South Florida Water Management District

RESILIENCY COORDINATION FORUM
AGENDA

June 24, 2026
9:30 AM
District Headquarters, B-1 Auditorium
3301 Gun Club Road
West Palm Beach, FL 33406
FINAL

1. Welcome and Introduction - Drew Bartlett, Executive Director, SFWMD

2. Statewide Office of Resilience Update - Eddy Bouza, Chief Resilience Officer, State of Florida

3. Florida Flood Hub - Charles Jacoby, Ph.D., Associate Director, The Florida Flood Hub for Applied Research and Innovation

4. Statewide Plan and Hazard Mitigation Program Updates - Mitchell Budihas, Mitigation Planning Manager, Florida Division of Emergency Management

5. State Road A1A Corridor Improvements in Hollywood - James Poole, P.E., District Drainage Engineer, Florida Department of Transportation; and Lindsey Koren, P.E., Water Resources Area Leader, RS&H

6. Break

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

8. Sea Level Rise, Flood Resiliency Plan and Priority Resilience Projects Dashboard - Aaron Duecaster, Resiliency GIS Specialist, SFWMD

9. Flood Resiliency Initiatives - Alannah Irwin, Sustainability and Resiliency Administrator, City of Boynton Beach

10. C&SF Flood Resiliency Study Updates - Tim Gysan, P.E., Chief, Ecosystem Projects Section and Resilience Coordinator, 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

Presentations:

Agenda Item Background:

03 Jacoby Flood Hub
04 Budihas Hazard Mitigation
05 Poole State Road A1A
07 Maran District Resiliency Updates
08 Duecaster SLR, Flood Resiliency Plan
09 Irwin Flood RES Initiatives
10 Gysan CS&F Updates
13 Maran Closing Remarks

FLORIDA
FloodHub
FOR APPLIED RESEARCH AND INNOVATION

Update on the Florida Flood Hub

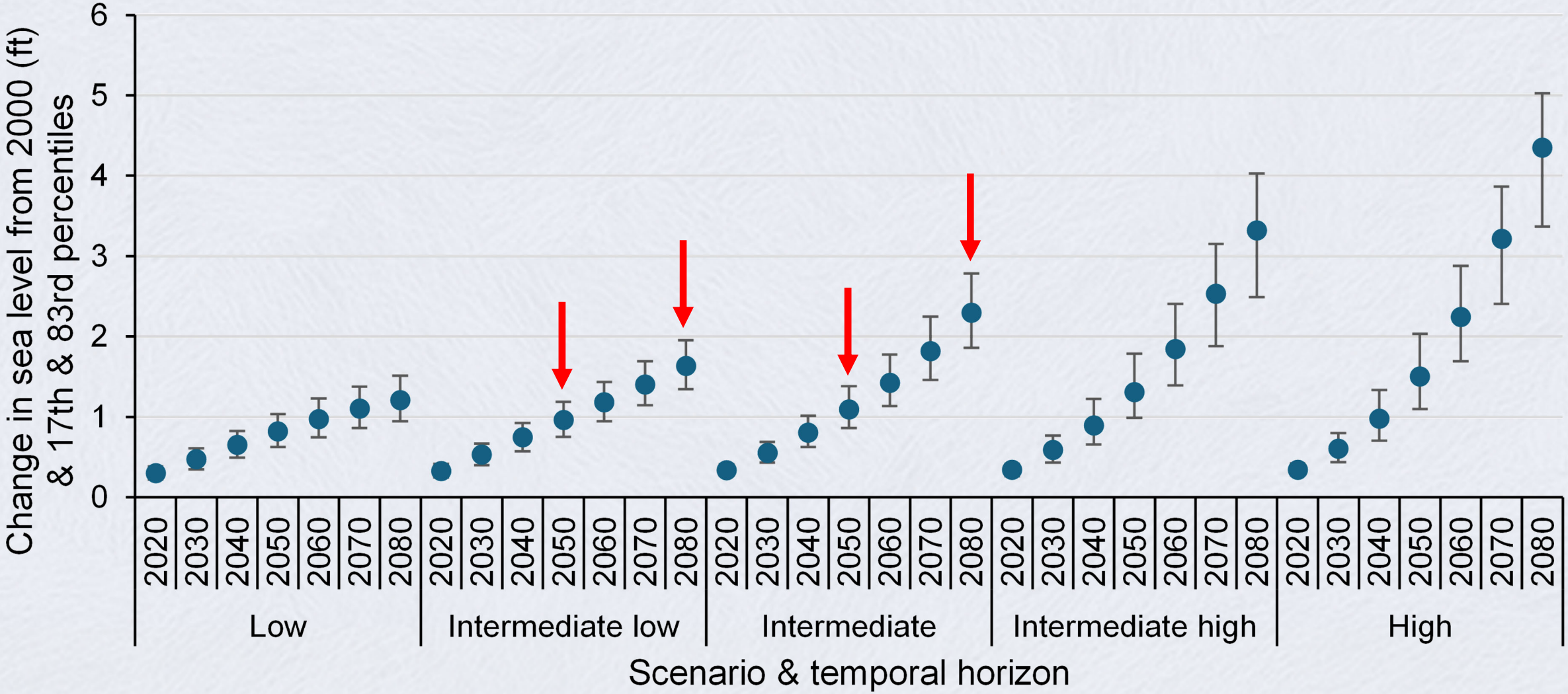
JUNE 24, 2026

RESILIENCY COORDINATION FORUM

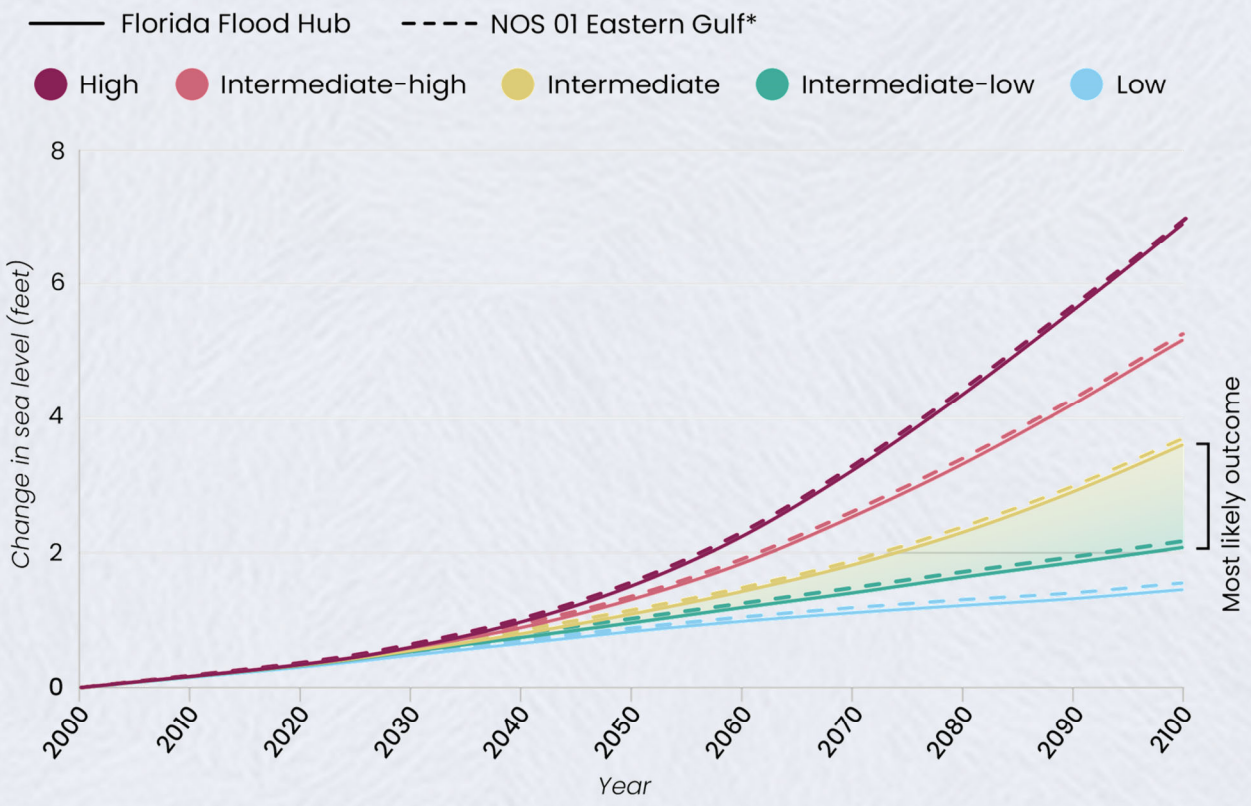
Exceedance probabilities

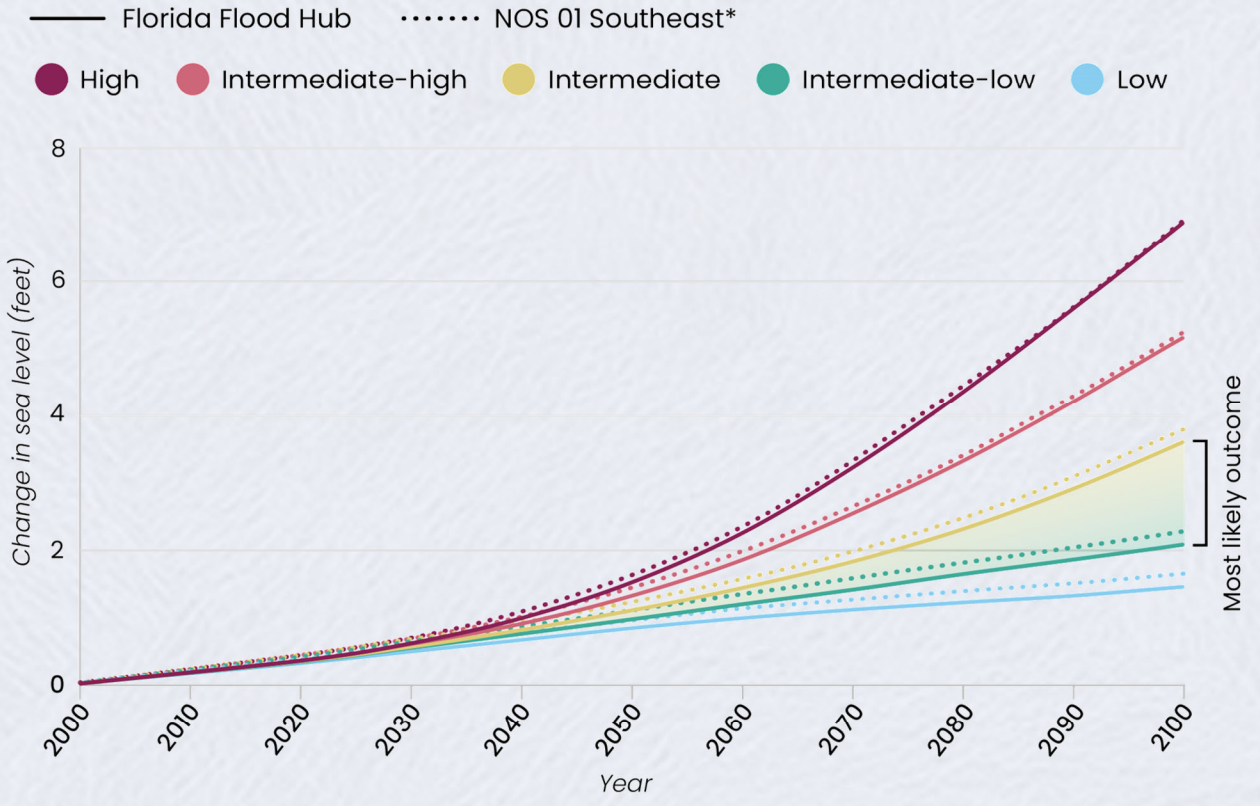
Sea Level Rise Scenario	Increase in Global Mean Surface Air Temperature				
	1.5°C	2.0°C	3.0°C	4.0°C	5.0°C
Low	92%	98%	99%	>99%	>99%
Intermediate Low	37%	50%	82%	97%	>99%
Intermediate	<1%	2%	5%	10%	23%
Intermediate High	<1%	<1%	<1%	1%	2%
High	<1%	<1%	<1%	<1%	<1%

Range of medians for 2050 = 0.96'–1.09' & Range of medians for 2080 = 1.63'–2.30'



FLORIDA FloodHub





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Exceedance probabilities

SSP	1-2.6	1-2.6 to 2-4.5	2-4.5 to 3-7.0	3-7.0	5-8.5
	Increase in Global Mean Surface Air Temperature				
Sea Level Rise Scenario	1.5°C	2.0°C	3.0°C	4.0°C	5.0°C
Low	92%	98%	99%	>99%	>99%
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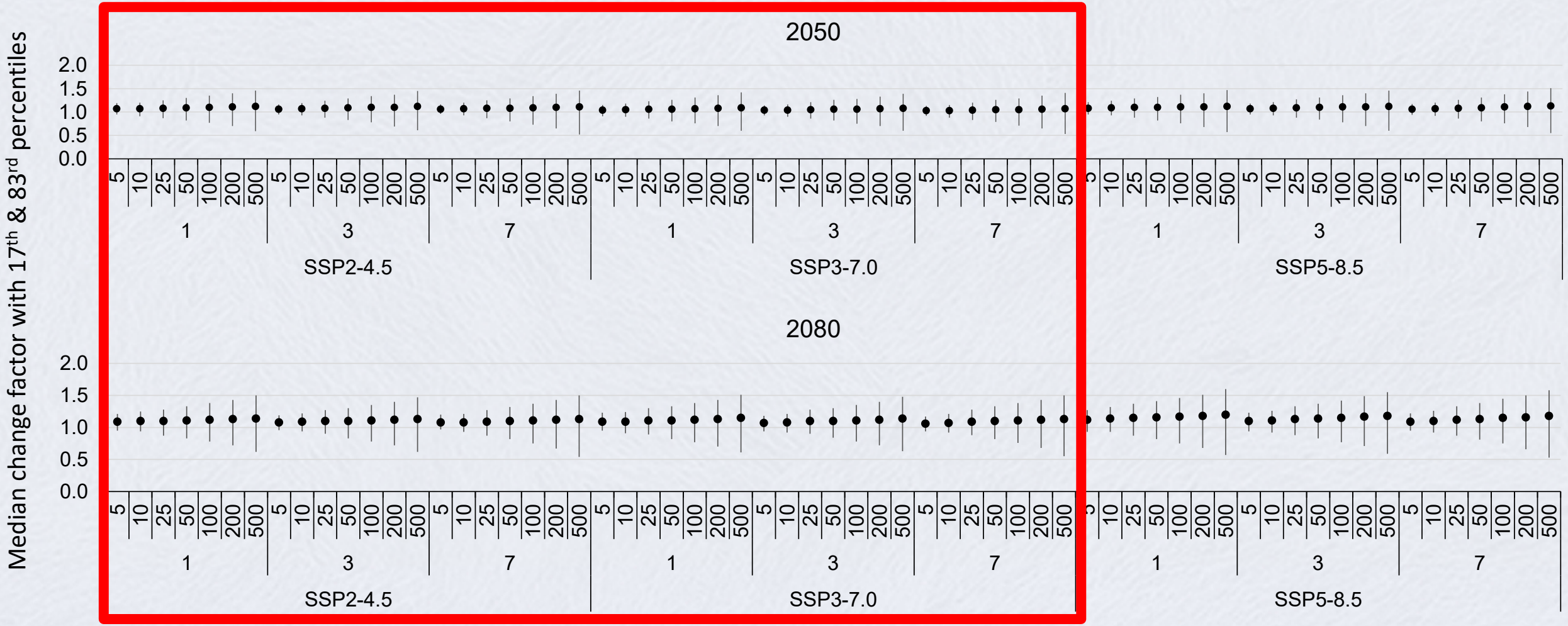
Intermediate High	<1%	<1%	<1%	1%	2%
High	<1%	<1%	<1%	<1%	<1%

Range of medians for 2050 = 1.03–1.12 & Range of medians for 2080 = 1.06–1.15



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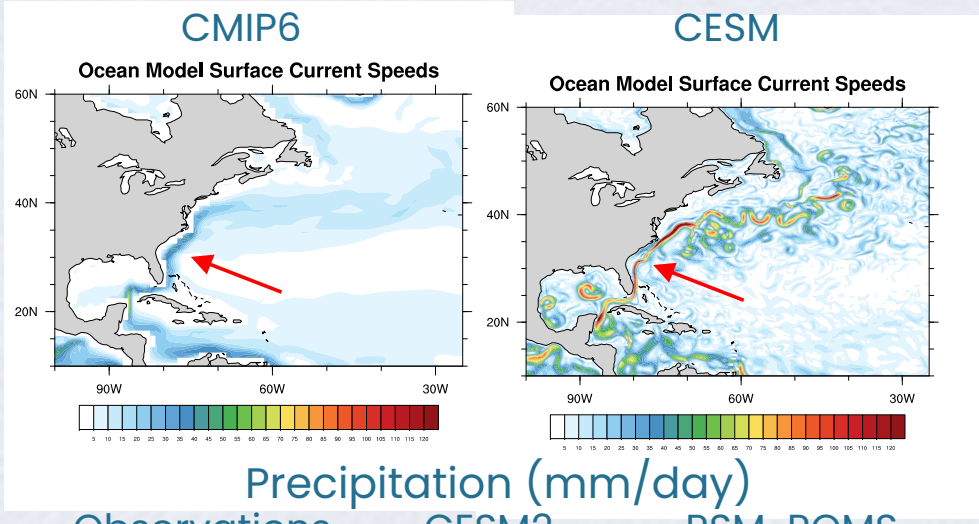
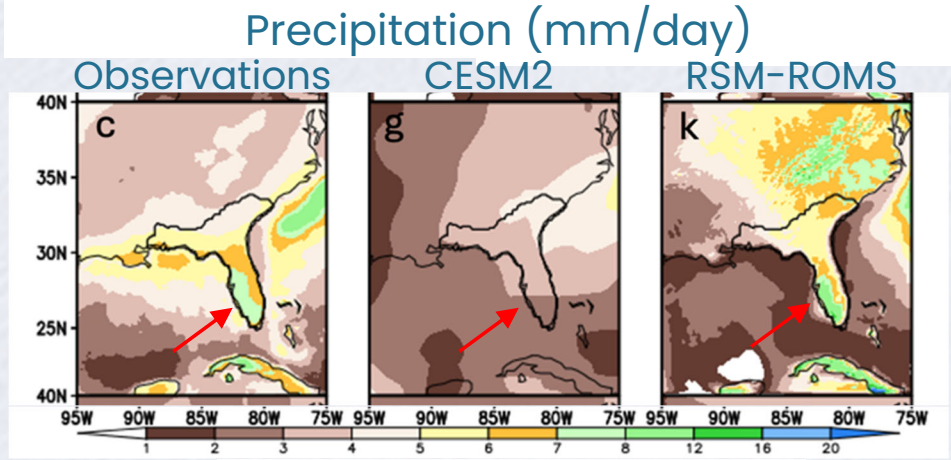
Regional modeling

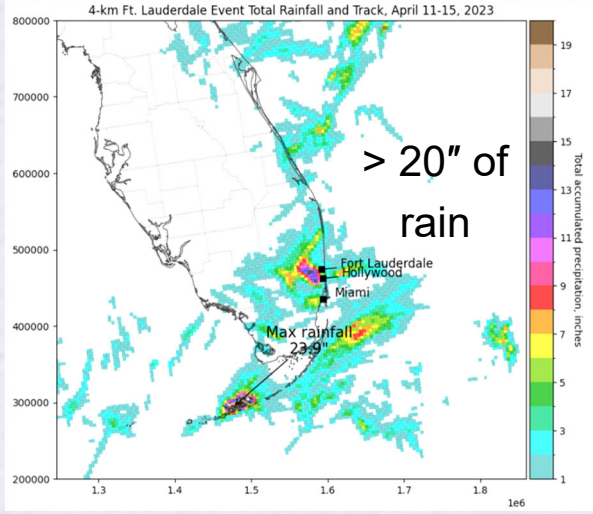
1) Community Earth System Model (CESM)
   ~25 km atmospheric grid
   ~10 km oceanic grid

2) Regional Spectrum Model–
   Regional Ocean System Model (RSM-ROMS)
   ~10 km grids

3) Weather Research & Forecasting Model (WRF)
   2–4 km grid







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Regional modeling

1) Establish reference period = 10 years centered on 2015 ✓
2) Complete historical ensemble = 5 × 10-year simulations 2 runs complete
3) Complete 2°C warming ensemble = 5 × 10-year simulations
4) Complete 3°C warming ensemble = 5 × 10-year simulations
5) Process data ⇒ changes in extremes

ICEYE subscription

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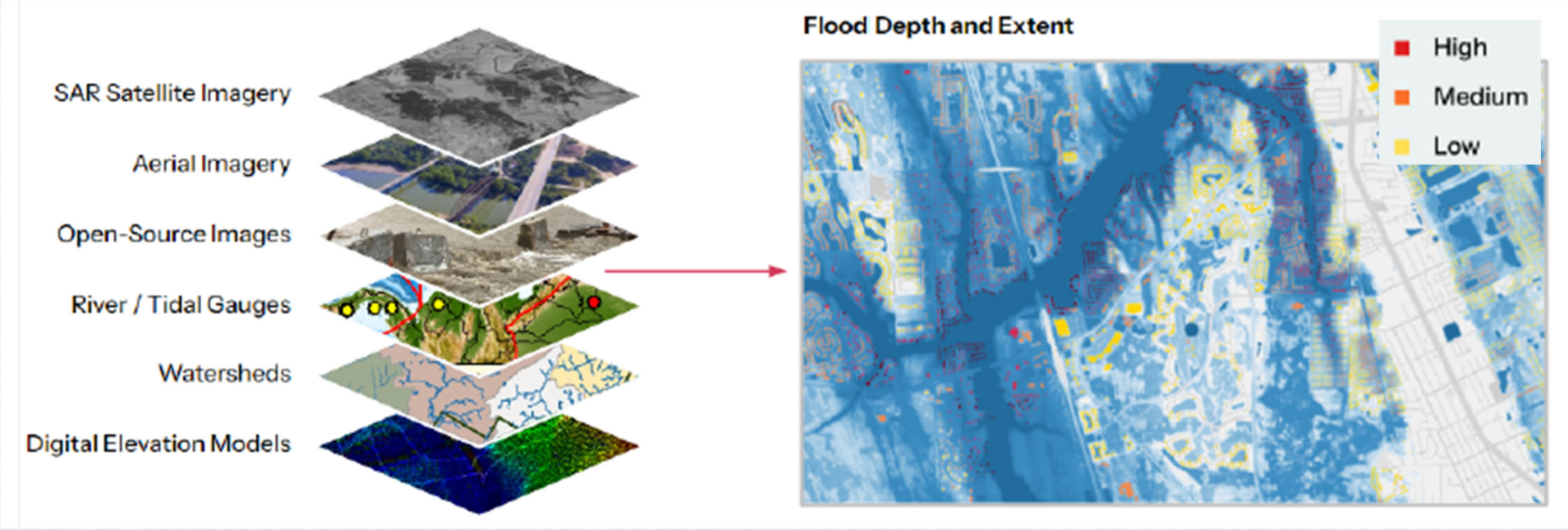
ICEYE process

- "Ingest" multiple sources of data
- Generate flood extent & depth
- 4 m × 4 m resolution
  (13' × 13')



ICEYE access

State-level agencies in Florida:

- Division of Emergency Management
- Department of Environmental Protection
- Department of Transportation
- Fish and Wildlife Conservation Commission
- Department of Health
- Department of Agriculture and Consumer Services

The following Water Management Districts:

- South Florida Water Management District;
- Southwest Florida Water Management District;
- St. Johns River Water Management District;
- Northwest Florida Water Management District; and
- Suwannee River Water Management District.

*Other state-level government agencies requested by the Customer, subject to ICEYE's prior written approval.

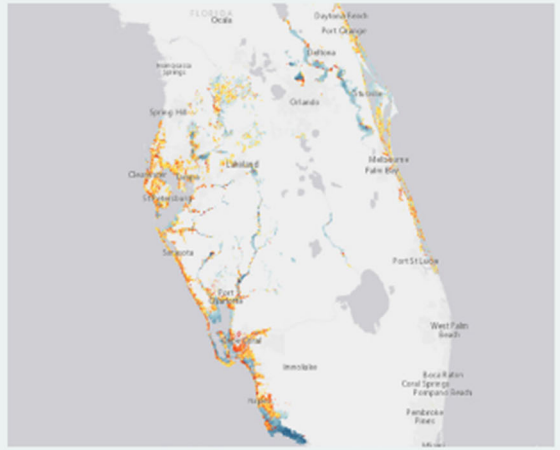
ICEYE access

- Reports on all storms for 2026
- Access to archived data (> Ian in 2022)
- “Derivatives” can be provided to others
- Seek partners for future years

ICEYE

Flooding from Hurricane Milton

Background information based on R11



Central and South Florida ANALYSIS RELEASE 10 | OCTOBER 21

Hurricane Milton made landfall near Siesta Key, Florida, on the evening of October 9th, 2024. It struck as a powerful Category 3 hurricane with maximum sustained winds of 120 mph. The storm caused significant storm surges and widespread power outages across Florida's Gulf Coast.

The storm then moved inland, reducing in strength but leaving extensive flooding and damage in its wake. We observed storm surge from Bradenton southward to Naples, and 10-15 inches of rainfall from St. Petersburg through Orlando. Riverine flooding continued through the second half of October as the floodwaters slowly moved downriver.

ICEYE has been monitoring the storm and its impacts since its formation, acquiring over 100 SAR satellite images of the impacted areas through thick storm clouds and even at night. We delivered the first flood extent and depth analysis on October 10th, focusing on the west coast of Florida. Since then, we produced 10 more analysis releases. Based on our final analysis data from Release 11, we identified more than 180,000 buildings that were impacted by the flooding in Florida.

TOTAL FLOOD EXTENT

2,346 sq mi (6,076km²)

MOST AFFECTED COUNTIES

Hernando County
Volusia County
Orange County
Broward County
Highlands County

MOST AFFECTED CITIES

Tampa
Grant-Valkaria
Naples Manor
Bradenton
Cape Coral

AVERAGE INUNDATION AT BUILDING LEVEL

2.18 ft (0.67 m)

IMPACTED BUILDING COUNT

184,998

Total number of buldings affected by flood water depth category

LOW ≤ 2 FT 104,534

MEDIUM 2-5 FT 67,283

HIGH 5-8 9,805

VERY HIGH ≥ 8 FT 3,376

Disclaimer

The current data is based on ICEYE's analysis with information collected until October 21, 2024. The analysis is focused on data specific to the regions most affected by the floods. Some areas which have been impacted by the flooding may not be represented in the data.

Flood / Solutions

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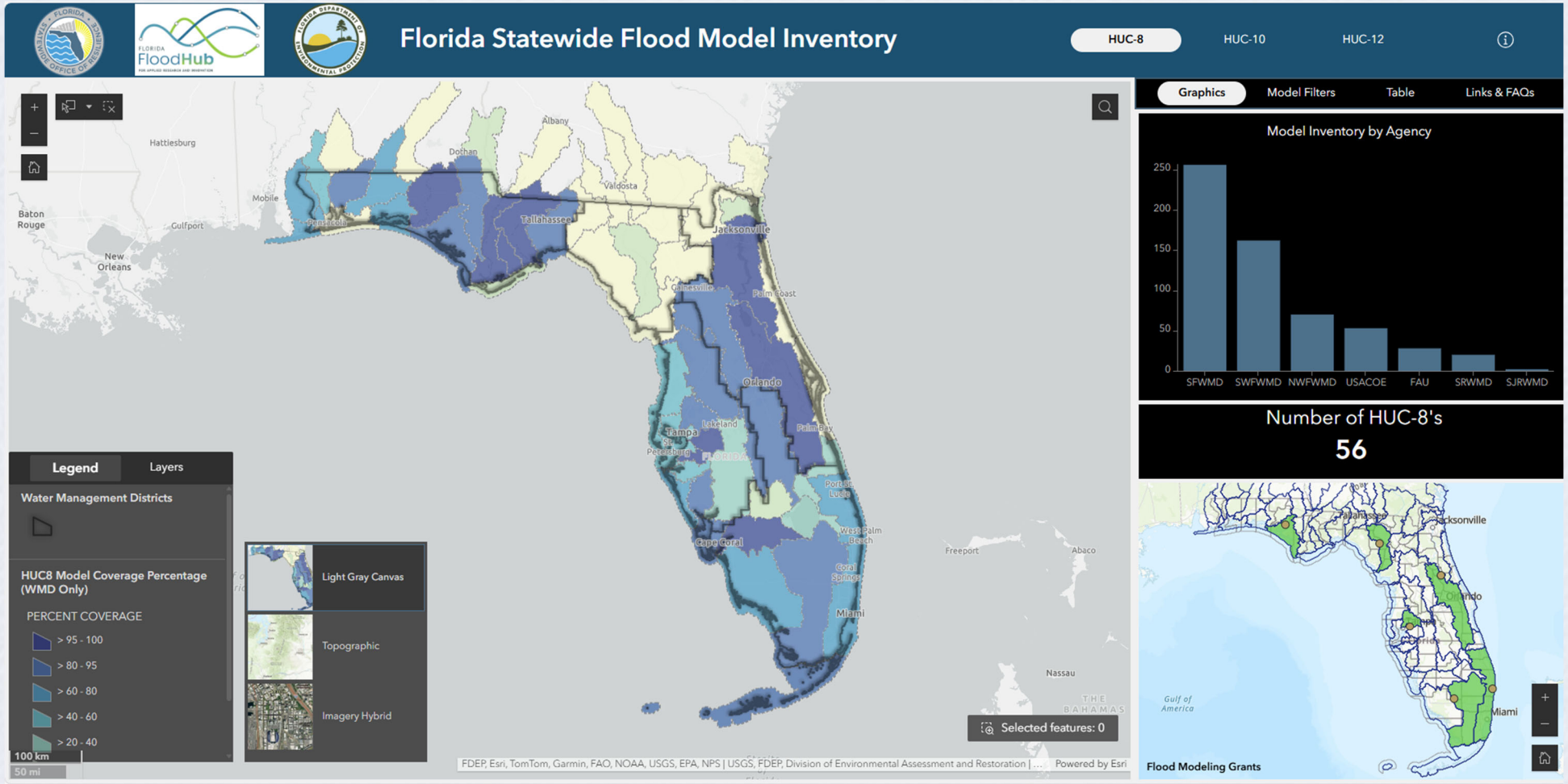
Collaborations with the Florida Silver Jackets



Collaborations with the Florida Silver Jackets

Survey runs through 17 July

Collaborations with the Florida Silver Jackets

Instructions: For each topic, rate your interest in including it in the workshop.

Scale: 1 = Not important, 2 = Low interest, 3 = Moderate interest, 4 = High interest, 5 = Essential

Topic	1	2	3	4	5
Flood cleanup and debris management	☐	☐	☐	☐	☐
Mold prevention and indoor air quality	☐	☐	☐	☐	☐
Drinking water and wastewater impacts	☐	☐	☐	☐	☐
Road closures and access to services	☐	☐	☐	☐	☐
Power outages and utility disruptions	☐	☐	☐	☐	☐
Contamination from floodwaters	☐	☐	☐	☐	☐
Health and mental health impacts	☐	☐	☐	☐	☐
Insurance, recovery aid, and claims	☐	☐	☐	☐	☐
Infrastructure repair and resilience	☐	☐	☐	☐	☐
Community recovery coordination	☐	☐	☐	☐	☐

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Thank you

Chuck Jacoby
Associate Director
Florida Flood Hub for Applied Research & Innovation
cajacoby@usf.edu

FLORIDA FloodHub FOR APPLIED RESEARCH AND INNOVATION

Mitigation Bureau Updates

FEMA Mitigation Programs, HMGP Stats, State Hazard Mitigation Plan Update

Mitigation Bureau

Florida Division of Emergency Management

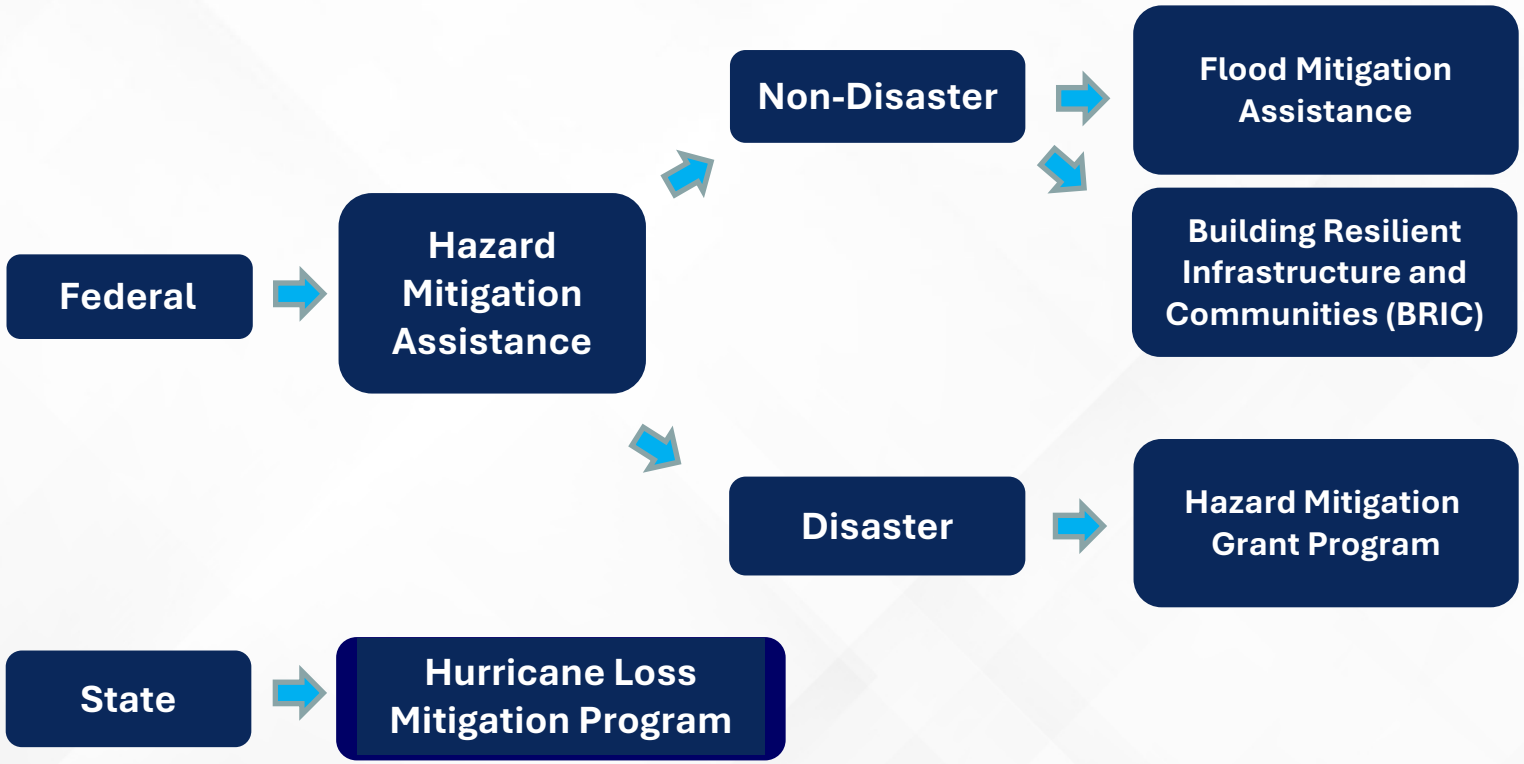
June 2026

FEMA Mitigation Programs

HMGP, FMA, and BRIC

Mitigation Funding Programs

The following grant programs are administered by the Florida Division of Emergency Management



Hazard Mitigation Grant Program

Federal, post-disaster grant authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

GOAL: Assist in implementing long-term hazard mitigation following a major disaster declaration.

Counties must have a recognized working group and current, FEMA-approved LMS Plan to participate.

PERIOD OF PERFORMANCE

4 years

TYPE & COST SHARE

Cost reimbursement grant
75% federal / 25% non-federal

ALLOCATION

20% of federal disaster assistance for a disaster

FL allocates using a 3-tier system (established by F.A.C. 27P-22), providing to impacted counties first

ELIGIBLE APPLICANTS

States, local, and tribal governments
**Non-profit organizations, individuals, & businesses can apply through local gov.*

Eligible Projects - HMGP

Elevations
Acquisitions
Dry Floodproofing
Flood Risk Reduction

Structural Retrofitting
Infrastructure Retrofitting

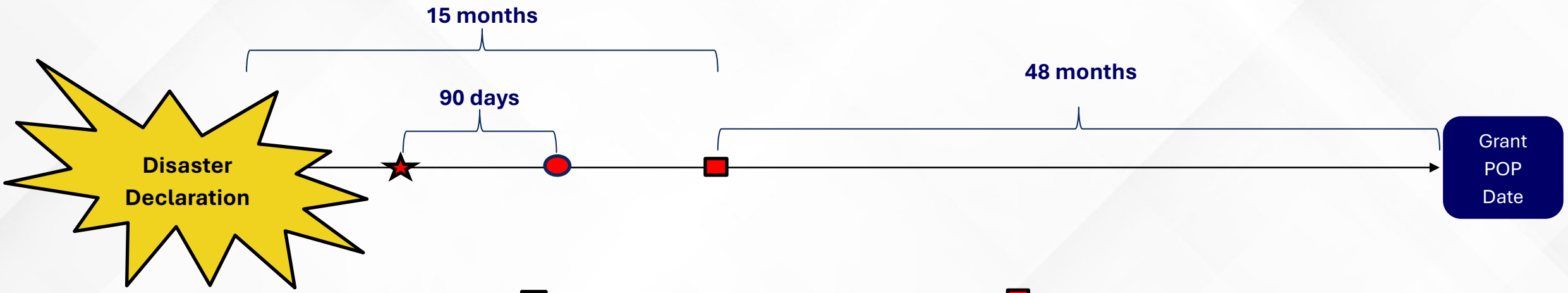
Wildfire Mitigation

Critical Facility Generators
System Retrofits

New Construction*

Safe rooms, Code Plus, Mitigation Reconstruction, Wastewater Treatment Plant Relocation

HMGP Implementation Timeline



First Actions:

- ★ Notice of Funding Availability (NOFA) published 120 days post-declaration
- Applicant Workshops
- ● **Subapplication deadline**

Within 15 months:

- FDEM conducts sub-application reviews and recommends to FEMA for approval
- 6-month funding estimate published
- 18-month application deadline for the State

48 months Project Period of Performance: (POP)

- FEMA project award
- State contracts with SR
- Project starts
- Deliverables completed
- Requests for reimbursements
- Monitoring/Quarterly reporting
- Request for Final Inspection
- Closeout procedures

HMGP NOFA Creation

- HMGP funding = federal aid based on IA & PA data
- County share set by IA, PA, SBA recovery percentages
- 30 -Day Estimate = planning
- 6-Month Estimate = planning
- 12-Month Estimate = lock-in cap
- NOFA shows federal share + 25% local match

FEMA-4828-DR-FL
30-Day Estimate as of 2/6/2025

County	Regular Projects HMGP Funding	25% Match Required
Alachua	$ 11,867,595.20	$ 3,955,865.07
Baker	$ 1,434,022.02	$ 478,007.34
Bay	$ 42,231.20	$ 14,077.07
Bradford	$ 3,106,392.81	$ 1,035,464.27
Calhoun	$ -	$ -
Charlotte	$ 14,952,307.31	$ 4,984,102.44
Citrus	$ 11,426,919.05	$ 3,808,973.02
Collier	$ 803,173.47	$ 267,724.49
Columbia	$ 15,170,398.94	$ 5,056,799.65
Dixie	$ 23,253,912.66	$ 7,751,304.22
DeSoto	$ 54,436.84	$ 18,145.61
Duval	$ 5,413,556.16	$ 1,804,518.72
Escambia	$ -	$ -
Franklin	$ 207,402.62	$ 69,134.21
Gadsden	$ -	$ -

HMGP Allocation System

In Florida, HMGP funding is distributed, or allocated, to counties utilizing a tiered system as outlined in FAC 27P-22.

TIER ONE

Initial allocation of submitted and eligible projects will be funded in order of priority as endorsed by the LMS Working Group in presidentially declared counties.

TIER TWO

Any allocation remaining after all eligible projects in any declared county are funded will go to another declared county LMS Working Group with a partially funded project contained in original submission.

TIER THREE

If funds remain after the Tier Two funding process, the un-obligated funds will be provided to any non-declared LMS Working Group statewide with a project application submitted within the application period, on a first-come-first-serve basis until all available funds are obligated.

HMGP Allocation System

The County has an Allocation of $7,262,310.39 for Helene (Guaranteed funding / Tier 1)

Rank/Priority	Project Type	Total Project Cost	Federal Share	Running Sum
1	Wind-retrofit	$ 1,300,000.00	$ 975,000.00	$ 975,000.00
2	Utilities	$ 200,000.00	$ 150,000.00	$ 1,125,000.00
3	Infrastructure Retrofit	$ 1,464,460.00	$ 1,098,345.00	$ 2,223,345.00
4	Utilities	$ 500,000.00	$ 375,000.00	$ 2,598,345.00
5	Generator	$ 1,500,000.00	$ 1,125,000.00	$ 3,723,345.00
6	Flood mitigation	$ 200,000.00	$ 150,000.00	$ 3,873,345.00
7	Wind-retrofit	$ 205,000.00	$ 153,750.00	$ 4,027,095.00
8	Generator	$ 600,000.00	$ 450,000.00	$ 4,477,095.00
9	Utilities	$ 168,475.00	$ 126,356.25	$ 4,603,451.25
10	Utilities	$ 200,000.00	$ 150,000.00	$ 4,753,451.25
11	Mitigation Reconstruction	$ 600,000.00	$ 450,000.00	$ 5,203,451.25
12	Wind-retrofit	$ 750,000.00	$ 562,500.00	$ 5,765,951.25
13	Safe room	$ 150,000.00	$ 112,500.00	$ 5,878,451.25
14	Wind-retrofit	$ 1,142,541.00	$ 856,905.75	$ 6,735,357.00
15	Flood mitigation	$ 500,000.00	$ 375,000.00	$ 7,110,357.00
16	Wind-retrofit	$ 1,193,612.00	$ 895,209.00	$ 8,005,566.00
17	Shelter	$ 950,000.00	$ 712,500.00	$ 8,718,066.00
18	Utilities	$ 1,750,000.00	$ 1,312,500.00	$ 10,030,566.00
19	Utilities	$ 750,000.00	$ 562,500.00	$ 10,593,066.00
20	Generator	$ 600,000.00	$ 450,000.00	$ 11,043,066.00

Flood Mitigation Assistance

Federal, non-disaster grant authorized by the National Flood Insurance Act (42 USC 4104c) and 2 CFR Part 200.

GOAL: Reduce or eliminate claims under the NFIP by reducing or eliminating risk of repetitive flood damage to insured buildings and structures.

Type & COST SHARE

4 year period of performance
Cost reimbursement grant

Community flood projects:
75% federal / 25% non-federal

Repetitive Loss (RL) projects:
90% federal / 10% non-federal

Severe RL projects:
100% federal

ALLOCATION

Annual appropriation by Congress
Nationally competitive

ELIGIBLE APPLICANTS

States, local and tribal governments
**Non-profit organizations, individuals, & businesses can apply through local gov.*

Eligible Projects - FMA

Elevations
Acquisitions
Dry Floodproofing
Flood Risk Reduction

Structural Retrofitting
Infrastructure Retrofitting
Mitigation Reconstruction

Mitigation Planning
Management Costs

Building Resilient Infrastructure & Communities (BRIC)

Federal, non-disaster grant authorized by the Stafford Act (42 USC 5133) and 2 CFR Part 200..

Goal: Capability and capacity building; encourage and enable innovation; promote partnerships; reduce future losses; promote equity; support adoption of building codes

Counties must have a recognized working group and current, FEMA-approved LMS Plan to participate.

PERIOD OF PERFORMANCE

4 years

TYPE & COST SHARE

Cost reimbursement grant
75% federal / 25% non-federal

ALLOCATION

Annual appropriation, funding amount varies
States/Territories receive guaranteed allocation; Tribes also receive Set-Aside
Remaining funding is nationally competitive

ELIGIBLE APPLICANTS

States, local, and tribal governments
**Non-profit organizations, individuals, & businesses can apply through local gov.*

Eligible Project Activities – BRIC

Acquisition/Demolition
Elevations
Dry Floodproofing
Flood Risk Reduction
Flood Control Projects

Acquisition/Relocation
Structural Retrofitting
Residential Wind Retrofitting
Infrastructure Retrofitting
Resilient Infrastructure

Wildfire Mitigation
*Expanded Wildfire Activities
(DRRA Section 1205)

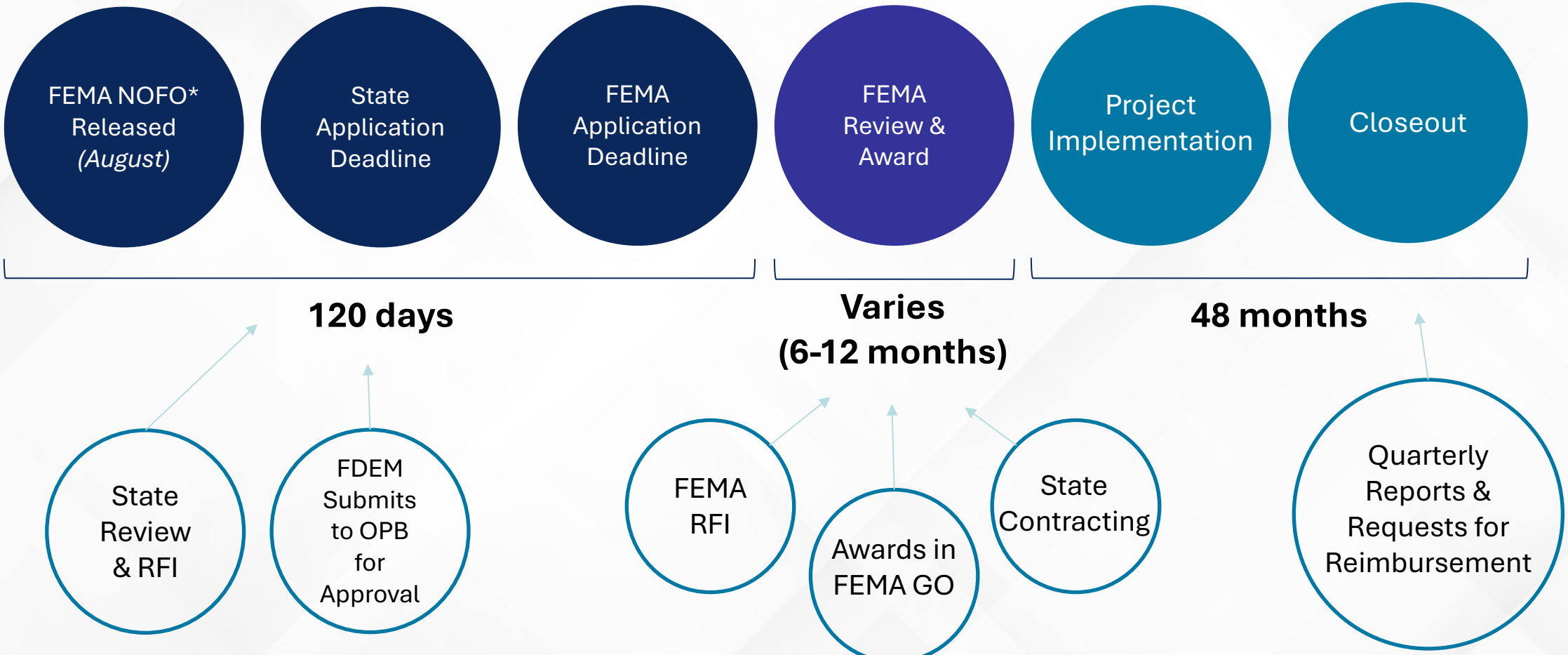
Hazard Mitigation Planning
*Project Scoping
*Building Code Activities
*Pre-Award Costs

Critical Facility Generators
System Retrofits

New Construction*
Safe rooms, Mitigation Reconstruction

**Expanded eligibility from Pre-Disaster Mitigation (PDM) Program (legacy program)*

Non-Disaster Implementation Timeline



Notice of Funding Opportunity
typically released in August; timing may vary

Non-Disaster Application Process

FDEM Notice of Interest (NOI) Published

- Typically, in mid-summer (June/July)
- State publishes the NOI Form with deadline
- NOI is required to be able submit a subapplication later in the process

FEMA NOFO Released

- Typically, in August
- State establishes Subapplication deadline
- State distributes NOFOs and guidance memo

State Application Deadline

- Typically, in November
- State reviews for eligibility, feasibility, and environmental compliance

FEMA Application Deadline

- Typically, in late January of the following year
- State submits grant package to OPB for approval
- State submits eligible projects to FEMA

FEMA Review and Award

- FEMA reviews applications and may request additional information
- State assists in RFI process
- Upon FEMA award notification, State issues contracts with Sub-guarantees

Hurricane Loss Mitigation Program

State, non-disaster grant authorized by Florida Statute 215.559.

GOAL: Improve flood and wind resilience of residences and community buildings.

PERIOD OF PERFORMANCE

1 year

TYPE & COST SHARE

Cost reimbursement grant
100% State funded; no local match required

ALLOCATION

HLMP: $3.5 million annually

Other Annual Allocations:
Hurricane Public Shelter Retrofit Program: $3 million
Mobile Home Tie Down Program: $2.8 million
FIU International Hurricane Research Center: $700,000

ELIGIBLE APPLICANTS

Counties, cities, and non-profit organizations
**Individuals can apply through eligible applicant*

Eligible Projects - HLMP

Residential/Non-Residential Wind Retrofits
Tree Trimming

Localized Flood Risk Reduction

Property Acquisition and Demolition

FEMA Mitigation Programs

HMGP Projects Throughout SFWMD Counties

Current FEMA Mitigation Projects

Broward – HMGP 77, EF 2, HLMP 5

Charlotte – HMGP 42, EF 16

Collier – HMGP 16, EF 6,

DeSoto – HMGP 15, EF 2

Glades – HMGP 2

Hendry – HMGP 1

Highlands – HMGP 10, EF 1

Lee – HMGP 98, EF 16

Martin – HMGP 6, EF 2

Miami-Dade – HMGP 92, EF 2, PDMC 3,

LPDM 2, BRIC 4

Monroe – HMGP 34, LPDM 1, BRIC , HLMP 1

Okeechobee – HMGP 4

Orange – HMGP 48, EF 2, HLMP 2

Osceola – HMGP 18, EF 2

Palm Beach – HMGP 2, BRIC 1, HLMP 1

Polk – HMGP 44, EF 5

St. Lucie – HMGP 18, EF 1, HLMP 1

Statewide Plan Update

Florida's Enhanced State Hazard Mitigation Plan Update

Statewide Plan Update

Statewide Plan Update Workshops

- The Planning Unit will be hosting several Stakeholder Engagement Sessions in preparation for updating the State Hazard Mitigation Plan (SHMP).
- These sessions are great for Local Emergency Management personnel, and other Local and State partners to engage with the team to determine opportunities for improving the SHMP.
- Topics of the sessions include the SHMP usability, challenges and gaps, and topics related to strengthening Mitigation Planning across the state.

Statewide Plan Update

Statewide Plan Update Workshops

Session: Osceola County EOC (Kissimmee)
Details: July 31, 2026, 2 PM - 4 PM (EST)

Session: Pinellas County EOC (Largo)
Details: August 19, 2026, 2 PM - 4 PM (EST)

Session: Statewide Virtual Teams
Details: August 24, 2026, 10 AM - 12 PM (EST)
Contact: MitigationPlanning@em.myflorida.com

Link to Survey: **SHMP Technical Expert and Stakeholder Survey**
Link to Register: **SHMP Technical Expert and Stakeholder Engagement Registration**

MITIGATION DIRECTORY

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Bureau Resources

Mitigation Bureau Communications

Bureau Communication Subscriptions: https://www.floridadisaster.org/subscription-topics/

Office of Floodplain Management

https://www.floridadisaster.org/dem/mitigation/floodplain/

Planning Unit

State Hazard Mitigation Plan: https://flshmp-floridadisaster.hub.arcgis.com/

Local Mitigation Strategy: https://www.floridadisaster.org/dem/mitigation/local-mitigation-strategy/

Florida Silver Jackets Program: https://silverjackets.nfrmp.us/State-Teams/Florida

Bureau Resources – Grant Programs

Hazard Mitigation Grant Program (HMGP)

https://floridadisaster.org/dem/mitigation/hazard-mitigation-grant-program/

https://www.fema.gov/hazard-mitigation-grant-program

Building Resilient Communities and Infrastructure (BRIC)

https://www.floridadisaster.org/dem/mitigation/builing-resilient-infrastructure-and-communities-bric-grant-program/

Program Support Materials: https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/resources

Flood Mitigation Assistance (FMA)

https://floridadisaster.org/dem/mitigation/flood-mitigation-assistance-program/

https://www.fema.gov/flood-mitigation-assistance-grant-program

Hurricane Loss Mitigation Program (HLMP)

https://floridadisaster.org/dem/mitigation/hurricane-loss-mitigation-program/

SFWMD Resiliency Coordination Forum
June 24, 2026

SR A1A Pump Station and Seawall Projects

Presented by: James Poole, PE (FDOT D4),
Lindsey Koren, PE (RS&H, Inc.)

Introductions

James Poole, PE
District Drainage Engineer
FDOT, District Four

Lindsey Koren, PE
Consultant Project Manager, Engineer of Record
Water Resources Area Leader, RS&H, Inc.

Agenda

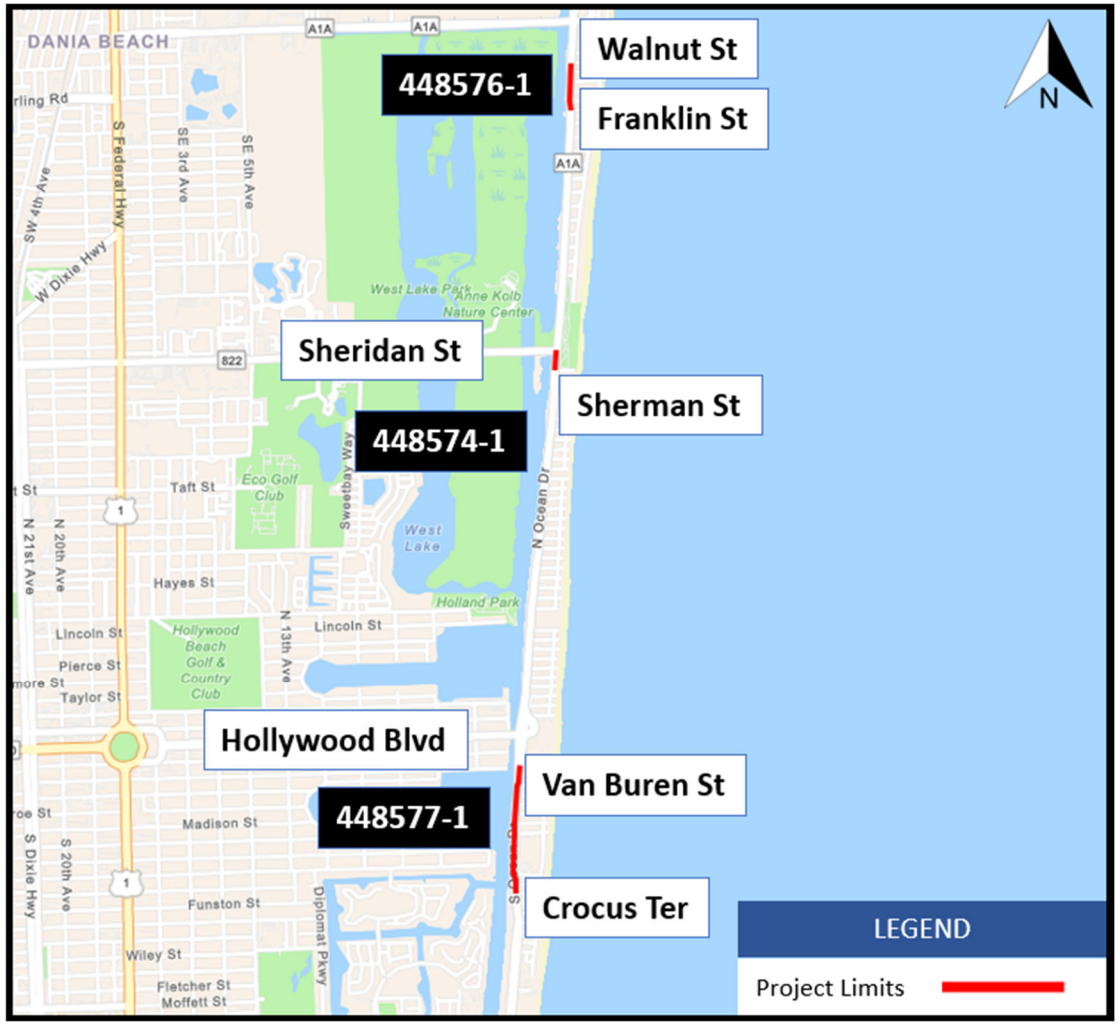
- Project Location and Overview
- Background
- Final Design
- Project Schedule and Cost
- Construction Update
- Q&A

SR A1A Tidal Flooding in Hollywood Beach

Client: ***FDOT District 4***

- SR A1A Tidal Flooding Study conducted by FDOT, in partnership with Broward County and the City of Hollywood.

Project Location and Overview



SFWMD Resiliency Coordination Forum

Project Location and Overview

Purpose:

- Stormwater improvement project to alleviate seasonal high tide flooding.
- Seawall installation at select locations within FDOT right-of-way to comply with Broward County Ordinances (Ch. 39, Article XXV: Resiliency Standards for Tidal Flood Protection).
- Project funding partnership with Broward County and the City of Hollywood.

Proposed Improvements:

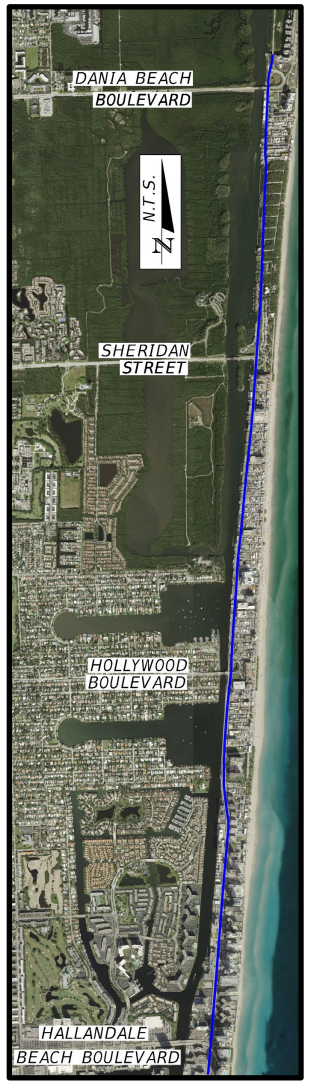
1. Installation of four stormwater pump stations near the intersections of SR-A1A & Azalea Terrace, Van Buren Street, Sherman Street and Franklin Street.
2. Installation of seawall along SR-A1A from Sherman Street to Sheridan Street & from Palm Street to Walnut Street.

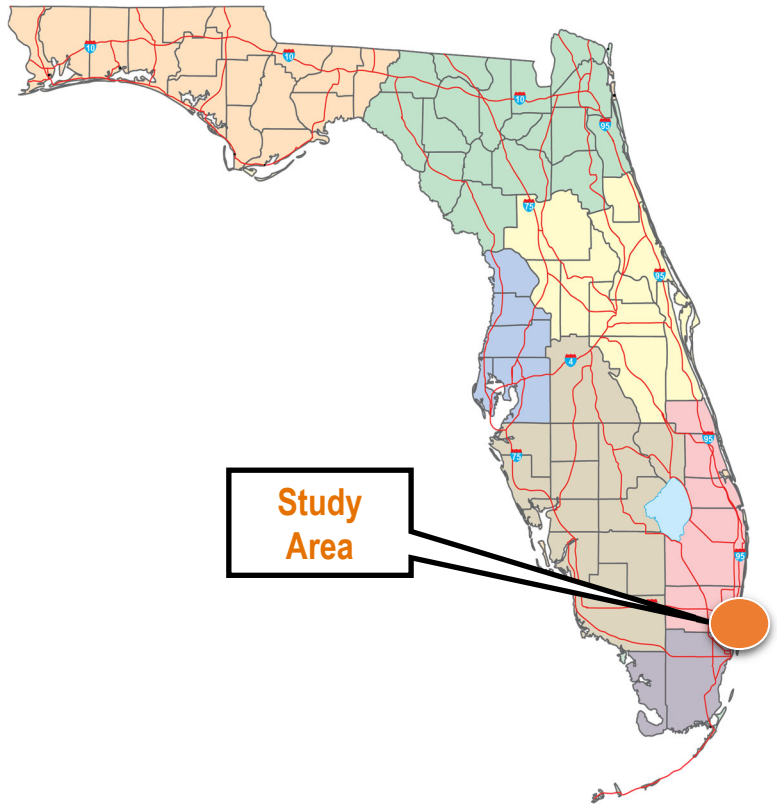
Proposed Combined Project Length: 0.849 miles

Background: Corridor Study

Existing Conditions Report

- Field Observations
- Seawalls
- Low Road Elevations
- Potential Overflow Locations
- Storm Drain Systems
- Outfalls
- Contributing Areas
- Land Use
- Create Model of System





SFWMD Resiliency Coordination Forum

Background: Hydrological Modeling

Modeling Using:

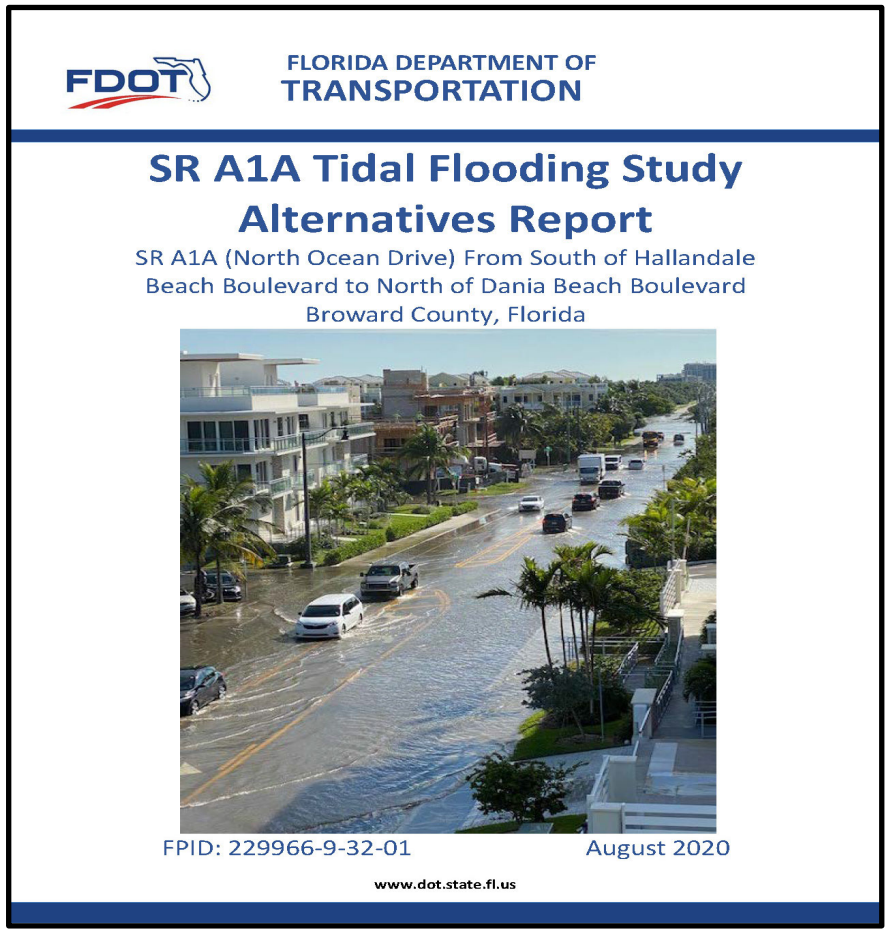
- LIDAR Data
- CADD Files
- ICPR4 Modeling

SFWMD Resiliency Coordination Forum

Background: Alternatives Report

Alternative Report Recommendations

- Raise low seawalls / construct new seawalls
- Repair / replace backflow preventers
- Repair / replace leaking drainage structures
- Pump stations to remove tidal flows
- Road raising

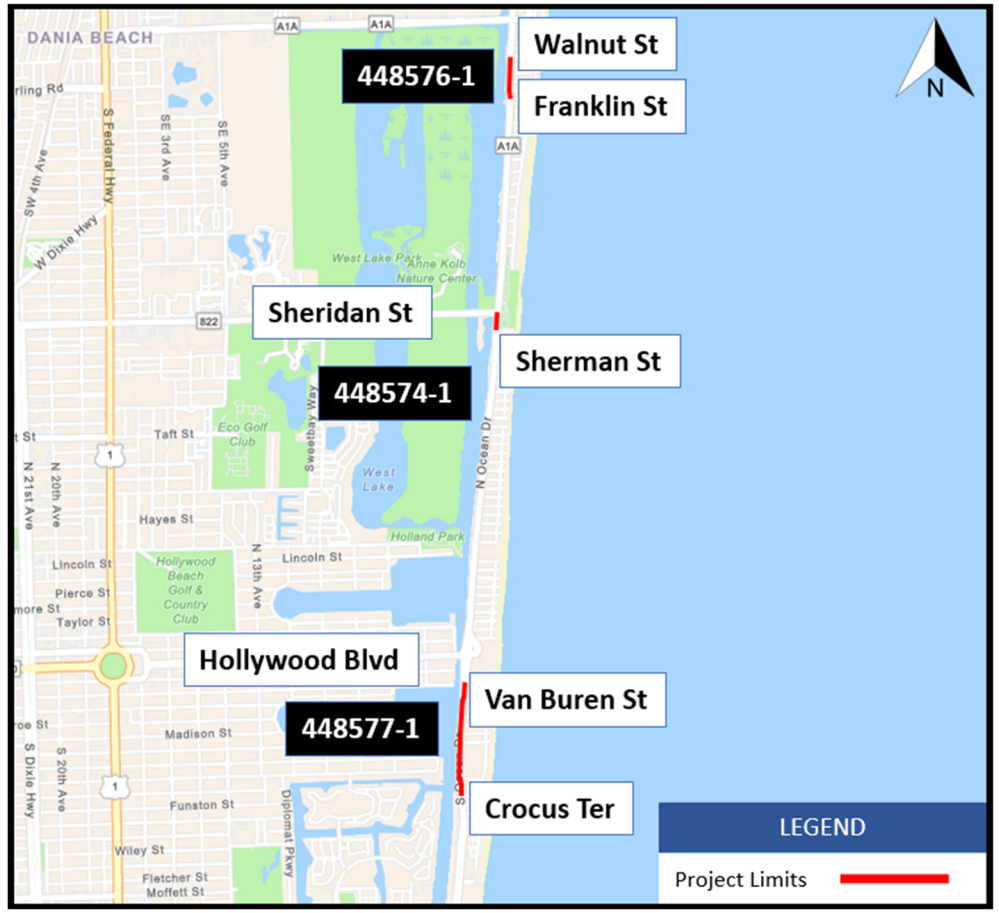


SFWMD Resiliency Coordination Forum

Final Design: Project Programming

- Mid Term Improvements
  - Seawall Installation to 5'-NAVD (*Broward County Ordinance*)
  - Pipe-Lining, Replacement
  - Pump Station Installation at 4 High Priority Drainage Basins

- Funding Partnerships for Design and Construction of the Pump Stations with Broward County and the City of Hollywood



SFWMD Resiliency Coordination Forum

Final Design: Field Reviews

448574-1: SR A1A from Sherman Street to Sheridan Street (SR 822)

- Seasonal high tide and groundwater table permeate through swales and storm drain system at SR A1A and Sheridan Street
- Existing sidewalk along SR A1A from Sherman Street to Sheridan Street adjacent to natural shoreline is overtopped during seasonal high tide events

Final Design: Field Reviews

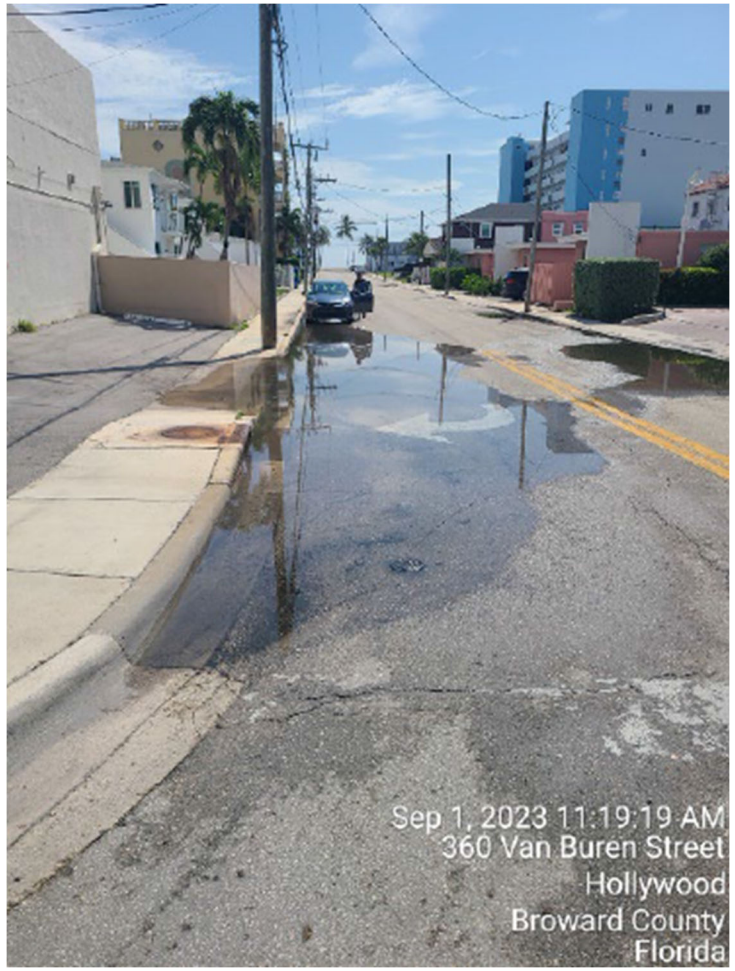
448576-1: SR A1A from Franklin Street to Walnut Street

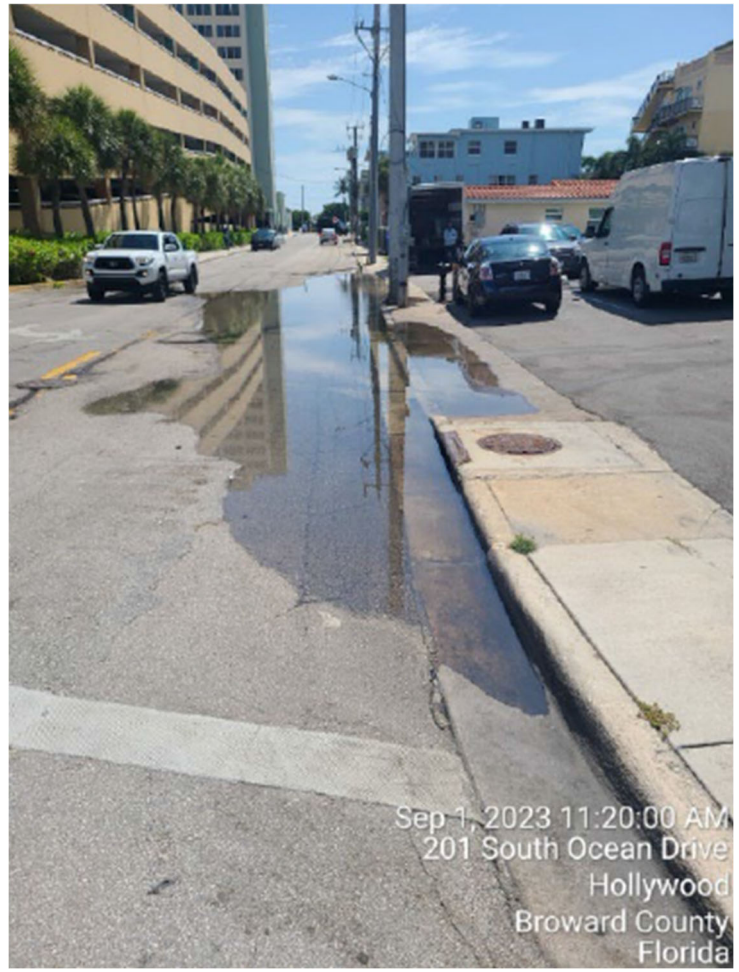
Seasonal high tide overtops shoreline along SRA1A from Franklin Street to Walnut Street

SFWMD Resiliency Coordination Forum

Final Design: Field Reviews

448577-1: SR A1A From Crocus Terrace to Van Buren Street



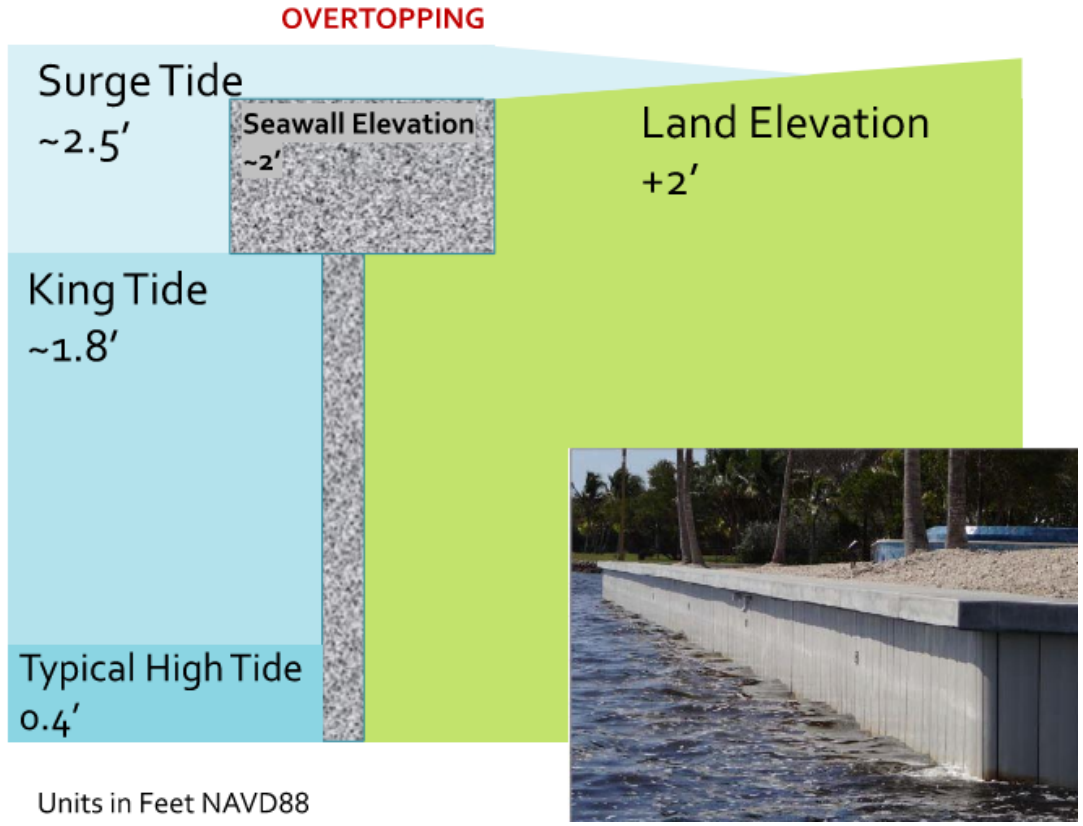


- Existing sidewalk on Van Buren Street is overtopped during seasonal high tide events
- Existing driveway on Harrison Street is overtopped during seasonal high tide events

Water ponding on Van Buren Street and Harrison Street during seasonal high tide event

Final Design: Design Development

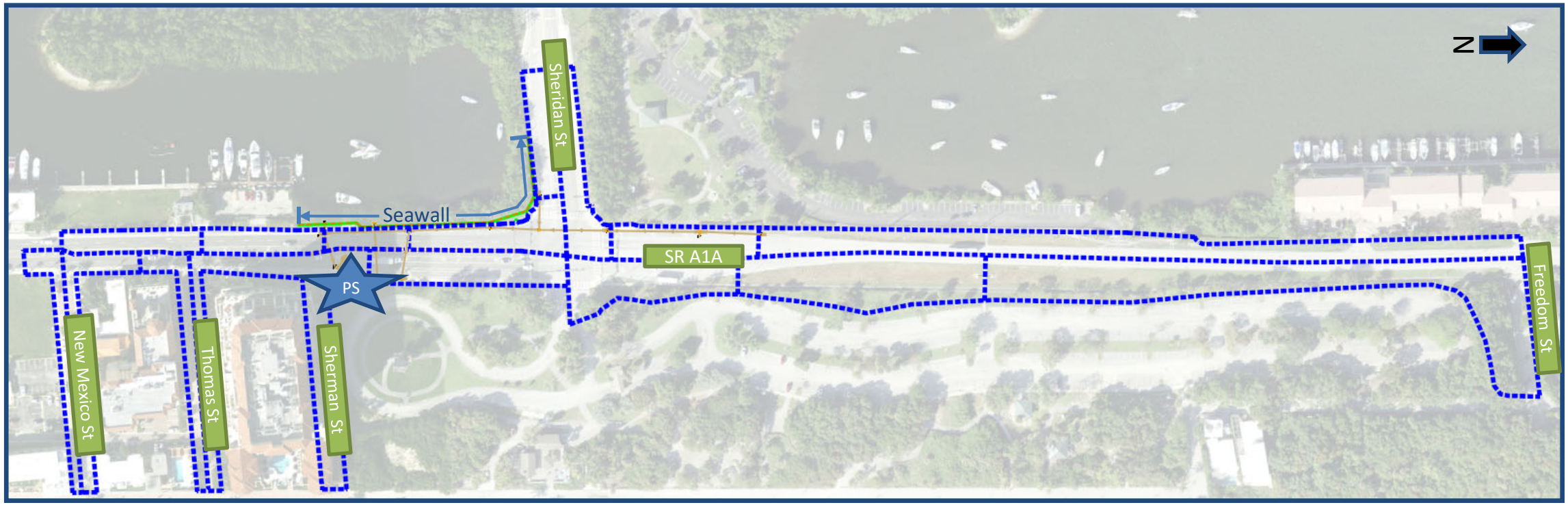
- Stormwater Model Development:
  - Refine existing conditions
  - Add pump station model inputs
  - Model multiple tailwater alternatives – *Design High Water, King Tides, Surge Tide*
  - Storm drain hydraulic upgrades
  - New seawalls as overland weirs
- Alternatives Analysis
- Cost/Benefit Analysis



From "*Proposed Minimum Seawall Height Policy" – Broward County Environmental Planning and Community Resilience Division*

Final Design: Proposed Improvements

448574-1: SR A1A from Sherman Street to Sheridan Street (SR 822)

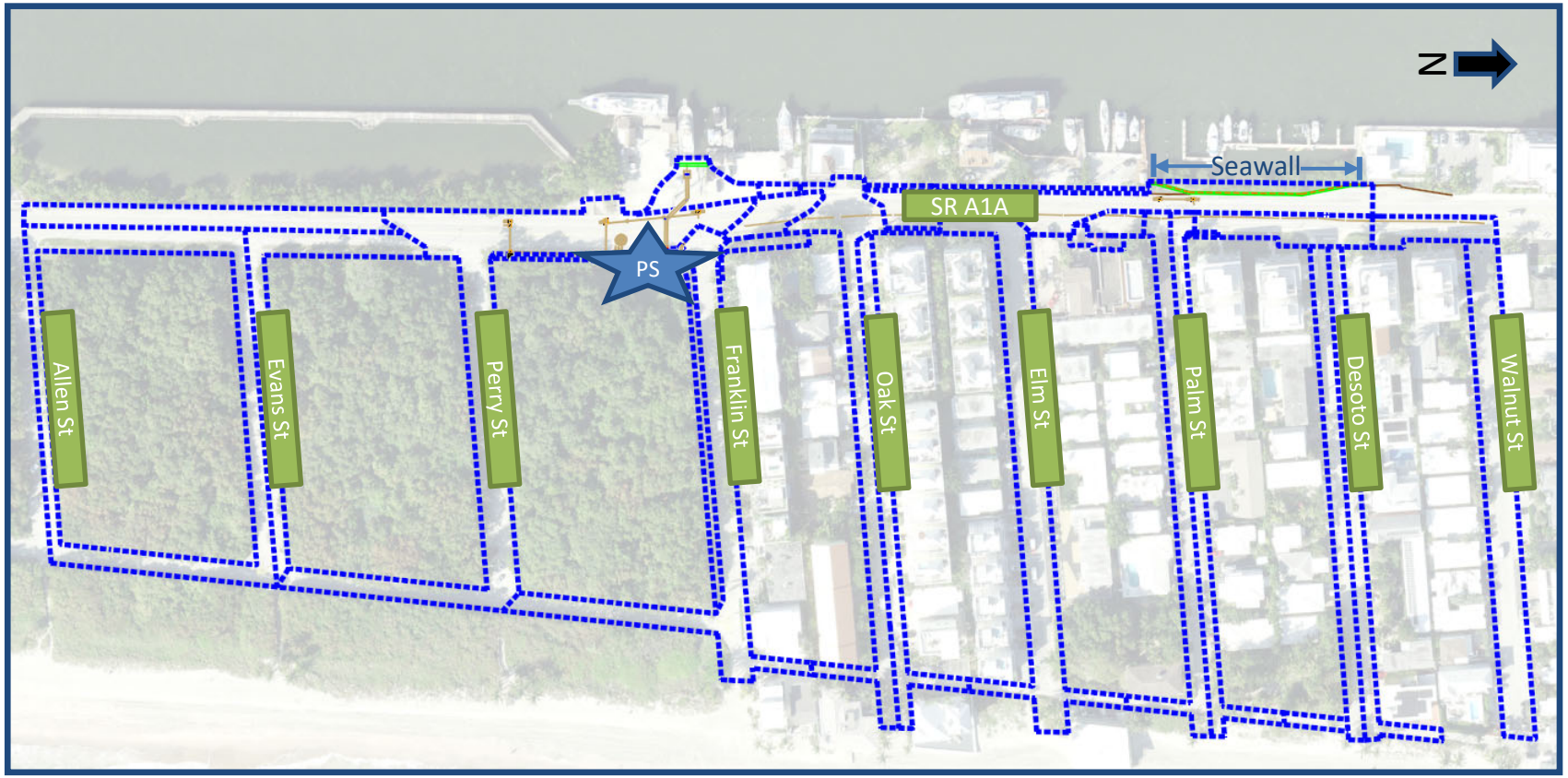


- New Pump Station located on the east side of SR A1A just north of Sherman Street (with raised electrical platform)
- Replacement and/or lining of existing storm drains to alleviate high groundwater table influxes into drainage system
- Backflow prevention valves installed at outfalls to prevent tidal influxes into storm drain system
- Installation of new seawall along the west side of SR A1A
- Restoration of roadway elements affected by construction

SFWMD Resiliency Coordination Forum

Final Design: Proposed Improvements

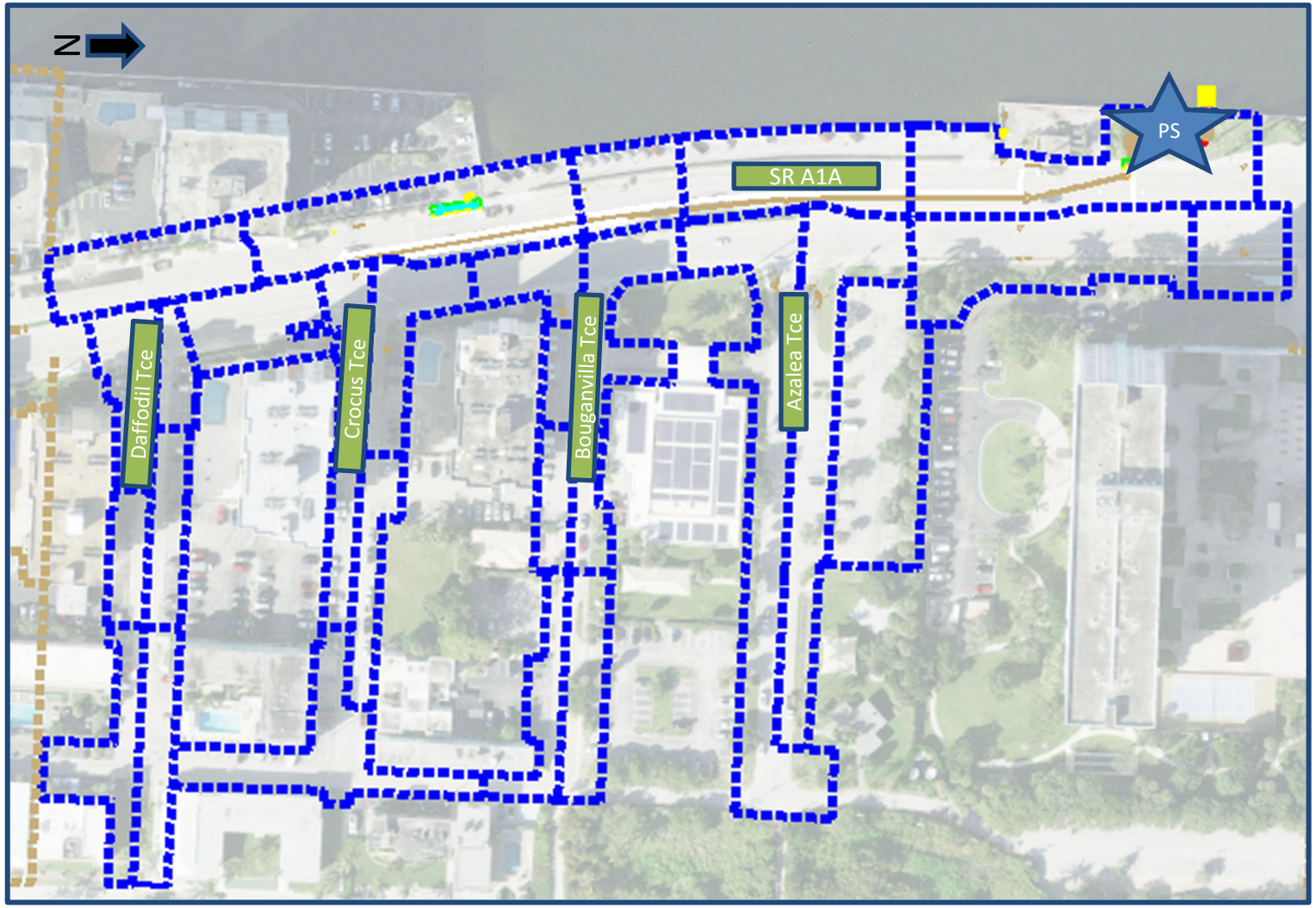
448576-1: SR A1A from Franklin Street to Walnut Street



- New Pump Station located on the east side of SR A1A just south of Franklin Street (with raised electrical platform)
- Pipe lining of existing storm drains to alleviate high groundwater table influxes into drainage system
- Backflow prevention valves installed at outfalls to prevent tidal influxes into storm drain system
- Installation of new seawall along the west side of SR A1A from Palm Street to Desoto Street
- Restoration of roadway elements affected by construction

Final Design: Proposed Improvements

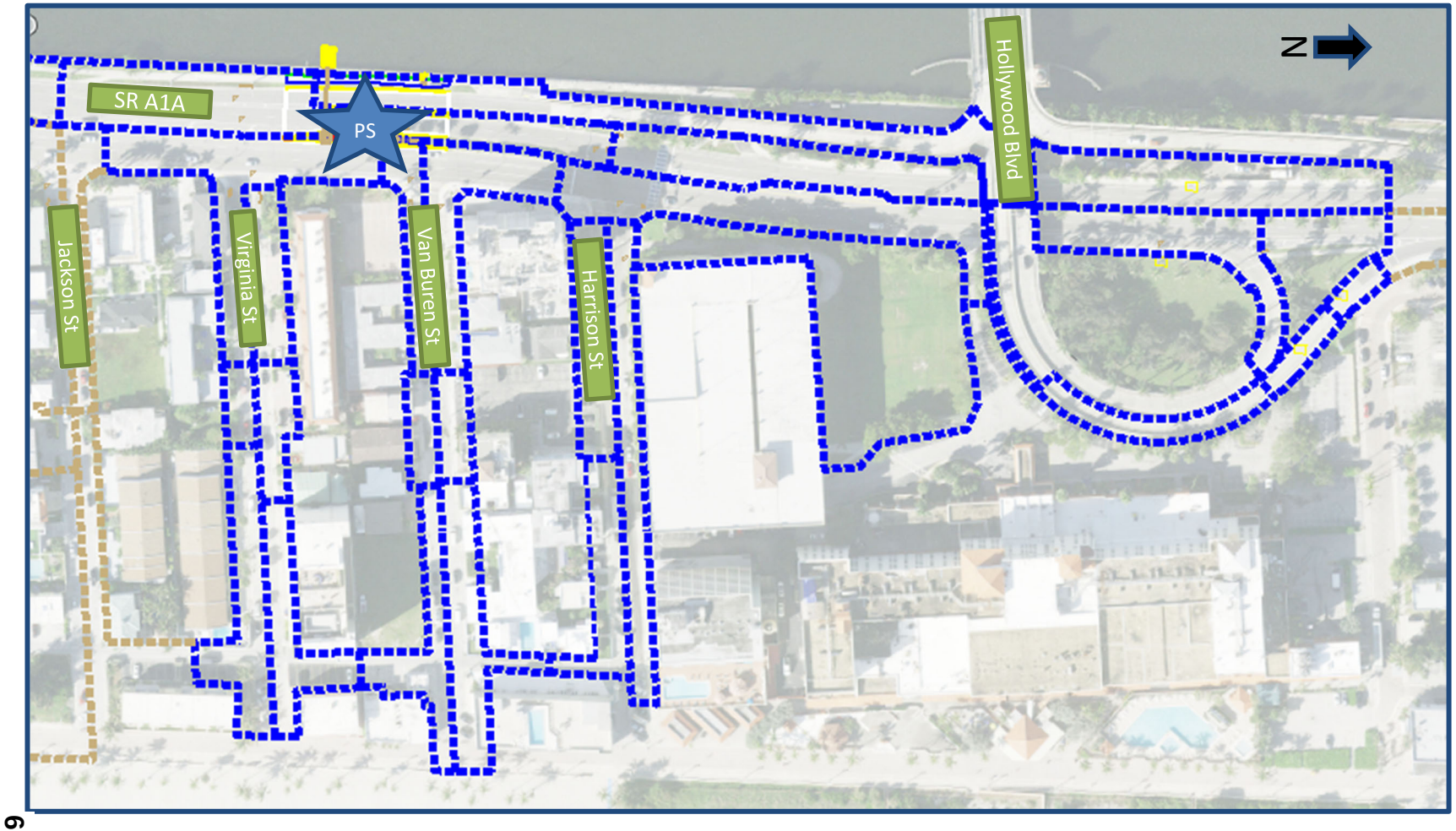
448577-1: From Crocus Terrace to Van Buren Street



- New Pump Station located on the west side of SR A1A just north of Azalea Terrace
- Raised electrical platform to provide pump station with continuous power during high tide or storm surge events
- Pipe lining of existing storm drains to alleviate high groundwater table influxes into drainage system
- Restoration of roadway elements affected by construction

Final Design: Proposed Improvements

448577-1: From Crocus Terrace to Van Buren Street



- New Pump Station located on the median of SR A1A just south of Van Buren Street
- Raised electrical platform to provide pump station with continuous power during high tide or storm surge events
- Pipe lining of existing storm drains to alleviate high groundwater table influxes into drainage system
- Restoration of roadway elements affected by construction

SFWMD Resiliency Coordination Forum

Final Design: Design Challenges

- 3 Projects, 2 Consultants, 6 Total FPIDs
- 6+ Disciplines
- 6+ Funding Sources
- Accelerated Schedule
- Cost/Benefit Analyses
- Limited Right-of-Way
- Maintenance Agreements
- Existing FDOT infrastructure impacts

- Major utility infrastructure on a barrier island
- (3) Technical Special Provisions,
  (1) Modified Special Provision,
  (4) New Pay Items
- U.S. Army Corps of Engineers, South Florida Water Management District Permits
- Fulfill short-term purpose and need, with long-term vision in mind

Project Schedule and Cost

Final Design:

November 2022 – Design NTP

April 2024 – Final Plans S&S

July 2024 – Final Plans to Tallahassee

Construction:

September 2024 – Project Advertisement

October 2024 – Letting

Summer 2025 – Construction Groundbreaking

Estimated Completion: Summer 2027

Construction Cost: $35 Million

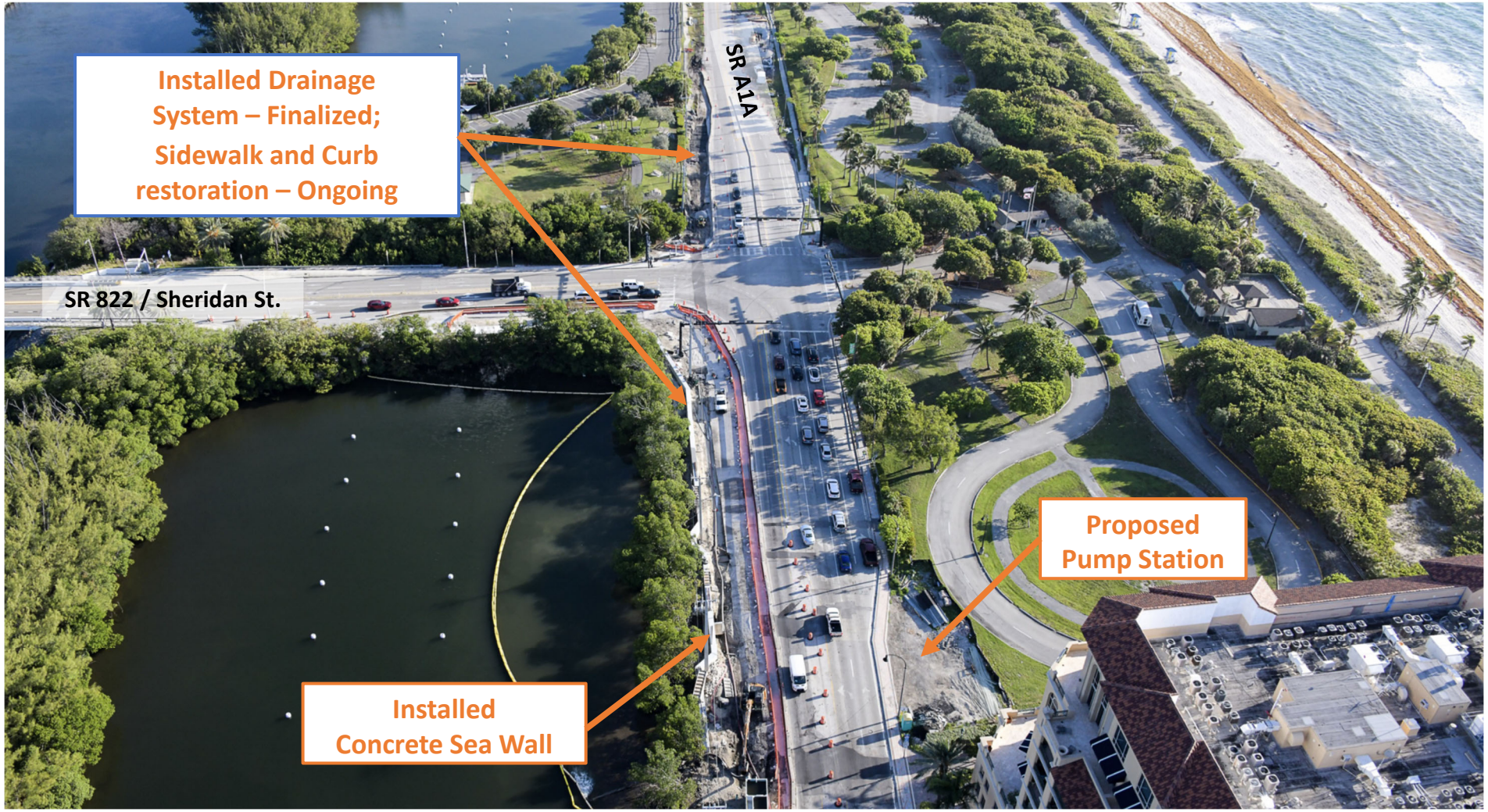
Construction Update

448574-1: SR A1A at Sheridan Street – Seawall Installation (10/1/25)

SFWMD Resiliency Coordination Forum

Construction Update

448574-1: SR A1A at Sheridan Street – Current Activities



Construction Update

448576-1: SR A1A at Franklin Street – Current Activities

Construction Update

448577-1: SR A1A at Van Buren Street – Current Activities

Construction Update

448577-1: SR A1A at Bouganvilla Terrace – Current Activities

Q&A

District Resiliency – FloWS Updates

Resiliency Coordination Forum – June 24, 2026

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

Division Director, Flood Control and Water Supply Planning

Chief of District Resiliency

South Florida Water Management District

Organizational Update

Division Short Name: FloWS

The Division of **Flo**od Protection and **W**ater **S**upply Planning advances planning and implementation efforts, working closely with internal teams and with local, state, tribal and federal partners. Our team advances water supply and flood control planning, integrating resiliency planning to support risk-informed decision making. It also coordinates implementation through funding applications and managing resiliency grants.

Presenter: Carolina Maran

2026 Summer FloWS Interns

Theresia Phoa
Flood Control Implementation

PhD Atmospheric Science, University of Miami Rosenstiel School of Marine, Atmospheric, and Earth Science

Research Interest: Regional climate extremes & climate services

Sushma Swaraj Padala
Data Analysis

Master of Science in Artificial Intelligence & Business Analytics, University of South Florida

Research Interest: AI-assisted analytics & machine learning applications

Nicole Pimenta
Groundwater Modelling

Master of Science in Geosciences Florida Atlantic University

Research Interest: Geographical Information Systems and climate science

First Annual FloWS Division Field Trip

May 19, 2026

- L-31E Flow Way
- Cutler Wetlands
- Deering Estate
- Biscayne Bay Coastal Wetlands (Deering Powers Property)

Water and Climate Resilience Metrics

2027 South Florida Environmental Report (SFER)

Analyses and content development is ongoing, 70-80% Complete

Chapter 2A: South Florida Hydrology and Water Management

- Water Year 2026 (May 1, 2025 – April 30, 2026)
  - Hydrology
  - Water Management
  - Event Summaries

Chapter 2B: Water and Climate Resilience Metrics

- Long-term Trends
  - Sub-daily Rainfall
  - Flooding Events
  - Water Quality
  - Algal Blooms

Key Dates

Public Review Period: November 3 – 23, 2026

Publication Date: March 1, 2027

Access the Entire Report:

2026 South Florida Environmental Report

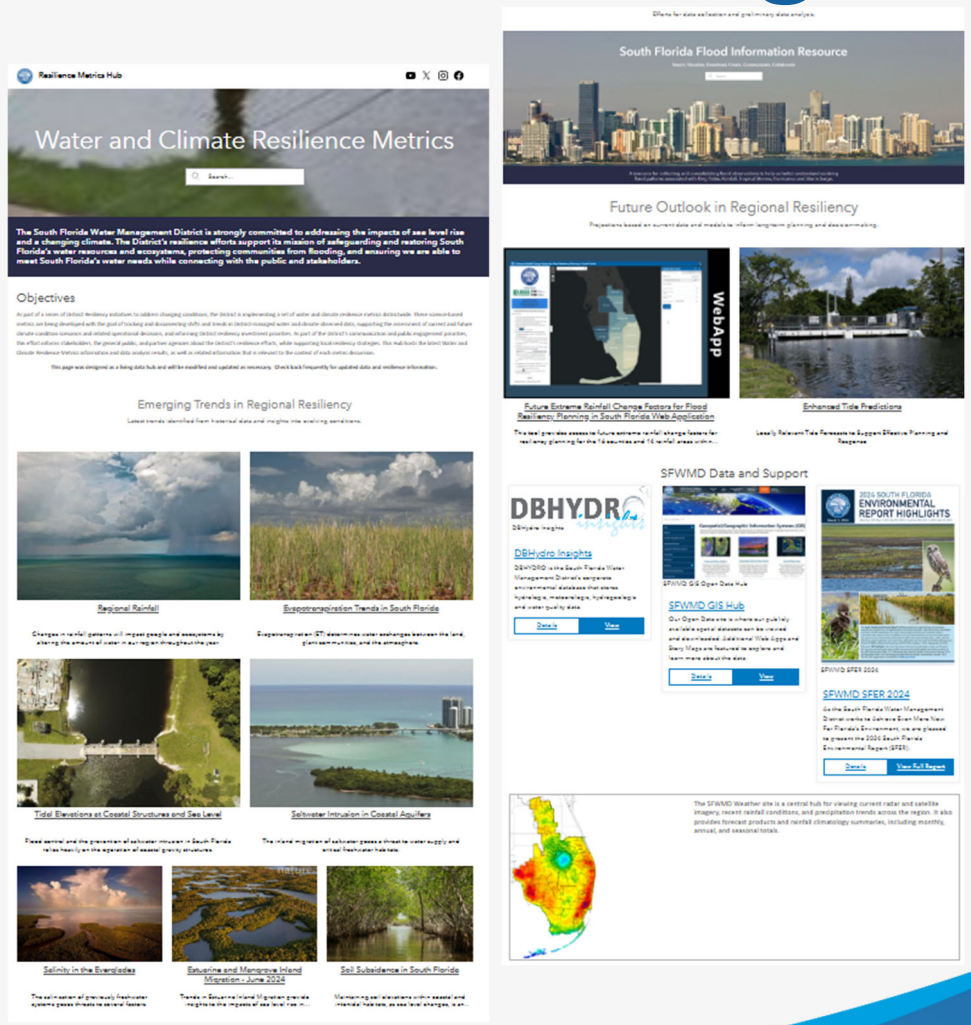
Poster Exhibitions:

View the Posters

Water and Climate Resilience Metrics Training

Our team is organizing a hands-on training on how to access and best interpret the Water and Climate Resilience Metrics data and information we use to support regional resiliency planning.

- A hybrid session is scheduled for Wednesday, July 29, 2026, at 9:00 a.m.
  - In person location: SFWMD Headquarters
  - Virtual option: Microsoft Teams
- Please register by Friday, July 24, via the survey if you are interested.
  - Registration Link: https://forms.cloud.microsoft/g/Km1F4QUCGi
- Flood tools training participants who previously confirmed interest will be automatically included.



Presenter: Carolina Maran

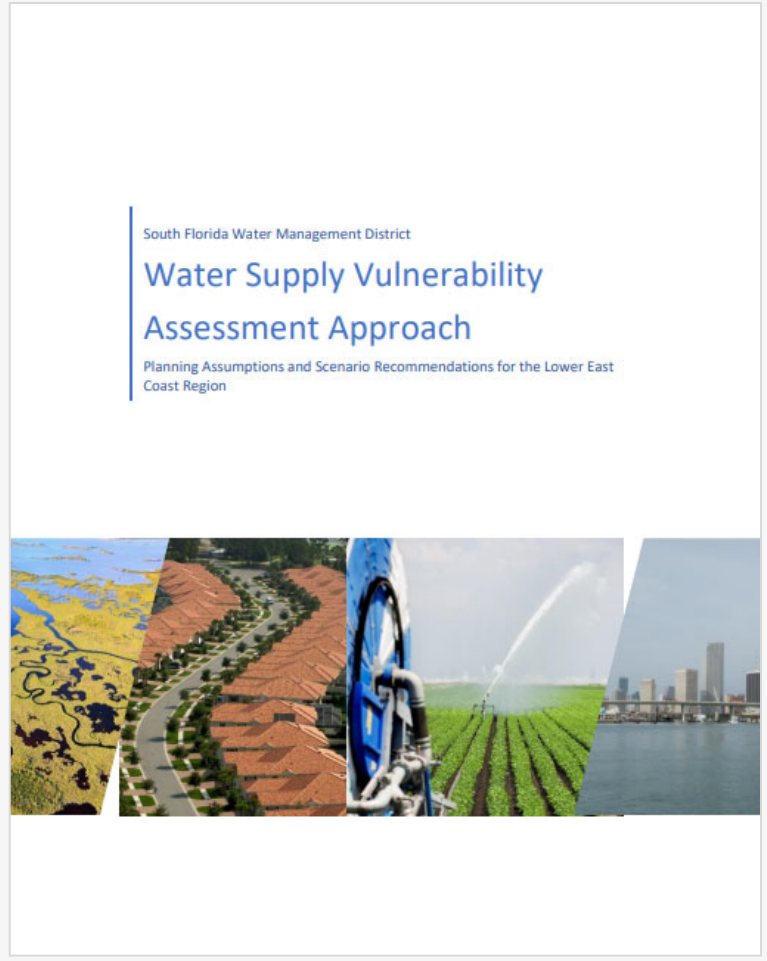
Water Supply Vulnerability Assessment Update

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

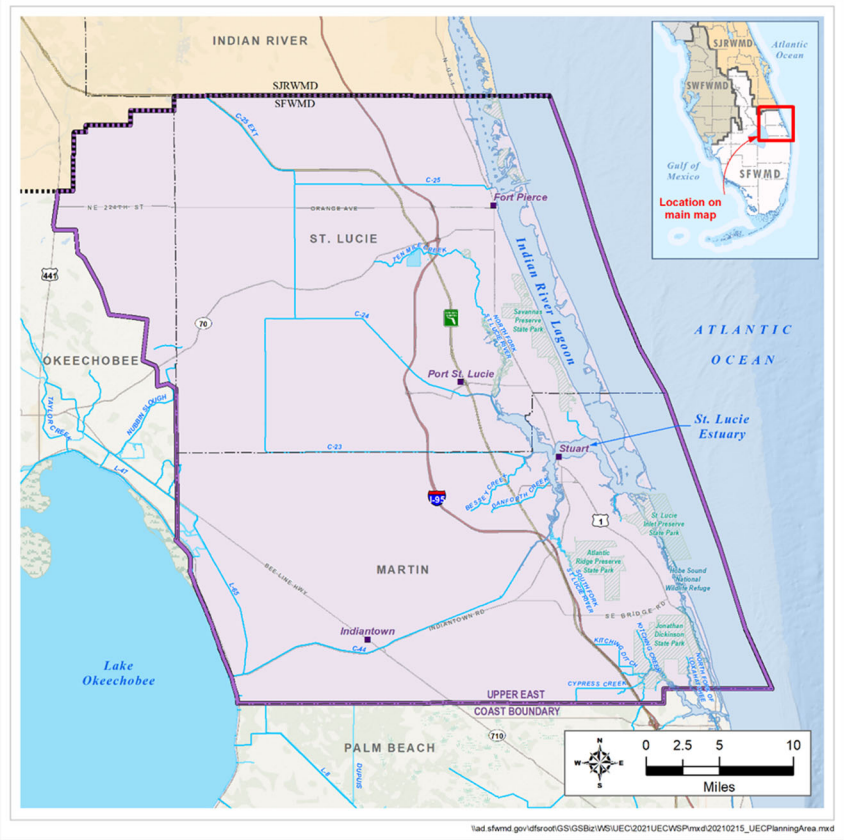
Current Status

- Model data inputs under development:
  - Drought rainfall, ET & temperature data – in testing
  - Future land use and population distribution - COMPLETE
  - Public utility and self supply well withdrawals – COMPLETE
  - Irrigation well withdrawals with climate change – in progress
  - RSM surface water modeling for boundary conditions – begin in July
- ECSM runs anticipated in late summer 2026



Upper East Coast Water Supply Plan

- Five-year update with demand projections to 2050; first plan of new 5-year update round
- Martin and St. Lucie counties and the northeastern portion of Okeechobee County
- 17 public supply utilities
- Major agricultural industry
- Important natural and water resources
  - C-23, C-24, and C-25 canals
  - St. Lucie River and Estuary
  - Indian River Lagoon
  - North Fork of the Loxahatchee River
- Stakeholder Meetings
  - April 28, 2026
  - June 18, 2026
- Scheduled approval for November 2026



Lower West Coast Water Supply Plan Update – Initial Information Requests Submitted

FDEP / SFWMD Cooperative Funding Program

The FY27 project list was approved by SFWMD Governing Board on May 14, and submitted to FDEP on May 26.

Clewiston Injection Well

Alternative Water Supply

Years	Projects	Capacity (mgd)	Construction Costs	Funding
FY97 – FY26	539	523	$1.81 B	$275.4 M

Water Conservation

Years	Projects	Estimated Water Savings (mgd)	Total Project Costs	Funding
FY03 – FY26	278	14.3	$32.2 M	$9.7 M

mgd = million gallons per day

FPLOS Program Updates

Phase I: Flood Vulnerability Assessment

Western Basins
(Hendry & Collier Counties)

- Current Conditions LOS assessment – ongoing

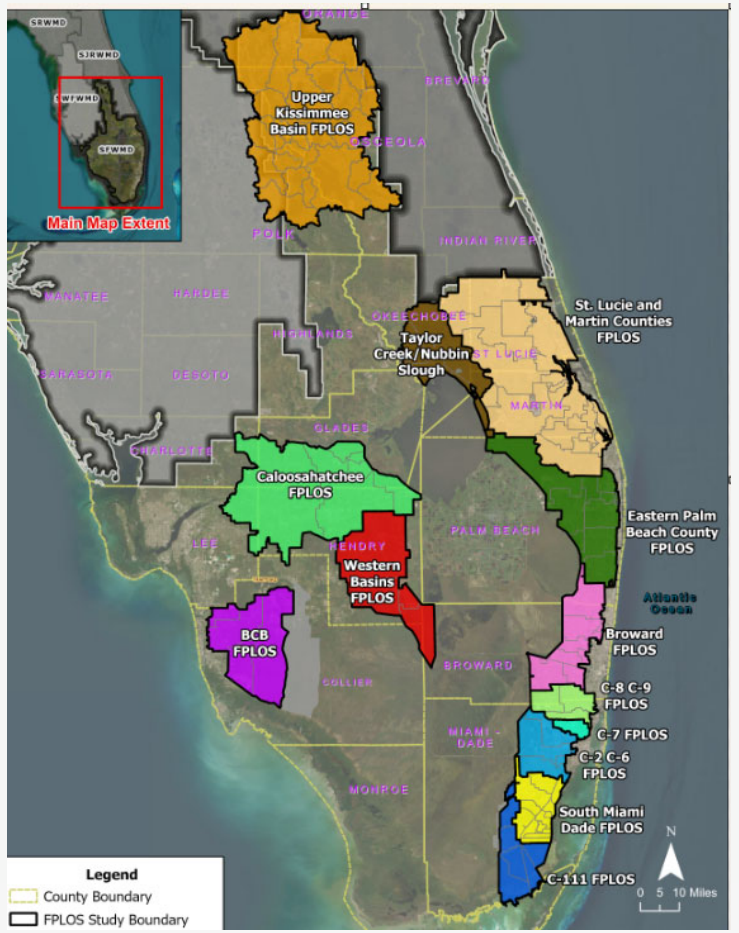
Taylor Creek / Nubbin Slough
(Okeechobee & Martin Counties)

- Calibration and Validation – ongoing

Caloosahatchee
(Charlotte, Lee, Glades and Hendry Counties)

- Under initiation

Upcoming USACE ERDC funded study on Compound Flooding



Phase II: Adaptation and Mitigation Planning

C-7 Basin
(Miami-Dade County)

- Study – Complete (To be updated into SMMS)

Upper Kissimmee Basin
(Osceola & Orange Counties)

- Targeted FPLOS Study in support of resilience implementation planning and HMGP post disaster project applications - under technical review by FDEM

Combined Phase I and II Study

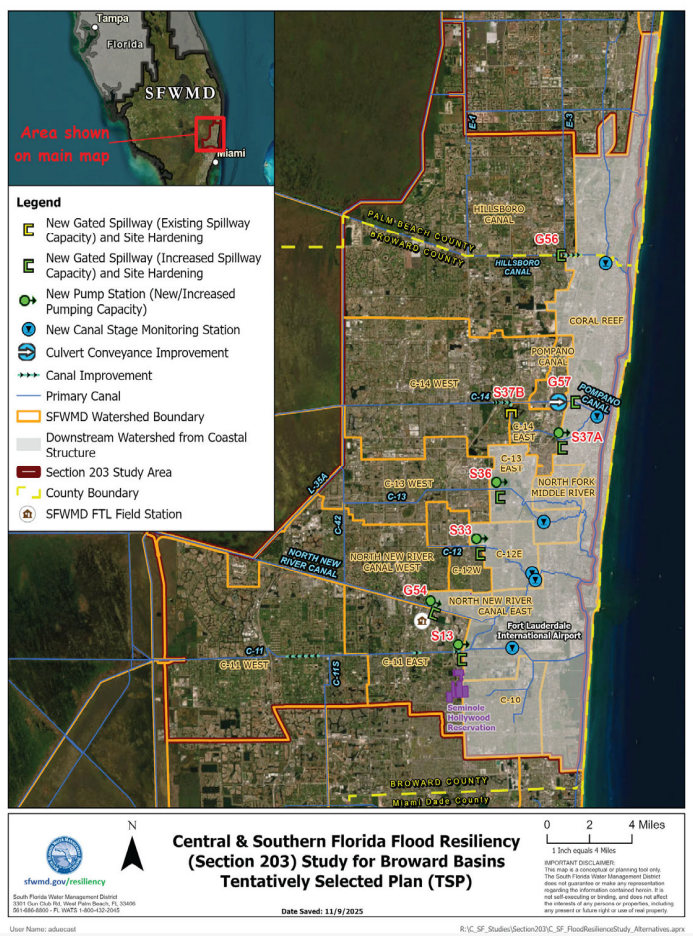
St. Lucie-Martin Counties

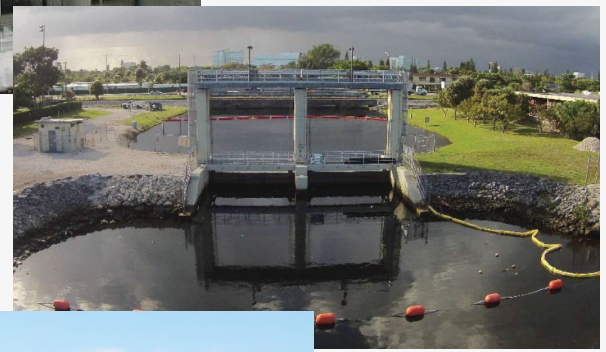
- Loxahatchee Current Conditions LOS - ongoing
- St. Lucie Calibration and Validation - ongoing

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

Under USACE ASA Final Review

- Recommended Plan & ~35% Design Plans for 8 structures, 3 canals and monitoring stations
- Received Cost Certification from Walla Walla Cost Engineering Mandatory Center of Expertise in April
- Integrated Feasibility Report and Environmental Assessment Transmitted to ASA and under final review





Integrated Feasibility Report and Environmental Assessment

Transmittal Ceremony on April 29

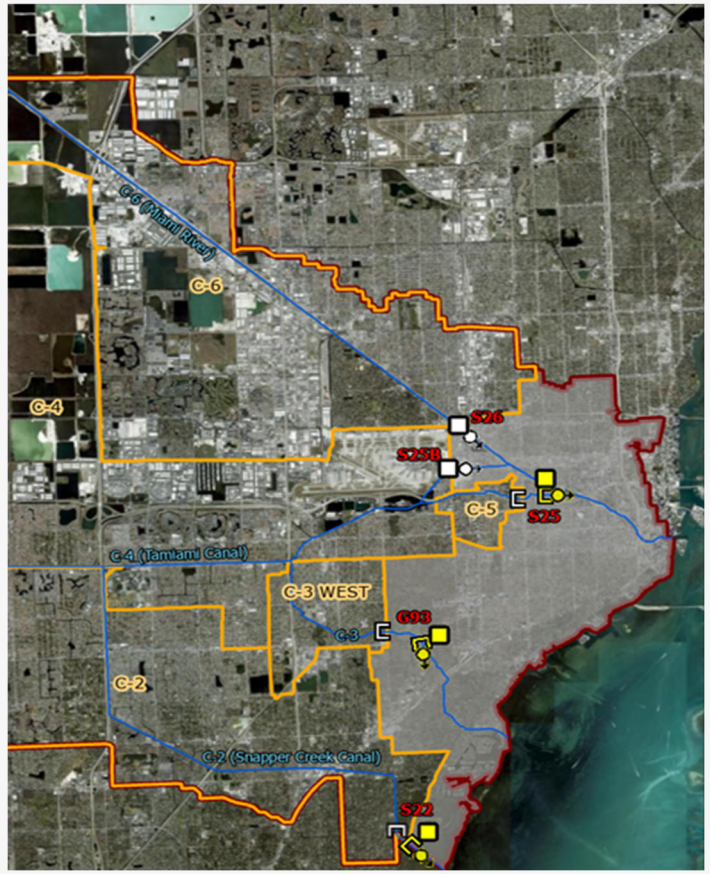
Presenter: Carolina Maran

C&SF Flood Resiliency Studies – Miami Basins (Section 216)

Final Array of Alternatives Under Development

- Modeling efforts being advanced for the project alternatives in all five basins within the study area
- Initial Engineering Scoping
- Economic Analysis through HEC FDA
- Exploratory Sensitivity Testing
- Upcoming Public Meeting on Final Array later in July

Alt 7S



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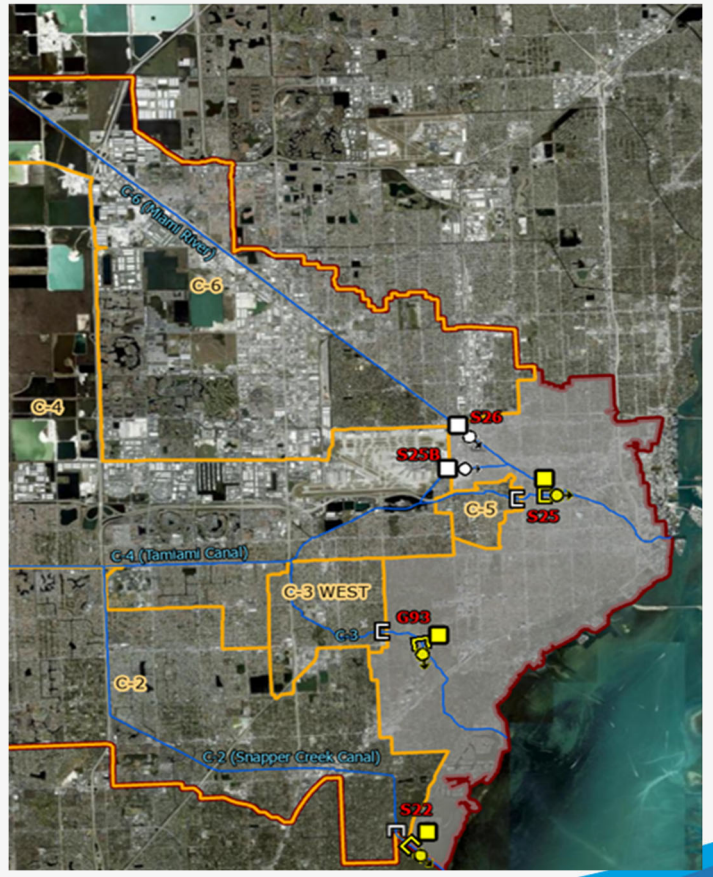
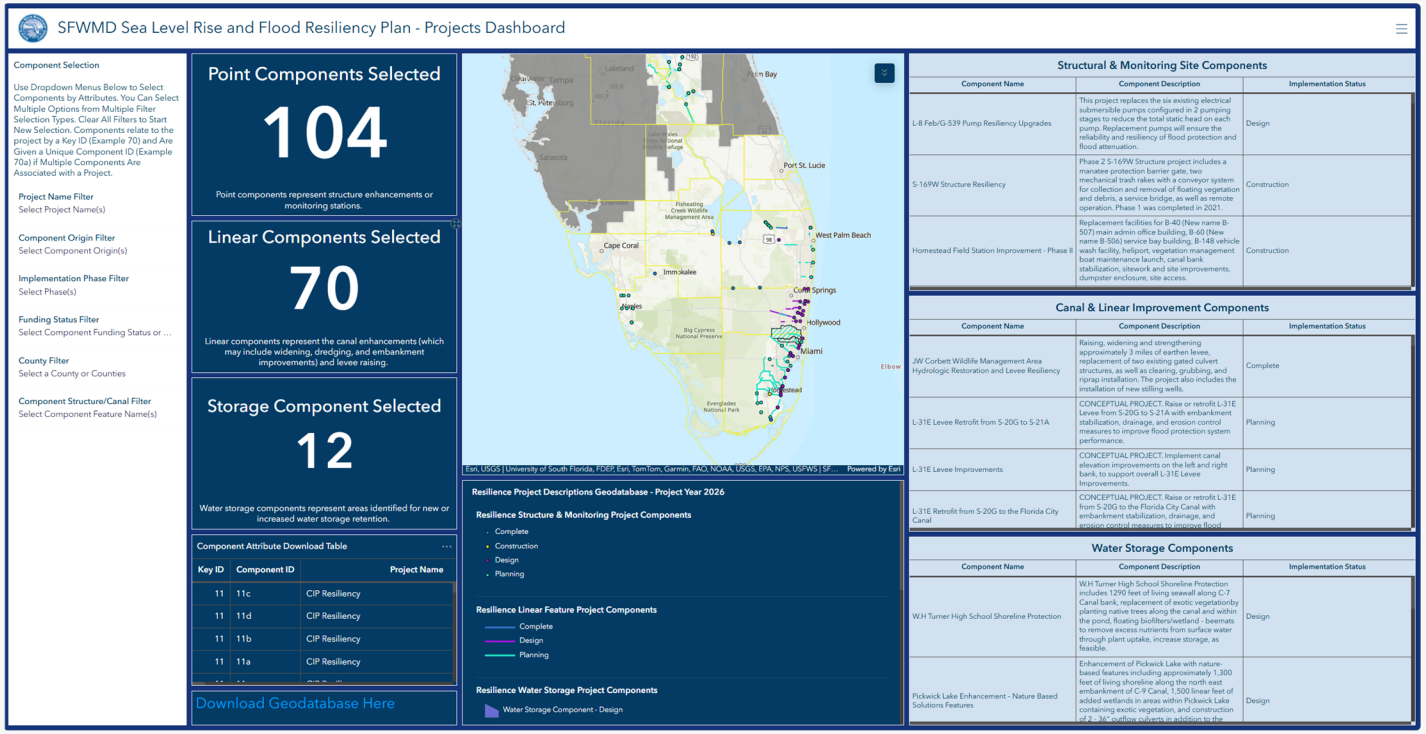
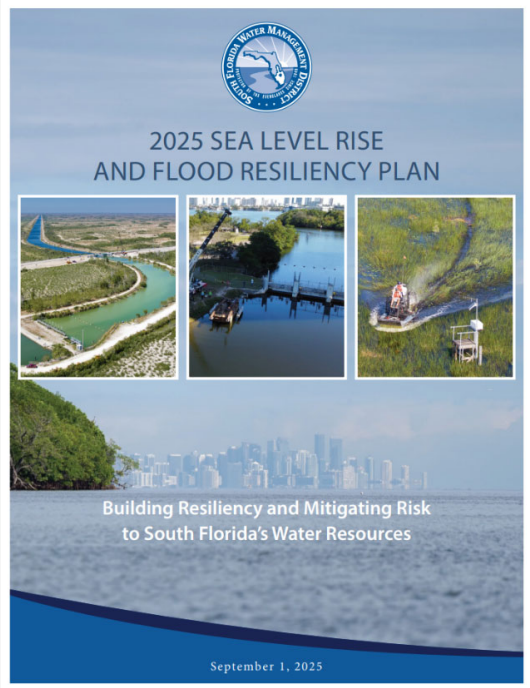


2026 Priority Resiliency Projects Update

New SFWMD Sea Level Rise and Flood Resiliency Plan – Projects Dashboard developed to support annual projects update is now published.

➢ *Additional details and a live demonstration next (Agenda item 8)*





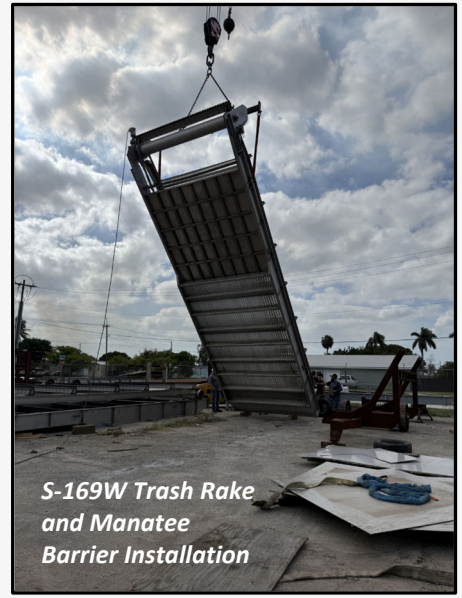
Access the document:
2025 SLR and Flood Resiliency Plan

Additional support to Counties LMS - project updates

Grant Implementation Project Updates

- **FDEM/FEMA HMGP and FDEP RF Grants for C-7 Basin (S-27); C-8 Basin (S-28) and C-9 Basin (S-29 Structure):**
  - Final FEMA Review for design continues; FEMA/FDEM Design Grant Closeout to follow next
  - Draft MOAs/ILAs and Land Negotiations ongoing
  - Planned Construction Start early 2027
- **FDEP Resilient Florida Grants Implementation:**
  - 3 new grant award received for FY25-26
  - Closeout site visits in June with FDEP for three federally funded grants (2022 and 2023 awards)
- **FDEP Innovative Tech Grant Implementation:**
  - WIPE OUT project at C-9 Canal, in collaboration with Miami-Dade County – Construction nearing completion
  - WQ Monitoring to initiate July 2026
- **FDEM HMGP:** Post-Disaster Implementation (1) and WMP Planning (1) projects under review


Visit with Miami-Dade County Mayor at S-29 Structure


S-169W Trash Rake and Manatee Barrier Installation


Innovative Technology Installation at C-9 Canal

First Resilient FL Implementation Project Completion

- **Corbett Levee Upgrade** with funding support from FDEP Resilient Florida and Palm Beach County

Ribbon-Cutting Ceremony held on June 1, 2026


Newly Replaced Structure, FDEP Grant Closeout Site Visit, 6/17/2026


Upgraded Levee


Newly Replaced Structure


Final Completion Walkthrough with Permitting Agencies, 5/20/2026

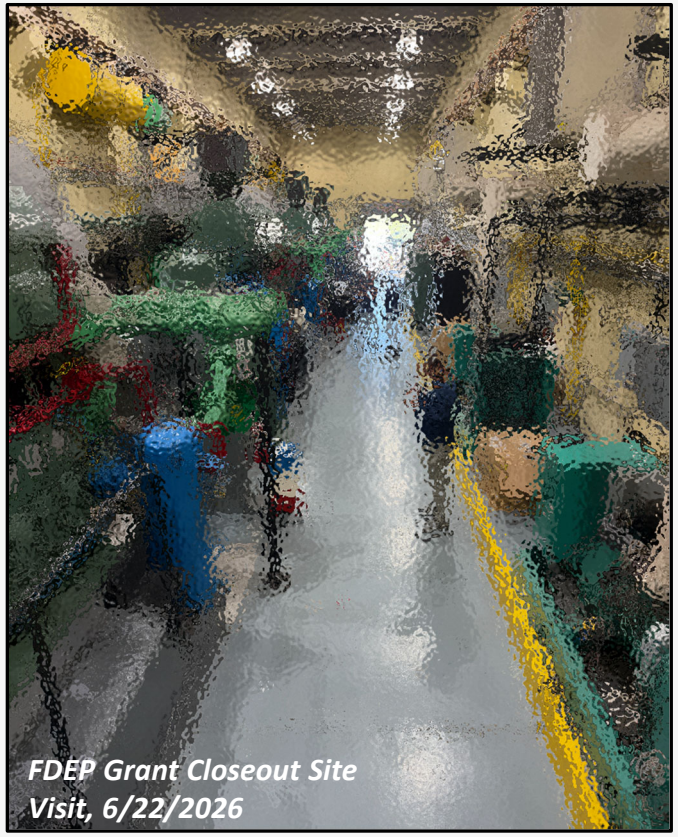

Ribbon-Cutting Ceremony

One More RF Implementation Project Success

- **S-2, S-3, S-4, S-7, S-8 Engine Control Panel Hardening** with funding support from FDEP Resilient Florida

Newly Replaced Panels, FDEP Grant Closeout Site Visit, 6/22/2026

Newly Replaced Motors, FDEP Grant Closeout Site Visit, 6/22/2026



FDEP Grant Closeout Site Visit, 6/22/2026

Water Shortage Update – End of Dry Season

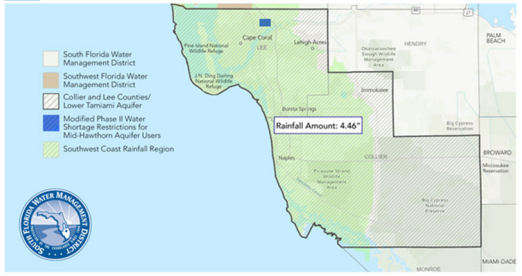
- The District issued a **Water Shortage Warning** for **Collier, Glades, Highlands, Lee, Miami-Dade and Monroe** counties on February 5, 2026.
- All Water Shortage Warnings are **rescinded as of June 4, 2026**.
- 2026 Water Shortage Report Upcoming

SFWMD Rescinds Water Shortage Warning for Lee and Collier Counties

Thu June 4, 2026

Category:

News



Today, the South Florida Water Management District (SFWMD) rescinded the Water Shortage Warning that was issued on Feb. 5, 2026, for Lee and Collier counties.

Read the rescission of Water Shortage Warning SFWMD 2026-053.

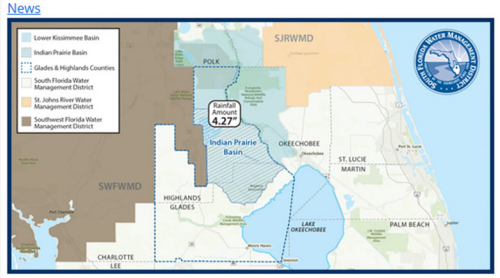
Read more

SFWMD Rescinds Water Shortage Warning for Glades County and Portions of Highlands County

Fri April 17, 2026

Category:

News



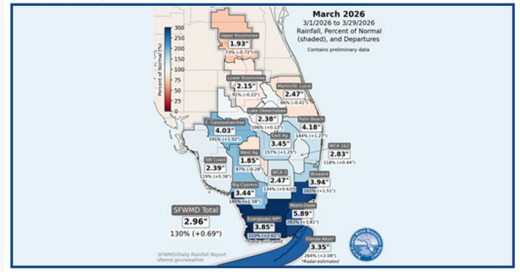
Today, the South Florida Water Management District (SFWMD) rescinded the Water Shortage Warning that was issued on Feb. 5, 2026, for Glades County and portions of Highlands County.

Read the rescission of the Water Shortage Warning SFWMD 2026-042.

Read more

SFWMD Rescinds Water Shortage Warning for Miami-Dade and Monroe Counties

Mon March 30, 2026



Today, the South Florida Water Management District (SFWMD) rescinded the Water Shortage Warning issued on Feb. 5, 2026 for Miami-Dade and Monroe counties. Recent rainfall in that area coupled with conservation efforts by water users and utilities helped the Biscayne aquifer rebound to a safe level.

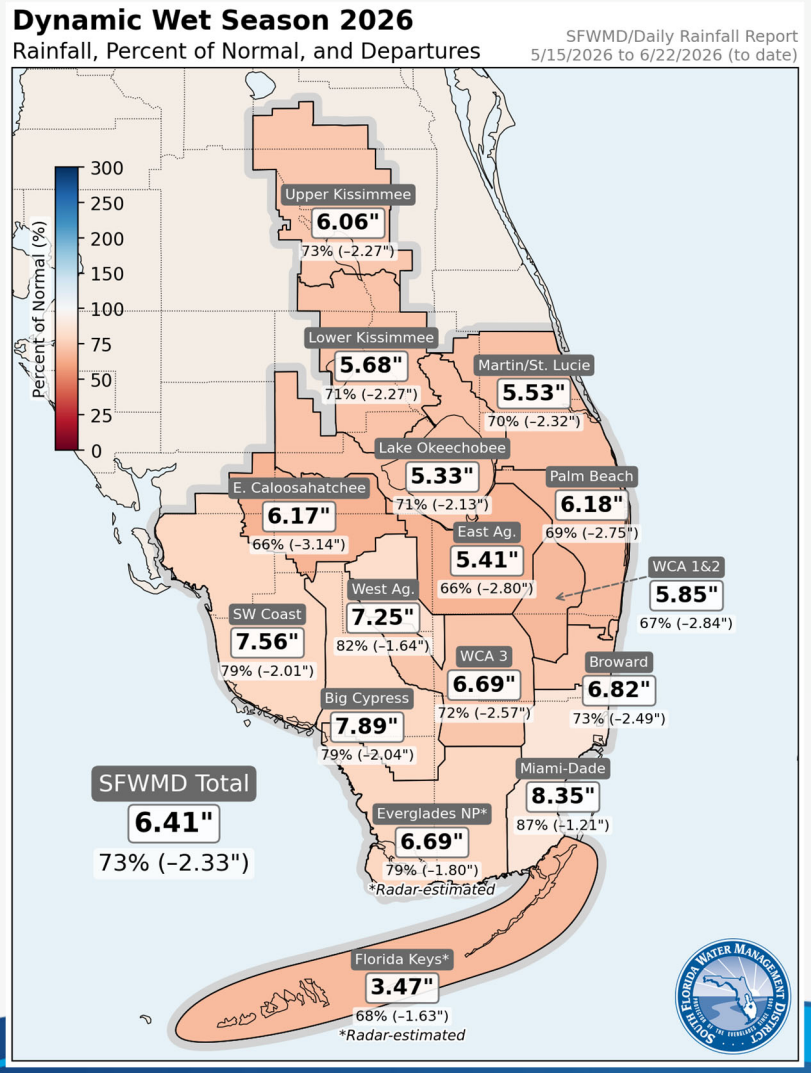
Read the rescission of the Water Shortage Warning SFWMD 2026-038.

Read more

87

Presenter: Carolina Maran

2026 Starting of Wet Season



Key Dates

- **Wet Season:** May 15, 2026 - ~ October 2026
- **Hurricane Season:** June 1 - November 30, 2026
- **King Tide Season:** August 10 - December 27, 2026

2026 King Tide Season

Weekly King Tide Forecasts will resume in August.

During these periods, high tides may exceed one or more National Weather Service (NWS) flood thresholds in parts of the region.

East Coast

Maximum Peak: October 27

- August 11 - 14
- September 8 - 15
- September 24 - October 15
- October 22 - November 12
- November 22 - 29
- December 22 - 27

Florida Keys

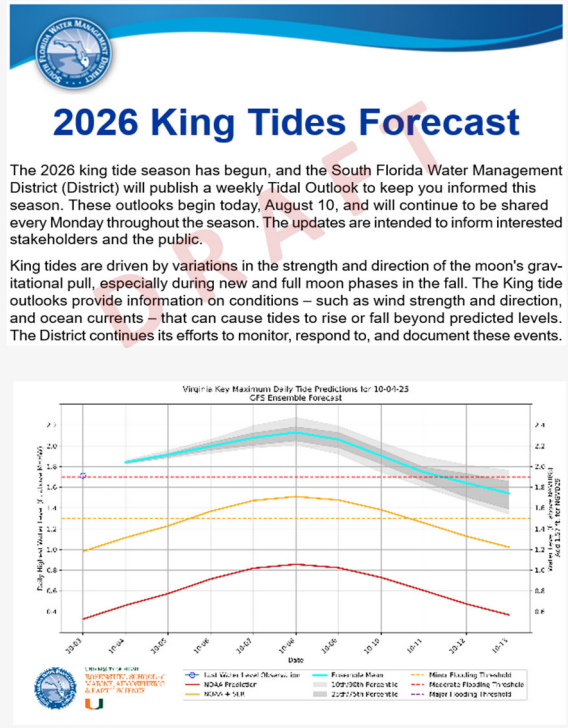
Maximum Peaks: October 28 & 30

- August 7 - 21
- August 24 - November 17
- November 19 - December 1
- December 4 - 13
- December 21 - 27

West Coast

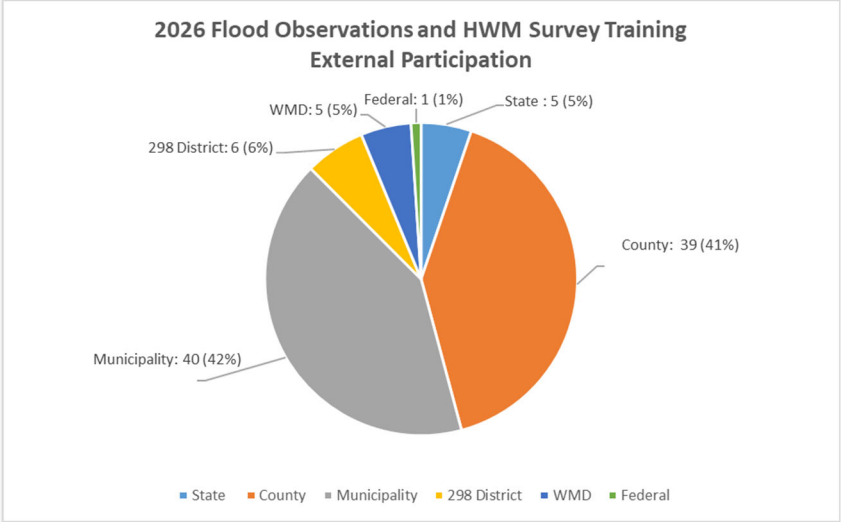
Maximum Peak: August 12

- August 10-14
- August 27-28
- September 8-11
- September 29 - October 1
- October 27-29



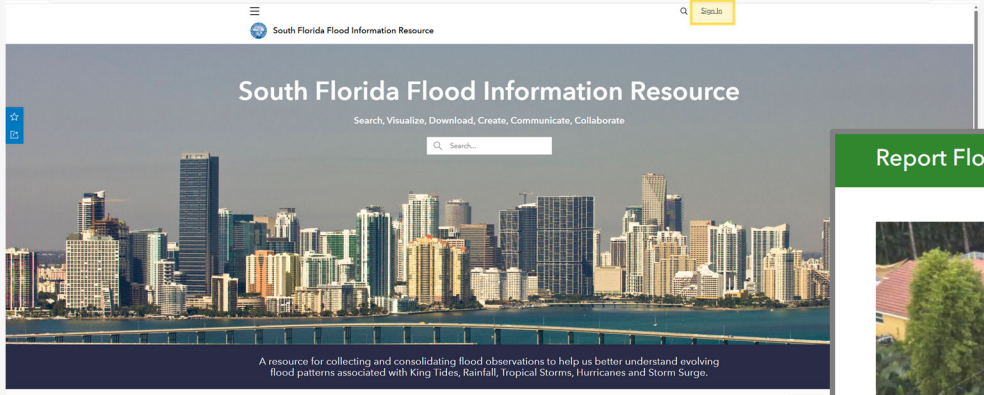
Flood Observations & HWM Survey Training

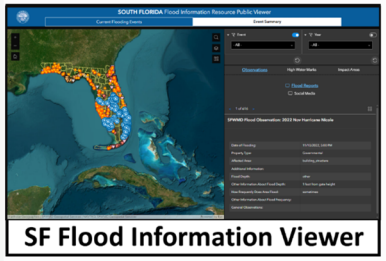
- **Now in its third year, SFWMD flood data trainings were open to local government staff who collect, review, and analyze flood information in support of regional assessments**
- **Six sessions delivered at District facilities across the region.**
- **Record participation:**
  153 total participants, representing 7 counties
  - 96 external
  - 57 internal



- **Thank you, Flood Observations Team!**
  - Trainers, reviewers, and expert support staff from FloWS, Survey and Mapping, Geospatial Services, and External Affairs

Flood Observations & South Florida Flood Information Resource





South Florida Flood Information Resource Public Viewer:

To access: Click on the image to the left. This application is designed for exploration of publicly shared Flood Information Repository content. Data for this application was compiled from a variety of sources.

South Florida Flood Information Resource Application (aka Stakeholder Dashboard):

Click on the image to the left. This application provides a variety of options to view, filter and download flood observations and high water mark records and photos.

Report Flooding and Early Concerns

Quick Link: sfwmd.gov/FloodingApp

QR Code:

Access: Survey123 application (recommended) or web browser on a computer or mobile device

Availability: Public

Sign in Required: No

SFWMD HWM Survey

Quick Link: N/A

QR Code

Access: Survey123 application (recommended) or web browser on a computer or mobile device

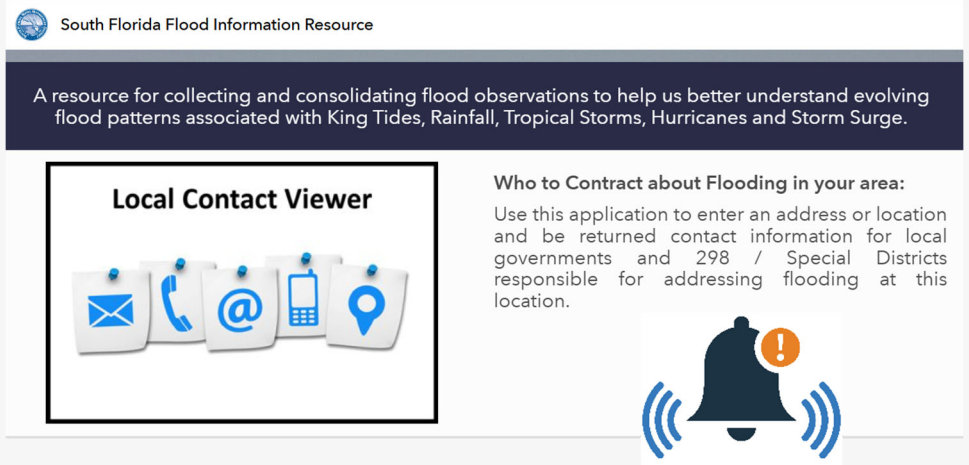
Availability: Trained personnel only

Sign in Required: Yes

Local Contact Notification System Implementation

SFWMD has implemented the Local Contact Notification System to keep local flood management partners across South Florida informed

- Automatically notifies local County, City, and Drainage District contacts by email when a flood report is submitted within their jurisdiction
- Direct link to the South Florida Flood Information Resource application for full report access



- ***Now is a good time to confirm your organization's information is up to date.***
- A South Florida Flood Information Resource account is required for full access to flood reports and related information; see ***Account Creation Instructions***
- Flood reports are being shared for awareness and informational purposes only

Florida Silver Jackets – Flood Observations Project

- **Statewide Flood Observations**
  SFWMD is a project partner helping inform a statewide flood observation system
- **Parallel Progress**
  SFWMD continues advancing our operational tools, in coordination with local governments, while supporting development of the statewide framework
- **Future Integration**
  Our tools and data will integrate into the statewide system
- **Knowledge Sharing**
  SFWMD is helping to gather information about local efforts, sharing our experience, tools, and lessons learned

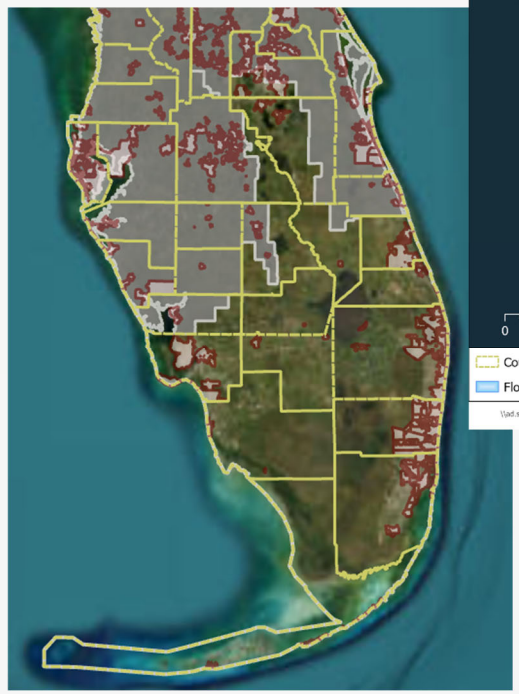
Flood Modeling Community Guidebook SJ Project is Underway – Draft Guidebook under Review

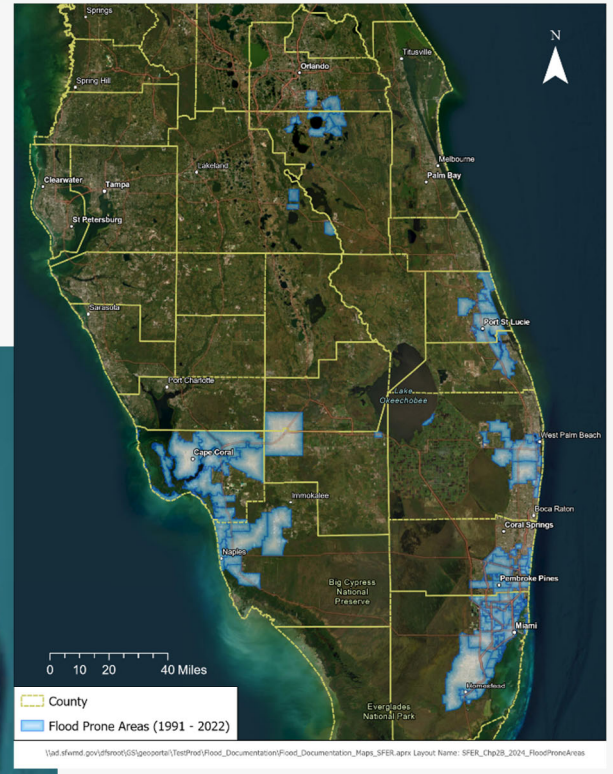
Presenter: Carolina Maran

Flood Occurrence Mapping Pilot and Value-Added Flood Products from ICEYE SAR Data

- Pilot methodology uses a variety of crowd sourced tools, where flooding is reported or identified from SAR sources
  - NEXRAD cells subdivided into ~125 ft grid cells
  - Supports flood mapping when observations are found
- Flood occurrence will be mapped using the following tools:
  - SFWMD Flood Observations
  - SFWMD High Water Marks
  - USGS High Water Marks
  - GPN Social Media Data
  - ICEYE SAR Data (2 initial events testing)
- Not intended to be representative of comprehensive areas of flooding for an event

Event flood occurrence maps will be made available to local governments





Thank you!

8. Sea Level Rise and Flood Resiliency Plan – Projects Dashboard

Resiliency Coordination Forum – June 24, 2026

Aaron Duecaster, Resiliency GIS Specialist
Division of Flood Control and Water Supply Planning
South Florida Water Management District

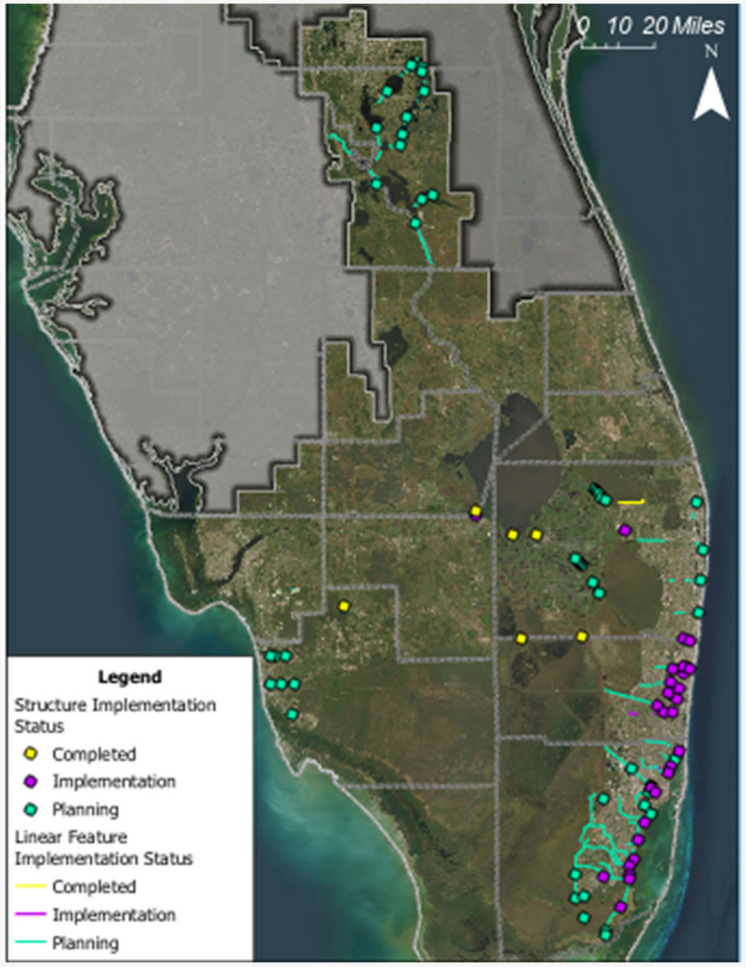
2026 Project Updates

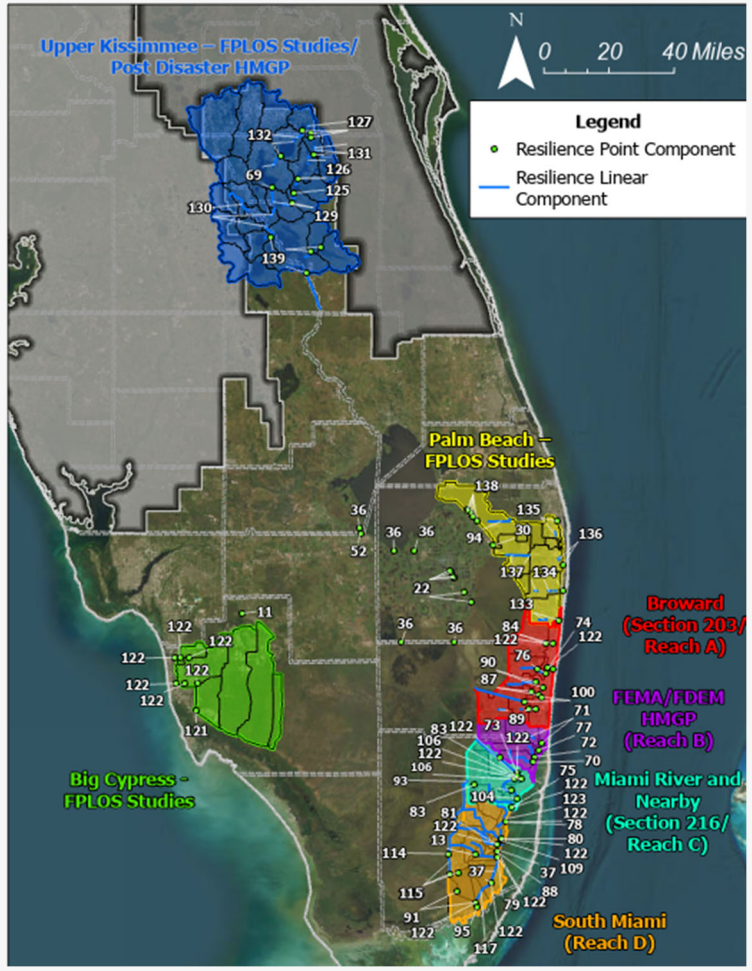
- **Projects Added Since 2025 Plan Update:**
  - C-7 Phase 2: Structure Replacement, Canal Enhancements, Inter-Basin Storage, Additional Storage.
- **Project Status Changes:**
  - **Completed :**
    - JW Corbett Wildlife Management Area Hydrologic Restoration and Levee Raising
    - Hardening of S-2, S-3, S-4, S-7, S-8 Engine Control Panels
    - Big Cypress Basin Microwave Tower (Resilience – With Capital Improvement Funding)
  - **Construction:**
    - Homestead Field Station (Completion Expected in 2026)
    - S-169W Structure Resiliency (Completion Expected in 2026)
    - Coastal Structure Enhancement and Self Preservation Mode Resiliency

2026 Project Updates (continued)

- **Project Status Change:**
  - **Design:**
    - S-27 Coastal Structure (Design Complete, Construction Expected in 2027)
    - S-29 Coastal Structure (Design Complete, Construction Expected in 2027)
    - S-28 Coastal Structure (Design Complete, Construction Expected in 2027)
    - L-8 FEB/G-539 Pump Station
    - Section 203 Study - 13 Components (30% Design Complete):
      - G-56, G-57, New Pompano Culvert, S-37A, S-37B, S-33, S-36, S-13, G-54, Downstream Monitoring Stations, Canal Improvement (portions of Hillsboro, C-11 and C-14 Canals)
  - **Planning/Feasibility:**
    - USACE Section 216 Study (Basins C-2 through C-6): Coastal Structure Enhancements & Hardening, New Pump Stations, Increased Spillway Conveyance Capacity.
    - USACE Section 203 (Broward Basins) - Final Integrated Feasibility Report and Environmental Assessment
    - Upper Kissimmee Basin Targeted Basin FPLOS Phase 2

Implementation Maps

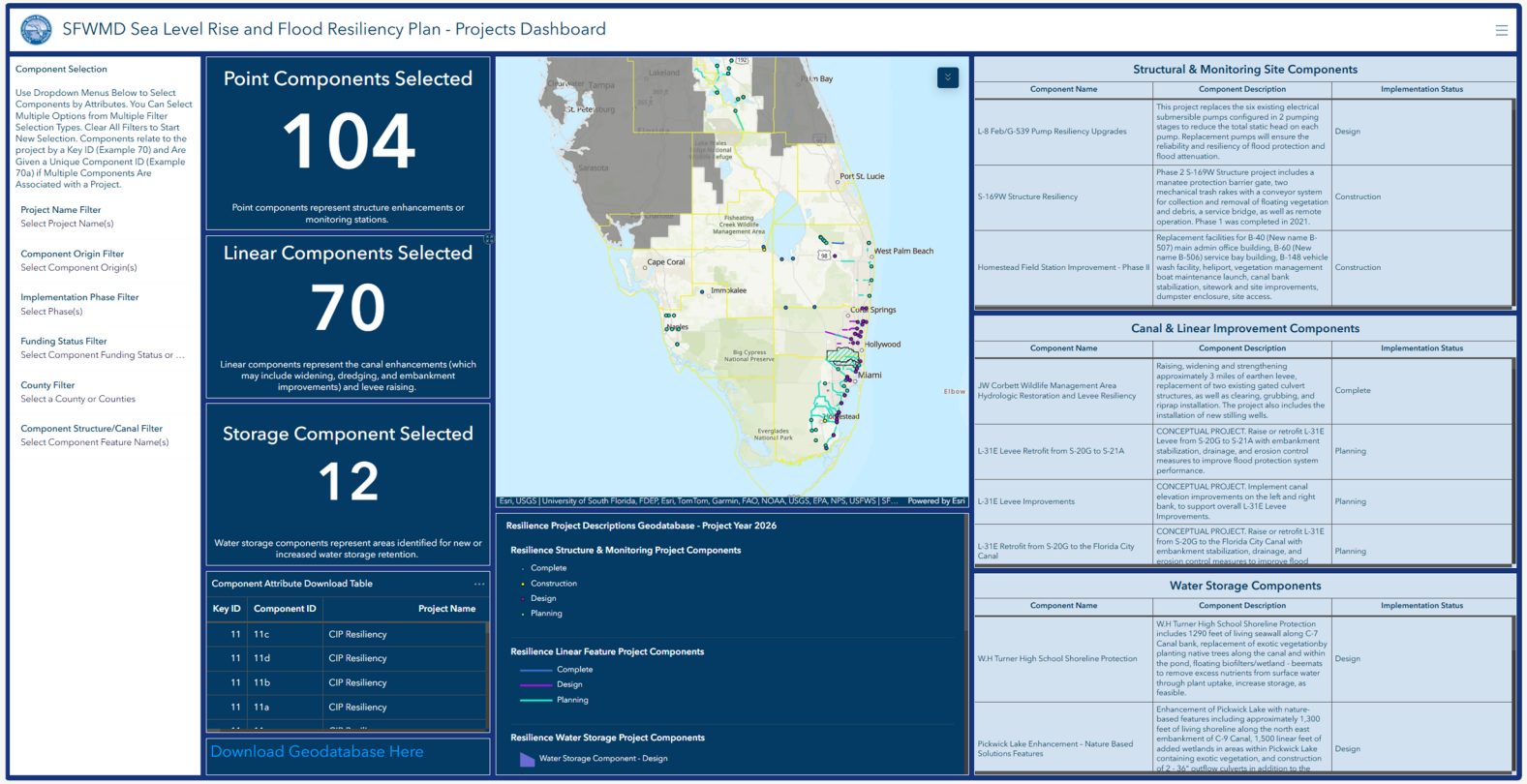


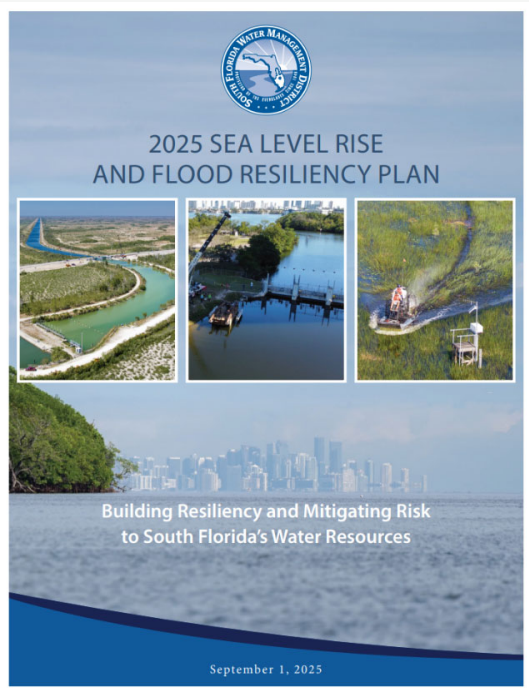


Presenter: Aaron Duecaster

2026 Projects Update – New Dashboard

New SFWMD Sea Level Rise and Flood Resiliency Plan - Projects Dashboard developed to support annual projects update is now published





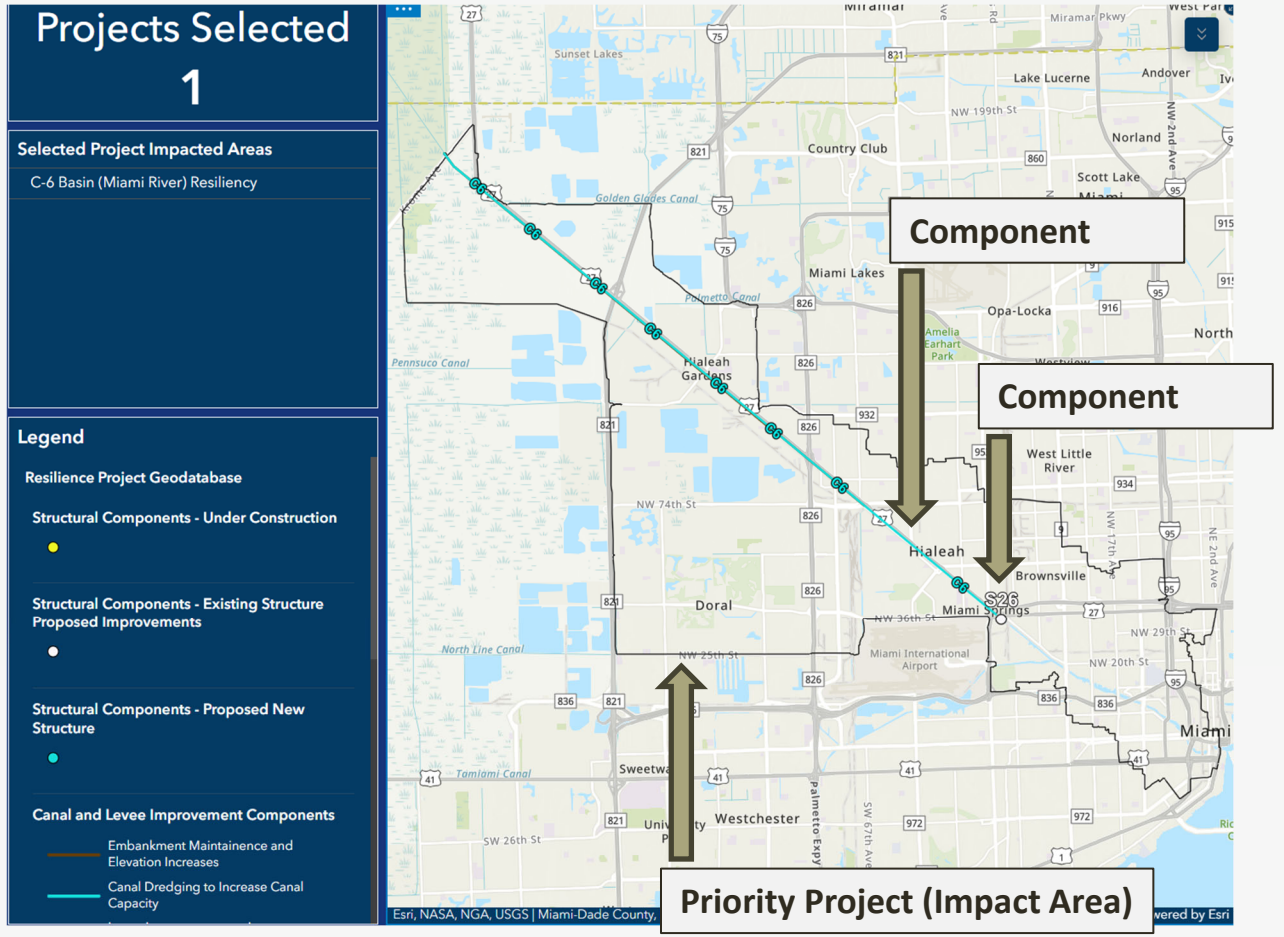
Access the document:
2025 SLR and Flood Resiliency Plan

Presenter: Aaron Duecaster

Projects Organization

- Projects: Basin/Watershed Driven Impact Areas

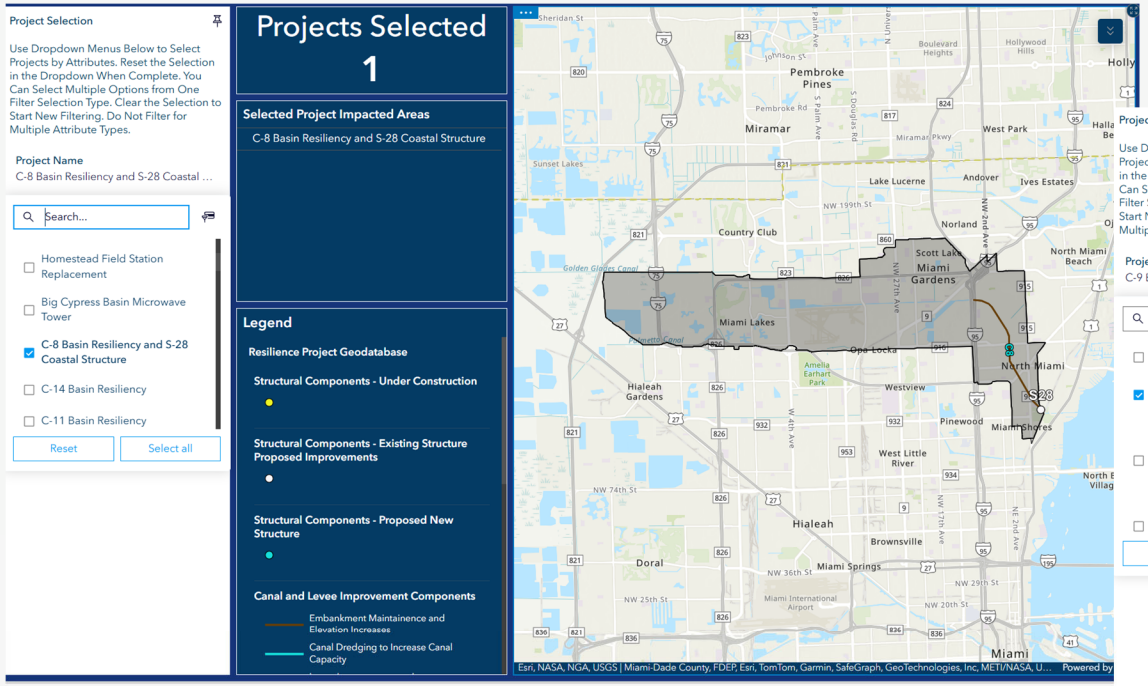
- Project Components – Vectors Representing Structure/Feature Improvements



Presenter: Aaron Duecaster

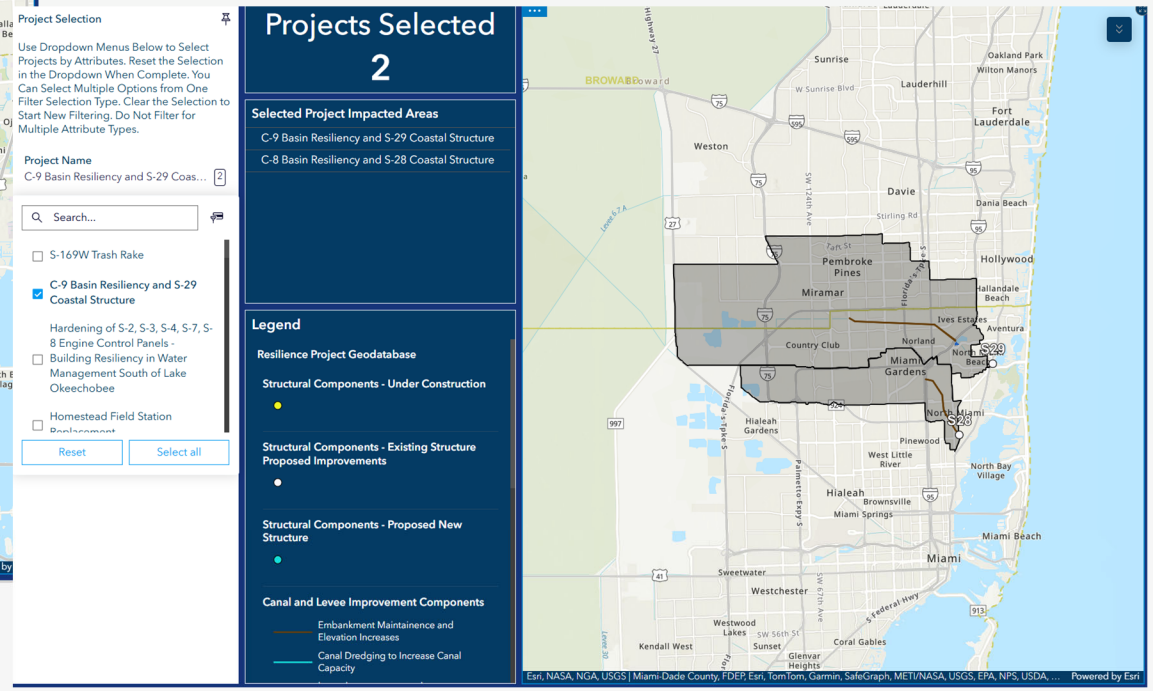
Inside the Dashboard

You can select one or more projects to filter for Components



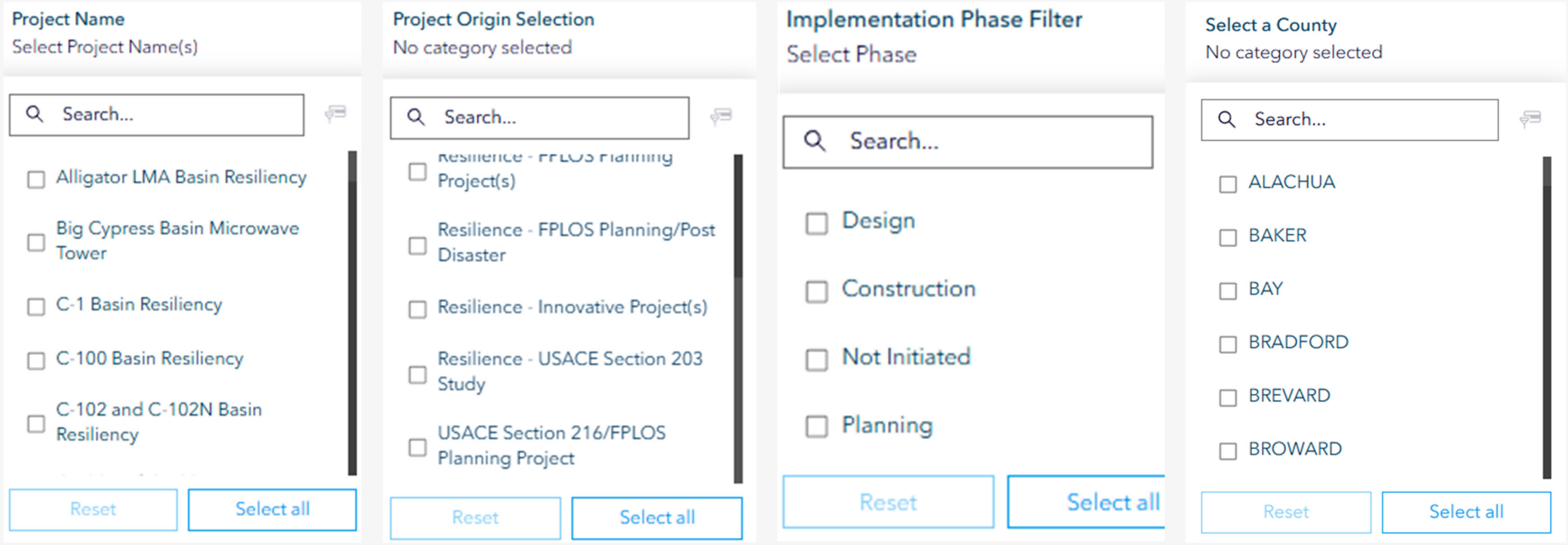
C-8 Basin Resiliency Only

C-8 Basin Resiliency & C-9 Basin Resiliency



Presenter: Aaron Duecaster

Inside the Dashboard - Filters



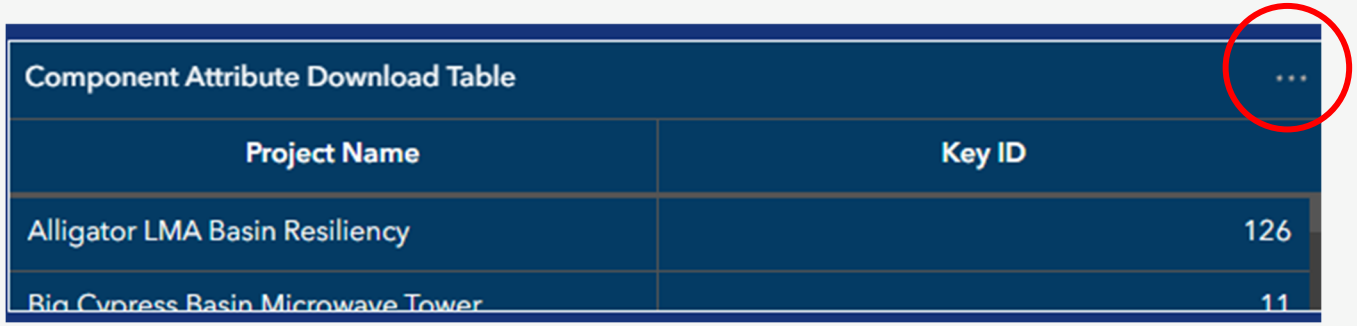
Presenter: Aaron Duecaster

Dashboard Information

- Project Name (Watershed Resiliency), Component Name
- Component Description, Feature Type
- Implementation Status, Design Phase, Permitting Status
- Funding Status
- FDEP State Asset ID
- LMS Plan Inclusion
- Location, Geometry, Flood Zone

Downloads Available

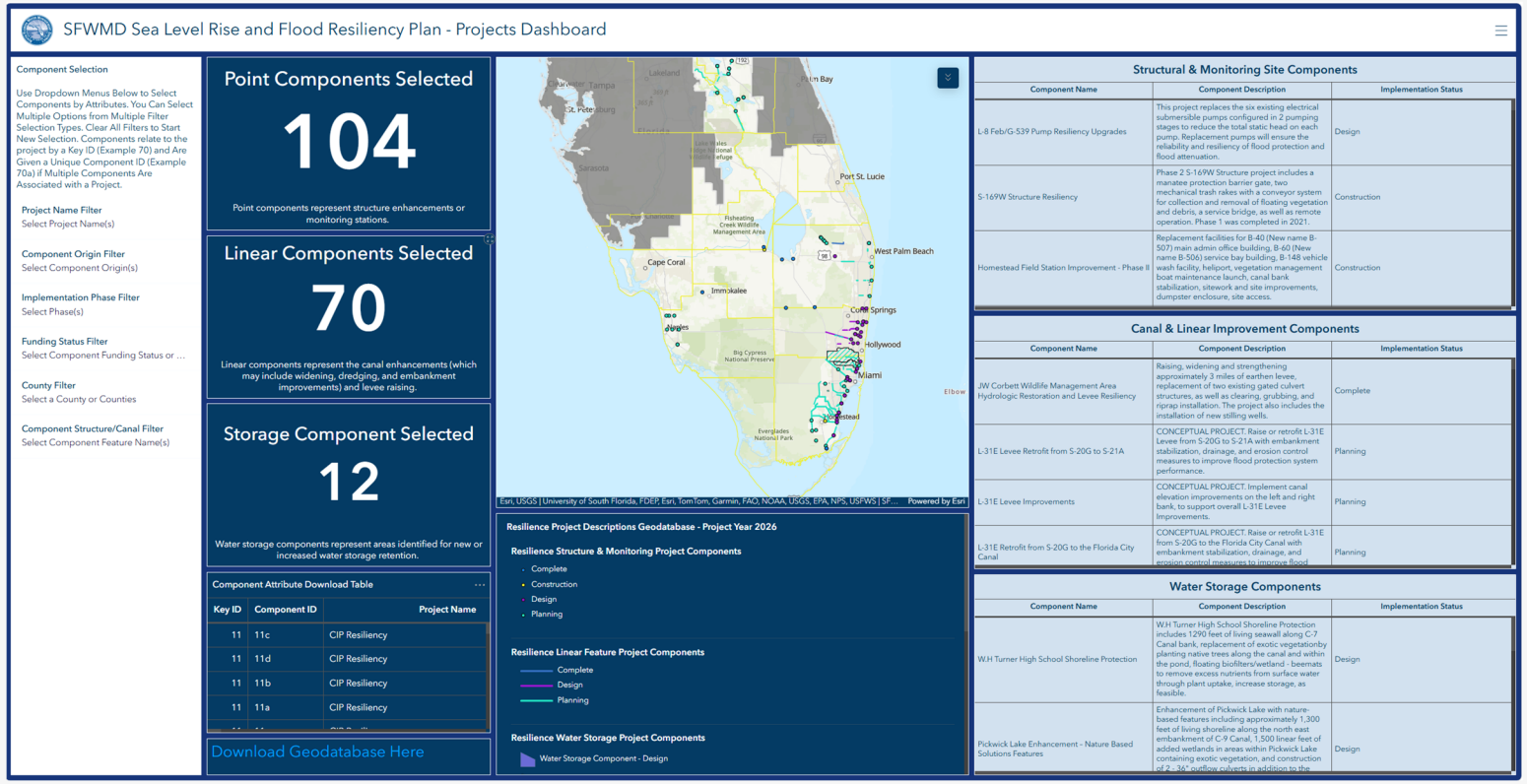
- **Table Format (CSV)**



- **Geospatial Files - Geodatabase**

Demonstration

Sea Level Rise and Flood Resiliency Plan - Projects Dashboard



Presenter: Aaron Duecaster

Public Comment Period

As we finalize/refine this new tool, we want to hear from you!

- The public comment period is open through Friday, July 24, 2026
- View the Sea Level Rise and Flood Resiliency Plan – Projects Dashboard
- Provide comments by email to resiliency@sfwmd.gov

Thank you!

A special thanks and great appreciation to Danielle Vipond (Water Supply) and Alexandra Hoffart (Geospatial Services) for the assistance developing this tool, and for all team members who helped on data QAQC.

FLOOD RESILIENCY INITIATIVES

SFWMD Resiliency Coordination Forum
June 24, 2026

Alannah Irwin
Sustainability & Resiliency Administrator
City of Boynton Beach

CITY OF BOYNTON BEACH
SUSTAINABILITY & RESILIENCY

BOYNTON BEACH

GEOGRAPHIC PROFILE

PALM BEACH COUNTY, FLORIDA

Boynton Beach is a coastal city located along the Atlantic Intracoastal Waterway, approximately **60 miles north of Miami**.

AREA & PHYSICAL CHARACTERISTICS

16.57

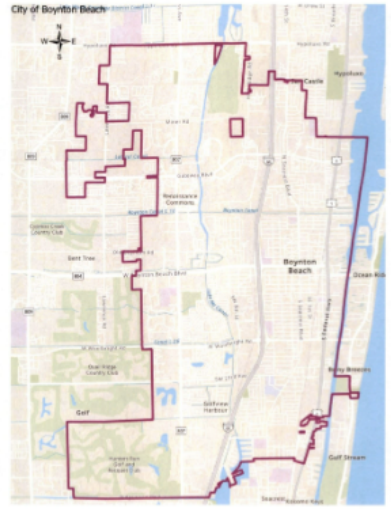
TOTAL SQUARE MILES

16.16 Land | 0.41 Water (2.3%)

10–20

FEET ABOVE SEA LEVEL

Typical elevation range across the municipal area.



Presenter: Alannah Irwin 2

BOYNTON BEACH FLOOD RISK

60/100

HIGH FLOOD RISK SCORE
Boynton Beach faces significant coastal, stormwater, and rainfall-related vulnerability.

FEMA DESIGNATED ZONES: **AE, VE, X**

Major Flood Events

- **2008 Flash Flood**
  4–10 inches of rain in < 3 hours. Roads flooded up to 2 feet; I-95 ramps affected.
- **2025 King Tide**
  Coastal roads and parking areas inundated. Tidal flooding becoming more common.
- **2026 Severe Rainfall**
  Up to 5 inches of rain. Street flooding and detours around North Seacrest Blvd.

Future Climate Impacts

Sea Level Rise
NOAA projections for 2040–2070 indicate rising risks.

Sunny-Day Flooding
Increased frequency of tidal flooding events expected.

Heavier Rainfall
Climate change driving more intense precipitation events.

STATEWIDE NFIP DATA (FLORIDA)

448K+	$19.2B	1/3
Insurance Claims	Total Paid Out	Outside High-Risk Zones

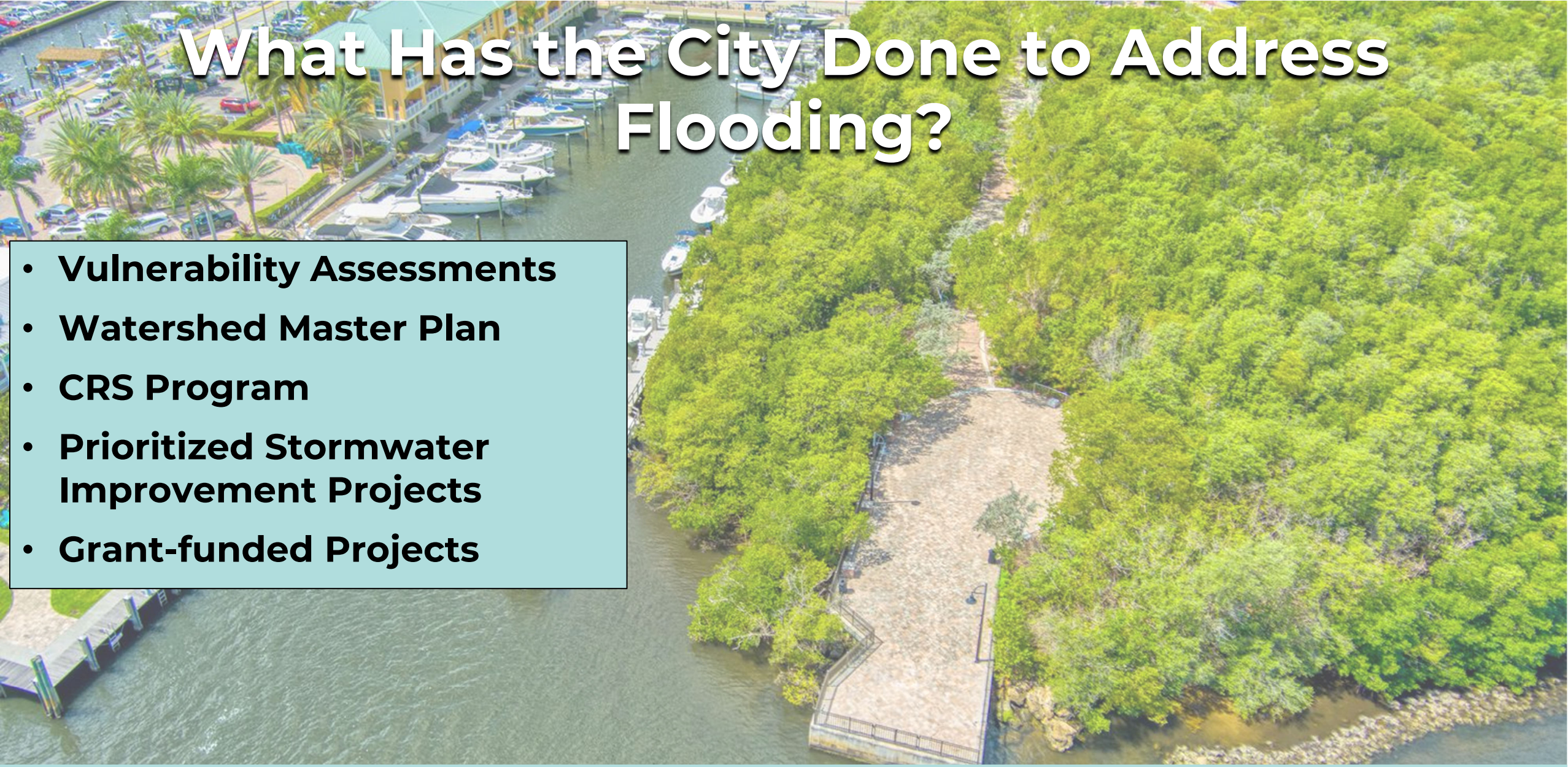
City & County Mitigation Efforts

$1.7M
FEMA Grant for Eastern Boynton Drainage

- Updates to flood maps and infrastructure planning
- Ongoing projects: storm drains and tidal valves
- Coastal resilience and sea-level rise initiatives

Source: FEMA, NOAA, NFIP, City of Boynton Beach. Report data as of 2024-2026 projections.

What Has the City Done to Address Flooding?

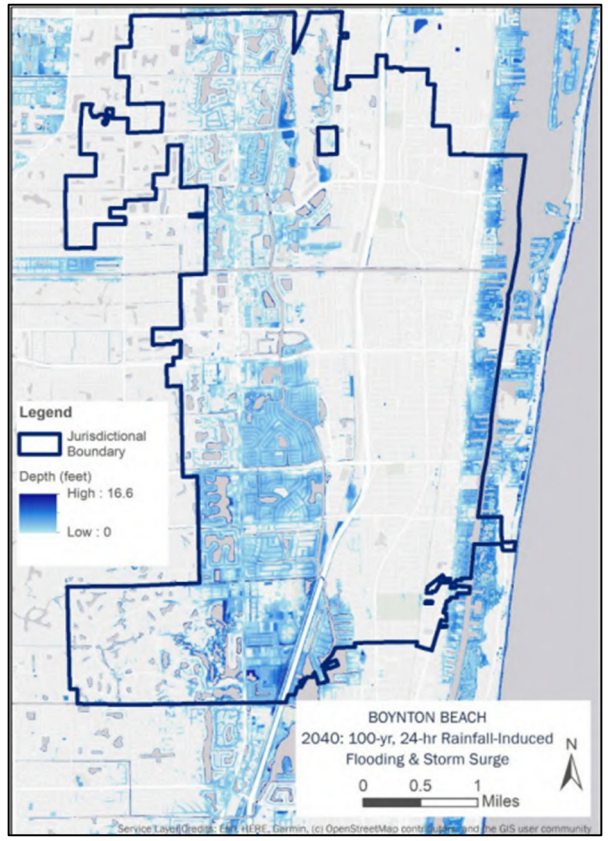


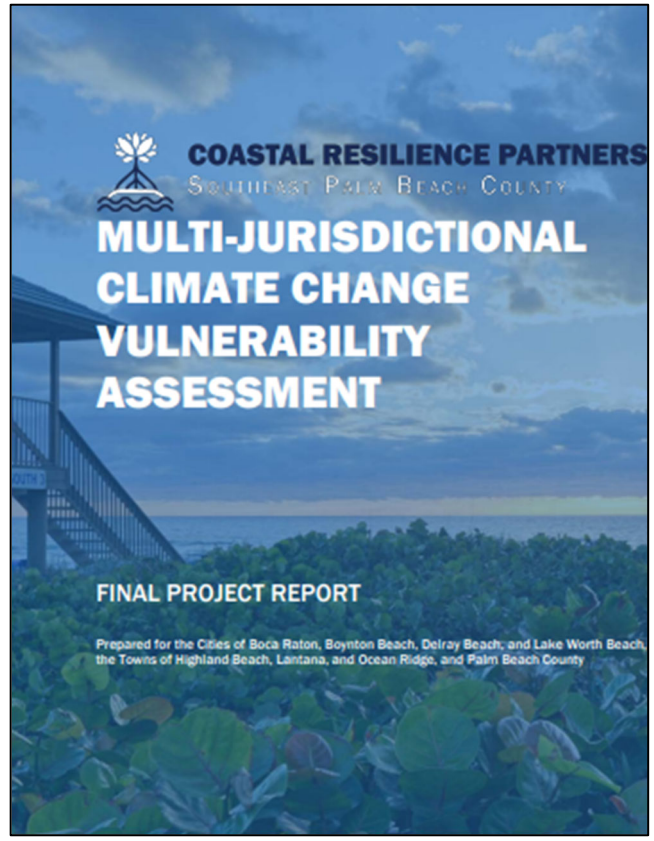
- **Vulnerability Assessments**
- **Watershed Master Plan**
- **CRS Program**
- **Prioritized Stormwater Improvement Projects**
- **Grant-funded Projects**

Through coordinated planning and intentional use of available funding, we streamline the delivery of critical flood-mitigation projects, reducing flooding impacts while proactively addressing long-term climate and infrastructure risks

VULNERABILITY ASSESSMENTS

- Conducted in 2021 in collaboration with the Coastal Resilience Partnership of Southeast Palm Beach County
- Comprehensive assessment that evaluated the vulnerability of communities, critical assets, and infrastructure
- Analyzed 12 climate-related threats, including wind, flooding, storm surge, extreme heat, drought, and algal blooms
  - Foundational tool for the City's climate adaptation planning, funding, and policy
- Boynton Beach faces significant climate risks due to its low topography, aging infrastructure, and proximity to waterbodies
- Vulnerability to tidal flooding could increase tenfold by 2070 with projected sea level rise





Presenter: Alannah Irwin

VULNERABILITY ASSESSMENT STRATEGIES

Infrastructure

- Use shoreline recession index to prioritize coastal protections
- Upgrade stormwater systems and promote septic-to-sewer conversions, especially in high groundwater areas

Land Use and Policy

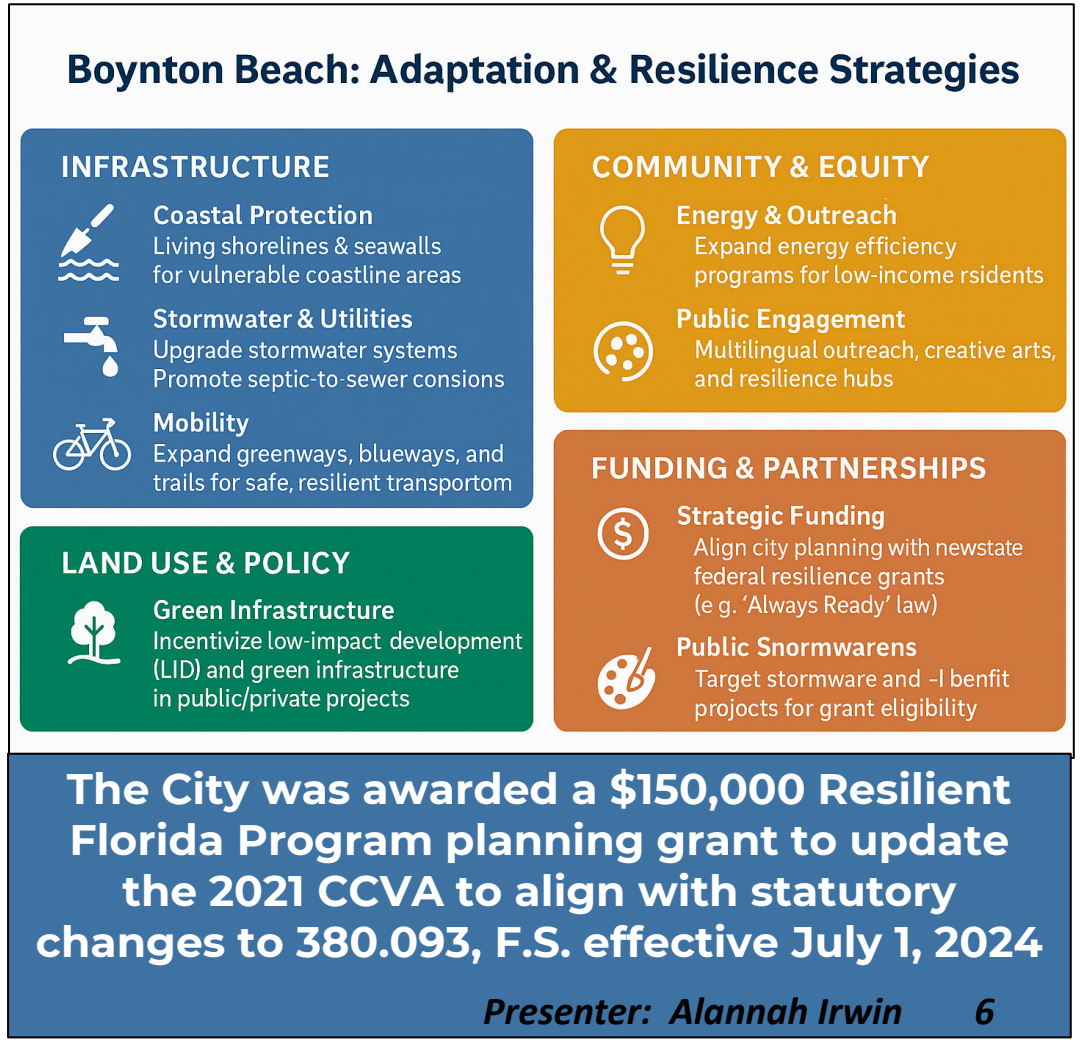
- Incentivize green infrastructure and low-impact development (LID) in private and public projects
- Increase urban tree canopy and native landscaping to mitigate flooding and heat
- Designate Adaptation Action Areas to focus resources on most vulnerable neighborhoods

Community Engagement

- Expand incentive programs for low-income residents
- Engage vulnerable populations in emergency planning and resilience building

Funding and Partnerships

- Align City planning with new and existing funding opportunities
- Target stormwater and multi-benefit projects for grant eligibility



CRS PROGRAM

- FEMA's voluntary incentive program that rewards communities for implementing floodplain management practices above minimum standards
- Boynton Beach's Class 5 rating provides a **25% discount** on National Flood Insurance Program (NFIP) premiums for all policyholders in Special Flood Hazard Areas

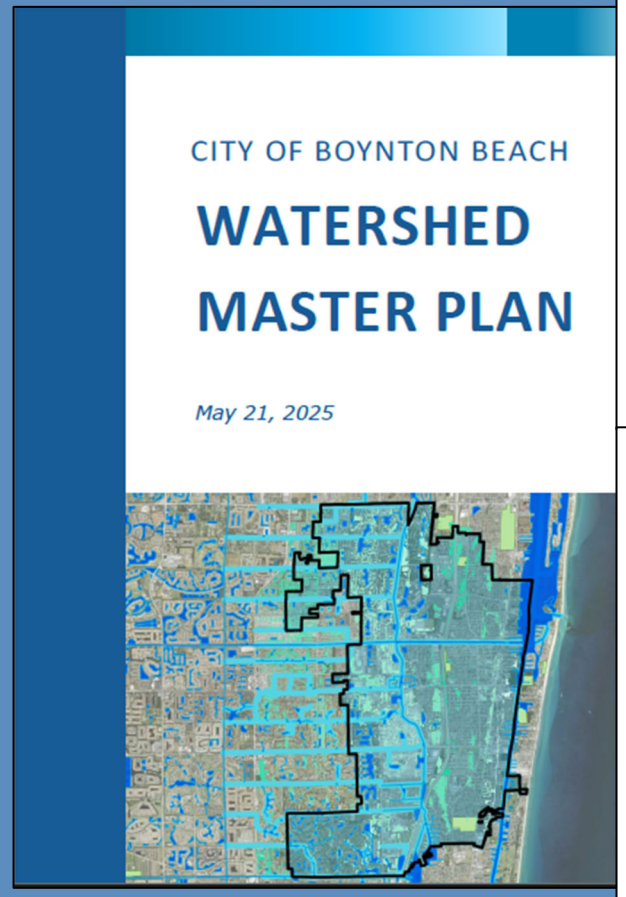
Key Achievements and Activities under the CRS Program

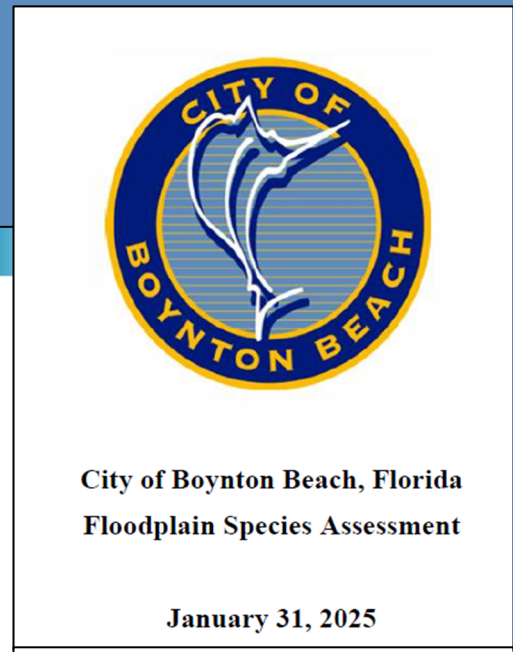
- **Watershed Master Plan**: Developed and implemented to address flood risk citywide
- **Floodplain Management**: Enforced higher regulatory standards, including freeboard requirements and cumulative substantial improvement tracking
- **Public Outreach & Education**: Annual flood hazard brochures and targeted mailings to repetitive loss areas with multilingual materials distributed at City Hall, the library, utility office, and community events
- **Public Information Program (PPI)**: Regular stakeholder meetings to update outreach strategies, with topics such as flood insurance, evacuation, responsible building, and natural floodplain protection
- **Stormwater & Infrastructure Projects**: Ongoing upgrades to stormwater systems and projects and active participation in the Local Mitigation Strategy (LMS) group
- **Repetitive Loss Area Analysis**: Identified and targeted outreach to properties with repeated flood claims and promoted mitigation options and technical assistance for at-risk residents

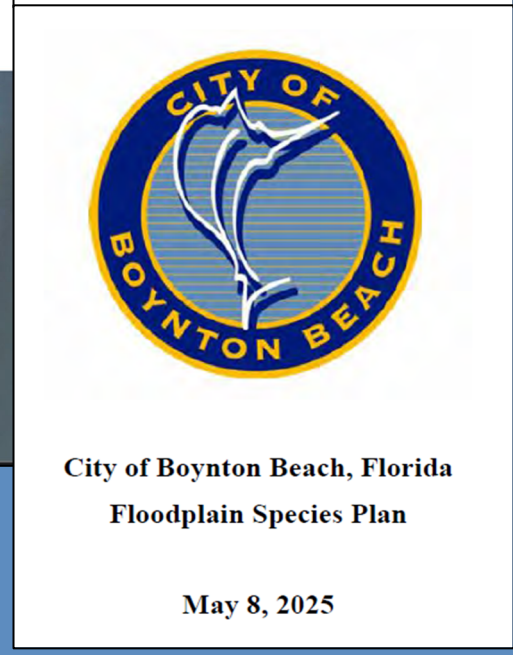
The CRS program has provided the City of Boynton Beach with improved flood resilience, public safety, and community awareness

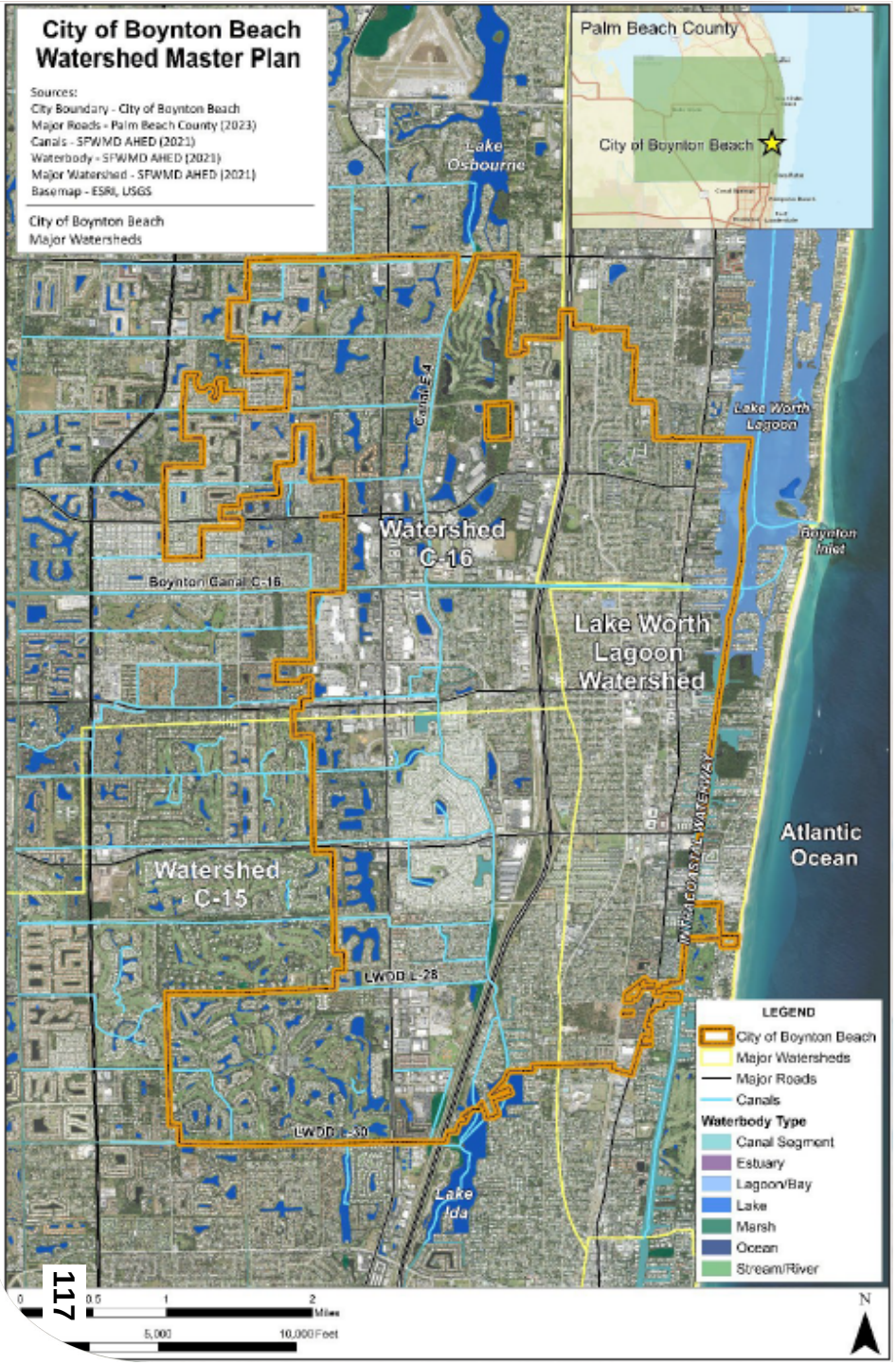
CRS PROGRAM

- Boynton Beach's CRS Class 5 is one of the highest in Palm Beach County
- By completing the Watershed Master Plan, the Floodplain Species Assessment and Plan, and other related activities, we have received enough points to meet the requisite requirements for Class 4
  - We would be the first in Palm Beach County
- A CRS Class 4 rating would provide residents an additional 5% off insurance premiums, for a total of a 30% discount
- Boynton Beach will apply for the Class 4 rating once the program administration contract has been renewed









WATERSHED MASTER PLAN

- Developed a holistic, citywide stormwater and watershed management strategy
  - Goals to reduce flooding, meet CRS Activity 450 requirements, and prepare for heavy rain events and sea level rise
- Provide science-based guidance for current and future (2040, 2070, 2100) storm impacts under NOAA SLR scenarios.

Key Challenges

- High vulnerability to rainfall-induced flooding
  - Especially east of I-95 and in older neighborhoods.
- Interconnected dependence on SFWMD and LWDD canal operations
  - City flood stages highly influenced by regional structures
- Rising groundwater and sea levels significantly reduce infiltration and increase runoff by 2040–2100
- Aging and incomplete stormwater infrastructure in many neighborhoods
- FEMA-mapped low-risk areas found to have significantly higher flood risk under modeled 25- and 100-year storms

WATERSHED MASTER PLAN: RECOMMENDED STRATEGY FRAMEWORK

Structural Measures

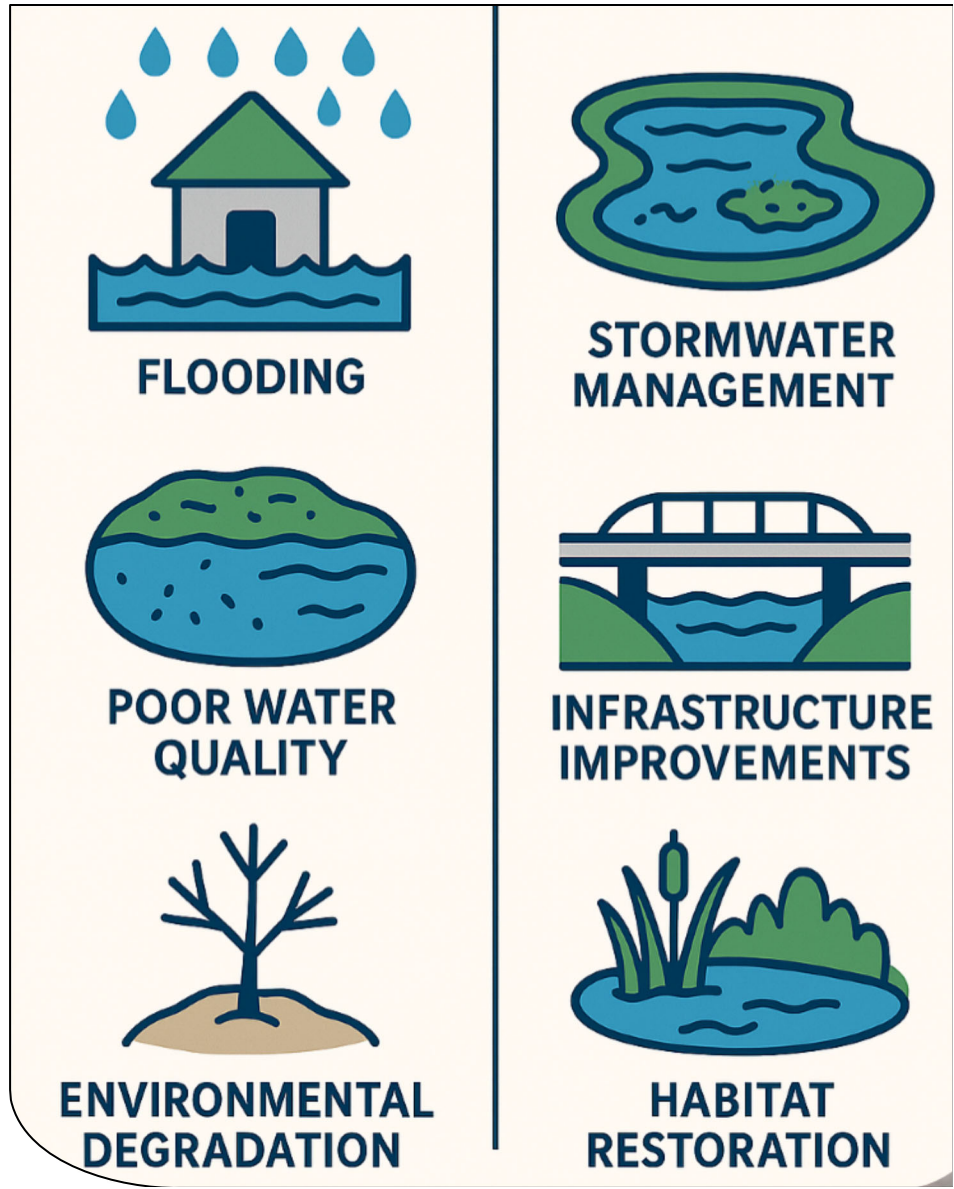
- Large-scale, multiyear resilience projects
  - Neighborhood improvements: storage, swales, exfiltration, new outfalls
  - Coordination with SFWMD & LWDD on canal operations, tailwater conditions, and outfall performance

Non-Structural Measures

- Updated Stormwater Manual and LOS standards
- Strengthened redevelopment regulations emphasizing onsite retention and water quality treatment
- Ongoing participation in regional resilience partnerships (Compact, CRP, County LMS/CRS)

Nature-Based & Green Infrastructure

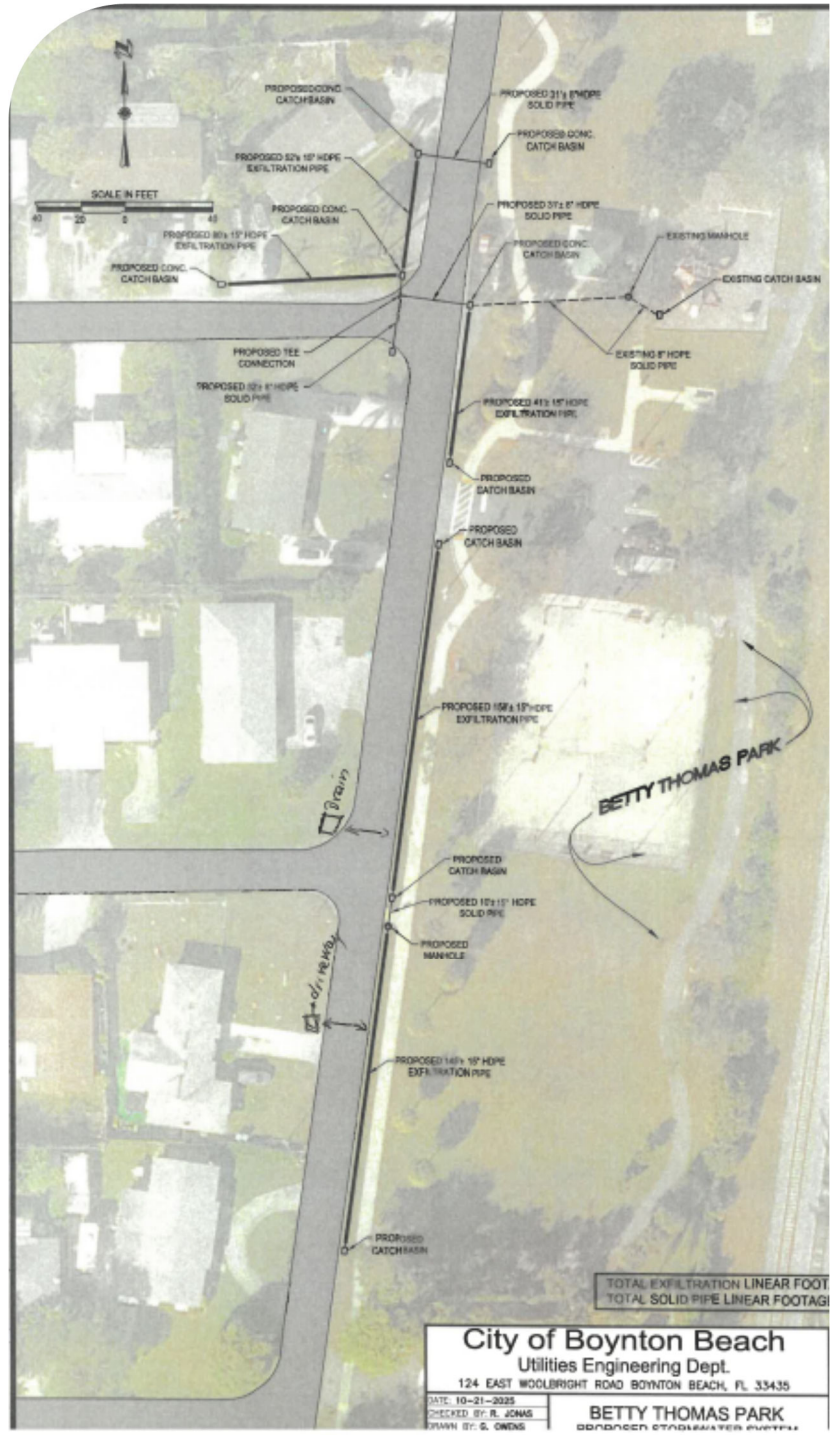
- Promote bioswales, tree canopy, pocket wetlands, and pollution control boxes
- Protect remaining natural areas and enhance collaboration to improve water quality



PRIORITIZED STORMWATER IMPROVEMENT PROJECTS

BETTY THOMAS PARK

- Installation of two stormwater systems
- System #1: 400 feet of 15-inch exfiltration pipe, 60 feet of 6-inch solid pipe four French drainpipe catch basins and two French drainpipe manhole basins
  - Designed to accommodate additional features, such as a drainage fill in the open field, to expand stormwater storage capacity and decrease runoff
- System #2: 280 feet of 8-inch solid pipe, 60 feet of exfiltration pipe with four French drainpipe catch basins and three concrete catch basins
  - Designed to outfall into a drainage field inside the existing Betty Thomas Park drainage system
- Project significantly reduced impacts of flooding in nearby residential areas



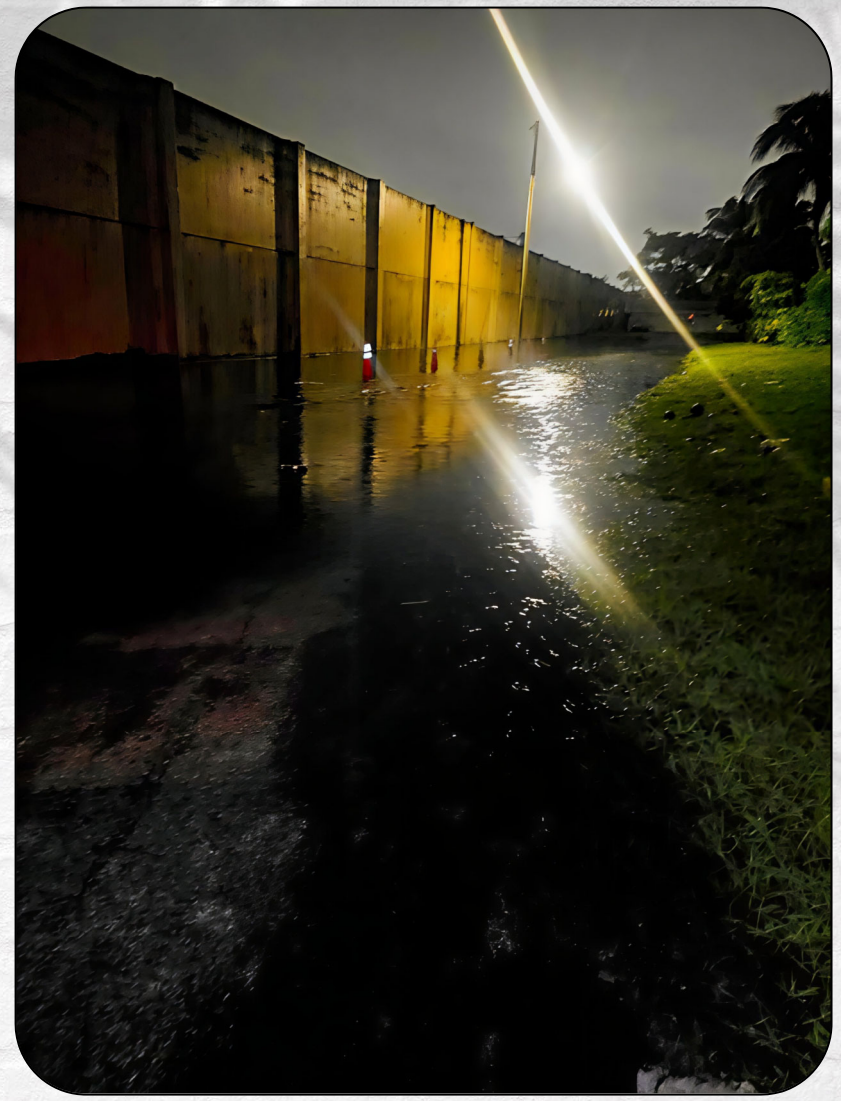
Presenter: Alannah Irwin **12**

BETTY THOMAS PARK: BEFORE AND AFTER

ARTHUR COURT

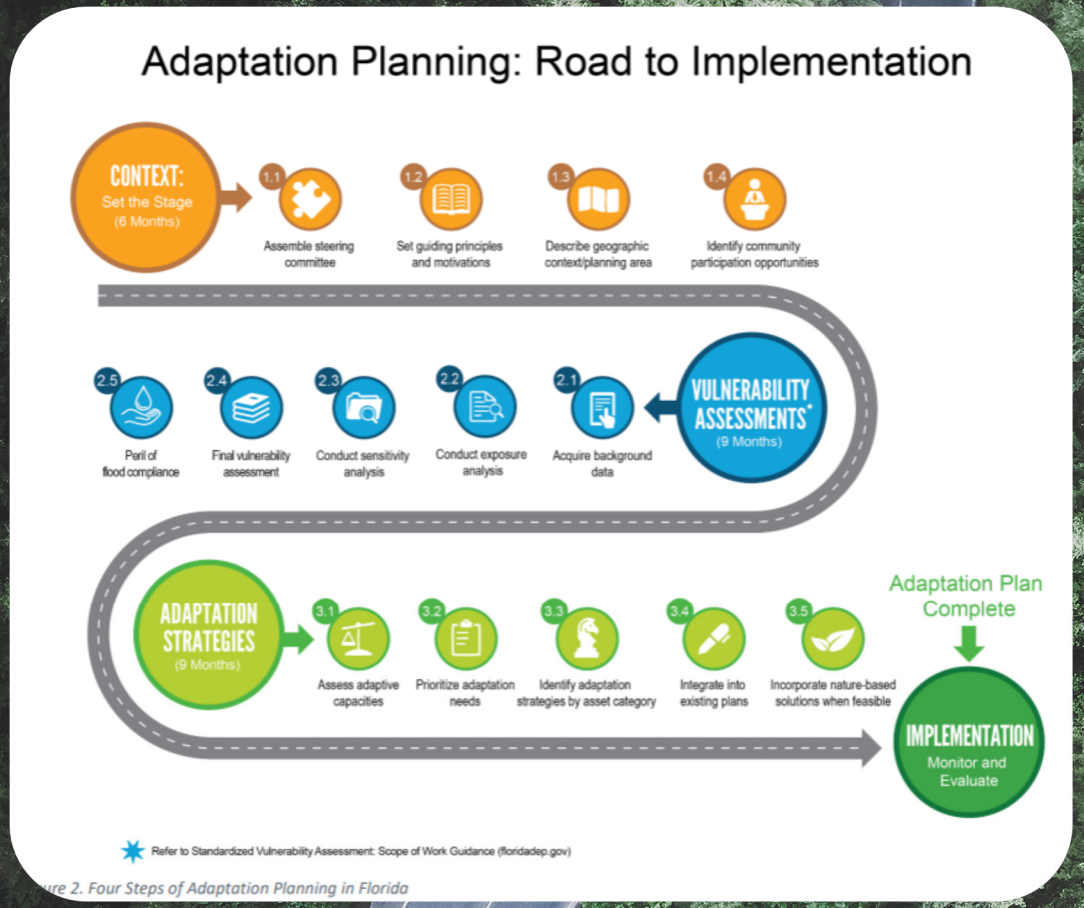
- Drainage improvement project in a residential neighborhood adjacent to I-95 that experienced significant amounts of flooding during heavy rain events
- Installed 200 feet of 8-inch solid pipe, 200 feet of 18-in exfiltration pipe, three pipe basins, two concrete basins
- Project also replaced 1,600 square feet of swale and 3,200 square feet of grass
- Reduced impacts of flooding and discouraged illicit dumping that was occurring in this area

ARTHUR COURT:
BEFORE AND AFTER



GRANT-FUNDED PROJECTS

ADAPTATION PLAN



ure 2. Four Steps of Adaptation Planning in Florida

- $300,000 grant project to develop a comprehensive, citywide Adaptation Plan to address climate risks such as sea level rise, flooding, and extreme heat
- Project Goals
  - Align efforts with the Florida Adaptation Planning Guidebook and Resilient Florida Program requirements
  - Identify and prioritize adaptation needs and strategies
  - Maximize cost effectiveness, stakeholder support, and alignment with current and future funding sources
- Timeline and Status
  - Project commenced April 2025
  - Targeting August 18, 2026, for Commission presentation and plan adoption
- Will enhance Boynton Beach's long-term resilience, support infrastructure and capital planning, and position the City for future grant opportunities

LAKESIDE GARDENS

- **Funded through the FEMA Hazard Mitigation Grant Program (HMGP)**
- **Older community located within a Special Flood Hazard Area (SFHA)**
  - **Designated as a repetitive loss area**
  - **Finish floor elevations of 15 homes in the community are between 3-4 feet below Base Flood Elevation**
- **Installed a new drainage system, reconstructed, widened, and regraded roadways with curb and gutter systems, and installed of two outfalls for stormwater discharges**
- **Drainage system will collect, convey, and treat the water in each catch basin before being discharged into the Lake Worth Lagoon**
- **Project was successfully completed at the end of 2025**
- **No flooding has been reported in this community**

LAKESIDE GARDENS: BEFORE AND AFTER

COQUINA COVE

- Funded by the Resilient Florida Program
- Project consists of:
  - Removal and replacement of 8-inch sanitary sewer main, manhole, and laterals
  - Replacement of existing water main and water services
  - Upgrading existing drainage systems, including installation of a new 24-inch HDPE outfall
  - Rehabilitation of the existing lift station
  - Full road restoration, including curb, gutter, and driveways
- Project Commencement: November 2025
- Anticipated Completion: October 2026

COQUINA COVE

LIVING SHORELINES

LIVING SHORELINE ASSESSMENT

- Comprehensive assessment at Jaycee Park, Intracoastal Park, and former Mangrove Park
- Evaluated existing site conditions, erosion vulnerability, flooding impacts from king tides, and opportunities to strengthen coastal resilience using ecological solutions
- Key assessment inputs
  - Site evaluations and constraints
  - Wave/wake and tidal conditions
  - Habitat opportunities
  - Regulatory road-mapping
  - Potential design options and economic feasibility
- Recommendation to collect site-specific topographic and bathymetric data prior to commencing project

RESILIENT FLORIDA PROGRAM IMPLEMENTATION GRANT

- The City was awarded ~$536,000 to design and install living shorelines at Jaycee, Mangrove, and Intracoastal Parks
  - Shorelines face erosion from boat wakes and increased flooding risk from king tides
- The grant supports planning, design, and implementation of nature-based solutions to stabilize shorelines, reduce flooding, and enhance ecological function
- Design is set to begin after October 1, 2026

Presenter: Alannah Irwin

Questions?

USACE RESILIENCY PROJECTS UPDATE

SFWMD RESILIENCY COORDINATION FORUM

24 June 2026

Jennifer Smith, P.W.S.
Project Manager, Ecosystem Branch
Jacksonville District
U.S. Army Corps of Engineers

US Army Corps of Engineers®

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)
21)Southern Everglades Restoration Project


Jupiter/Carlin Beach CSRM


C&SF Water Management | LOSOM Operations


2020 Flooding | Ft. Lauderdale


CERP Broward County WPA C-11

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

PROJECT OVERVIEW

Study Process

- Section 216 is focused on the Reach C planning basin from the original larger study

Completed Efforts and Next Steps

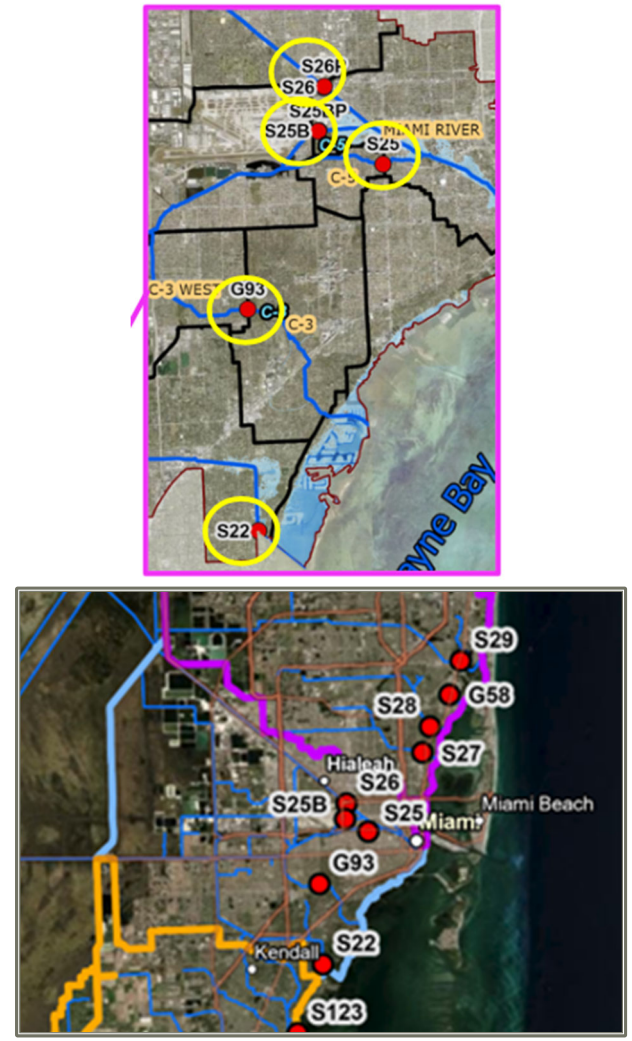
- Final Array of Alternatives modeling focused on the 5 coastal control structures in the reach is ongoing
- Economic and comprehensive benefits evaluations based on Final Array H&H modeling will follow
- Stakeholder coordination including with Miami-Dade County, City of Miami, City of Coral Gables, and Miami International Airport on final array evaluation.
- Identification of the TSP in October 2026
- Tentatively Selected Plan milestone and technical summary report in March 2027

Project Off-Ramping

- Per ASA(CW) guidace and HQUSACE decision no additonal time or funding were approved
- Study will be terminated after completion of the technical sumary report documenting the TSP

Technical Efforts

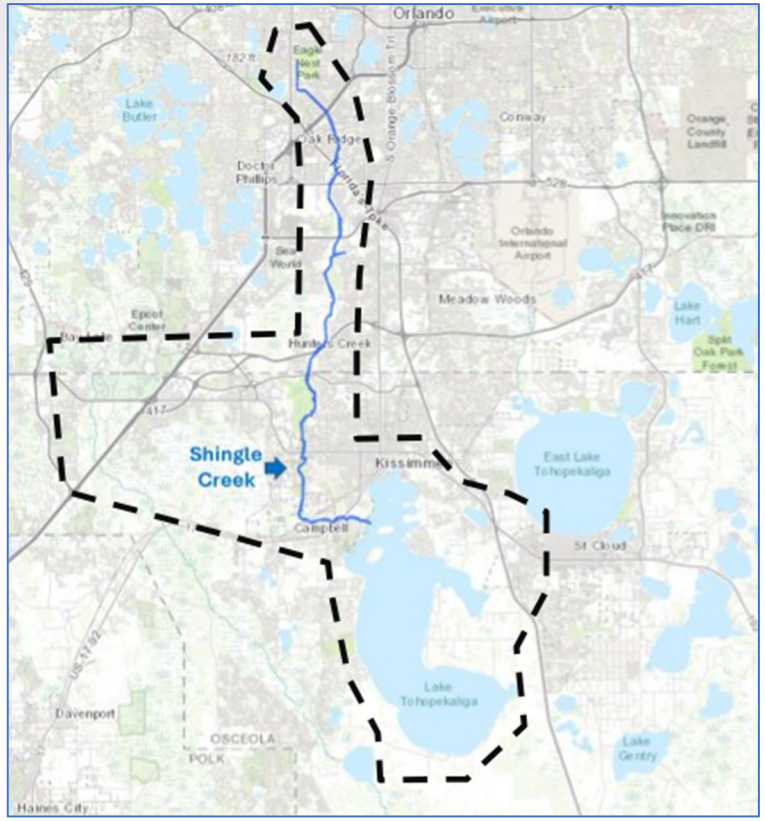
- Coordination with Section 203 team on formulation strategy and evaluations



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

Study Process

- Cost Share Agreement signed with Osceola County Feb 2025
- Study was approved for total budget of $5.9M and 3 year schedule
- Study was converted to the new Corps RAPID planning framework in spring 2026 and will maintain 3 year schedule and total budget

Completed Efforts

- Modeling of the Final Array of Alternatives was completed in April 2026
- Evaluation and Comparison Workshop was held in May 2026 and TSP identified
- Design Scoping Charette identifying engieering design requirements for TSP was held May 2026
- New RAPID milestone Decision Point 1 meeting held 15 June 2026

Next Steps

- Release of Draft Report to Public Oct 2026

QUESTIONS?

13. Closing Remarks

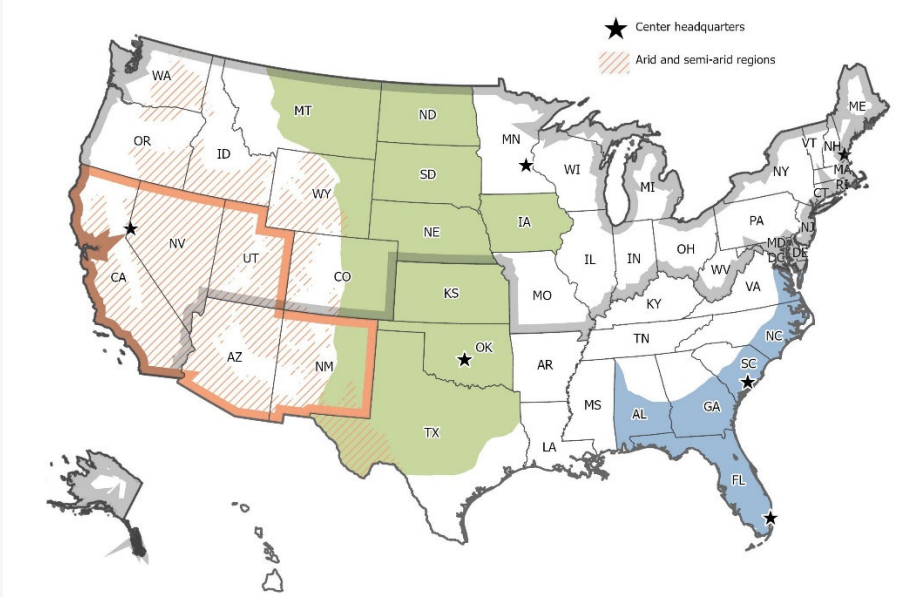
Carolina Maran, Ph.D., P.E.
Division Director, Flood Control and Water Supply Planning
Chief of District Resiliency
South Florida Water Management District

Regional Stormwater Centers of Excellence

Scan QR Code for each Center's website

Great Plains Stormwater Center of Excellence
Serving communities in the Great Plains
Lead: University of Oklahoma

Southwest Stormwater Center
Serving communities in arid and semi-arid regions of California, Nevada, Arizona, New Mexico, and Utah
Leads: Desert Research Institute and Southern California Coastal Water Research Project



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Website Coming Soon

National Stormwater Manager's Clearinghouse
Lead: Center for Watershed Protection

Cold Climate Stormwater Center of Excellence
Serving cold climate communities
Leads: University of New Hampshire and University of Minnesota

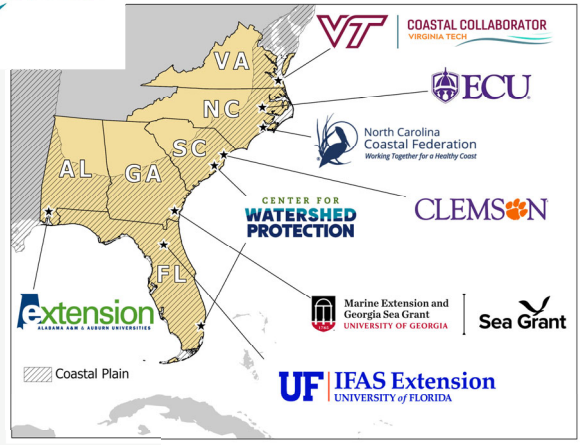
Coastal Stormwater Center of the Southeast
Serving communities in the coastal plain portions of Virginia, North Carolina, South Carolina, Georgia, Florida, and Alabama
Lead: Center for Watershed Protection

Coastal Stormwater Center of the Southeast

COASTAL STORMWATER CENTER OF THE SOUTHEAST

One of EPA's four **Stormwater Centers of Excellence**.

Led by the **Center for Watershed Protection** in partnership with universities & nonprofits across six states.



Addressing stormwater challenges unique to the coastal plain region of the Southeastern U.S.

Learn more or apply for no-cost **Technical Assistance**: www.bit.ly/CWP-CSC

Sign up for our **Newsletter**: www.bit.ly/CoastPost

Technical Assistance

Connecting state, Tribal, and local governments and environmental nonprofits with expert assistance, training, and resources to strengthen their stormwater resilience.

Research & Innovation

Conducting regionally relevant studies to advance cutting-edge stormwater control infrastructure solutions.

Collaboration

Partnering with universities, community groups, government agencies, and regional experts to connect coastal stakeholders with innovative stormwater approaches.

National Stormwater Manager's Clearinghouse

A centralized repository featuring research, tools, fact sheets, training materials, webinars, and events.

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Section 203 Workshop Series - Savannah, GA

Section 203 Feasibility Study Workshop Series – Savannah, GA

Location: Georgia Port Authority, 2 Main Street, Garden City, GA 31408.

Dates:
July 21st: 8:00 AM to 4:30 PM
July 22nd: 8:00 AM to 4:30 PM
July 23rd: 8:00 AM to 12:00 (noon)

Attendance:
Primary Attendees: Any non-federal interests that are looking at performing Section 203 Feasibility Studies for Congressionally Authorized Studies.

Other Attendees:

- ✓ AE consultants that are assisting non-federal sponsors in their Section 203 feasibility studies
- ✓ Federal & state agencies interested in learning about the Section 203 authority/processes
- ✓ USACE district personnel assisting in the project

USACE Headquarters lead team will cover important Section 203 Feasibility Projects processes and procedures to include:

- ✓ Required USACE federal activities for the project
- ✓ Technical services from USACE to assistance non-federal sponsors in performing the study
- ✓ Planning steps
- ✓ Environmental compliance
- ✓ Economic justification
- ✓ Engineering acceptance
- ✓ Real estate acquisition

Notify the USACE Section 203 Support Program Manager if you plan to attend:

Bryan K. Taylor, Ph.D.
Office of Water Project Review
Directorate of Civil Works
U.S. Army Corps of Engineers, Headquarters
441 G. Street NW, Washington, D.C. 20314
(202) 963-8299 | Bryan.K.Taylor@usace.army.mil

Upcoming Events

40th Annual Environmental Permitting Summer School

- July 21-24, 2026
- Marco Island, FL

FDEP Quarterly Resiliency Forum

- August 5, 2026
- Webinar

5th Annual Florida Resilience Conference

- September 23–25, 2026
- Charlotte Harbor, FL

SW Florida Resilience Summit

- September 22, 2026
- Charlotte Harbor, FL
- Abstracts Due on July 17

18th Annual Southeast Florida Climate Leadership Summit

- November 4-6, 2026
- Fort Lauderdale, FL

Help Us Plan Upcoming Meetings

- What topics would you like to see covered in future forum meetings?
- Do you have a topic, study, or project you would like to present at a future forum meeting?

  - **Share your ideas:** https://forms.office.com/g/MkZuHNhCPZ
  - **Email suggestions to:** resiliency@sfwmd.gov

We welcome new voices and perspectives!

Resiliency Coordination Forum

Feedback Survey

https://forms.office.com/g/MkZuHNhCPZ

Upcoming Meetings

- Wednesday, October 21, 2026

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