

# Two FCCE Projects from One Unnamed Storm: St. Johns County's Upcoming Beach Renourishments

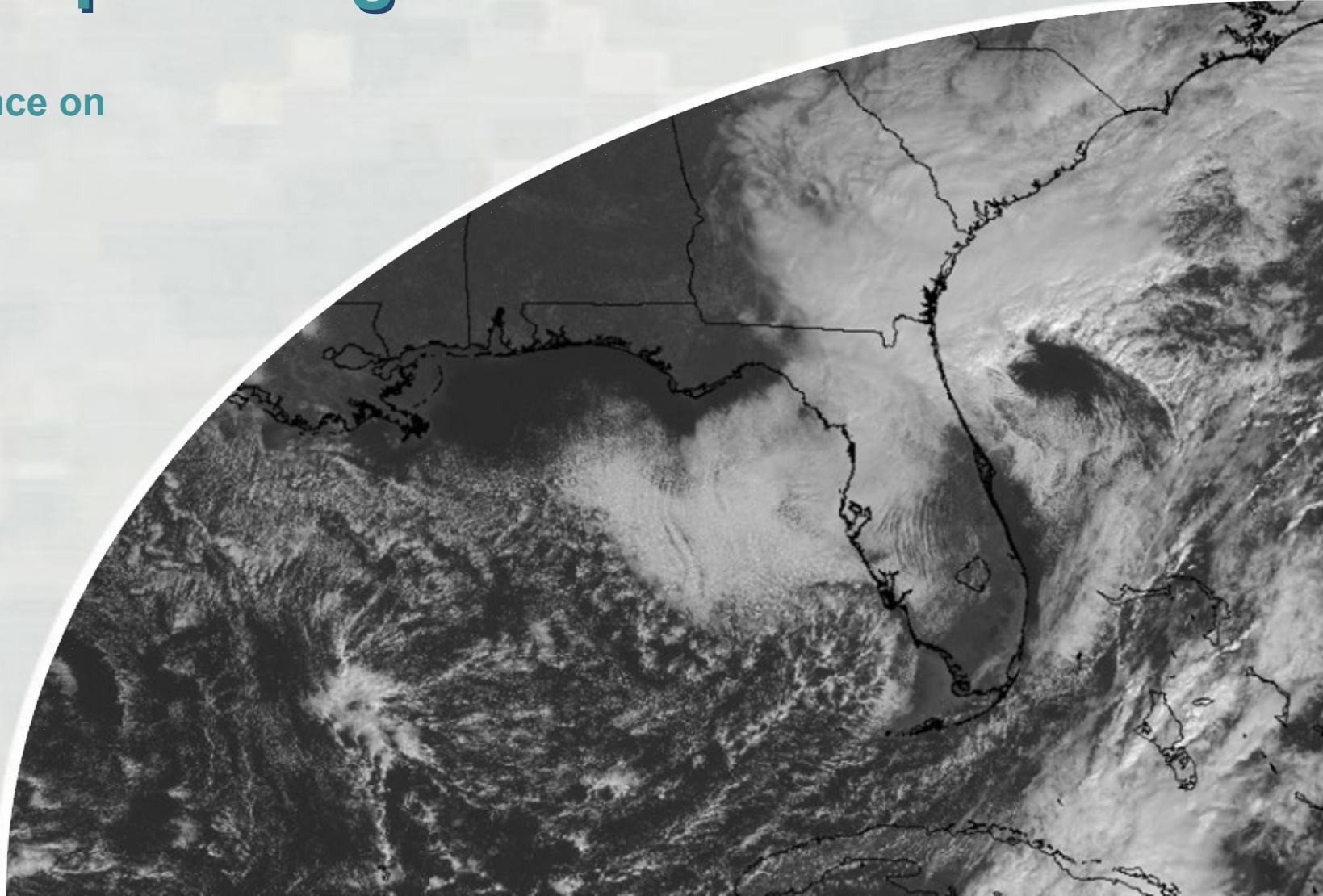
FSBPA 36th Annual National Conference on  
Beach Preservation Technology  
February 2, 2023 – Fort Myers, FL

Patrick J. Snyder, P.E., CFM  
Beaches Unit Chief, Waterways Section  
Jacksonville District  
U.S. Army Corps of Engineers

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US Army Corps of Engineers  
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U.S. ARMY

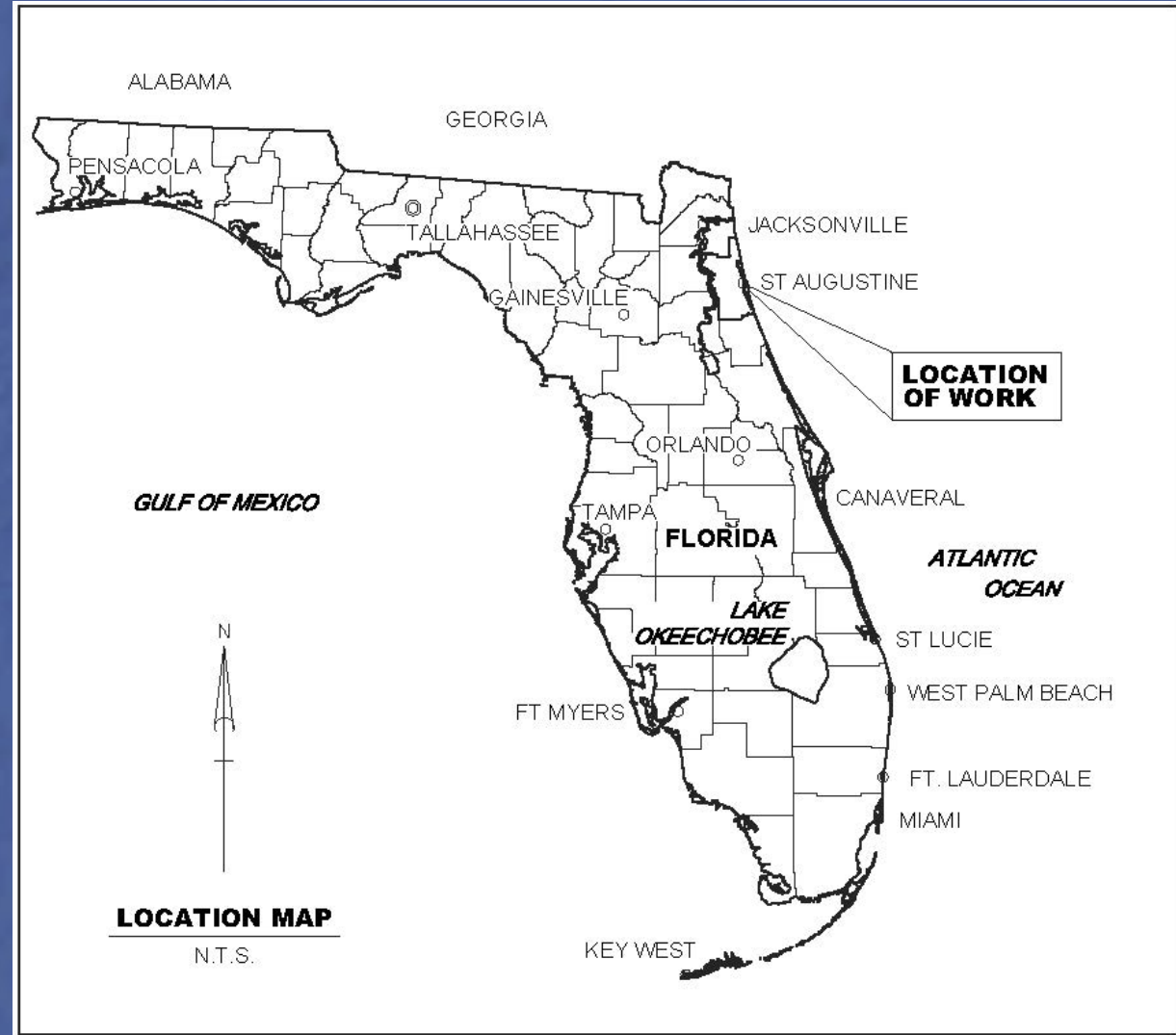
# LOCATION



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## St. Johns County, Florida

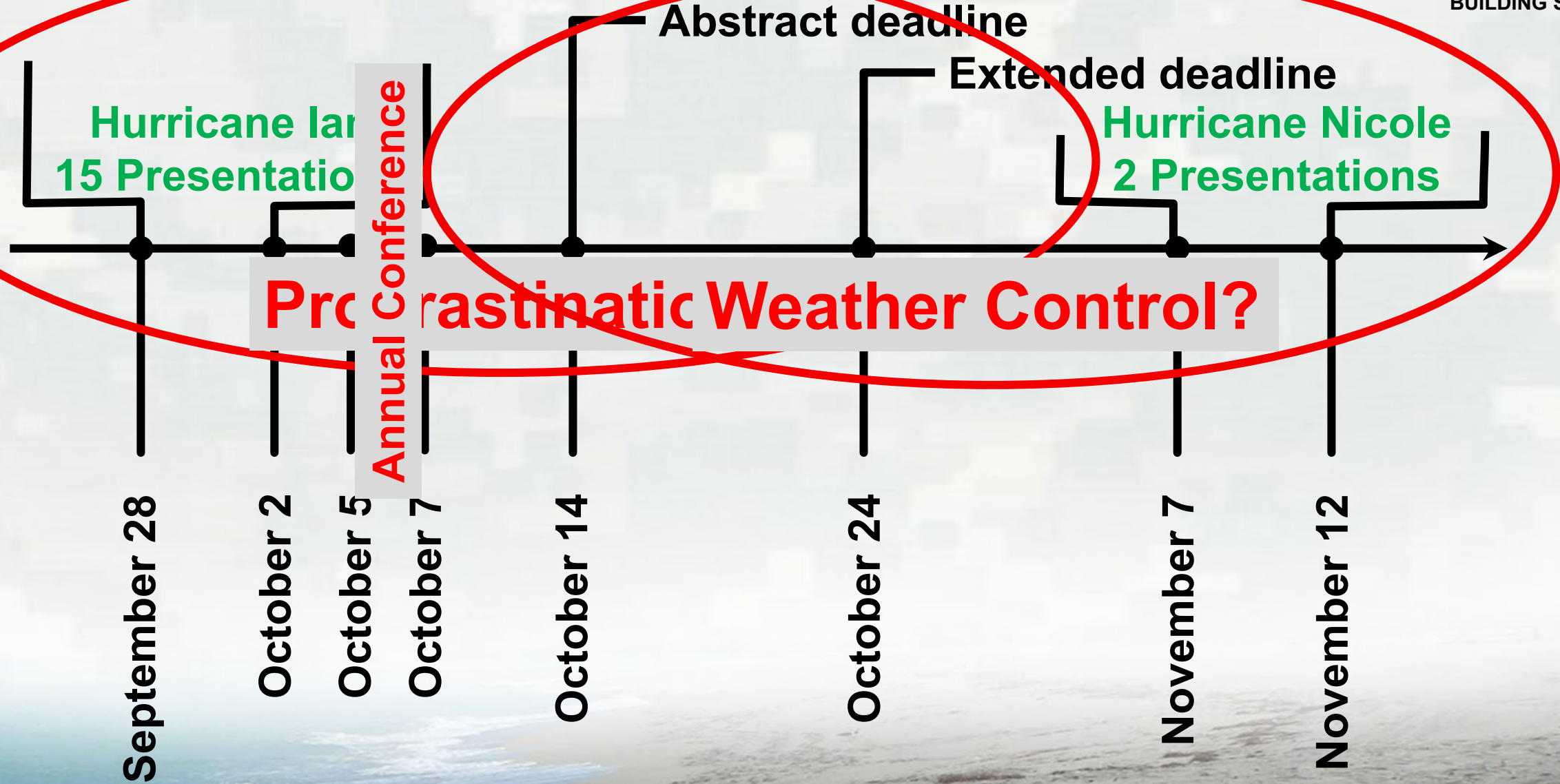




# WHAT'S IN A NAME?



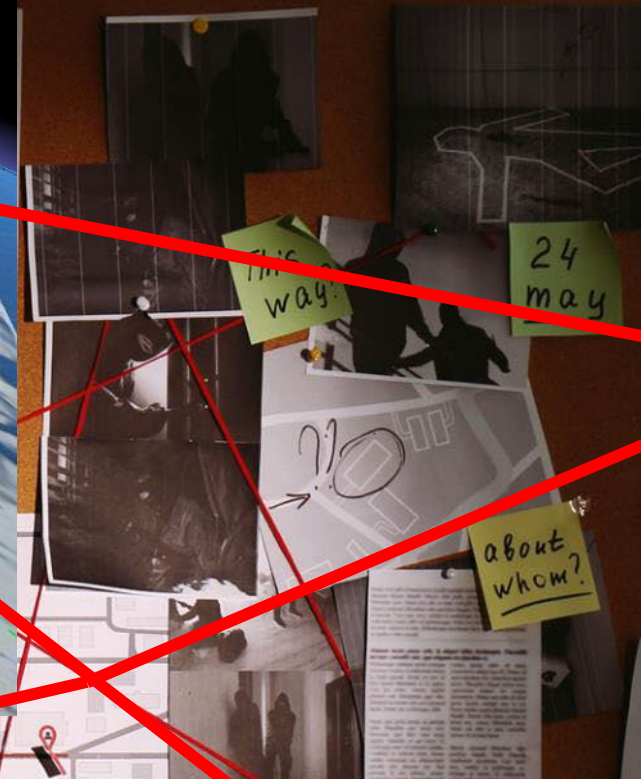
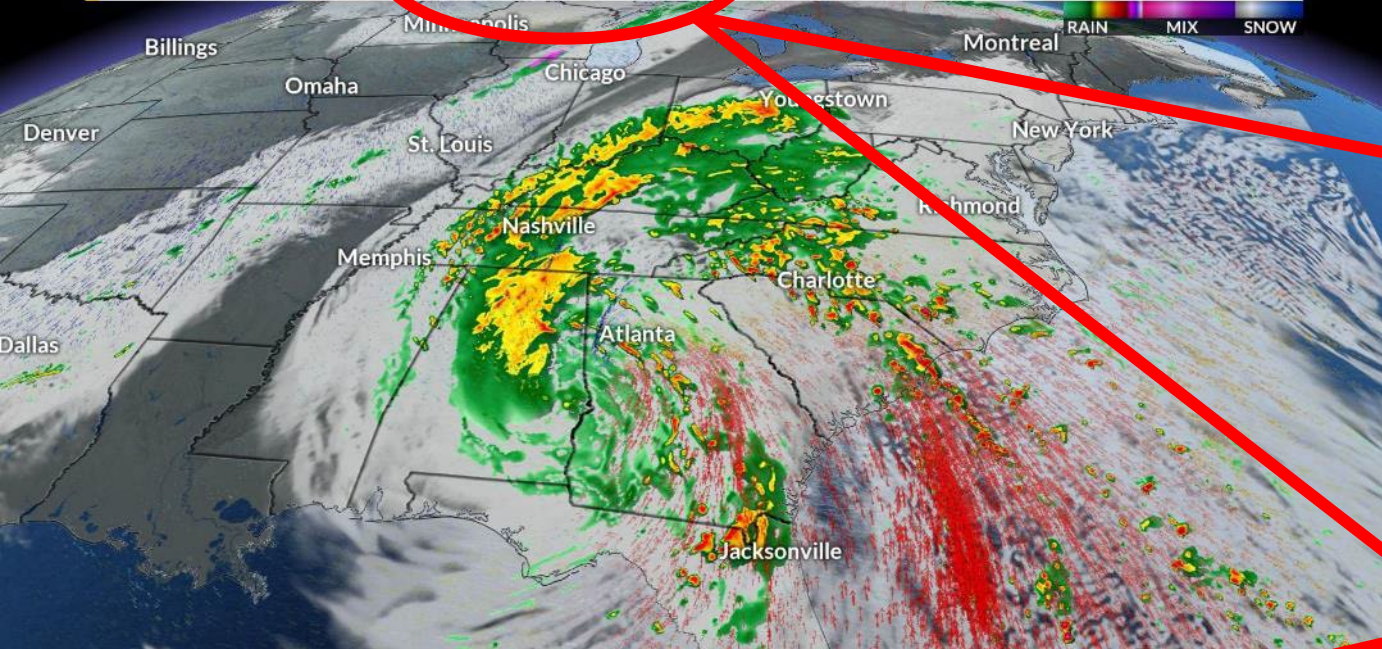
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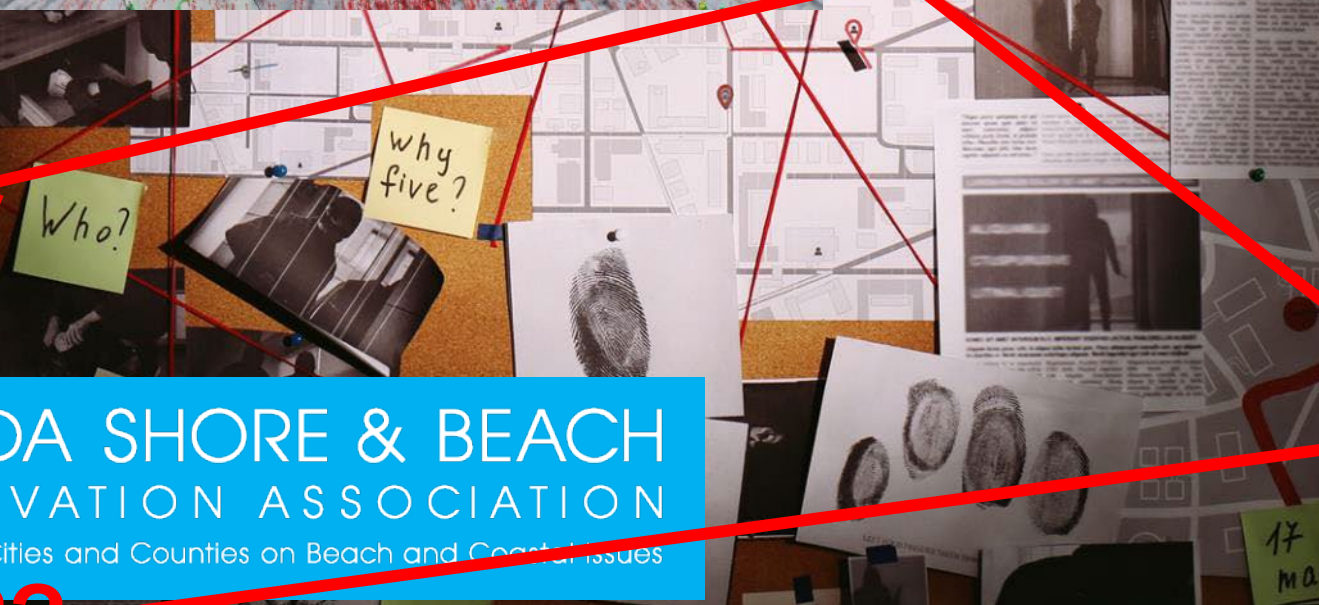
STORM TEAM 27

# FUTURE TRACKER

FRI 6:00 AM



Who Should Attend?



**FLORIDA SHORE & BEACH  
PRESERVATION ASSOCIATION**  
A League of Cities and Counties on Beach and Coastal Issues



??



# WHAT'S IN A NAME?



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## Wait, what? Florida can be impacted by nor'easters?

System defined by wind direction rather than location



Nor'easter

**ORLANDO, Fla.** - You may have heard of them. You may have not. Nor'easters are typically synonyn with snow in the Northeast, but the system impacting Florida this weekend is not bringing snow and Florida definitely isn't in the Northeast!

## Nor'easter ranks just behind Irma for coastal flooding

Yes, the floods have been more frequent lately

Full Screen

1 / 12



News4jax



# WHAT'S IN A NAME?



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## November 5-9, 2021 Nor'easter

- Strong and long-lasting
- Wind speeds and atmospheric pressure at tropical storm level
- Elevated water levels, high waves
- More erosion than Ian or Nicole

## Flood Control and Coastal Emergencies Act (PL 84-99)

- Normally undertaken in response to Hurricane impacts
- Novel application
- Two projects found eligible for renourishment of full construction template

“That which we call an erosive event by any other name would erode just as much” – William Shakespeare

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# FCCE ELIGIBILITY & APPLICABILITY



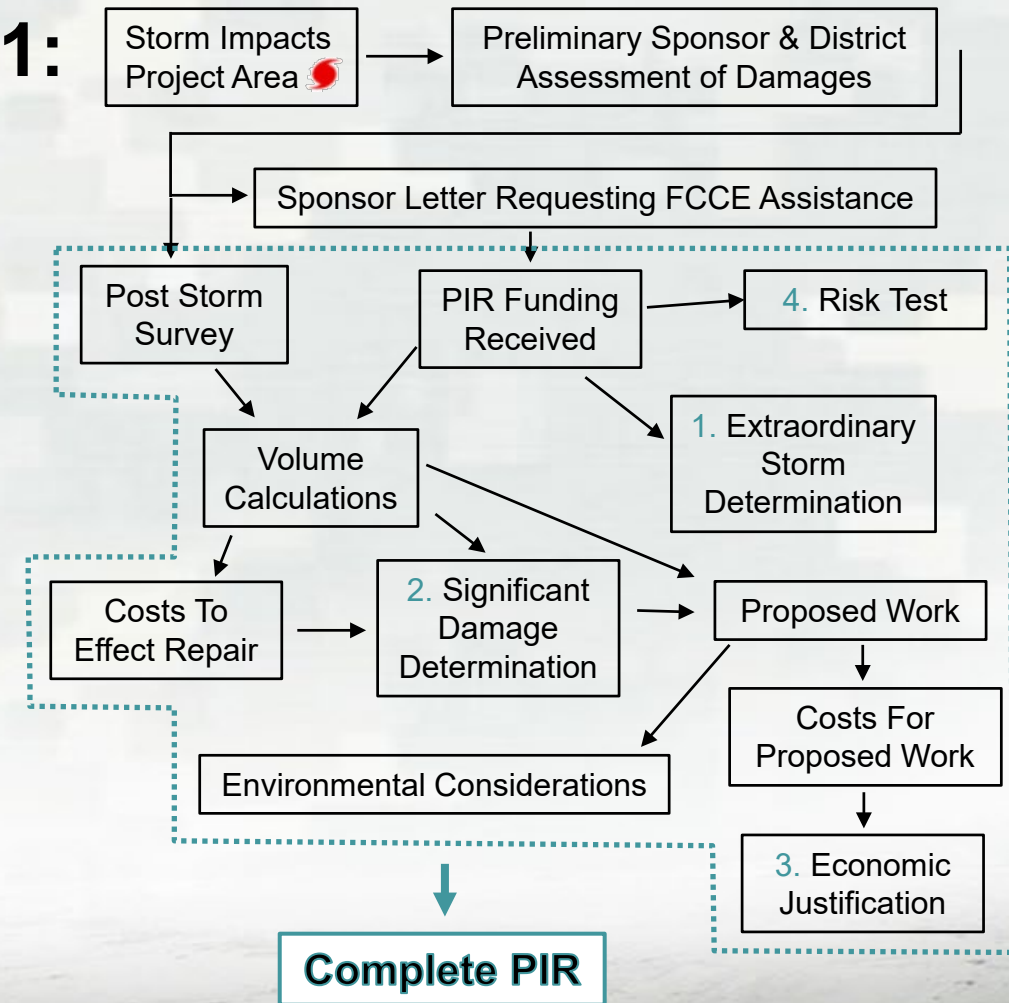
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## Criteria for FCCE Eligibility per ER 500-1-1:

1. Extraordinary Storm Determination
2. Significant Damage Determination
3. Economic Justification
4. Risk Test (No Action Alternative)

## Laws and Guidance:

- PL 84-99 (FCCE Act)
- ER 500-1-1
- EP 500-1-1
- Title 33 of the United States Code (WRDA 2022)





# EXTRAORDINARY STORM DETERMINATION



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## ER 500-1-1 Paragraph 5-20(e):

The Extraordinary Storm. To be eligible for Rehabilitation Assistance, the CSRM Project must be substantially eroded/damaged by wind, wave, or water action of an other than ordinary nature.

## ER 500-1-1 Paragraph 5-20(f):

Extraordinary Storm Justification. The PIR must include justification that substantiates the occurrence of an extraordinary storm. The determination of whether a storm qualifies as extraordinary will be made by the Director of Civil Works, in consultation with the ASA(CW) if necessary. PIR justification will include relevant data from the National Weather Service. **Saffir-Simpson scale Category I and Category II hurricanes (as measured at the Project) are presumed to be ordinary storms** in the absence of a preponderance of evidence that indicates a different conclusion.

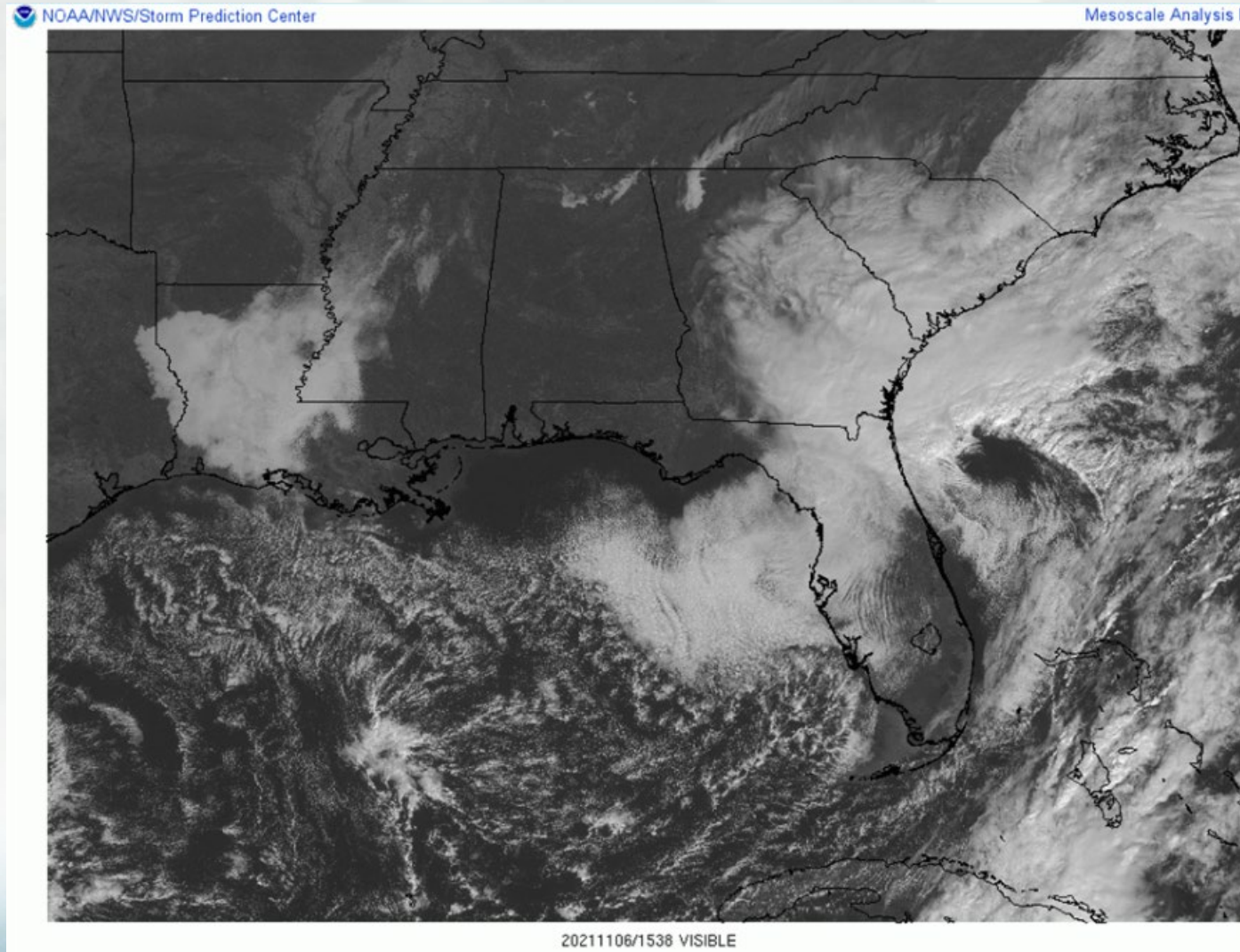




# EXTRAORDINARY STORM DETERMINATION



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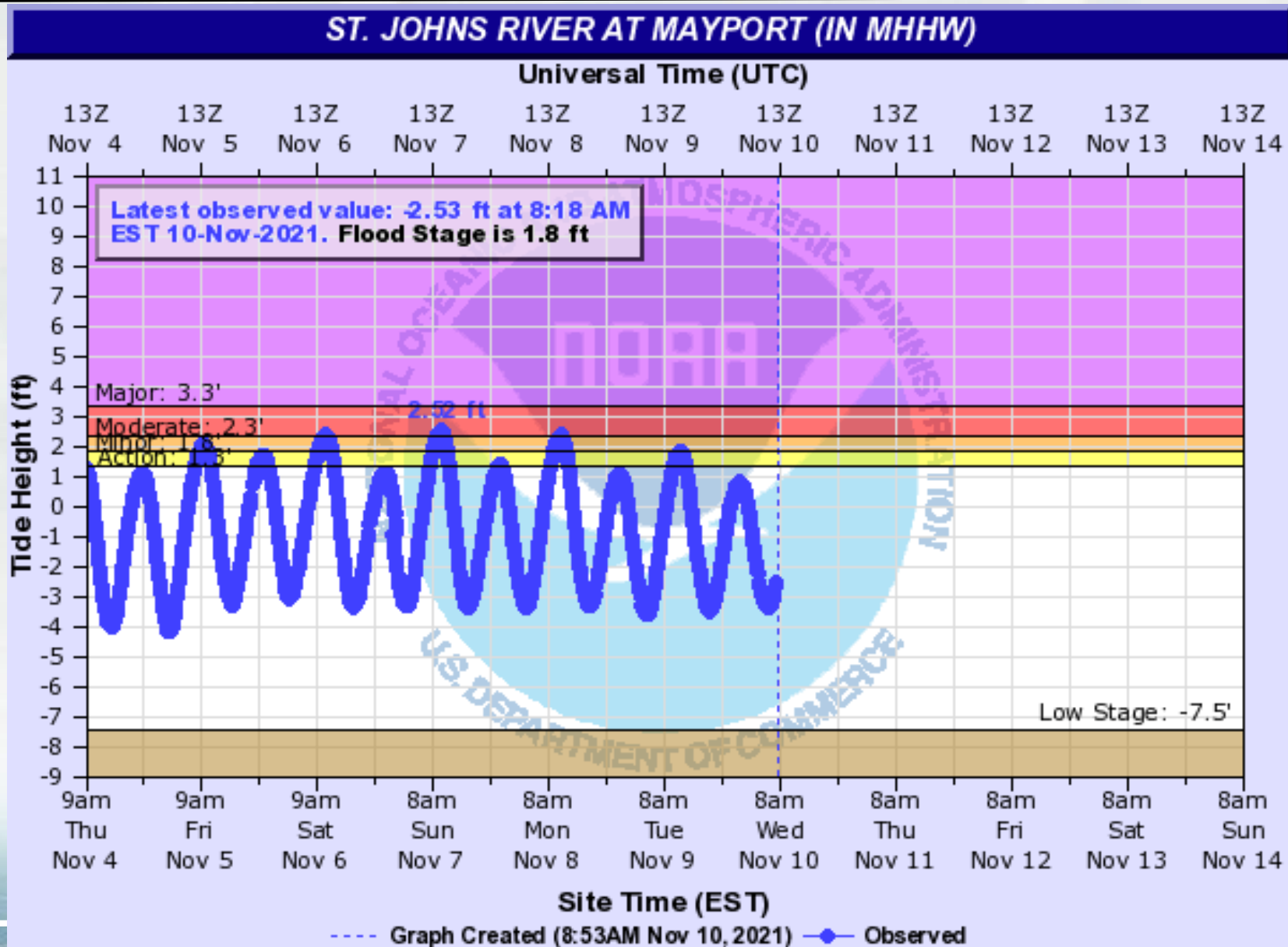
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# EXTRAORDINARY STORM DETERMINATION



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MYPF1(plotting HMIRP) "Gage 0" Datum: 0'

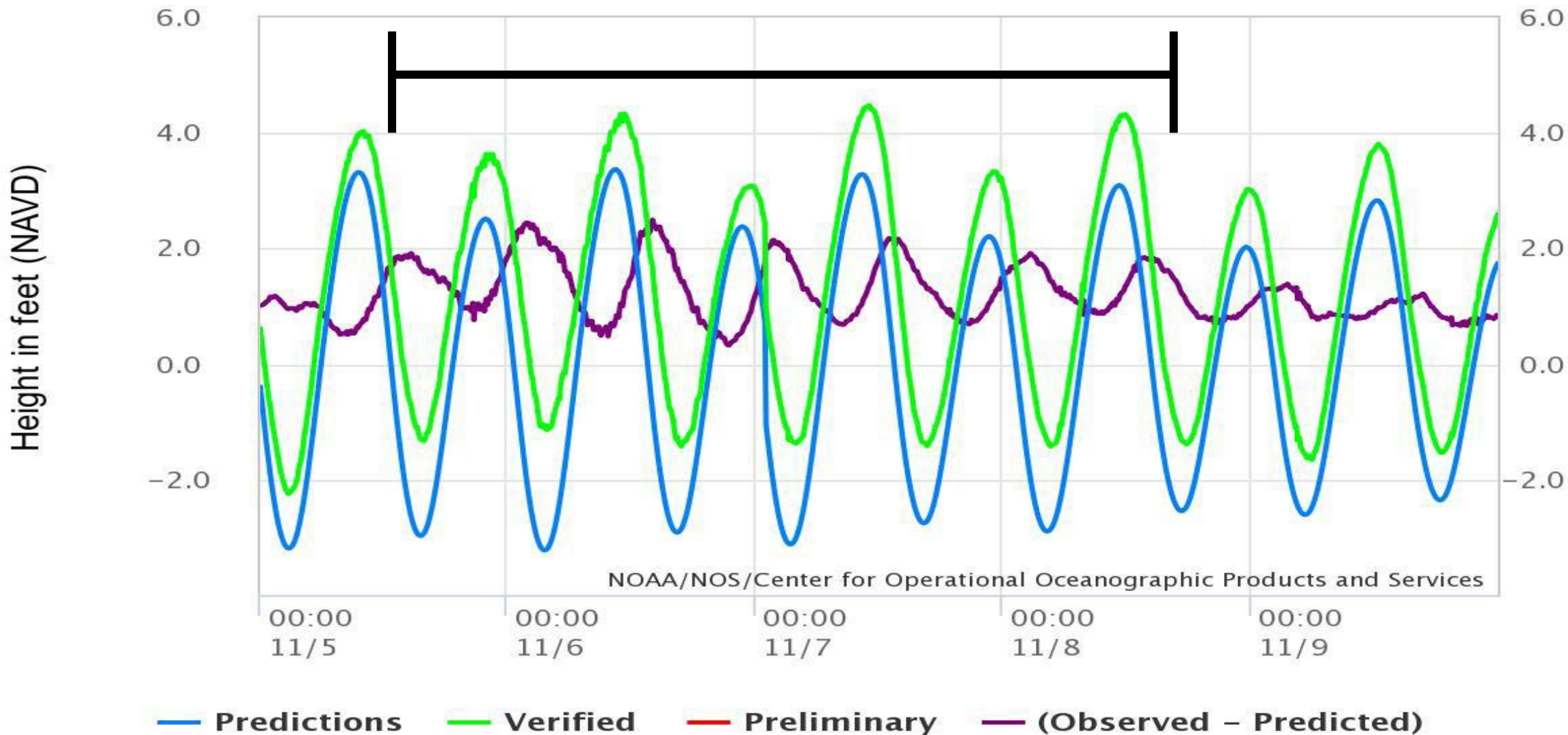
Observations courtesy of National Ocean Service



# EXTRAORDINARY STORM DETERMINATION



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# EXTRAORDINARY STORM DETERMINATION



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## Cumulative wave energy

- Summing wave energy ( $H^2$ ) over storm duration

## Cumulative longshore transport potential

- Summing longshore transport potential (CERC equation)
- Directional component

## See presentation tomorrow by Condon and Hodgens (ERDC)!

- “Determination of Extraordinary Storm Classification for recent Florida events”
- 11:25am



# SIGNIFICANT DAMAGE DETERMINATION



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There are “significant amounts of damage” to the CSRM. [ER 500-1-1 , 5-20.e(2)]

The criterion used to make this determination is:

1. The cost of the construction effort to effect repair of the CSRM (exclusive of dredge mob/demob costs) **(a) exceeds \$1 million and (b) is greater than 2 percent of the original project construction costs** (expressed in current day dollars.); or,
2. The cost of the construction effort to effect repair of the CSRM (exclusive of dredge mob/demob costs) **exceeds \$6 million**; or,
3. More than **one-third** of the planned or historically placed sand for **renourishment** was **lost**, or
4. Only hard features are involved.



# SIGNIFICANT DAMAGE DETERMINATION



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## CSRSM SPV/Vilano



**R-115**

**Breached during Nicole with damage to A1A**



# SIGNIFICANT DAMAGE DETERMINATION



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## CSRM SPV/Vilano







# SIGNIFICANT DAMAGE DETERMINATION



BUILDING STRONG

## CSRМ SPV/Vilano





# SIGNIFICANT DAMAGE DETERMINATION



BUILDING STRONG

## CSRM SPV/Vilano





# SIGNIFICANT DAMAGE DETERMINATION



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## CSRM SPV/Vilano

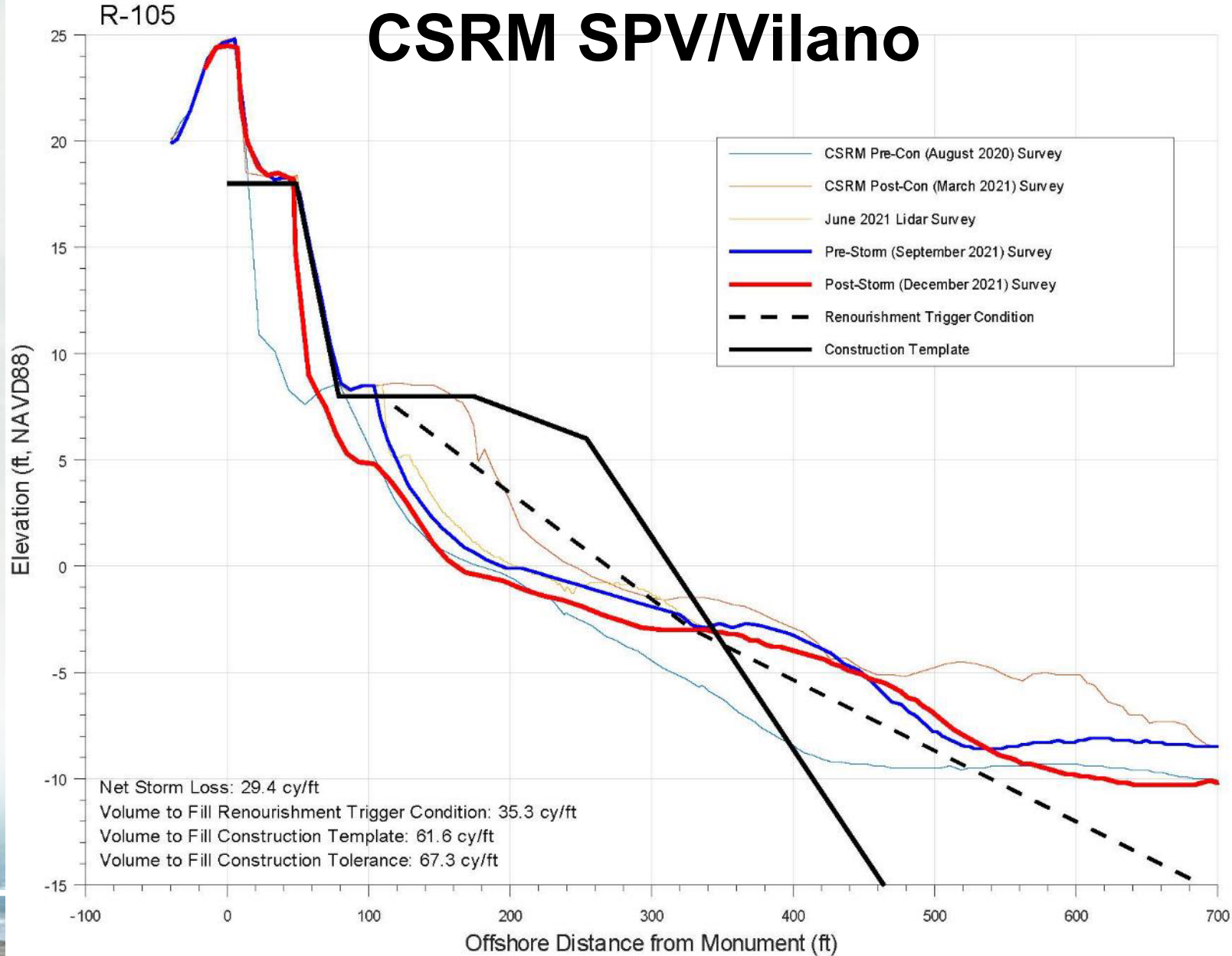




# SIGNIFICANT DAMAGE DETERMINATION



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# SIGNIFICANT DAMAGE DETERMINATION



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## CSRМ SPV/Vilano

	Volume (cy)	Volume (cy/ft)
Pre- to Post-Storm Loss	340,000	21.7
Volume to Fill Design Template	513,000	32.7
Volume to Fill Construction Template	995,000	63.4

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# SIGNIFICANT DAMAGE DETERMINATION



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## SPP St. Augustine





# SIGNIFICANT DAMAGE DETERMINATION



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## SPP St. Augustine





# SIGNIFICANT DAMAGE DETERMINATION



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## SPP St. Augustine



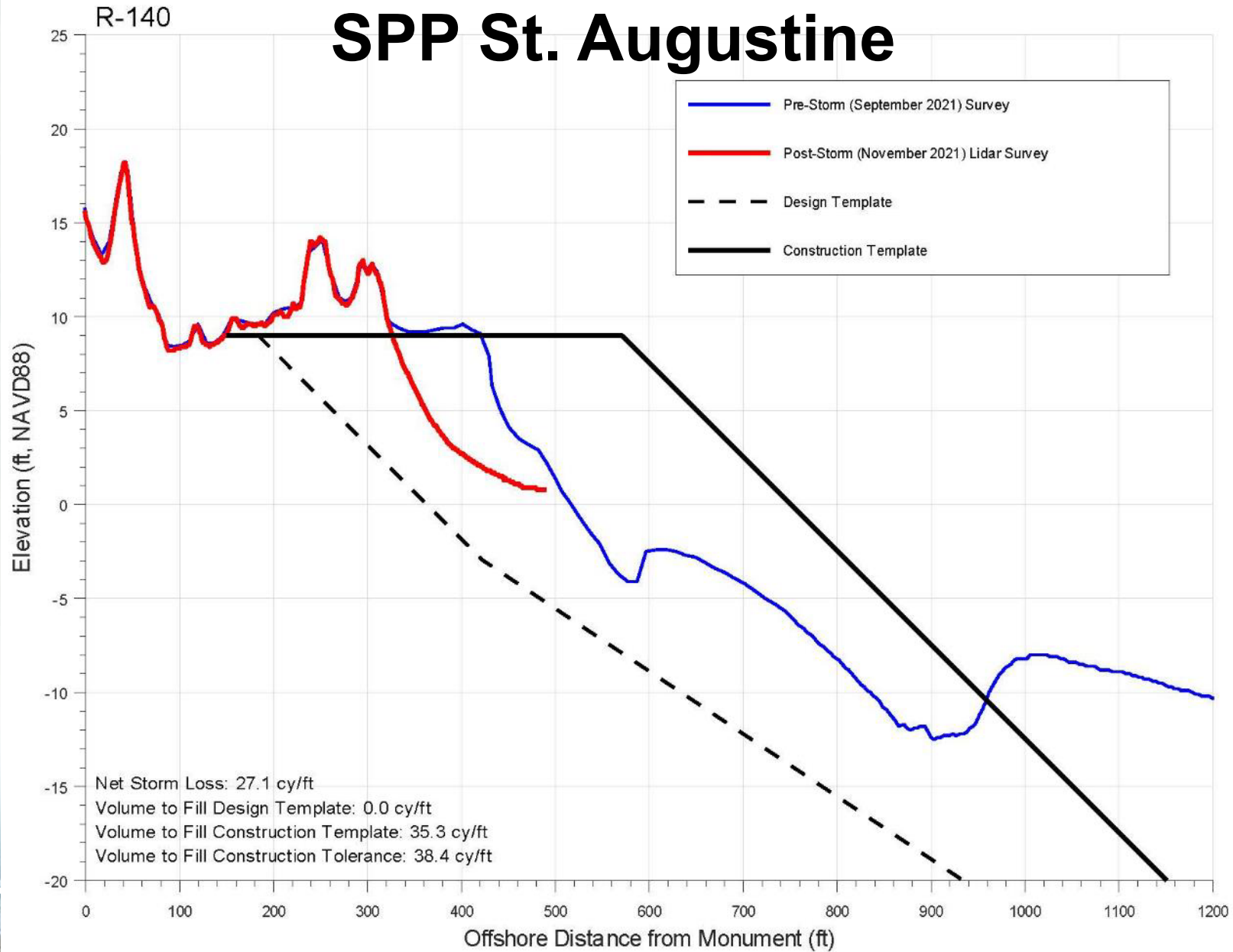




# SIGNIFICANT DAMAGE DETERMINATION



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# SIGNIFICANT DAMAGE DETERMINATION



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## SPP St. Augustine

	Volume (cy)	Volume (cy/ft)
Pre- to Post-Storm Loss	170,000	11.1
Volume to Fill Design Template	174,000	11.4
Volume to Fill Construction Template	1,958,000	128.0

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# THE RISK TEST (NO ACTION ALTERNATIVE)



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**Guidance:** ER 500-1-1 Paragraph 5-20d states d. The Risk Test. The need for funding under PL 84-99 will be based on an assessment of the risk to life and property, and the need for immediate action.

**Methodology:** Provide a qualitative discussion of the project area such as risk to infrastructure, structures, life safety issues, inventory of structures, value of structures, and other potential consequences of no action.

**Data Sources:** The no action alternative should be detailed in the authorizing or last approved report; use information from these existing reports to include in this write-up.

The **Risk Test** answers the question:

“What is the residual risk of the no action alternative?”



# THE RISK TEST (NO ACTION ALTERNATIVE)



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**~R-114**

**Breached during Ian (FDOT Berm placed)**

**Breached during Nicole with damage to A1A**



# THE RISK TEST (NO ACTION ALTERNATIVE)



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Embassy Suites/Pope Road (R-141)  
Exposed armor/debris  
Damage to sea wall

Nov 6, 2021 at 5:48 PM



# POSITIVE PIR?



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Proposed Work may be one the following:

1. **Repair and maintain the design template** = volume of material to restore the design template plus the volume of material to maintain the restored design template which is either the volume of material through the next storm season (~1.5 yrs) or the next assumed periodic nourishment cycle, whichever is less
2. **Restore to the pre-storm profile** = volume of material lost due to the storm
3. **Restore the Full Construction Template** = volume of material to restore the full construction template

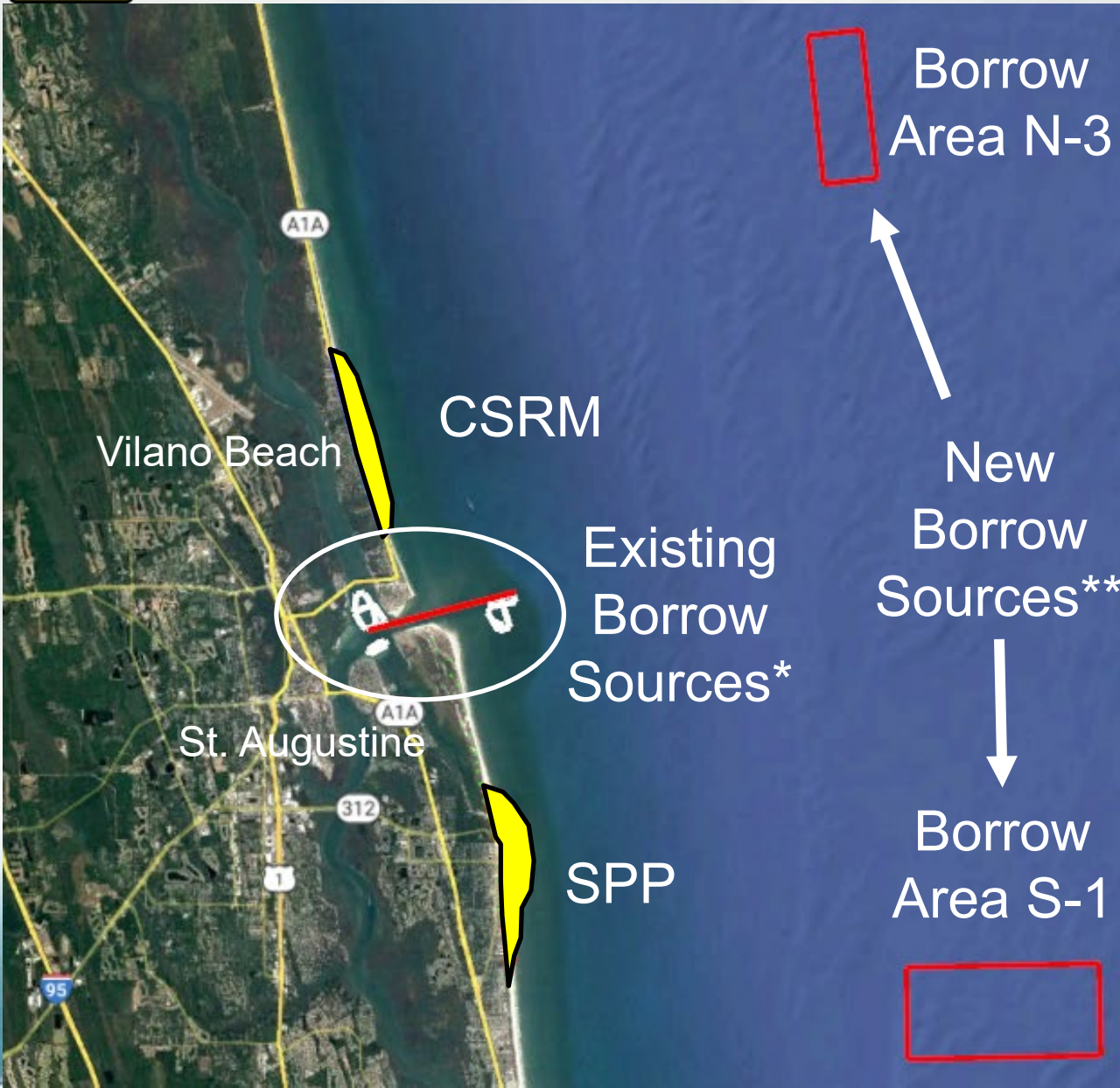
PIR = Project Information Report



# A TALE OF 2 PROJECTS



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## PIR Result:

- Renourishment of Full Construction Template

## New Offshore Borrow Areas

- Added to Federal Authorization via Engineering Documentation Report
- Permitted through FDEP

\*Subject to the conditions of the St. Augustine Inlet Management Implementation Plan

\*\*Subject to BOEM lease agreement (Federal Waters)



# A TALE OF 2 PROJECTS



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## Shore Protection Project St. Augustine Beach

- Length: 2.8 miles
- Volume: 2+ million cy (130+ cy/ft)
- Borrow Area S-1 (10+ Mcy available)
- Advertisement: Early March
- Award: Early May
- Construction: Summer?





# A TALE OF 2 PROJECTS



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Borrow Area N-3

~9 miles

CSRSM



Borrow Area S-1

SPP

## Coastal Storm Risk Management Project

### South Ponte Vedra and Vilano Beaches

- Length: 3.0 miles
- Volume: 1+ million cy (60+ cy/ft)
- Borrow Area N-3 (4+ Mcy available)
- Advertisement: Late March
- Award: Late May
- Construction: Summer?



# QUESTIONS?



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## Thank you!



that's him

Special thanks to:

Stephen Hammond and Damon Douglas, St. Johns County

Marty Durkin, Drew Condon, Matt Schrader, Aubree Hershorin,  
Jim LaGrone, Liz Fiocchi, Erik Adamiec, Samantha Borer, USACE



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