

The Florida Senate
COMMITTEE MEETING EXPANDED AGENDA

SELECT COMMITTEE ON RESILIENCY

Senator Albritton, Chair

Senator Pizzo, Vice Chair

MEETING DATE: Thursday, February 9, 2023

TIME: 8:30—11:00 a.m.

PLACE: *Pat Thomas Committee Room, 412 Knott Building*

MEMBERS: Senator Albritton, Chair; Senator Pizzo, Vice Chair; Senators Avila, Berman, Bradley, Calatayud, Collins, Davis, Grall, Gruters, Harrell, Ingoglia, Martin, Polsky, Powell, Stewart, Thompson, Trumbull, and Wright

TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
1	Presentation by Syd Kitson, Babcock Ranch		Presented
2	Presentation by Wesley Brooks, Florida's Chief Resiliency Officer		Presented
3	Presentation by Pepper Uchino, Florida Shore and Beach Preservation Association		Presented
Other Related Meeting Documents			



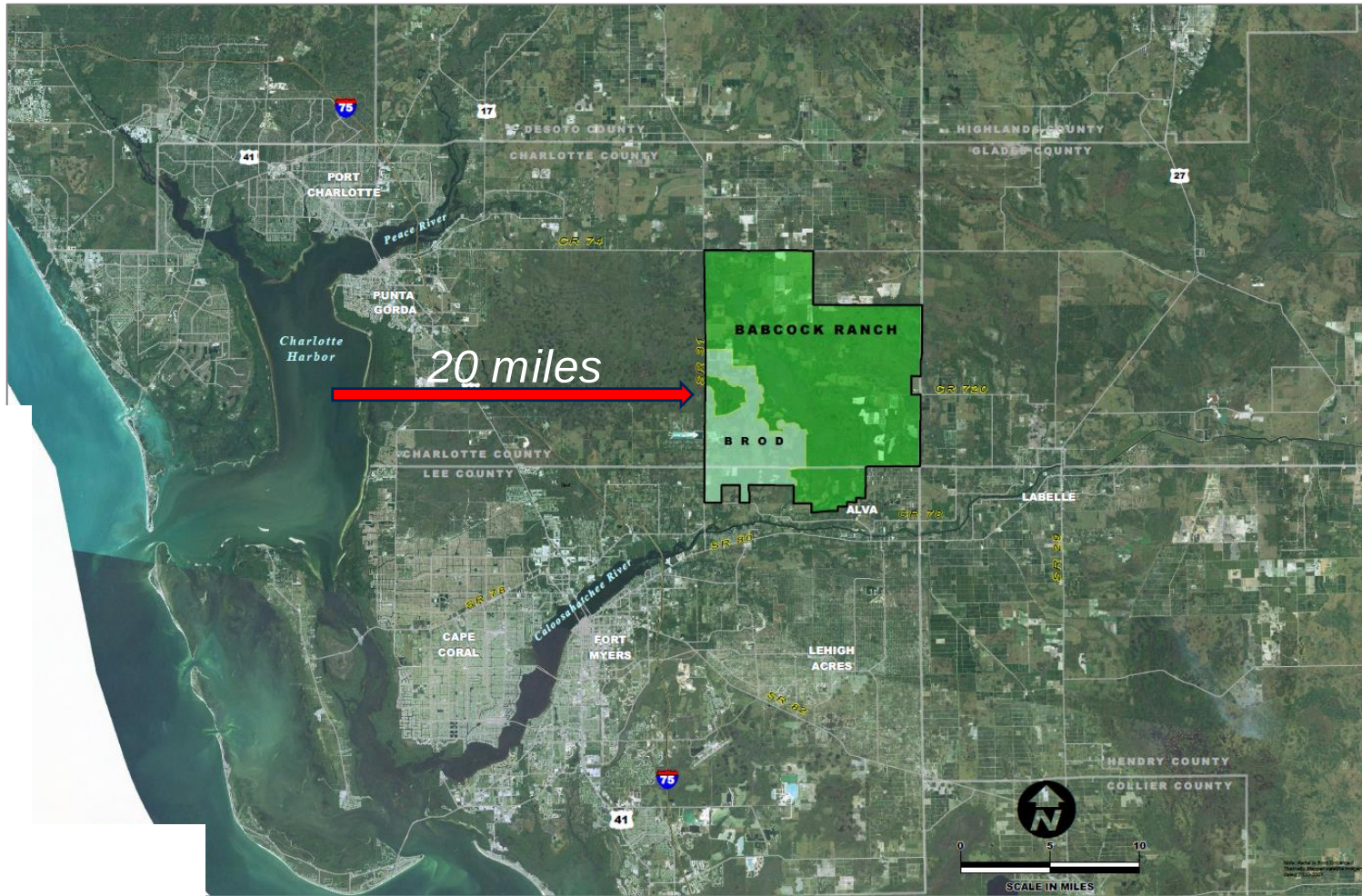
BABCOCK RANCH
FLORIDA

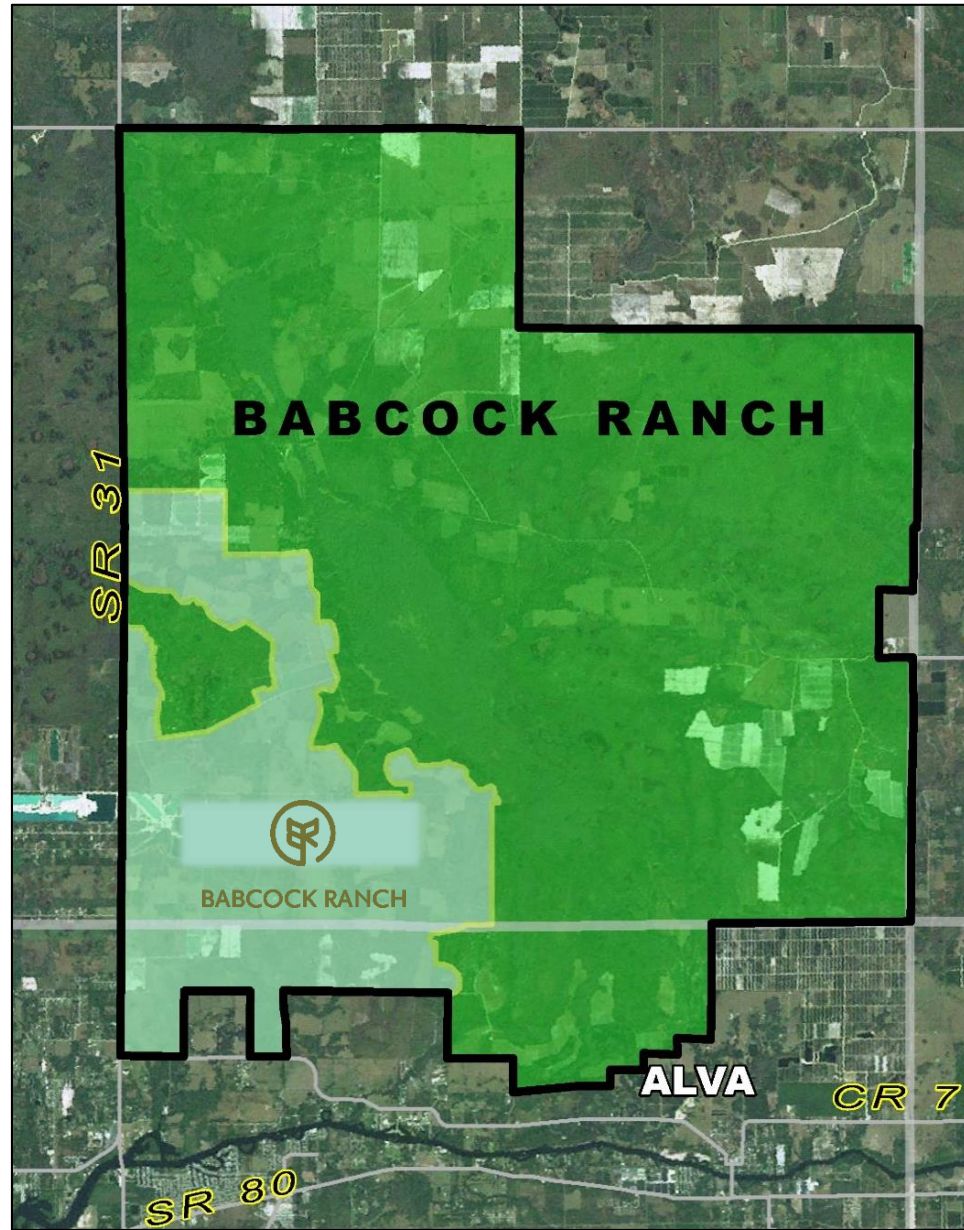


Babcock Ranch Location



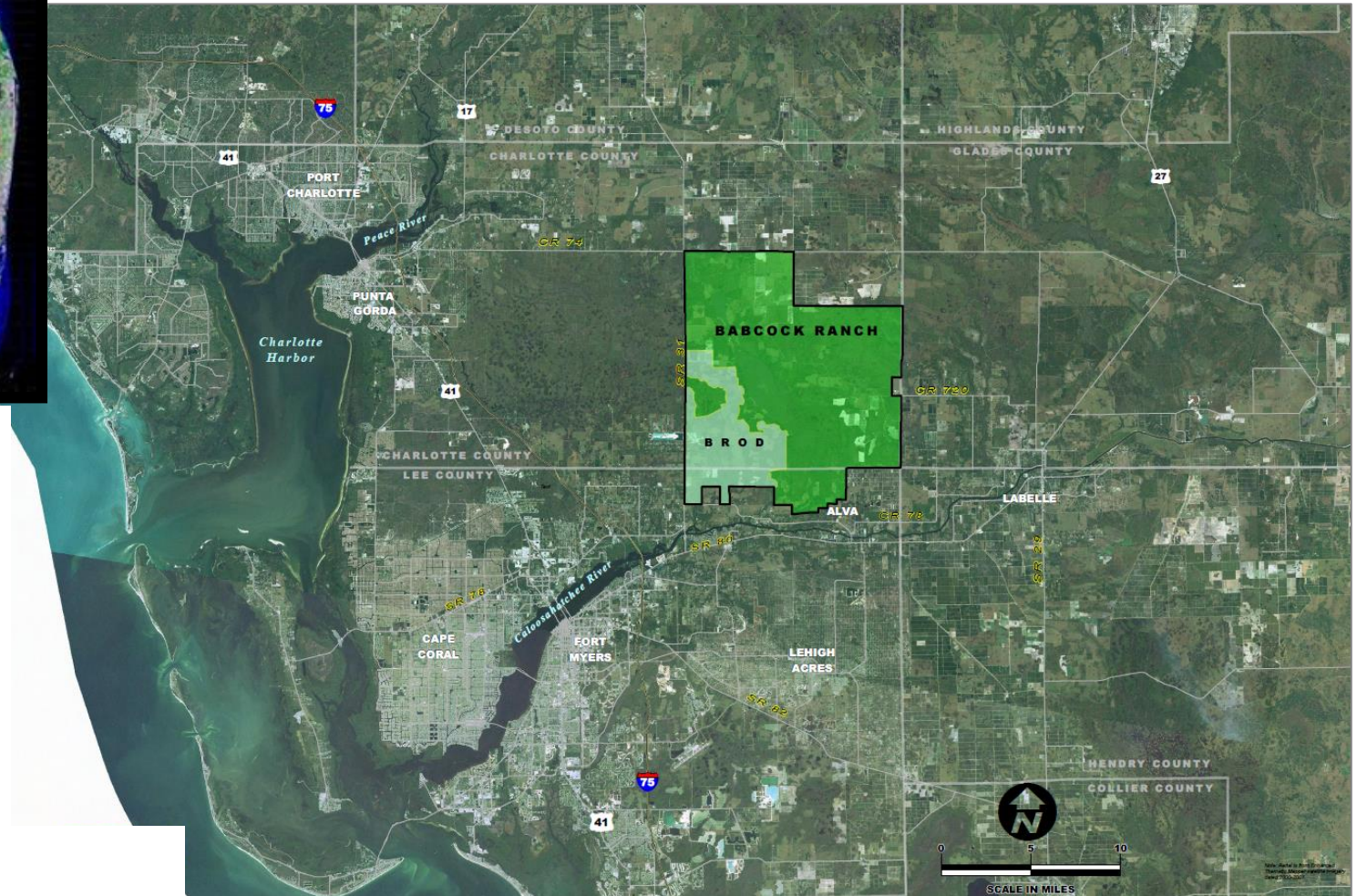
Babcock Ranch | Strategic Location



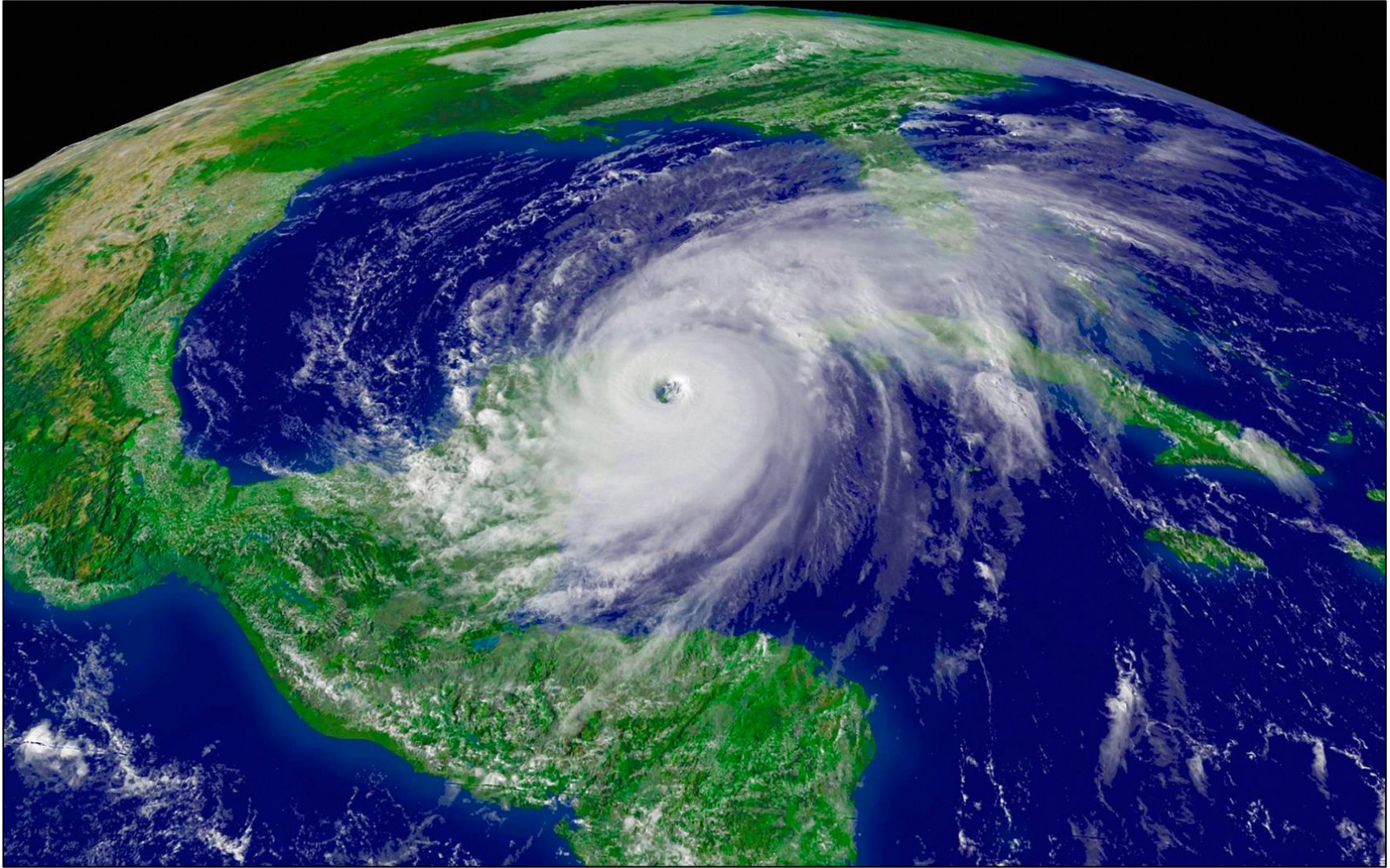


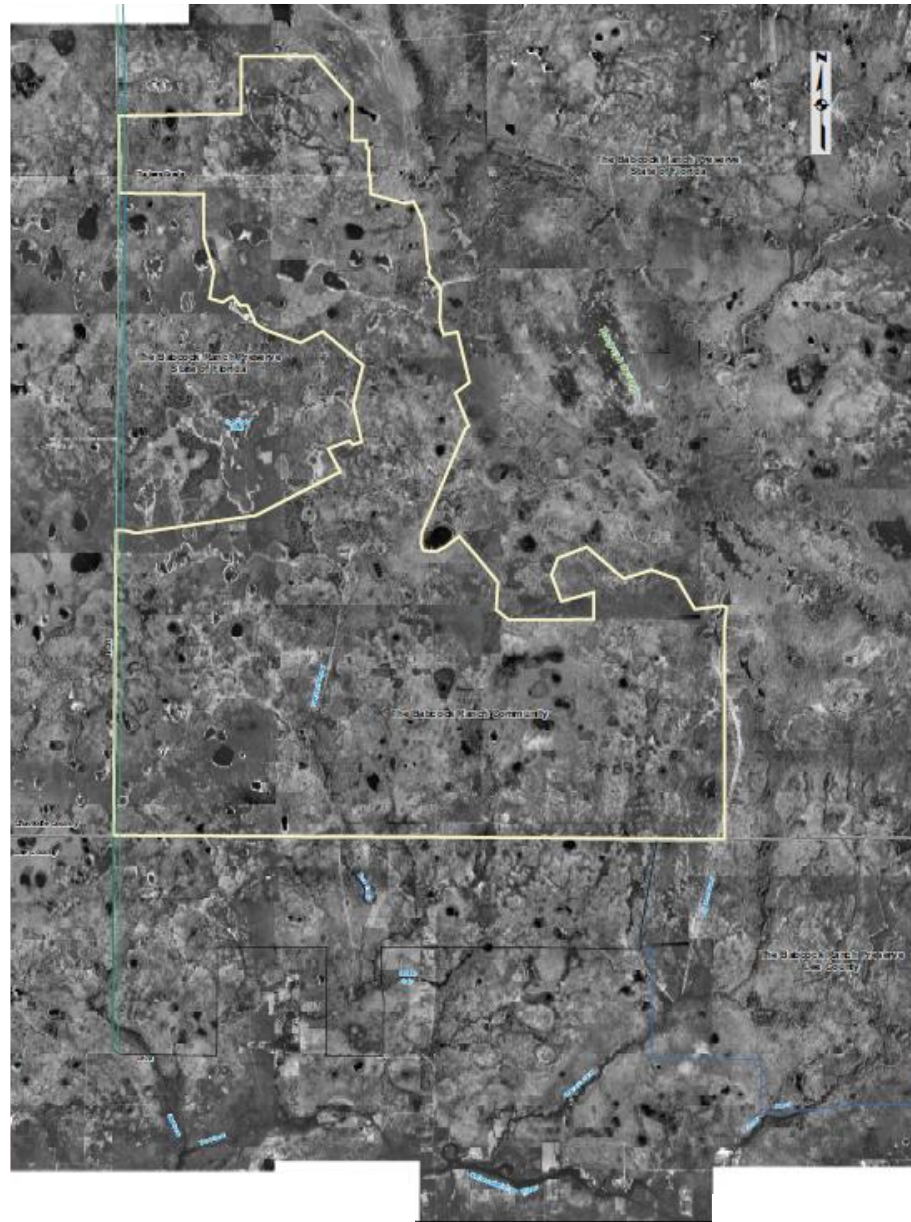
The regional big picture ...

Babcock is a key piece in wildlife corridor from Lake Okeechobee to Charlotte Harbor

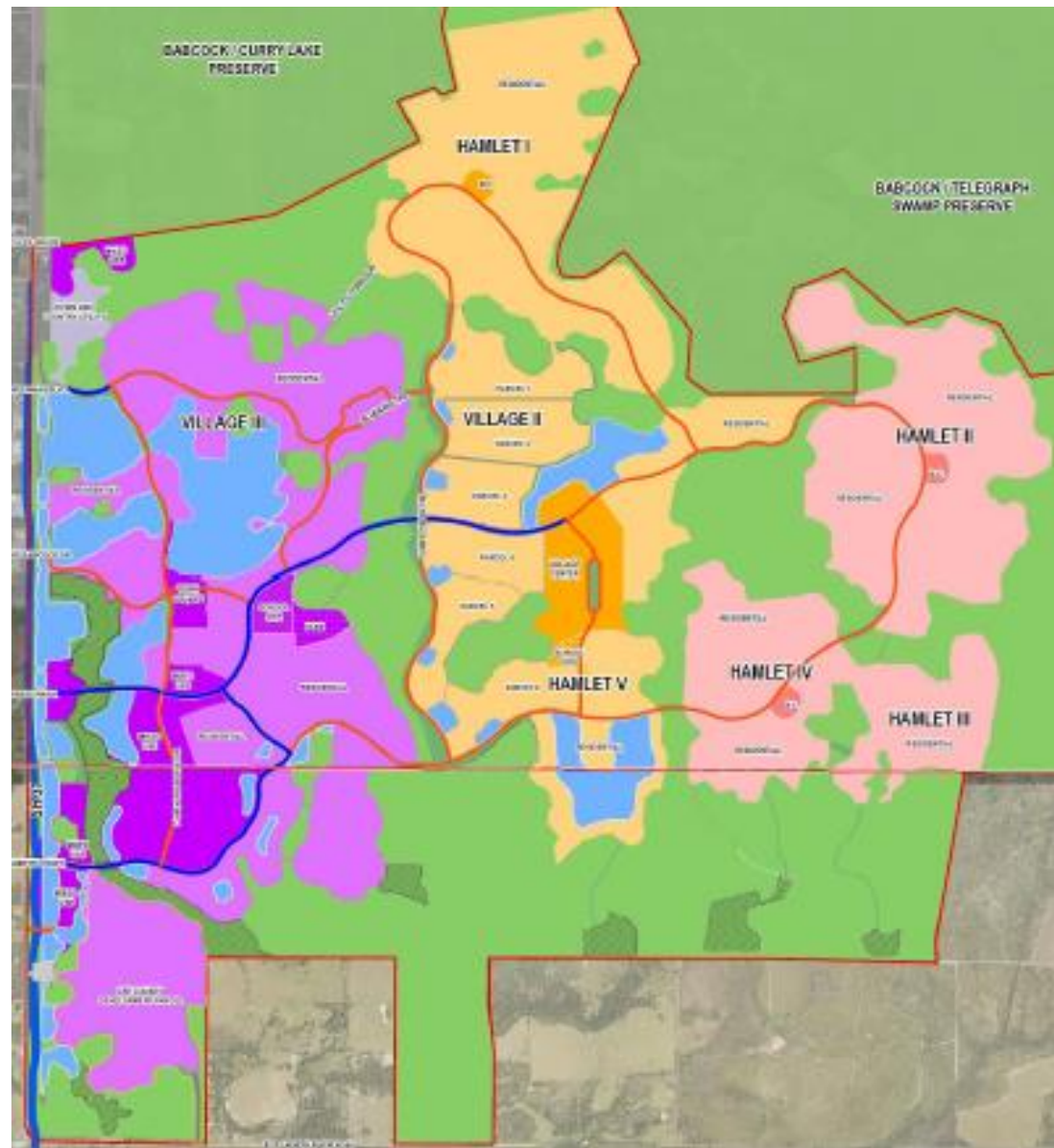








Babcock Ranch | Natural Flowways







Babcock Ranch | Hercules' Weir Restoration



Before

After













Babcock Ranch | Substation & Hardened Transmission Lines



Babcock Ranch | Field House





Generator in ICC 500 Enclosure



Steel Beams and Screening protect Roof Top Air Conditioning Units, water heaters, etc. from potential projectiles



Inside ICC 500 built generator yard, back up well for sanitation water should main water supply from TCU be lost



The Code Worked
160 mph wind load zone

Florida Building Code requires a continuous load path. This means the house is tied together from the roof to the foundation.

1. Rebar imbedded in the slab goes into the CMU cells
2. CMU cells are filled with concrete
3. Hurricane straps imbedded in the concrete
4. Straps wrapped around the trusses.



FGBC:

- Only awards points for Code PLUS items
- Specific to Hot Humid Climate
- Focus on Disaster Mitigation & Durability

For Example:



Peel and Stick underlayment versus felt



Adhesive on the under side of roof sheathing



Non Vented Attics



Uplift Wind Resistance - Shingles
Class H Shingle 150 mph rated
Class G Shingle 120 mph rated



Hurricane Garage Doors



BABCOCK RANCH
FLORIDA





Florida Resilience Review 2022

Wesley R. Brooks, Ph.D.
Chief Resilience Officer

Presentation for the Senate Select Committee on Resiliency
February 9, 2023

Building a Foundation for Resilience



- 2019: Governor DeSantis issues EO 19-12 & creates the Chief Resilience Officer (CRO) position within EOG
- 2021: Resilient Florida framework established in law (*F.S. 380.093*)
- 2022: Statewide Office of Resilience and CRO codified (*F.S. 14.2031*)
- 2023: Governor DeSantis issues EO 23-06

Building a Foundation for Resilience





Supporting Local Communities

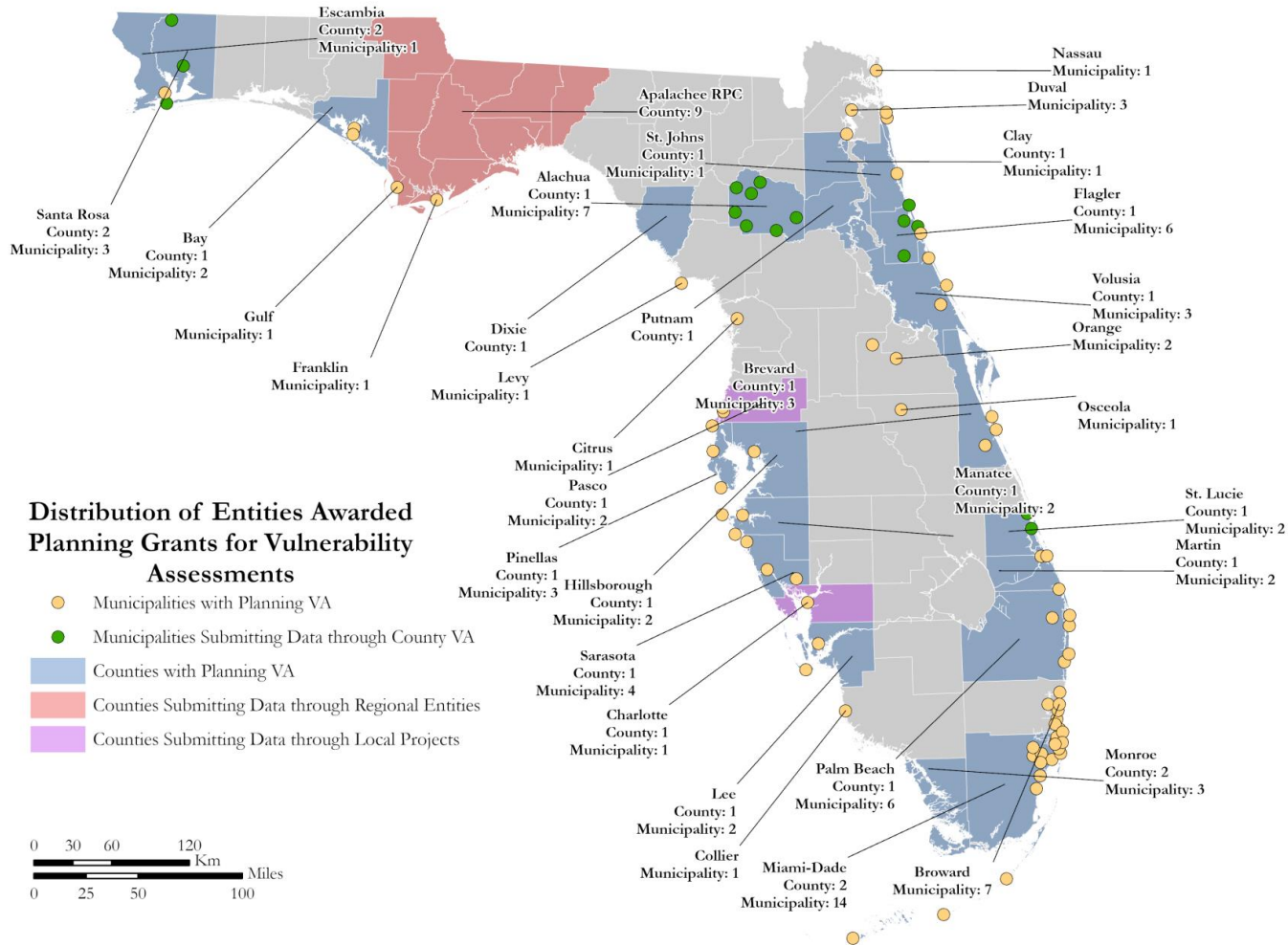
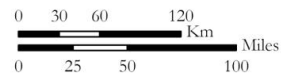
- CRO Regional Resilience Tours
- Resilient Florida framework:
 - Planning grants
 - Statewide Dataset and Assessment
 - Adaptation grants
 - Regional Resilience Entity grants
 - Florida Flood Hub



Planning Grants

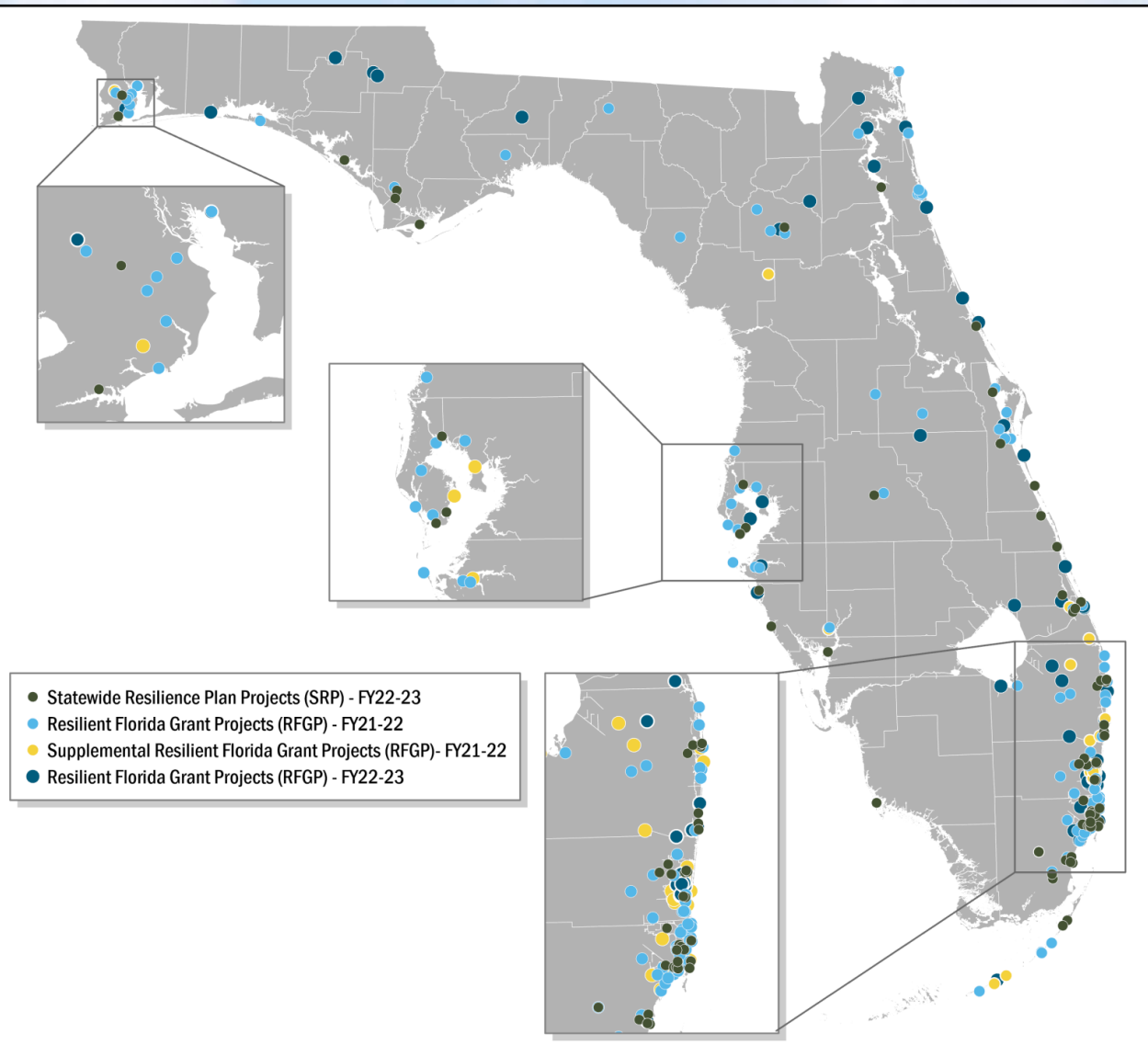
Distribution of Entities Awarded Planning Grants for Vulnerability Assessments

- Municipalities with Planning VA
- Municipalities Submitting Data through County VA
- Counties with Planning VA
- Counties Submitting Data through Regional Entities
- Counties Submitting Data through Local Projects





Adaptation Grants





Supporting Local Communities

- Ecosystem restoration and natural infrastructure
- Capitalizing on collaboration to secure opportunities that yield long-term economic benefits

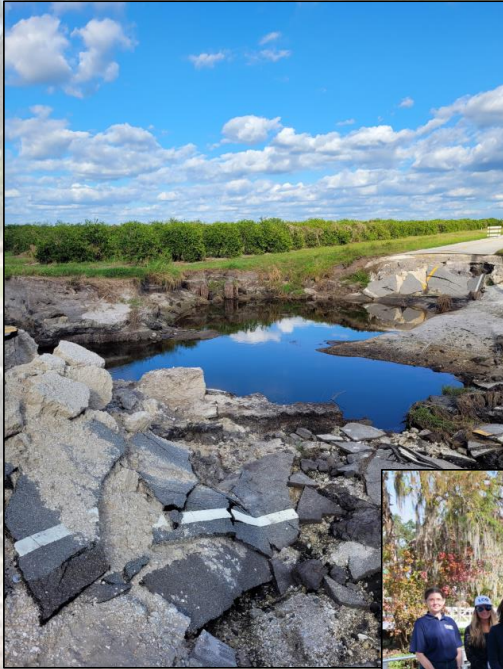


Supporting Local Communities

- Ecosystem restoration and natural infrastructure
- Capitalizing on collaboration to secure opportunities that yield long-term economic benefits

Flood mitigation and resilience activities are a means to improve quality of life for Floridians through expanded economic opportunity and enhanced environmental vitality!

Promoting a Resilient Recovery Hurricanes Ian & Nicole







Promoting a Resilient Recovery Hurricanes Ian & Nicole – Initial Observations

- Flooding was largely restricted to recognized floodplain areas
- Natural infrastructure provided real flood mitigation benefits
- Public infrastructure failures were not always *engineering* failures
- Economic damages are largely explained by land use, development, and population growth patterns
- Structural impacts appear to correlate strongly with year built

Promoting a Resilient Recovery Hurricanes Ian & Nicole – Considerations for Policymakers



- A policy goal of *eliminating* flood risk is neither practical nor economically feasible
- Significant opportunities remain to improve floodplain function and stormwater management across the state (*often provide water quality benefits too!*)
- Preserving natural and working landscapes is a critical insurance policy for future growth and potential climate impacts

Promoting a Resilient Recovery Hurricanes Ian & Nicole – Considerations for Policymakers



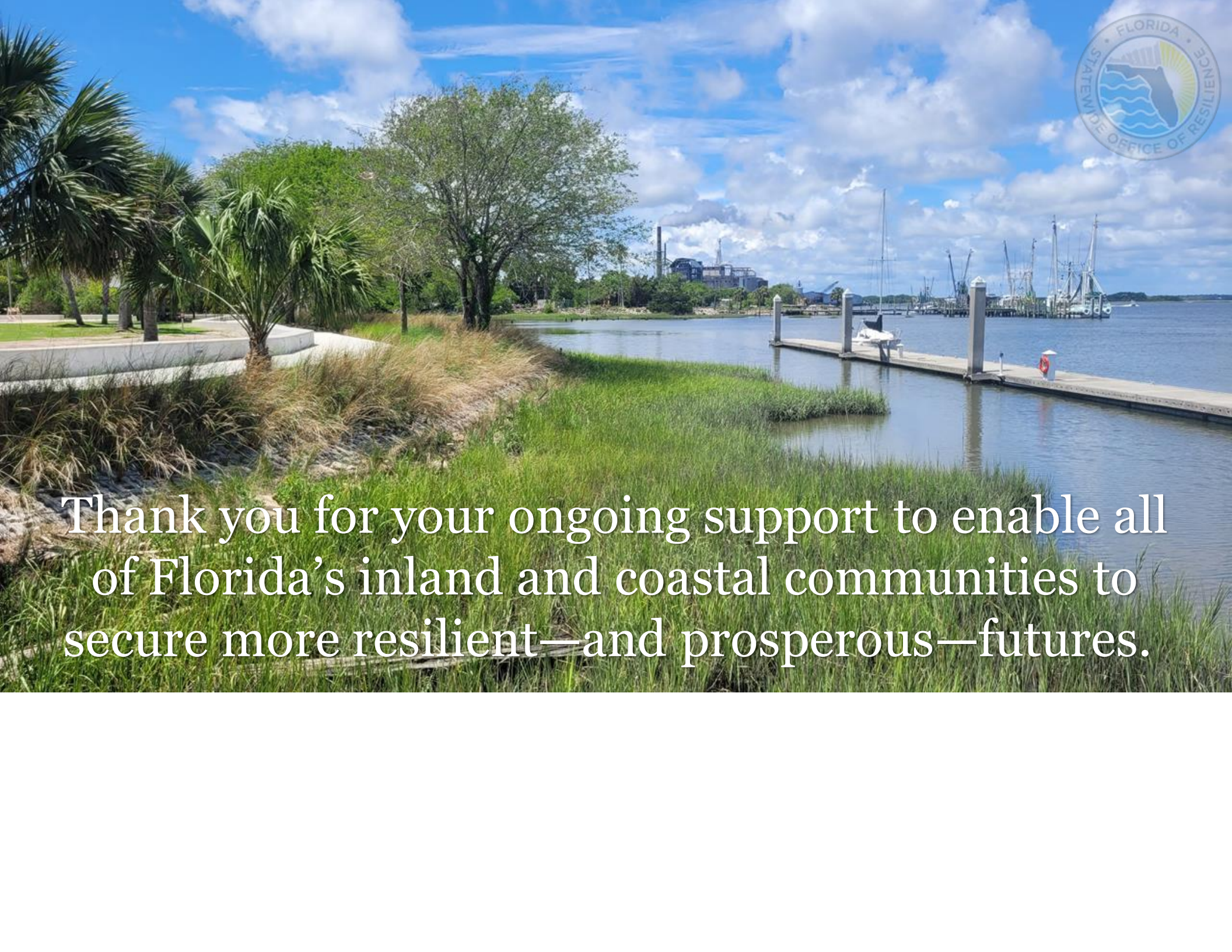
- Adaptation efforts are expensive in raw dollar terms, but can more than pay for themselves if planned and executed correctly
- Florida's new, coordinated approach to supporting local communities in reducing flood vulnerability and enhancing resilience is critical to generating and preserving the economic activity and wealth necessary to weather and adapt to future risks
- Many areas of the state would benefit from watershed or basin-level flooding assessments and high-resolution modeling

Executive Order 23-06

Achieving *Even More* Now for Florida's Environment



- Continue to expedite hurricane recovery support; beach nourishment and restoration
- Ensure continued funding for Statewide Resilience Plan projects through the Resilient Florida program
- Support completion of comprehensive VAs for all communities by 2026
- Establish a Florida's Coral Reef Restoration and Recovery Initiative
- Coordinate with FDOT to identify and consider water quality and flood mitigation benefits in transportation resilience planning

The background image is a scenic coastal landscape. In the foreground, there is a lush green marsh with tall grasses. To the left, a concrete walkway is bordered by several palm trees and other greenery. A wooden dock extends into the water on the right side of the frame. In the distance, across the water, an industrial facility with smokestacks and buildings is visible under a bright blue sky with scattered white clouds.

Thank you for your ongoing support to enable all of Florida's inland and coastal communities to secure more resilient—and prosperous—futures.

Florida's Coasts: On the front lines of resilience

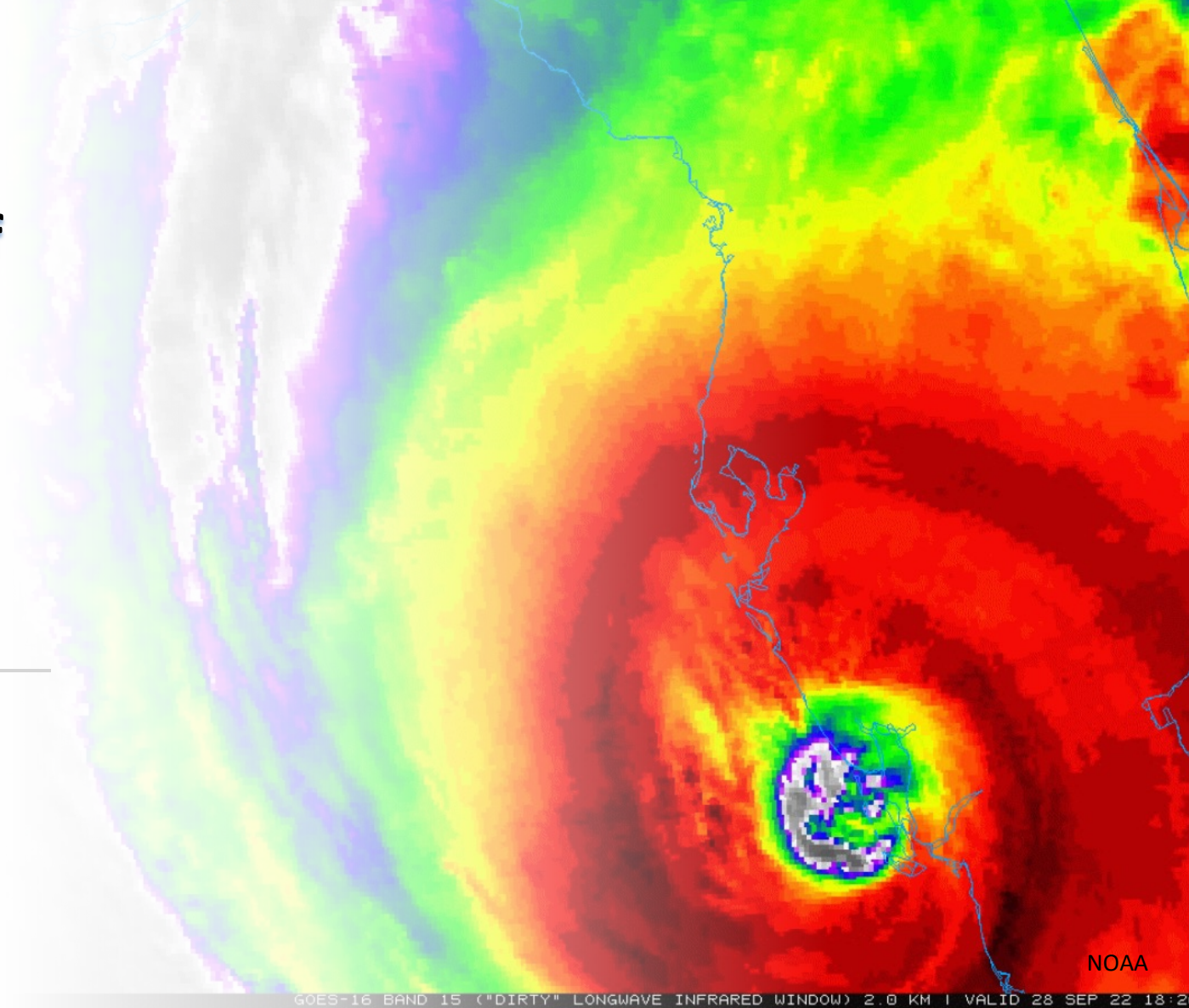
Senate Select Committee
on Resiliency

February 9, 2023

Pepper Uchino, President



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



Quick Facts: Florida's Coasts



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A League of Cities and Counties on Beach and Coastal Issues

Beaches and shores

- The longest coastline in the continental U.S. (~1200 miles)
- 825 miles of sandy beaches
- The fishing and boating capital of the world
- Beaches are the largest single economic driver in Florida
- Healthy beach & dune systems protect upland resources
- Beaches serve as critical habitat for many threatened and endangered species
- According to a 2015 report by EDR, beaches are Florida's most important brand identifier



Critical Erosion

- 426.3 miles of beach
- 9.1 miles of inlet shoreline
- Erosion is caused by human and natural processes
- Data provided by the 2022 DEP “Critically Eroded Beaches in Florida” Report.



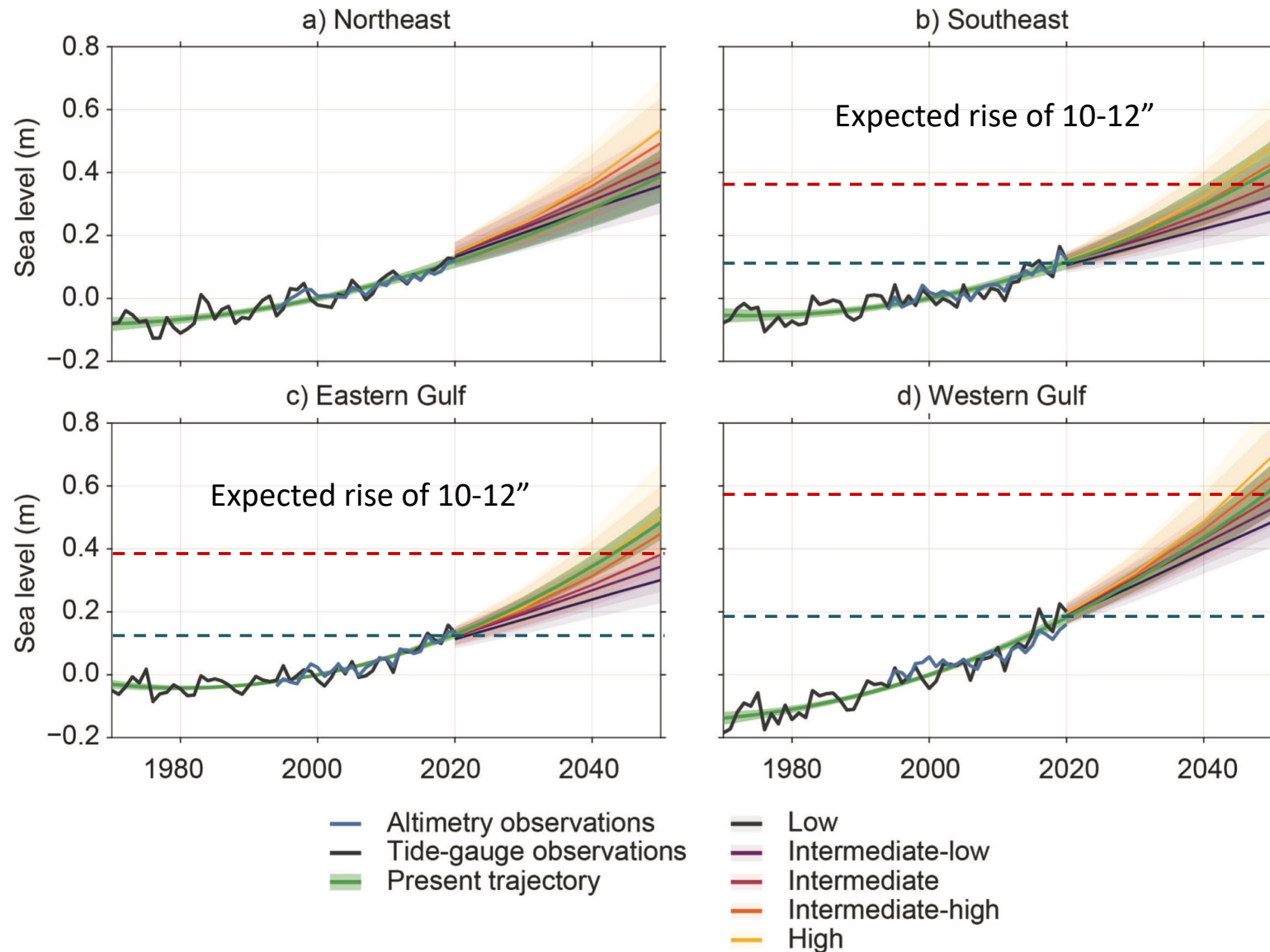


Sea Level Rise & Extreme Weather

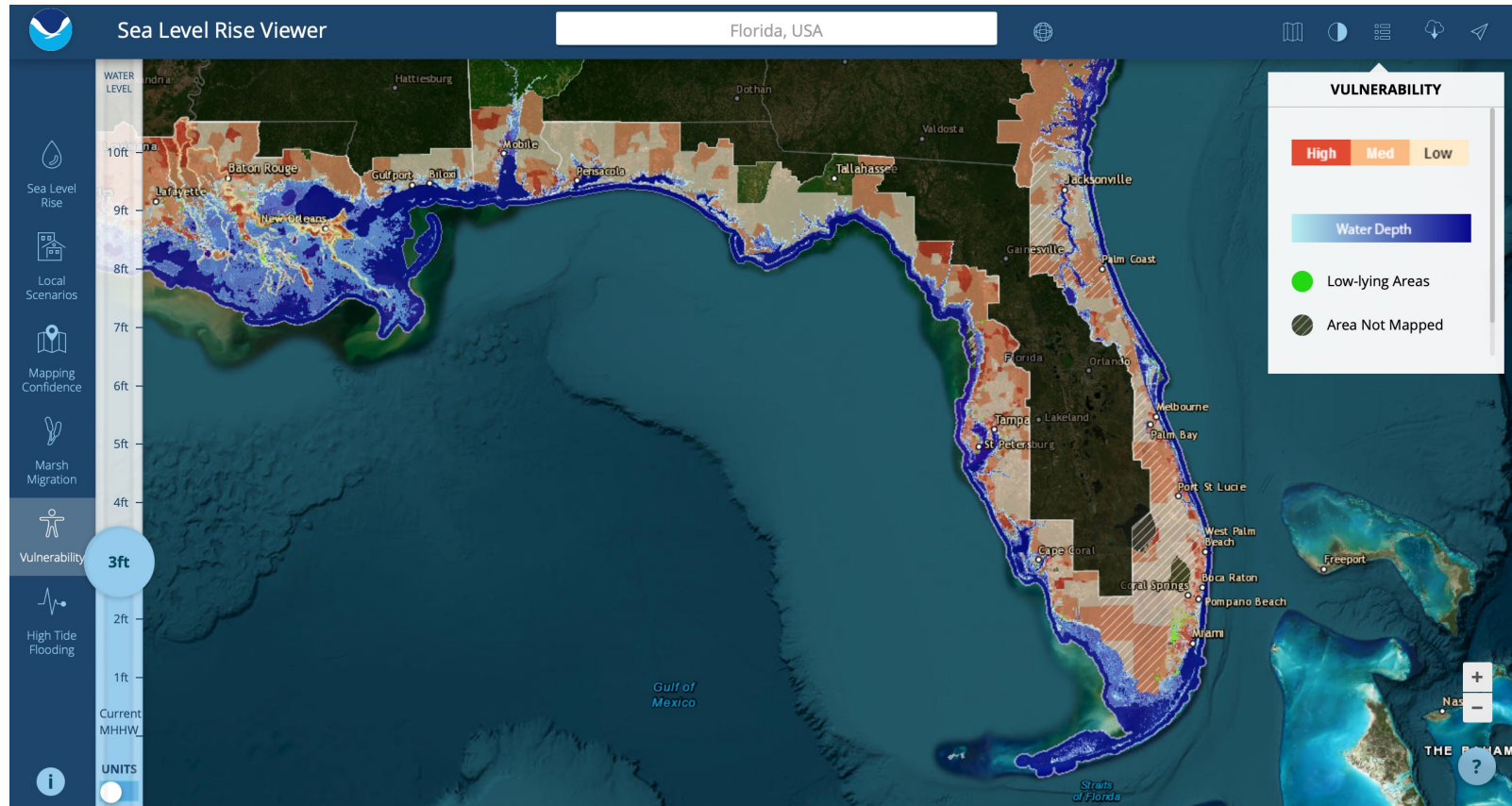
Florida's Coastal Resiliency Challenges



Projected sea level rise 2050



Map of NOAA's Intermediate 2100 Projection

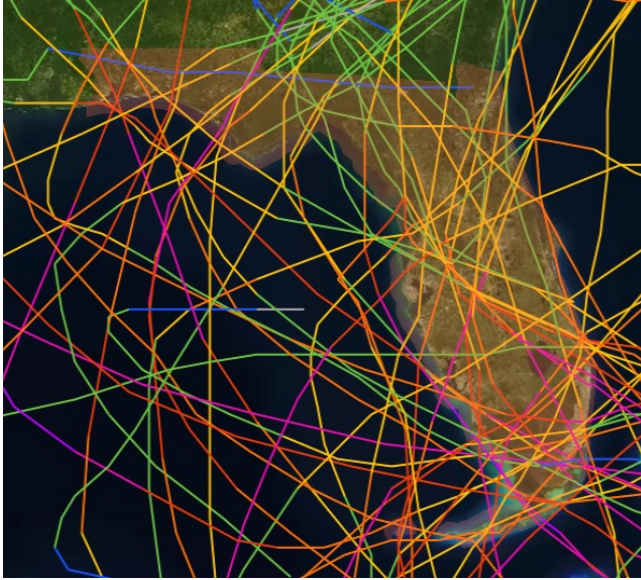


Sea Level Rise in Florida

- Approximately 17 million people live in Florida's coastal zone
- Key West Tide Gauge – 9" of rise since 1913...and it's accelerating
- Many communities are already experiencing sunny day flooding
- Worsening king tides
- Accelerating rates of coastal erosion
- More devastating storm surge

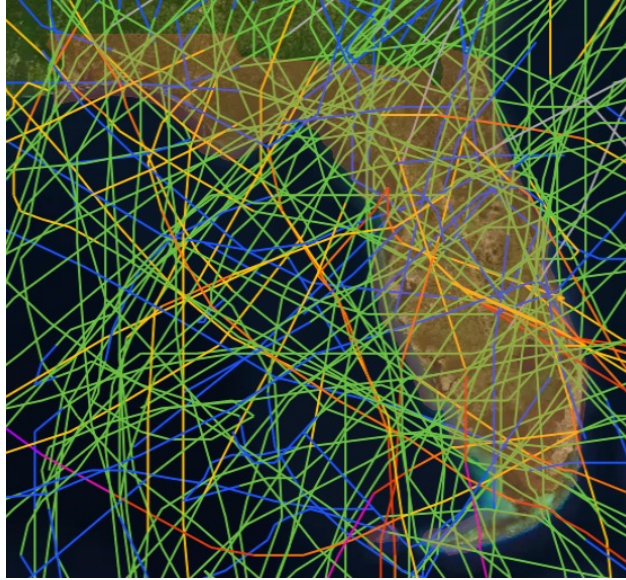


100 Years of Tropical Events

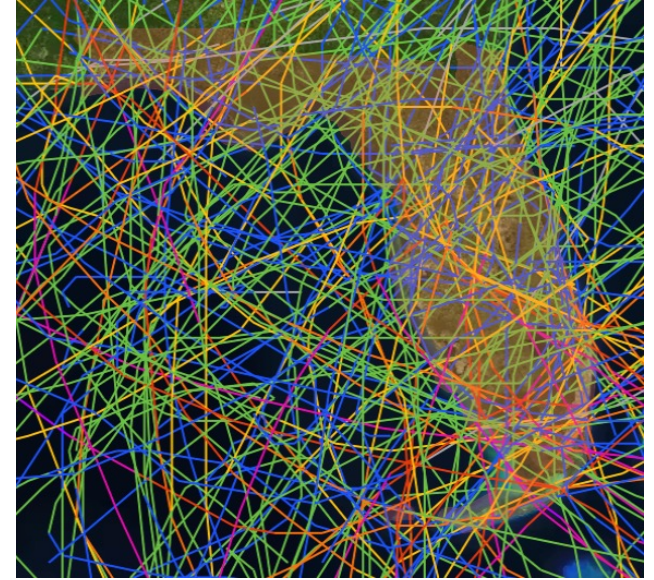


Hurricanes

(Credit: National Oceanic and Atmospheric Administration)



Tropical Storms



All Tropical Systems



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Economic impacts in Florida



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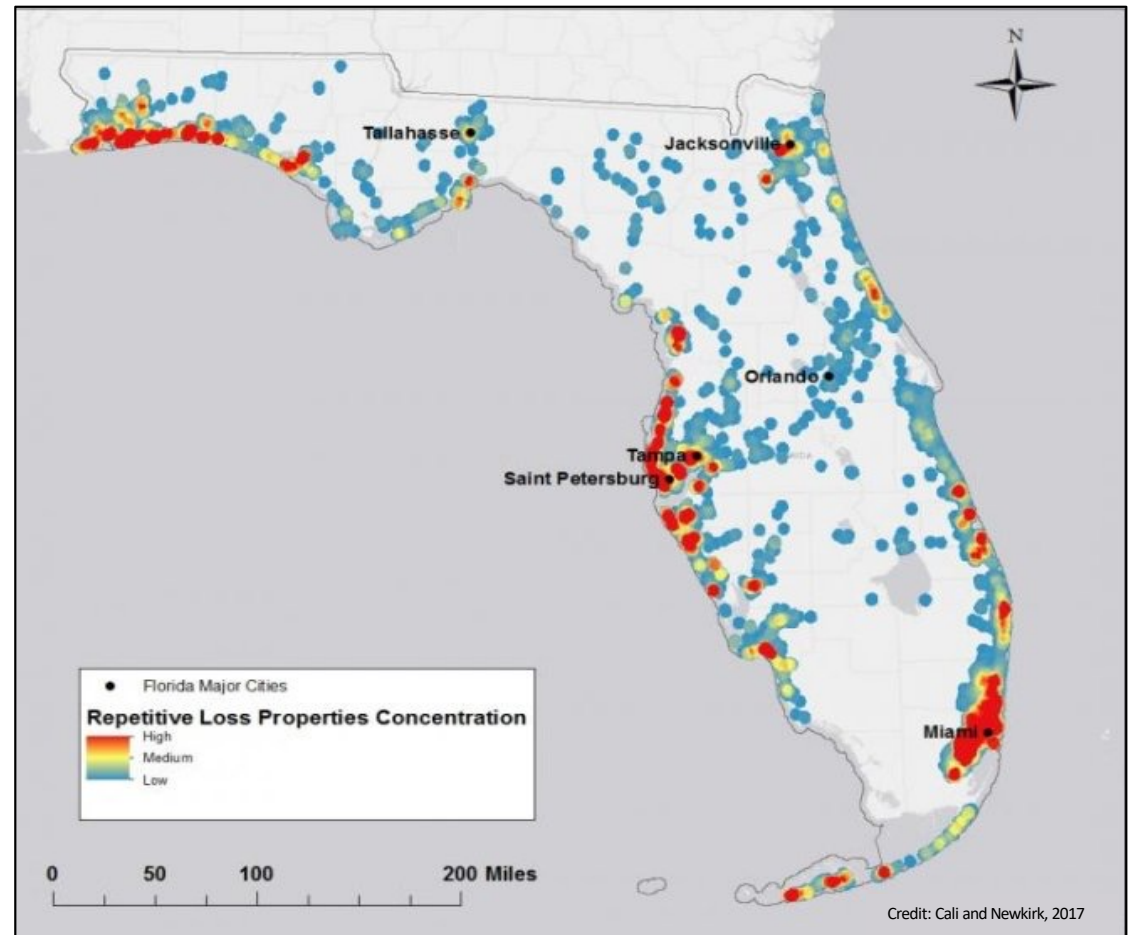
Top 20 Costliest Storms to Hit the US

Costliest tropical cyclones to impact the United States (cost values are based on the 2022 Consumer Price Index adjusted cost)

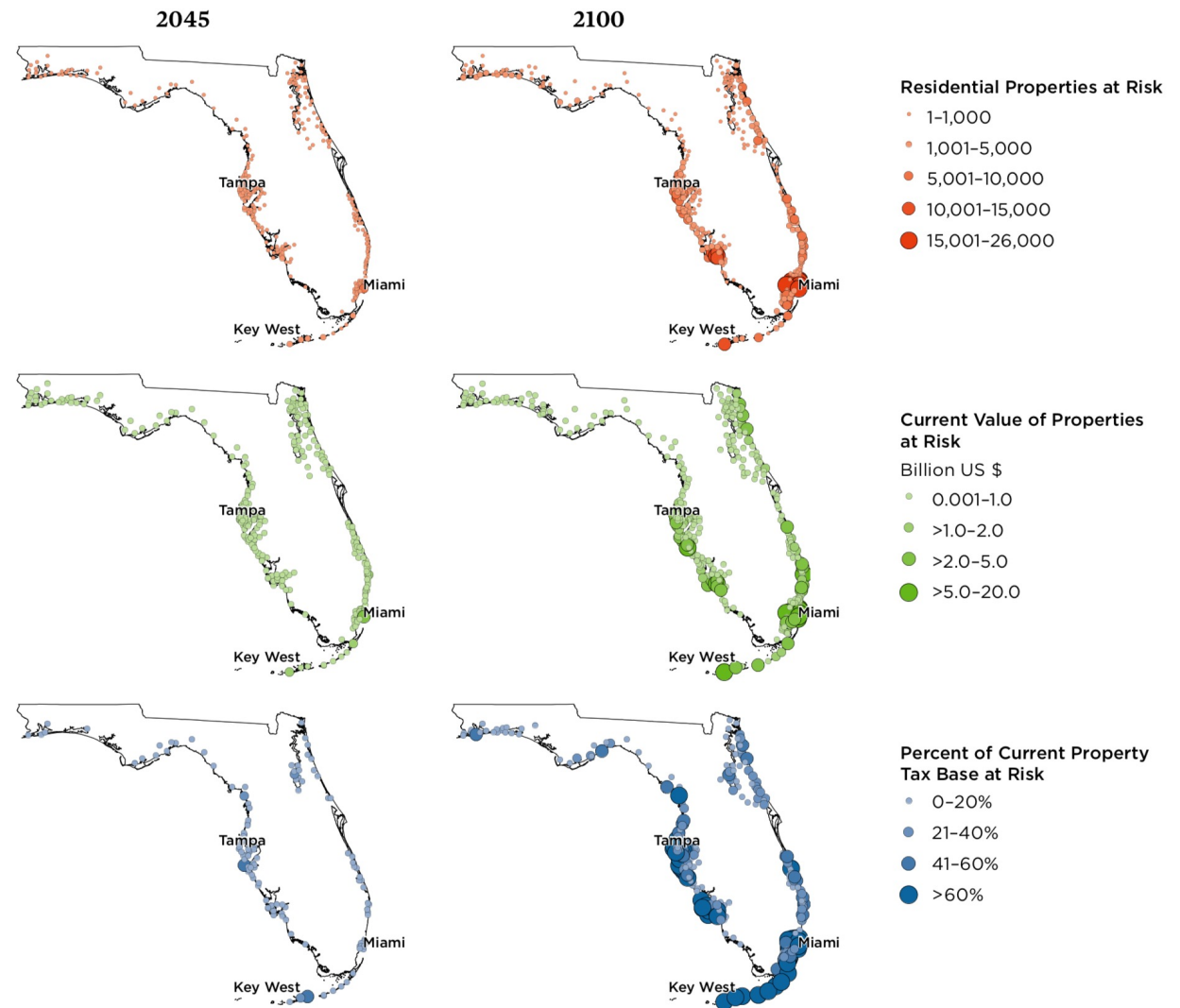
Tropical Cyclone	Year	Category	Adjusted Costs
Katrina*	2005	3	\$190.0B
Harvey	2017	4	\$151.3B
Ian	2022	4	\$112.9B
Maria	2017	4	\$108.9B
Sandy	2012	1	\$83.9B
Ida	2021	4	\$80.2B
Irma	2017	4	\$60.5B
Andrew	1992	5	\$57.0B
Ike	2008	2	\$40.8B
Ivan**	2004	3	\$32.2B
Michael	2018	5	\$29.5B
Florence	2018	1	\$28.3B
Wilma	2005	3	\$28.3B
Rita	2005	3	\$27.8B
Laura	2020	4	\$26.7B
Charley	2004	4	\$25.1B
Hugo	1989	4	\$21.4B
Irene	2011	1	\$17.7B
Frances	2004	2	\$15.4B
Agnes	1972	1	\$15.0B



Property Damage

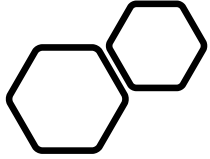


Potential economic fallout of sea level rise in Florida



Coastal Management





Beach Management Toolbox

- Beach nourishment using sand obtained from adjacent inlets, offshore or upland locations
- Sand bypassing
- Living shorelines
- Breakwaters, groins
- Managed retreat for multiple-loss properties



Benefits of Beach Nourishment

Generally, for eroding shorelines, beach nourishment is the best solution:

- Adds sand to the system helping both the nourished beach and downdrift areas
- Protects upland resources by pushing the mean high water line waterward
- Protects against storm surge
- Best environmental outcomes
- Increases tourism
- Protects taxable value and beach economies
- 5.4 ROI

Thank you for Florida's Commitment to Beach Management

- Over 25 years of programmatic funding
- \$1.2 billion and counting for beach maintenance
- Including over \$200 million for storm damage recovery
- Promotes cost-sharing partnerships with federal and local participation
- Projects cover 253 miles (59%) of the state's critically eroded shoreline



Pensacola Beach Nourishment Project (R107-R151)

Navarre Beach Nourishment Project (R192-R213.5)

West Destin (R17-20.7 & R23.5-R25.5)

Destin-Western Walton Beach Restoration Project
Okaloosa (R39-R50), Walton (R1-R23)

Carillon Beach and Pinnacle Port Beach Restoration Project (R1-R5)

Panama City Beach Shore Protection Project (R5-R91.5)

St. Andrews Inlet Project Protection Project (R91.5-R97)

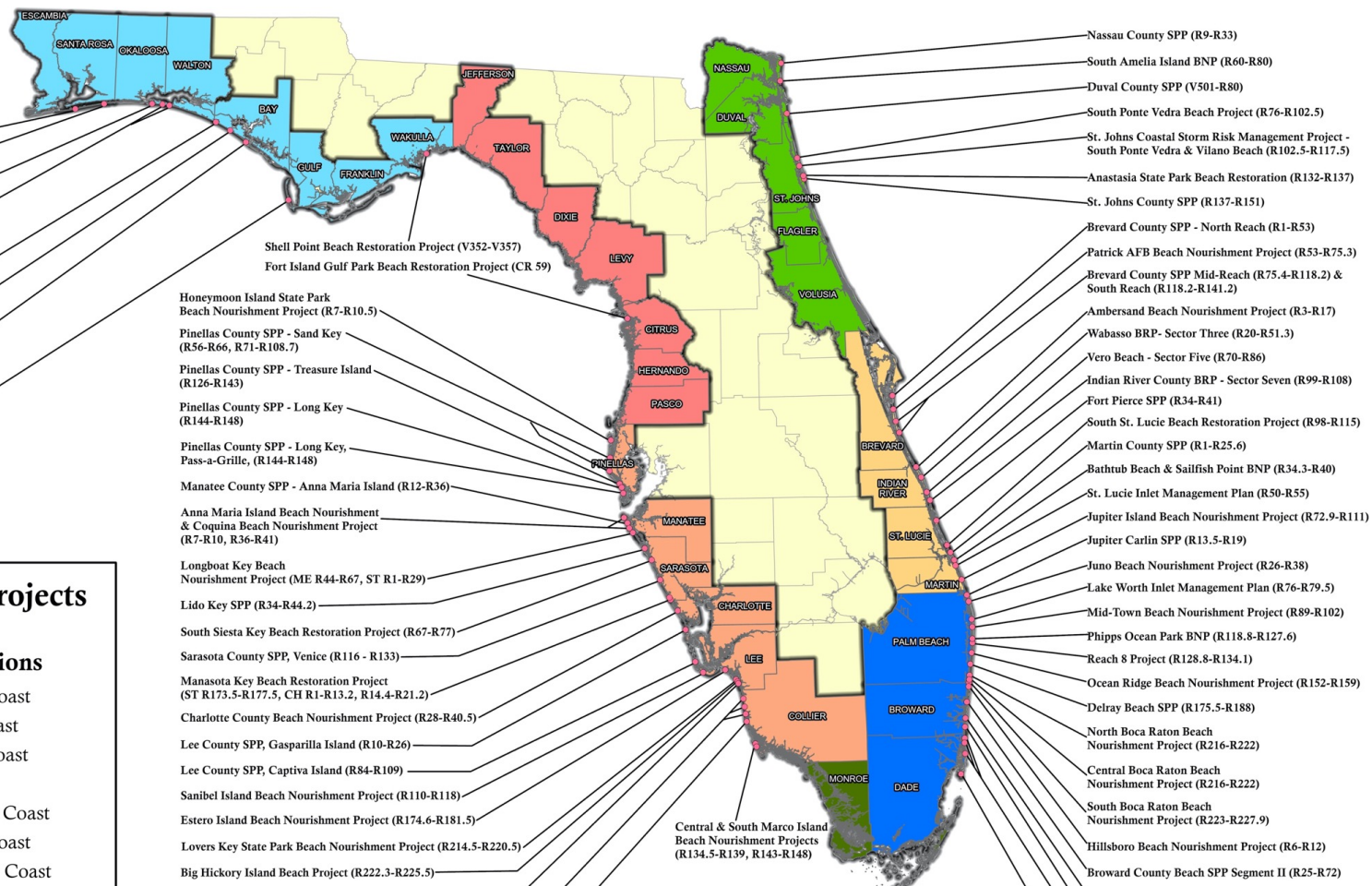
St. Joseph Peninsula Beach Nourishment Project (R67-R105.5)

Florida Beach Projects

85 Projects, 35 Federal

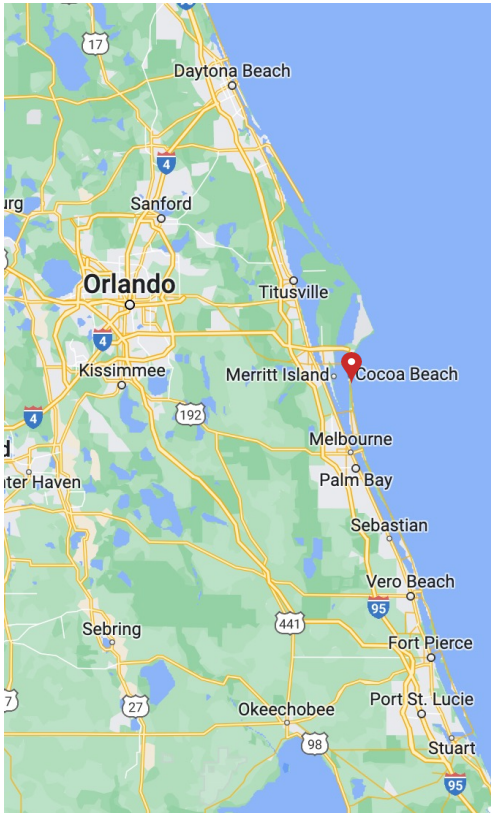
Management Regions

- Panhandle Gulf Coast
- Big Bend Gulf Coast
- Southwest Gulf Coast
- Florida Keys
- Southeast Atlantic Coast
- Central Atlantic Coast
- Northeast Atlantic Coast



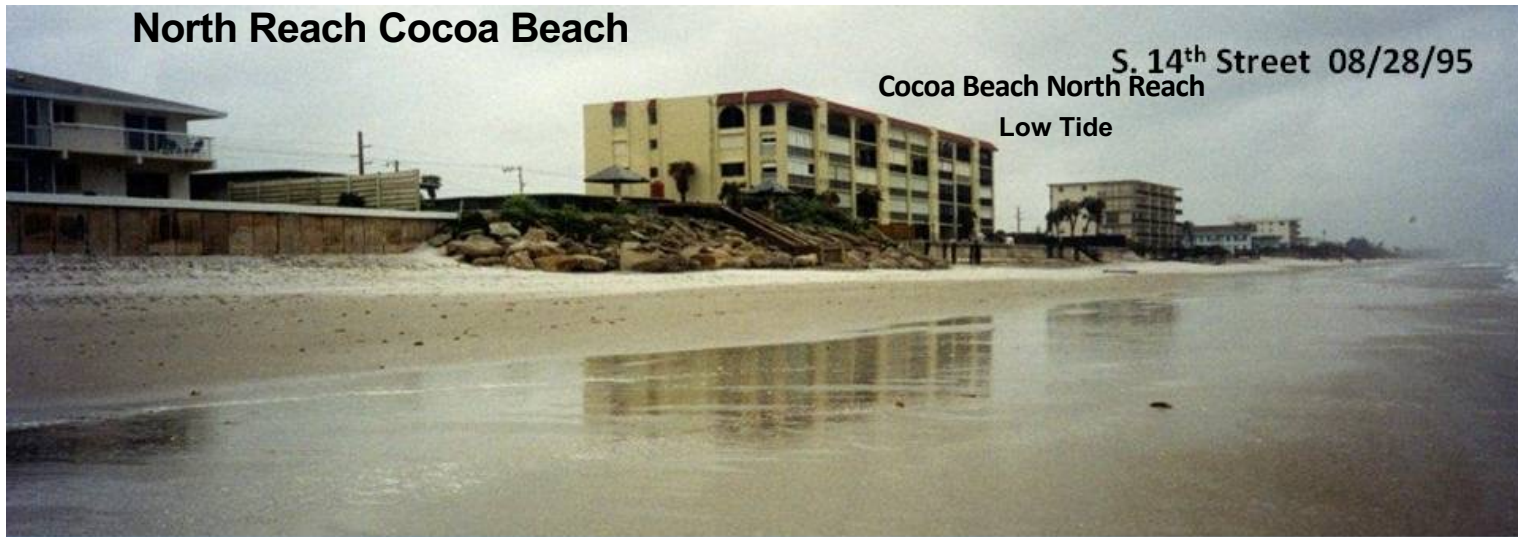
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Beach Projects: Cocoa Beach & Melbourne Beach



North Reach Cocoa Beach

S. 14th Street 08/28/95
Cocoa Beach North Reach
Low Tide



S. 14th Street 03/15/10



*Photo credits Brevard County

Before / After Beach Restoration, City of Jacksonville Beach, FL



1962*1



1973*1



1978*3



2012*2



2012*2

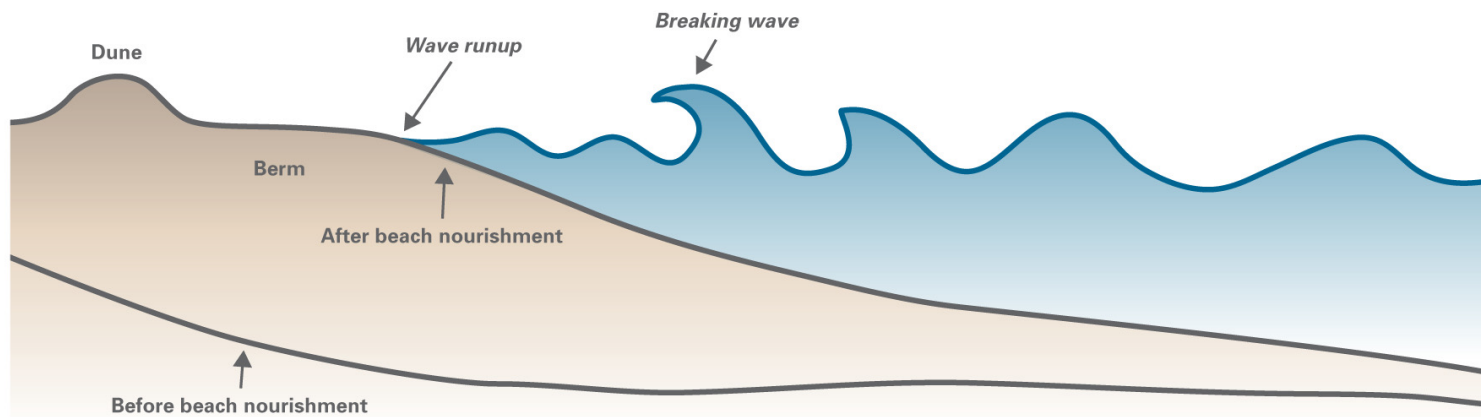


2010*4

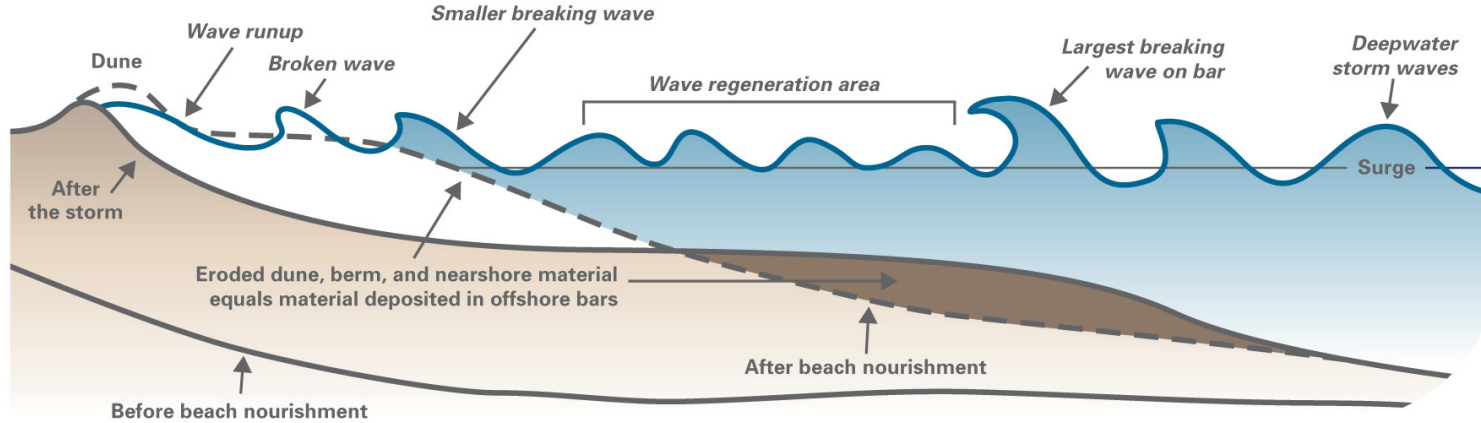
*Photo credits (1) Beaches Museum, City of Jacksonville Beach, (2) S. Howard, (3) K. Bodge, and (4) E. Olsen, Olsen Associates, Inc.



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■ A nourished beach (pre-storm)

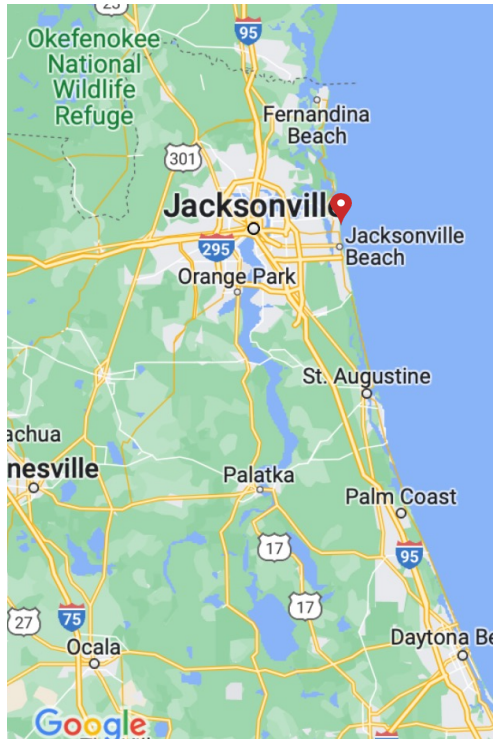


■ A nourished beach (post-storm)

Behavior of
nourished
beach
during a
storm

Post-storm beach project:

Atlantic Beach Restoration



Post-Irma damage
09/12/2017



Post-Irma repair
07/03/2021

Photo credits: Olsen Associates, Inc.



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South Reach Melbourne Beach

The Breakers Condominium

1999
Pre-project



2010
Post-project



2023
Post Ian & Nicole



*Photo credits Brevard County

Quick Facts: Coral Reefs



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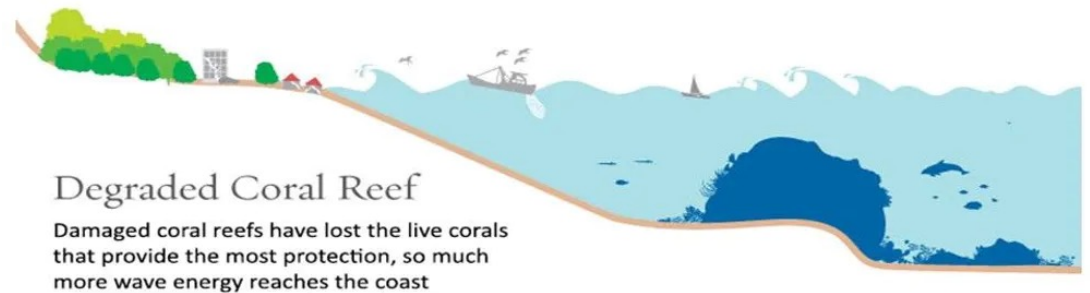
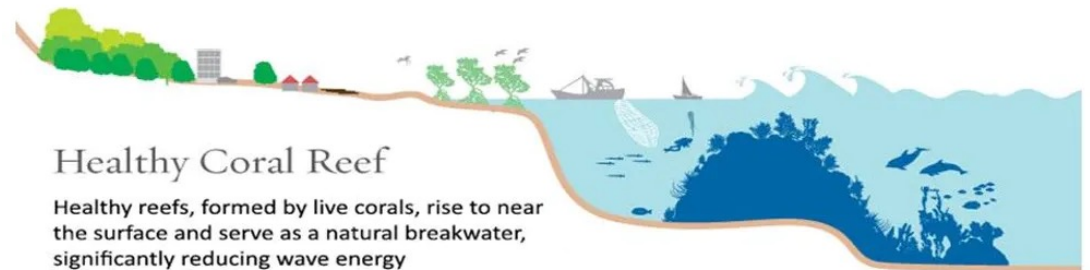
Our Coral Reef

- Extends 330 miles from St. Lucie Inlet to the Dry Tortugas
- Serves as an economic engine for commercial and recreational fishing as well as tourism
- Provides over \$1B in economic activity and supports ~71k jobs
- The only living coral barrier reef in the U.S.; 3rd largest in the world
- Important for biomedical research
- Devastated by stony coral tissue loss disease



Storm surge/flooding benefits of Florida's reef

- A 2014 study (Ferrario et al.) found that coral reefs dissipate 97% of wave energy and reduce wave height by 84%
- A 2019 study shows coral reefs provide more than \$355M/yr in flood protection benefits to buildings and protects nearly \$320 million in annual economic activity (Storelazzi et al.)



Recommendations to aid resilience and recovery

- Full funding for state share of DEP's Hurricane Recovery Plan – \$200-360M (approximately 70% from areas without a traditional beach management program)
- When possible, tighter coordination between federal/state for recovery funding timelines
- Coordinate state leadership efforts to support federal supplemental storm recovery funding
- Continue to provide dedicated funds for the BMFAP, a proven program to mitigate erosion
- Encourage communities without traditional beach management programs to initiate them
- Create a trust fund or give greater flexibility for existing trust funds to provide for contractual services
- Consider how to fund local governments for revenue losses from tax rebates/abatements (PILT)
- Commission a study (OPPAGA?) on repetitive loss properties



Thank you

Questions?



FLORIDA SHORE & BEACH
PRESERVATION ASSOCIATION

A League of Cities and Counties on Beach and Coastal Issues

The Florida Senate

APPEARANCE RECORD

Deliver both copies of this form to
Senate professional staff conducting the meeting

2/9/2023

Meeting Date

SSHR

Committee

Resilience

Bill Number or Topic

Amendment Barcode (if applicable)

Name

Wesley Brooks

Phone

850-879-5944

Address

Street

Email

wesley.brooks@eog.myflorida.com

City

State

Zip

Speaking:

☐

For

☐

Against

☒

Information

OR

Waive Speaking:

☐

In Support

☐

Against

PLEASE CHECK ONE OF THE FOLLOWING:

☐

I am appearing without
compensation or sponsorship.

☒

I am a registered lobbyist,
representing:

EOG

☐

I am not a lobbyist, but received
something of value for my appearance
(travel, meals, lodging, etc.),
sponsored by:

While it is a tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this hearing. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard. If you have questions about registering to lobby please see Fla. Stat. §11.045 and Joint Rule 1. [2020-2022 Joint Rules.pdf \(flsenate.gov\)](#)

This form is part of the public record for this meeting.

S-001 (08/10/2021)

2/9/23

Meeting Date

SSHR

Committee

Name **Syd Kitson**

Phone **561-721-2880**

Address **4500 PGA Boulevard, Suite 400**

Street

Palm Beach Gardens

City

FL

State

33418

Zip

Email

The Florida Senate
APPEARANCE RECORD

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Babcock Ranch

Bill Number or Topic

Amendment Barcode (if applicable)

Speaking: ☐ For ☐ Against ☒ Information **OR** Waive Speaking: ☐ In Support ☐ Against

PLEASE CHECK ONE OF THE FOLLOWING:

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☐ I am a registered lobbyist,
representing:

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S-001 (08/10/2021)

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SSCR

Committee

Beaches

Bill Number or Topic

Amendment Barcode (if applicable)

Name

Pepper Uchino

Phone

(850) 727-9040

Address

PO Box 13146

Street

Email

pepper@fsbpa.com

Tallahassee

City

FL

State

32317

Zip

Speaking:

☐ For

☐ Against

☒ Information

OR

Waive Speaking:

☐ In Support

☐ Against

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S-001 (08/10/2021)

CourtSmart Tag Report

Room: KB 412

Case No.: -

Type:

Caption: Senate Select Committee on Resiliency

Judge:

Started: 2/9/2023 8:31:27 AM

Ends: 2/9/2023 11:00:44 AM

Length: 02:29:18

8:31:25 AM	Call to order
8:31:37 AM	Roll call
8:32:10 AM	Chair comments
8:32:26 AM	Senators Collins and Trumbull are excused
8:33:18 AM	Senator Stewart for comments
8:33:53 AM	Take up Tab 2 - Presentation by Wesley Brooks
8:34:33 AM	Florida's Chief Resiliency Officer on update on long term resilience
8:45:54 AM	Senator Wright for a question
8:46:03 AM	Mr. Brooks for a response
8:46:34 AM	Chair comments
8:46:45 AM	Senator Harrell for a question
8:47:01 AM	Mr. Brooks for a response
8:47:16 AM	Follow up
8:47:55 AM	Senator Davis for a question
8:48:44 AM	Mr. Brooks for a response
8:49:27 AM	Mr. Brooks to continue his presentation
9:05:53 AM	Considerations for Policymakers
9:12:54 AM	Questions?
9:13:00 AM	Senator Powell for questions
9:14:20 AM	Chair comments
9:14:53 AM	Senator Powell for follow up
9:15:42 AM	Mr. Brooks for a response
9:17:09 AM	Senator Powell for a series of questions
9:18:03 AM	Senator Pizzo for questions
9:20:46 AM	Follow up
9:21:59 AM	Senator Stewart for questions
9:22:45 AM	Senator Calatayud for questions
9:25:43 AM	Senator Wright for questions
9:27:01 AM	Chair Albritton for discussion with Mr. Brooks
9:33:49 AM	Senator Harrell for a series of questions
9:36:26 AM	Chair Albritton for additional questions
9:39:38 AM	Senator Martin for questions
9:41:55 AM	Thank you for your presentation
9:42:06 AM	Take up Tab 1 - Babcock Ranch
9:42:22 AM	Syd Kitson you are recognized
10:08:25 AM	Questions?
10:08:37 AM	Senator Polsky for questions
10:12:23 AM	Senator Harrell for questions
10:16:42 AM	Senator Berman for series of questions
10:18:10 AM	Thank you for your presentation
10:18:21 AM	Take up Tab 3 - Florida Shore and Beach Preservation Association
10:18:43 AM	Pepper Uchino you are recognized
10:26:54 AM	Chair Albritton for a question
10:28:41 AM	Mr. Uchino for a response
10:28:48 AM	Continuation of the presentation
10:45:14 AM	Questions?
10:45:17 AM	senator Thompson for questions
10:46:50 AM	Senator Powell for questions
10:49:57 AM	Follow up
10:51:34 AM	Chair comments on Senator Powell's questions
10:52:40 AM	Senator Harrell for questions
10:55:34 AM	Chair Albritton for comment

10:56:02 AM	Senator Stewart for questions
10:57:22 AM	Senator Davis for question
10:58:36 AM	Chair Albritton responds
10:59:59 AM	Closing comments by Mr. Uchino
11:00:06 AM	Senator Thompson moves we adjourn
11:00:14 AM	Adjourned