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## **South Florida Water Management District**

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### **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.pdf](#)
- [04 Dhuwe Hazard Mitigation.pdf](#)
- [05 Gosselin Osceola County.pdf](#)
- [06 Masters Upper Kissimmee Basin.pdf](#)
- [08 Verhulst Silver Jackets.pdf](#)
- [09 McNoldy FORTHCOMING.pdf](#)
- [10 Gysan C&SF Update.pdf](#)
- [13 Maran Closing Remarks.pdf](#)





# District Resiliency Updates

## Resiliency Coordination Forum – September 3, 2025

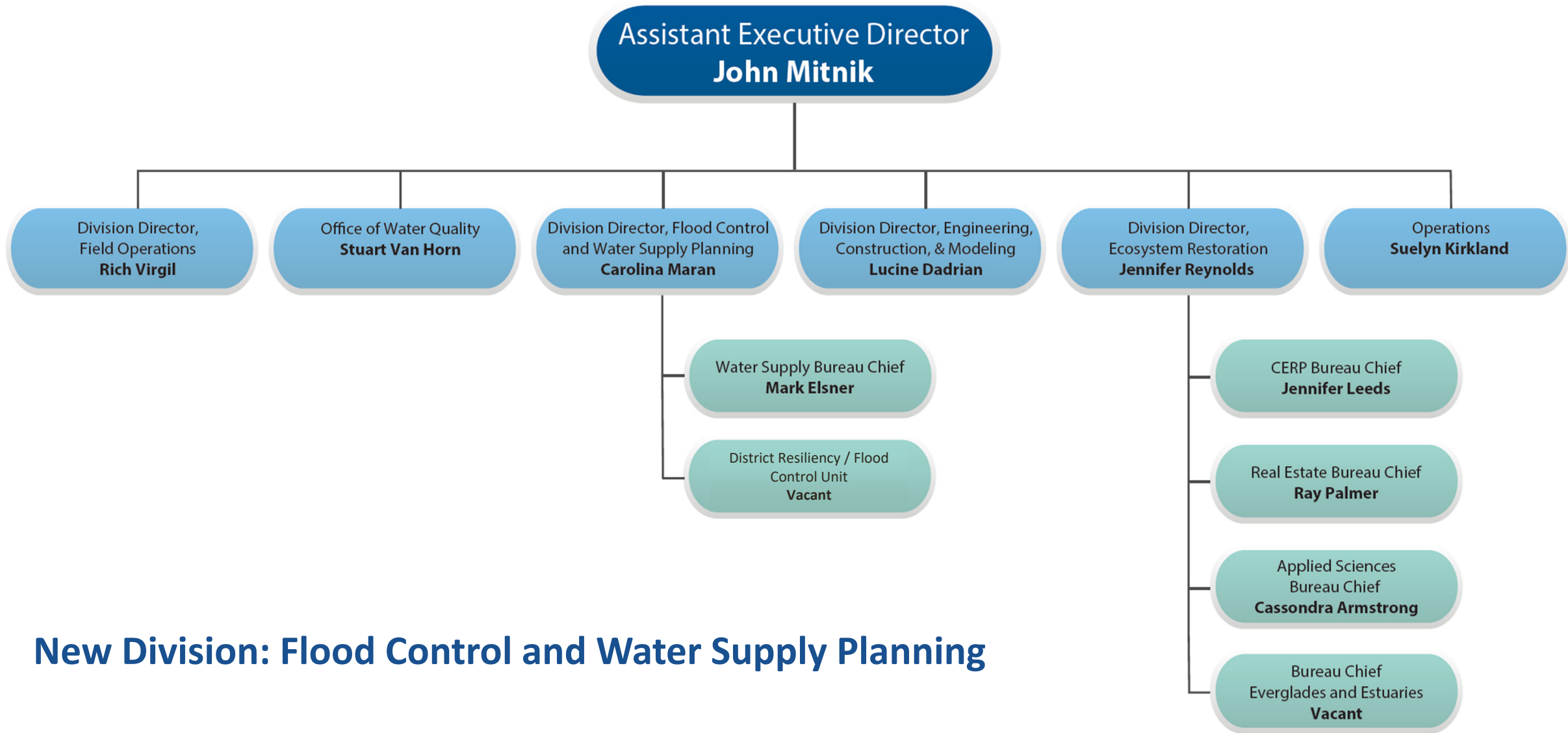
**Carolina Maran, Ph.D., P.E.**

**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

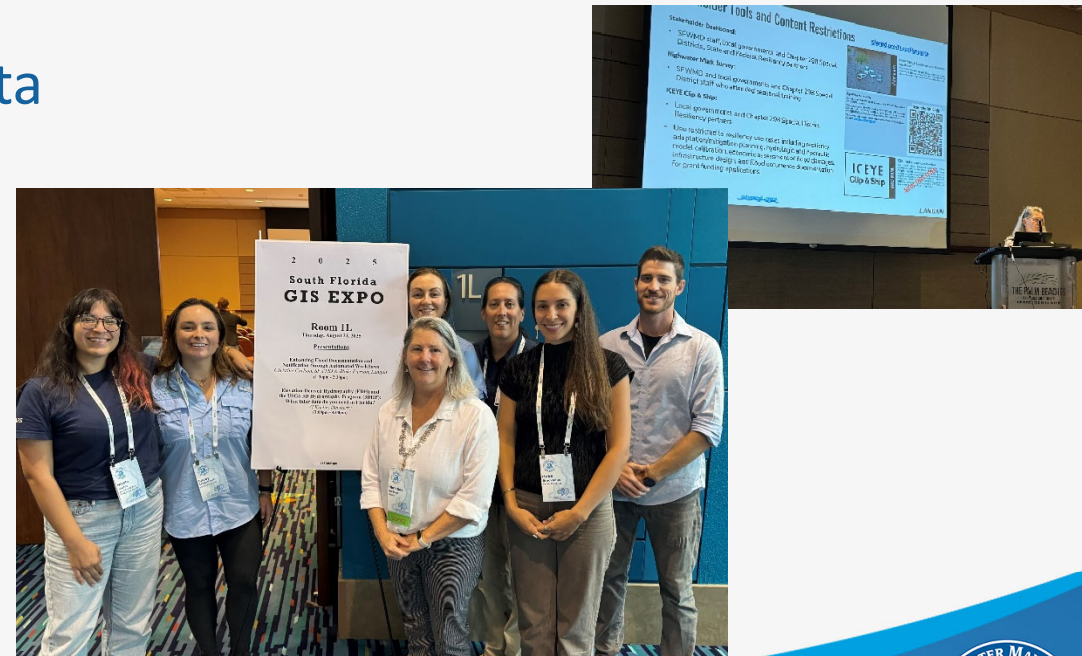


# Florida Flood Hub Visits SFWMD

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

## Highlights – Knowledge Exchange:

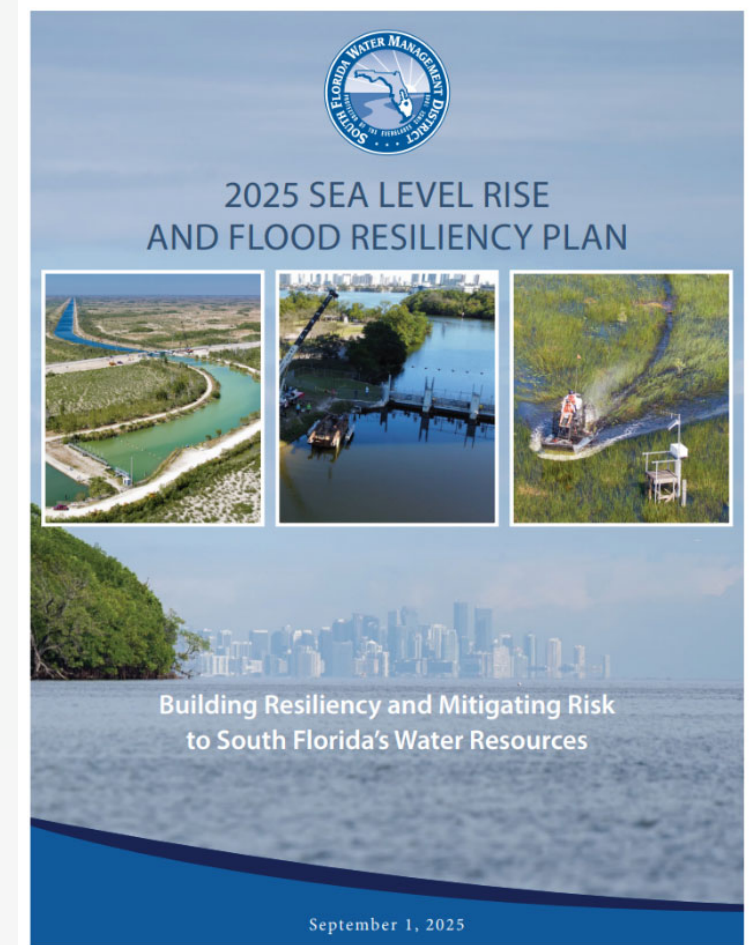
- Ongoing and future collaboration
  - o Long-term trends in water and climate data
  - o Flood documentation, flood tools, new project with the Florida Silver Jackets
  - o 2025 King Tide Season
  - o FPLOS flood modeling for vulnerability assessments and adaptation planning
  - o Operations/ Water 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](https://www.sfwmd.gov/FloodResiliencyPlan)



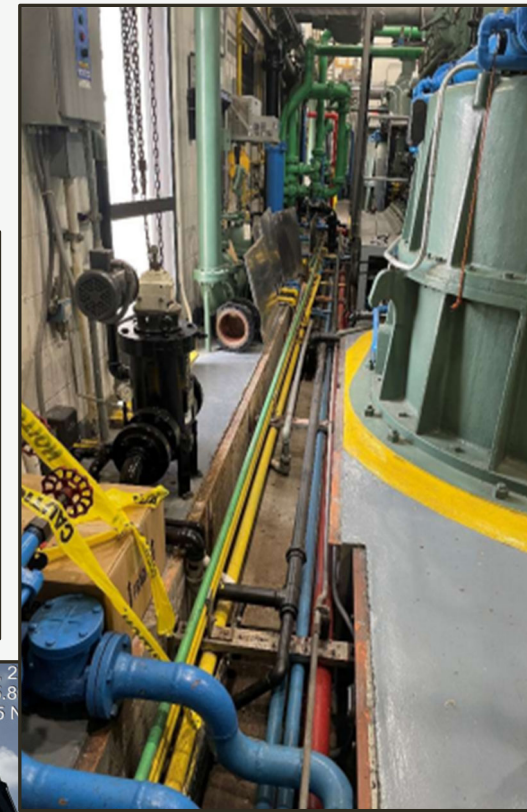
[2025 SFWMD Priority Resiliency Projects Map](#)



# 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/nxa13cNKT0CH\\_t\\_vTRK20g](https://broward-org.zoomgov.com/meeting/register/nxa13cNKT0CH_t_vTRK20g)

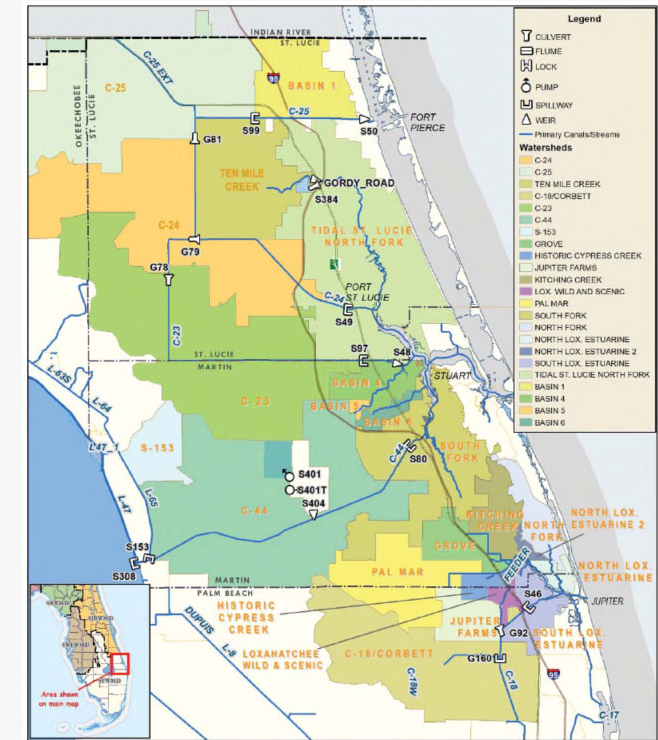
1. Welcome and Opening Remarks - Steven A. Geller, Commissioner, Broward County; and Carolina Maran, Ph.D., P.E., Division Director of Flood Control and Water Supply Planning, Chief of District Resiliency, SFWMD
2. Final Array of Alternatives and Comprehensive Benefits Analysis Results - Walter Wilcox, 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](http://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



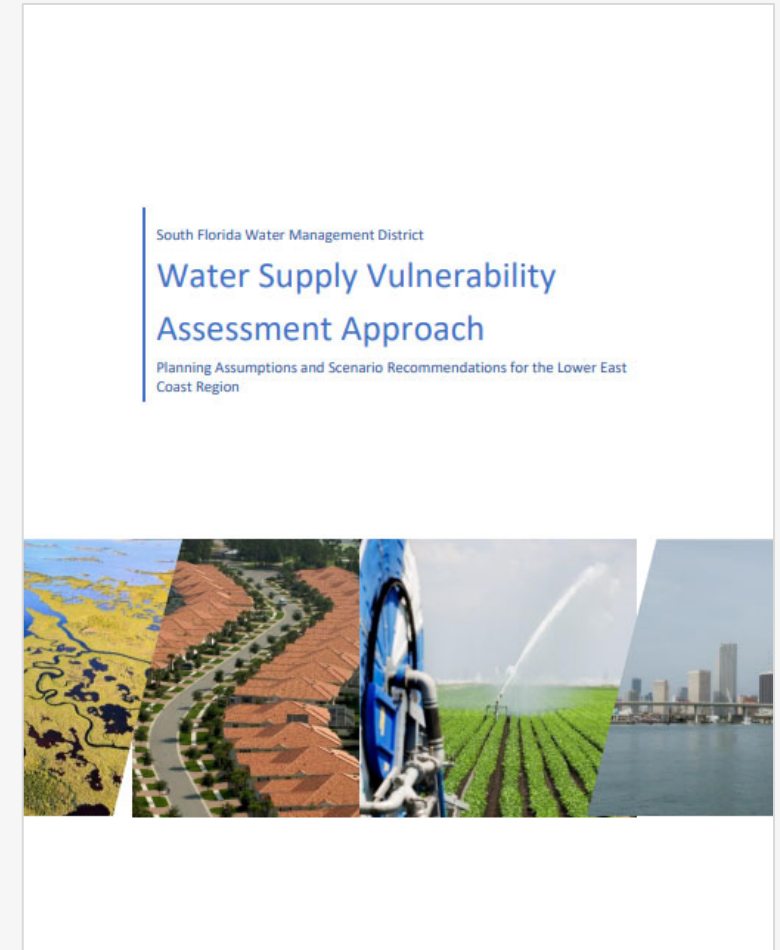
# Water Supply Vulnerability Assessment Update

## 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

## Important Dates

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

➔ SFER Chapter 2B



# Future Water and Climate Scenarios Workgroup

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

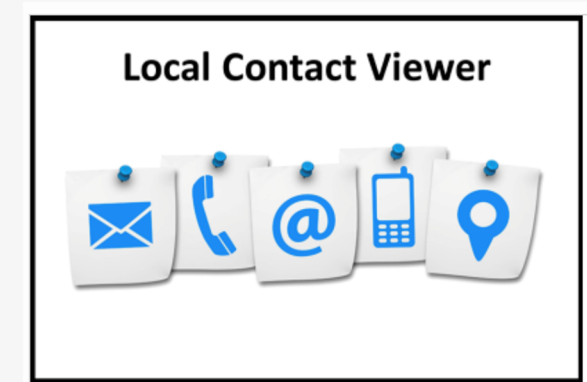
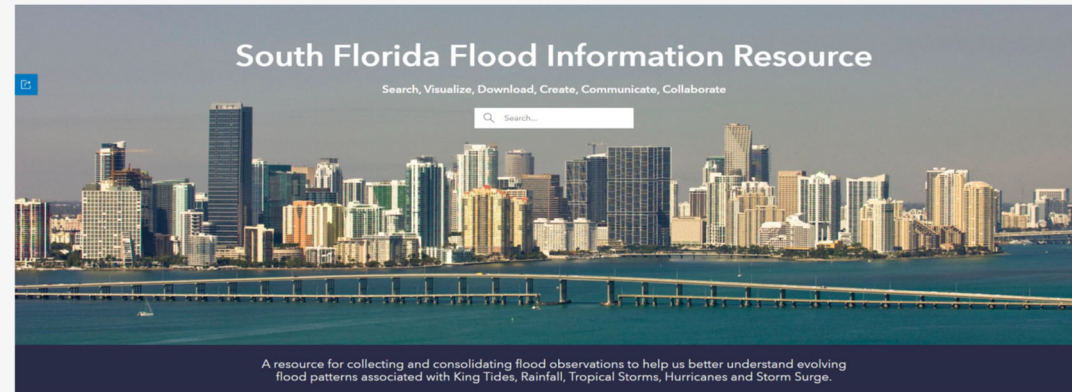
## Florida Flood Hub

- 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](https://sfwmd.gov/FloodingApp)
  - View flood event data at [sfwmd.gov/FloodResource](https://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

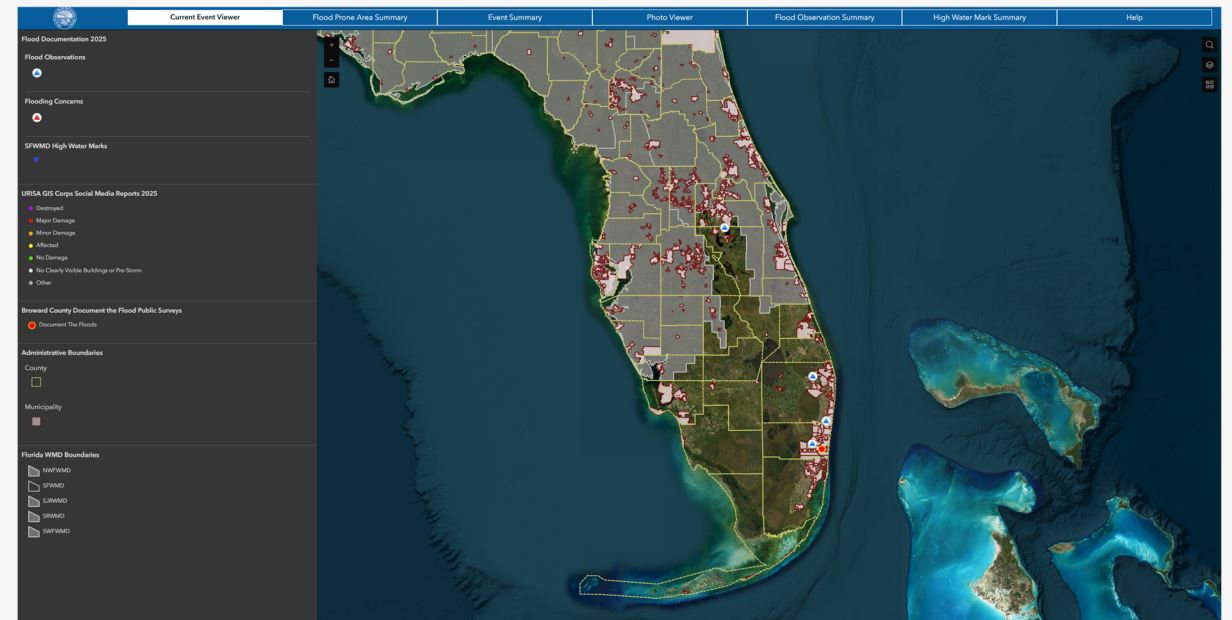
## Latest Training:

- 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](https://sfwmd.gov/FloodResource)



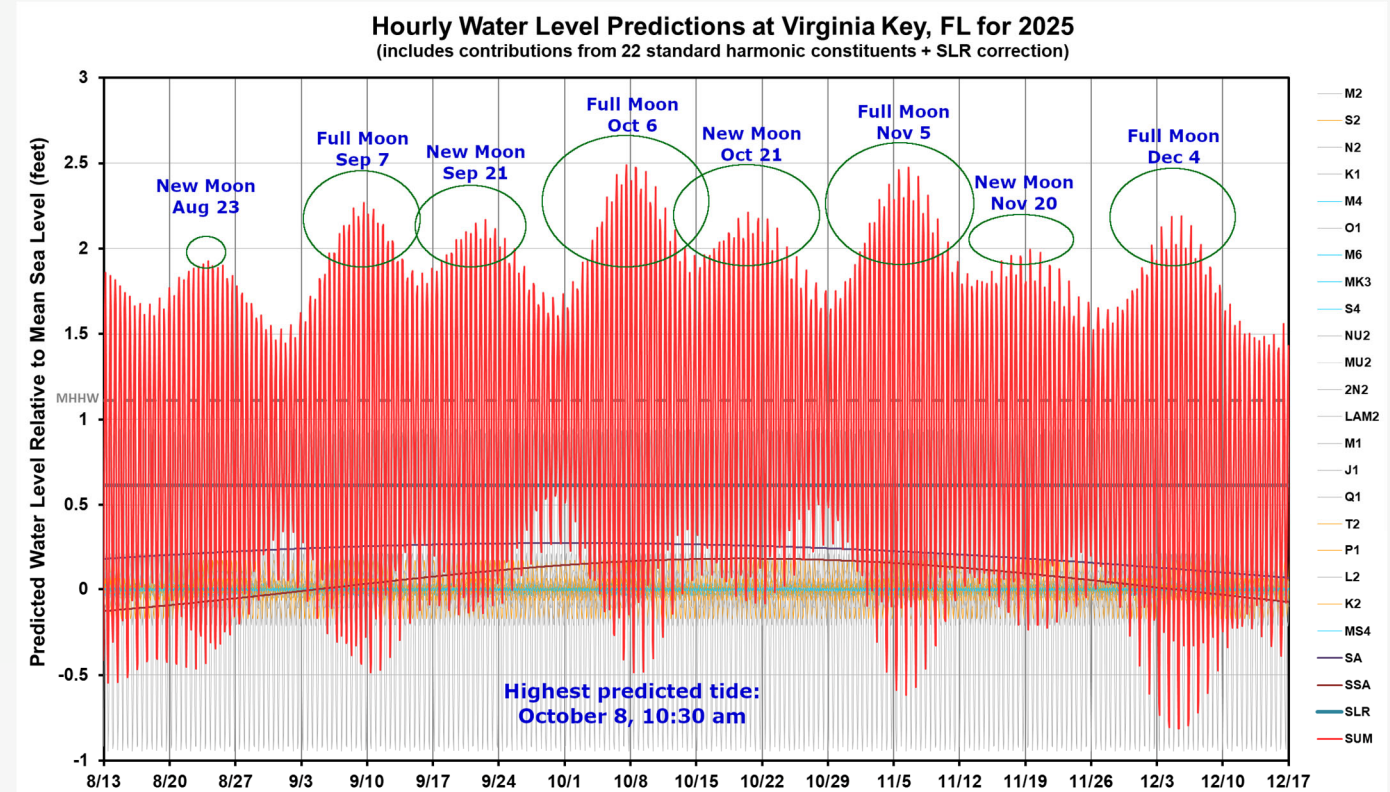
# 2025 King Tide Season

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

ELEVATE  
FLORIDA

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

64 Counties & Local Municipalities

**13**

Inspection vendors

FEMA, SHPO

**28**

Construction vendors

Volunteer FL, Long-Term Recovery Groups  
SBA, FloridaCommerce

**12,000+**

Applicants applied representing 64 counties

**1,100+**

Attendees for in-person outreach events

**800+**

Pre-construction inspections completed for the 305 properties

**30,234+**

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

**305**

Applications sent to FEMA for award at this time

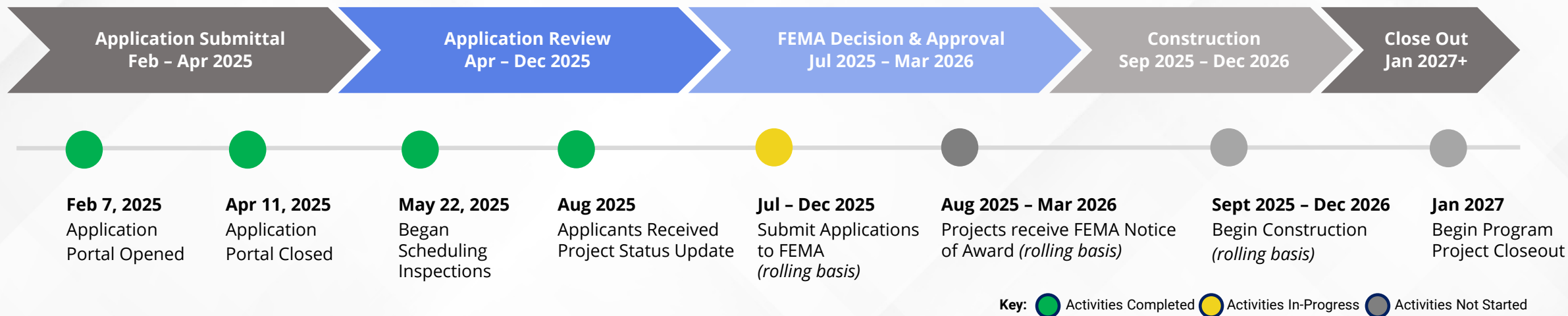


# PROGRAM STATUS: APPLICATION REVIEW STAGE

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.*



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

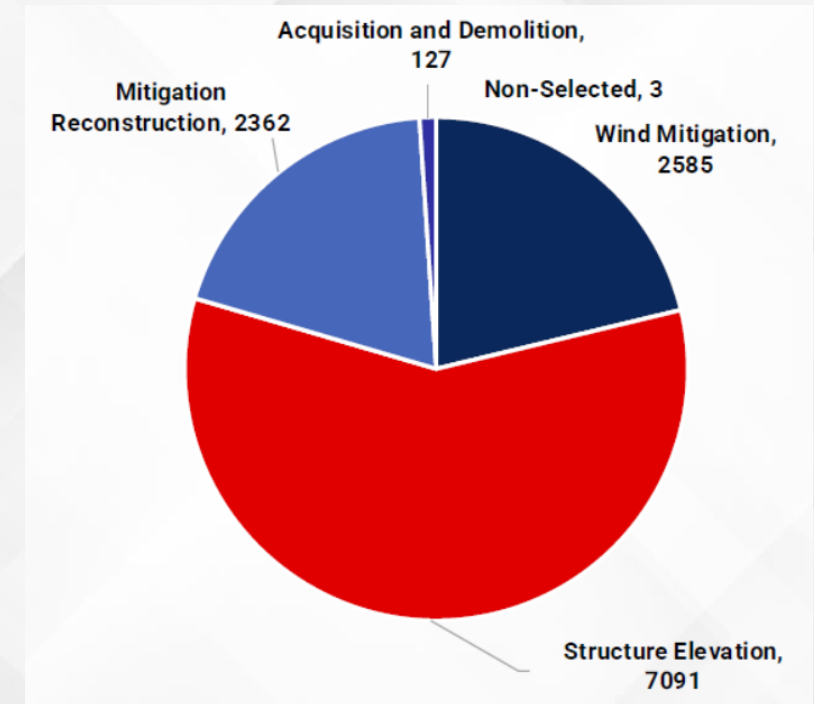


# MITIGATION

ELEVATE  
FLORIDA

## 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

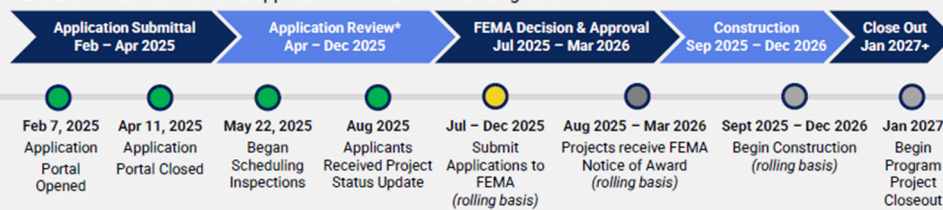
Elevate Florida is an innovative statewide initiative aimed at improving the resilience of around 2,000\* homes by using more than \$400 million in federal funding.

*\*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.



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

### Program Accomplishments as of August 4<sup>th</sup>, 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%)





# MITIGATION

## **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.







# Steps to Resiliency

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





# 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





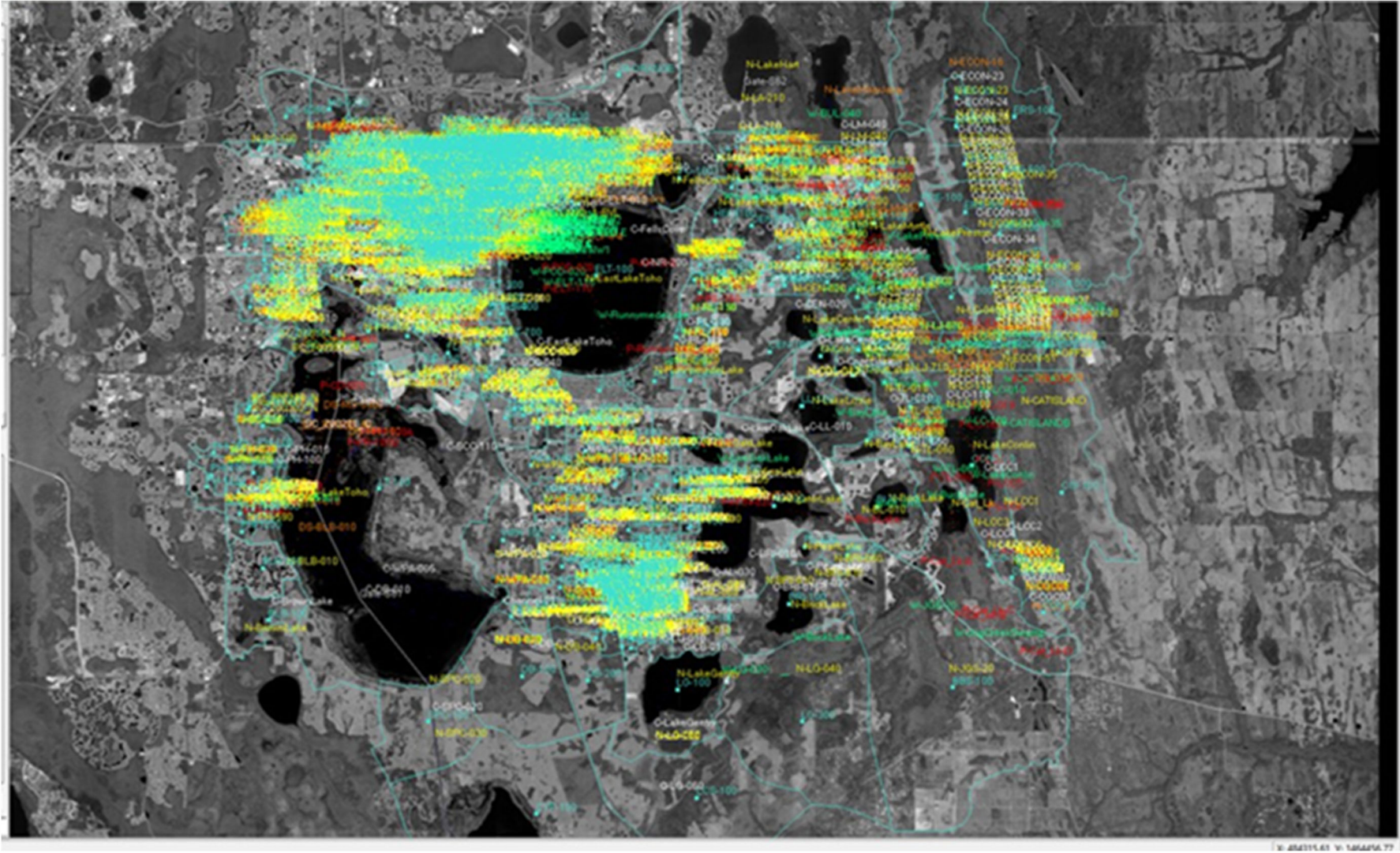


# Master Surface Water Management Plan Update

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 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.







# 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.



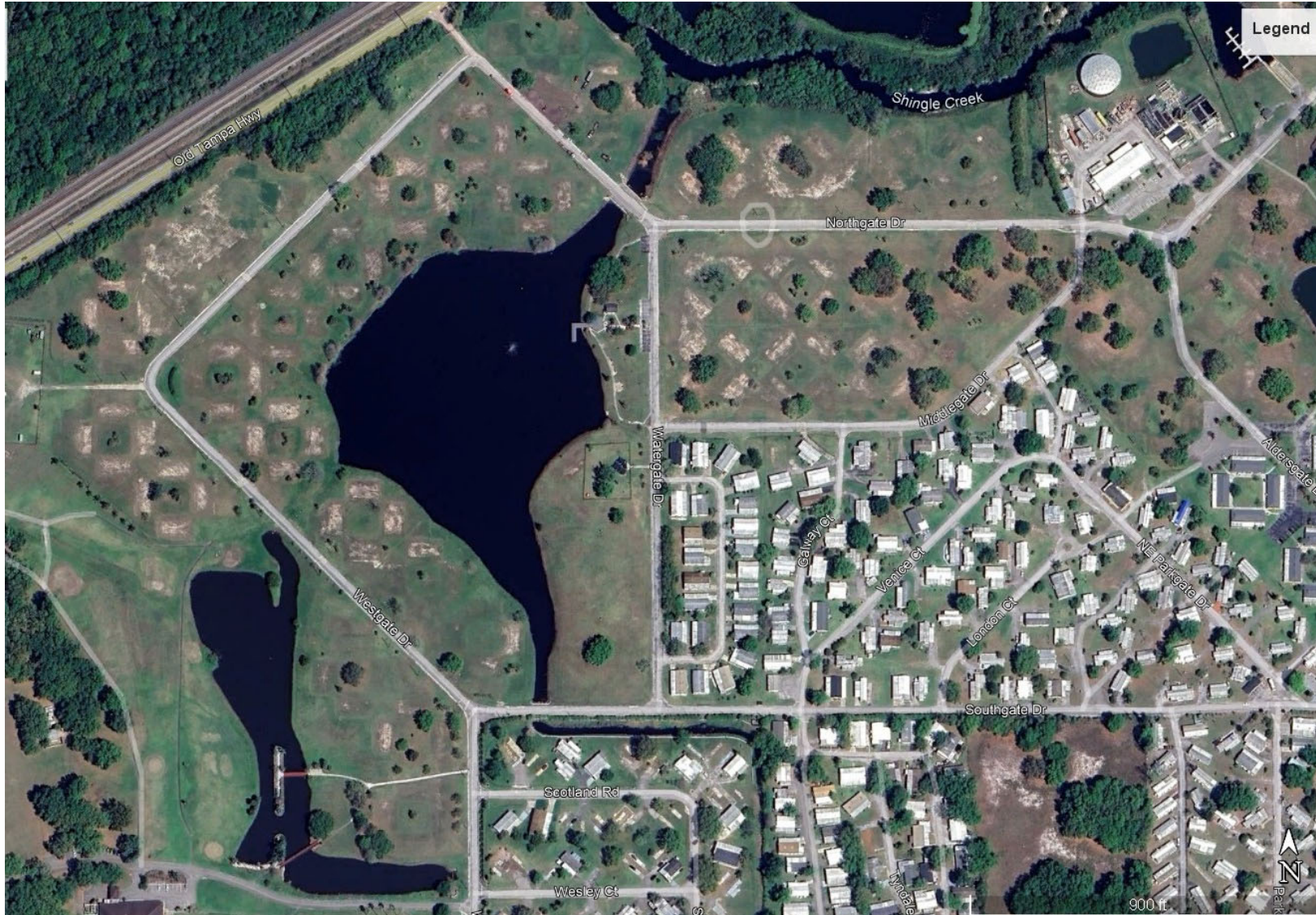
# Final Note







# Final Note



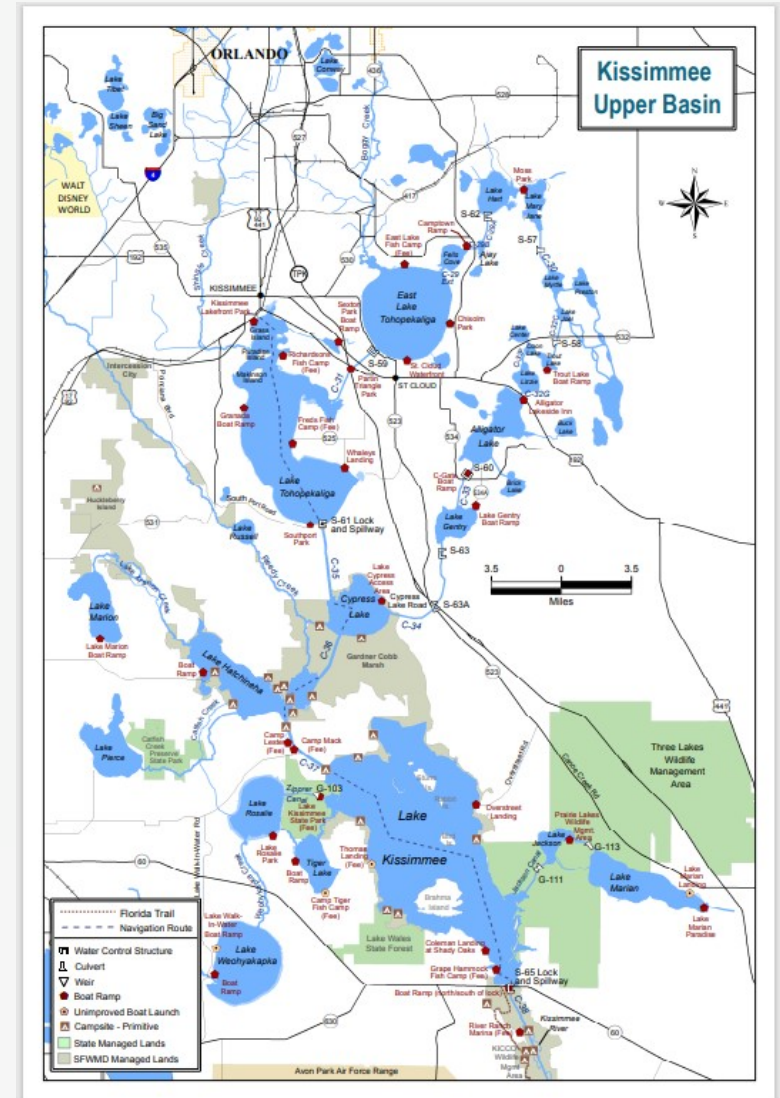


Thank You!





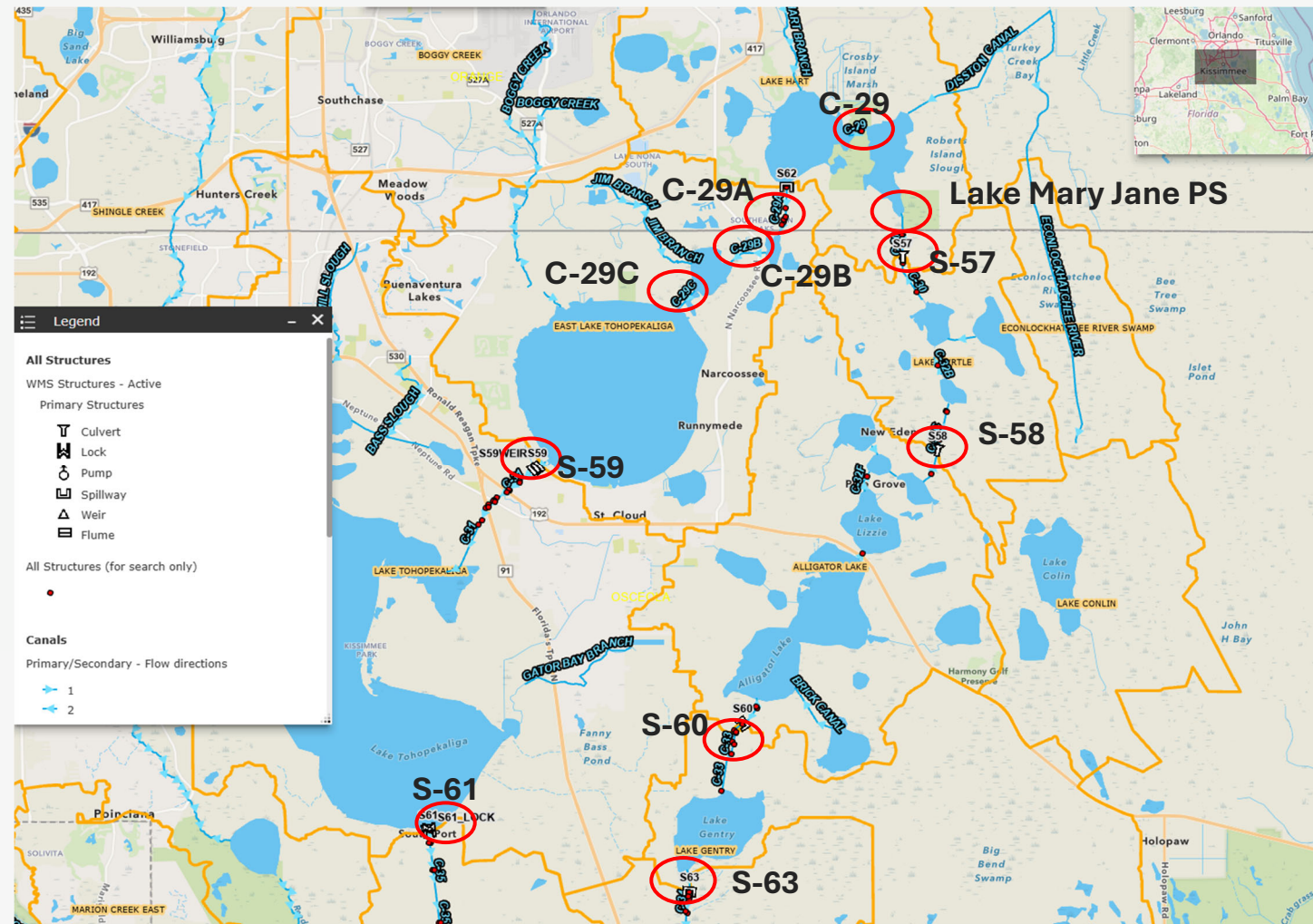
# Upper Kissimmee Basin: Increasing Flood Control Resiliency with Improvements, Restoration, and Partnerships





# Proposed Flood Resiliency Projects & Coordination in the Upper Kissimmee Basin

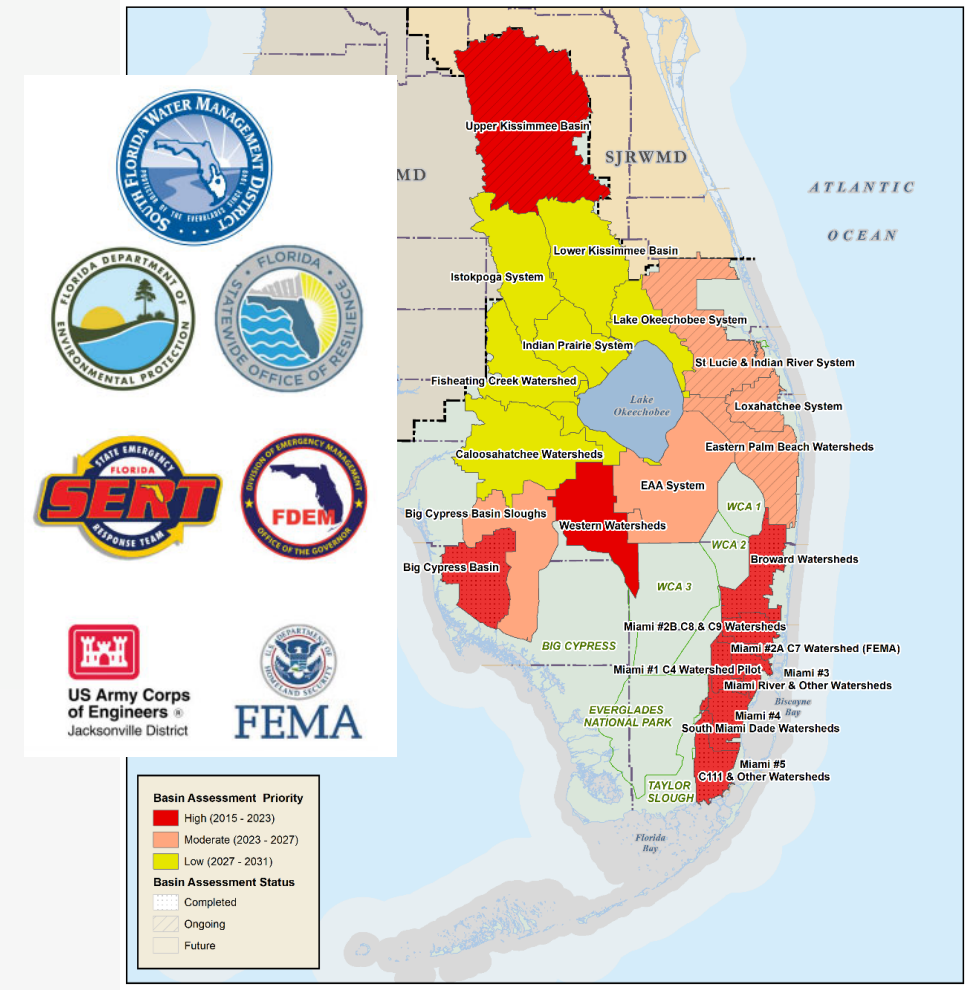
- Post Disaster Hurricane Ian – Florida Division of Emergency Management (FDEM) – Hazard Mitigation Grant Program (HMGP)
  - S-58 Structure Enhancement & Temp Pump Platforms
  - S-59 Structure Enhancement & C-31 Canal
  - S-61 Spillway Enhancement & Erosion Control
  - C-29, C-29A, C-29B, and C-29C Canal 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**

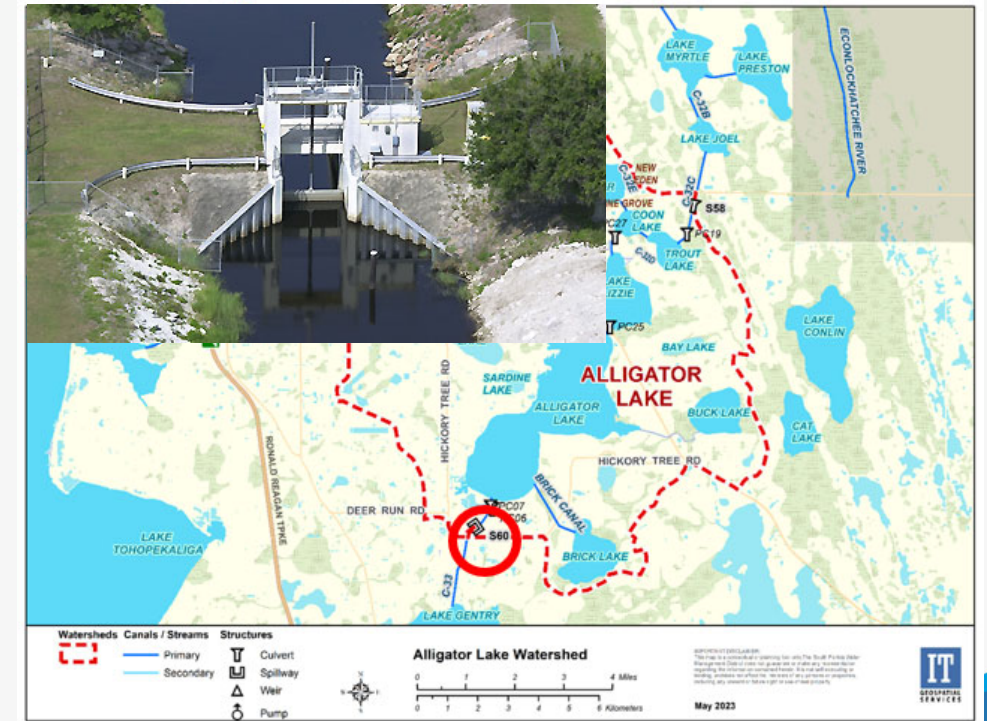
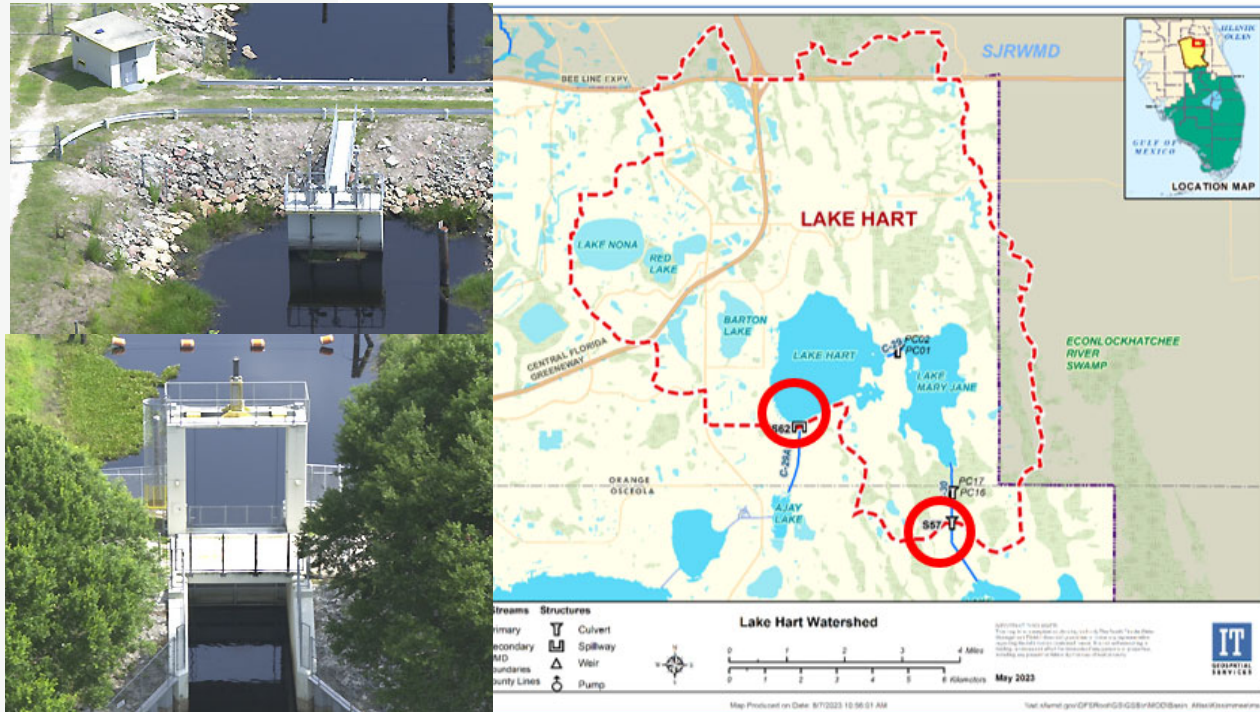
- Pre-defined performance metrics: canal stages, discharge capacity, overland flood inundation and duration.
- Support decision making on prioritizing and sequencing infrastructure investments with funding support from:
  - U.S. Army Corps of Engineers Central & South Flood Resilience Studies
  - Florida 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

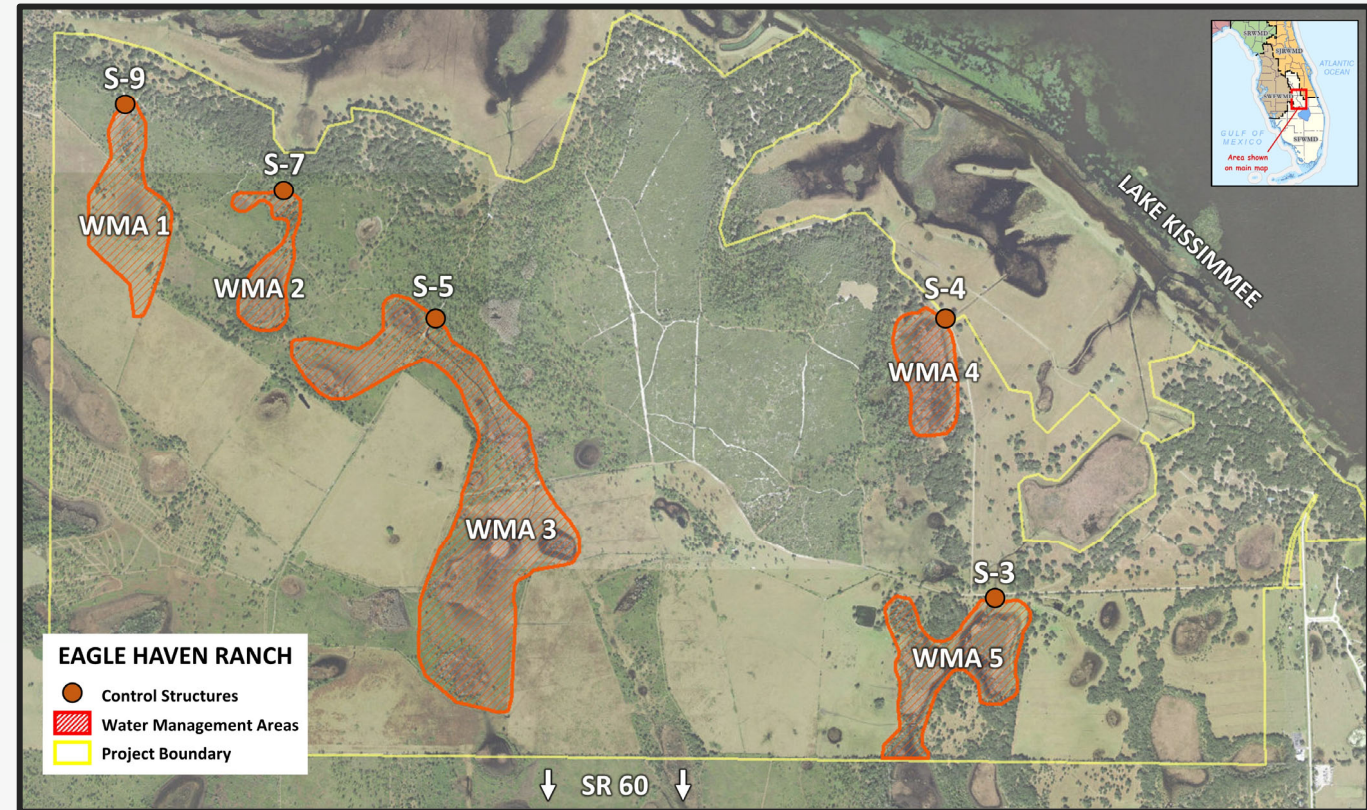


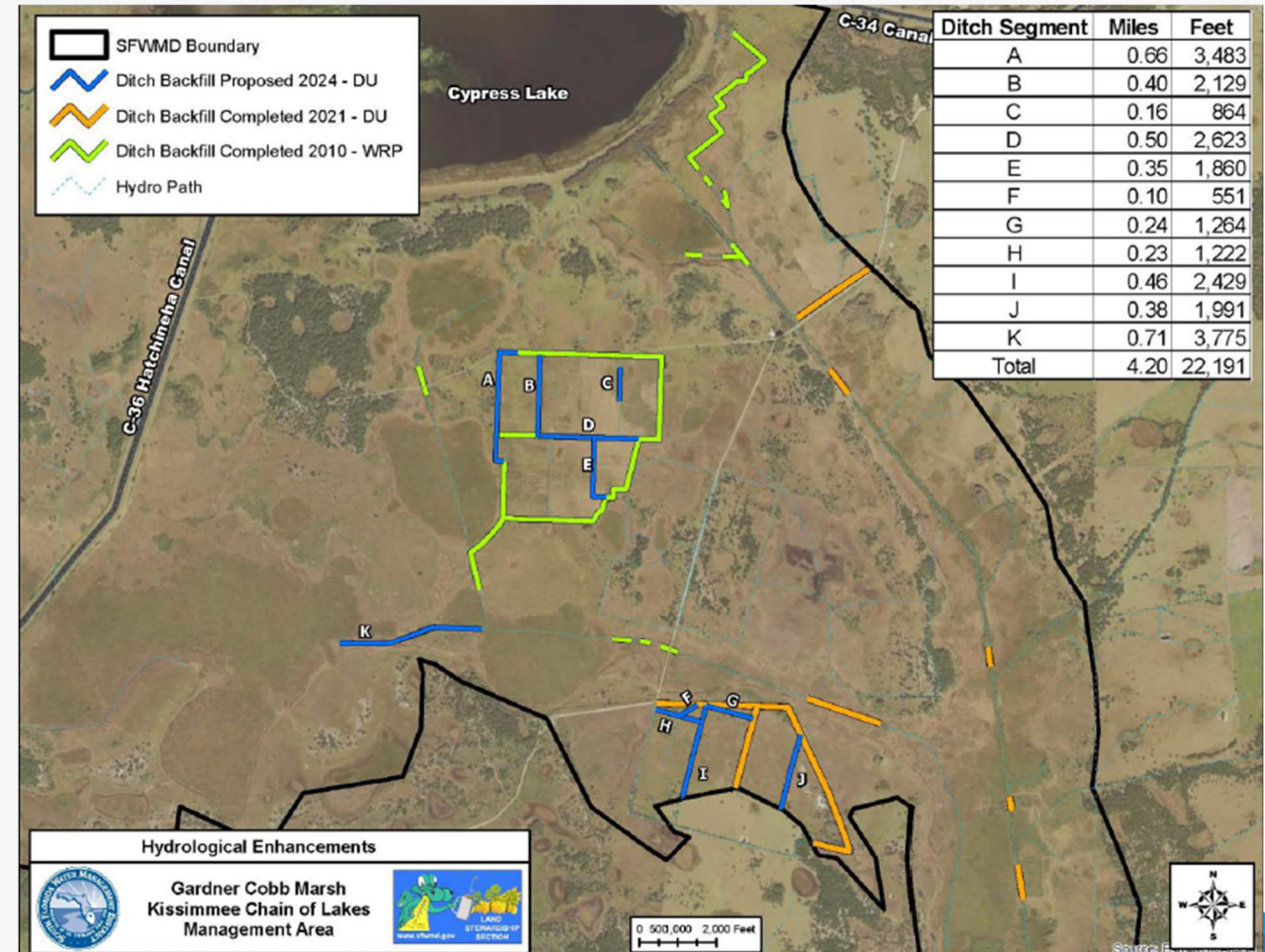
Image of Eagle Haven Ranch Project Area in Polk County



# 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



# 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

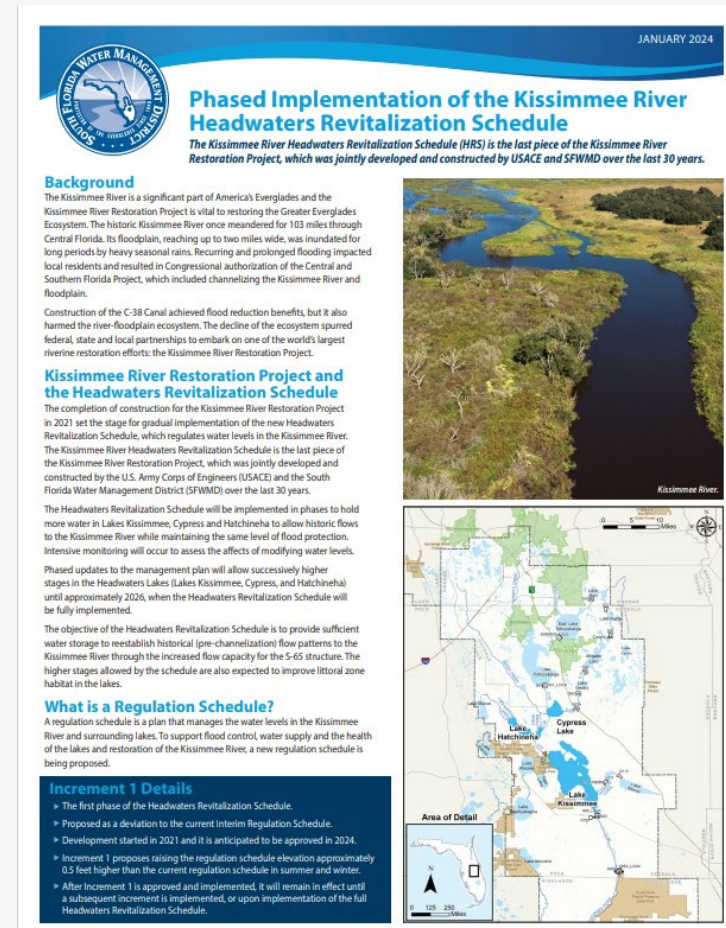


Image of the handout about the Phased Implementation of the Kissimmee River Headwaters Revitalization Schedule





## 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.

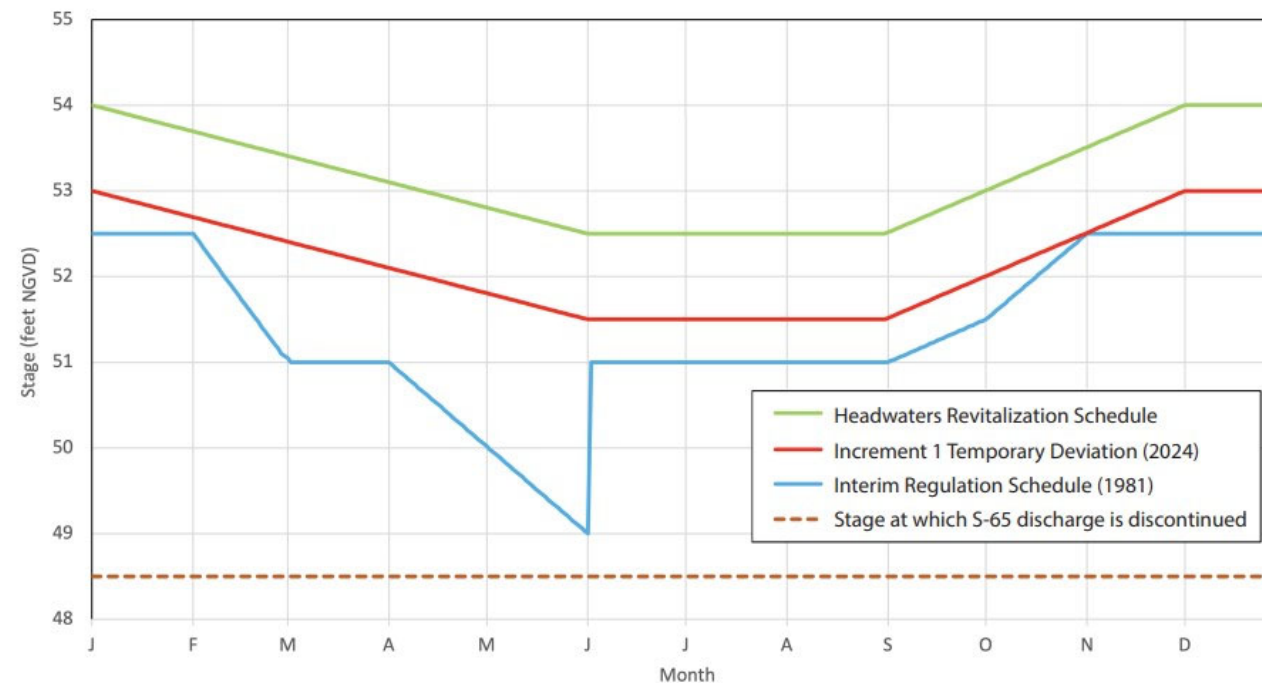


Image of the handout of the Kissimmee River Headwaters Revitalization Schedule







## 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](mailto: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





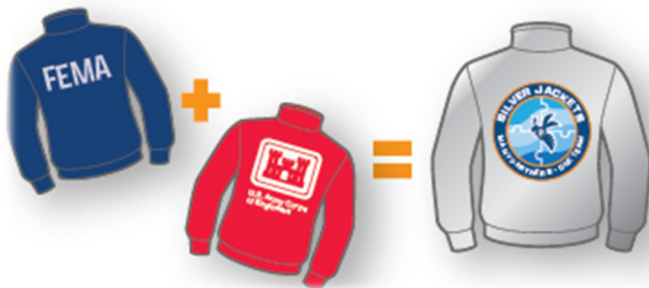


# SILVER JACKETS

## MANY PARTNERS • ONE TEAM

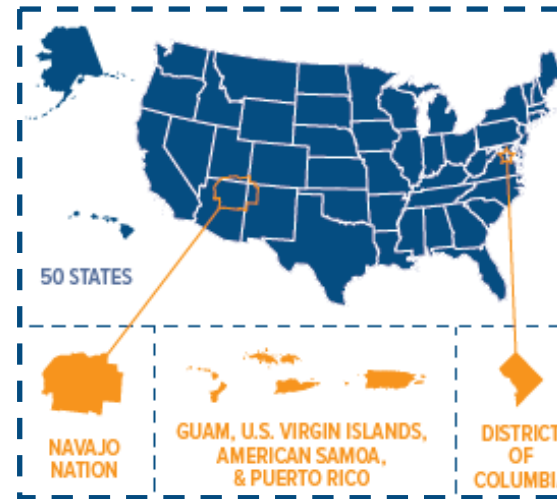
### THE NAME

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



# SILVER JACKETS

MANY PARTNERS • ONE TEAM

## Florida Team Leads

Stephanie Verhulst, USACE  
Evan Jenkins, FDEM

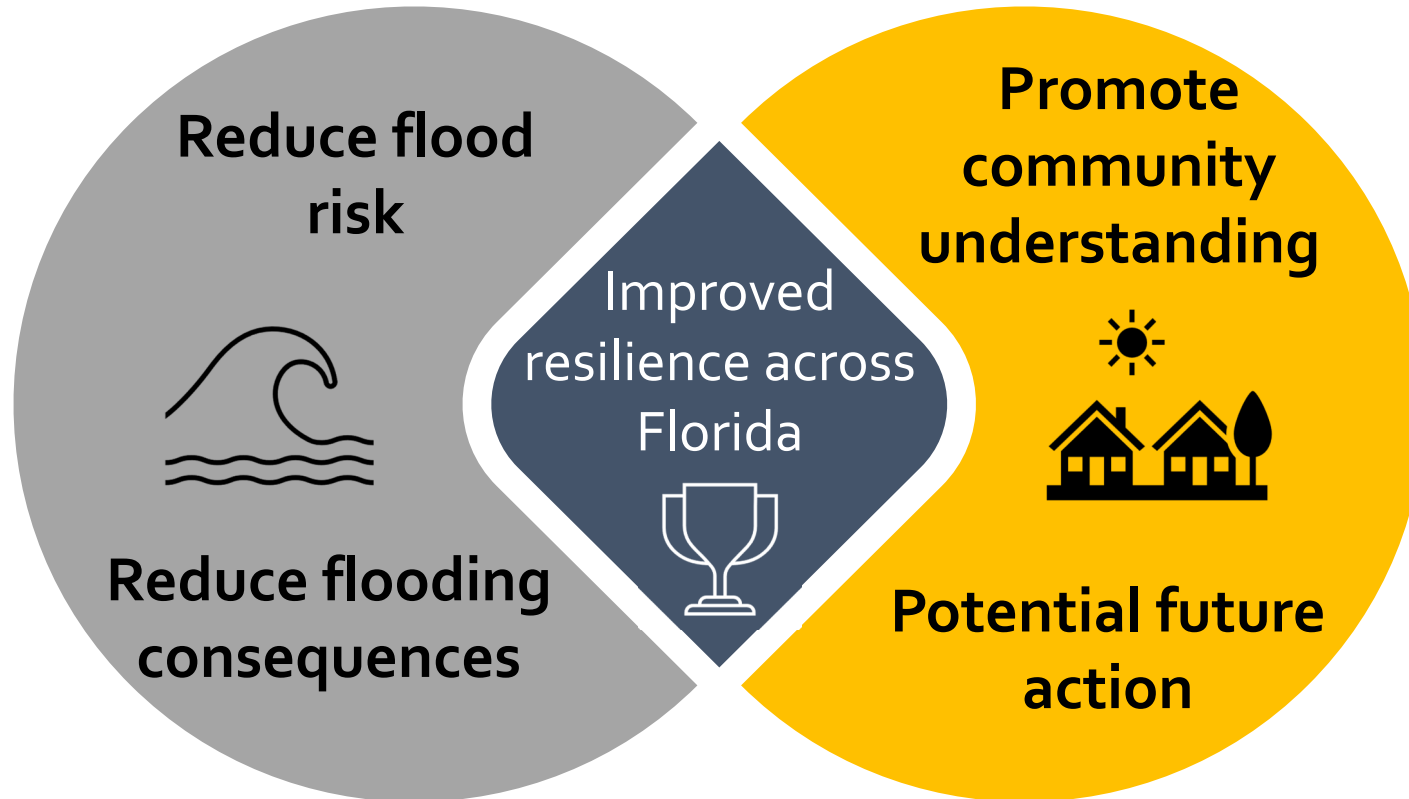






# SILVER JACKETS

MANY PARTNERS • ONE TEAM





# SILVER JACKETS

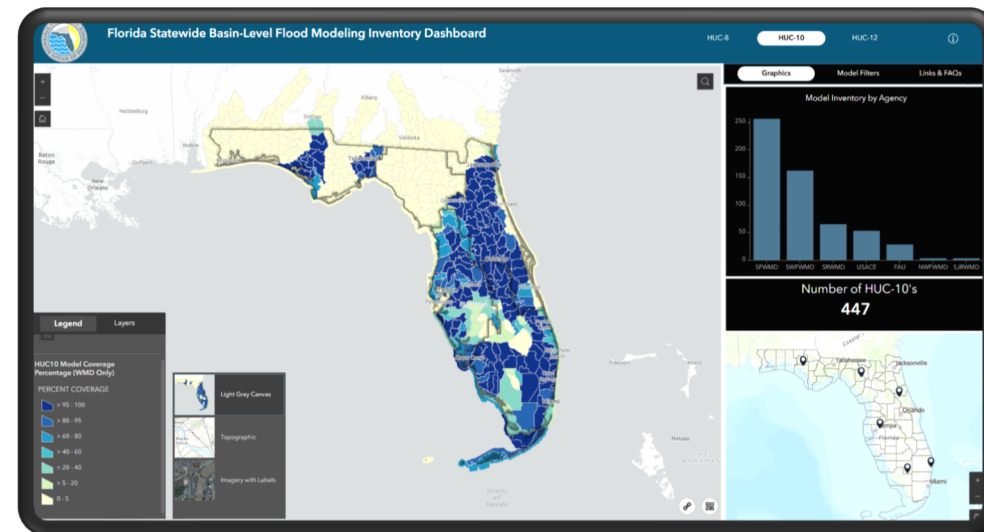
MANY PARTNERS • ONE TEAM

## Silver Jackets projects to flood planning

Florida Basin-Level  
Flood Assessment  
Inventory

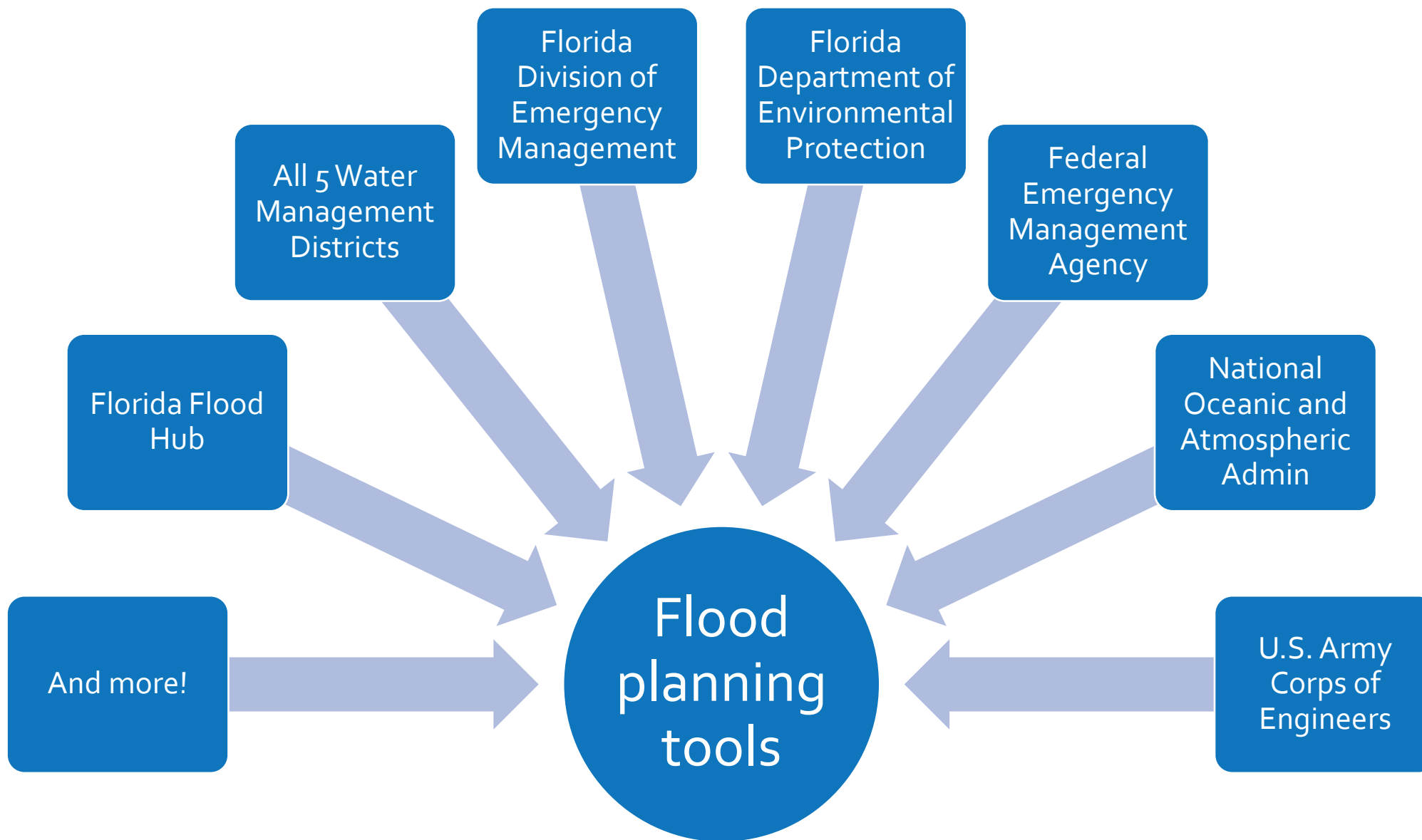
Community  
Guidebook to Flood  
Modeling

Flood Observations –  
Regional Coordination  
and Community  
Engagement





# PARTNERS TO PRODUCT





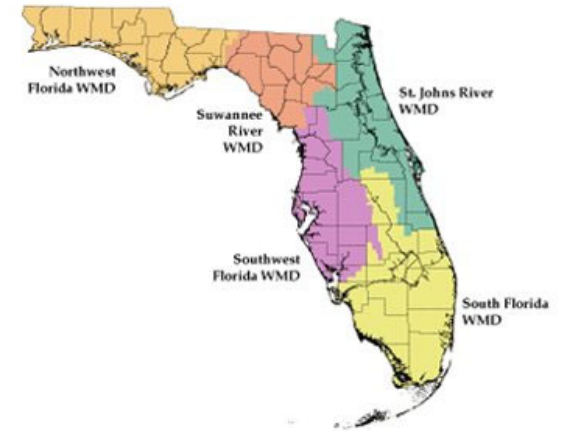
# Silver Jackets Project:

## 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.

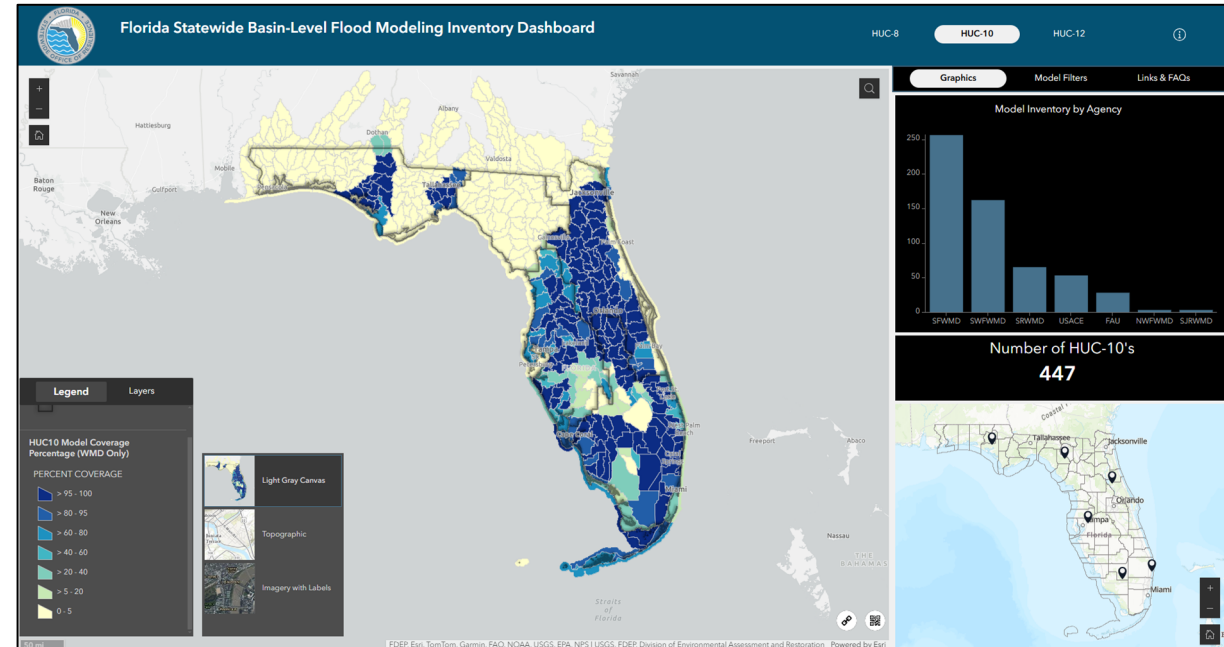


# Silver Jackets Project:

## 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.





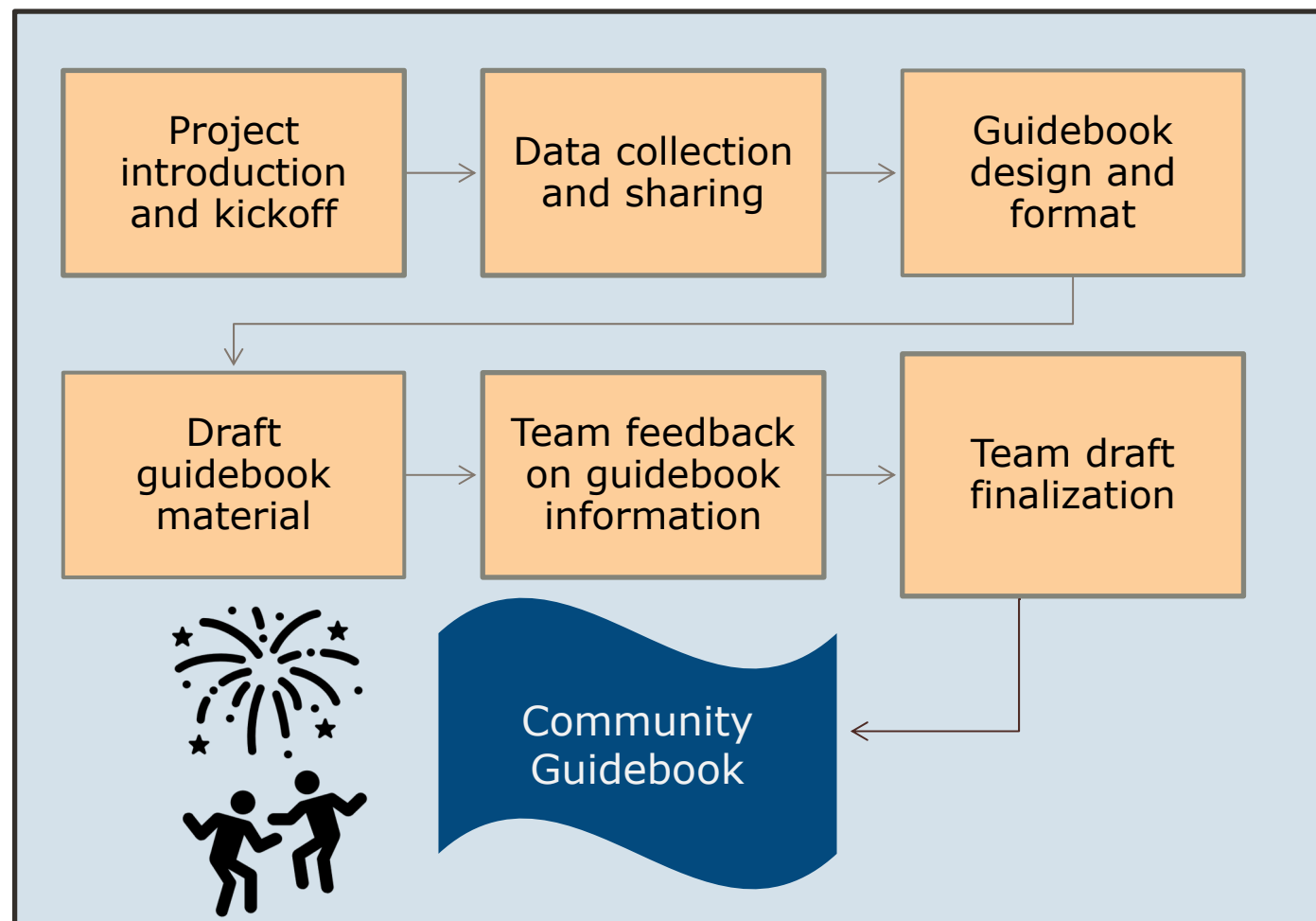


# COMMUNITY GUIDEBOOK TO FLOOD MODELING

**Project End Goal:** Guidebook.

**Team to establish:**

- How we get there
- Are we missing any partners





# FLOOD OBSERVATIONS – REGIONAL COORDINATION AND COMMUNITY ENGAGEMENT



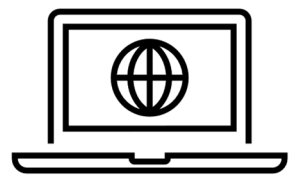
**Project Motivations:** Multi-year, multi-step efforts for Silver Jackets. Flood model inventory completed April 2025. Sister project with SJ project Community Guidebook to Flood Modeling.

**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





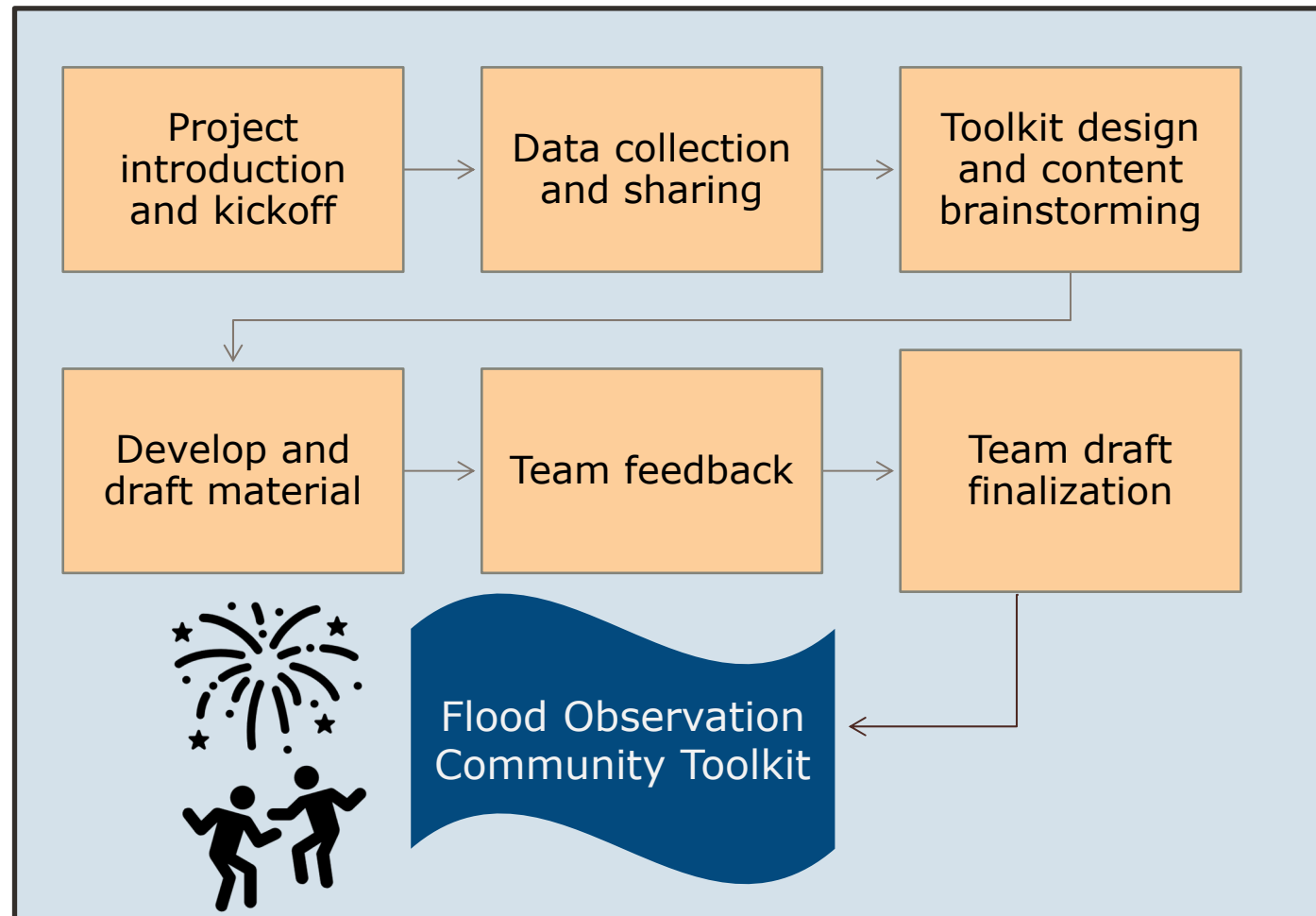
# FLOOD OBSERVATIONS – REGIONAL COORDINATION AND COMMUNITY ENGAGEMENT



**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](mailto:Stephanie.a.Verhulst@usace.army.mil)

(904) 232-1818

### FDEM Silver Jackets Coordinator:

Evan Jenkins

Email: [Evan.Jenkins@em.myflorida.com](mailto:Evan.Jenkins@em.myflorida.com)





# Analysis of High Tide Events at SFWMD Coastal Structures

PRESENTATION FOR AGENDA ITEM 9 WILL BE  
FORTHCOMING

Brian McNoldy  
Nathan Taminger



ROSENSTIEL SCHOOL of  
MARINE, ATMOSPHERIC  
& EARTH SCIENCE



# 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®

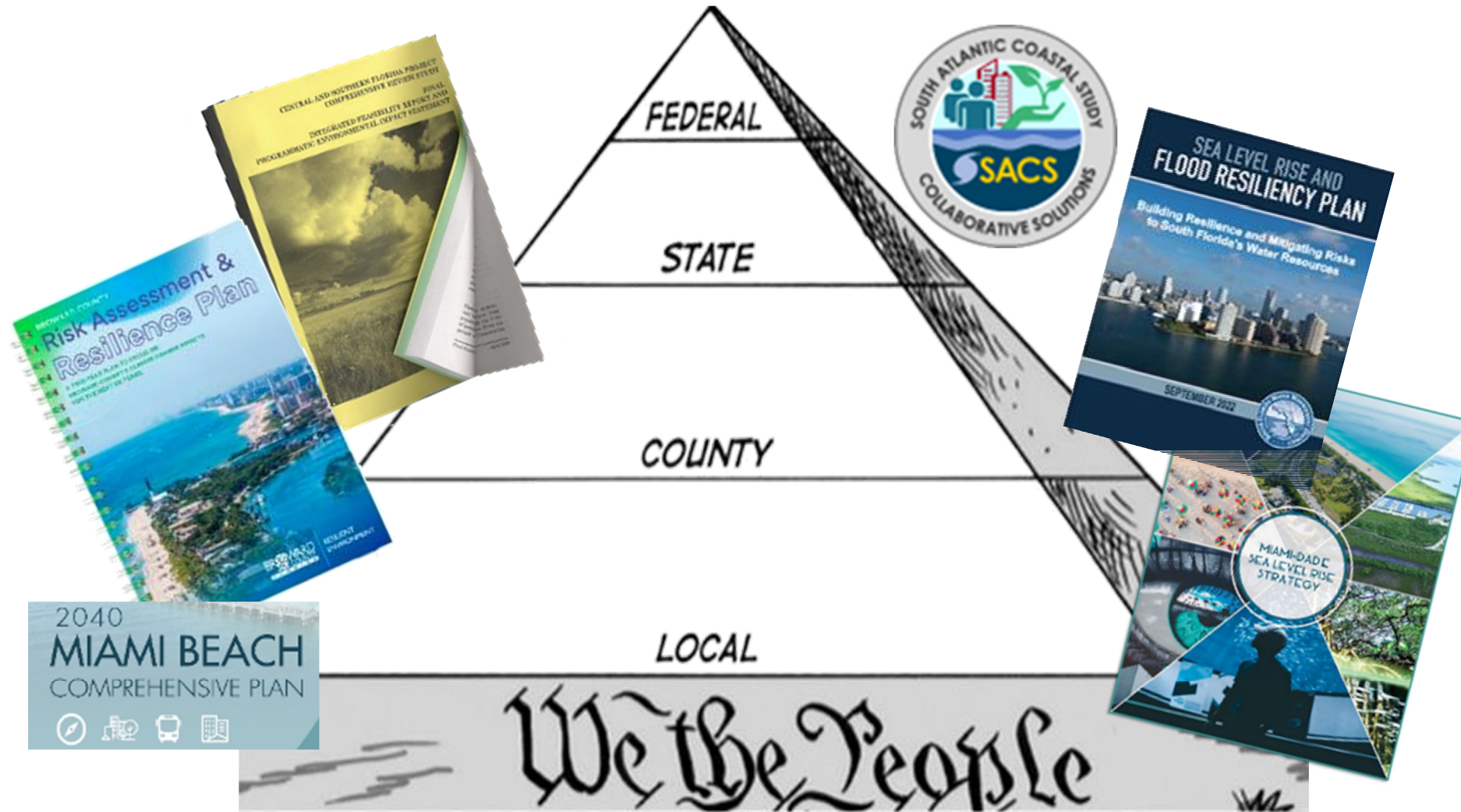






# BUILDING COMMUNITY RESILIENCE

## 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.

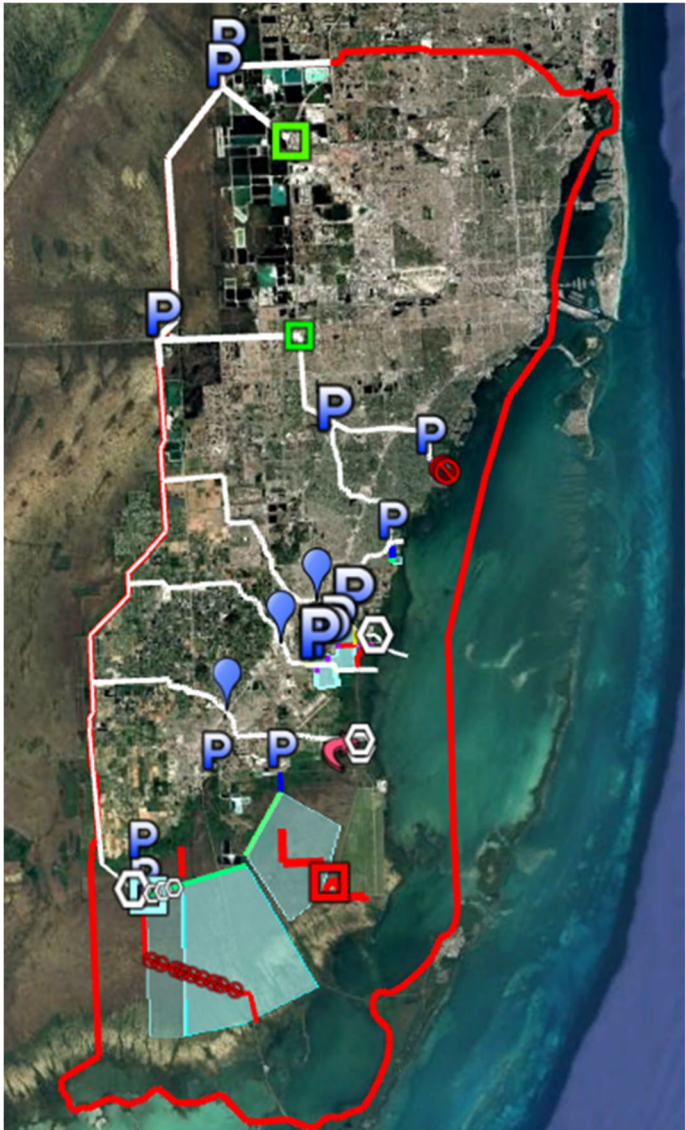
## BBSEER Technical Progress

- 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



- New Canal
- Seepage Management
- Backfill, plug canal
- Shallow canal
- New Pipeline
- Spreader Canal
- Lined Canal
- Existing canal,
- ⊘ Culvert Plug
- Storage
- ⬡ New Structure
- Operational change at existing structure
- Ⓟ Pump
- ↪ New Culvert
- Ⓜ Operational change at structure in conveyance canal





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

## PROJECT OVERVIEW

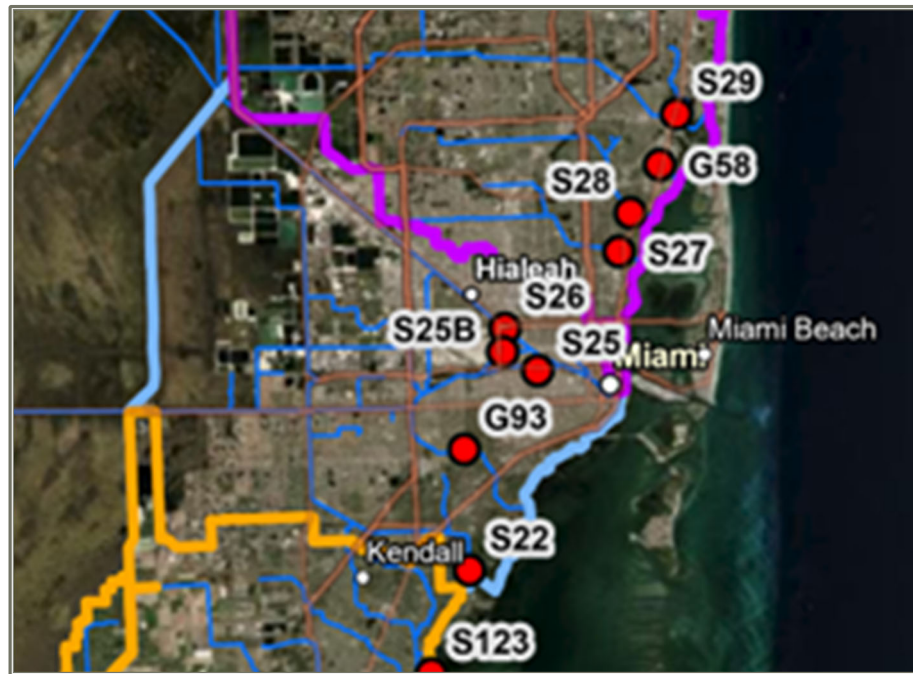


### Study Process

- 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

### Current Status:

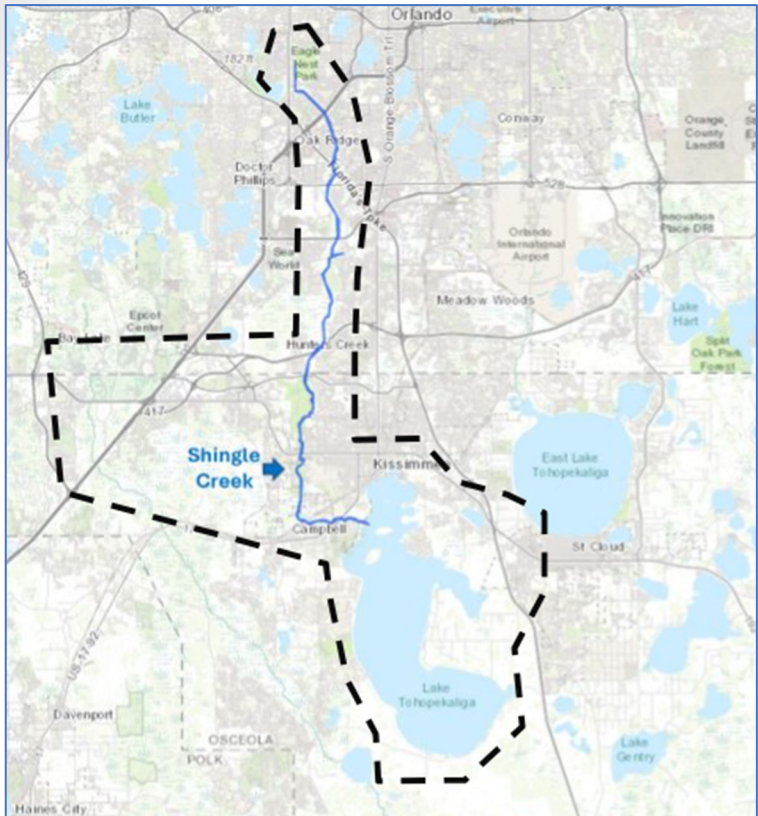
- Feasibility Cost Share Agreement signed with Osceola County Feb 2025
- VTAM approval by MG Kelly received 27 August 25
- Surveys, data collection, and FWOP modeling is underway. Alternatives and measures are being discussed with the County.

**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:

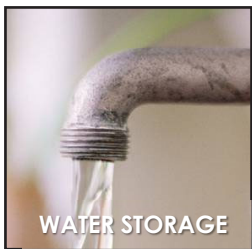
- Shingle Creek and the surrounding floodplain could convey the runoff from storm events and the S-61 outlet structure at Lake Toho could pass high flows into the lower lakes. Continued urbanization has constricted the flow area, filled natural storage, and increased the volume of runoff
- Opportunities 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



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



**FLOOD RISK**



**WATER STORAGE**



**RESTORATION**



# 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

- 4<sup>th</sup> 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>
- 17<sup>th</sup> 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



## 2025 SOUTHWEST FLORIDA RESILIENCY SUMMIT

*Registration now open!*

- ✓ Expert Presentations with New Information
- ✓ Networking Breaks for Making New Connections
- ✓ Interactive Audience Questions & Answers

GO TO [CHNEP.ORG](https://www.chnep.org) FOR MORE  
INFORMATION AND TO REGISTER

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

SFWMD  
working on  
proposed  
sessions.

Abstracts  
due on  
October  
17, 2025



# WATER INSTITUTE SYMPOSIUM

February 24–26, 2026

Gainesville, Florida

<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](mailto:cmaran@sfwmd.gov)

[www.sfwmd.gov/resiliency](http://www.sfwmd.gov/resiliency)





Adjourned