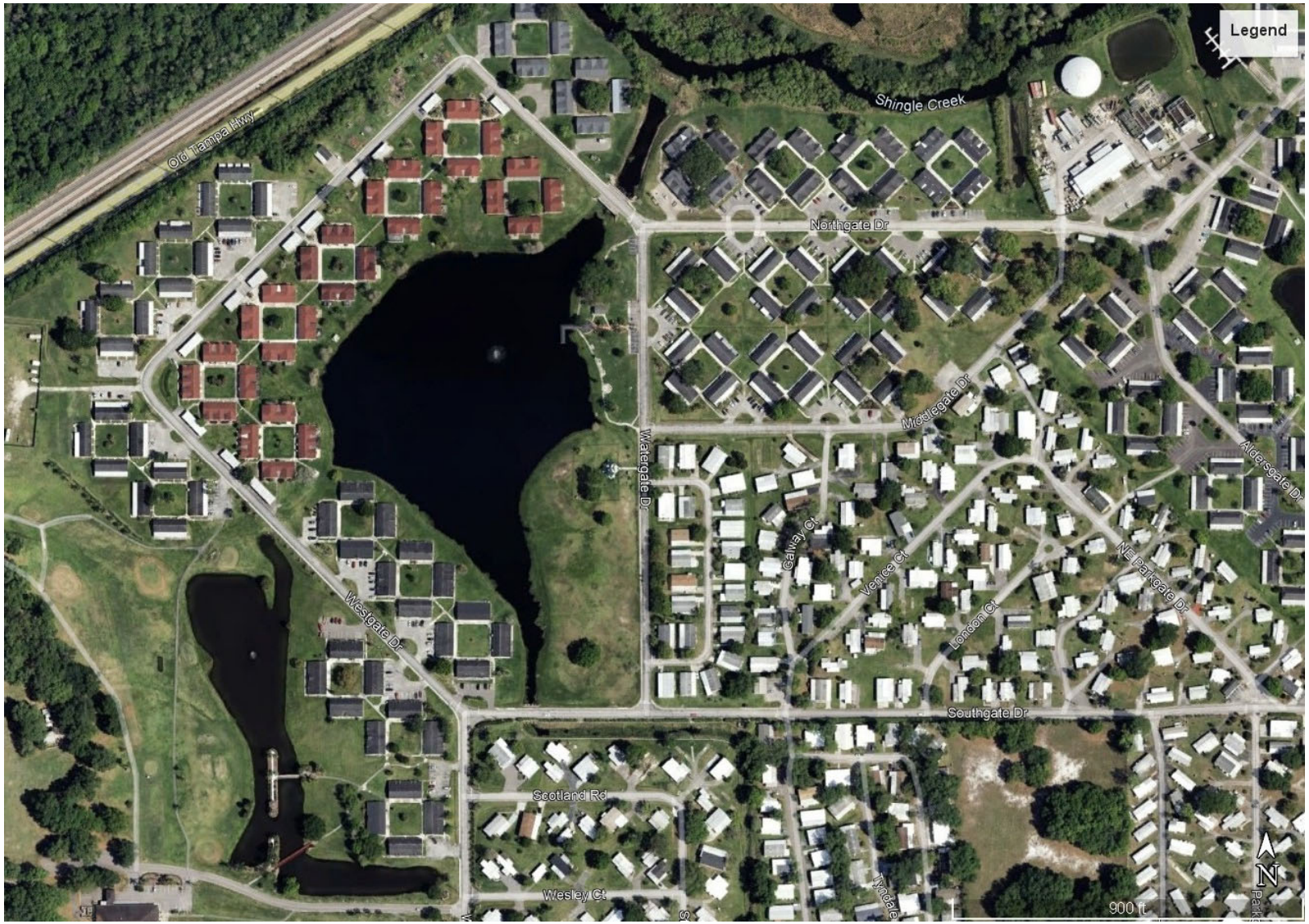
Challenges

- Aging infrastructure which cannot support current or projected stormwater flow.
- Funding.

Osceola's Link

- Improvements in the secondary system will not work without improvements to the primary system.
- Osceola supports SFWMD in their quest for Hazard Mitigation Grant Funding.

Final Note



OSCEOLA COUNTY be first to what's next.

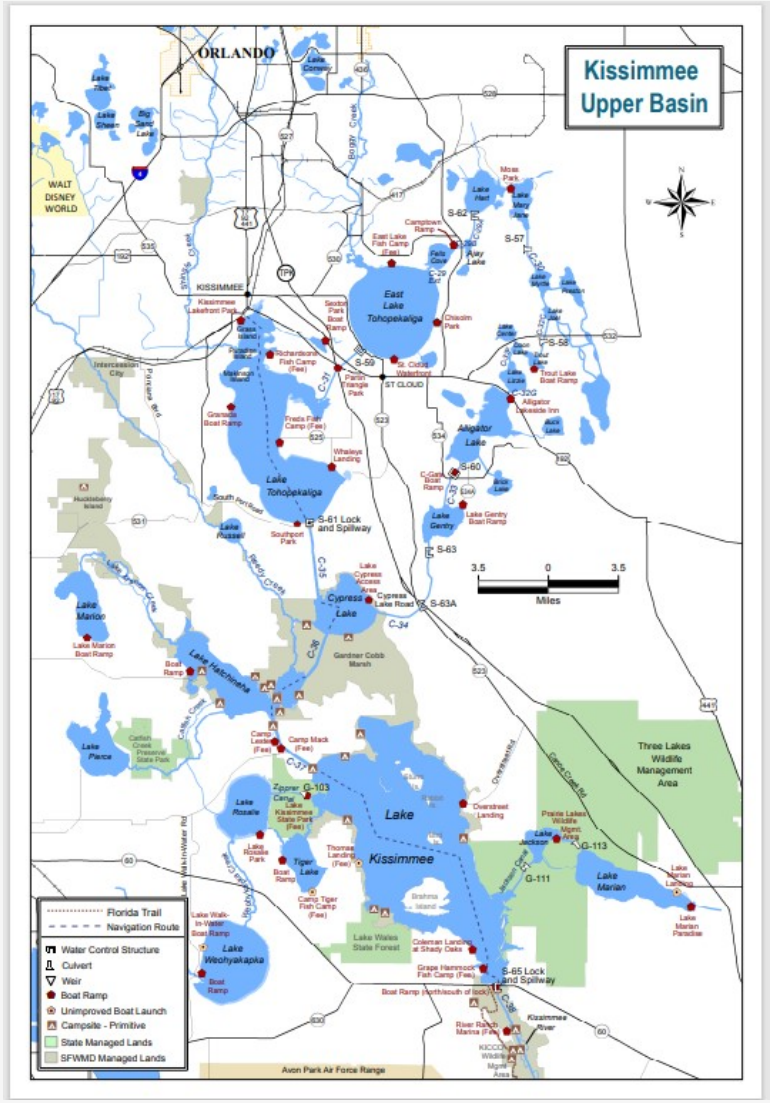
Final Note


Legend
Old Tampa Hwy
Shingle Creek
Northgate Dr
Middlegate Dr
Watergate Dr
Galway Ct
Venice Ct
London Ct
NE Partgate Dr
Aldersgate Dr
Westgate Dr
Southgate Dr
Scotland Rd
Wesley Ct
900 ft
N

Thank You!

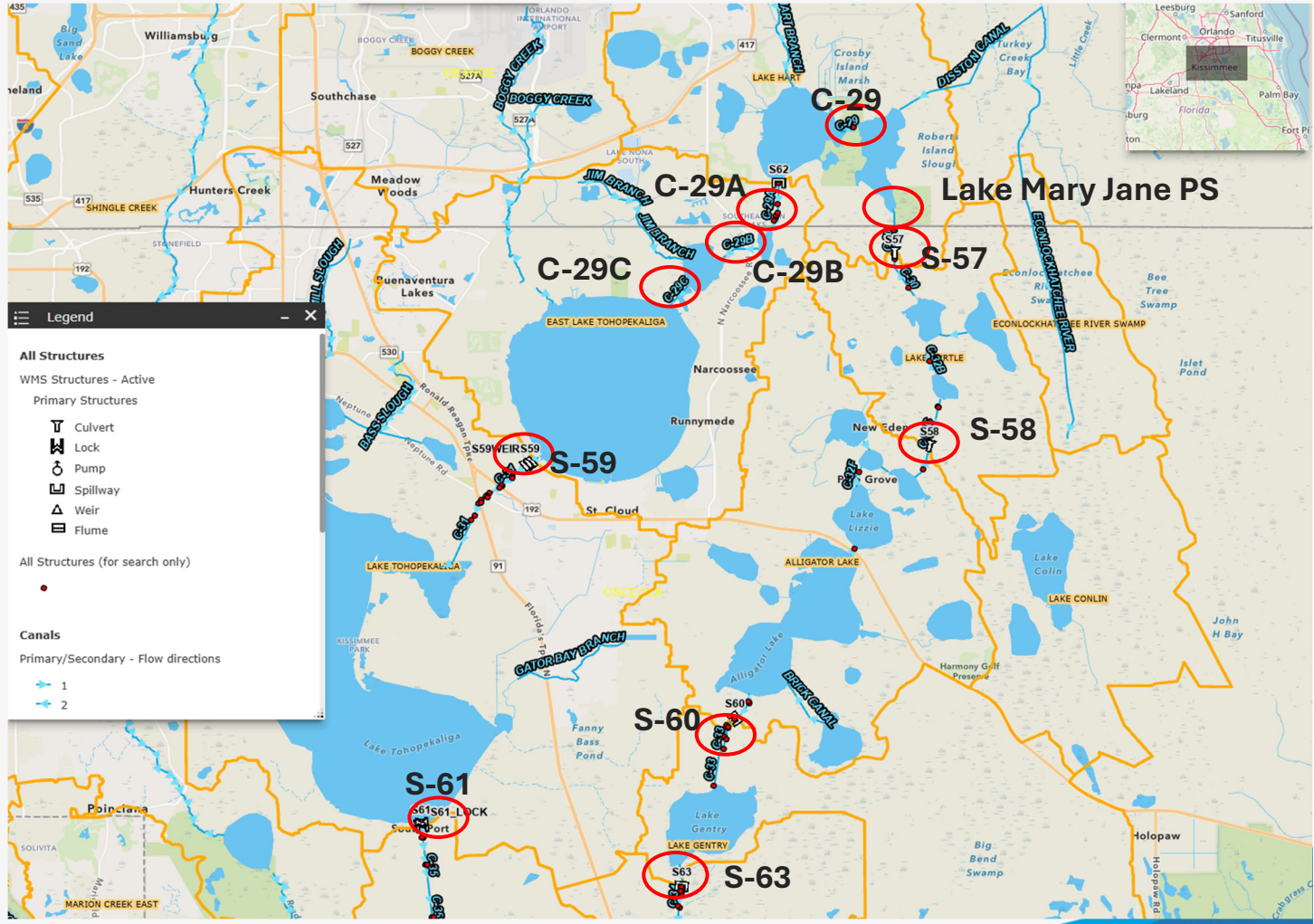
Upper Kissimmee Basin:

Increasing Flood Control Resiliency with Improvements, Restoration, and Partnerships



Proposed Flood Resiliency Projects & Coordination in the Upper Kissimmee Basin

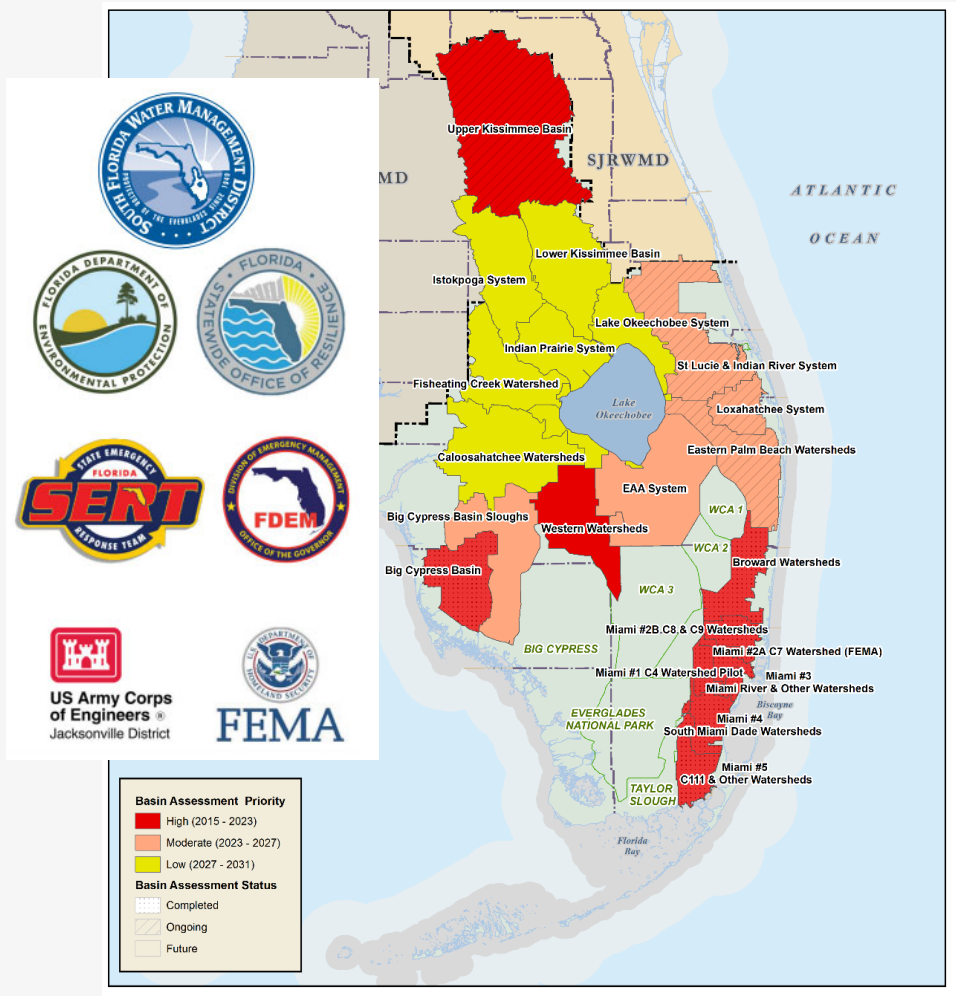
- Post Disaster Hurricane Ian – Florida Division of Emergency Management (FDEM) – Hazard Mitigation Grant Program (HMGP)
  - S-58 Structure Enhancement & Temp Pump Platforms
  - S-59 Structure Enhancement & C-31 Canal
  - S-61 Spillway Enhancement & Erosion Control
  - C-29, C-29A, C-29B, and C-29C Canal Conveyance Improvements (Withdrawn)
- Post Disaster Hurricane Milton FDEM HMGP– ongoing coordination with Local Mitigation Strategy Working Groups
  - Resubmitted: C-29, C-29A, C-29B, & C-29C Canal Conveyance Improvements
  - Lake Mary Jane Pump Station Installation on C-30 Canal
  - S-63 Conveyance Enhancement on C-34 Canal
  - S-57 Conveyance Enhancement on C-30 Canal
  - S-60 Conveyance Enhancement on C-33 Canal



Flood Protection Level of Service (FPLOS) Program

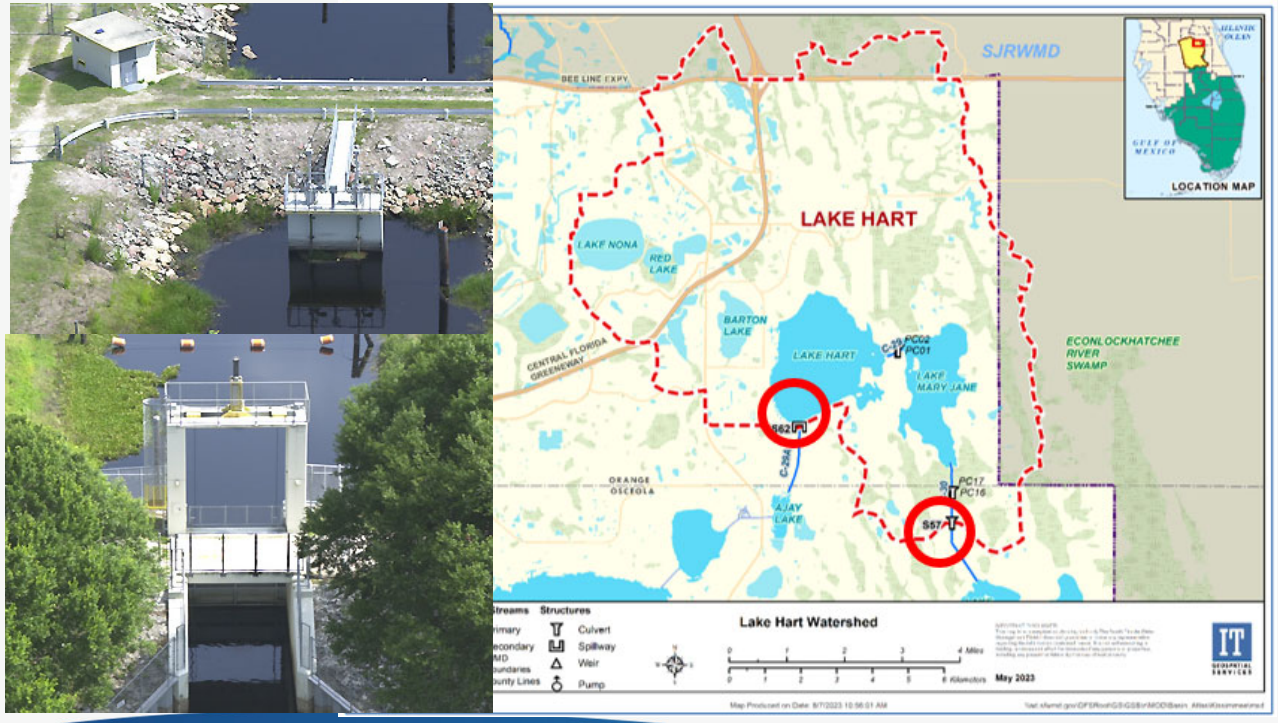
SFWMD's strategy for assessing system wide flood protection for current and future conditions, the impacts of land development, sea level rise and a changing climate on flood control infrastructure

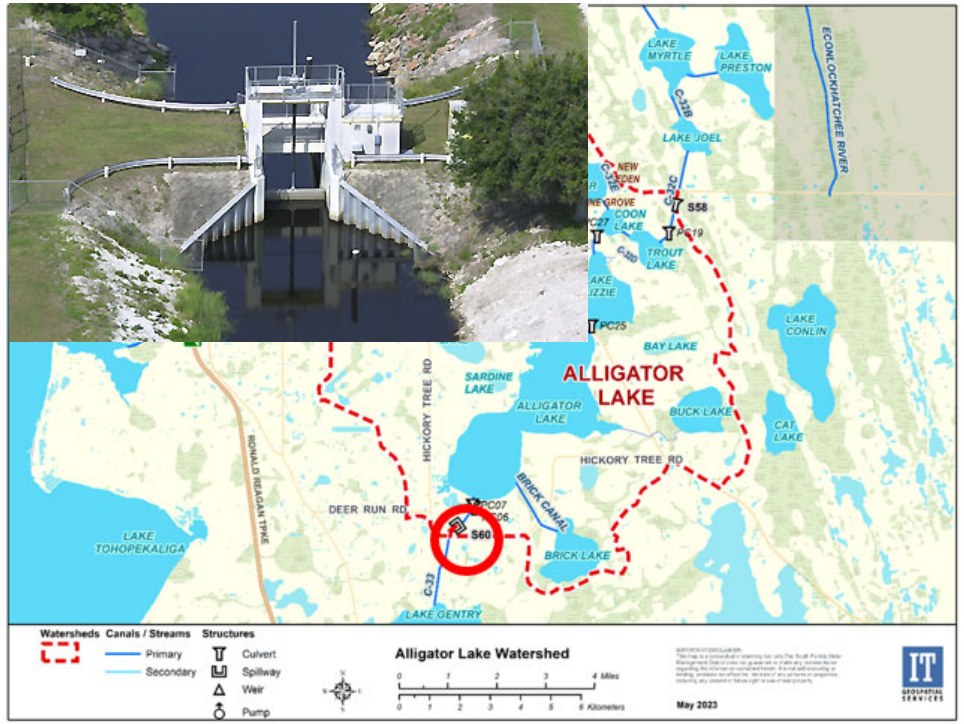
- Pre-defined performance metrics: canal stages, discharge capacity, overland flood inundation and duration.
- Support decision making on prioritizing and sequencing infrastructure investments with funding support from:
  - U.S. Army Corps of Engineers Central & South Flood Resilience Studies
  - Florida Department of Environmental Protection Resilient Florida
  - Florida Division of Emergency Management /Federal Emergency Management Agency Hazard Mitigation Grant Program, Pre- and Post-storm
  - Other sources



Ongoing Upper Kissimmee Basin Resilience Initial Flood Vulnerability and Adaptation Studies

- Understanding the Level of Service assessment and the major concerns
- Improve conveyance in canals
- Add additional structures to improve conveyance capacity
- Provide additional storage





Restoration Projects in the Upper Kissimmee Basin: Partin Family Ranch

Northern Everglades and Estuaries Protection Program

- Water Retention and Nutrient Load Reduction Project:
  - Doc Partin Family Ranch Dispersed Water Management Project
  - This public-private partnership provides additional water storage in the Lake Okeechobee Watershed and flood relief in the localized system
  - Adds water storage by rehydrating drained floodplains
  - Retains rainfall and stormwater runoff
  - Increases water retention and nutrient load reduction, improving water quality
  - The goal is to rehydrate the historic storage of the landscape
  - This water storage project spans over 3,000 acres

Image of area in Big Bend Swamp at the Partin Family Ranch in Osceola County

Image of 60” riser culvert replacement in the Big Bend Swamp

Restoration Projects in the Upper Kissimmee Basin: Eagle Haven Ranch

Northern Everglades and Estuaries Protection Program

- Eagle Haven Ranch Public-Private Partnership
  - Partnership with Eagle Haven Properties LLC
  - Passively retain stormwater runoff within five water management areas totaling 730 acres in order to reduce discharges to Lake Kissimmee and downstream waterbodies
  - Project is part of an active cattle ranch totaling more than 3,400 acres
  - Improves water quality
  - Water storage = 375 Acre Feet/Year

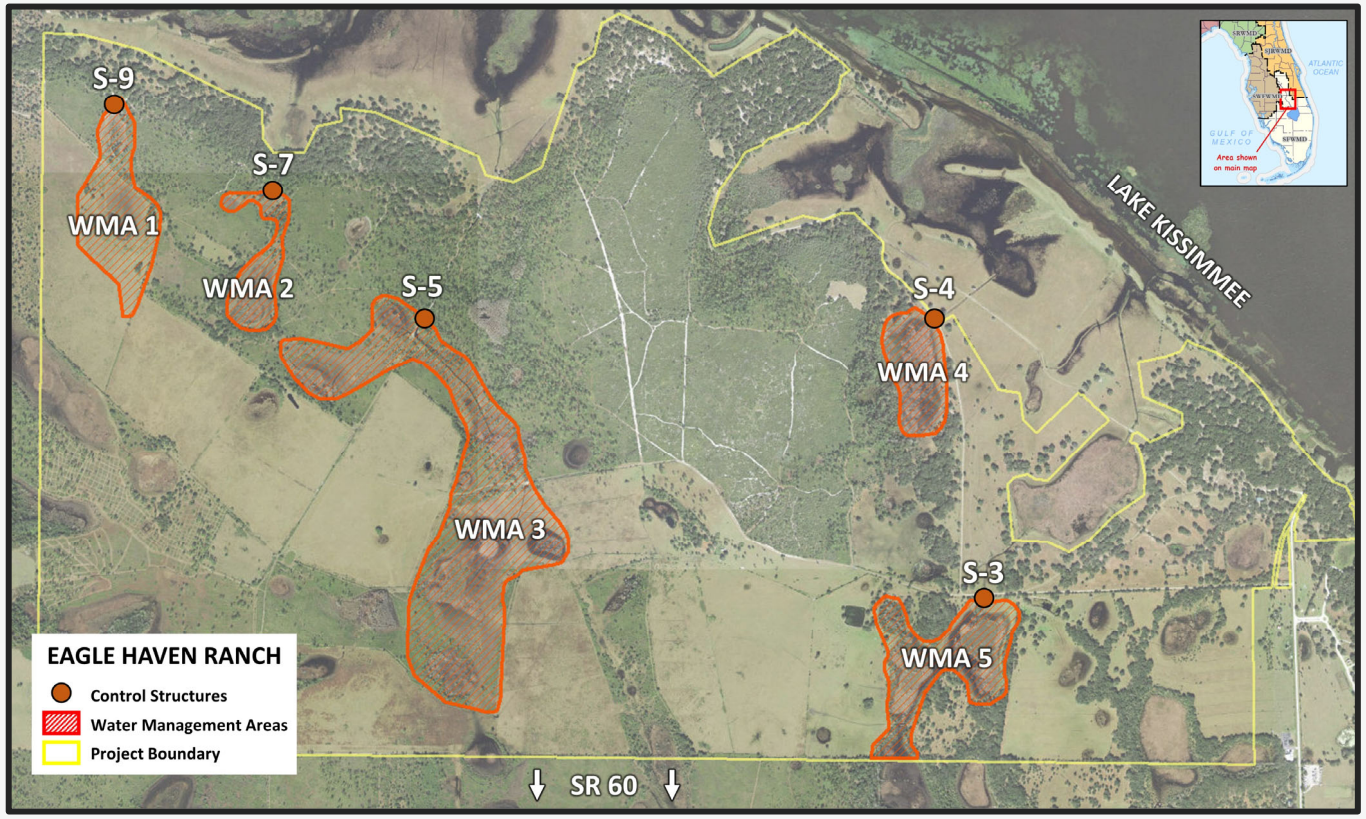
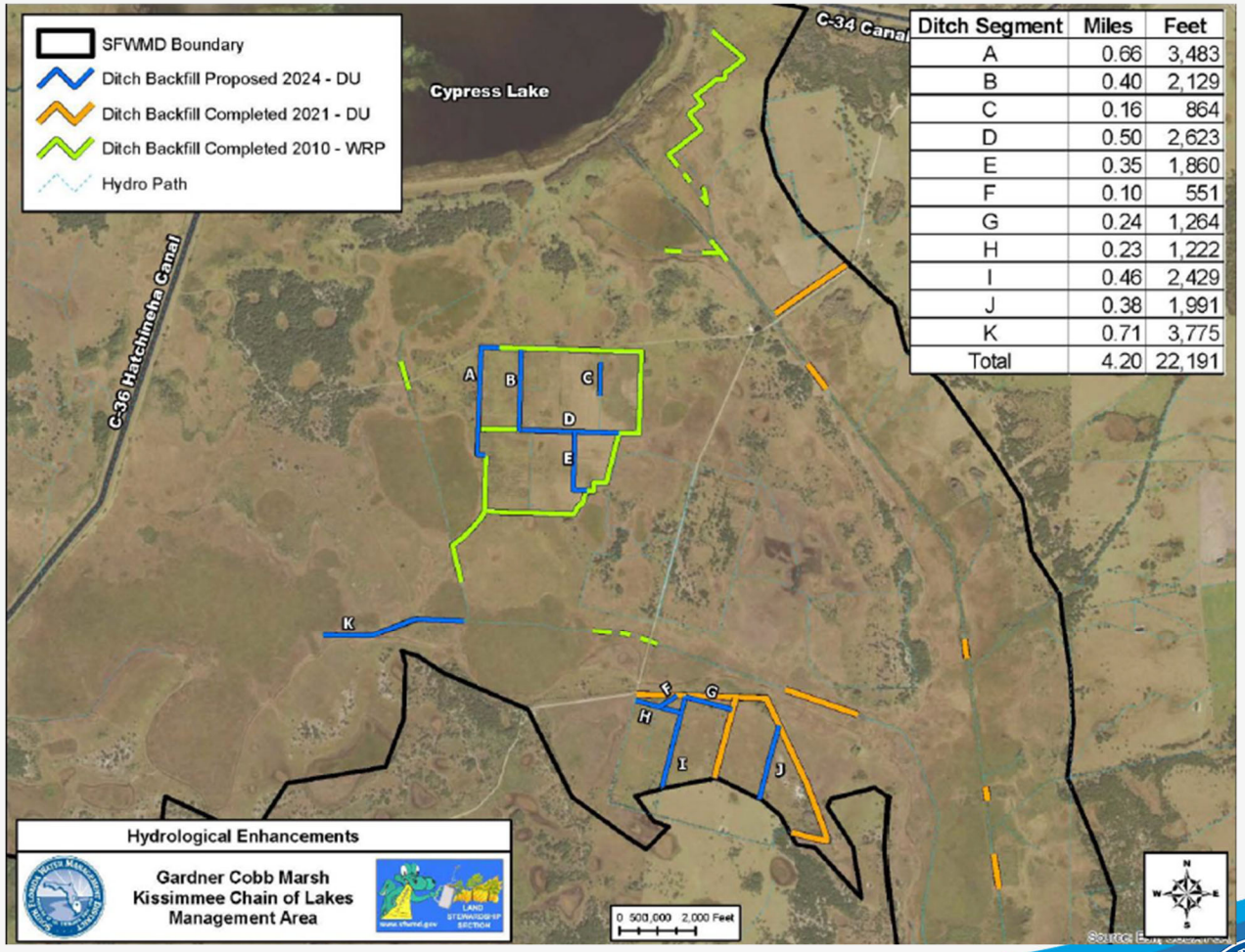


Image of Eagle Haven Ranch Project Area in Polk County

Restoration Projects in the Upper Kissimmee Basin: Gardner-Cobb Marsh Restoration Project

Northern Everglades and Estuaries Protection Program

- Partnership project between South Florida Water Management District, Florida Department of Environmental Protection and Ducks Unlimited
  - Enhance existing wetlands by reducing drainage and extending the hydroperiod
  - Restore more than 6,500 acres of over-drained marsh and natural wet prairie floodplain
  - Provide habitat for native wildlife
  - Improve water quality in the Okeechobee watershed



Ditch Segment	Miles	Feet
A	0.66	3,483
B	0.40	2,129
C	0.16	864
D	0.50	2,623
E	0.35	1,860
F	0.10	551
G	0.24	1,264
H	0.23	1,222
I	0.46	2,429
J	0.38	1,991
K	0.71	3,775
Total	4.20	22,191

Phased Implementation of the Kissimmee River Headwaters Revitalization Schedule

What is a Regulation Schedule?

A regulation schedule is a plan that manages the water levels in the Kissimmee River and surrounding lakes. To support flood control, water supply and the health of the lakes and restoration of the Kissimmee River, a new regulation schedule has been proposed and implemented.

Increment 1 Details

- The first phase of the Headwaters Revitalization Schedule
- Proposed as a deviation to the Interim Regulation Schedule
- Development of the schedule started in 2021 and was approved and implemented in August 2024
- Increment 1 raises the regulation schedule in summer and winter
- Increment 1 will remain in effect until a subsequent increment is implemented, or upon implementation of the full Headwaters Revitalization Schedule

JANUARY 2024

Phased Implementation of the Kissimmee River Headwaters Revitalization Schedule

The Kissimmee River Headwaters Revitalization Schedule (HRS) is the last piece of the Kissimmee River Restoration Project, which was jointly developed and constructed by USACE and SFWMD over the last 30 years.

Background

The Kissimmee River is a significant part of America's Everglades and the Kissimmee River Restoration Project is vital to restoring the Greater Everglades Ecosystem. The historic Kissimmee River once meandered for 103 miles through Central Florida. Its floodplain, reaching up to two miles wide, was inundated for long periods by heavy seasonal rains. Recurring and prolonged flooding impacted local residents and resulted in Congressional authorization of the Central and Southern Florida Project, which included channelizing the Kissimmee River and floodplain.

Construction of the C-38 Canal achieved flood reduction benefits, but it also harmed the river-floodplain ecosystem. The decline of the ecosystem spurred federal, state and local partnerships to embark on one of the world's largest riverine restoration efforts: the Kissimmee River Restoration Project.

Kissimmee River Restoration Project and the Headwaters Revitalization Schedule

The completion of construction for the Kissimmee River Restoration Project in 2021 set the stage for gradual implementation of the new Headwaters Revitalization Schedule, which regulates water levels in the Kissimmee River. The Kissimmee River Headwaters Revitalization Schedule is the last piece of the Kissimmee River Restoration Project, which was jointly developed and constructed by the U.S. Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD) over the last 30 years.

The Headwaters Revitalization Schedule will be implemented in phases to hold more water in Lakes Kissimmee, Cypress and Hatchineha to allow historic flows to the Kissimmee River while maintaining the same level of flood protection. Intensive monitoring will occur to assess the affects of modifying water levels.

Phased updates to the management plan will allow successively higher stages in the Headwaters Lakes (Lakes Kissimmee, Cypress, and Hatchineha) until approximately 2026, when the Headwaters Revitalization Schedule will be fully implemented.

The objective of the Headwaters Revitalization Schedule is to provide sufficient water storage to reestablish historical (pre-channelization) flow patterns to the Kissimmee River through the increased flow capacity for the S-65 structure. The higher stages allowed by the schedule are also expected to improve littoral zone habitat in the lakes.

What is a Regulation Schedule?

A regulation schedule is a plan that manages the water levels in the Kissimmee River and surrounding lakes. To support flood control, water supply and the health of the lakes and restoration of the Kissimmee River, a new regulation schedule is being proposed.

Increment 1 Details

- The first phase of the Headwaters Revitalization Schedule.
- Proposed as a deviation to the current Interim Regulation Schedule.
- Development started in 2021 and it is anticipated to be approved in 2024.
- Increment 1 proposes raising the regulation schedule elevation approximately 0.5 feet higher than the current regulation schedule in summer and winter.
- After Increment 1 is approved and implemented, it will remain in effect until a subsequent increment is implemented, or upon implementation of the full Headwaters Revitalization Schedule.

Image of the handout about the Phased Implementation of the Kissimmee River Headwaters Revitalization Schedule

AUGUST 2024

The Kissimmee River Headwaters Revitalization Schedule

- The Headwaters Revitalization Schedule is the essential "non-structural" component of the Kissimmee River Restoration Project.
- Widening of canals, structural modifications, and real estate acquisitions were authorized to accommodate the raising of the regulation schedule elevation.
- Development of Increment 1 started in 2021 and was approved and implemented in August 2024.

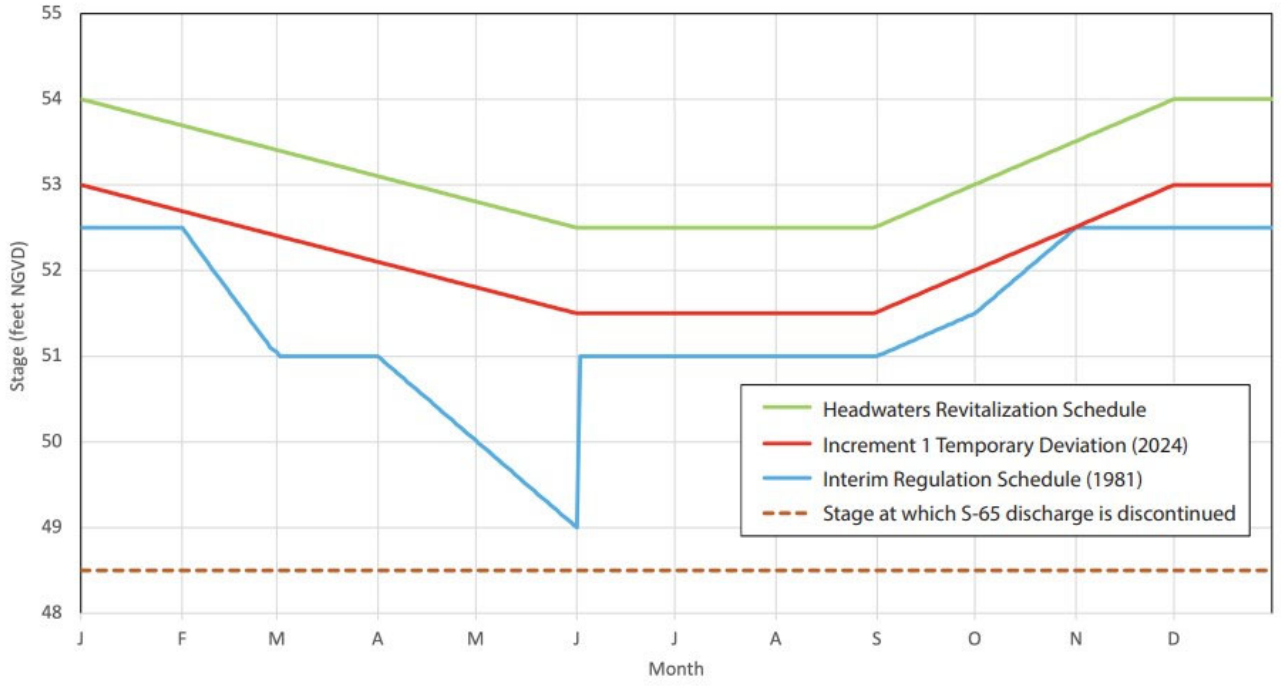


Image of the handout of the Kissimmee River Headwaters Revitalization Schedule

Resiliency in the Upper Kissimmee Basin – Next Steps:

- Ongoing coordination with County Local Mitigation Strategy Working Groups
- Continued coordination with partners to advance flood resiliency and restoration projects
- Provide support for local vulnerability assessments
- Continued support of the Shingle Creek and Kissimmee River Flood Risk Management Study with U.S. Army Corps of Engineers and Osceola County

For questions & information:

Nicolle Masters, SFWMD External Affairs Specialist

Email: nmasters@sfwmd.gov

Phone number: 407-760-3203

Florida Silver Jackets:

2025 Projects Flood Planning Tools

Upcoming Project Overviews

September 3, 2025

Presented by:

Stephanie Verhulst, PhD
Florida Silver Jackets Coordinator
Jacksonville District, USACE

SILVER JACKETS

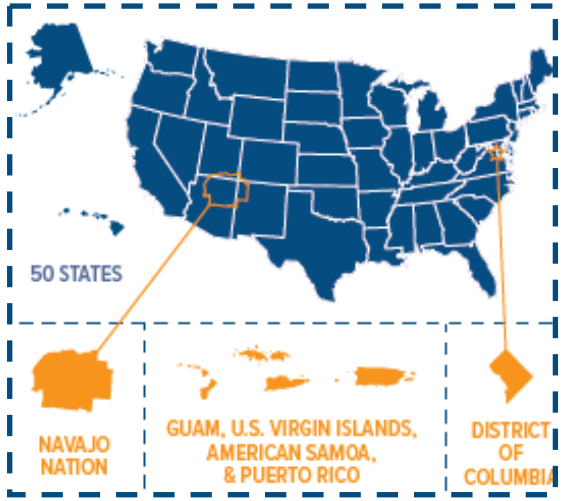
MANY PARTNERS • ONE TEAM

THE NAME

Agencies can be recognized by jacket colors. "Silver Jackets" team represents the coming together of many agencies to achieve a better outcome as one.

SILVER JACKETS NOW

Interagency:
Federal
State
Local
Tribes
Private



HOW IT WORKS

NO SINGLE AGENCY HAS ALL THE ANSWERS BUT EACH HAS ONE PIECE OF THE PUZZLE

SILVER JACKETS
MANY PARTNERS • ONE TEAM

INTERAGENCY SILVER JACKETS TEAMS are led by **state, tribe, or territory** and responsible for setting the **team's priorities** and facilitate cooperation and collaboration among partners to find innovative and creative solutions needed to make communities more resilient to flooding, droughts, and other natural hazards.

USACE ROLE funded by Institute of Water Resources National Flood Risk Management Program
COORDINATION SUPPORT provided by USACE staff, alongside the state, tribe, or territory team lead.

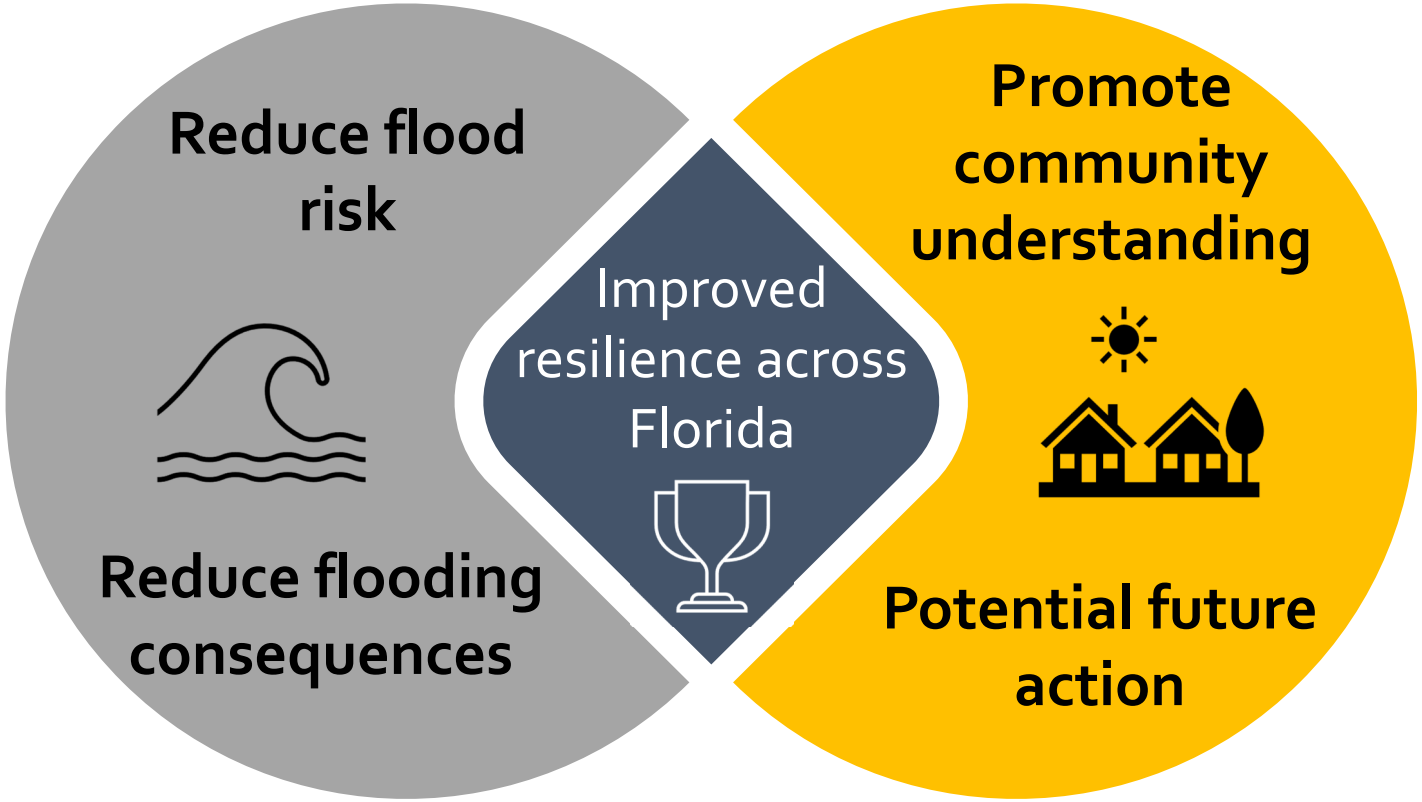
SILVER JACKETS PROJECT TEAMS provide technical assistance to find solutions to flood, drought, and other natural hazards.

Potential project ideas from state, tribe, or local entities are provided to the Interagency Silver Jackets Team for selection to develop full Silver Jackets Project Proposal.

USACE ROLE funded through Flood Plain Management Services program
PROPOSAL SUBMITTAL to USACE Headquarters
PROJECT SUPPORT via team facilitation, planning and technical abilities, and information sharing

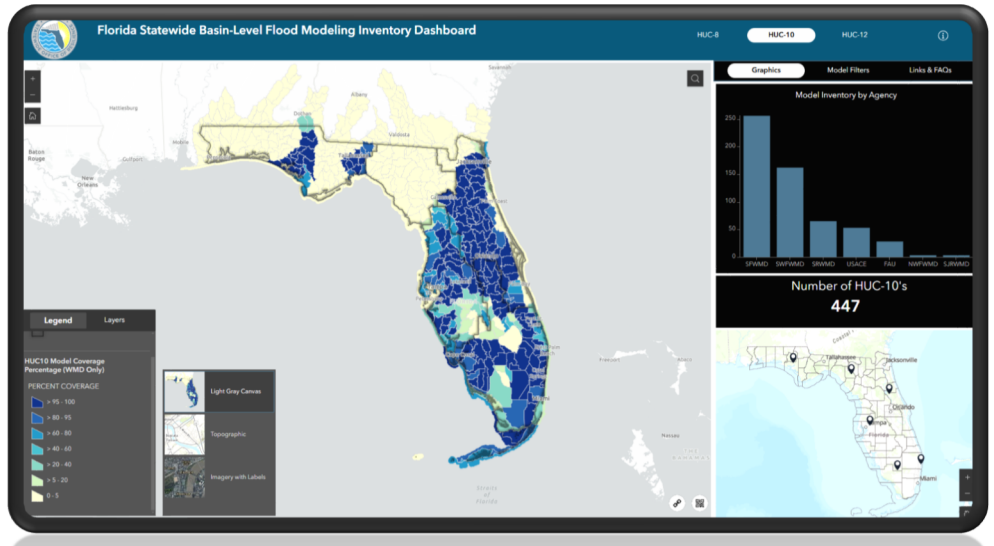
Florida Team Leads

Stephanie Verhulst, USACE
Evan Jenkins, FDEM

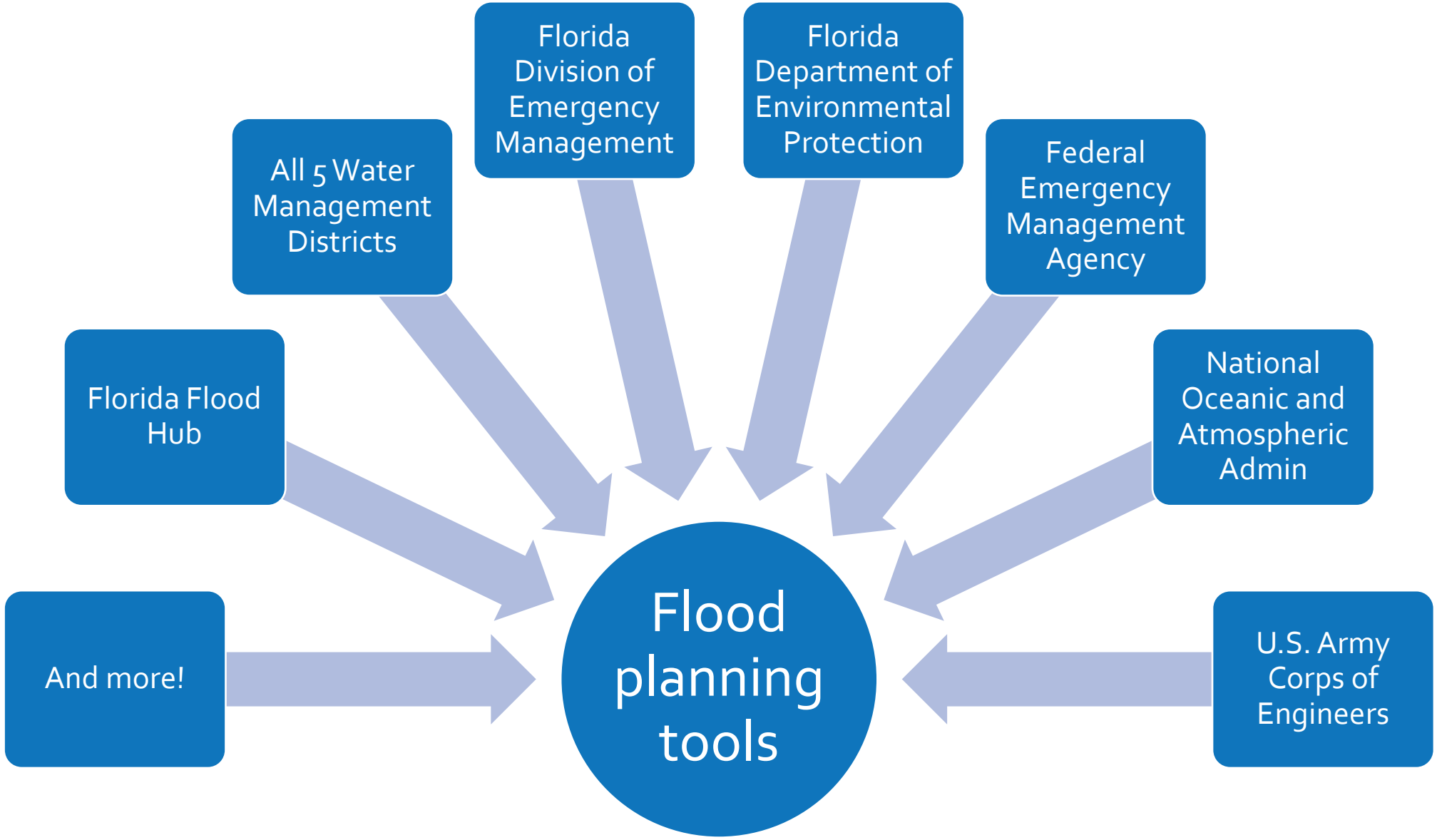

Reduce flood risk
Reduce flooding consequences
Improved resilience across Florida
Promote community understanding
Potential future action

Silver Jackets projects to flood planning

- Florida Basin-Level Flood Assessment Inventory
  - Community Guidebook to Flood Modeling
  - Flood Observations – Regional Coordination and Community Engagement

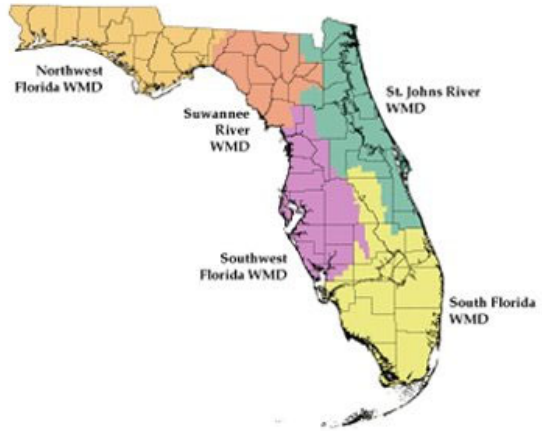


PARTNERS TO PRODUCT



Silver Jackets Project:
Florida Basin-Level Flood Assessment Inventory

Project Goals: comprehensively inventory the status of flood data acquisition and assessment efforts at the basin-level across the state.



Products:

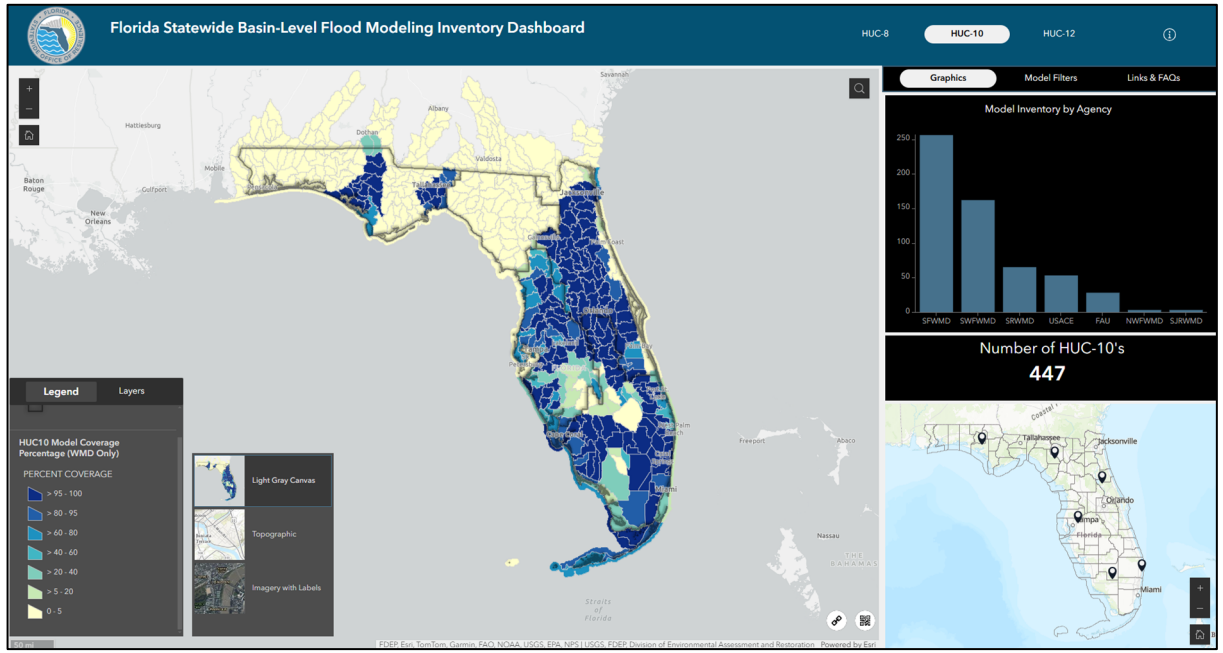
- **State-wide database** - Inventory of flood models and analysis efforts in Florida
- **Interactive tool for communities to access information** - GIS dashboard to determine what level (HUC 8-12) of modeling and types of modeling available.

FLORIDA FloodHub
FOR APPLIED RESEARCH AND INNOVATION

Silver Jackets Project:
Florida Basin-Level Flood Assessment Inventory

Project Benefits:

- Centralized location of flood modeling
- Identifying resources to prioritize new flood models
- "Parent" of new Silver Jackets projects



[Florida Basin-Level Flood Assessment Inventory]

COMMUNITY GUIDEBOOK TO FLOOD MODELING

Project Motivations: Multi-year, multi-step efforts for Silver Jackets. Flood model inventory completed April 2025. Next step for local, regional, and state level flood model planning and development.

Project Goals: Develop a guidebook for local municipalities and/or counties to assist in understanding the ‘how”, “what”, and “why” associated with flood modeling.

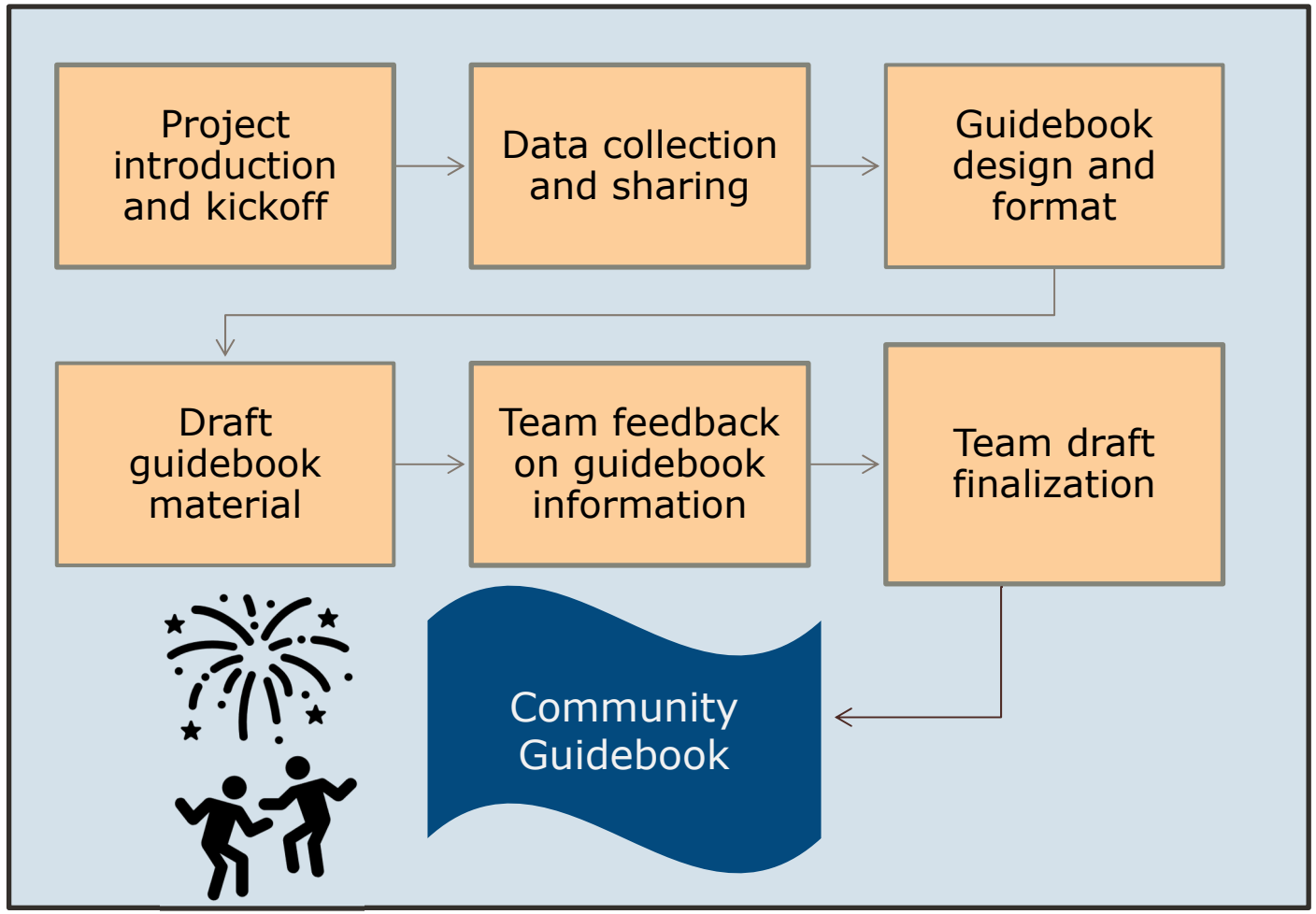
- Topics can include: best practices, strategies, and pitfalls to avoid for developing and using flood models.

COMMUNITY GUIDEBOOK TO FLOOD MODELING

Project End Goal: Guidebook.

Team to establish:

- How we get there
- Are we missing any partners



FLOOD OBSERVATIONS – REGIONAL COORDINATION AND COMMUNITY ENGAGEMENT

Project Motivations: Multi-year, multi-step efforts for Silver Jackets. Flood model inventory completed April 2025. Sister project with SJ project Community Guidebook to Flood Modeling.

Project Goals: Delineate processes, map/identify existing tools to collect data on flooding, and promote community engagement for the collection and compilation of observations.

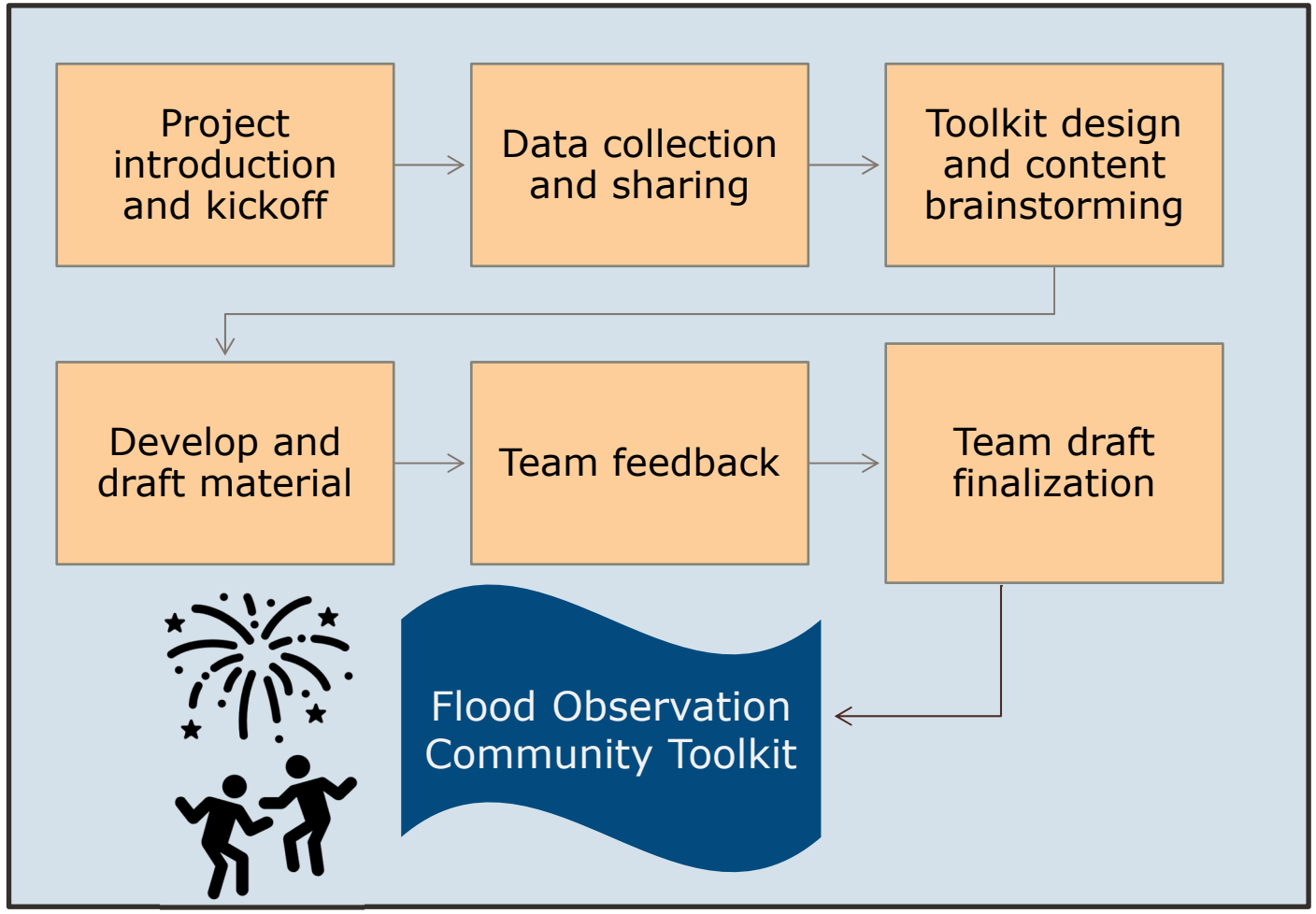
- Flood event data collection tool 
- Data repository 

FLOOD OBSERVATIONS – REGIONAL COORDINATION AND COMMUNITY ENGAGEMENT

Project End Product: Flood Observation Community Toolkit.

Team to establish:

- How we get there
- Are we missing any partners



DRAFT GENERAL PROJECT SCHEDULES

- Partners kickoff meeting
- Data gathering and product brainstorming – September 2025
- Product development – November 2025-May 2026
  - Progress meetings (data sharing/updates)
  - Desired frequency? Bi-weekly, monthly? Workshop?
- Share draft project materials with agencies/partners – June 2026
- Partner comments and feedback – July-September 2026
- Incorporate partner feedback – October 2026
- Final Products – December 2026 (~18 months)

How can you be involved?

- Contact Stephanie Verhulst to be part of project team
- Florida Silver Jackets Team has quarterly meetings and webinars!
  - Guest Speakers - you can request a topic or speaker.
- Submit ideas for Interagency FPMS (Silver Jackets) projects! (Due Sept 12)
- Any other requests?
  - Maximize collaboration between many agencies.

Scan this QR code to be linked to the Silver Jackets Website

SILVER JACKETS
MANY PARTNERS • ONE TEAM

Questions?

USACE Florida Silver Jackets Coordinator:

Stephanie Verhulst
Email: Stephanie.a.Verhulst@usace.army.mil
(904) 232-1818

FDEM Silver Jackets Coordinator:

Evan Jenkins
Email: Evan.Jenkins@em.myflorida.com

Analysis of High Tide Events at SFWMD Coastal Structures

Brian McNoldy
Nathan Taminger

MIAMI
ROSENSTIEL SCHOOL of MARINE, ATMOSPHERIC & EARTH SCIENCE

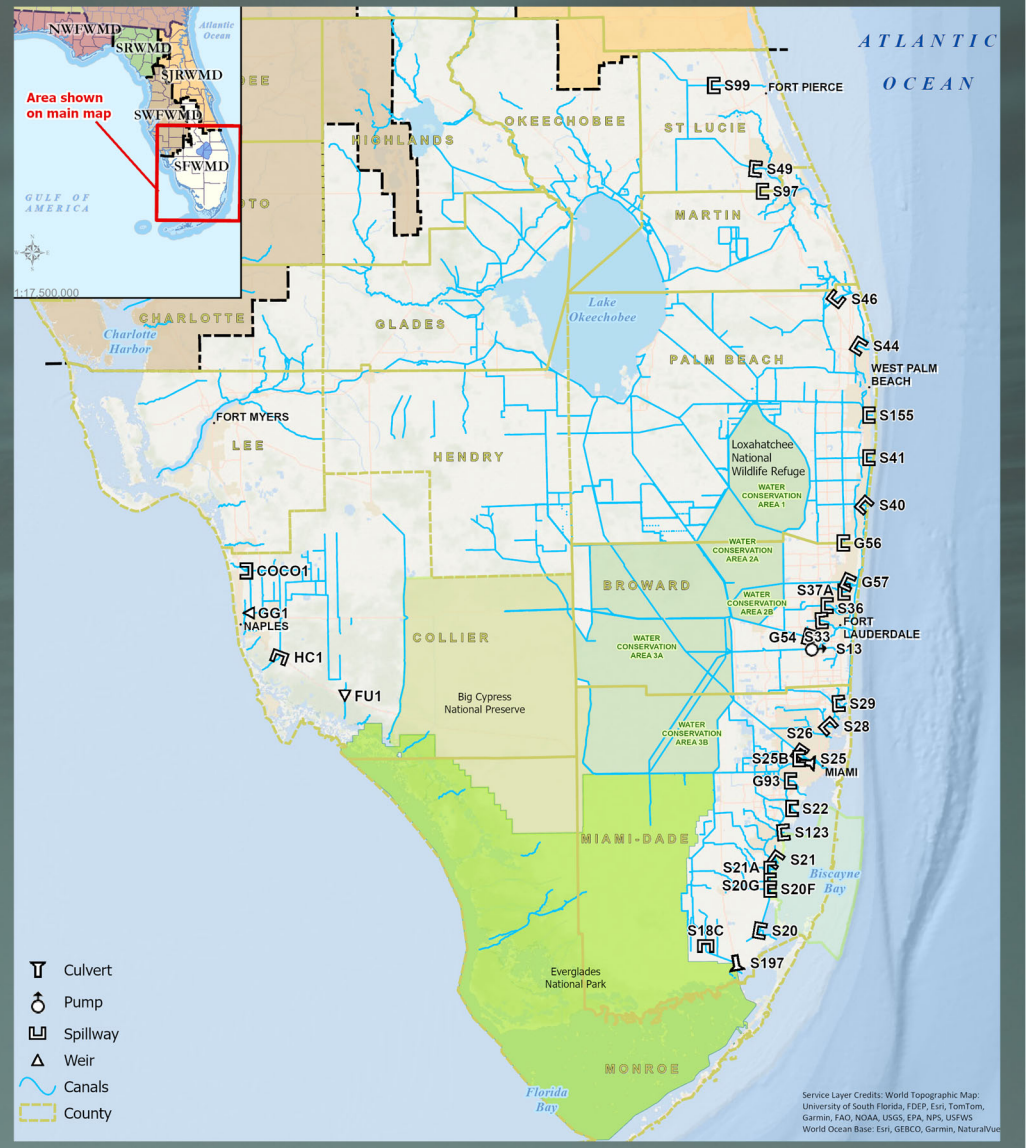
SFWMD Resiliency Coordination Forum • September 3, 2025 • West Palm Beach FL

Background

- *Of the roughly 940 water control structures managed by SFWMD, this analysis includes data from 35 of SFWMD's coastal structures – these interface with the tides.*
- *To prevent saltwater intrusion and tidal flooding, these gravity-operated structures must be closed when the tidal water level ("tailwater") gets too close to or above the inland water level ("headwater").*
- *This study defines and reviews trends of **High Tide Events** at each gravity-operated structure based on observed tailwater and headwater levels.*
- *High Tide Events are a type of hybrid risk combining the outward-facing tides and the inward-facing canals subject to rainfall, drought, and upstream management*

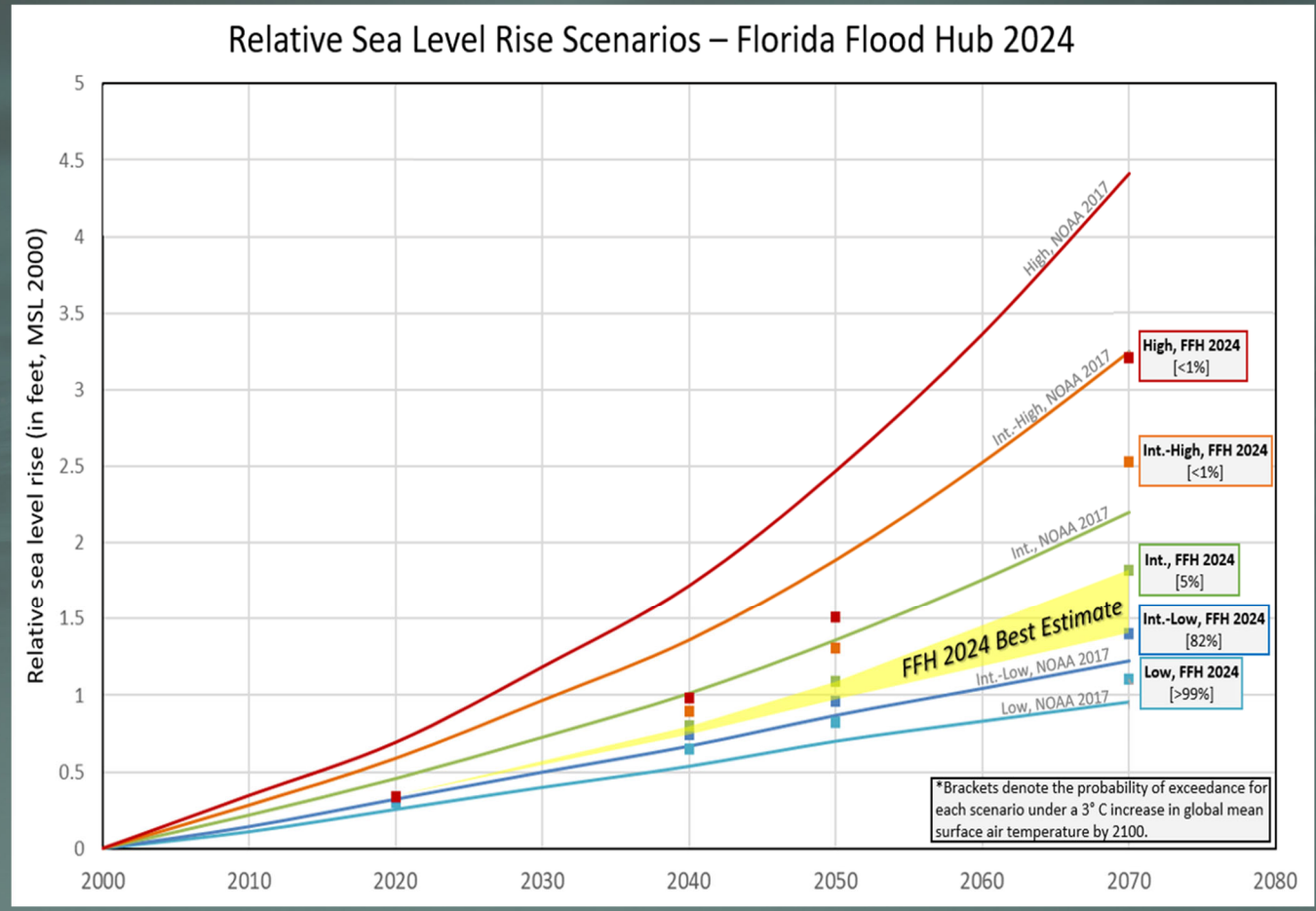
Locations of Structures

- The 35 structures are located near the coast in St. Lucie County (3), Palm Beach County (5), Broward County (7), Miami-Dade County (16), and Collier County (4)
- The low-lying topography of south Florida makes most of these gravity-driven structures very sensitive to slight changes in water levels, either upstream or downstream
- This analysis is based on the original design conditions of structures that were built decades ago – sea level rise is playing and will continue to play a role



Sea Level Rise

- Average rate of SLR around south Florida is ~ 3.2 inches/decade over the past two decades
- Using *Florida Flood Hub*'s projection, increases from 2020 levels could be ~ 5-6 inches in 2040 and ~ 13-18 inches in 2070
- In Miami-Dade County, the difference between headwater and tailwater design elevations range from greater than 1 ft to less than ½ ft

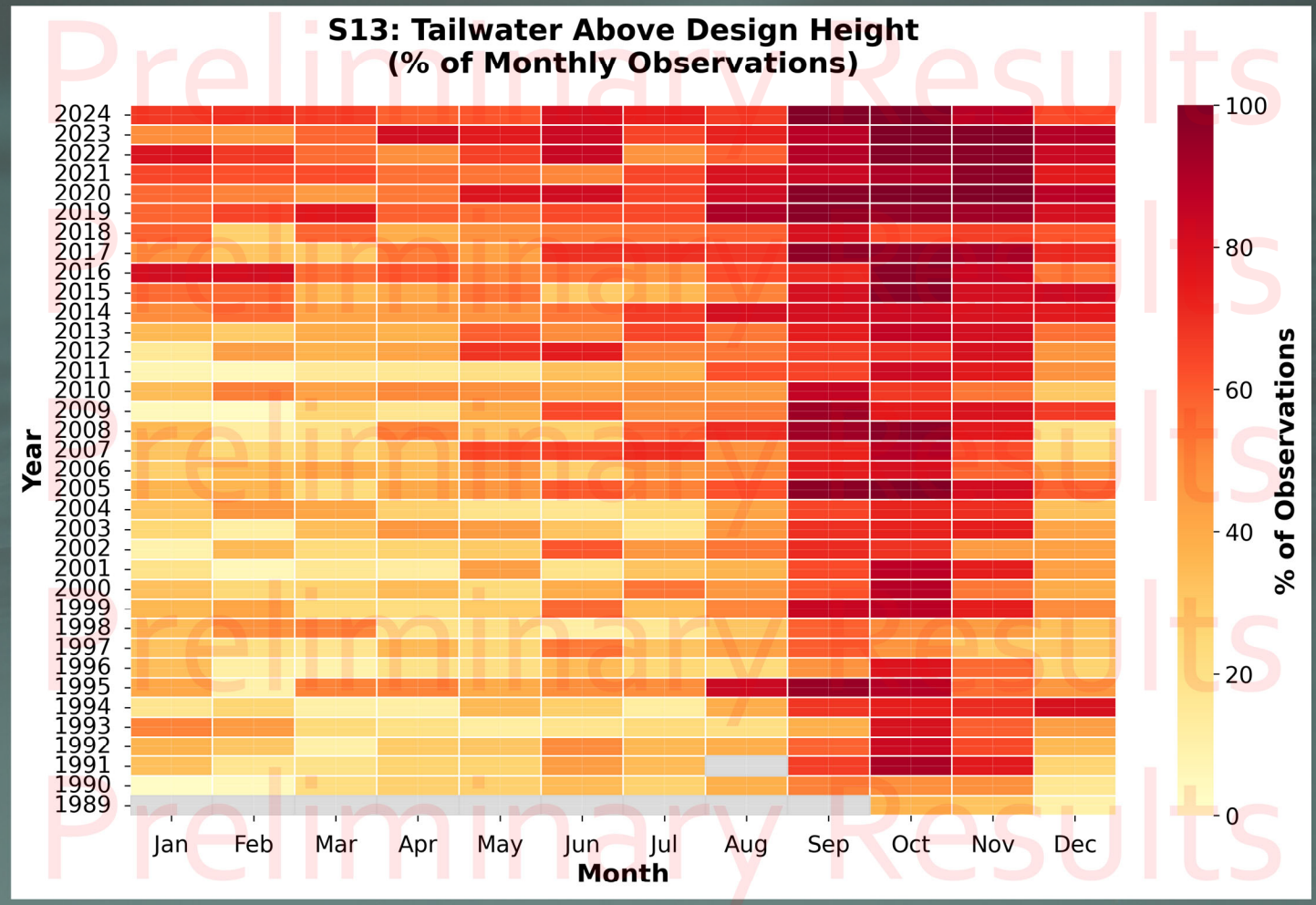


High Tide Event

- In this study, a "*High Tide Event*" is considered to be any time the *tailwater is within 0.1 feet of the headwater*, prompting the closure of the control structure. The tailwater can actually be above the headwater during high tides at some locations.
- Since this condition can be met but then persist sometimes for days or weeks, individual events are not counted, but rather the *percentage of time* the condition is met.
  - e.g., 2 events could occur in one day only near high tides, or 2 events could occupy 80% of a month

Trend Analysis - 1

- "Heatmap" shows percentage of monthly observations when the tailwater was above the design headwater elevation Graph
  - Since the design headwater elevation is a fixed level at a given structure, this effectively shows the tidal variations



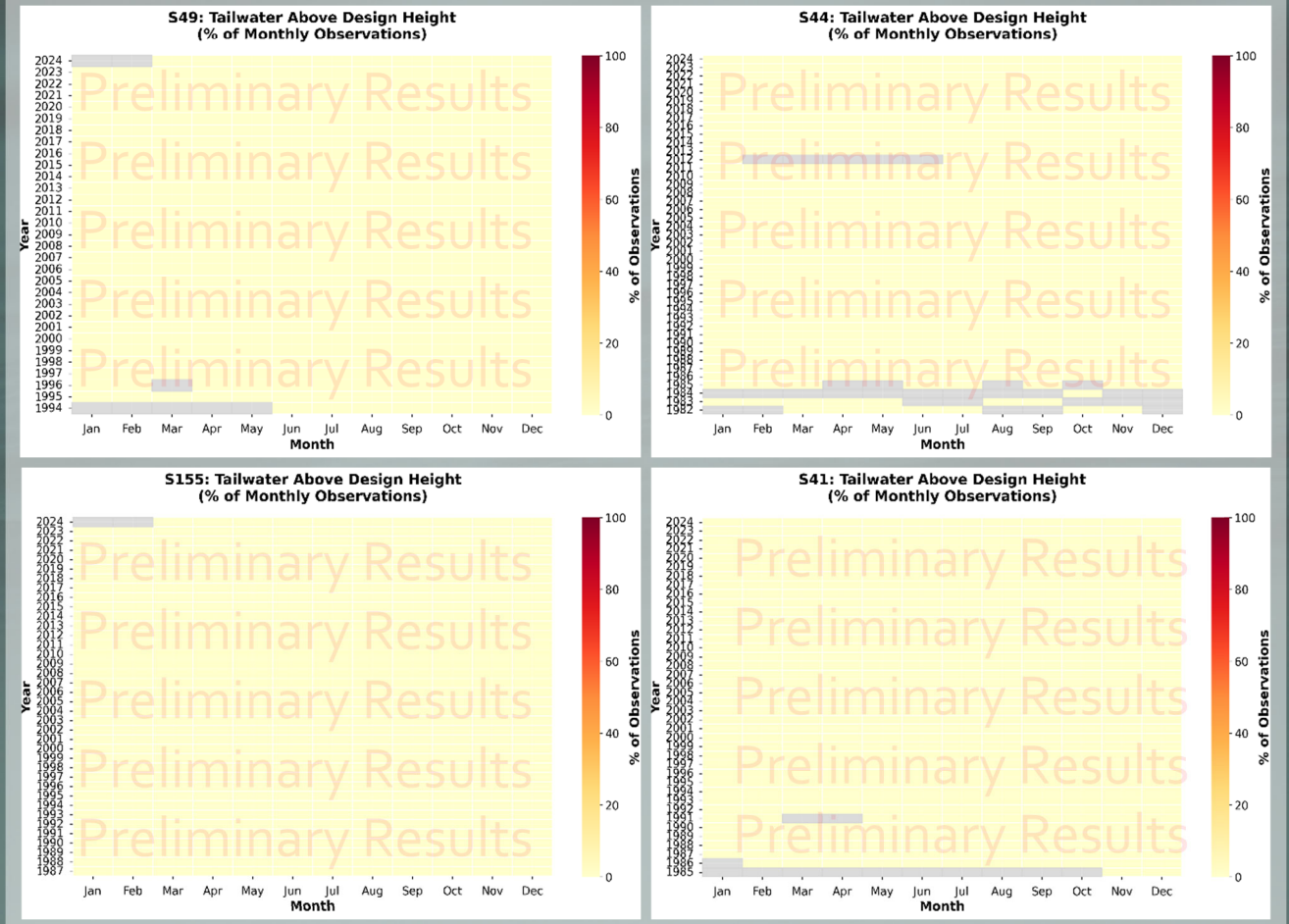
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 1

The following preliminary example results were not presented during meeting due to time constraints.

- "Heatmap" shows percentage of monthly observations when the tailwater was above the design headwater elevation
  - Since the design headwater elevation is a fixed level at a given structure, this effectively shows the tidal variations

Structures along South Florida's upper east coast.



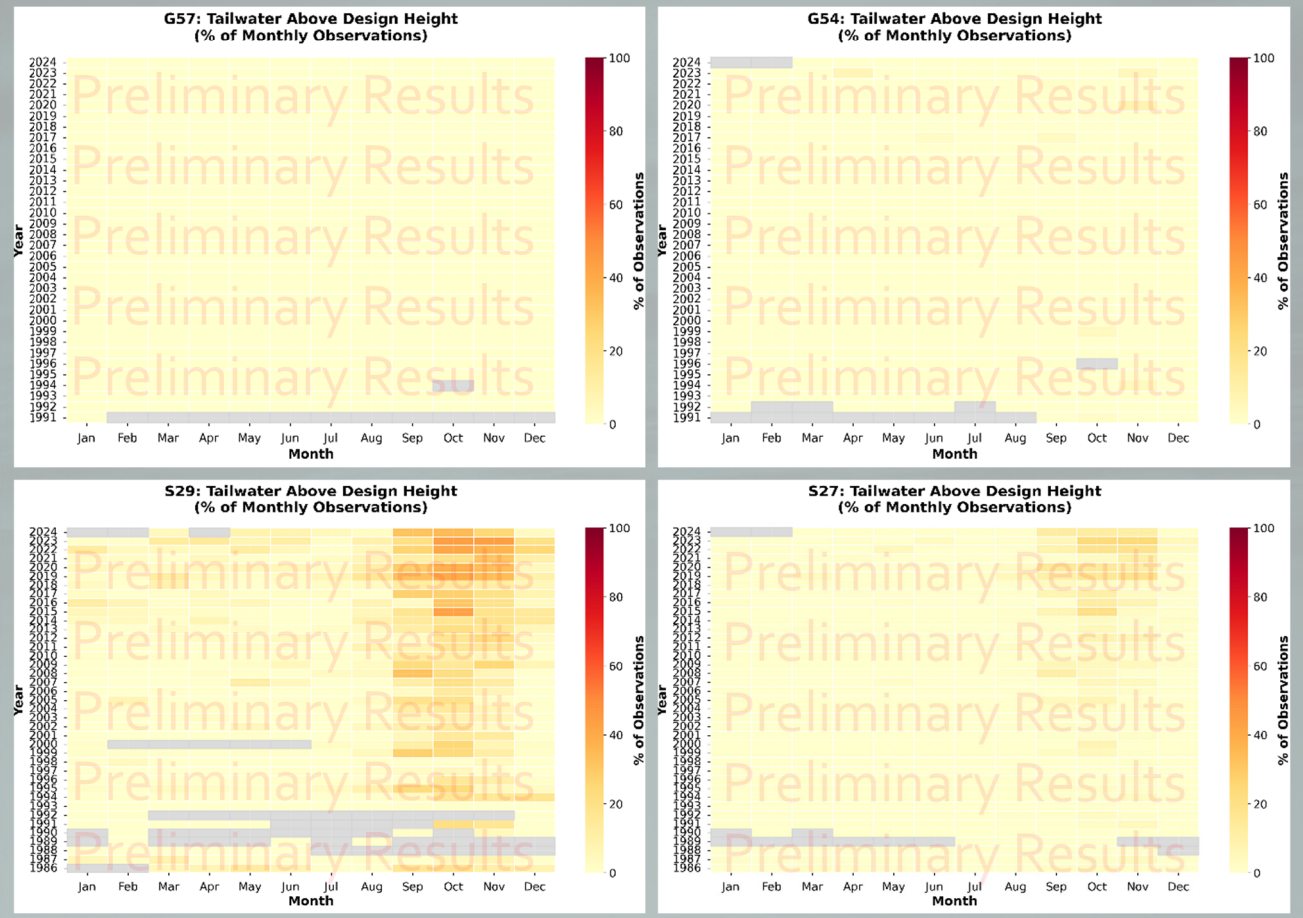
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 1

The following additional example results were not presented during meeting due to time constraints.

- "Heatmap" shows percentage of monthly observations when the tailwater was above the design headwater elevation
  - Since the design headwater elevation is a fixed level at a given structure, this effectively shows the tidal variations

Structures along South Florida's lower east coast.



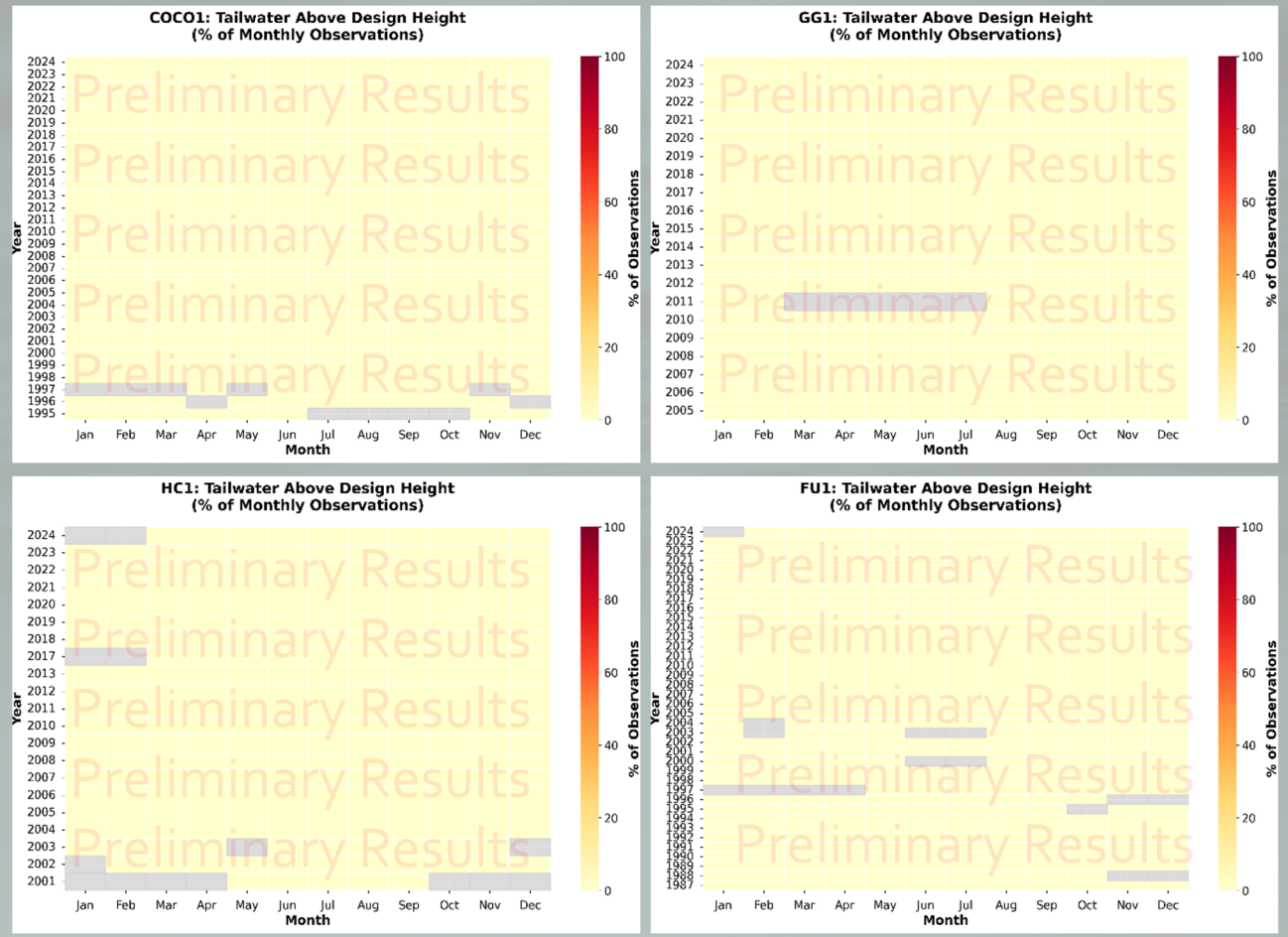
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 1

The following additional preliminary results were not presented during meeting due to time constraints.

- "Heatmap" shows percentage of monthly observations when the tailwater was above the design headwater elevation
  - Since the design headwater elevation is a fixed level at a given structure, this effectively shows the tidal variations

Structures along South Florida's west coast.

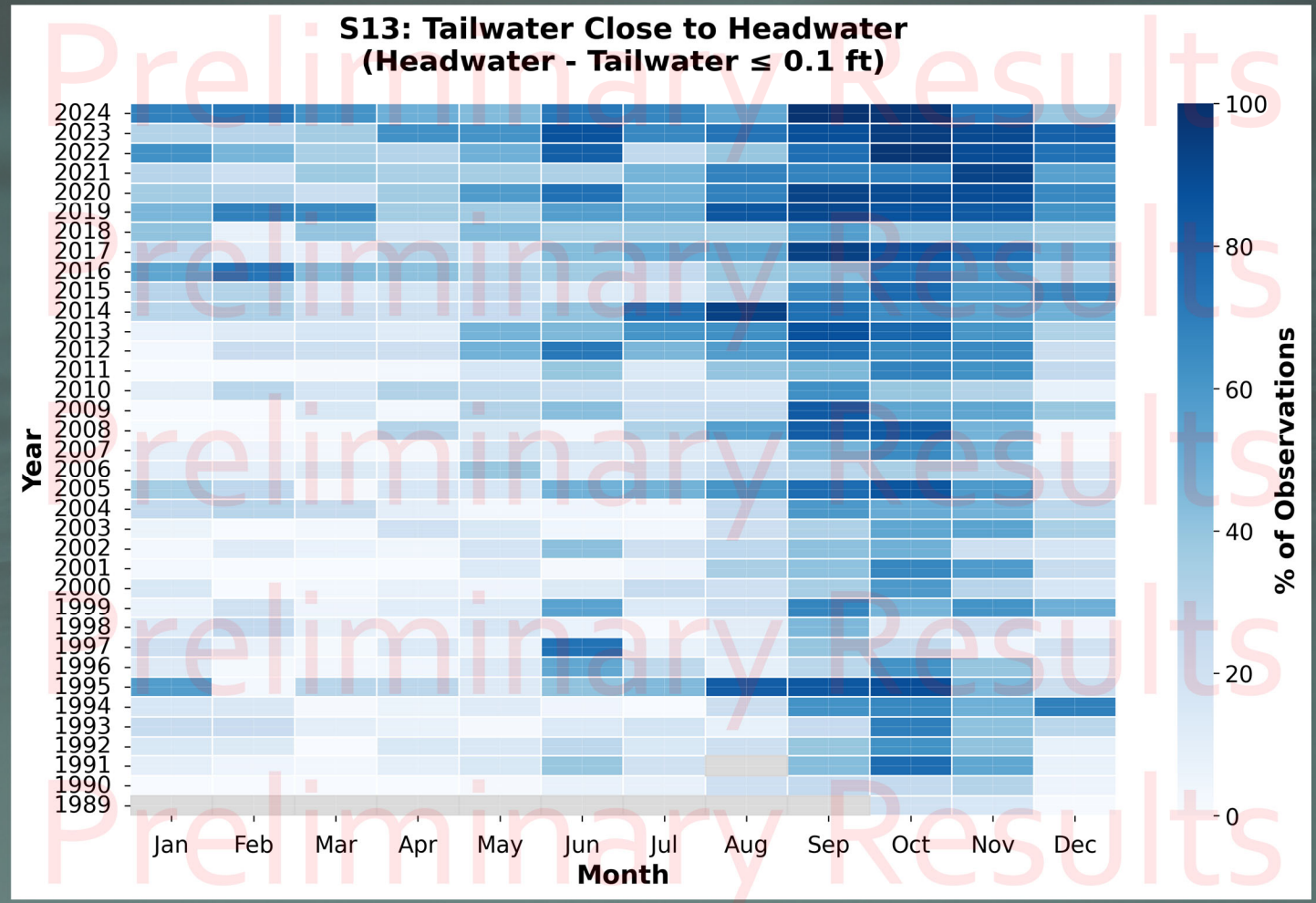


Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 2

- "Heatmap" shows percentage of monthly observations when the tailwater was within 0.1 feet of the headwater elevation*
  - This is a dynamic relationship, and is the basis of the definition of a **High Tide Event** for this study.

**The design headwater refers to the upstream water level used to design the structures under specific historical conditions. These levels are fixed and do no reflect real-time or evolving system dynamics. Because actual conditions, both upstream and downstream, vary over time, exceeding or meeting this threshold does not necessarily indicate operational challenges or vulnerabilities*



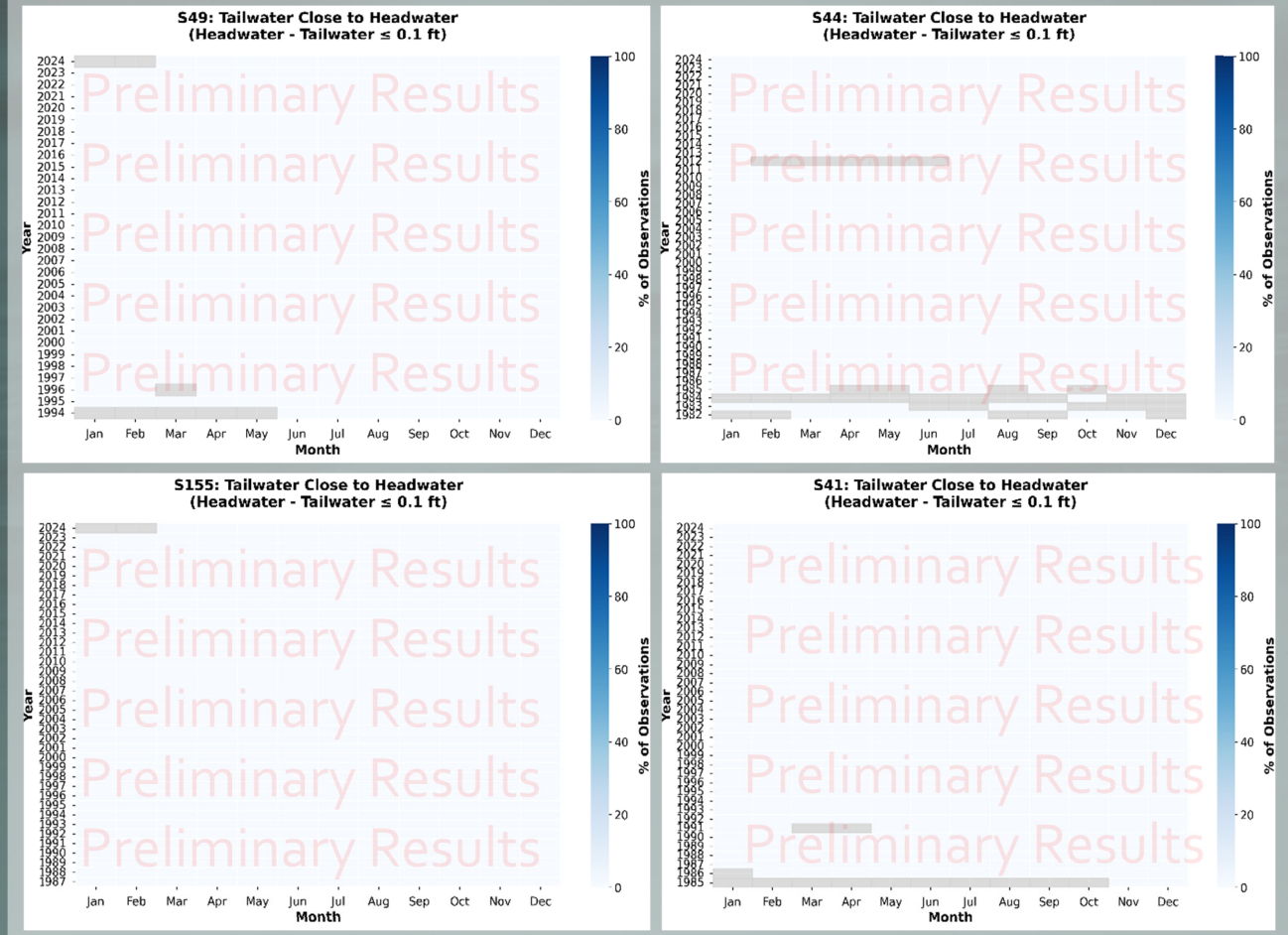
***Note:** The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 2

The following additional preliminary results were not presented during meeting due to time constraints.

- "Heatmap" shows percentage of monthly observations when the tailwater was within 0.1 feet of the headwater elevation*
  - This is a dynamic relationship, and is the basis of the definition of a **High Tide Event** for this study.

Structures along South Florida's upper east coast.



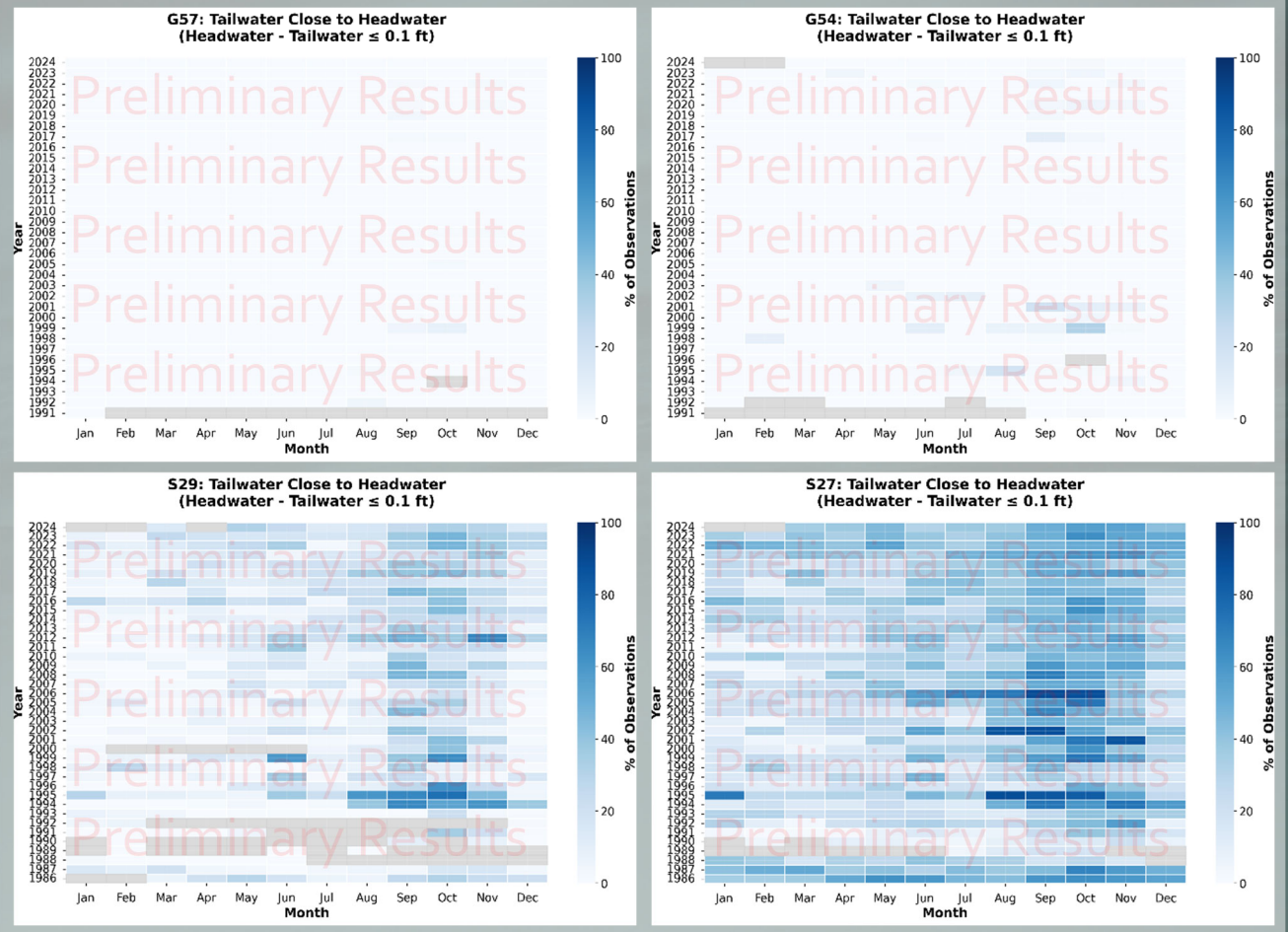
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 2

The following additional preliminary results were not presented during meeting due to time constraints.

- "Heatmap" shows percentage of monthly observations when the tailwater was within 0.1 feet of the headwater elevation*
  - This is a dynamic relationship, and is the basis of the definition of a **High Tide Event** for this study.

Structures along South Florida's lower east coast.



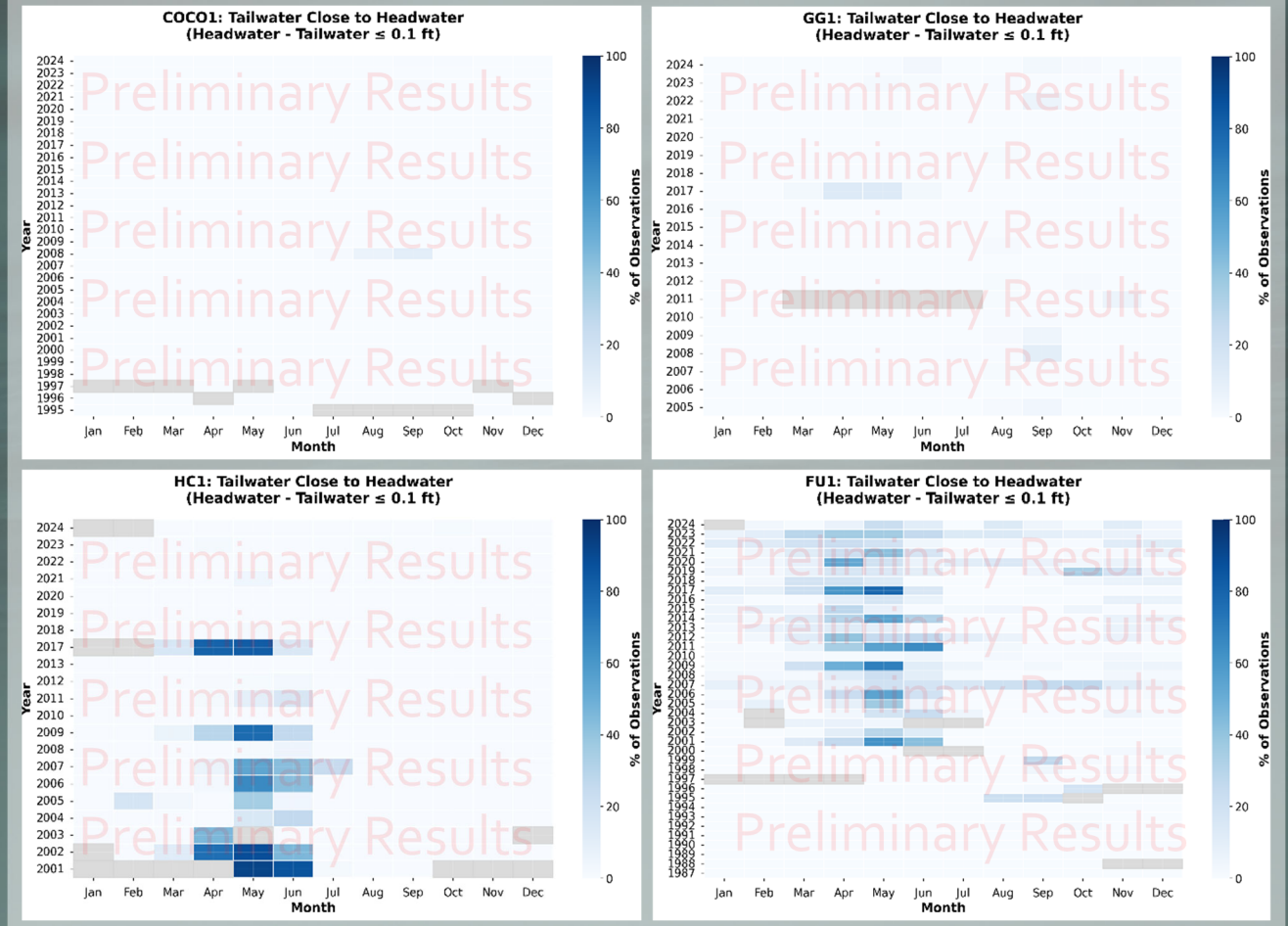
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Trend Analysis - 2

The following additional preliminary results were not presented during meeting due to time constraints.

- "Heatmap" shows percentage of monthly observations when the tailwater was within 0.1 feet of the headwater elevation*
  - This is a dynamic relationship, and is the basis of the definition of a **High Tide Event** for this study.

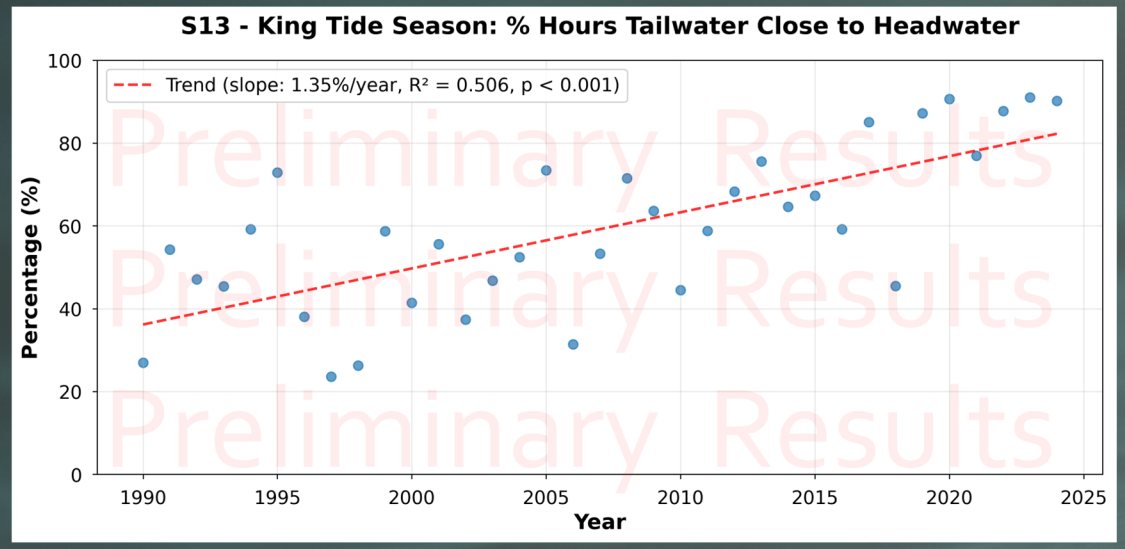
Structures along South Florida's west coast.

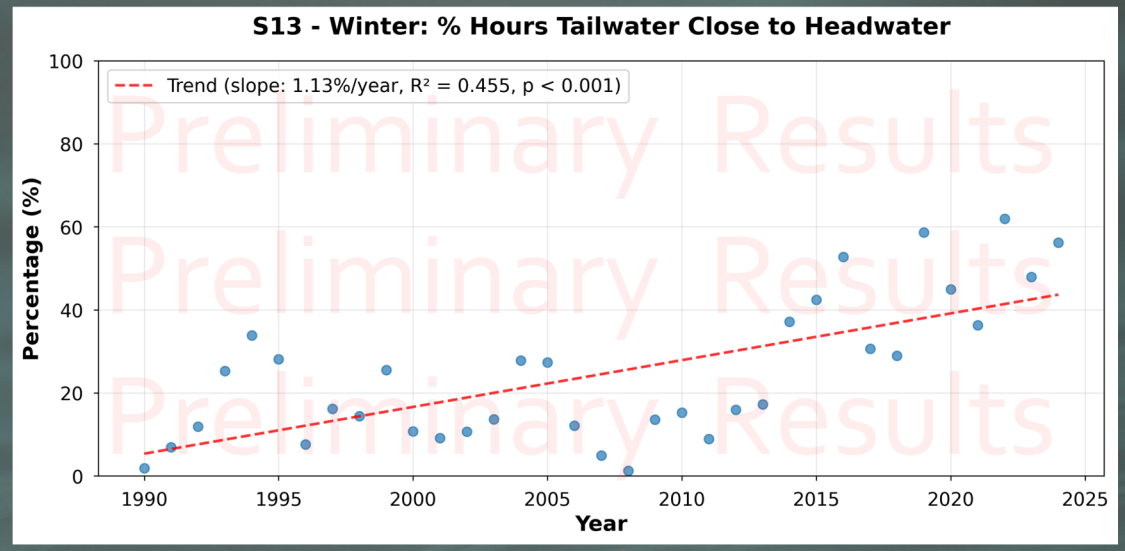


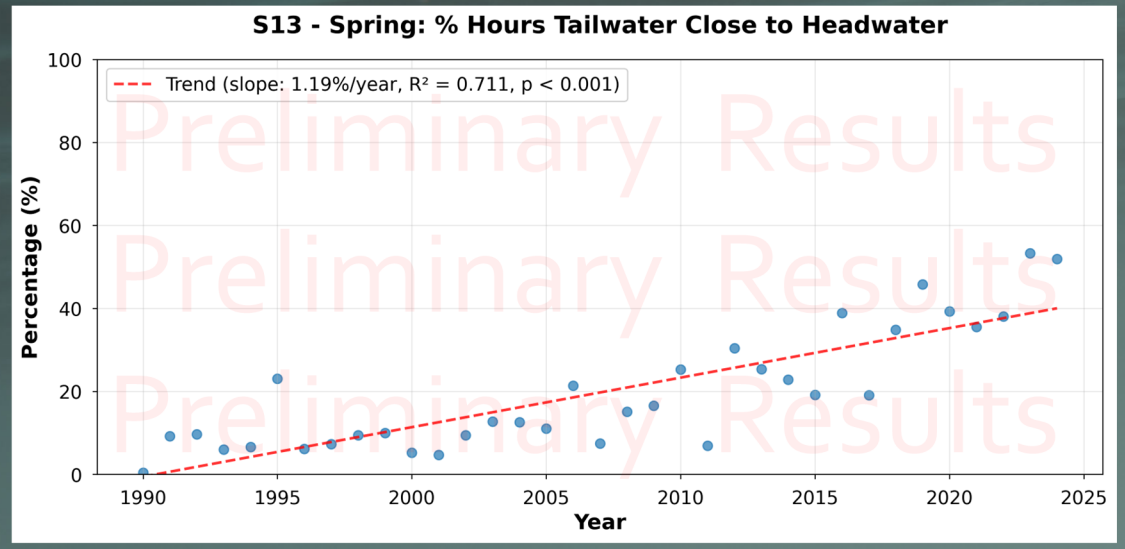
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

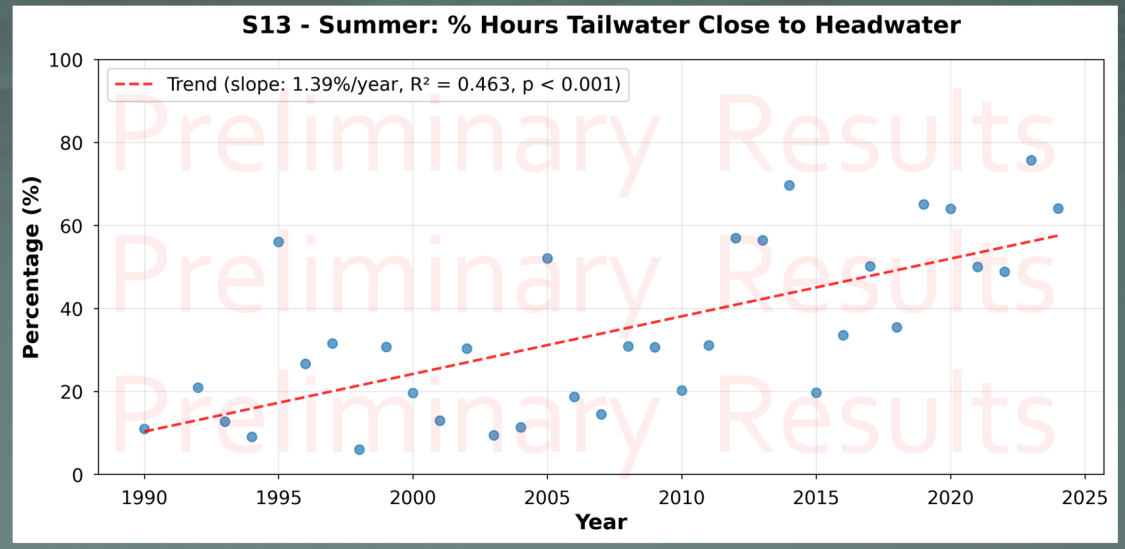
79

Seasonal Trends of HTEs





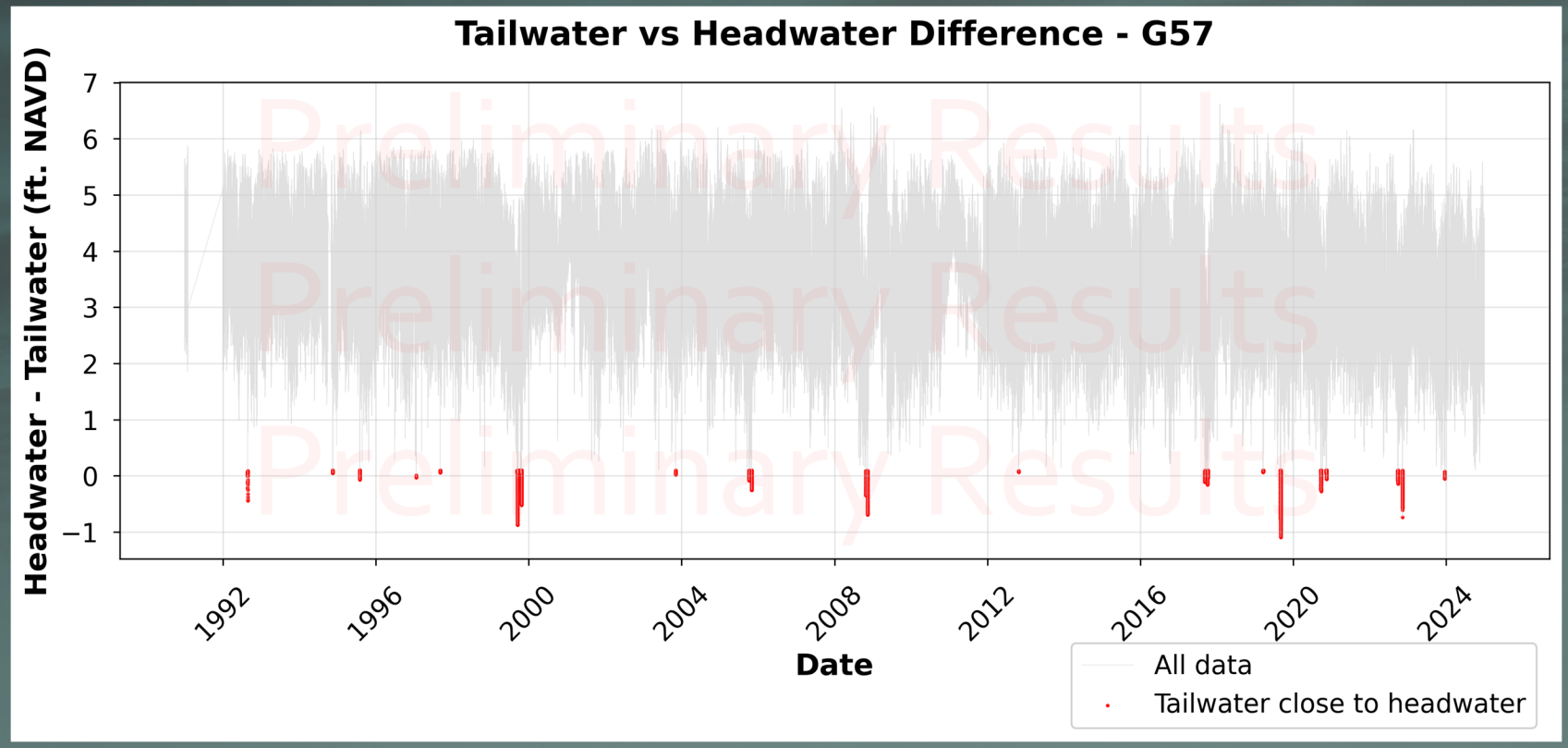




Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

Full Time Series of HTE Condition

- Hourly data over the period of record, showing the tailwater minus headwater level. Points shaded in red are when the HTE condition was met.

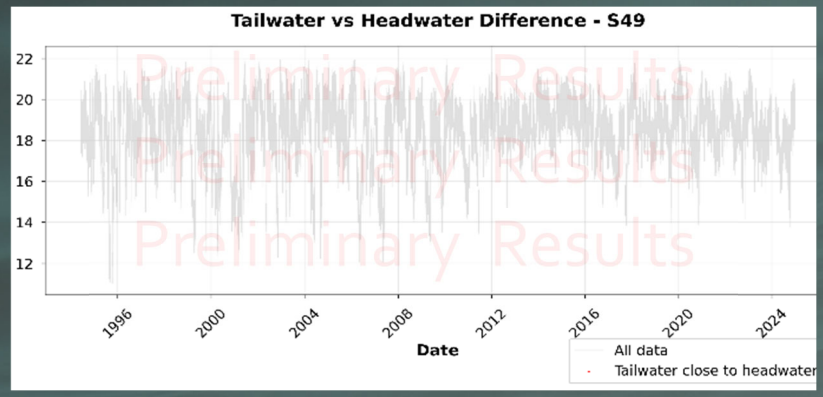


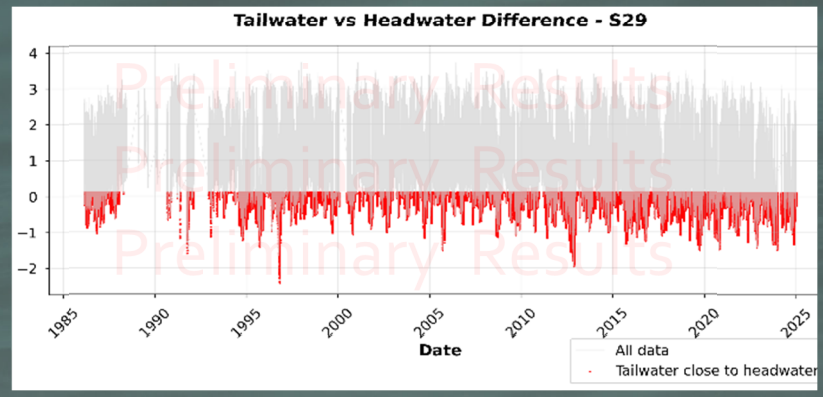
Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

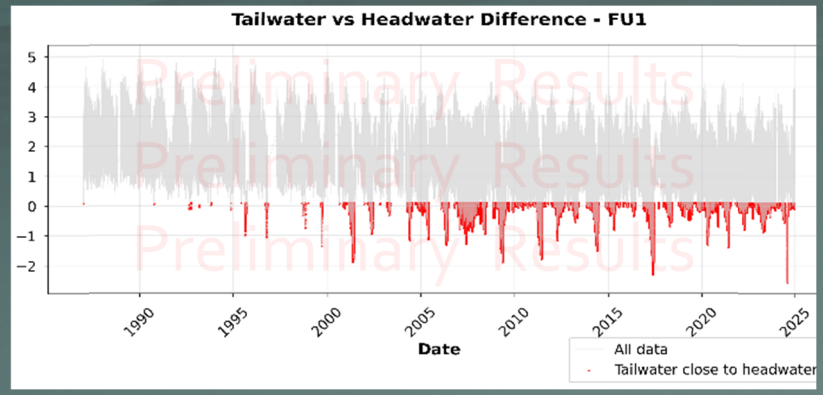
Full Time Series of HTE Condition

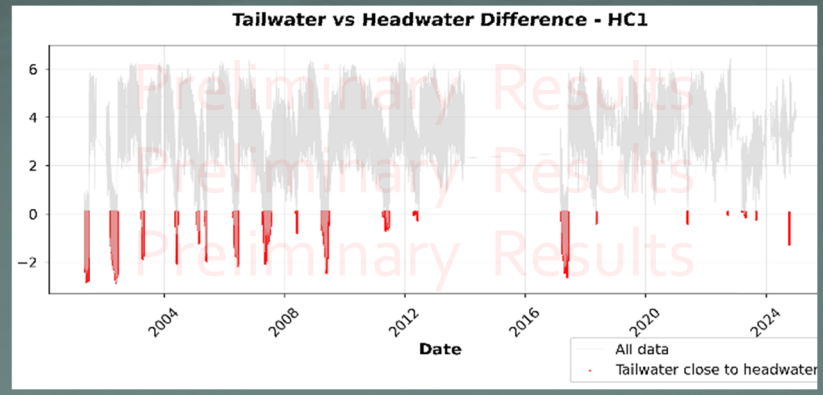
The following additional preliminary results were not presented during meeting due to time constraints.

- Hourly data over the period of record, showing the tailwater minus headwater level. Points shaded in red are when the HTE condition was met.







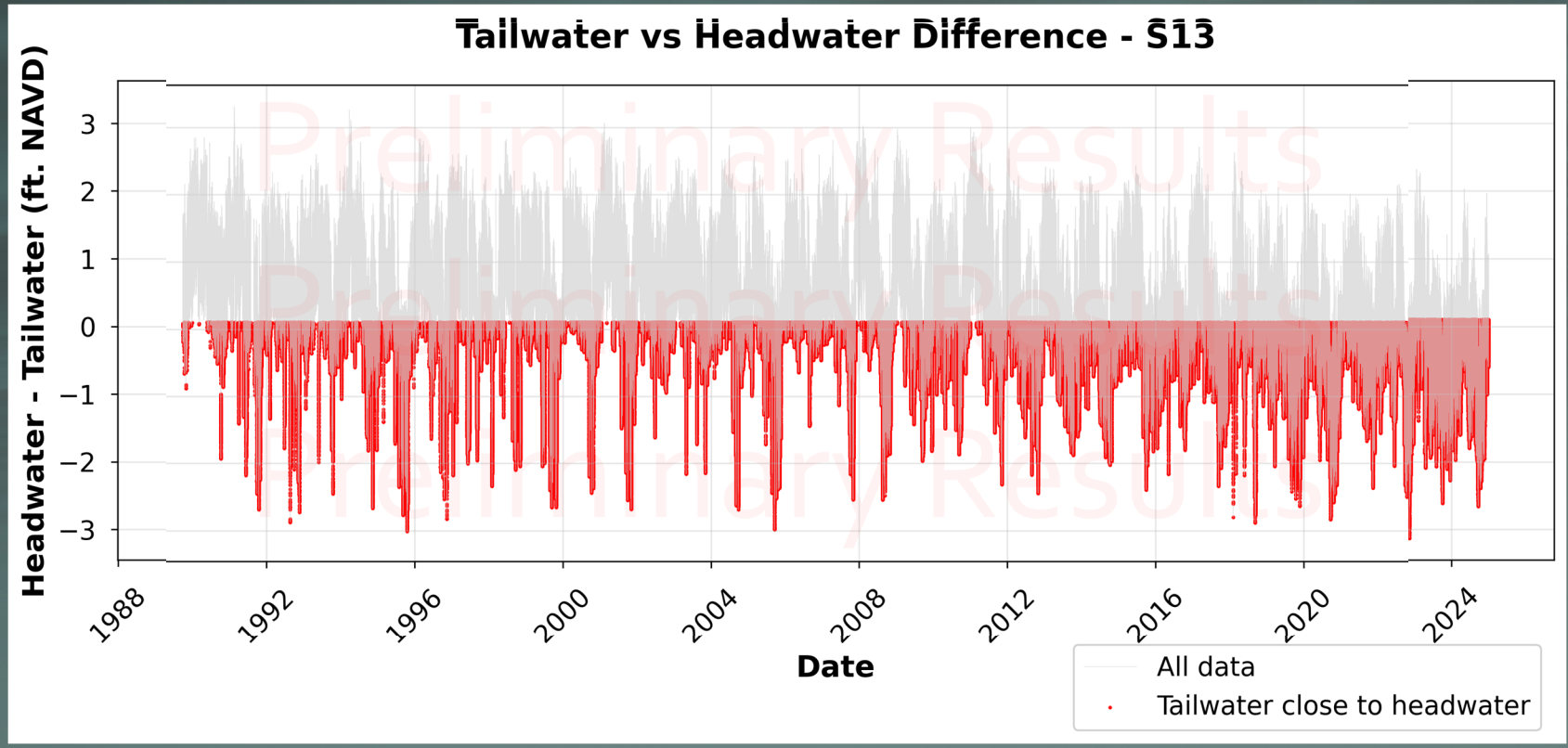


Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

82

Full Time Series of HTE Condition

- Hourly data over the period of record, showing the tailwater minus headwater level. Points shaded in red are when the HTE condition was met.



* This structure relies on pumps to help move water, which affects the observed outcomes

Note: *The presented results and interpretation are preliminary. The analysis is currently under review and is not considered final until the 2026 SFER is published.*

It's Not Just Sea Level Rise…

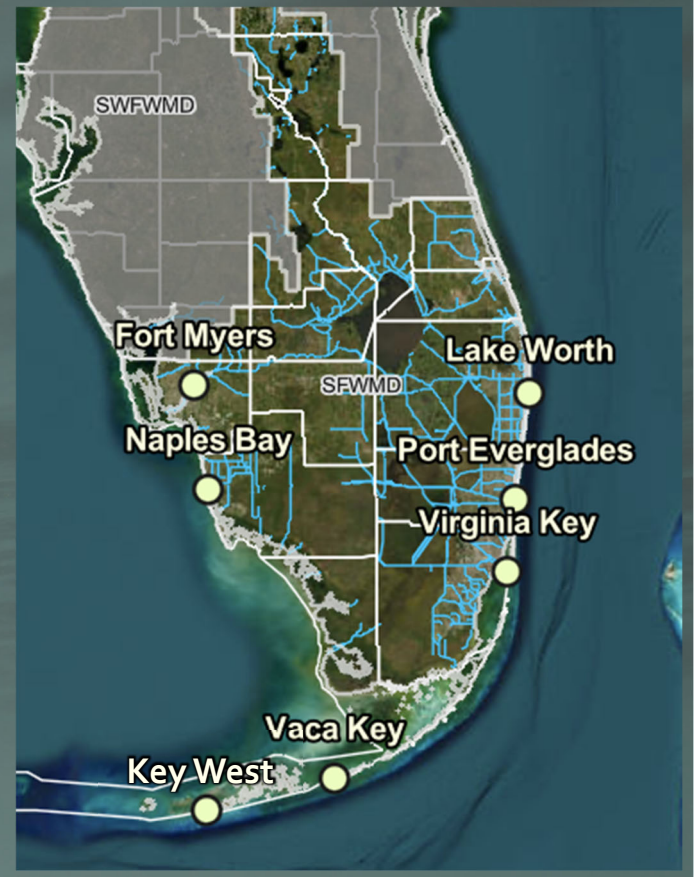
- Although sea level rise is producing an upward trend in the occurrence and frequency of high tide events, events are also often related to specific natural influences such as:
  - Nearby or distant hurricanes
  - Widespread heavy rain events
  - Perigean new or full moons (spring and king tides)
  - Estuary vs open water at coast

Summary

- In the context of this study, High Tide Events are driven by a combination of headwater and tailwater levels. Though sea level rise is the dominant source of trends in HTEs, the seasonal cycle of tides is apparent, and individual events can often be linked to meteorological or astronomical influences
- Coastal structures managed by SFWMD exhibit a wide range of risk levels from High Tide Events
  - While half (17/35) of them show "None" or "Low" risk throughout the year, a quarter (8/35) of them show "High" or "Extreme" risk
  - Pump operations and their implications on flow are a growing factor
- A detailed table of site-specific data and seasonal trends will be available in an upcoming technical publication (2026 SFER – March 1, 2026)
  - Currently under editorial, managerial, and public review ahead of publication
- These results are one component of a broader resilience planning effort focused on long-term trend evaluation in water and climate data

"Smart" Tide Forecasts

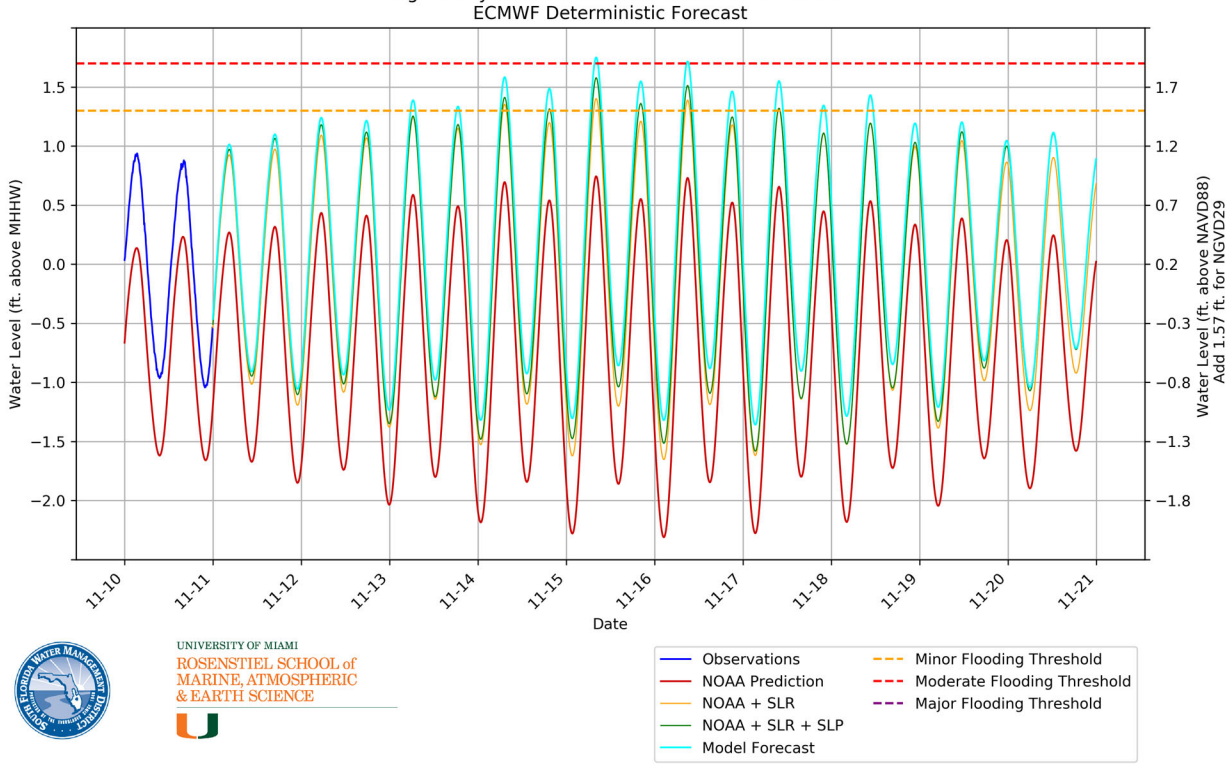
- Development began at the University of Miami Rosenstiel School in 2020, then turned into a real-time product in 2023 thanks to funding from and collaboration with SFWMD
- Create 10-day tide forecasts that **account for current conditions in the atmosphere and ocean** at SEVEN sites across south Florida
- Begin with NOAA tide predictions
- Add site-specific sea level rise adjustment
- Account for present and forecast surface pressure via barometric effect
- Use 10-day forecasts of several parameters from weather models in a **multiple linear regression model**
- Only designed for routine tidal flooding events, *not for hurricane storm surges*

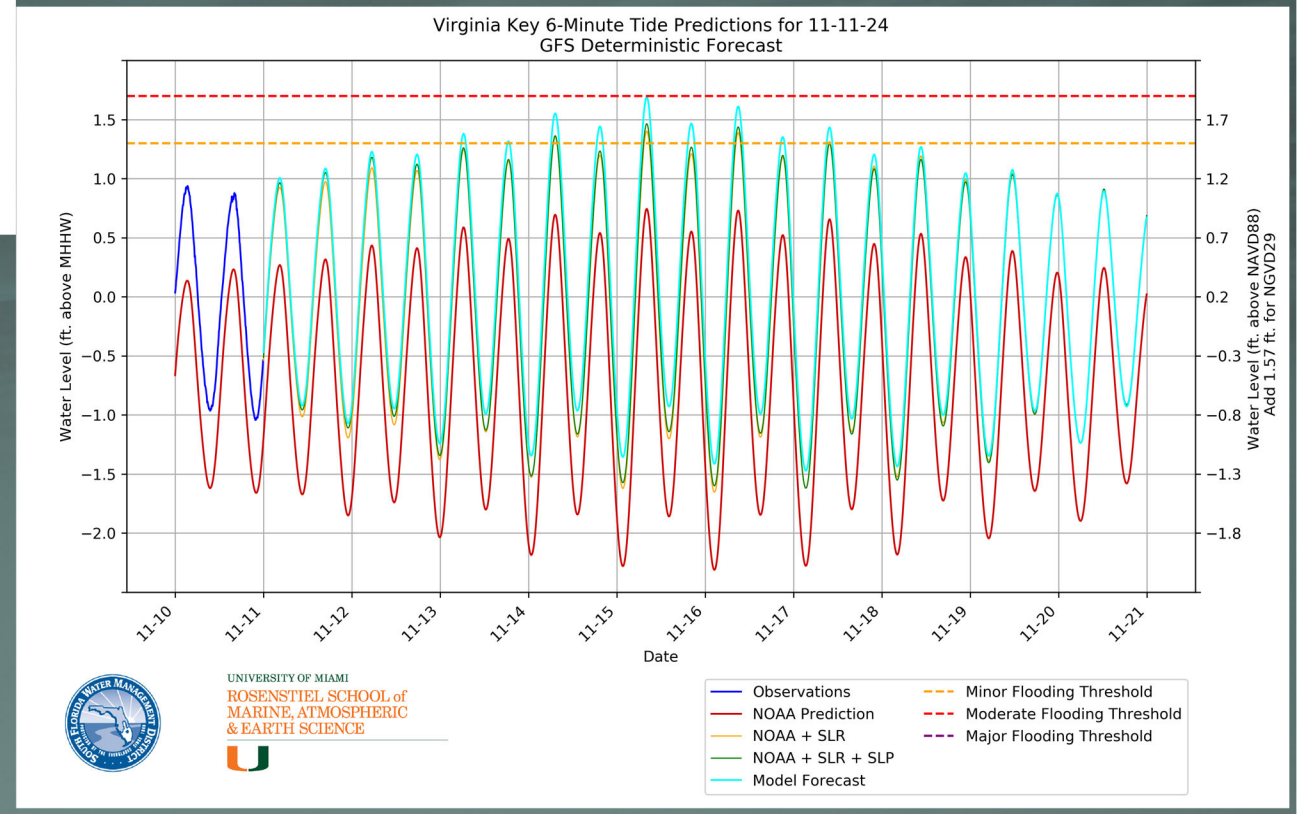


https://bmcnoldy.earth.miami.edu/tide/

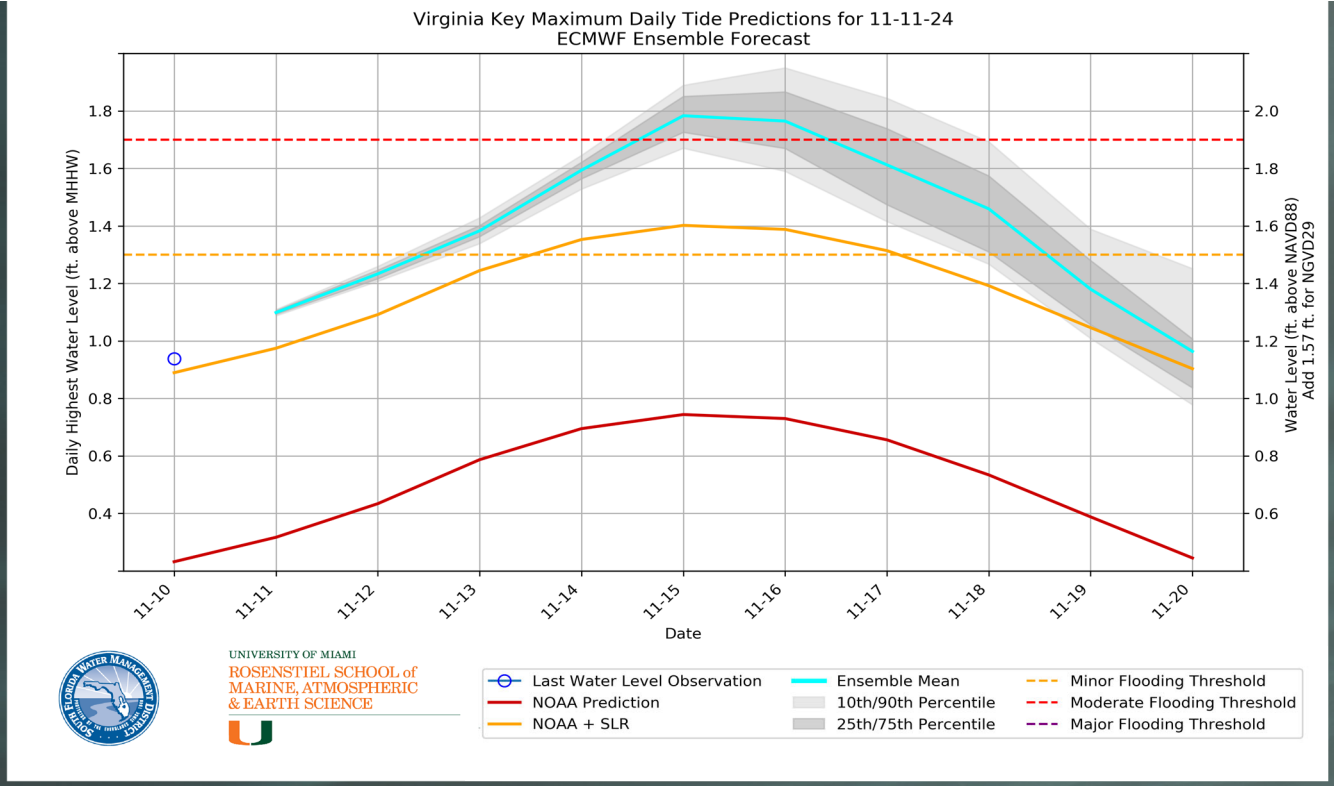
"Smart" Tide Forecasts

- 4 versions are generated every day and available by 7am Eastern Time for all 7 sites.
  - American model (GFS) and European model (ECMWF)
  - "Deterministic" and "Ensemble"
  - Utilizes the 0000 UTC model cycle of each
- Validation results are still preliminary, but show forecast skill persists through all 10 days (gradually decreasing with time), though less skill on west coast compared to east coast
  - skill is defined as being more accurate than just adding a sea level rise correction to the NOAA predictions

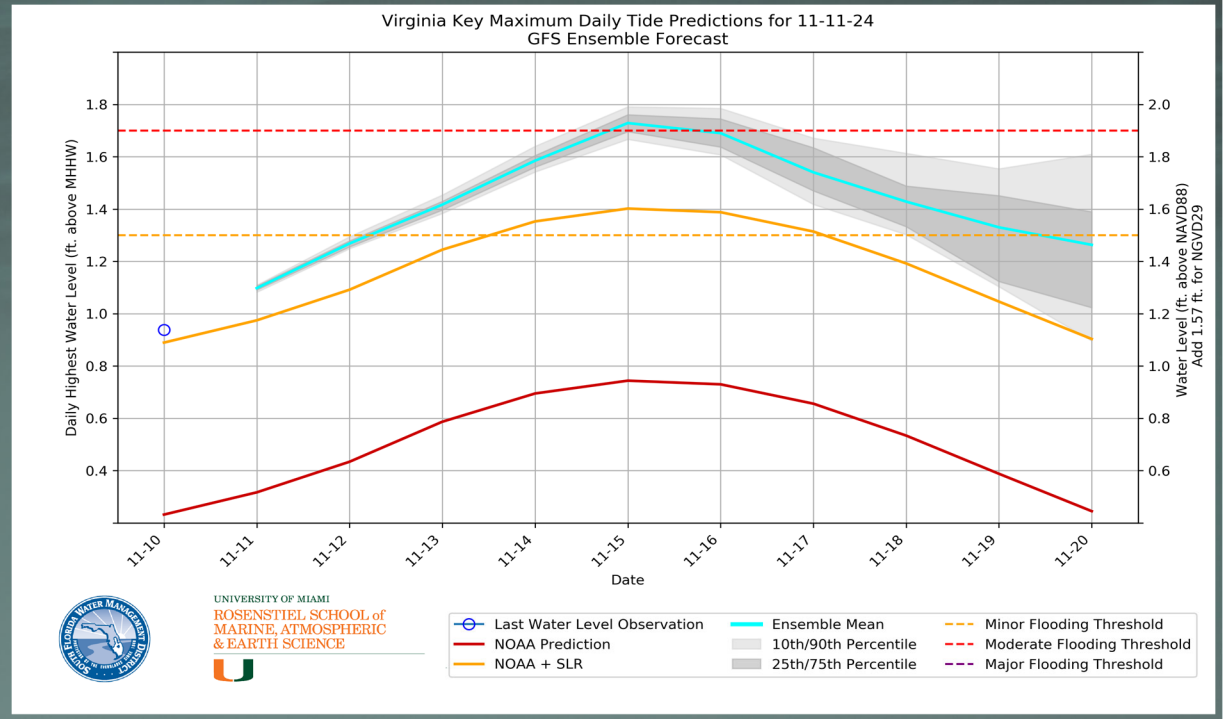




Observed peak water level was 1.7’ MHHW on Nov 15 and 2.0’ MHHW on Nov 16.



Observed peak water level was 1.7' MHHW on Nov 15 and 2.0' MHHW on Nov 16.



68

“Smart” Tide Forecasts

- Offer skillful, actionable outlooks up to 10 days in advance
- Since going online in June 2023, these forecasts are used by SFWMD for their weekly King Tide forecasts, and by:
  - Miami-Dade County
  - Broward County
  - NWS WFO Miami
  - NWS WFO Tampa
  - NWS WFO Key West
  - City of Miami
  - City of Fort Lauderdale
  - City of West Palm Beach
  - … and others!

06

Questions?

- Real-time daily tide forecasts available at:
  - SFWMD's *Resilience Metrics Hub* & ***Weekly Tidal Outlook*** *bulletins (resumed this week)*
    - https://sfwmd-district-resiliency-sfwmd.hub.arcgis.com/apps/855a2167ab06428d96194f0fb76946a1/explore

    resiliency@sfwmd.gov
  - My website
    - https://bmcnoldy.earth.miami.edu/tide/

    bmcnoldy@miami.edu

USACE RESILIENCY PROJECTS UPDATE

SFWMD RESILIENCY COORDINATION FORUM

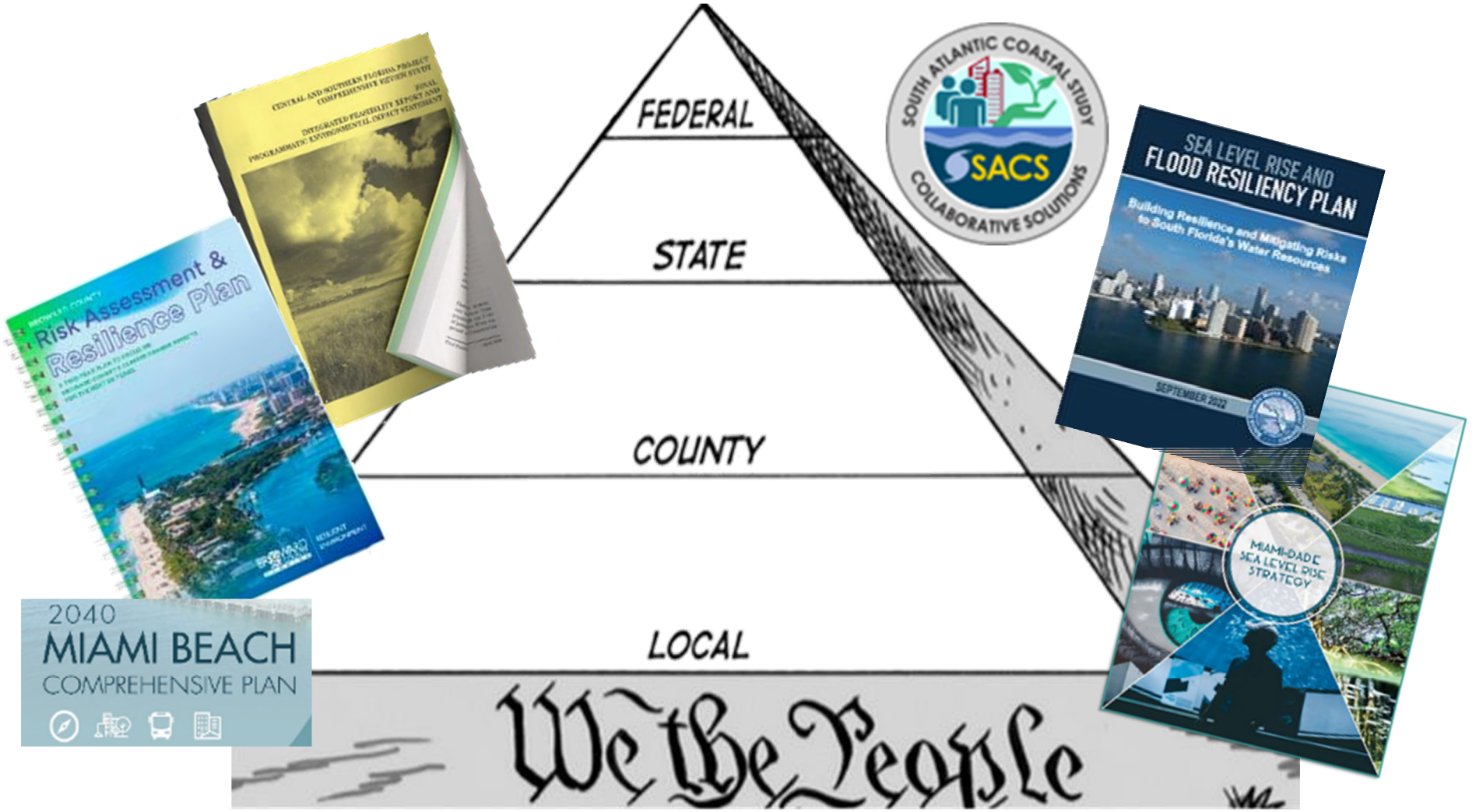
3 Sept 2025

E. Timothy Gysan, P.E.,PMP
Chief, Ecosystems Projects Section and
Resilience Coordinator
Jacksonville District
U.S. Army Corps of Engineers

US Army Corps of Engineers®

BUILDING COMMUNITY RESILIENCE

A COMPREHENSIVE AND COLLABORATIVE APPROACH



Water Resource Infrastructure is the Connector

Working Today to Build a Better Tomorrow

RESILIENCY THROUGH PROJECT INTEGRATION

USACE Projects within SFWMD Boundaries

C&SF Flood Resiliency Studies

Authorized CSRM* Projects

New CSRM* Studies (+ Back Bay)

Authorized Navigation Projects (DEEP DRAFT)

SOUTH FLORIDA ECOSYSTEM RESTORATION (SFER) PROJECTS, STUDIES, AND REGULATION SCHEDULES

4)C-111 South Dade
5)Kissimmee River Restoration (KRR)
6)Herbert Hoover Dike (HHD)
7)Lake Okeechobee System Operating Manual (LOSOM)
8) Shingle Creek & Kissimmee River Study
10)Picayune Strand Restoration Project (PSRP)
11)Indian River Lagoon – South (IRL-S) C-44 Reservoir and STA
12)C-111 Spreader Canal Western Project
13)Biscayne Bay Coastal Wetlands (BBCW) – Phase 1
14)Caloosahatchee River C-43 Reservoir
15)Broward County Water Preserve Areas (BCWPA)
17)Central Everglades Planning Project (CEPP)
18)Loxahatchee River Watershed Restoration Project (LOWRP)
19)Lake Okeechobee Watershed Restoration Project (LOWRP)
20)Western Everglades Restoration Project (WERP)


Jupiter/Carlin Beach CSRM


C&SF Water Management | LOSOM Operations


2020 Flooding | Ft. Lauderdale


CERP Broward County WPA C-11

BISCAYNE BAY AND SOUTHEASTERN EVERGLADES RESTORATION

PROJECT OVERVIEW

BBSEER Planning Objectives Key Themes

- Improve water depth and duration in the freshwater and saltwater wetlands in the study area.
- Improve the nearshore salinity in the estuarine habitats of Biscayne Bay, Card Sound, and Barnes Sound.
- Improve ecological and hydrologic connectivity.
- Improve vegetation resilience to sea level change.

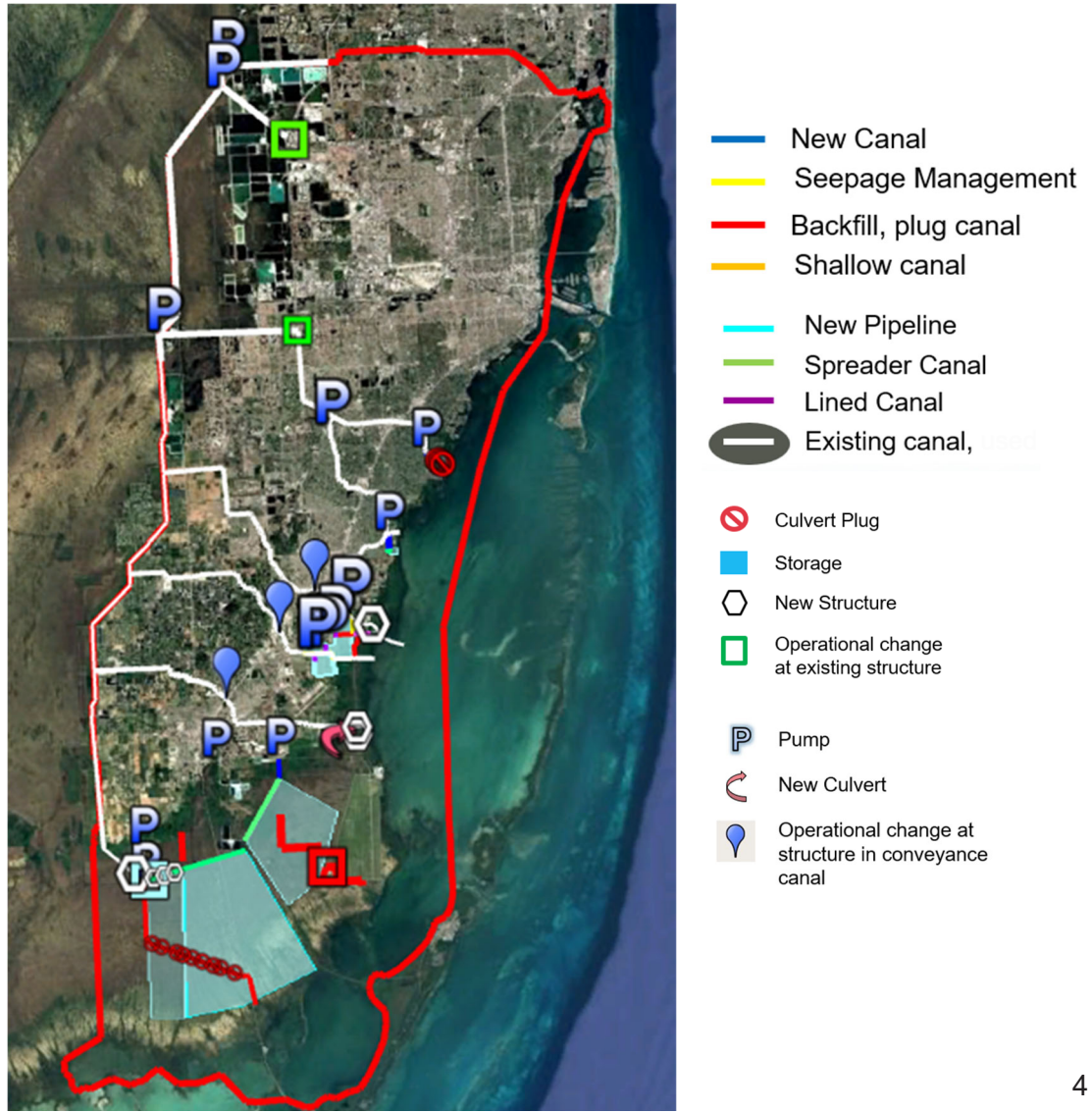
BBSEER Technical Progress

- Incorporation of sea level change into alternative formulation and modeling.
- Three rounds of alternatives modeling, evaluation, comparison, and reformulation.
- Selection of the preliminary Tentatively Selected Plan.

Study Next Steps

- Updated modeling of the preliminary Tentatively Selected Plan for ecosystem benefits and project assurances.
- Completion of the draft NEPA document for review.

ALT32R: Preliminary Tentatively Selected Plan



C&SF Flood Resiliency (Section 216) Miami River Basins

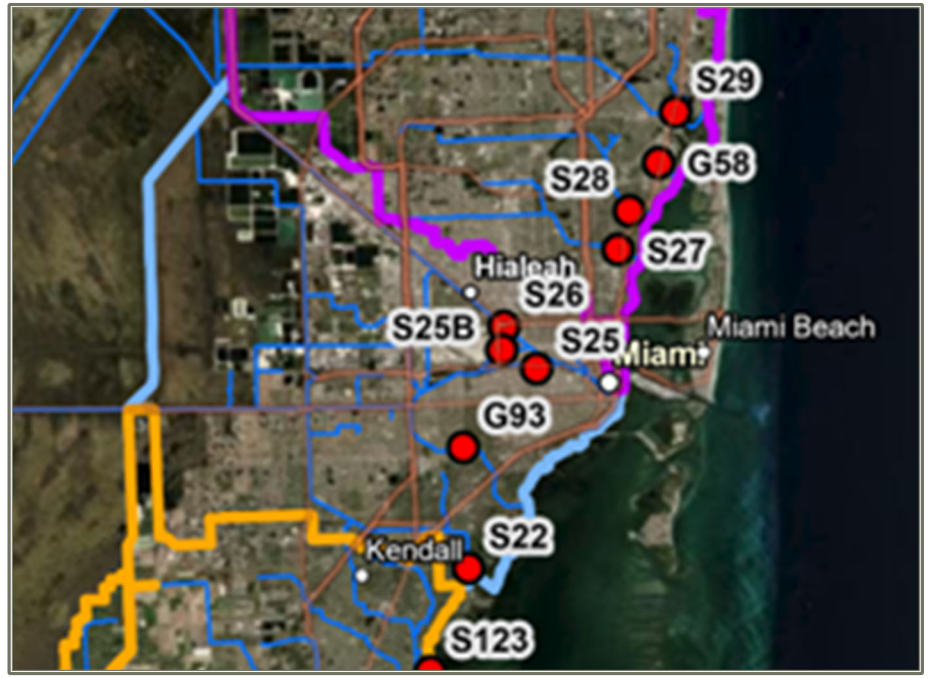
PROJECT OVERVIEW

Study Process

- USACE Jacksonville District and SFWMD finalized an overall integrated strategy; Revised Section 216 will focus on Reach C
  - Five Structures in the reach to be evaluated
- USACE Jacksonville submitted revised Vertical Team Alignment Memorandum (VTAM) which was endorsed by HQUSACE 22 April 2025; VTAM details the resources required to complete the study
  - SAJ received FY2025 Work Plan funding totaling $1.75M to continue work
  - Next steps: Approval of full VTAM funding request and time extension by the Assistant Secretary of the Army for Civil Works for review and approval

Technical Efforts

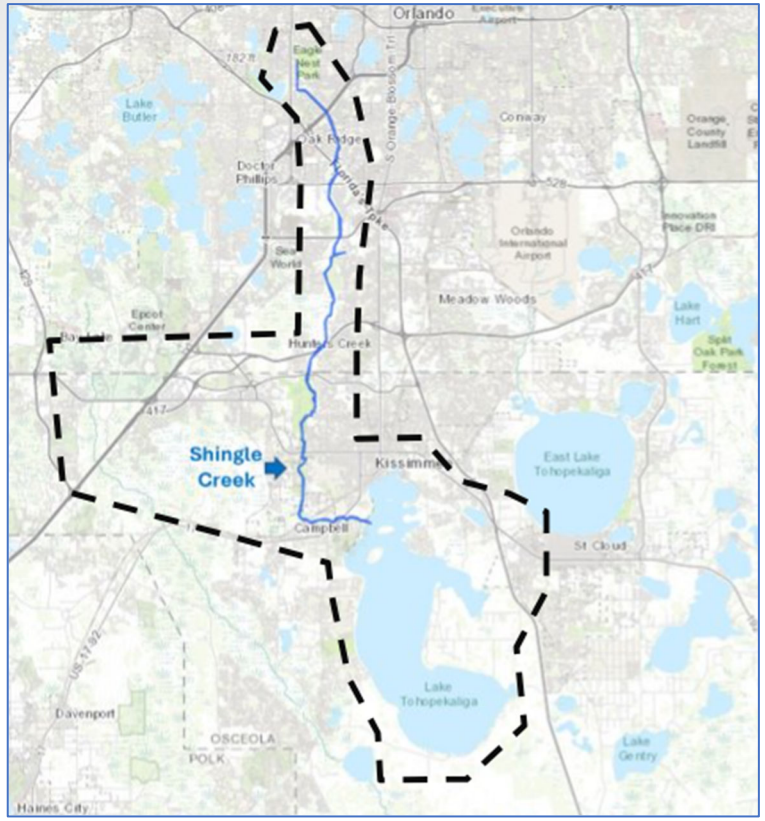
- Coordination with Section 203 team on formulation strategy and evaluations
- Conversion of economic model HEC-FDA to v2.0
- Completion of full Future Without Project (FWOP) FDA runs
- Agency Technical Review of modeling tools
- Coordination with SFWMD, Miami-Dade County, and stakeholders
- Development of Final Alternatives Array



Planning Reach C – Miami River

SHINGLE CREEK & KISSIMMEE RIVER STUDY

PROJECT OVERVIEW



Shingle Creek flow-way through Orlando to Kissimmee and outlet into Lake Tohopekaliga

Current Status:

- Feasibility Cost Share Agreement signed with Osceola County Feb 2025
- VTAM approval by MG Kelly received 27 August 25
- Surveys, data collection, and FWOP modeling is underway. Alternatives and measures are being discussed with the County.

Authority: Section 201 of the Water Resources Development Act of 2020, Division AA of Public Law 116-260 as amended, in Division H Section 8201 of the National Defense Authorization Act for Fiscal Year 2023..

Purpose: To improve flood risk management, provide ecosystem restoration, and additional water storage conditions in Shingle Creek and Lake Toho within the Kissimmee Chain of Lakes by improving the storage and hydrologic connection throughout the system. This may include taking actions to develop cost-effective structural, non-structural, and natural and nature-based features to re-establish native riparian, upland, and riverine habitat and the hydrologic functions they historic performed.

Key themes:

- Shingle Creek and the surrounding floodplain could convey the runoff from storm events and the S-61 outlet structure at Lake Toho could pass high flows into the lower lakes. Continued urbanization has constricted the flow area, filled natural storage, and increased the volume of runoff
- Opportunities exist for development of multipurpose features optimizing total benefits of the flood risk management, aquatic ecosystem restoration, and water storage solutions
- Project will support federal goals for benefits to disadvantaged communities, habitat restoration, navigation, flood risk management, and recreation

OPERATIONAL PLANNING

UPDATES/EFFORTS

	CEPP Ops 1.0	Kissimmee Headwaters Ops	C-44 Ops	C-43 Reservoir Ops
Purpose	First of 3 increments to update the 2020 CEPP DPOM to include operating criteria for CEPP infrastructure and related CERP and non-CERP projects, consistent with the 2014 PIR/EIS and 2020 EIS.	Realize hydrologic restoration benefits for the Kissimmee River and Headwaters Lakes while maintaining the authorized level of flood protection in the Kissimmee Basin.	C-44 PPOM update underway to analyze alternative operations for the C-44 reservoir and C-23 Estuary Discharge Diversion canal scheduled to be completed in spring of 2026.	Capture excess runoff and improve timing and quantity of freshwater flows to the Caloosahatchee estuary to maintain proper salinity, and water supply to local agricultural areas adjacent to the reservoir.
Status	iModel results [RSMGL concepts] finalized—July 2025; RSMGL model alternatives anticipated—Fall 2025	Operational planning	IMC Modeling of alternatives selected by USACE and SFWMD completion Sep 2025; Draft NEPA document scheduled to be released for public comment in January-2026	Operational Planning
Final Approval	Record of Decision anticipated—2027	Fall 2027	July 2026	Spring 2027

QUESTIONS?

Closing Remarks

Carolina Maran, Ph.D., P.E.
Division Director, Flood Control and Water Supply Planning
Chief of District Resiliency
South Florida Water Management District

Resiliency Coordination Forum

- **Take our survey to provide feedback and share suggestions**
  - https://forms.office.com/g/MkZuHNhCPZ
- **Save the date for our last meeting of 2025**
  - Wednesday, December 3, 2025
- **Save the date for our 2026 meetings**
  - Wednesday, March 4 at 9:30 AM
  - Wednesday, May 27 at 9:30 AM
    Memorial Day falls on Monday, May 25th
  - Wednesday, September 2 at 9:30 AM
    Labor Day falls on Monday, September 7th
  - Wednesday, December 2 at 9:30 AM

Upcoming Events

- 4th Florida Resilience Conference, Sept 17-19, 2025 – Charlotte Harbor, FL (Call for Abstracts is Open) https://floridaresilienceconference.org

- 2025 Southwest Florida Climate Summit, Sept. 16-17, 2025 - Charlotte Harbor, FL (coinciding) https://www.chnep.org/climate-summit

- 17th Annual Southeast Florida Climate Leadership Summit, Dec. 16-17, 2025 – West Palm Beach, FL https://southeastfloridaclimatecompact.org/event/17th-annual-southeast-florida-climate-leadership-summit/

Please share other relevant events during *Around the Table Updates*

- Sept. 16th & 17th at Sunseeker Resort in Port Charlotte, FL
- Co-located, immediately prior to Florida Resiliency Conference
- Registration open ($30) and CEUs available
- Top scientists and experts on resiliency
- Open to the public with Q & A and networking breaks

https://www.chnep.org/swfl-resiliency-summit

SFWMD working on proposed sessions.

Abstracts due on October 17, 2025

https://conference.ifas.ufl.edu/waterinstitute/

Thanks!

Carolina Maran, Ph.D., P.E.

Division Director, Flood Control and Water Supply Planning, Chief of District Resiliency, SFWMD

cmaran@sfwmd.gov

www.sfwmd.gov/resiliency

Photo by Paul Krashefski

Adjourned

Photo by Paul Krashefski