

Resilience: A WMD Perspective

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Resilience Framework

State

Local

		
RESOURCES	FUNDING	COORDINATION
Florida Adaptation Planning Guidebook & Technical Assistance	Resilience Planning & Implementati on Grants	Quarterly Coastal Resilience Forum

- **Adaptation Action Areas (AAA)**
Section 163.3177(6)(g)(10)
- **Peril of Flood Act**
Section 163.3178(2)(f)1



Core Missions



Water supply



Flood protection



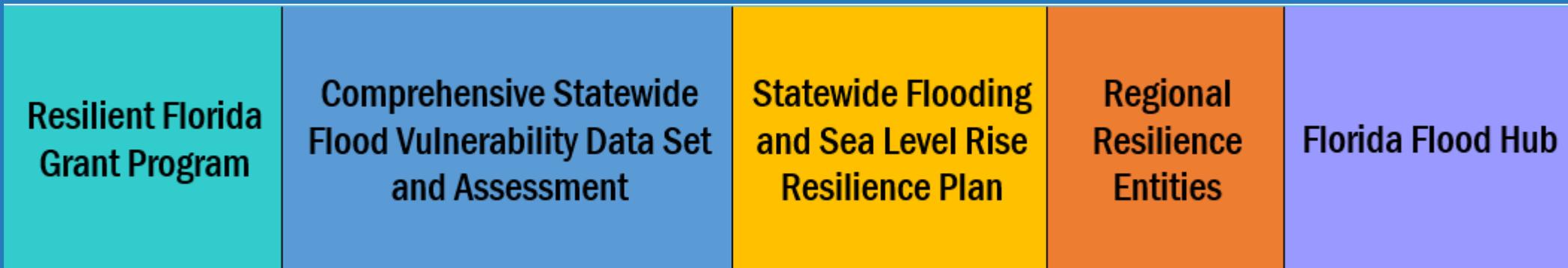
Water quality



Natural systems

Resilient Florida

SB 1954 (Sec. 380.093, F.S.) addresses statewide flooding and SLR



Projects for Statewide Flooding and SLR

- Crane Creek
- Sebastian River Storage and Treatment
- C-10 Water Management Area
- Sunnyhill
- Lake Apopka North Shore

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Sebastian River Improvement District Treatment and Storage



Primary Mission: Water Quality
Secondary Benefit: Alternative Water Supply and Flood Mitigation
Scope: Modify existing gates with modified weirs and divert flow to a reservoir or stormwater treatment area
Cost: \$35,000 for updated feasibility study and \$11–24 million for design, permitting, and construction
Benefit: Estimated nutrient load reduction to Sebastian River and Indian River Lagoon

- 33,000 lbs./yr. TN
- 4,000 lbs./yr. TP



Land Acquisition Priorities

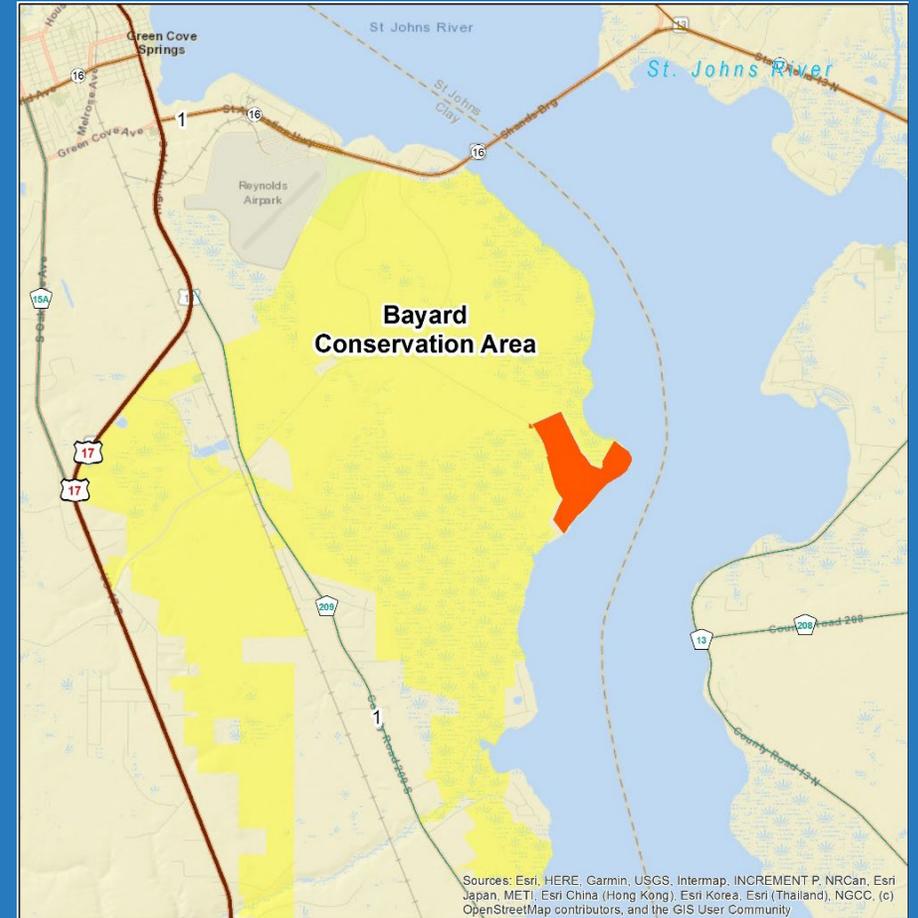
➤ SJRWMD Critical Lands

- Adjacent to Existing District Lands
- Needed for District Projects

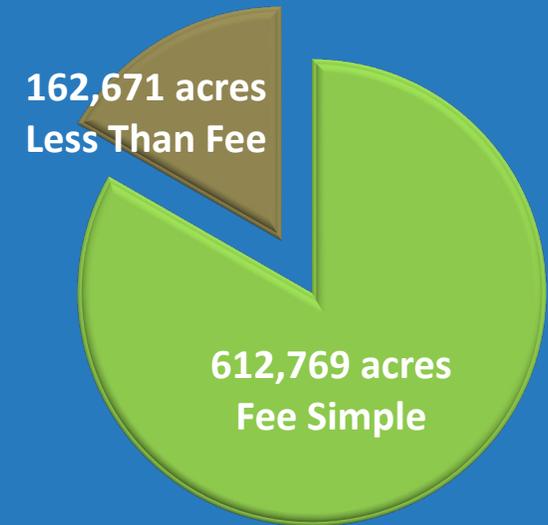
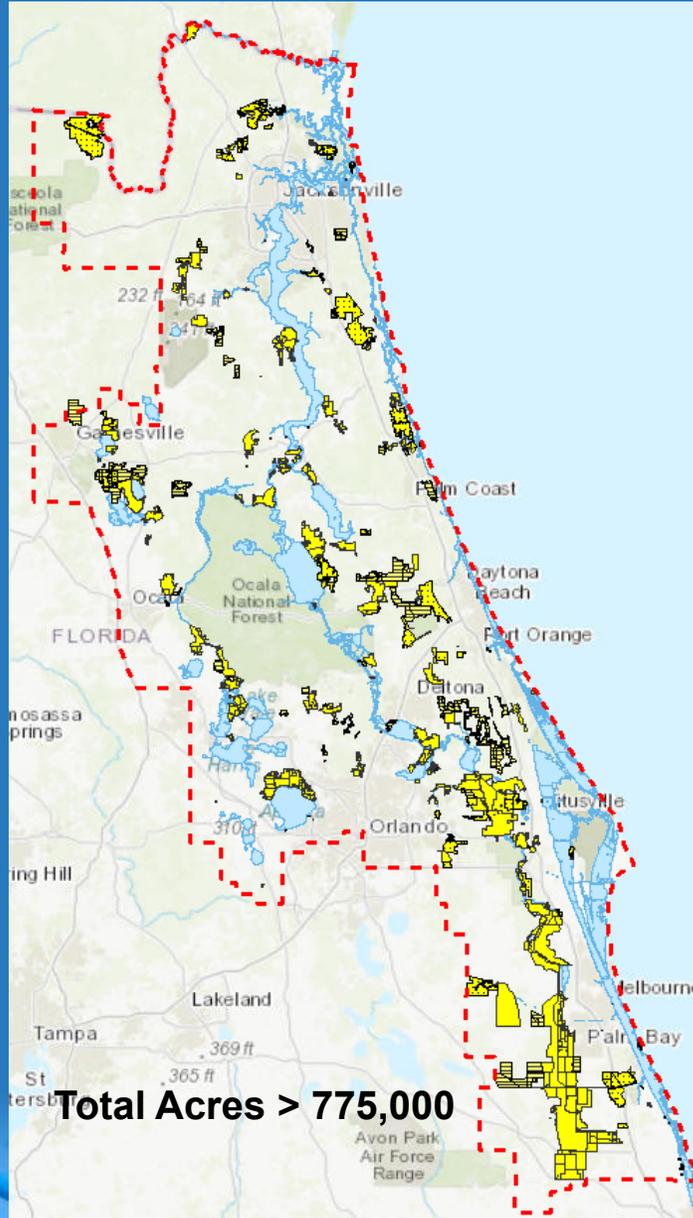
➤ Floodplain

- Current
- Historic for St. Johns River

➤ Wetlands



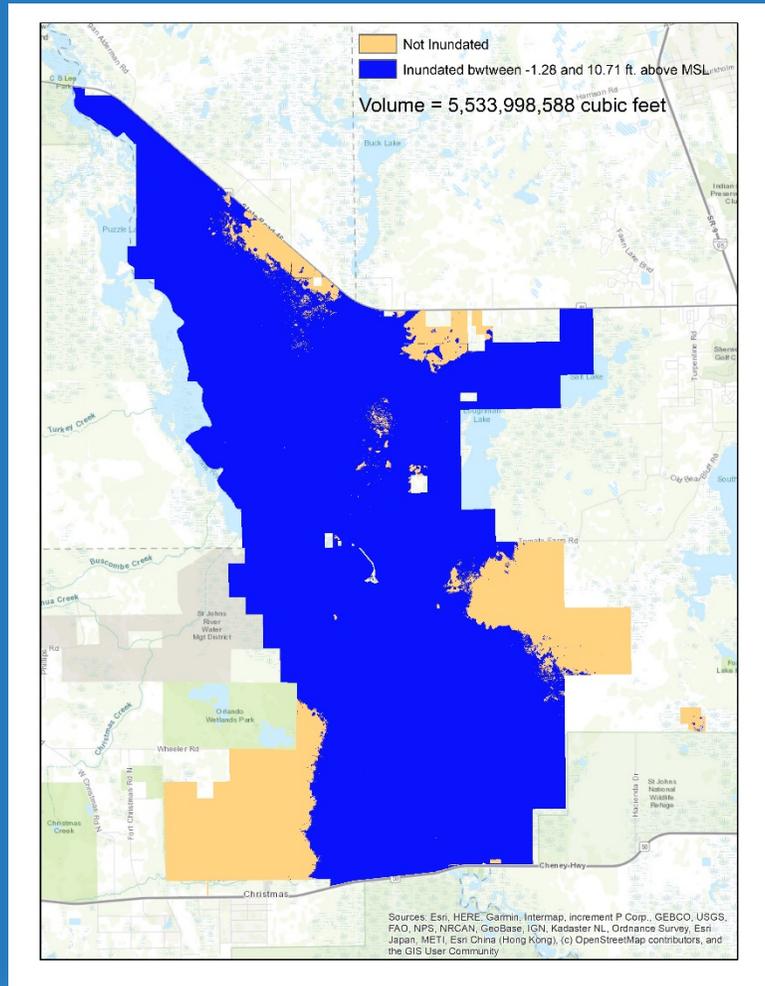
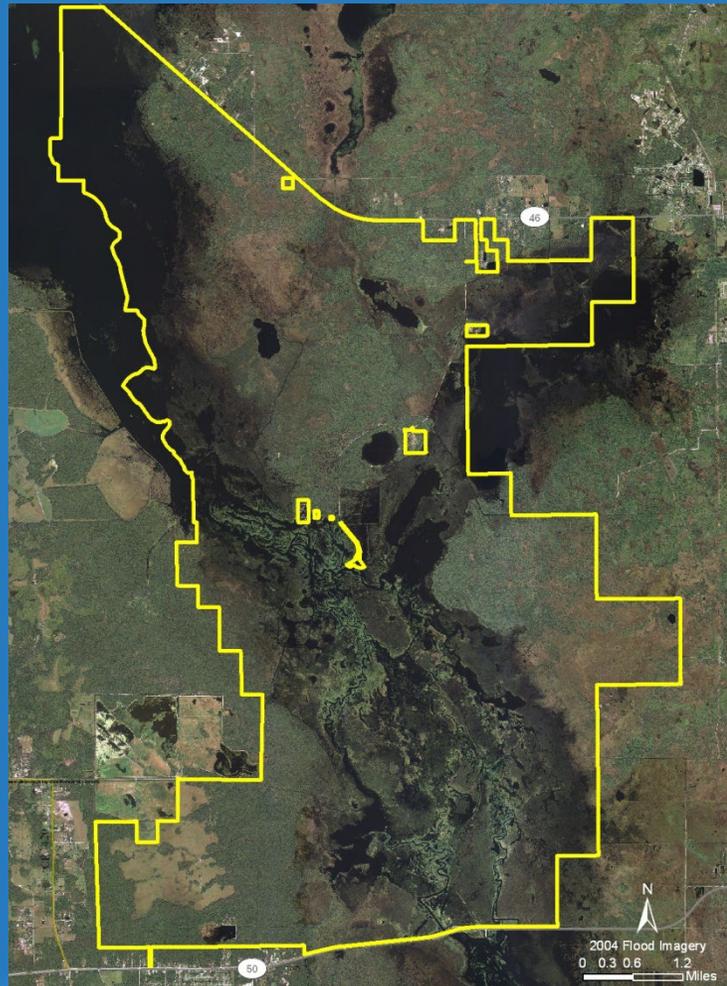
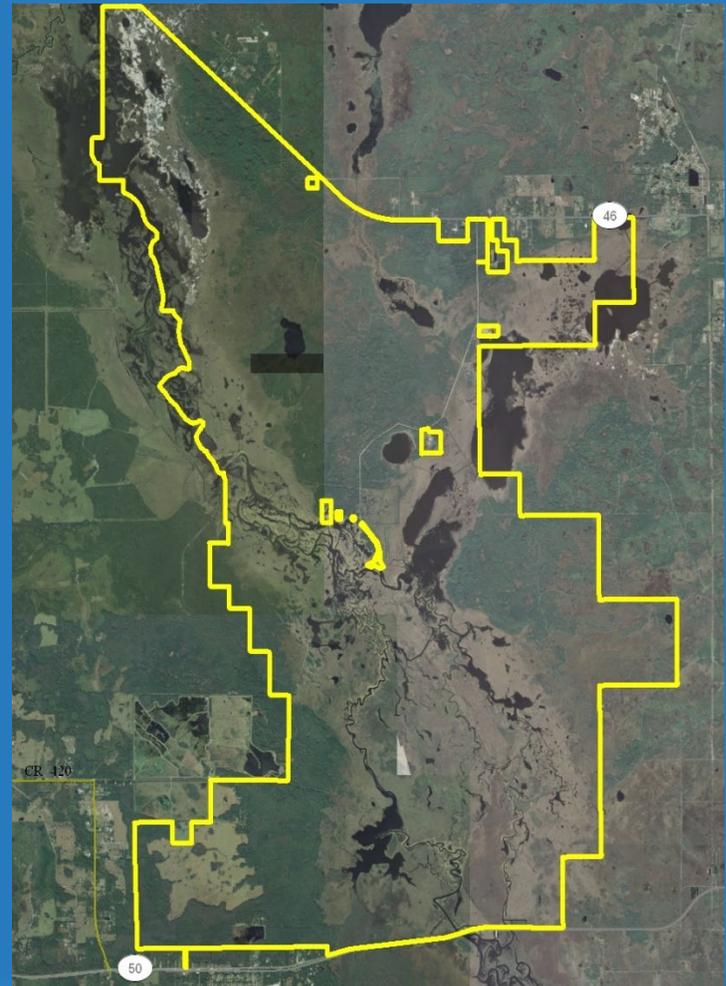
Land Acquisition and Management



Natural Systems/Flood Control

Dry and Wet Conditions

Flood Storage Volume
= 127,043 acre-feet



Green Infrastructure



Living Shoreline and Seagrass



Oyster Bar Restoration

A Simple Example: Control of Aquatic Plants



Herbicide spraying, Blue Cypress Conservation Area



Hydrilla harvesting, Melbourne Tillman Water Control (*Florida Today* photo)

DeBary Bayou

- Gemini Springs (Florida Priority Spring)
- I-4 Expansion with new openings in causeway
- Targeted activities
 - Enhance Flow
 - Removal of ~30 lbs TP/acre and ~150 lbs TN/acre



SJRWMD Cost-Share FY 2014-2021

>560 projects
with partners

>\$730M Total
Investment

Types of Valves being Tested to Reduce Nuisance Flooding



One type of tide check valve, Tideflex CheckMate Inline Check Valve^[6] will allow stormwater to drain out under lower tide conditions. During high tide, the valve will prevent sea water from backing up into the stormwater pipe network.

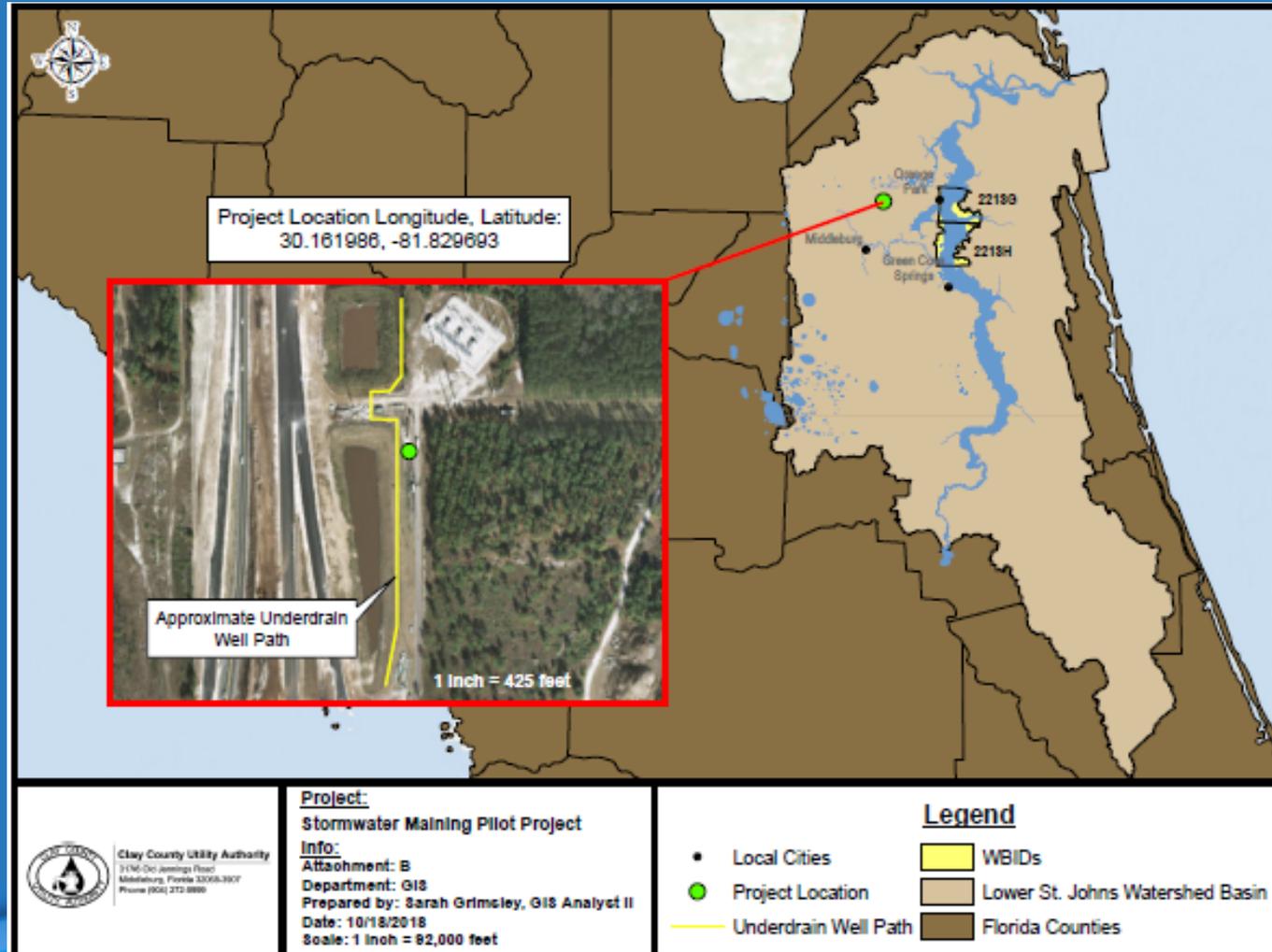


Ocala Wetland Recharge Park

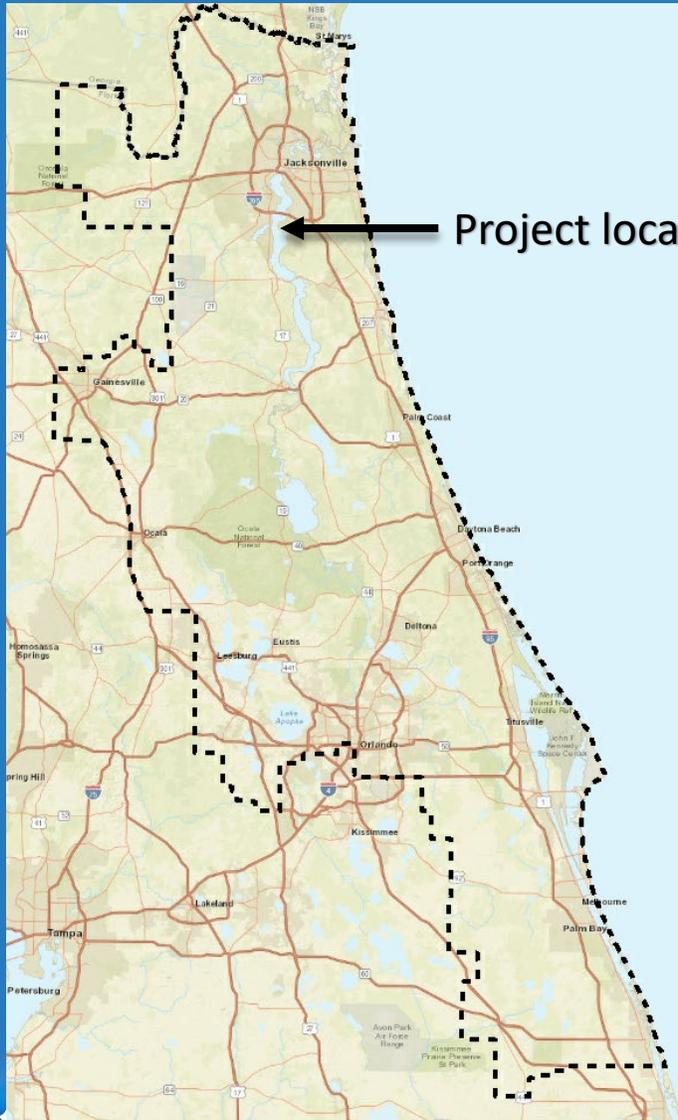
- 33-acre groundwater recharge wetland
- Multiple benefits, including flow to Outstanding Florida Spring: Silver Springs
- Total project cost: \$8.4 million
- District/DEP cost-share: \$4 million
- National Innovation in Conservation Award winner



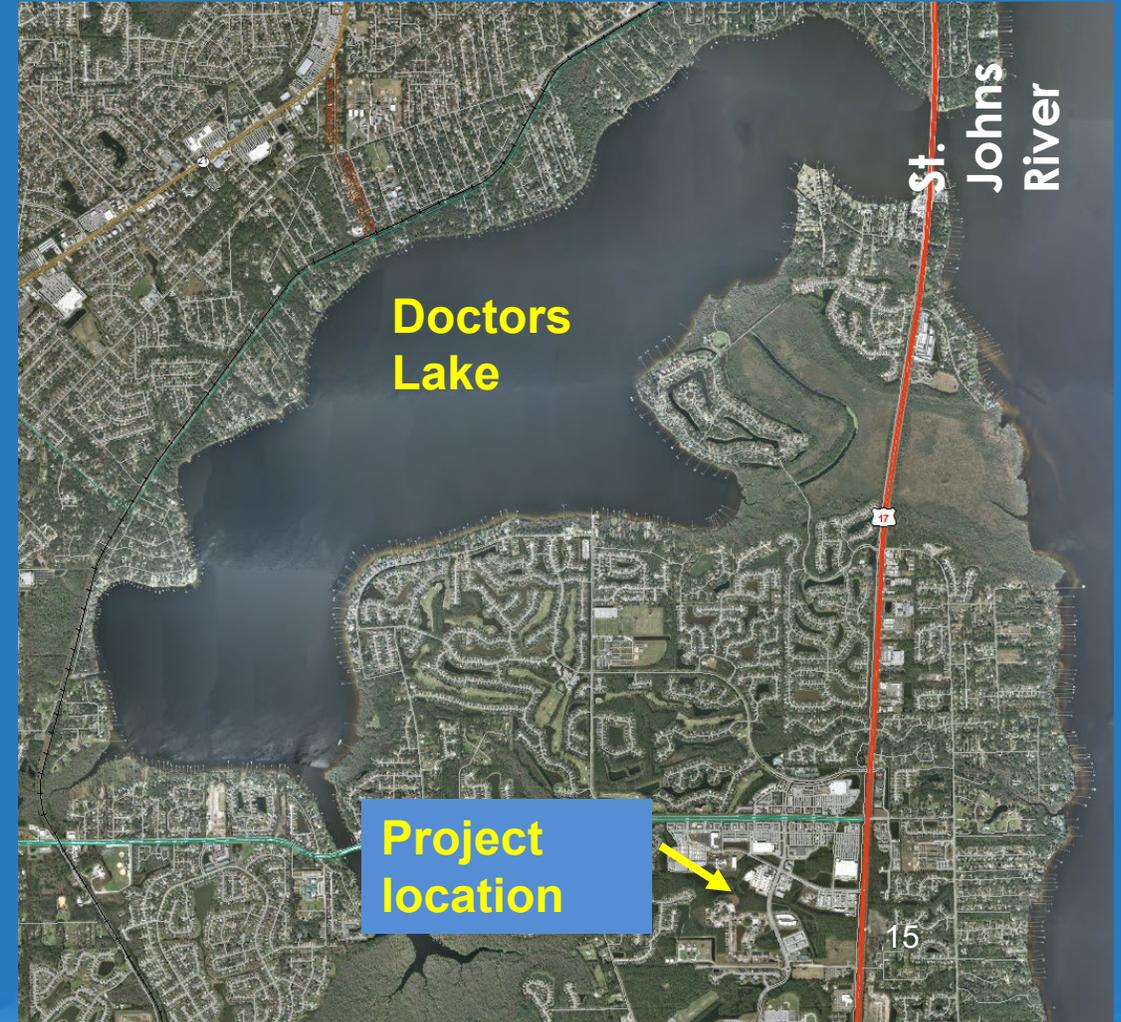
Clay County Utility Authority Stormwater Mining Pilot Project



District's Innovative Technology Projects



Project location



Doctors Lake

St. Johns River

Project location



Doctor's Lake Phosphorus Removal



Data Collection

Ensemble River Forecasts Eastern Region Headquarters

Local Forecast Office A-K Local Forecast Office L-Z River Forecast Centers Center Weather Service Units Regional HQ

Zoom to a Location

GEFS NAEFS HEFS (not available for SERFC locations)

Product Description Date in format Data in format

What's the difference between NAEFS and HEFS? / Other NW's Forecast/HEFS and HEFS?

Turn Auto Refresh ON

Map Last Updated: 4/19/2020 at 7:42:03 AM

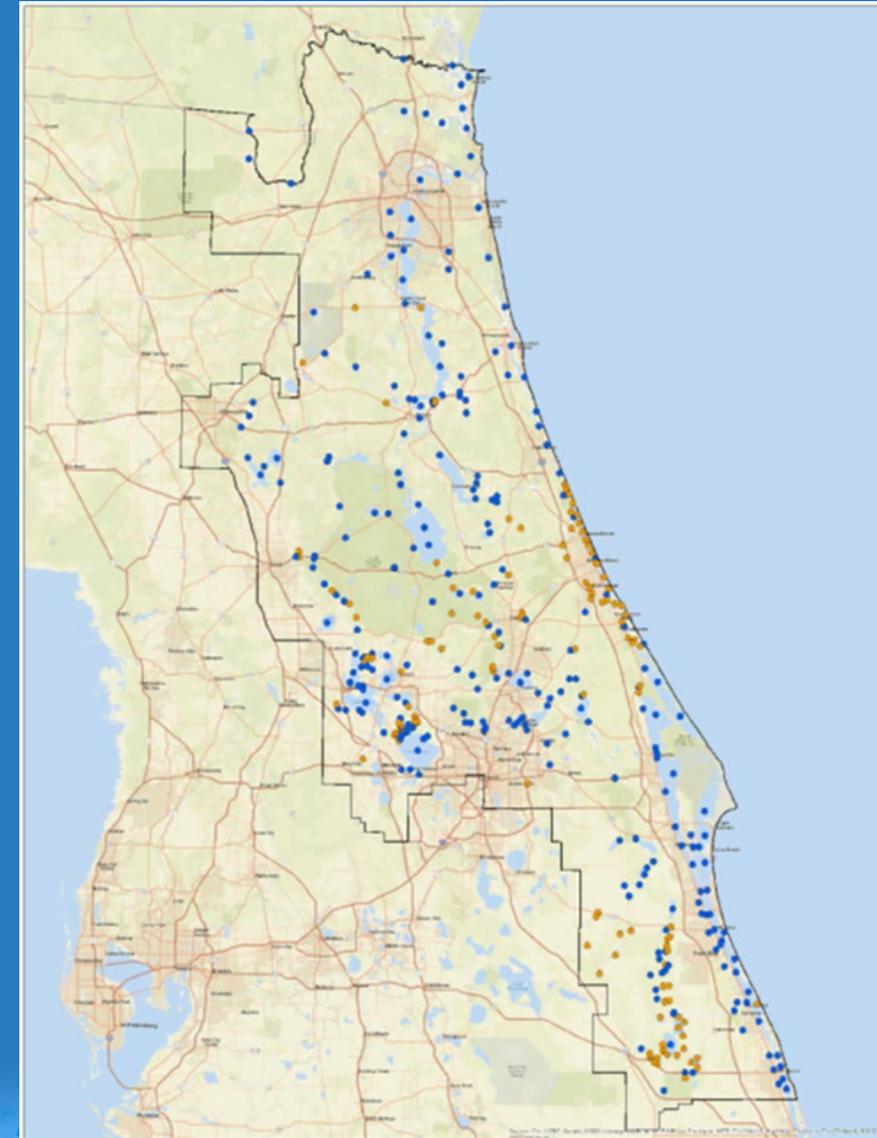
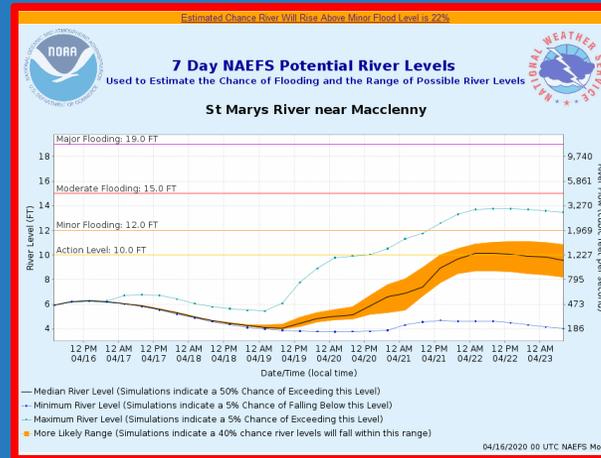
Make a link to this map view

News Legend

News items less than 24 hours old	News items 1 to 7 days old	No current News items
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Map Legend

Chance of Exceedance		River Forecast Centers	
30%	Level	70%	
●	Action	■	Indeo Atlantic River Forecast Center
●	Minor Flood	■	Northwest River Forecast Center
●	Moderate Flood	■	Ohio River Forecast Center
●	Major Flood	■	Southeast River Forecast Center
●	Less than 20% chance of reaching Action level		
○	no critical levels defined for this point		



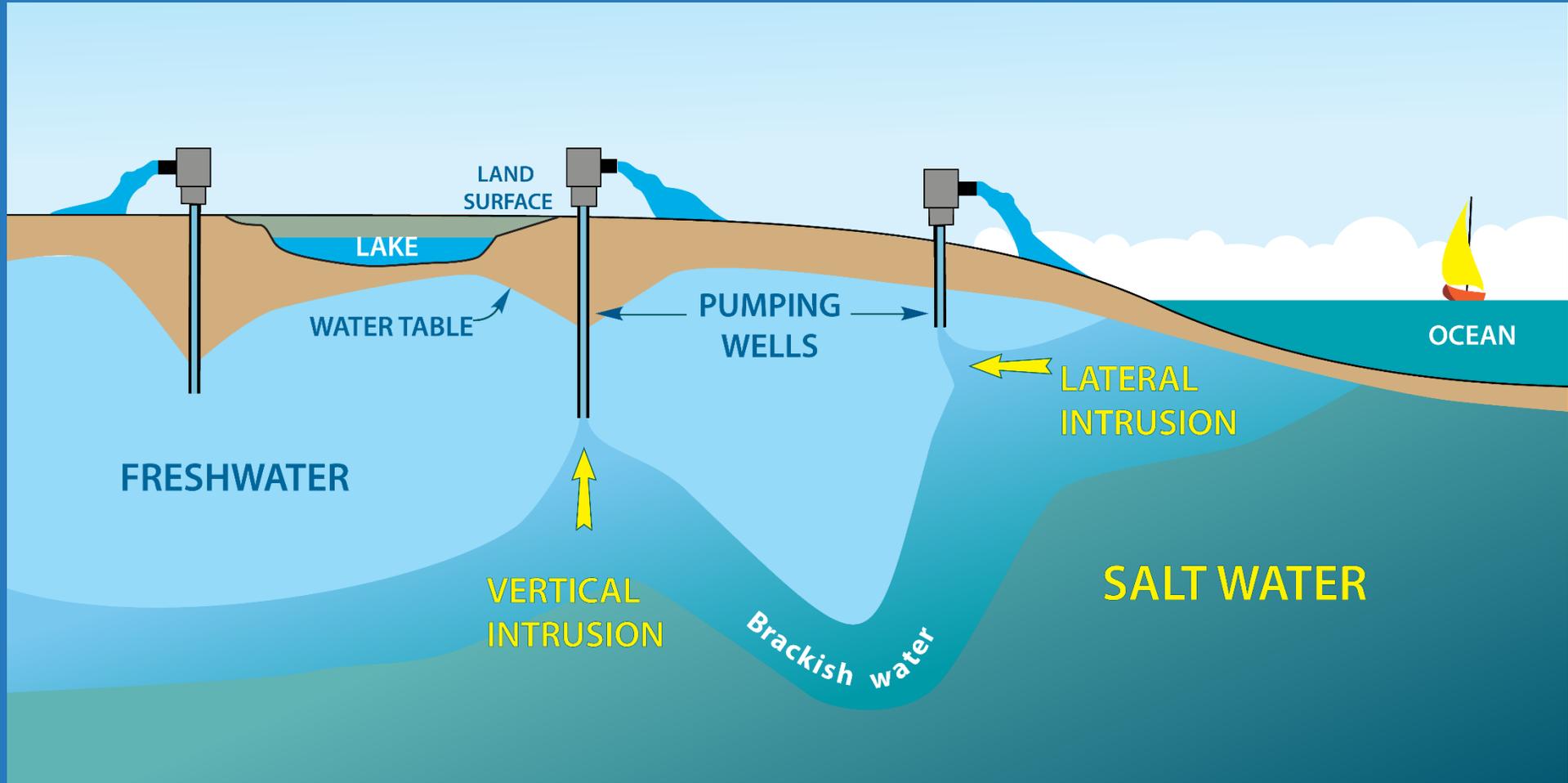
Next Step: Statewide Regional Climate Projections

- Urgent need to estimate statewide future climate conditions with reduced uncertainties
- Consistent future projections of rainfall and other climate variables
- State-of-the-art regional-scale high-resolution climate models capable of simulating climate drivers in Florida

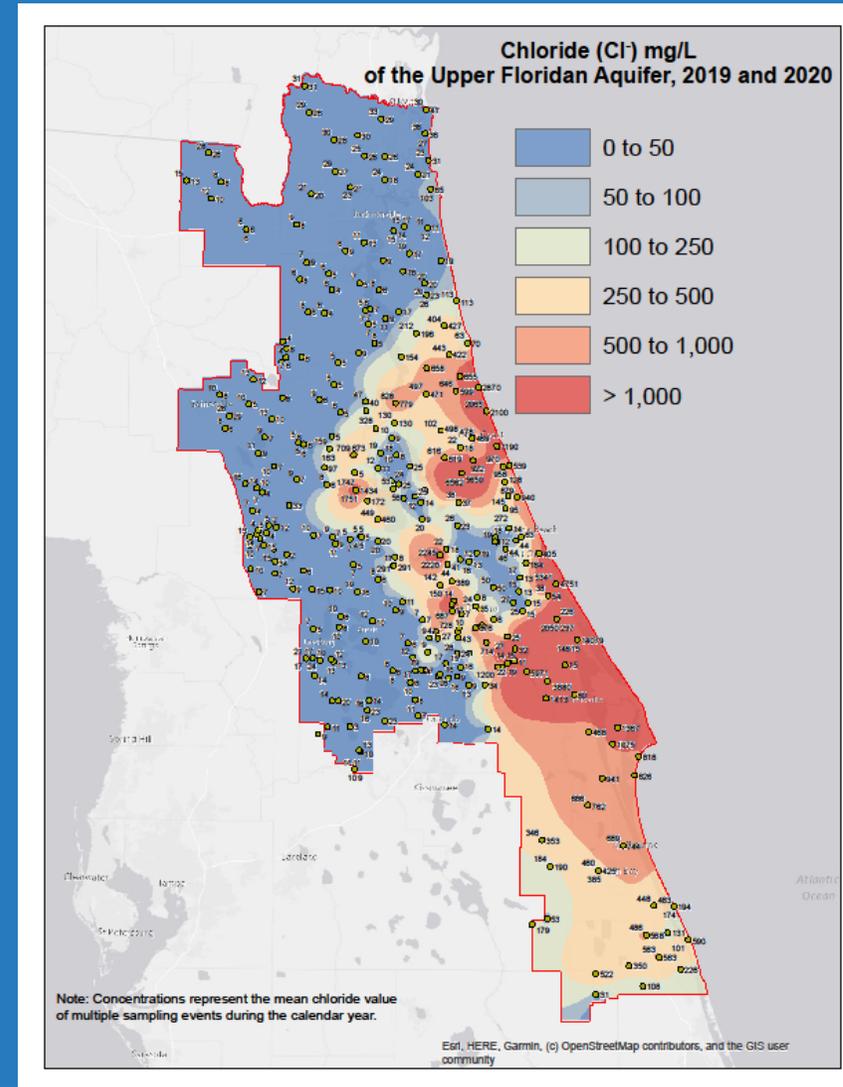
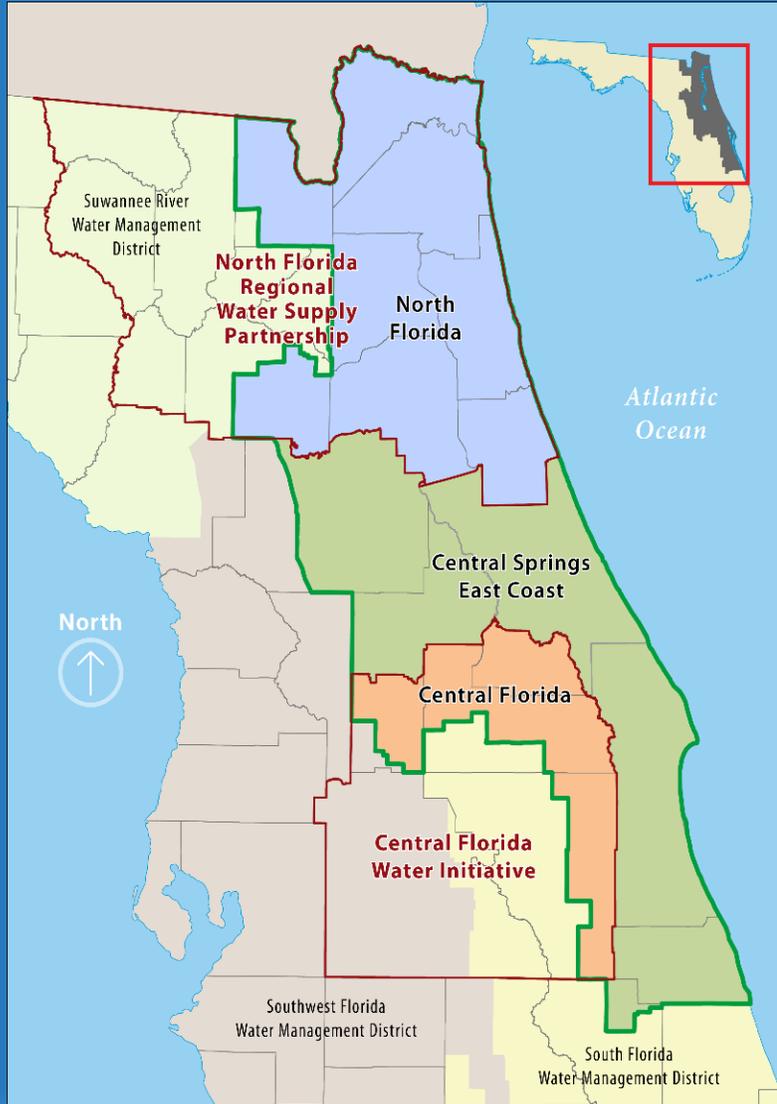


Photo by Paul Krashefski

Saltwater Intrusion



Water Supply Planning



Thank You!



St. Johns River
Water Management District