



Central and Southern Florida Flood Resiliency Study

Carolina Maran, P.E., Ph.D., District Resiliency Officer

Governing Board Meeting
March 12, 2020

Overview

- Central and Southern Florida (C&SF) project background
- Previous review study: Comprehensive Everglades Restoration Plan
- New review study due to changed conditions: C&SF Flood Resiliency Study
- Impacts observed and SFWMD efforts to address changed conditions
- Other Coastal Studies & USACE Coordination
- Initial Appraisal Report request and next steps

Board's Action: consider approval of SFWMD Letter of Endorsement to
C&SF Flood Resiliency Study – USACE Budget Request

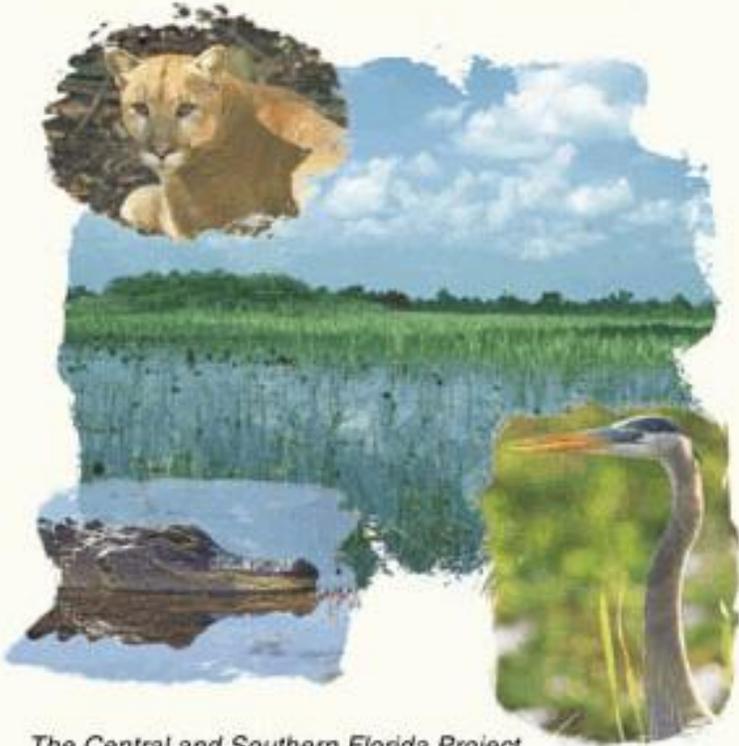
Background: Central & Southern Florida Project



- Flood Control Act of 1948 – Congress authorizes the U.S. Army Corps of Engineers to design and construct water management infrastructure
- Projected to serve a population of 2 million people
- Authorized purposes: flood control, water supply, navigation, prevention of saltwater intrusion, and protection of fish and wildlife resources
- Served as the foundation for the creation of the District

Comprehensive Review Study

*Rescuing an Endangered Ecosystem:
The Plan to Restore America's Everglades*



*The Central and Southern Florida Project
Comprehensive Review Study
(The Restudy)*

Central and Southern
Florida Project (C&SF)
Restudy – WRDA 1992

Reconnaissance
Report by USACE -
1994

Governor's Commission for a Sustainable
South Florida develops Conceptual Plan –
1996

Comprehensive
Review Study by
USACE - 1999

CERP authorized
by Congress - 2000

CENTRAL AND SOUTHERN FLORIDA PROJECT
COMPREHENSIVE REVIEW STUDY

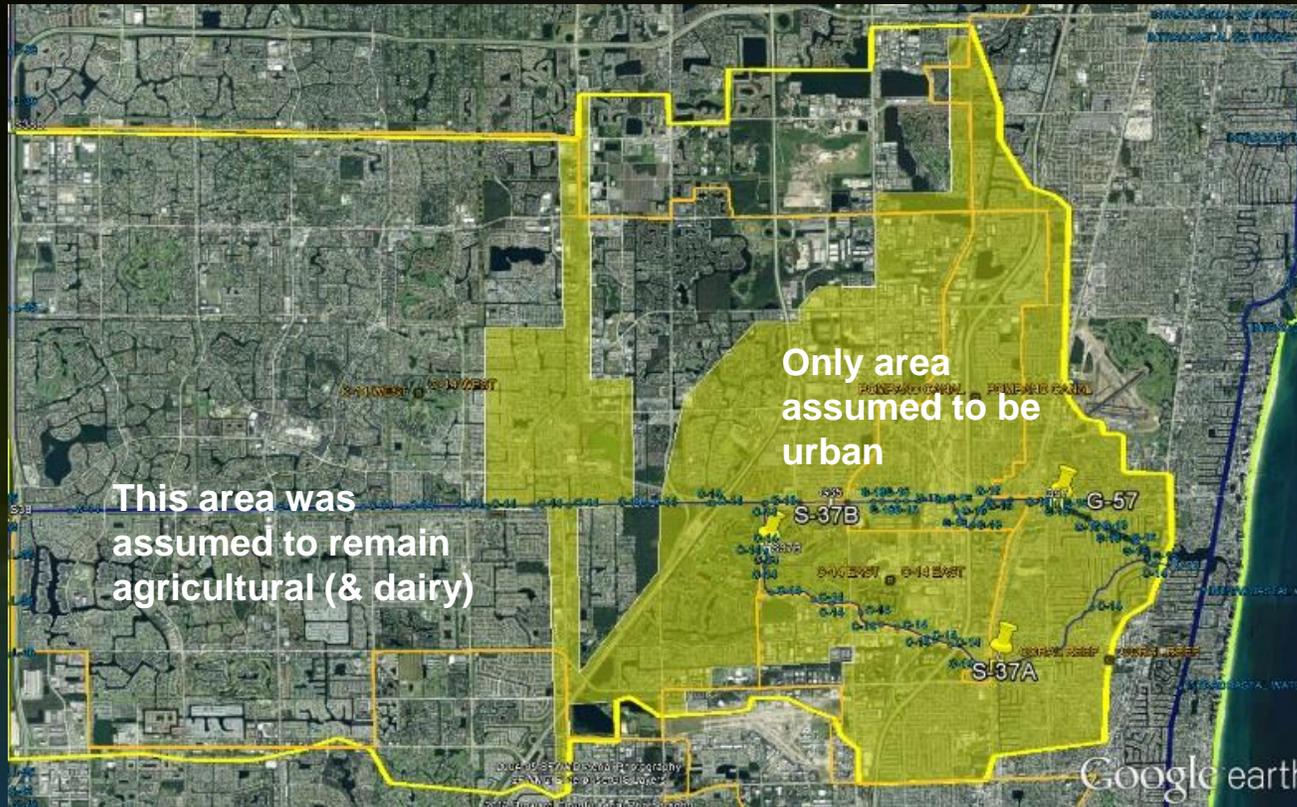
FINAL
INTEGRATED FEASIBILITY REPORT AND
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT



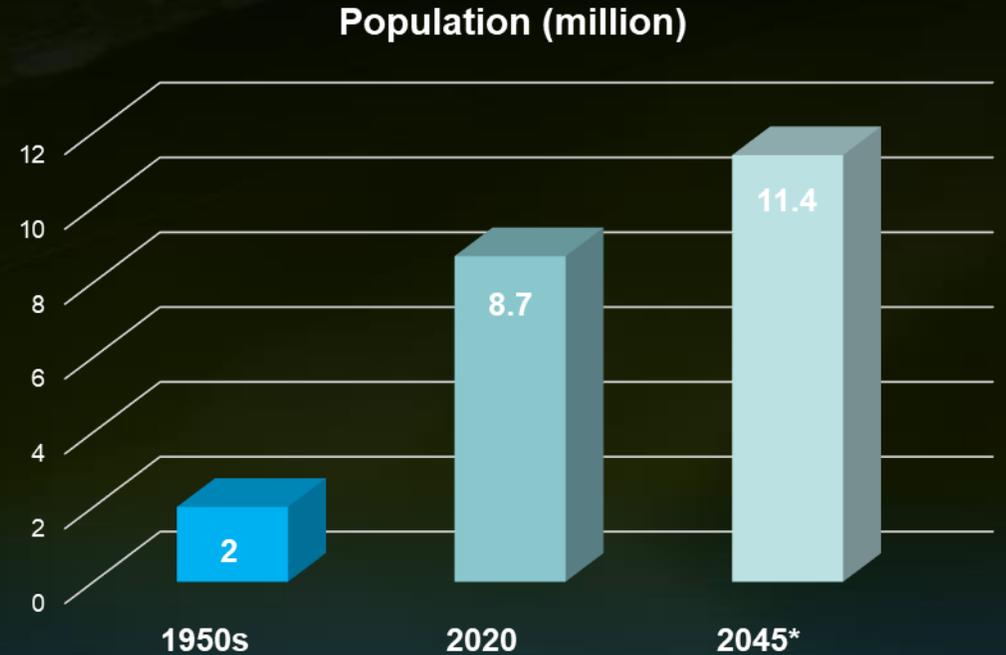
April 1999

New Review Study: Changed Conditions

LAND DEVELOPMENT



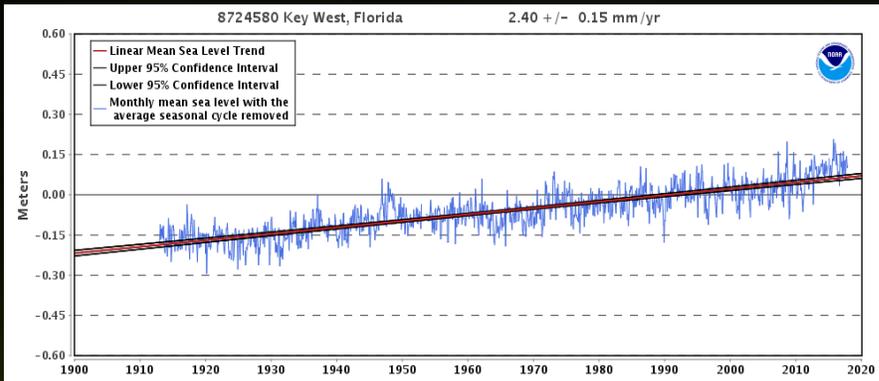
POPULATION GROWTH



* Estimate taken from BEBR 2017 publication (Median, SFWMD boundaries)

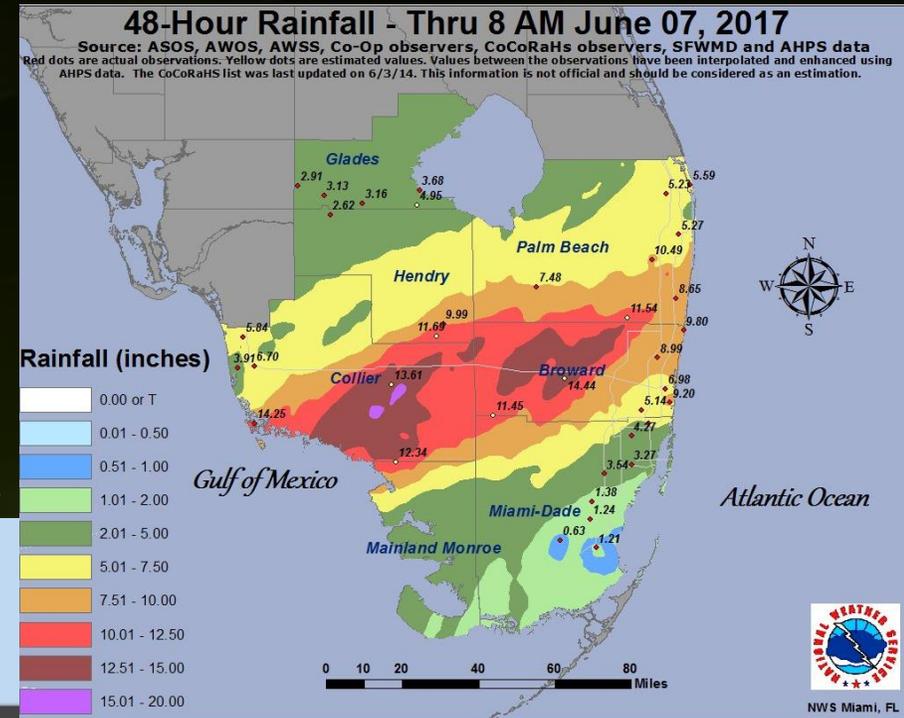
Climate Changed Conditions

SEA LEVEL RISE

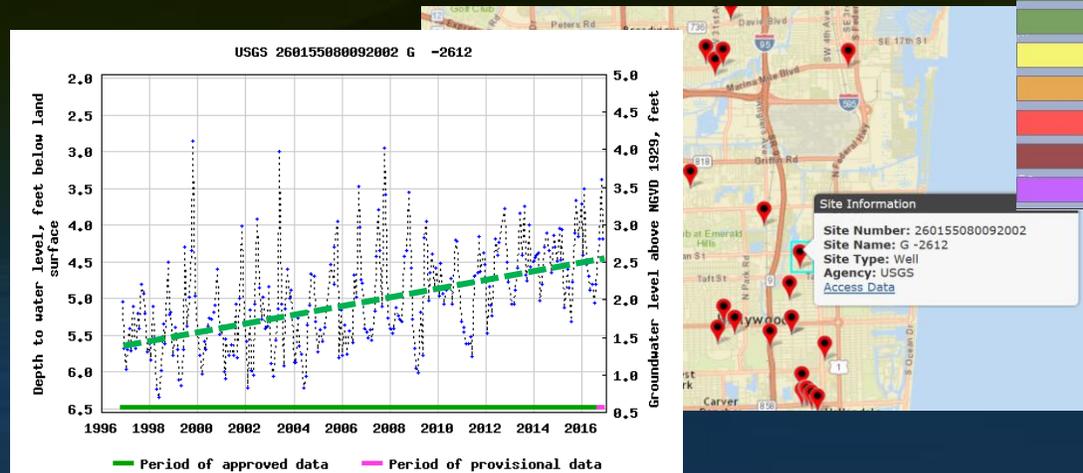


Associated with High Tides

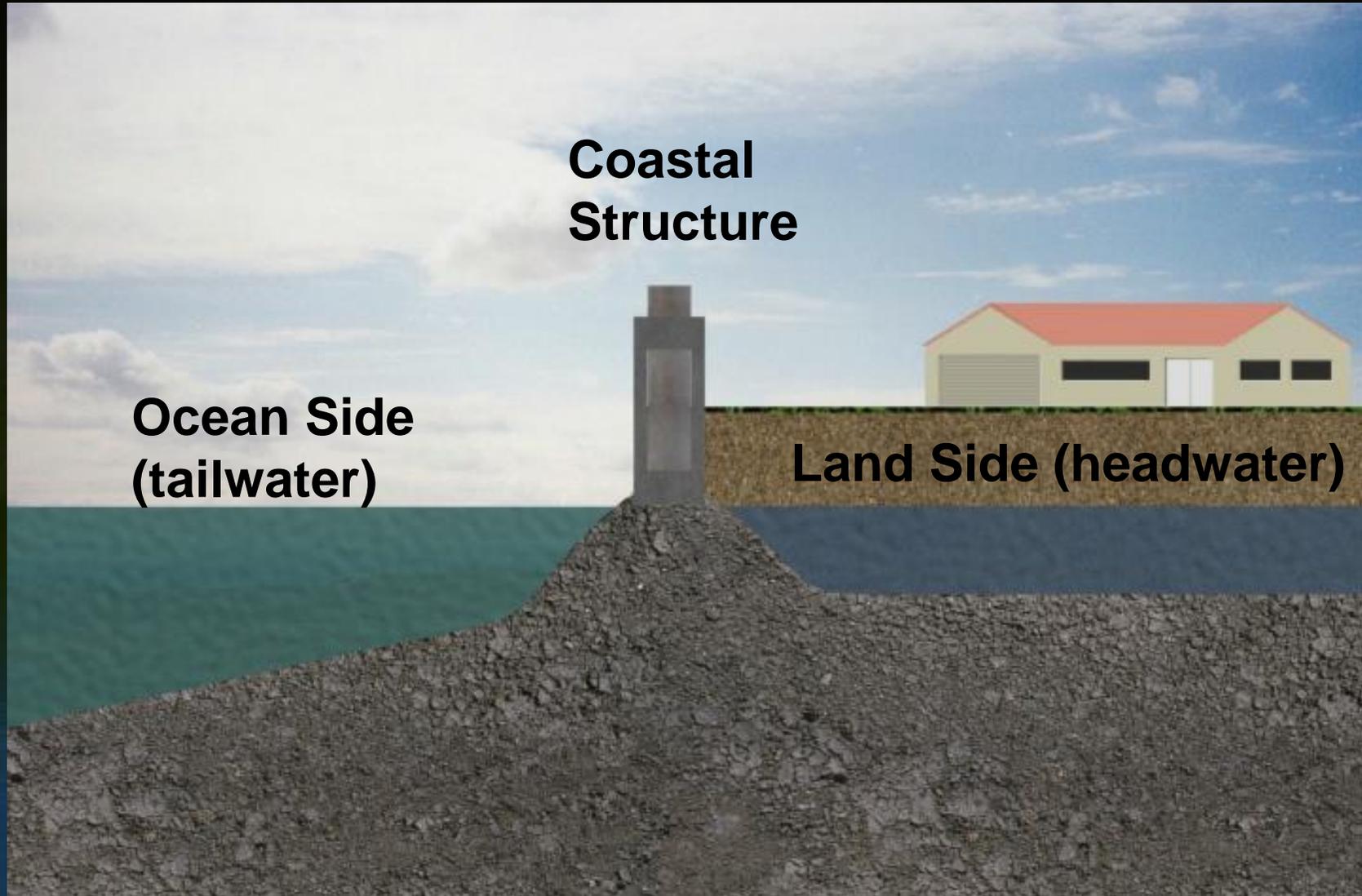
MORE EXTREME RAINFALL



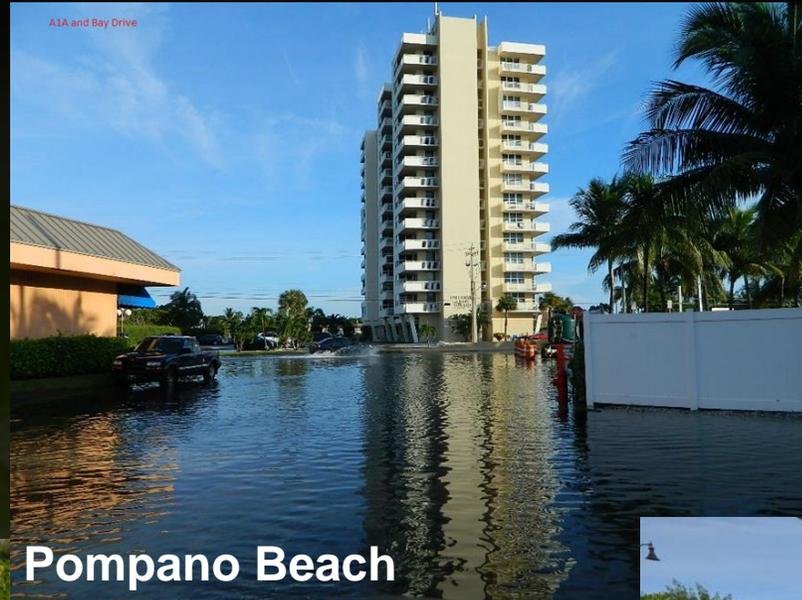
HIGHER GROUNDWATER



Impacts Already Being Observed



Sunny Day Flooding



Pompano Beach



Delray Beach



Miami Beach



Lantana

Extreme Rainfall Flooding



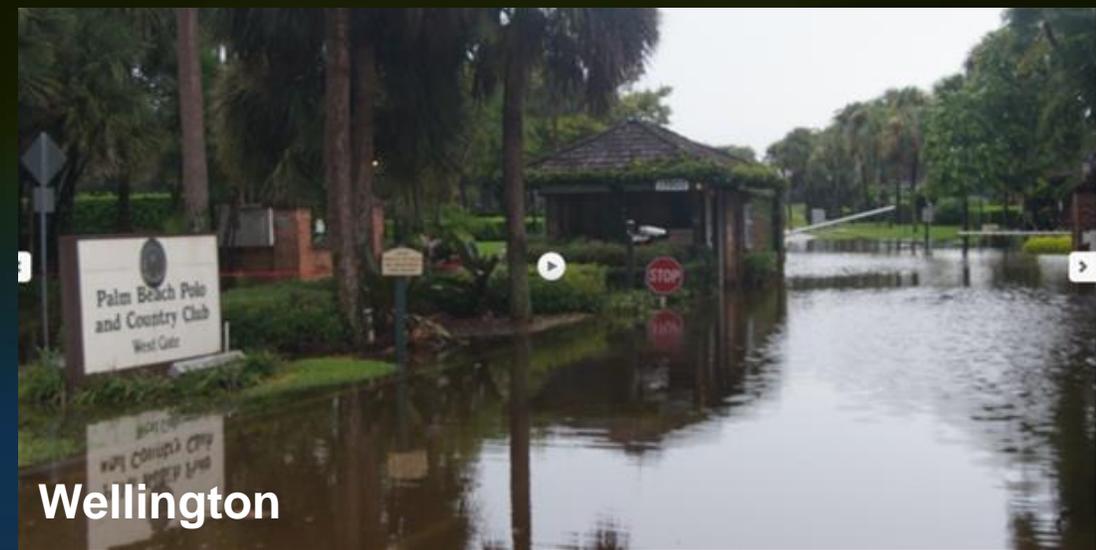
North Miami



Pure Thoughts Horse Rescue - Loxahatchee

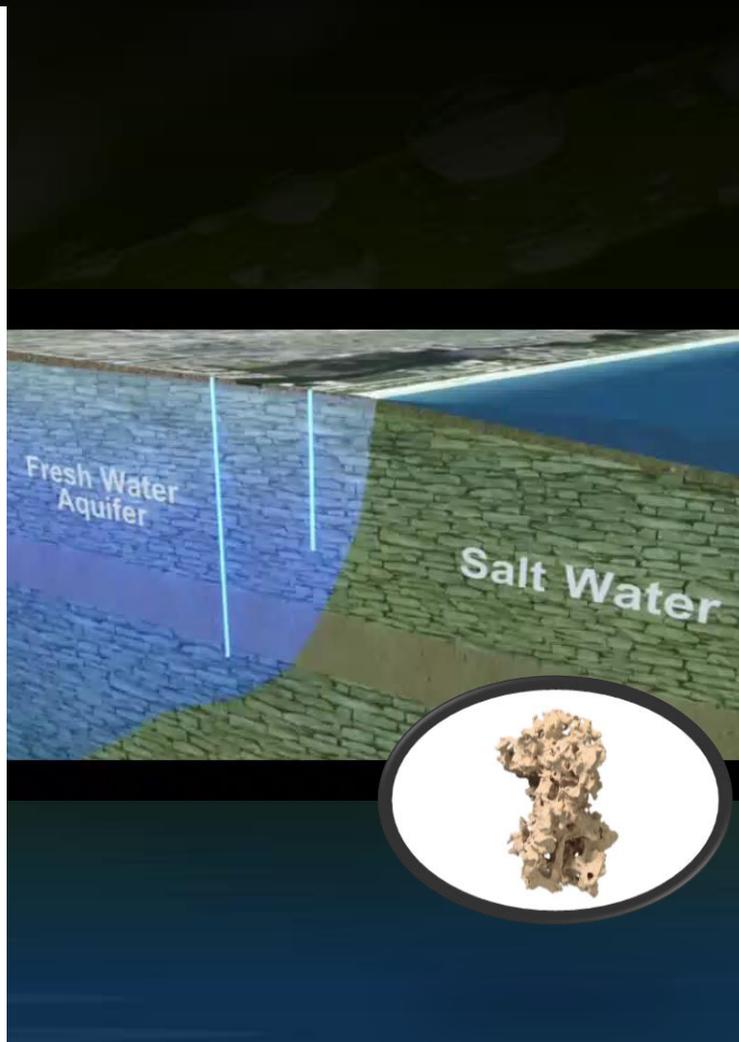
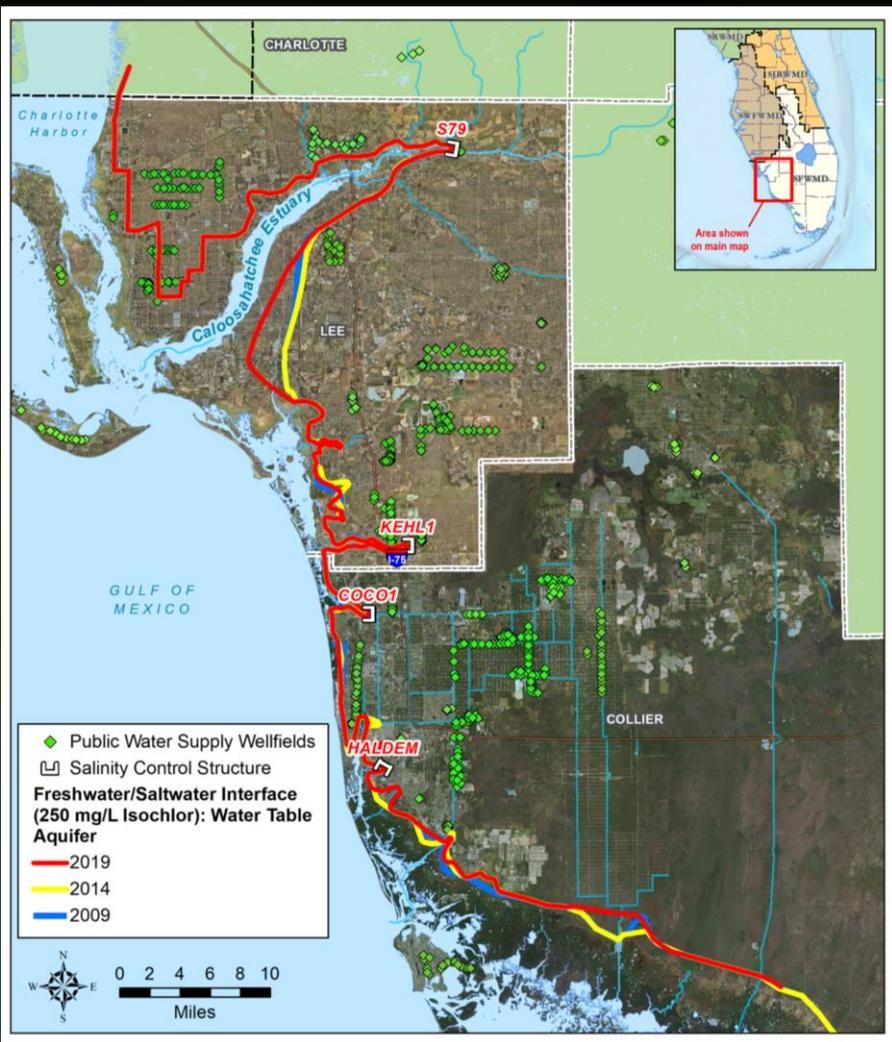


Sawgrass Mall - Sunrise

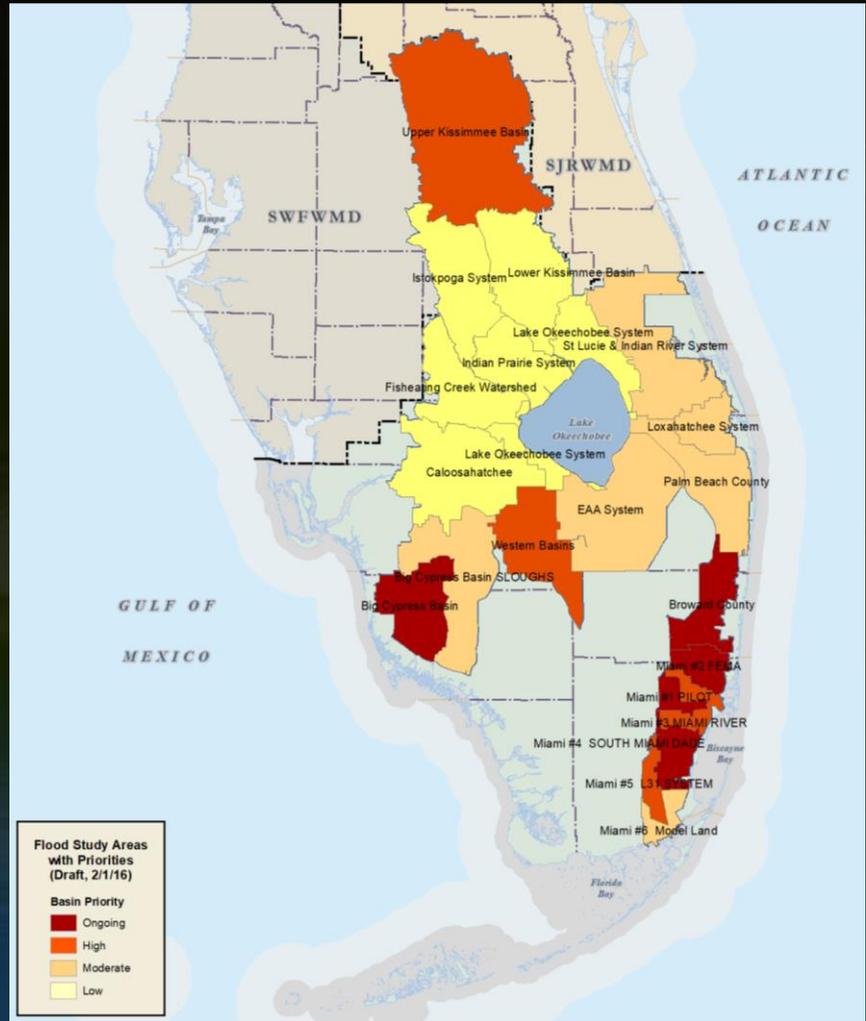


Wellington

Saltwater Intrusion



Flood Protection Level of Service Program

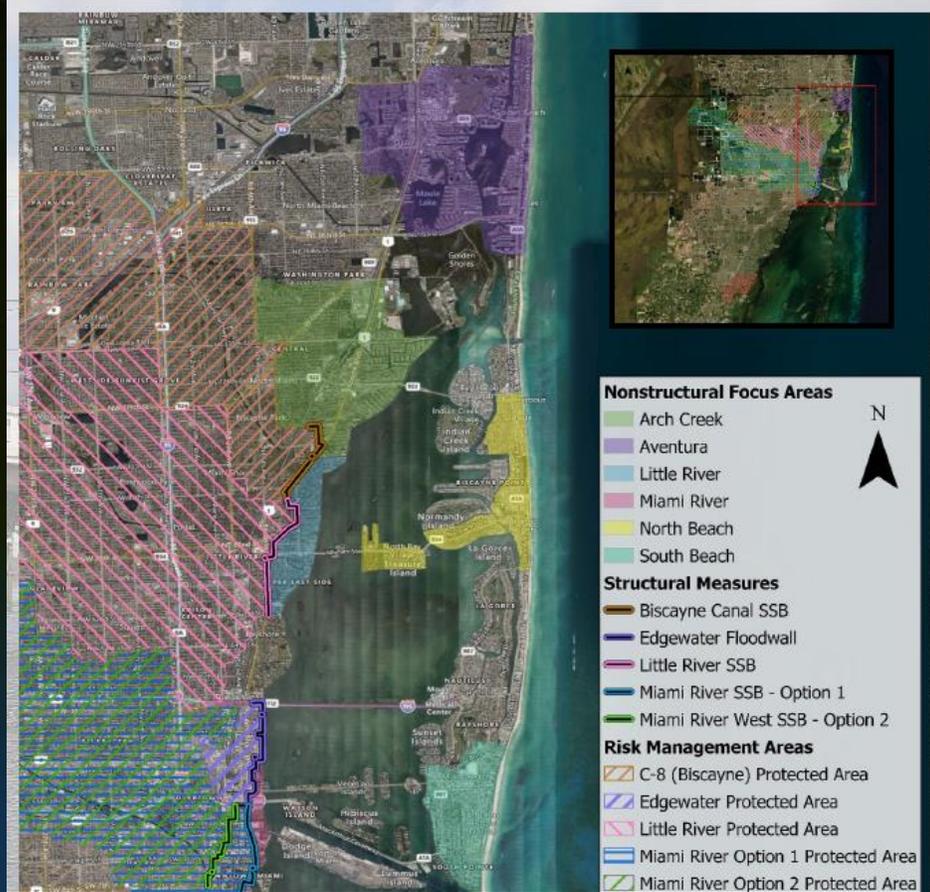


Additional Efforts: Coastal Study Examples

SOUTH ATLANTIC COASTAL STUDY (SACS)



MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY



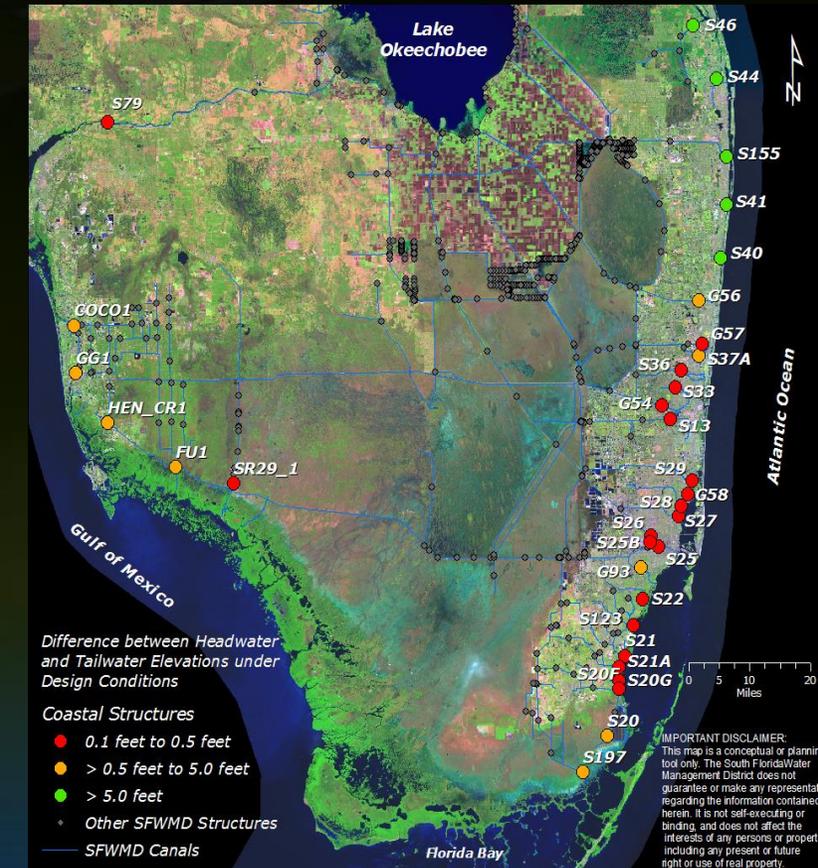
C&SF Flood Resiliency Study

- Current request: C&SF Review Study due to changed physical conditions
- Conducted under section 216 of the Flood Control Act of 1970
 - Initial request for \$6M over 4 years
- USACE Jacksonville District is completing a 216 Initial Appraisal Report in order to qualify for study funds
- FY22 Regular Budget or FY21 Workplan



C&SF Flood Resiliency Study

- Opportunity to address vulnerabilities with a phased approach
- Identify improvements needed and inform how the system should look, operate, and adapt considering changes since initial construction
- Focus on the project features which can reduce the most immediate flood risk, based on a broad C&SF system overview
- Selection of critical structures will be defined jointly between SFWMD and USACE
- Study would be conducted in coordination with stakeholders, Federal agencies, State, Tribal and local officials.



Next Steps

- Consider approval of the SFWMD Letter of Endorsement to the USACE to seek federal funding to initiate a Section 216 Feasibility Study
- Federal Cost-Share Agreement for the C&SF Review Study at 50%/50% cost-share
 - Preliminary Engineering and Design through a 75%/25% cost-share agreement
- Project Partnership Agreement for construction at 65%/35%
- 100% O&M will be SFWMD's responsibility (continue non-federal sponsor)



2020



Discussion

Carolina Maran, P.E., Ph.D., District Resiliency Officer
cmaran@sfwmd.gov

