

# Flood Control in SJRWMD

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Assistant Executive Director



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Water Management District



# Hurricane Ian — Category 4

- Hurricane path shifts south predicted Category 4 — Monday, September 26



## Event Specific Considerations

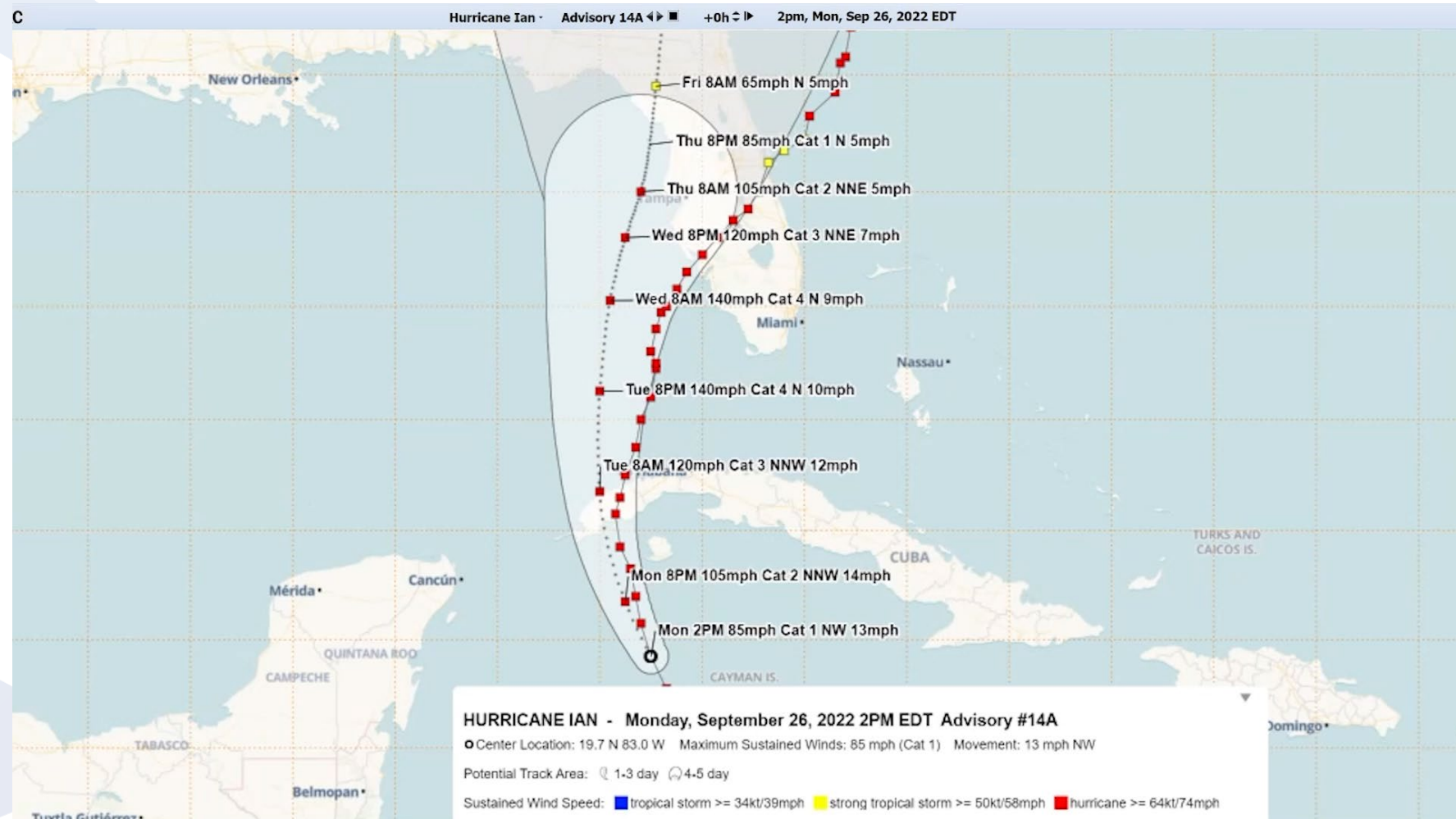
- Significant rain prior to event
- Historic rainfall predicted
- Changing prediction cone

## Event Specific Actions

- Flood control adjustments
- State/County coordination
- Establish Flooding Hot Line



# Ian Track Prediction



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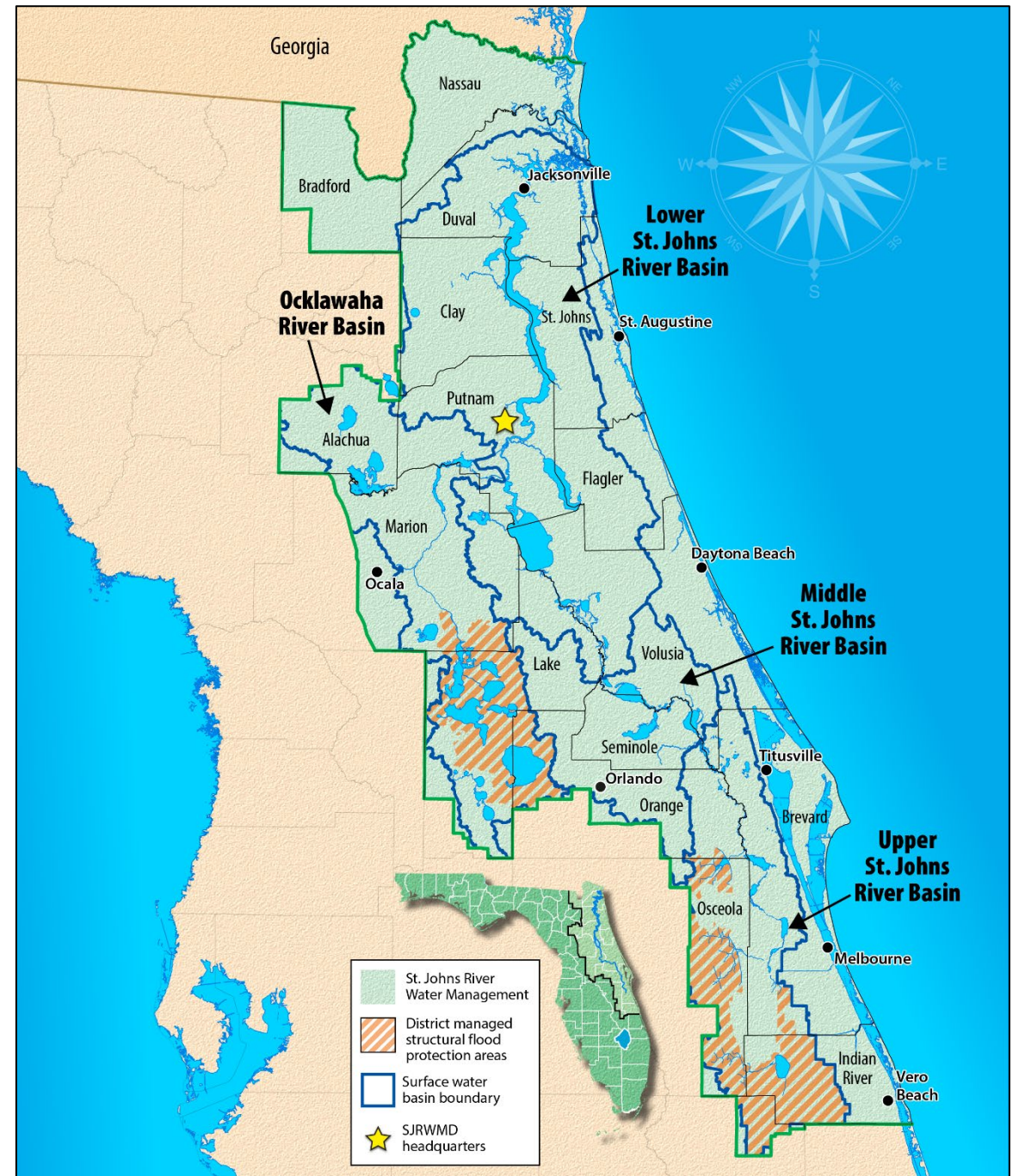
# SJRWMD

## Structural Flood Protection Areas

- Structural Strategies
  - Levees
  - Water control structures
- Non-Structural Strategies
  - Wetlands
  - Floodplain land acquisition

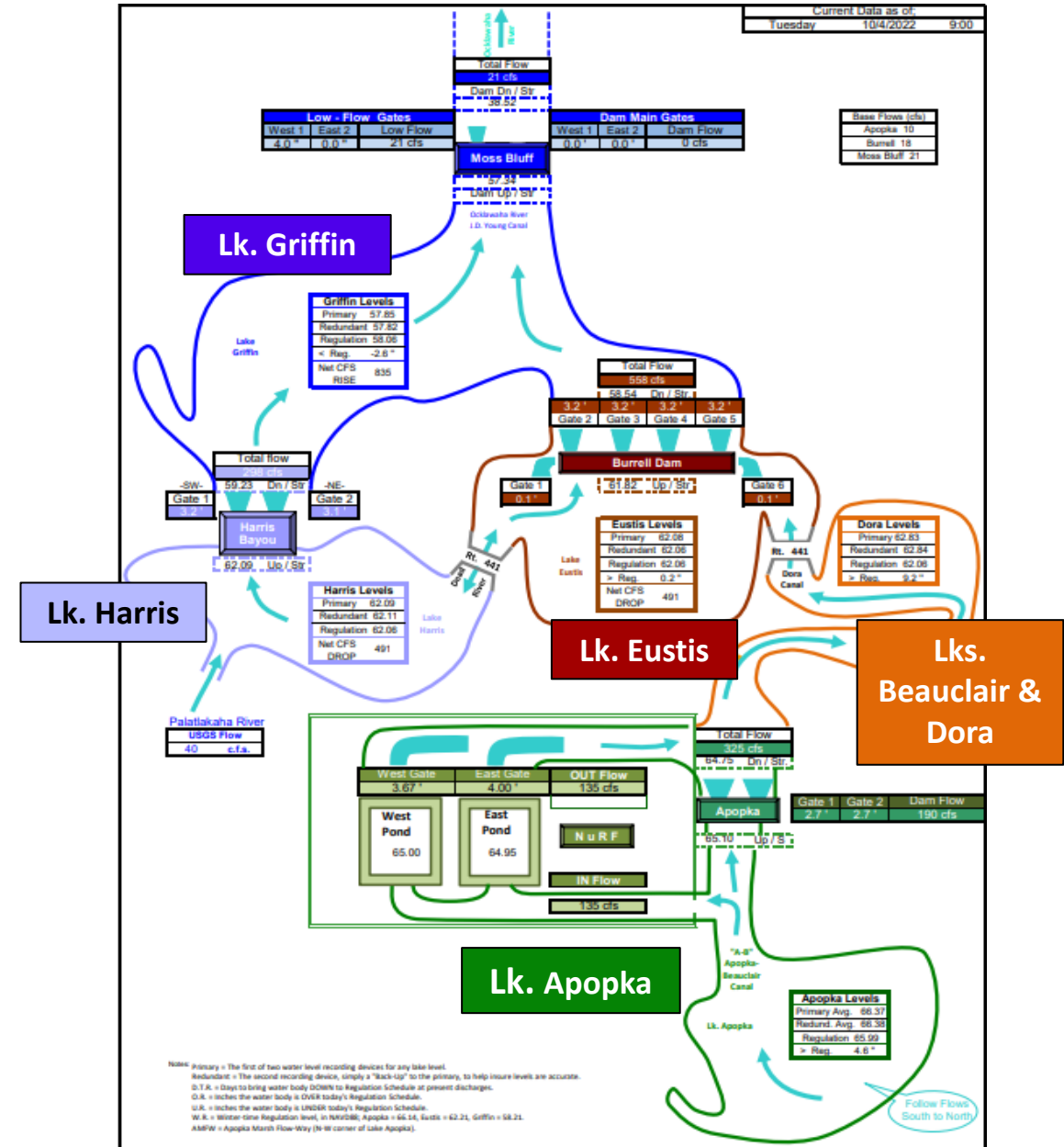
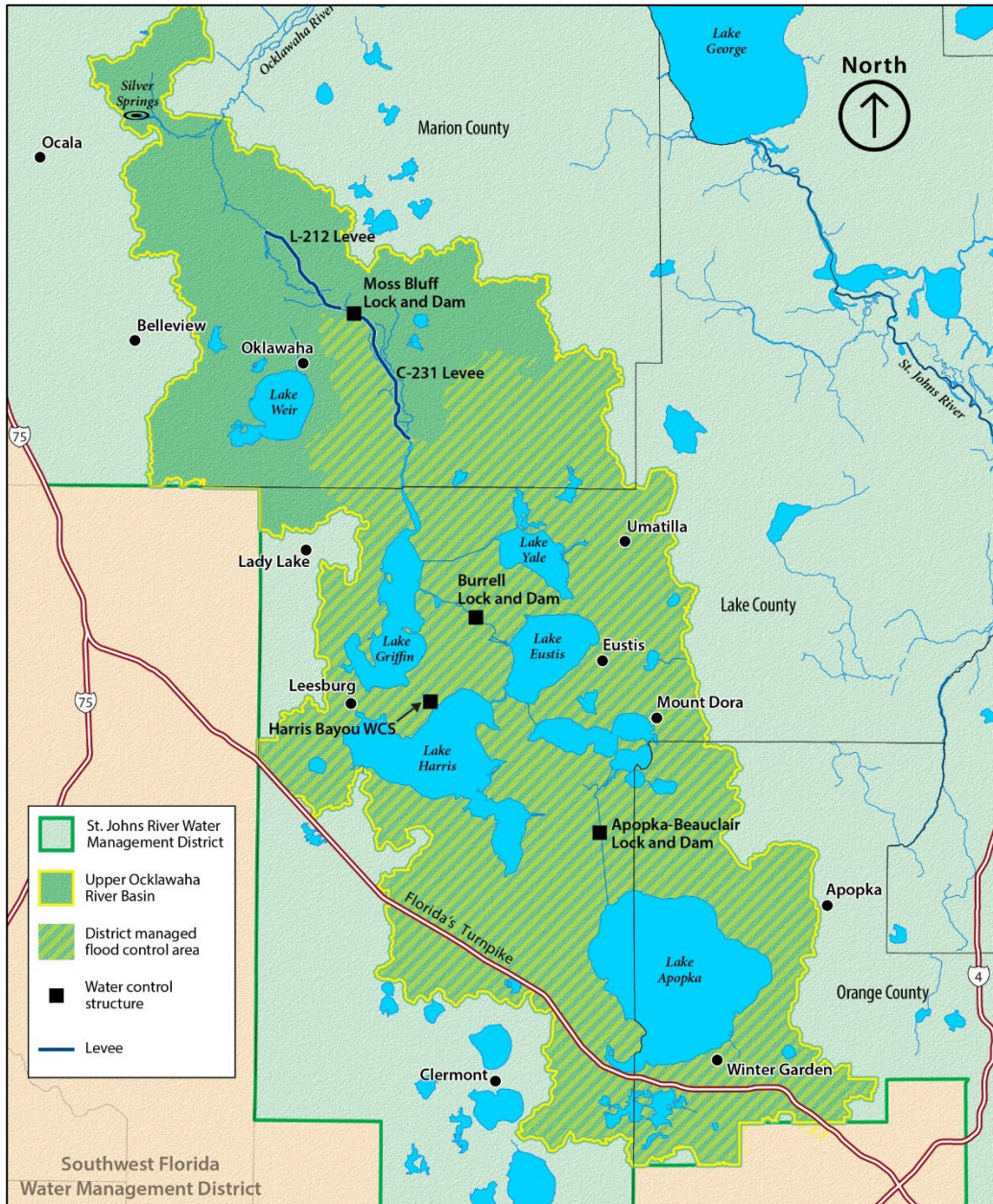


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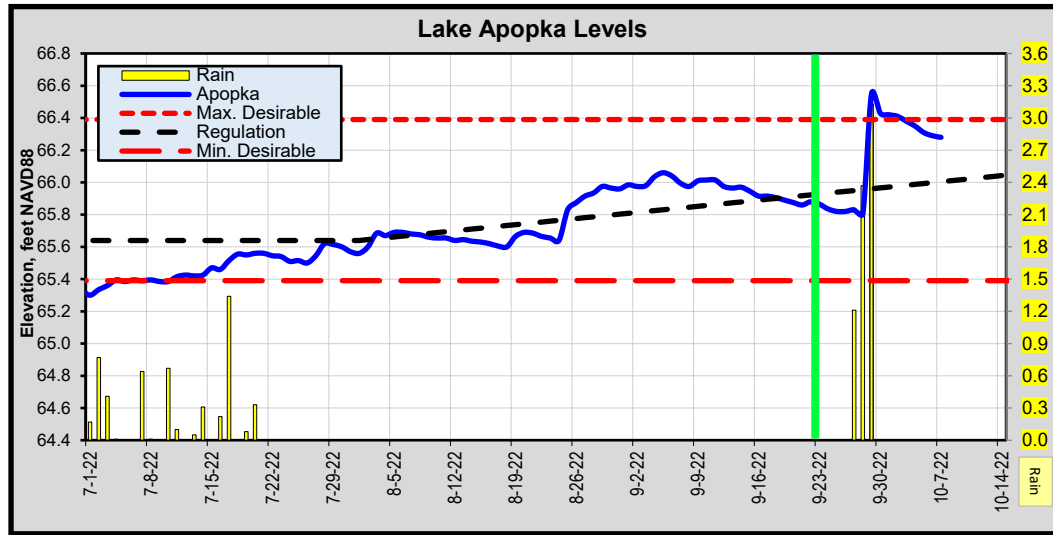




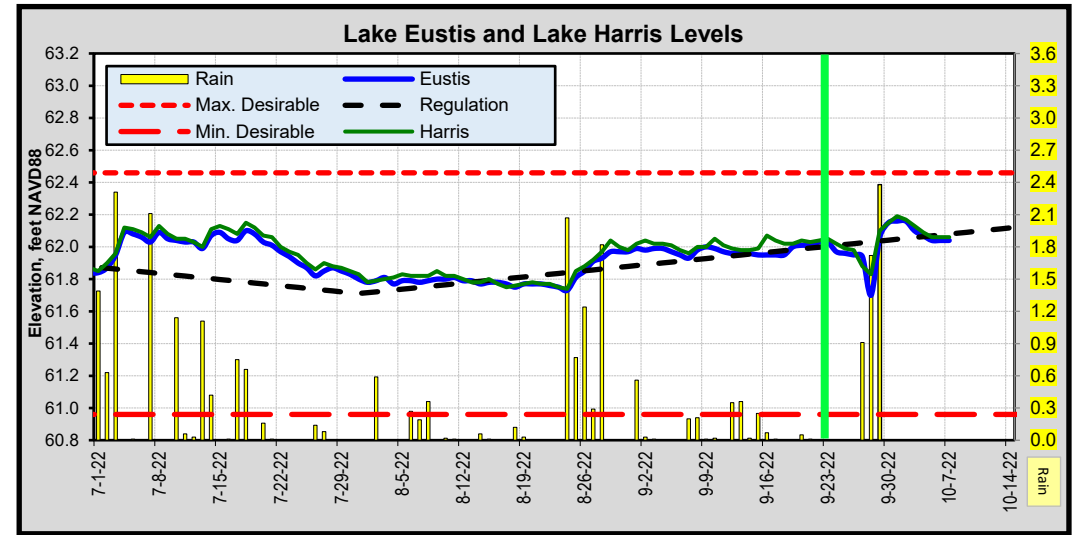
# Upper Ocklawaha River Basin



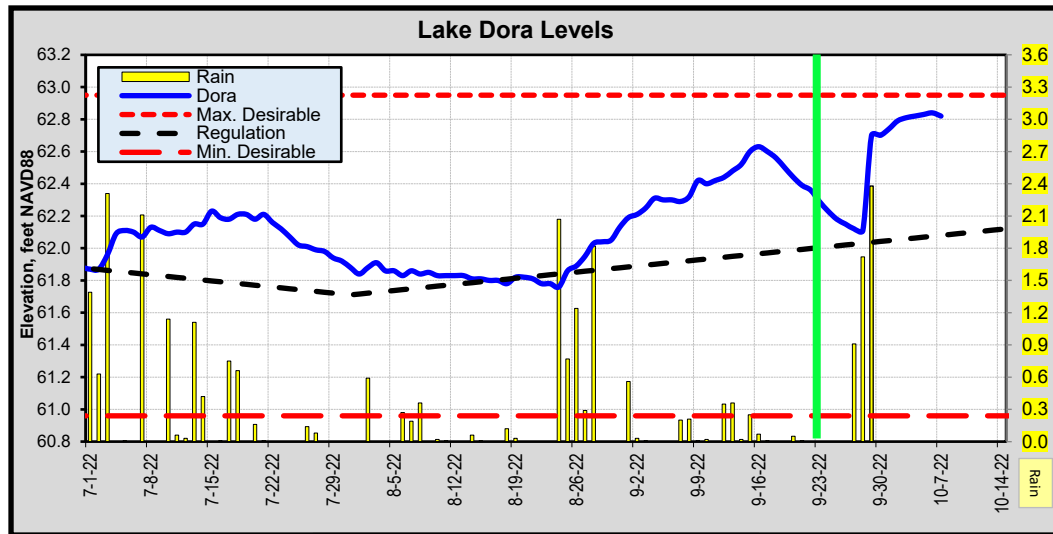
# Upper Ocklawaha River Basin



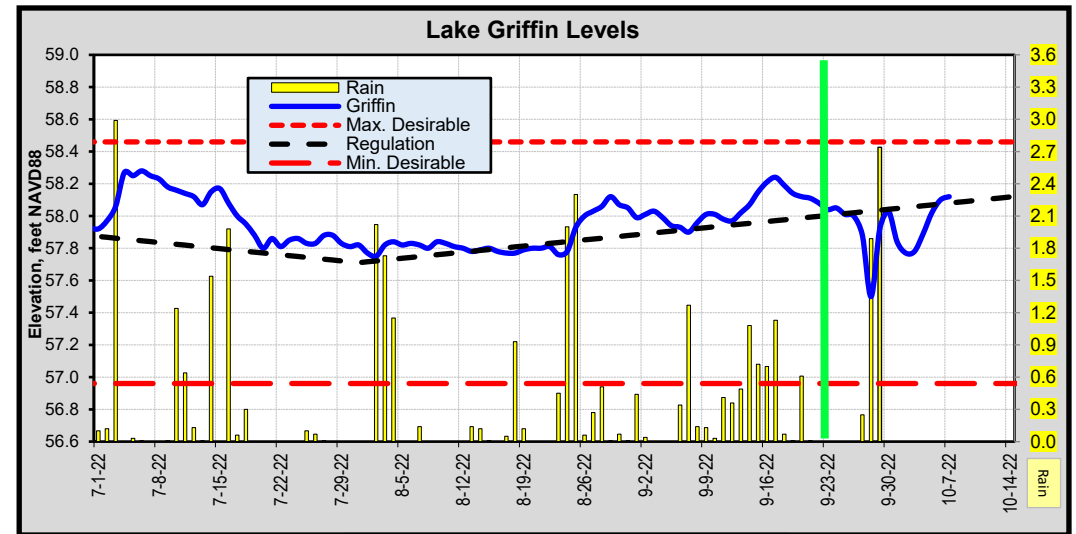
**Apopka Dam / NuRF**



**Burrell / Harris Bayou**



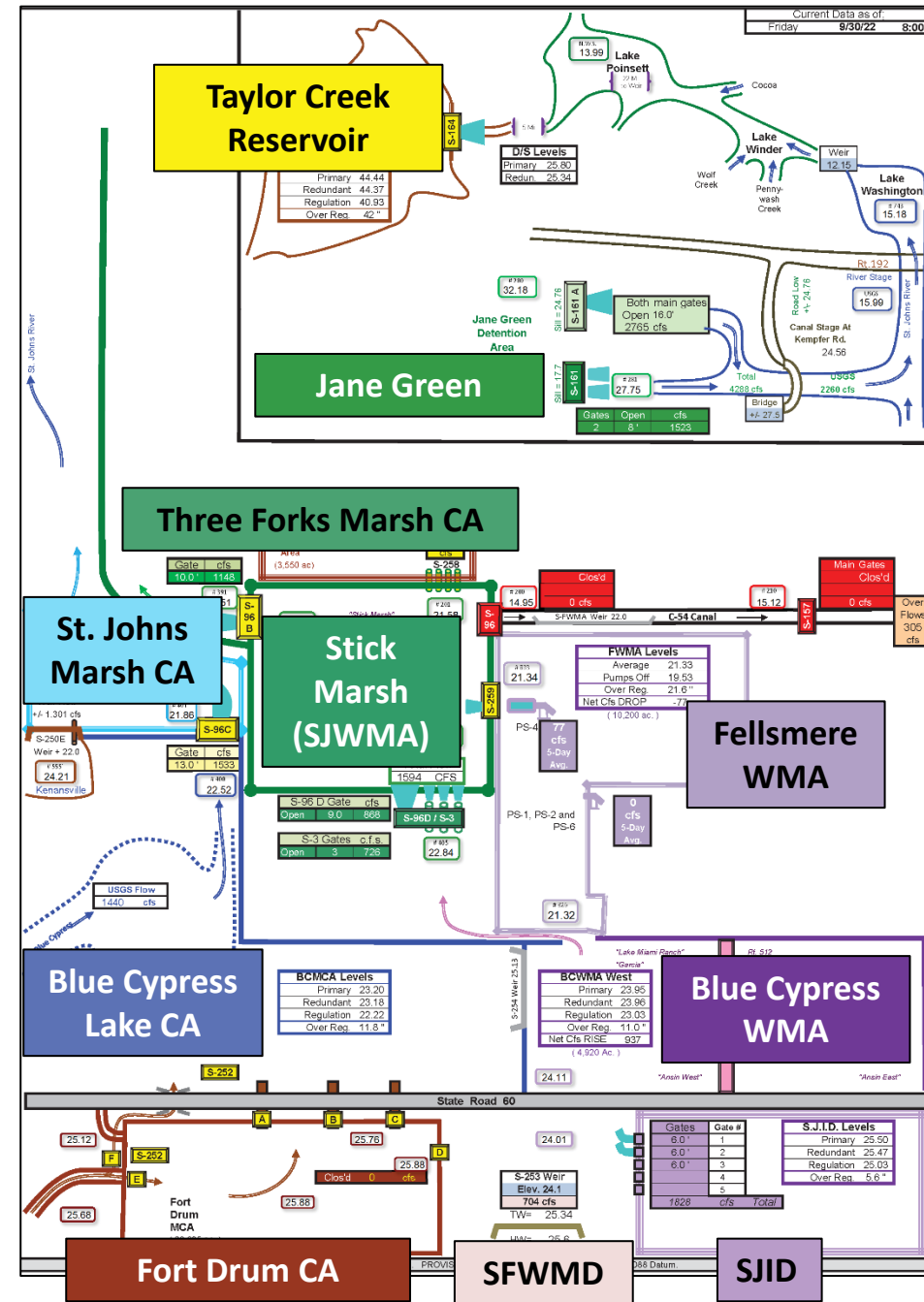
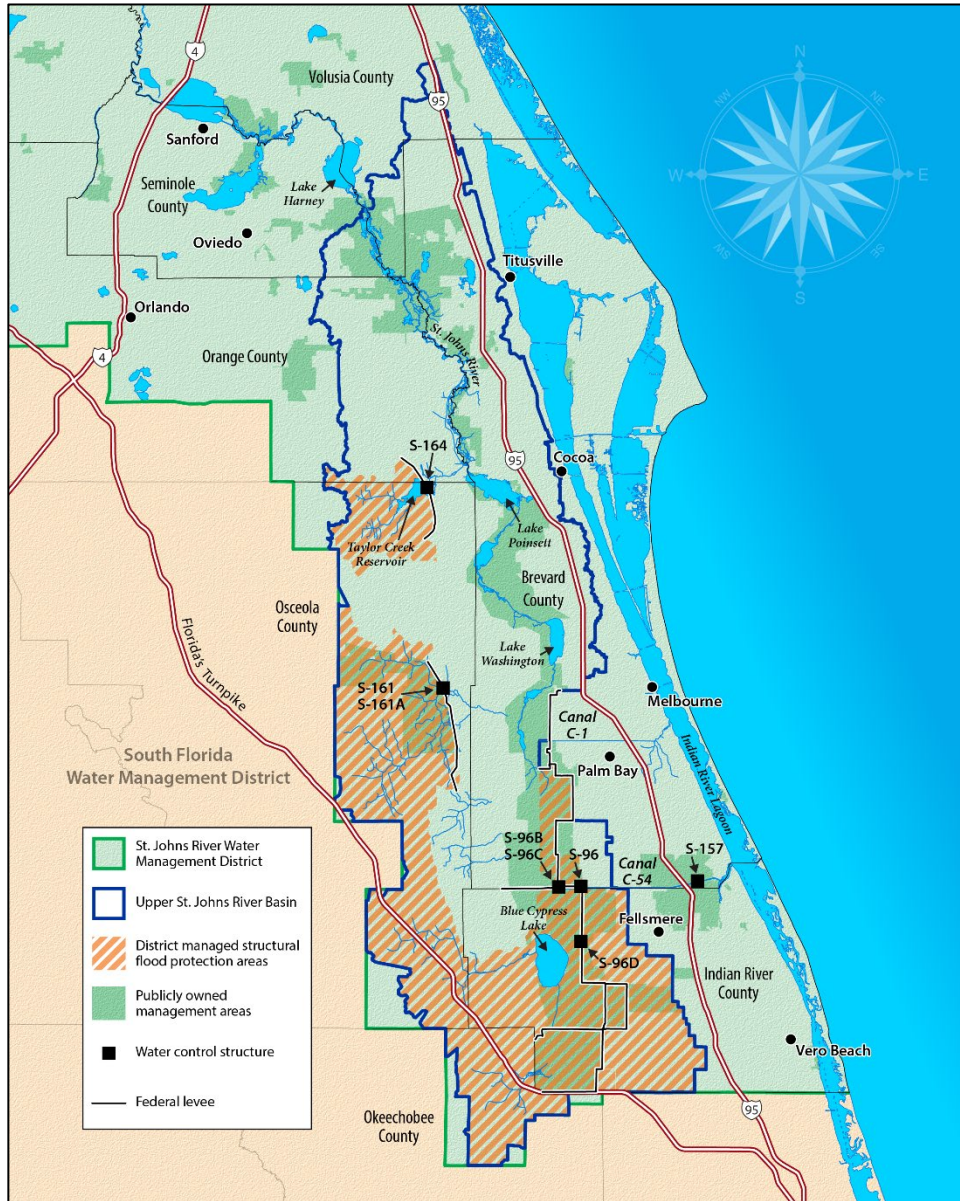
**Burrell / Harris Bayou**



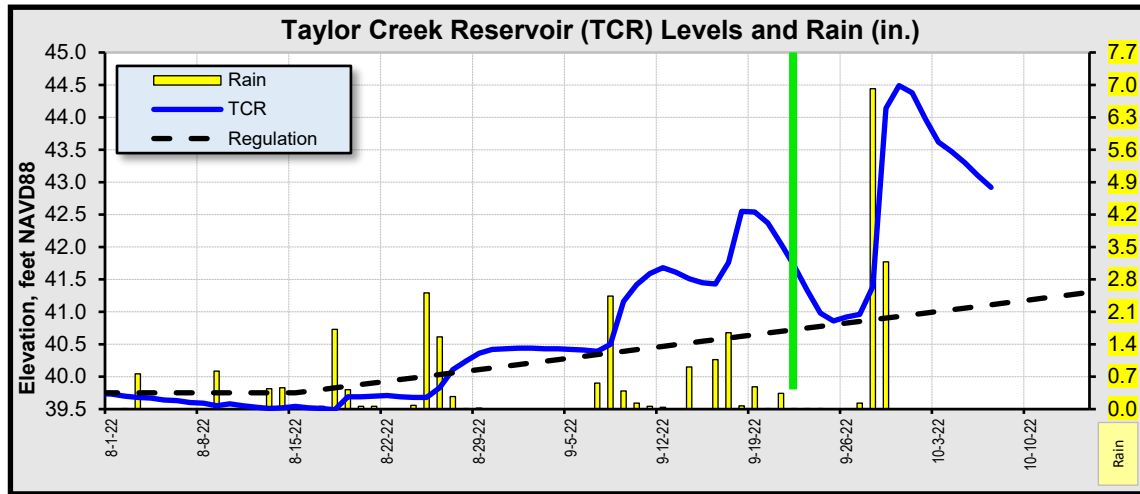
**Moss Bluff**



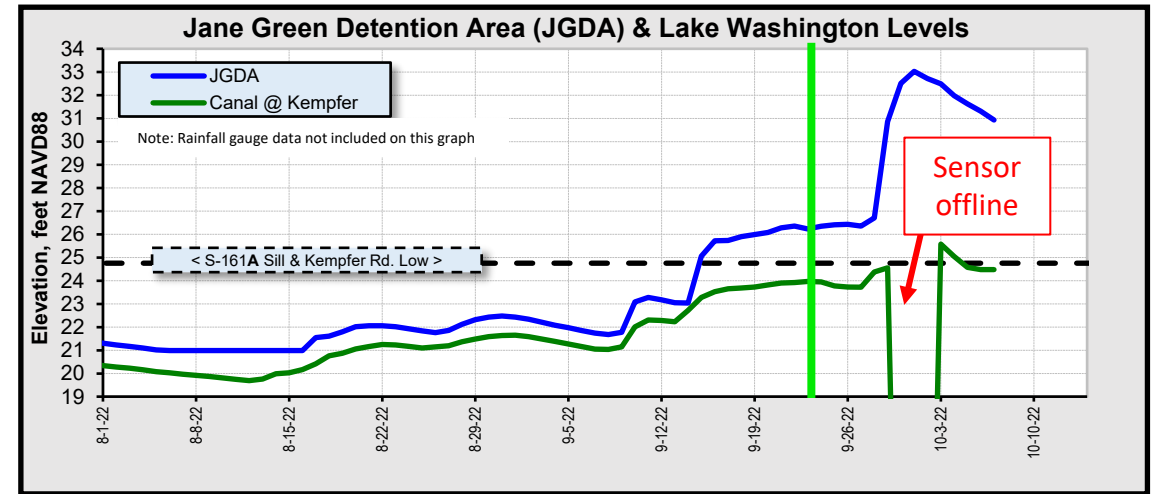
# Upper St. Johns River Basin



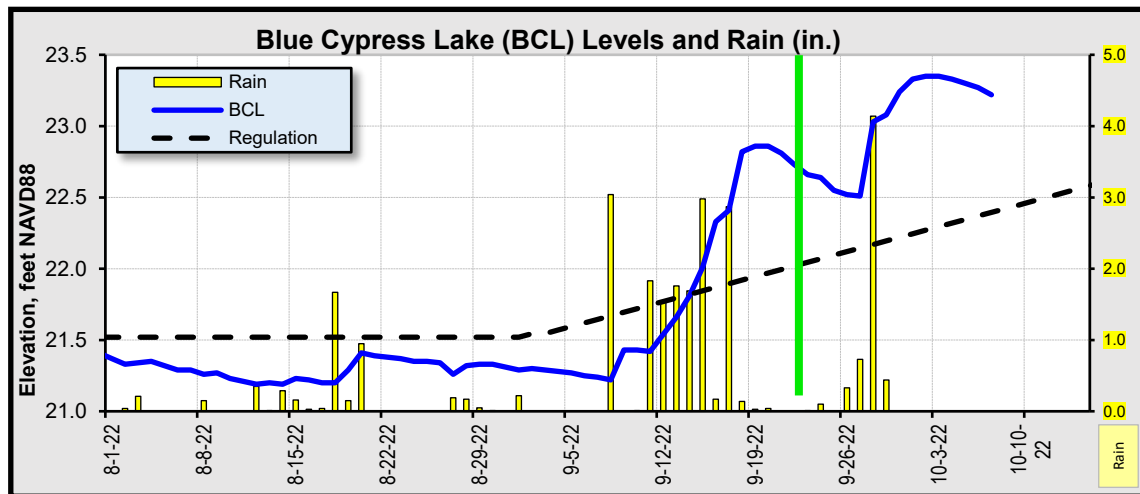
# Upper St. Johns River Basin



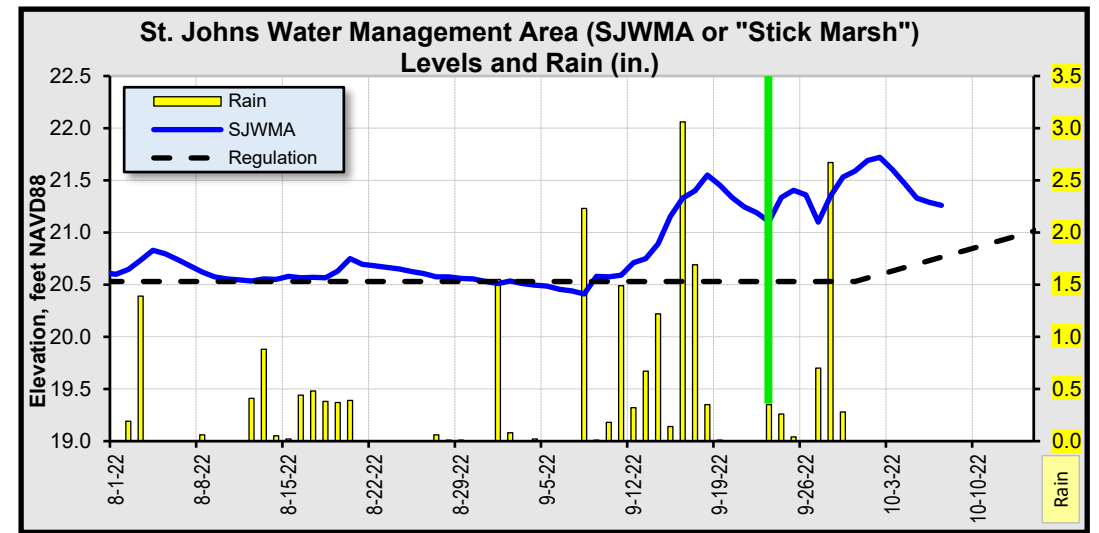
S-164



S-161 and S-161A



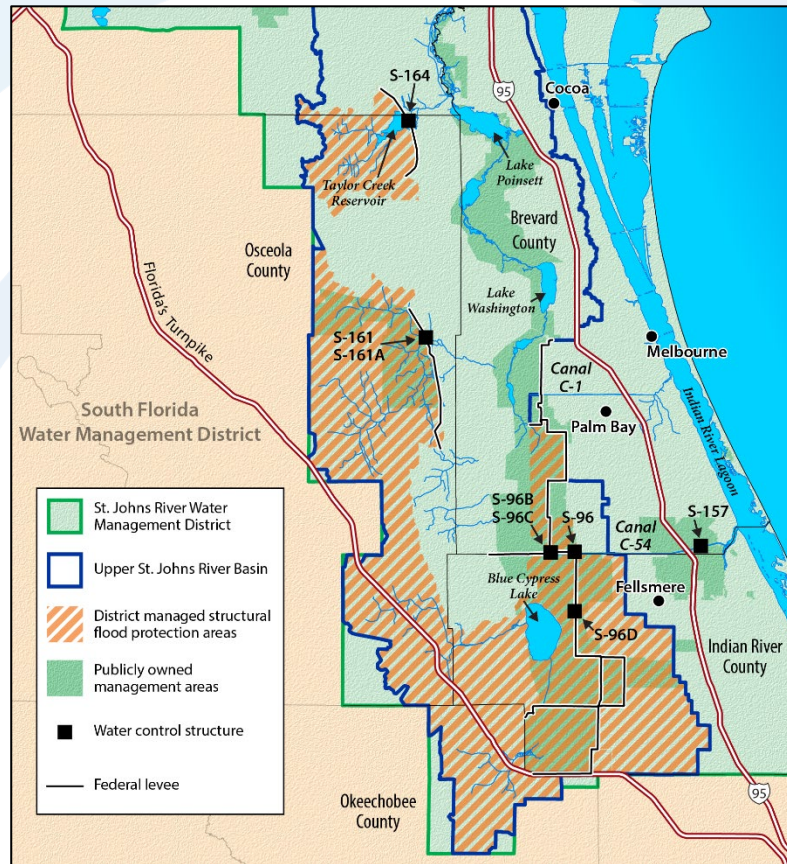
S-96C



S-96B



# Structure S-164 Post Ian (9/30/2022)

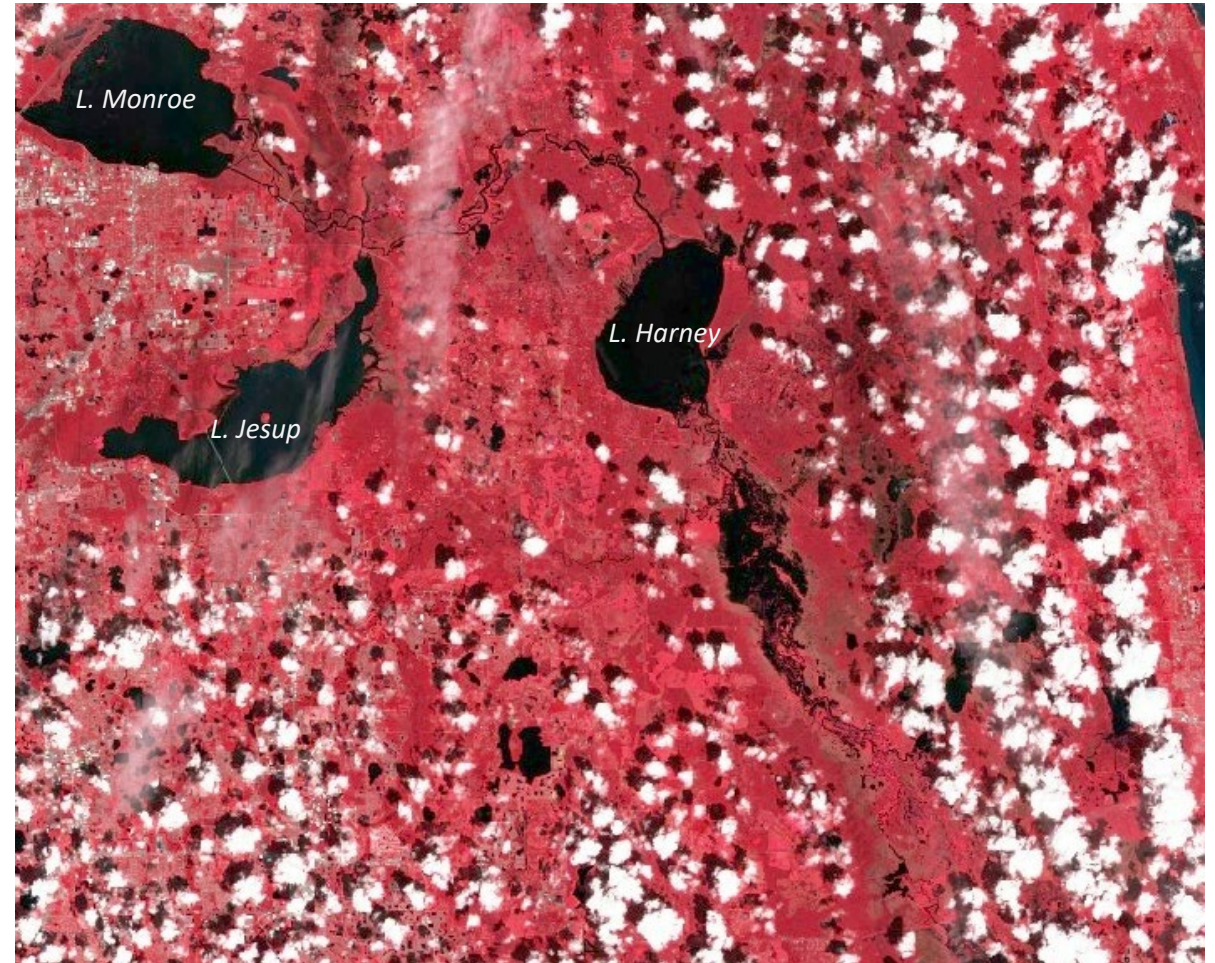


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# Record High Water Levels

- Middle St. Johns River Basin



European Space Agency Sentinel satellite color infrared imagery,  
September 15 and September 30, 2022



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- Middle St. Johns River Basin

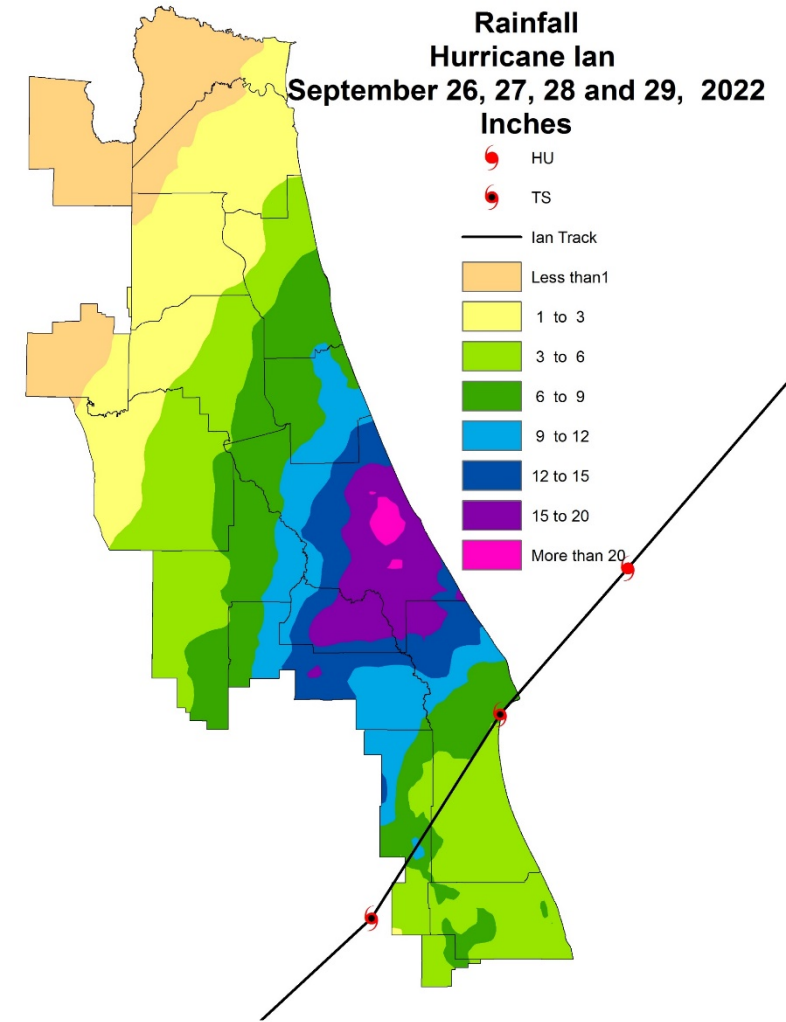
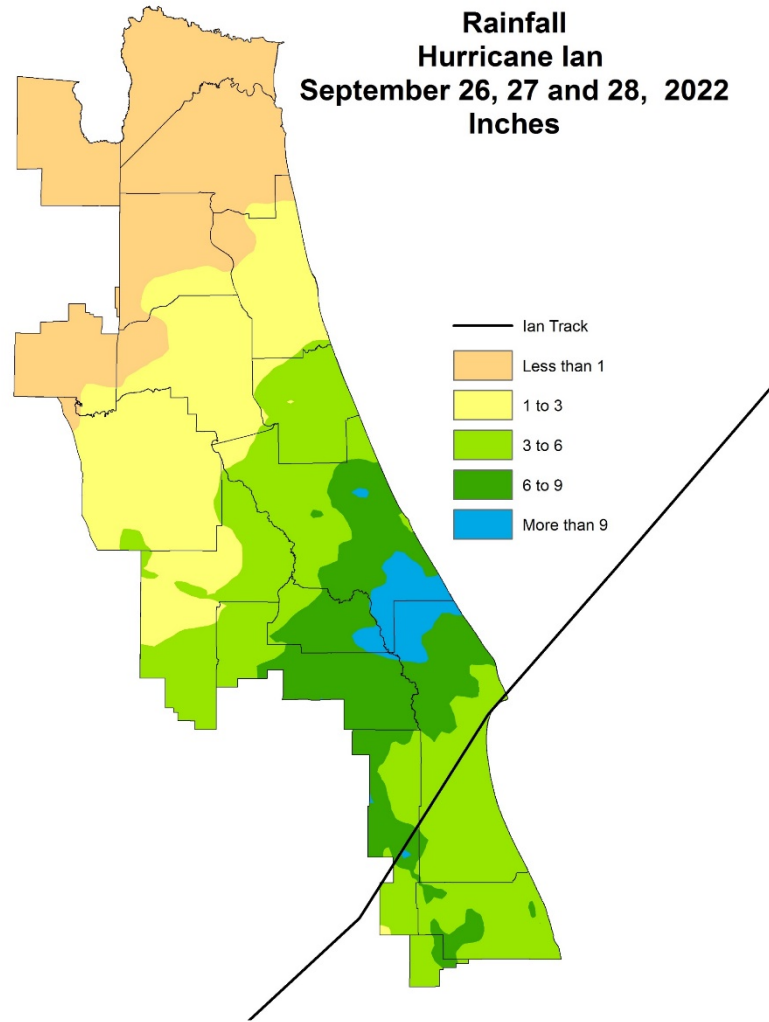
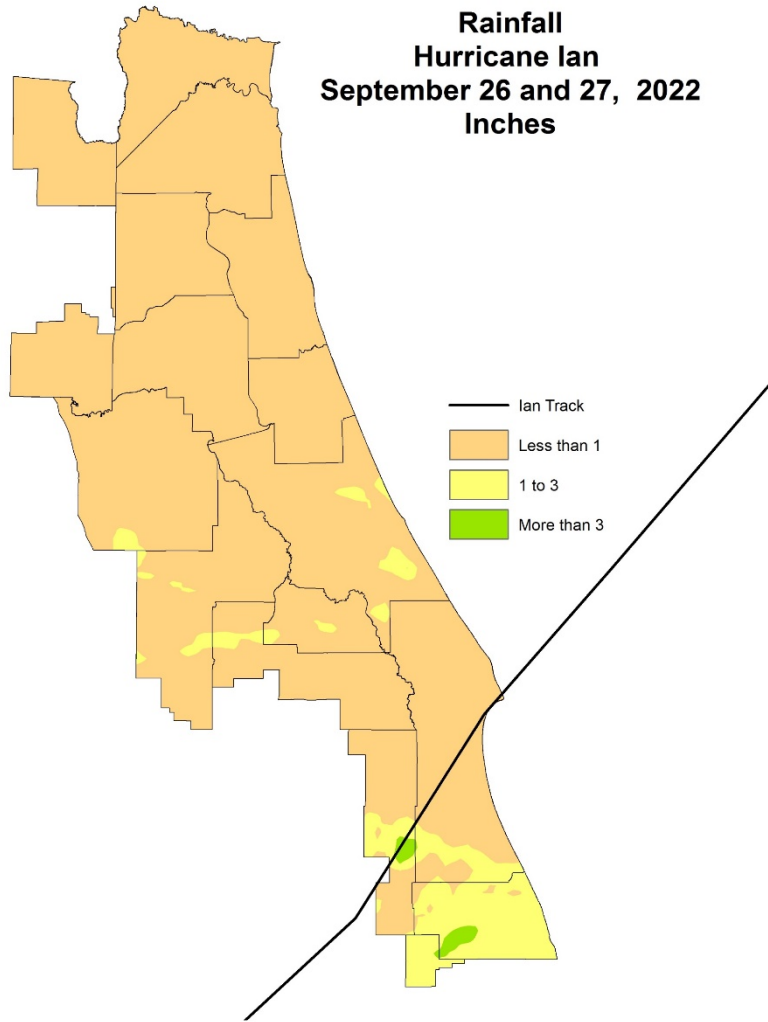


European Space Agency Sentinel satellite color infrared imagery, September 15 and September 30, 2022



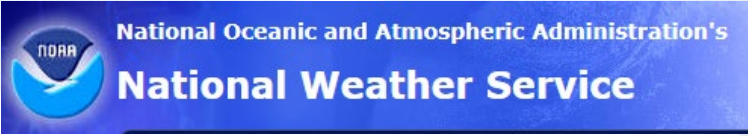
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# Rainfall From Ian

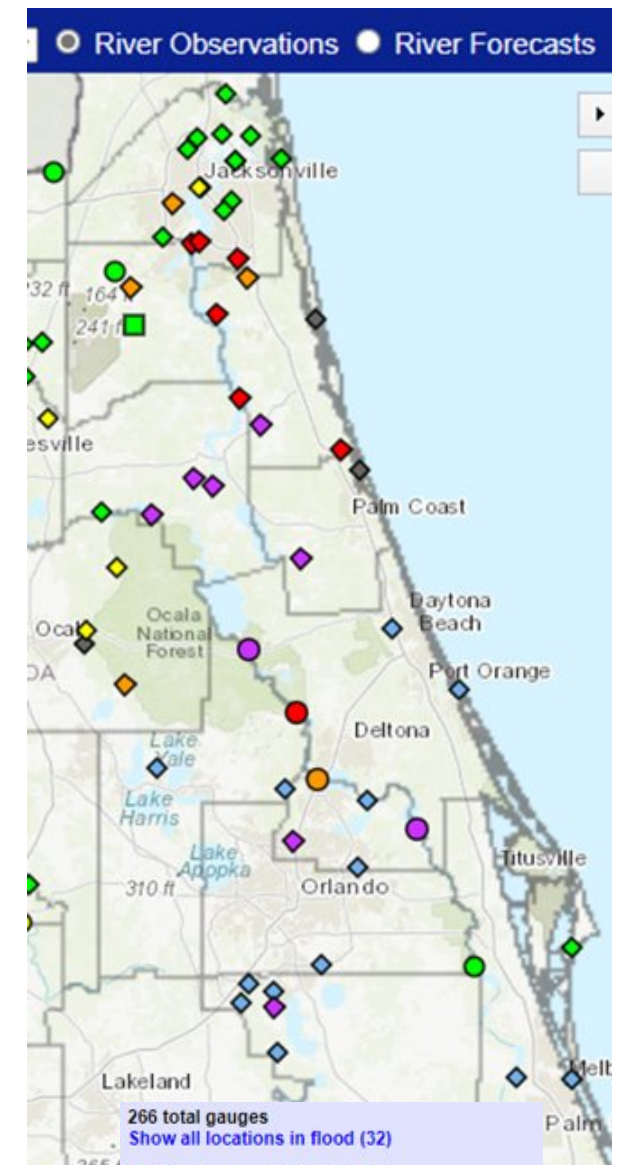
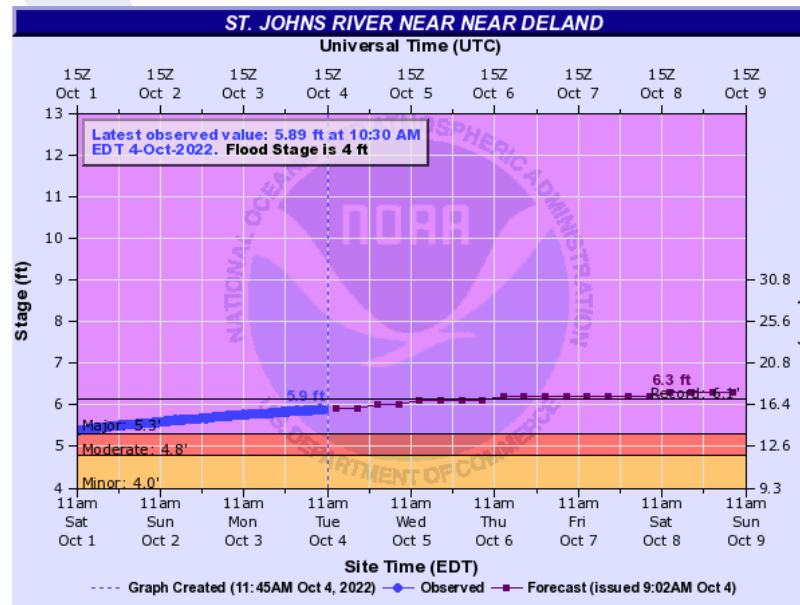
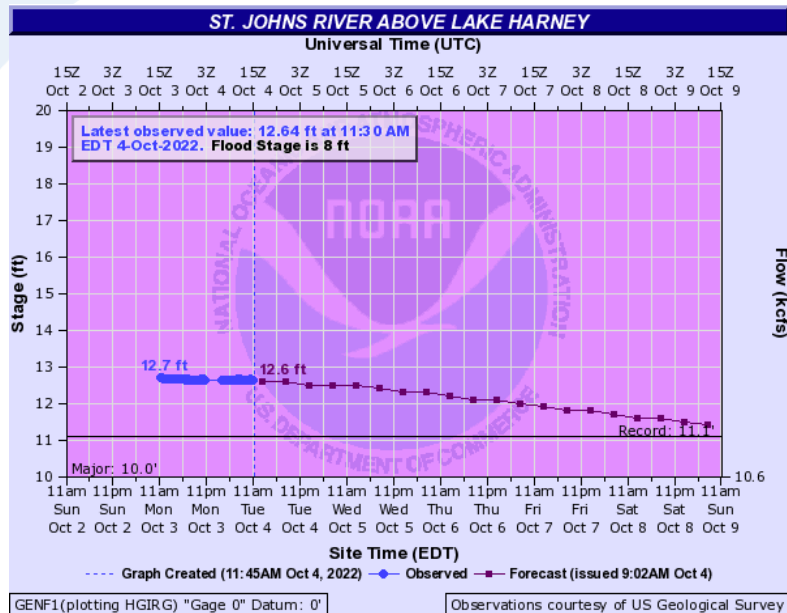




# Flood Observations and Forecasts



<https://water.weather.gov/ahps/region.php?state=fl>



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# National Weather Service – Flood Status

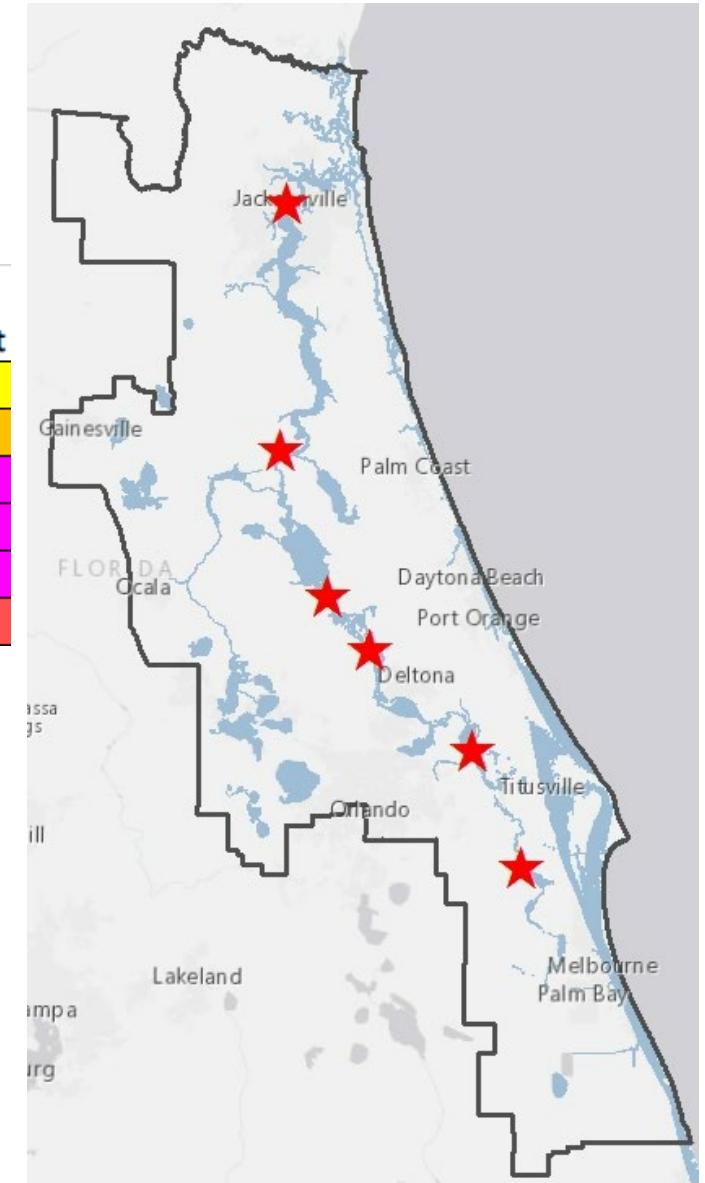
Based on water level:



St. Johns River Station	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
Jacksonville *	Moderate	Major	Moderate	Minor	Minor	Minor	Minor	Minor	Minor	Action	Action	Action
Buffalo Bluff *	Moderate	Record	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Minor	Minor	Minor
Astor	Major	Major	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Deland	Moderate	Moderate	Major	Major	Major	Major	Major	Record	Record	Record	Record	Record
Harney	Minor	Record	Record	Record	Record	Record	Record	Record	Record	Record	Record	Record
Cocoa	None	Action	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Moderate	Moderate

\* Tidal station: Flood status shown is for peak tide of each day

<https://water.weather.gov/ahps/region.php?state=fl>

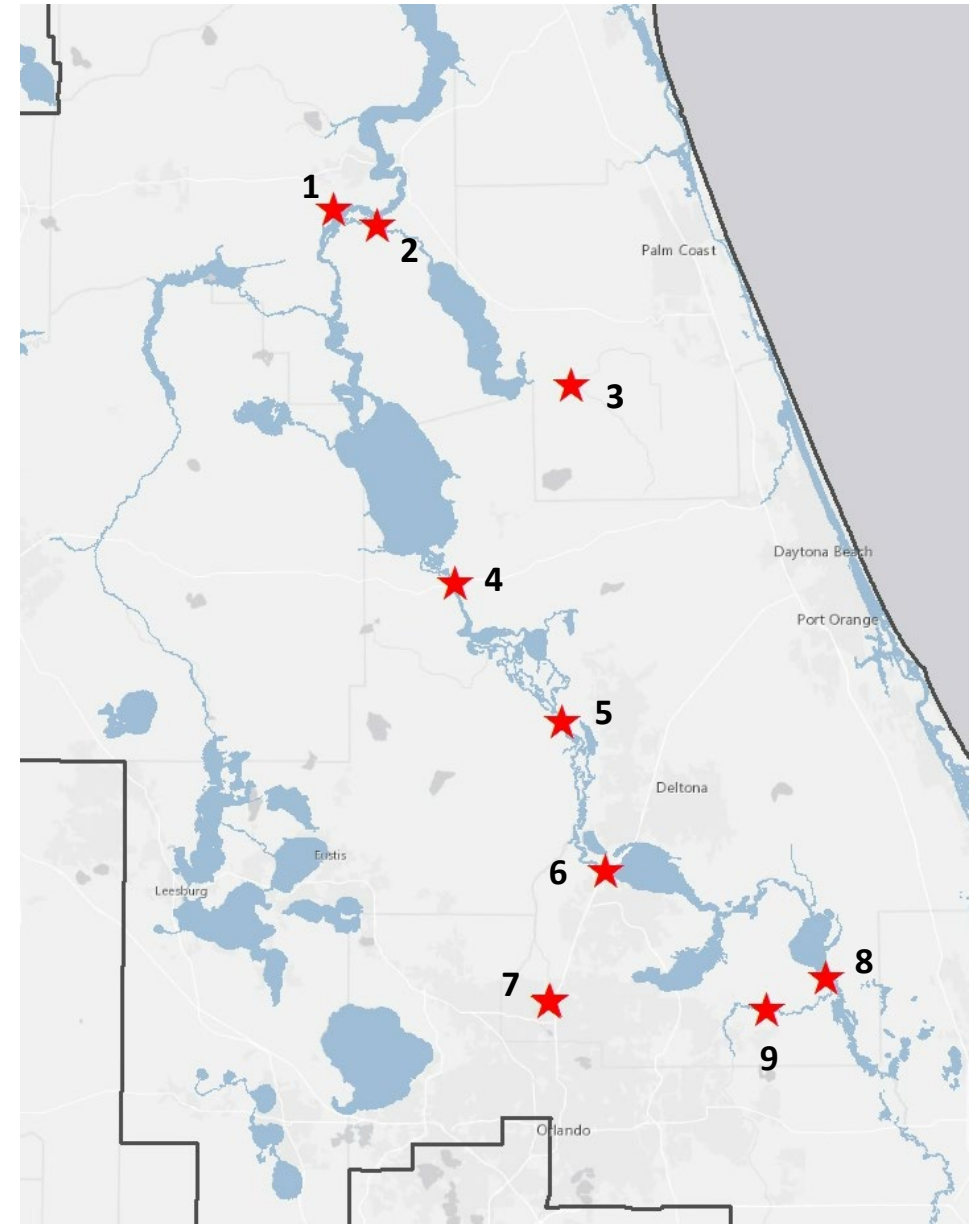


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# Record High Water Levels - USGS stations

1. St. Johns River at Buffalo Bluff
2. Dunns Creek
3. Haw Creek
4. St. Johns River at Astor
5. St. Johns River at DeLand
6. St. Johns River near Sanford
7. Little Wekiva River
8. St. Johns River above Lake Harney
9. Econlockhatchee River

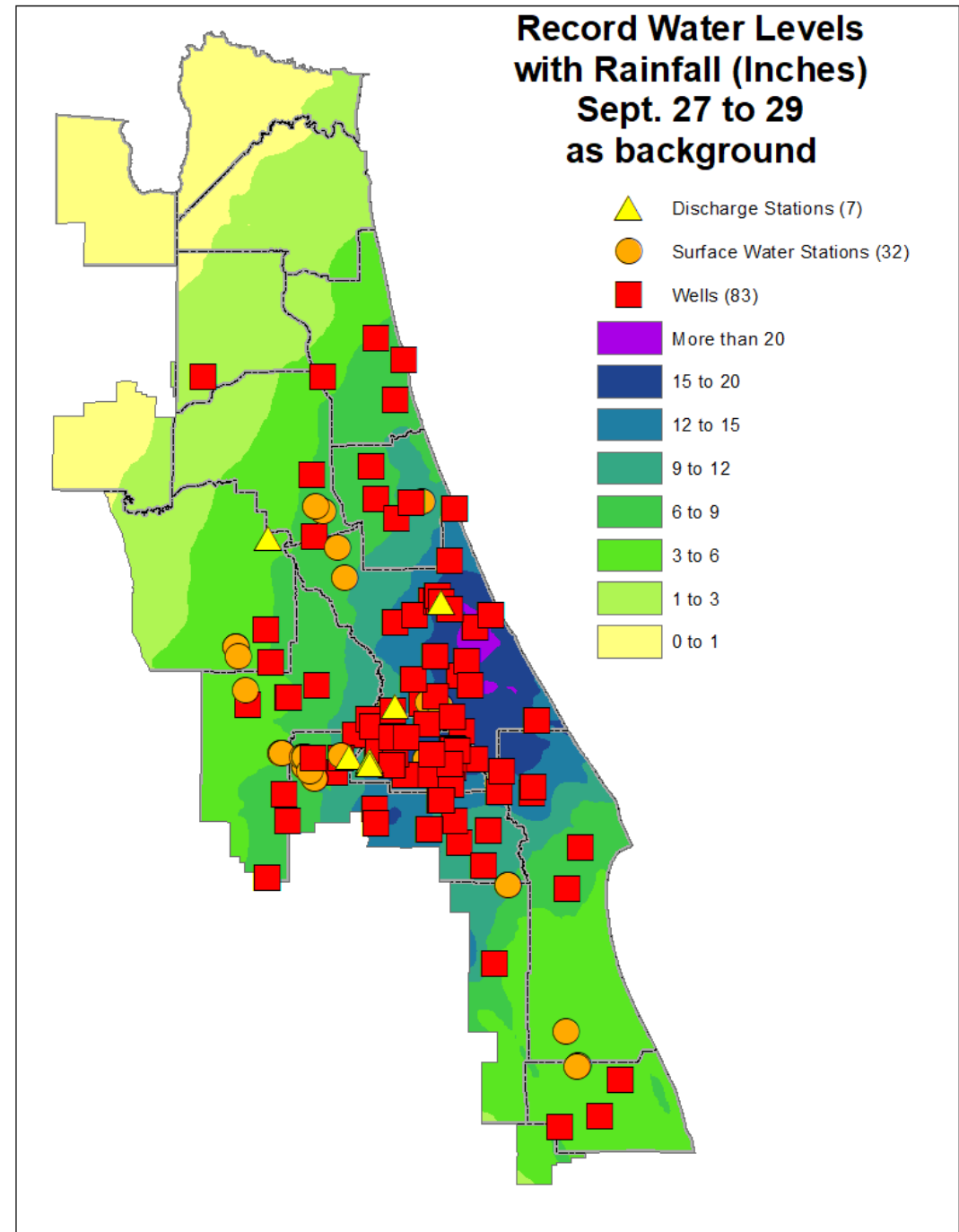


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# Record High Water Levels - District Stations



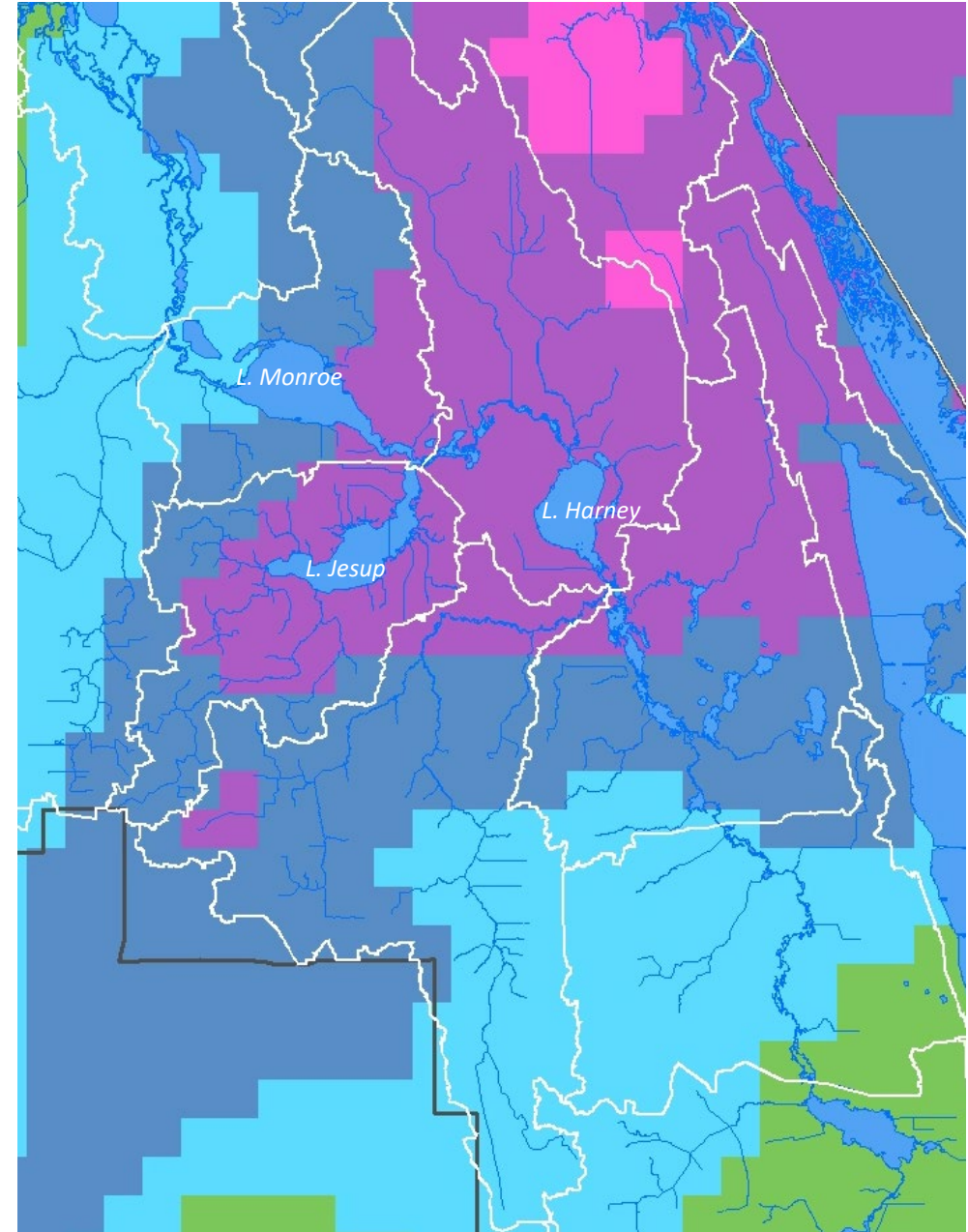
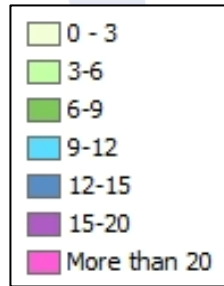
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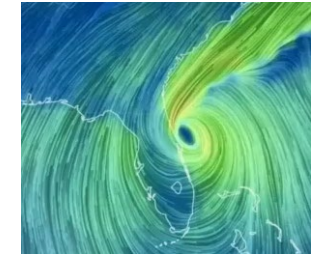
# Rainfall – Middle St. Johns River Basin

Hurricane Ian rainfall totals (inches)

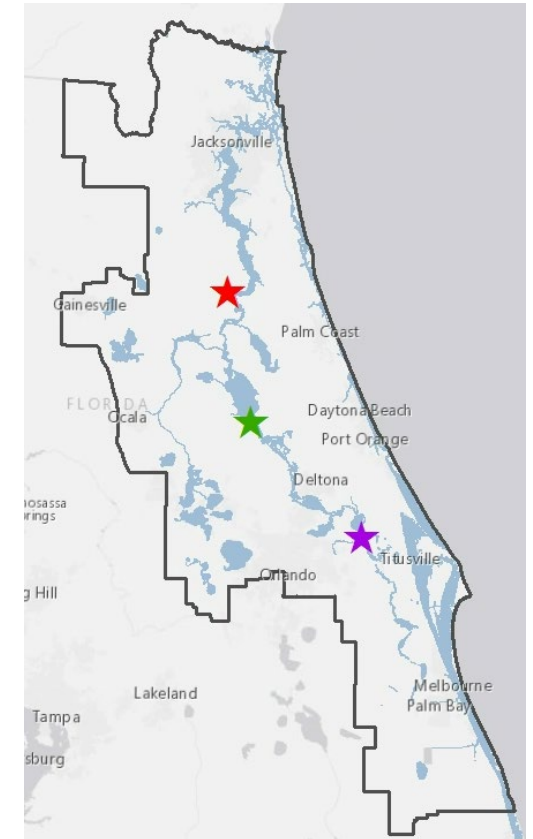
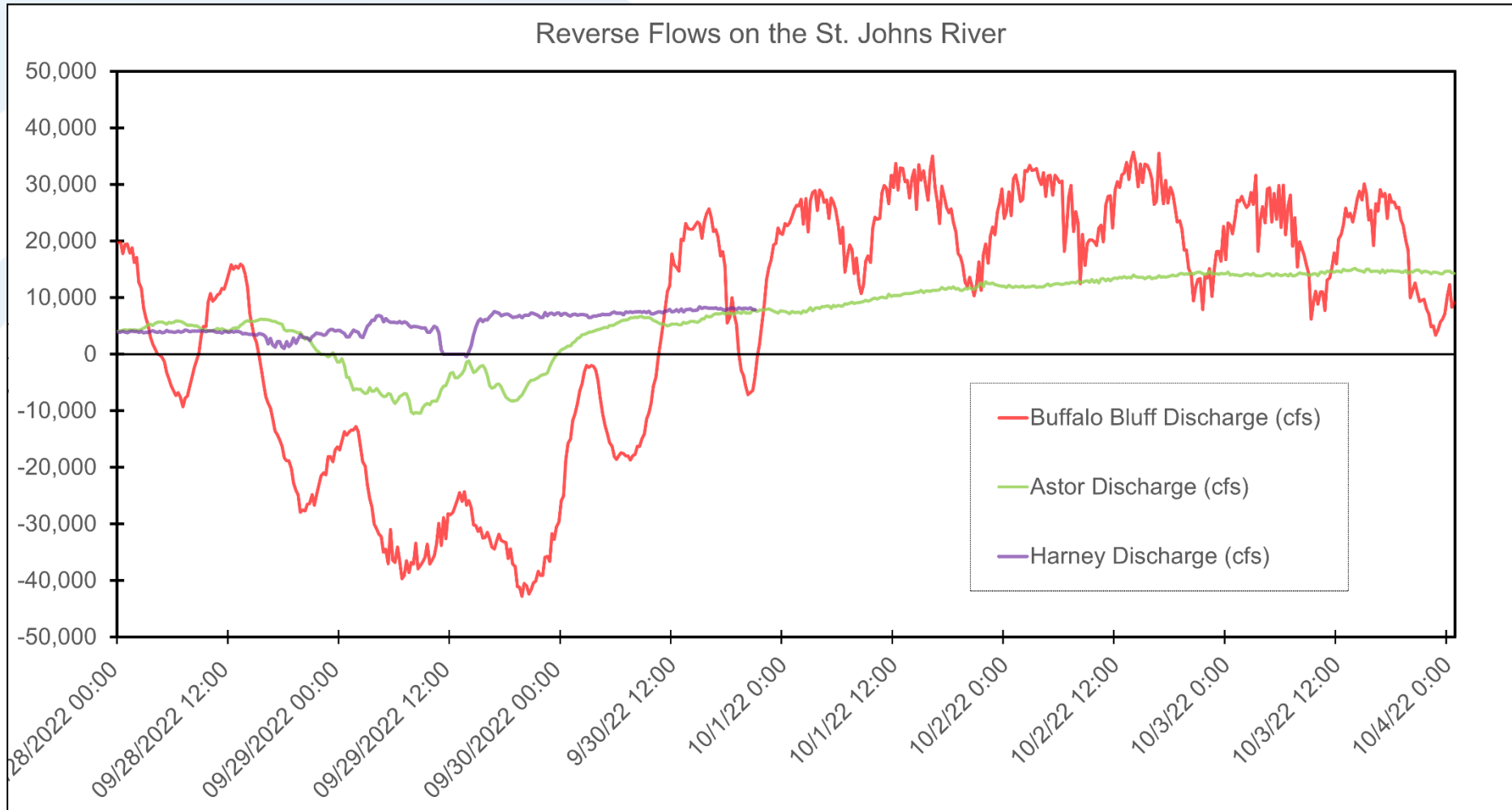


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# Reverse Flows on the St. Johns River



Source: windy.com



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# Post-Ian Surface Water Flow Conditions

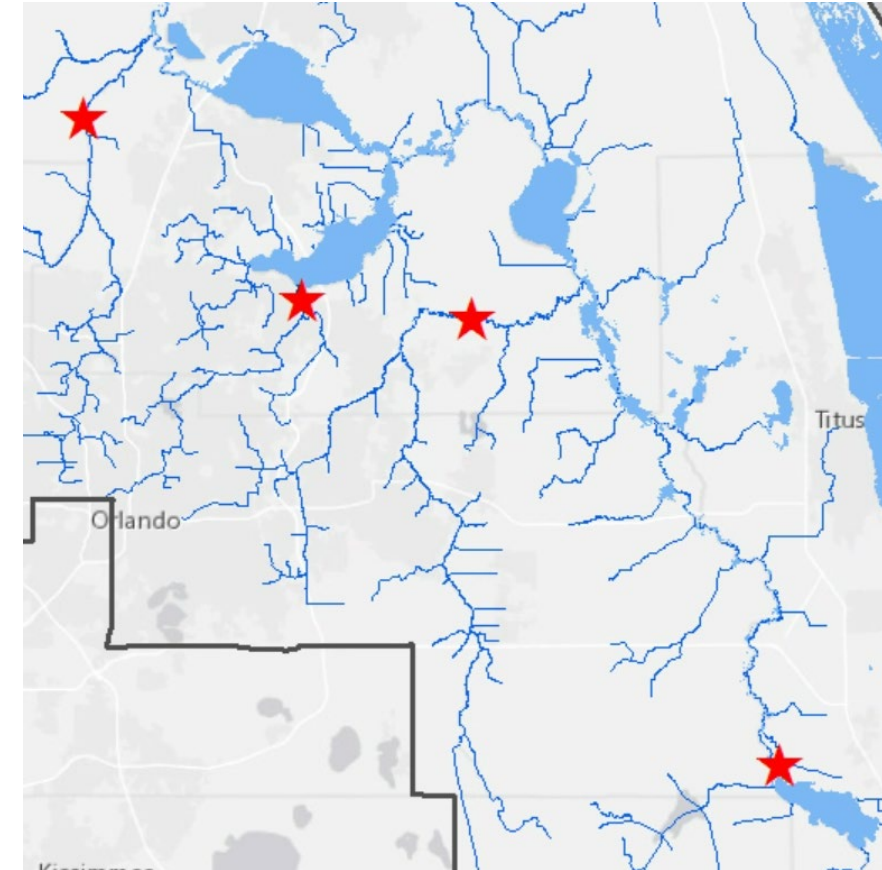
## Middle St. Johns River Basin tributaries

River	Date	Flow (CFS)	Historical Median
Econlockhatchee River	9/30/2022	15,000 *	351
Wekiva River	10/01/2022	2,000 *	307
Howell Creek	9/30/2022	2,200 *	92

\* USGS field measurement

## Upper St. Johns River Basin

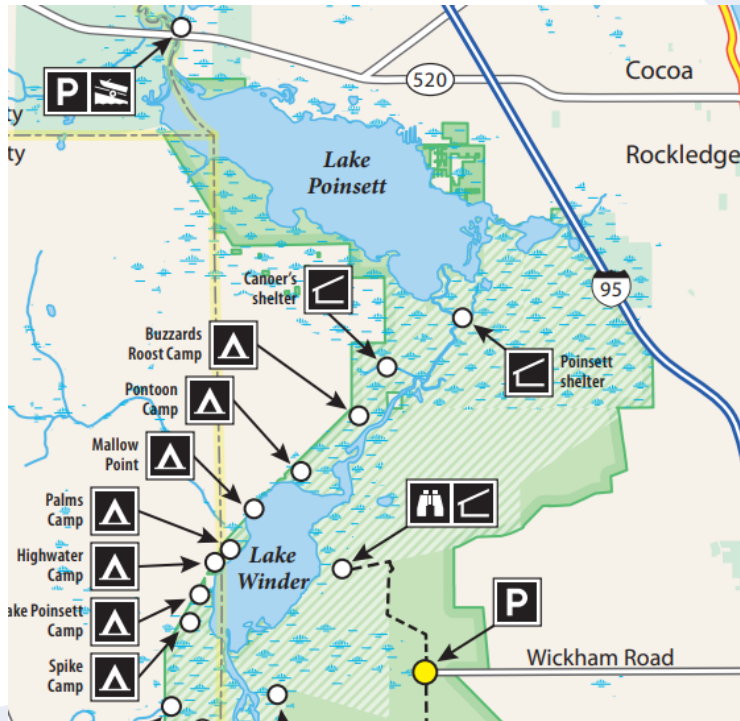
Station	Date	Flow (CFS)	Historical Median
St. Johns River near Cocoa	9/30/2022	2,490	1,760



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# Nonstructural Flood Control

- River Lakes Conservation Area



View of River Lakes Conservation Area, looking south, flooded after Hurricane Ian. Photo taken 10/06/22.



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# Hurricane Ian - Recovery



## Event Specific Outcomes

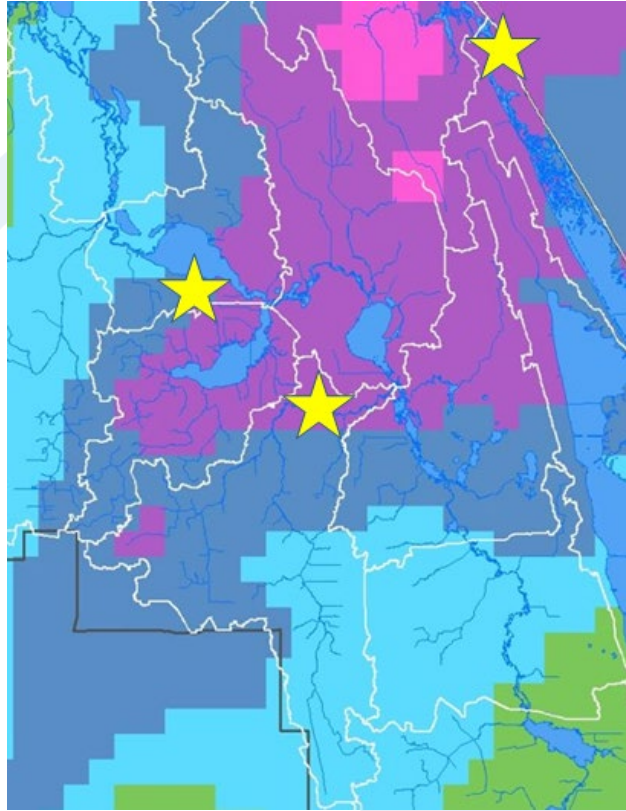
- Actual rainfall north of projection
- Historic rainfall across the Middle Basin (Volusia, Seminole, Flagler, Orange and Osceola)
- District flood control, facility and lands minor impacts
- Mission requests



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# Emergency Response



## SERT Missions

- Pump Team Missions
  - Seminole — Hospital
  - Seminole — Neighborhood
  - Flagler — Malacompra



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# Partnerships



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Questions?