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Summer Haven River Restoration Project & the Hurricane Matthew Breach

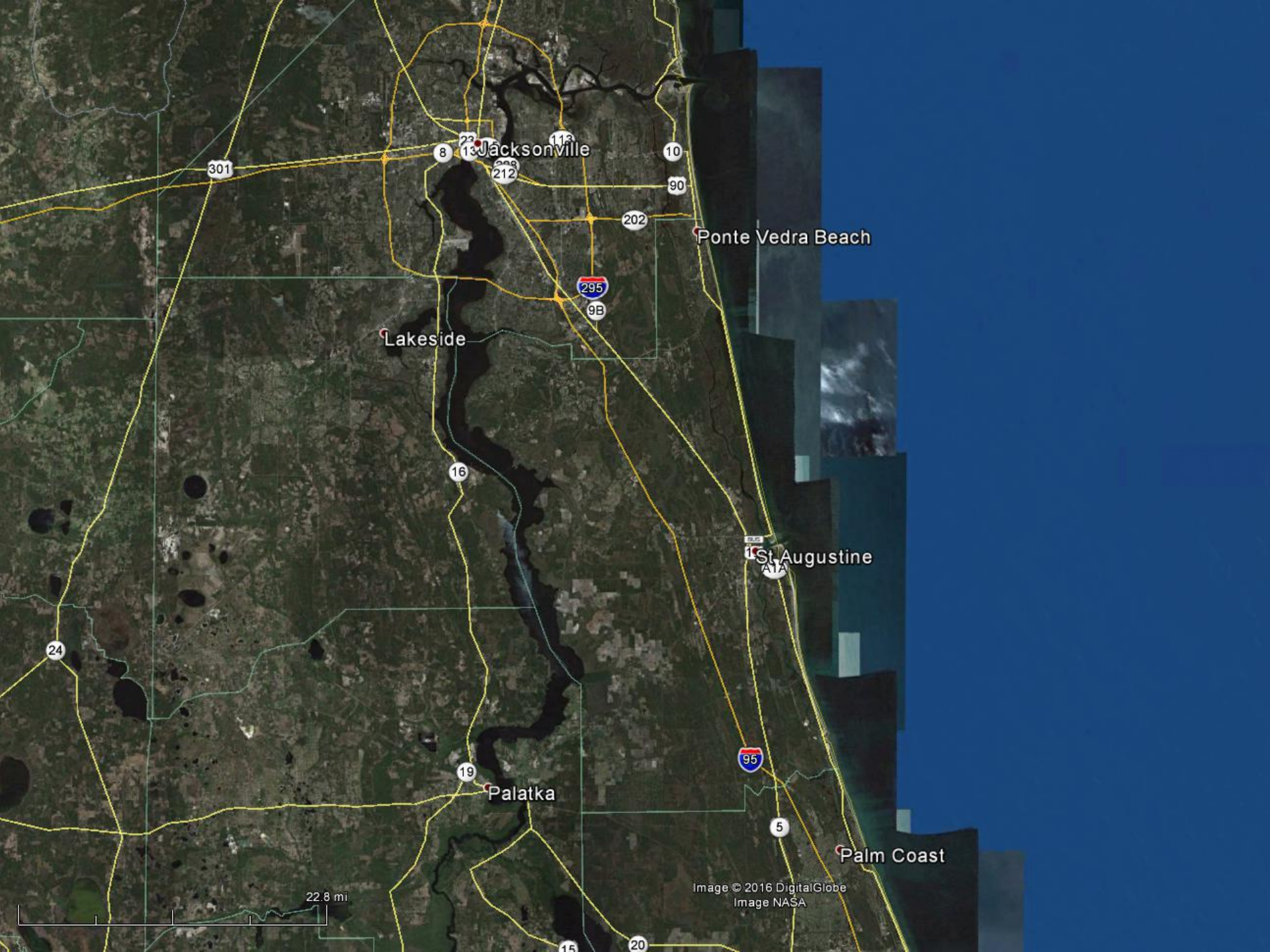


Presented by: Ken Craig, P.E.
Coauthor: Michael Trudnak, P.E.

February 9, 2017

The Story

- Summer Haven River Restoration Project
- Post Matthew Breach Closure



Jacksonville

Ponte Vedra Beach

Lakeside

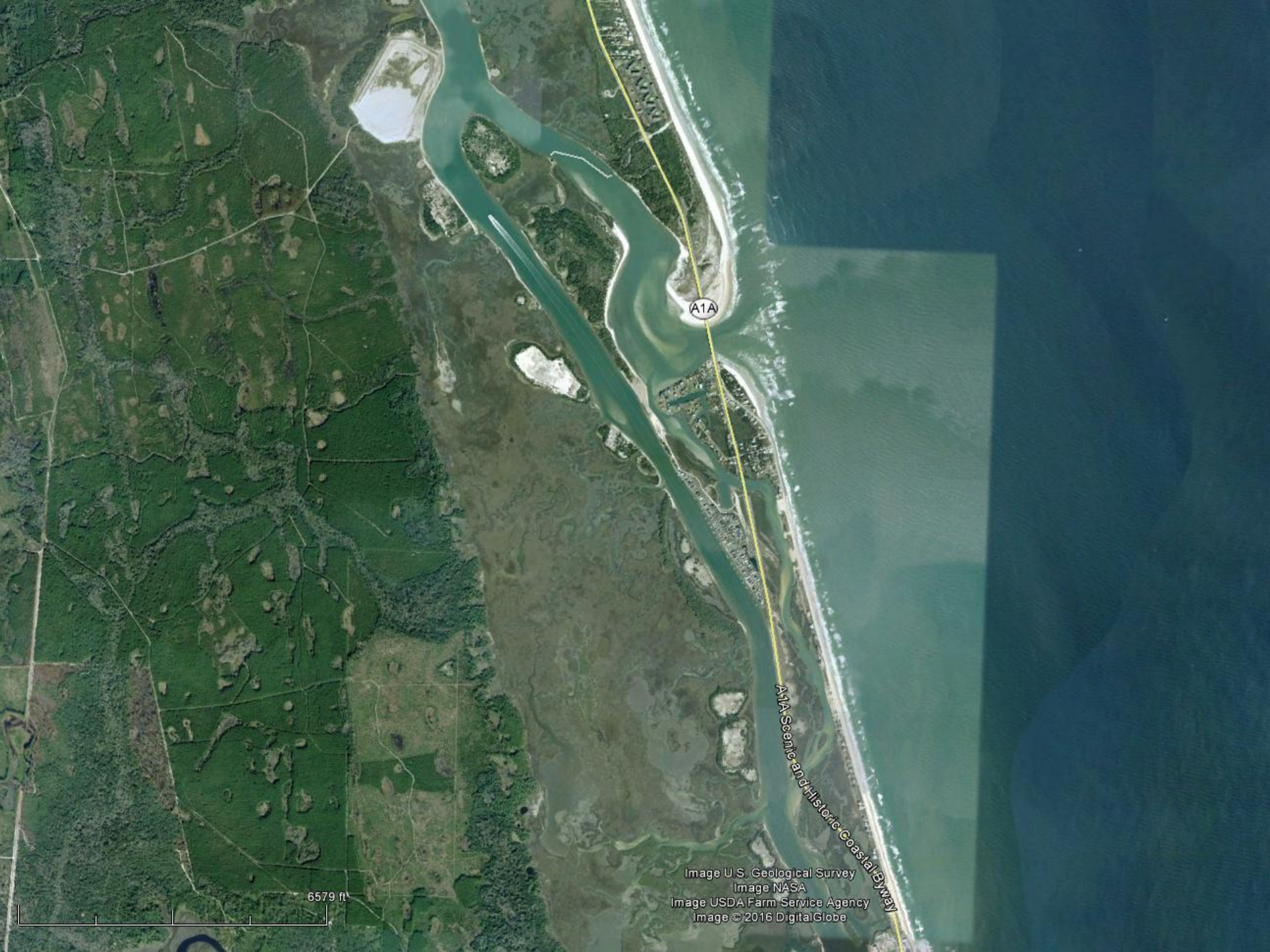
St. Augustine

Palatka

Palm Coast

22.8 mi

Image © 2016 DigitalGlobe
Image NASA



A1A

A1A Scenic and Historic Coastal Byway

6579 ft

Image U.S. Geological Survey
Image NASA
Image USDA Farm Service Agency
Image © 2016 DigitalGlobe



Rattlesnake Island

1A

1A

1A

1245 ft

Image U.S. Geological Survey
Image USDA Farm Service Agency



Rattlesnake Island

Gene Johnson Rd

Melton Ct

0252A

A1A

Summer Island Dr

June Ln

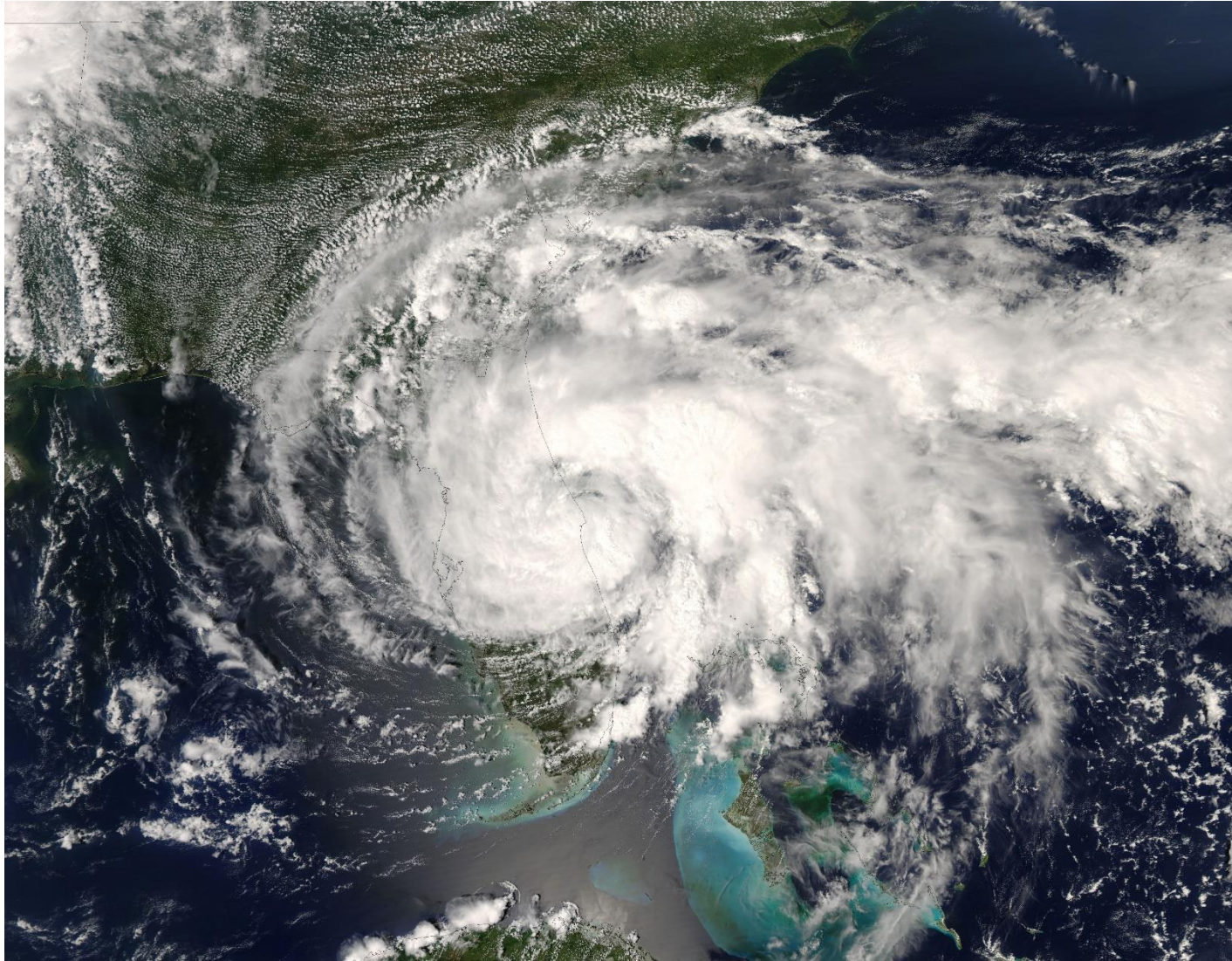
553 ft

Image U.S. Geological Survey

PEOPLE AND PLACES



Tropical Storm Fay

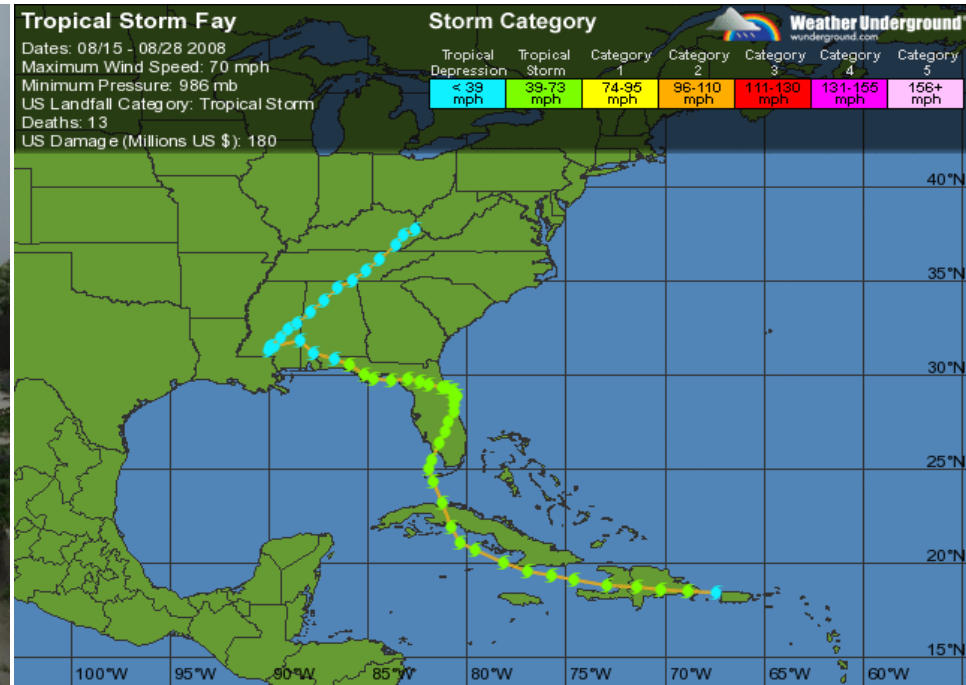


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Delivering Leading-Edge Solutions

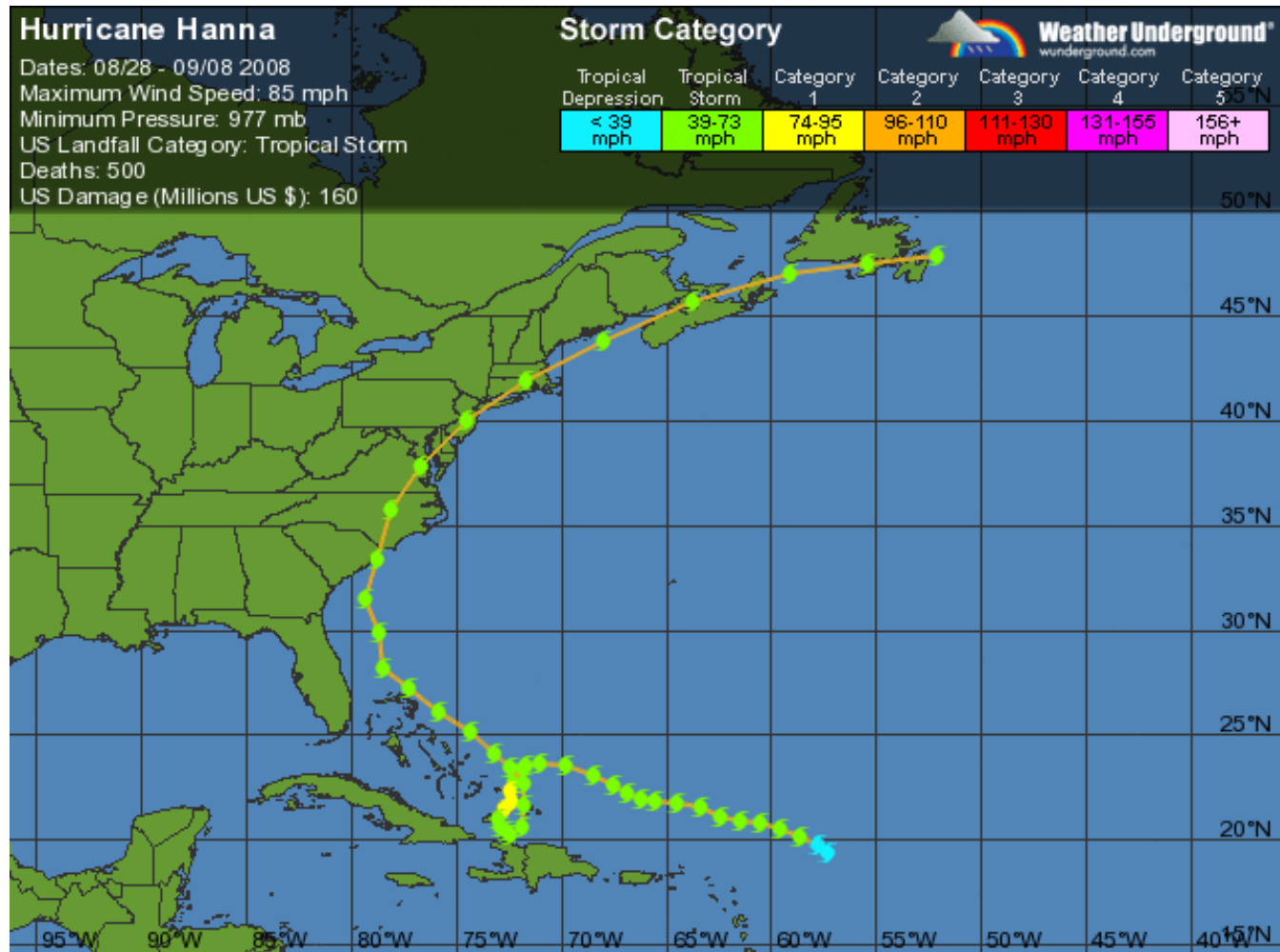
Project Background and Impacts

August 17-24, 2008 – Tropical Storm Fay breached barrier island at Summer Haven near R-200



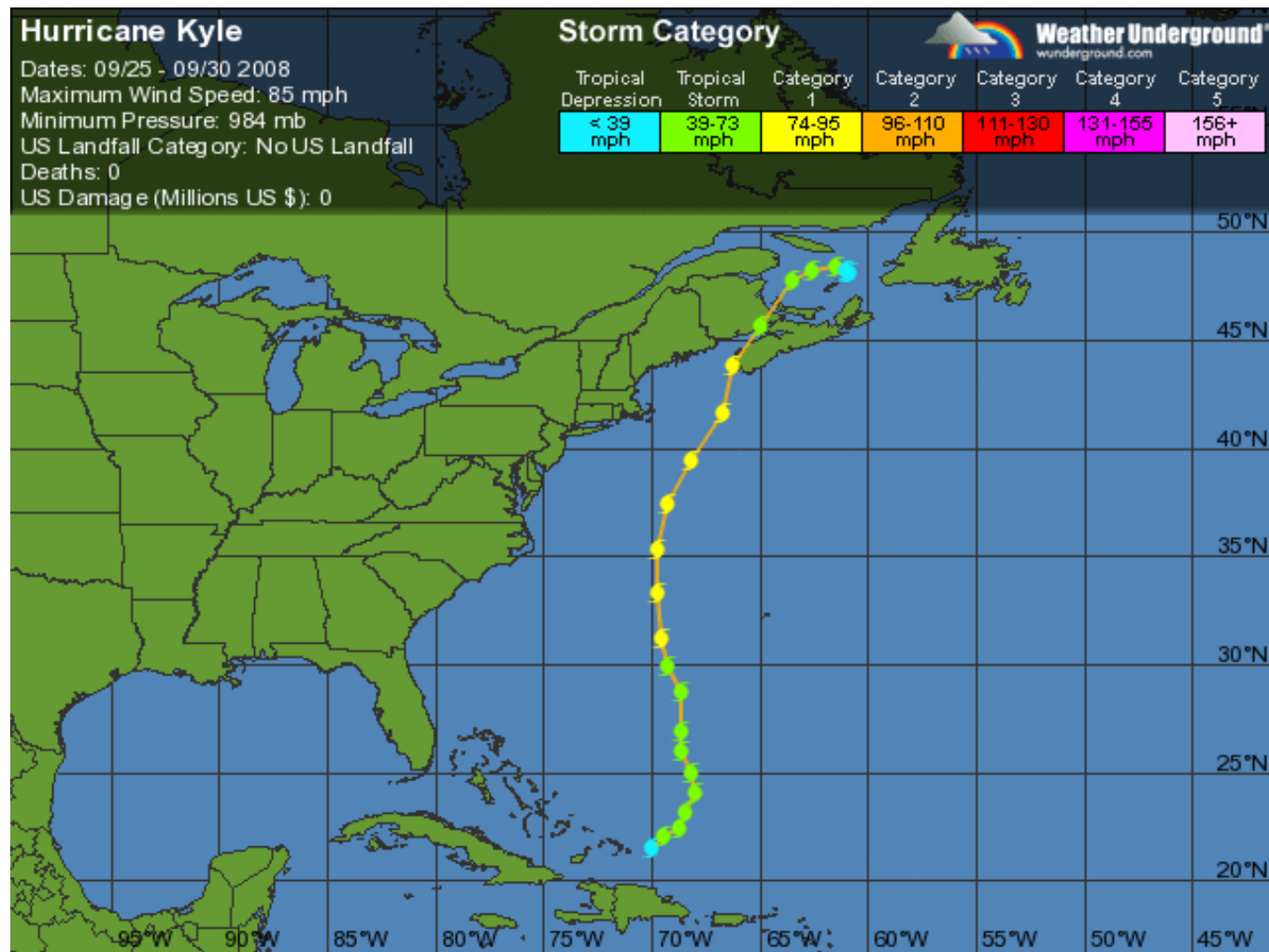
Tropical Storm (Hurricane) Hannah

September 5, 2008



Hurricane Kyle

September 26, 2008



November 2008



Regulatory Challenges



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

February 25, 2011

Mr. Mark P. Miner
St. John's County Commissioner

After the breach occurred, the Bureau and the County worked together to develop an appropriate plan of action to close the breach. Without an emergency declaration by the Governor, emergency permits were not available, and the Bureau committed to expedite any necessary authorizations to fill the breach. There were several meetings and telephone conversations with multiple agencies attempting to provide technical assistance to the County. The breach grew quickly and it became apparent the original proposal would no longer be a viable alternative, and any plan to restore a breach would require a Joint Coastal Permit from the Bureau.

assistance to the County. The breach grew quickly and it became apparent the original proposal would no longer be a viable alternative, and any plan to restore a breach would require a Joint Coastal Permit from the Bureau.

The Department's involvement in a restoration project of the Summer Haven River would be to review a Joint Coastal Permit application for removal of beach quality sand and placement on the beach. The local municipality or county government is typically the project sponsor and responsible for the permitting, design and construction of an erosion control project that proposes the use of beach quality sand. During the application review process, sediment data would be reviewed by the Department to determine the extent of beach quality sand that could be used for beach placement.

February 2016



Image © 2016 TerraMetrics

2729 ft



Go

The Impacts

Before



After



The Impacts



The Impacts



May 2016



Benefits

1. Re-establish river flow
2. System-wide water quality improvements
3. Restored navigation
4. Re-establish oyster and clam habitat
5. Recover once productive fishing areas
6. Water-based recreation

Local and Regional Support

- St. Johns County School District
- St. Johns County BCC – Parks and Recreation Department
- City of Palm Coast Mayor’s office
- Friends of A1A Scenic and Historic Coastal Byway
- Marineland Dolphin Adventure
- City of St. Augustine Mayor
- Jose Nunez – Whitney Laboratory Biologist and Research Scientist
- Robin Fleming – Ocean Grove RV and Camping Resort
- Rivers, Trails, and Conservation Assistance Program, National Park Service
- Rivers Edge Marina

River Design



TAYLOR ENGINEERING INC.
 10101 OSBORN PARK BLVD.
 BLDG. 300, SUITE 200
 JACKSONVILLE, FLORIDA 32208
 904-721-7040
 1676 PALM BEACH LAKES, SUITE 210
 WEST PALM BEACH, FLORIDA 33411
 (904)-640-7310
 CERTIFICATE OF AUTHORIZATION #

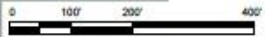
SEAL
 MICHAEL E. TRUNAV P.E.#6000

PROJECT TITLE
 SUMMERHAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

SUNSHINE STATE ONE CALL OF FLORIDA
 SUNSHINE 611 - ALWAYS CALL 611 BEFORE YOU DIG
 1-800-638-4007

NO.	ZONE	REVISIONS/ISSUES	DATE

PROJECT NO.	C2015-049
DATE	MAY 2015
DESIGNED BY	MT
DRAWN BY	AFCAS
CHECKED BY	FLJ
REVIEWED BY	SJS
SCALE	AS SHOWN
DRAWING TITLE RIVER RESTORATION PLAN	

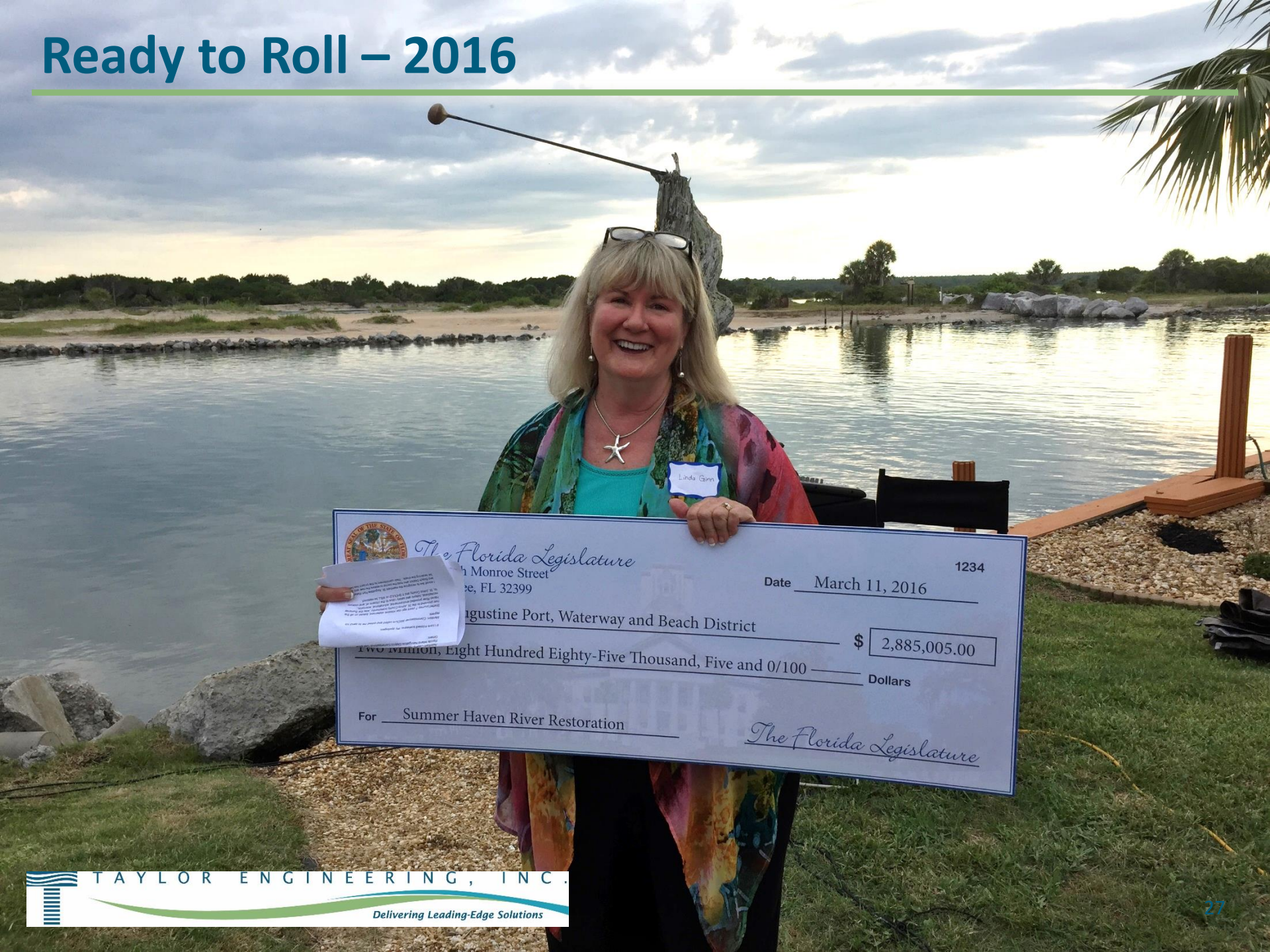


GRAPHIC SCALE
 22X34: 1" = 100'
 11X17: 1" = 200'

Ready to Roll

- State of Florida funding approved \$2.885M (last session)
- FIND Waterway Assistance Program (\$50K)
 - Relationship to Waterway
 - Public usage and benefits
 - Timeliness
 - Costs and Efficiency
 - Project Viability
 - ALL permits in hand
 - Project design complete – bid package ready
 - Earthwork-based construction

Ready to Roll – 2016



 *The Florida Legislature*
1900 Monroe Street
Tallahassee, FL 32399

Date March 11, 2016 1234

Augustine Port, Waterway and Beach District

\$ 2,885,005.00

Two Million, Eight Hundred Eighty-Five Thousand, Five and 0/100 Dollars

For Summer Haven River Restoration

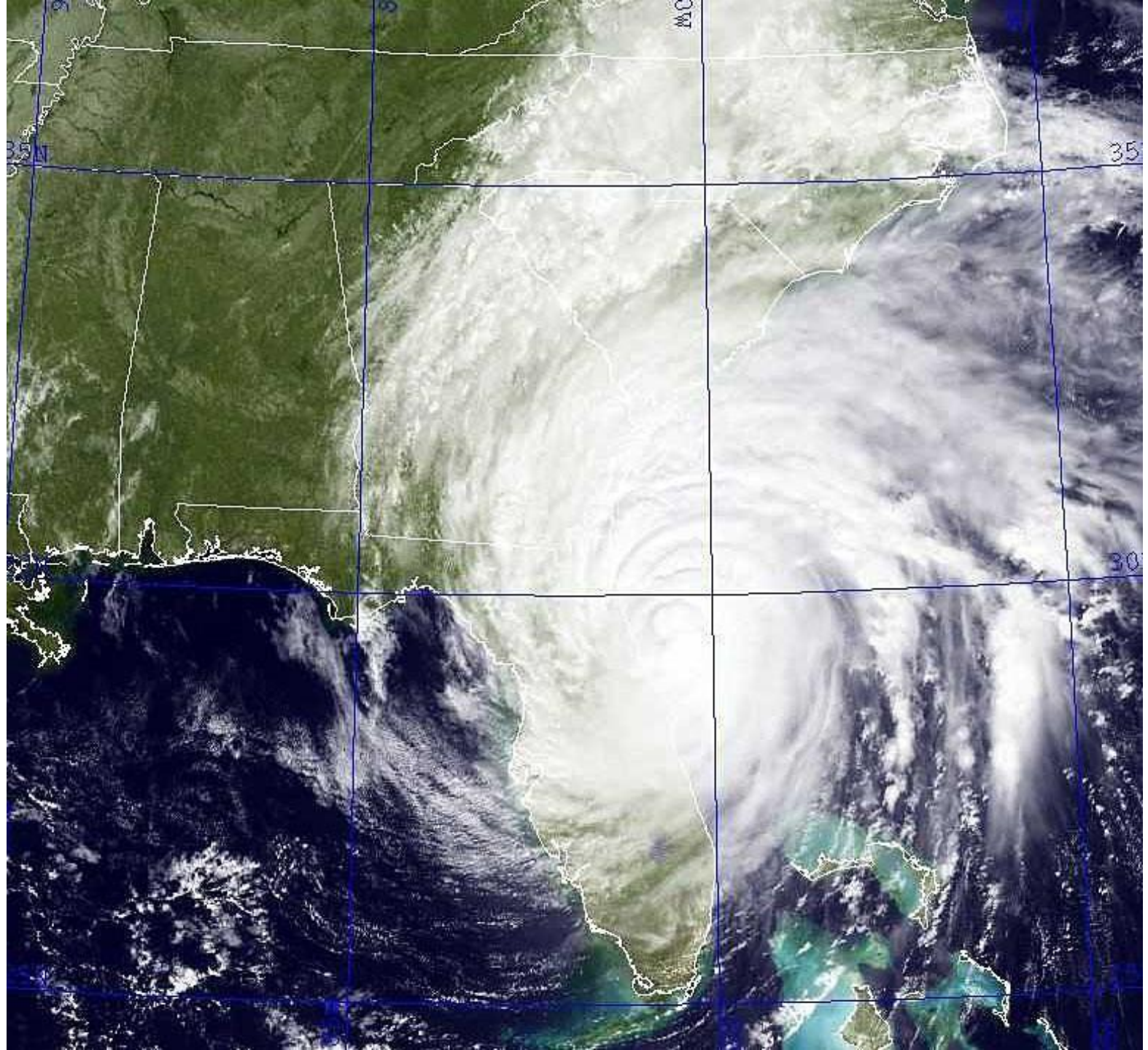
The Florida Legislature

Bids

ITEM	DESCRIPTION	Gator Dredging, LLC	Weeks Marine, Inc.	Florida Dredge & Dock, LLC	Turnbull Environmental
1	Mobilization and Demobilization	575,000	925,000	300,000	99,500
2	Least Tern Mitigation at MSA 233				
	a. Habitat Creation (Earthwork)	50,000	7,500	25,000	10,000
	b. Supply and Install Electric Fence	21,000	5,000	10,000	13,500
	c. Supply and Install Bird Call Broadcast System	10,000	2,000	4,000	13,500
	d. Supply and Install Least Tern Decoys	5,000	2,500	5,000	6,750
3	Excavation and Beach Fill	3,272,500	2,200,000	1,980,000	1,856,250
Subtotal Based Bid Items 01–03		3,933,500	3,142,000	2,324,000	1,999,500
A	Shoal Excavation	90,000	22,500	21,600	84,000
B	Sea Oat Planting	110,000	41,250	75,350	63,250

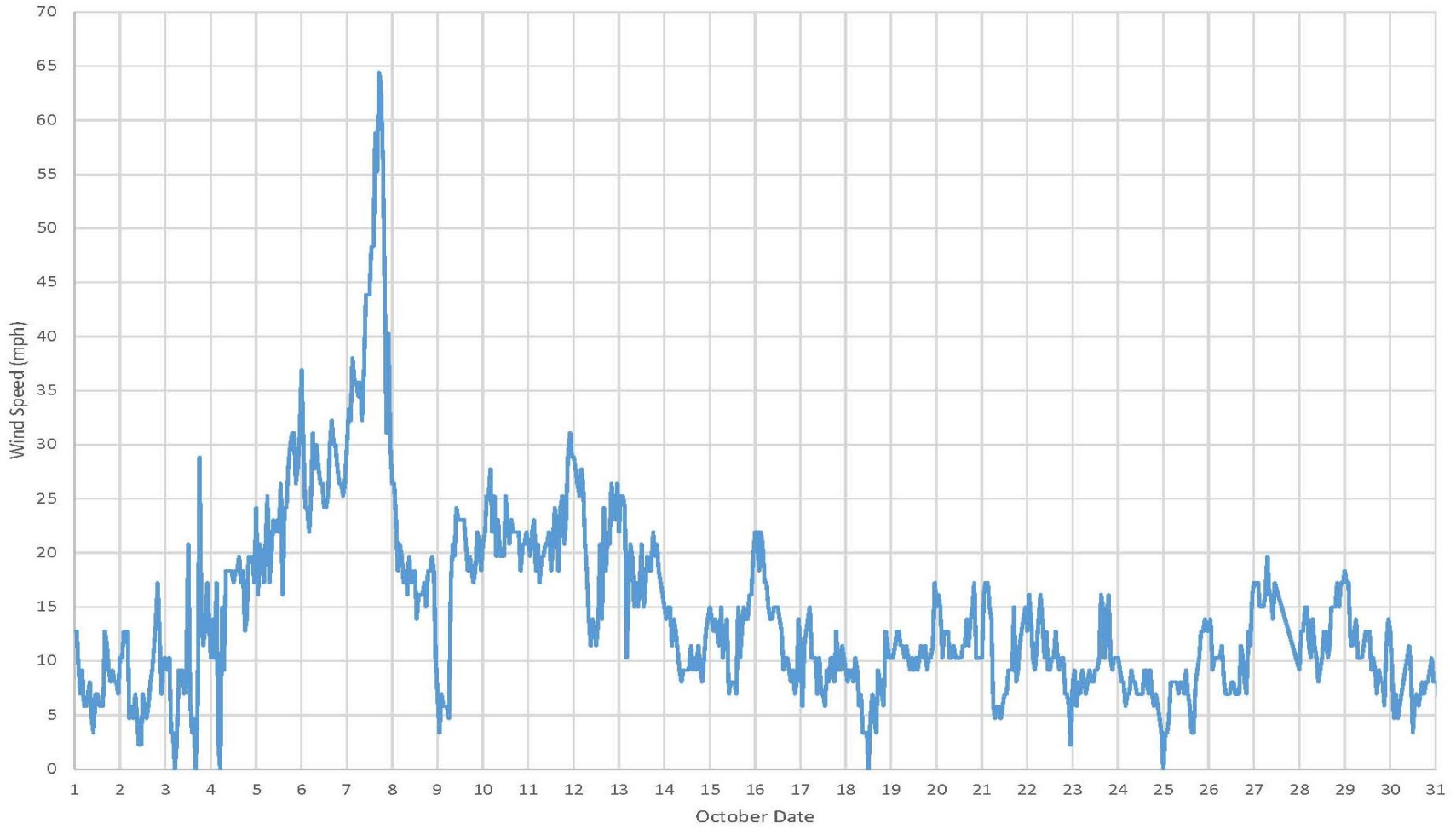
CONSTRUCTION STARTS NOVEMBER 1!!



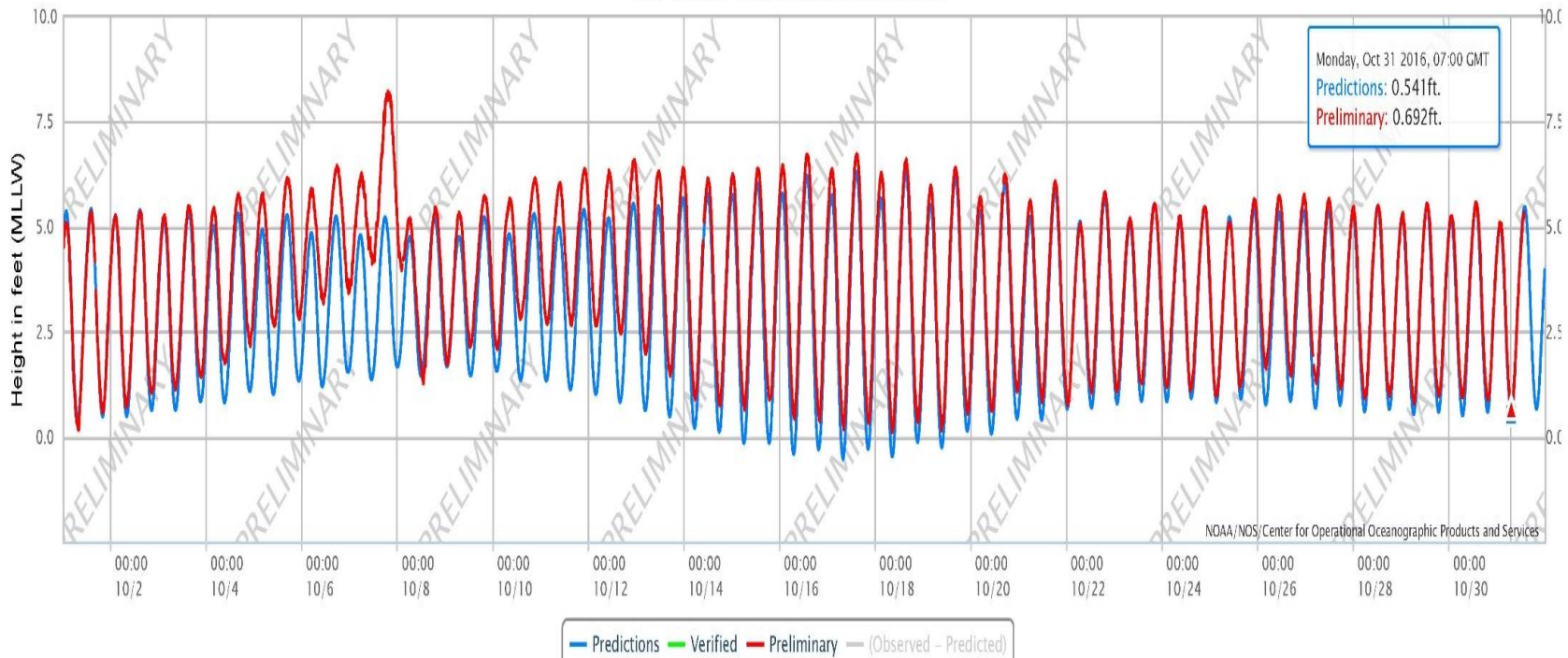




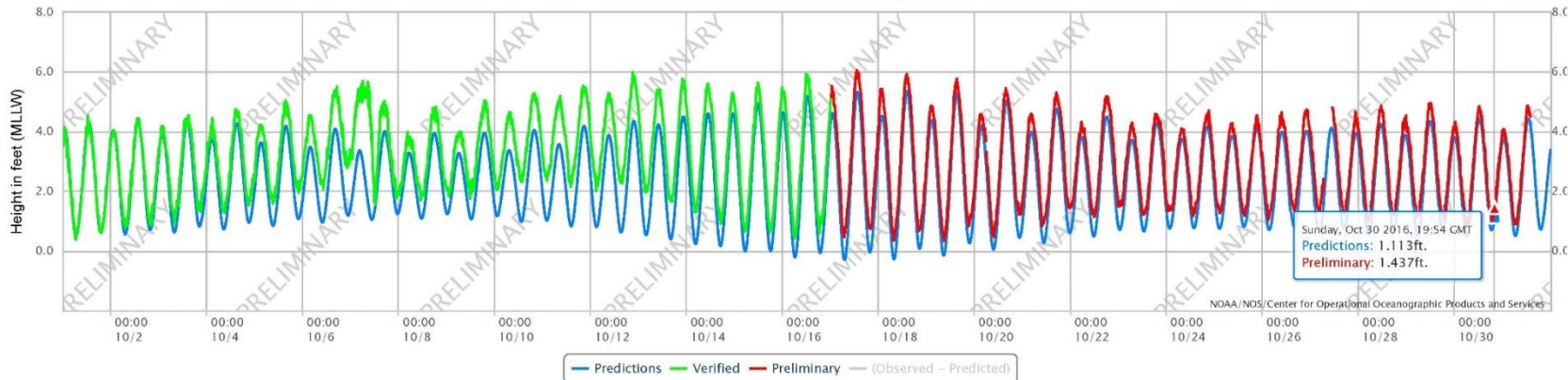
Measured Hourly Wind Speeds at NDBC Station SAUF1 - St. Augustine Pier



NOAA/NOS/CO-OPS
Observed Water Levels at 8720218, Mayport (Bar Pilots Dock) FL
From 2016/10/01 00:00 GMT to 2016/10/31 23:59 GMT



NOAA/NOS/CO-OPS
Observed Water Levels at 8721604, Trident Pier FL
From 2016/10/01 00:00 GMT to 2016/10/31 23:59 GMT



October 14th: 1 week Post-Matthew



October 14th: 1 week Post-Matthew





October 20th: High tide, looking south

October 20th: High tide, a little daunting



October 21st: 2 weeks post-Matthew, low tide



October 26th: almost 3 weeks post-Matthew, low tide



November 3rd: Geotextile tube day 2





November 6th: Geotextile tube in progress

November 6th: Geotextile tube in progress



7:30 am: Closure begins at high tide



10:32 am: work continues with dropping tide





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3:18 pm: Tidal flow shut off



3:40: Race against the evening high tide



December 4th: Work complete, 50,000 cy placed





Back on track

- All breaches closed – and holding!
- River Restoration Project ongoing
- On schedule for May finish



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THANK YOU
Questions?