



Implementing Resilience

Jacksonville District USACE Supplemental & RSM Programs

24 April 2019



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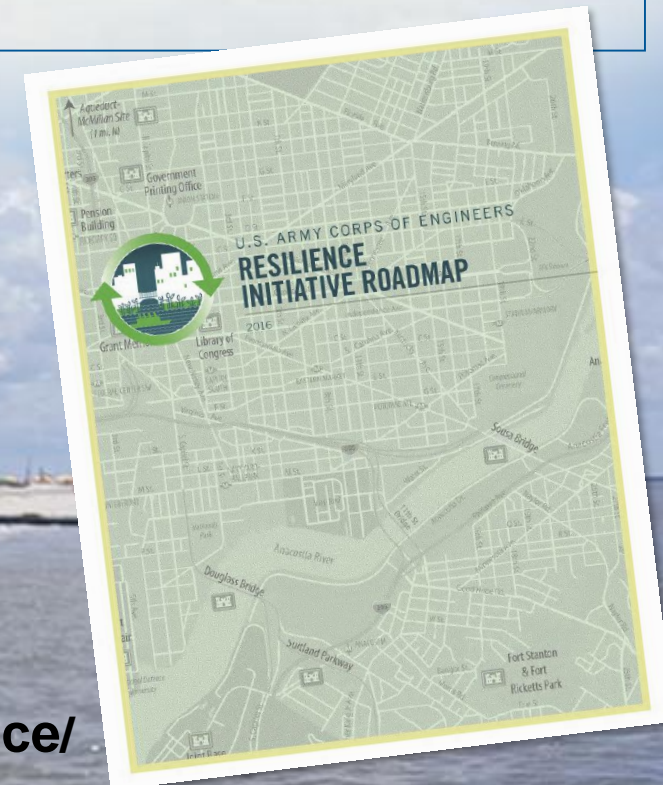
AGENDA

Implementing Resilience

- Resiliency in USACE, Jacksonville District
 - ▶ Resiliency Goals
- Implementing Resiliency
 - ▶ Recover: PL 115-123 Supplemental Program
 - ▶ Adapt:
 - Navigation initiatives & RSM
 - South Atlantic Coastal Study
- Summary

JACKSONVILLE DISTRICT MISSION

Deliver value to the Nation by anticipating needs and collaboratively engineering solutions that support national security, energize our economy, & **increase resiliency.**

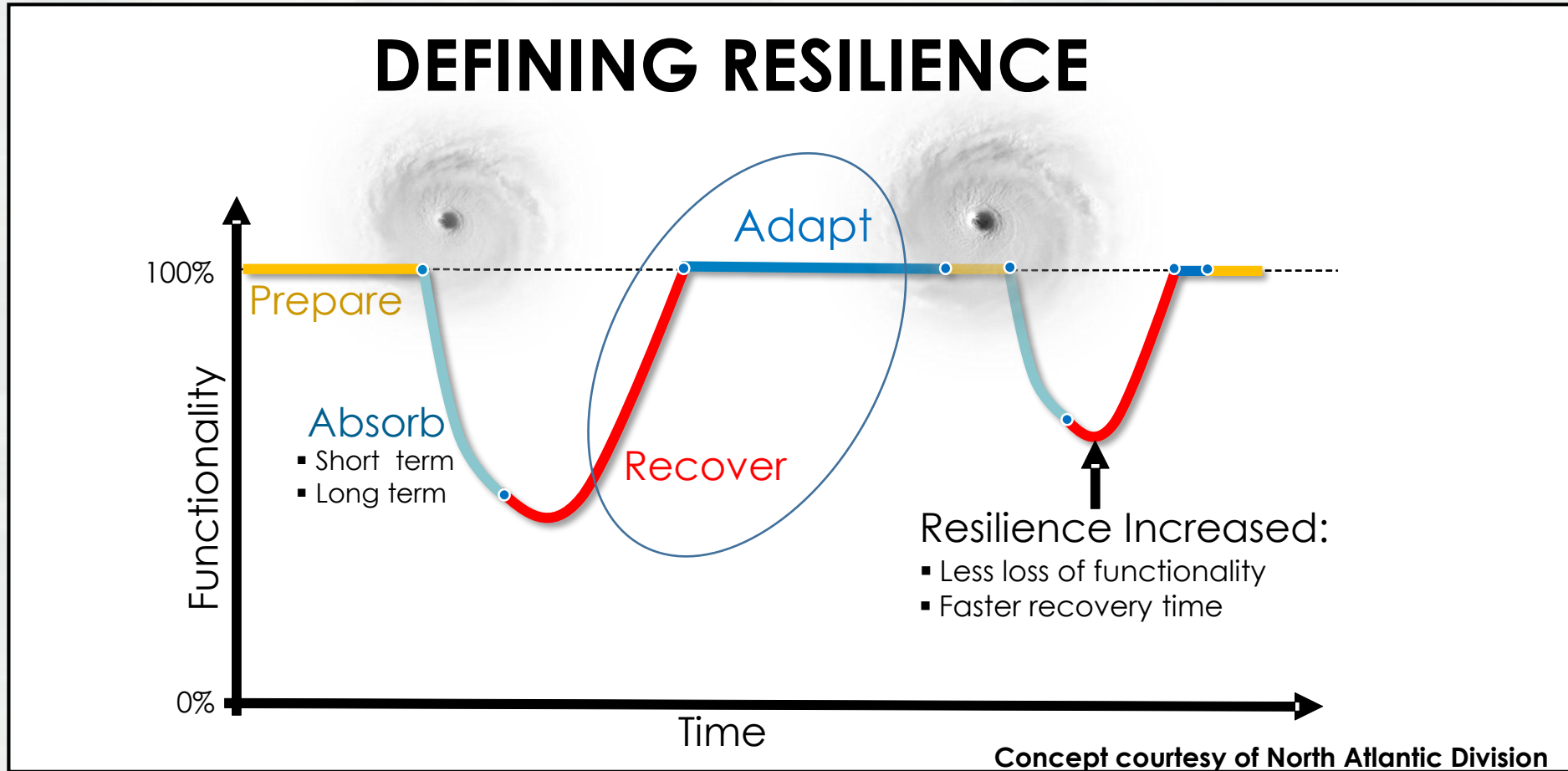


USACE Building Resiliency Website:

<https://www.usace.army.mil/Missions/Sustainability/Building-Resilience/>

RESILIENCY GOALS

DEFINING RESILIENCE



Engineering (USACE)

- System's ability to anticipate, resist, recover, & adapt
- Achieves functional performance under the stress of disturbances through time

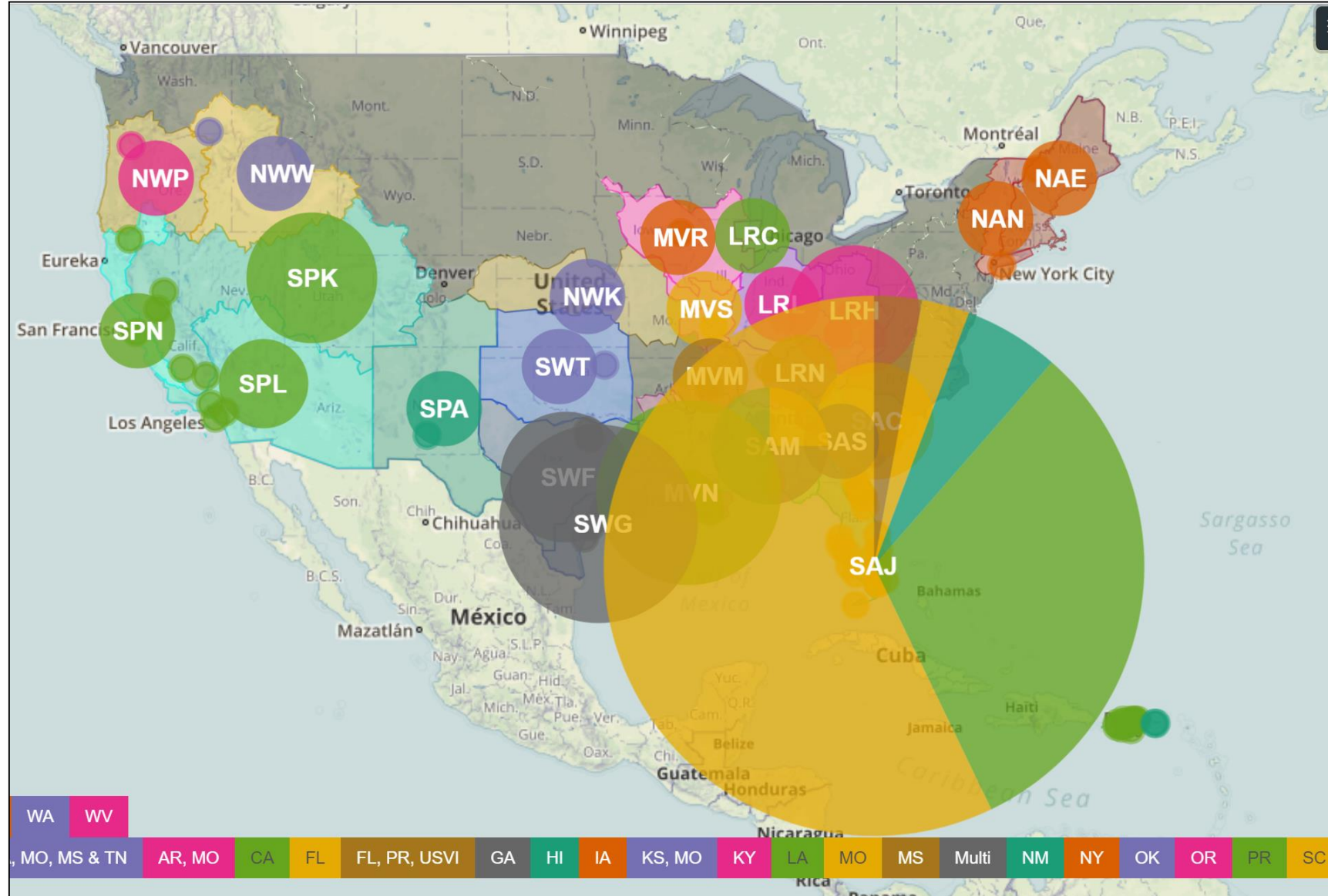
Ecological (Walker Et Al. 2004)

- System's capacity to absorb disturbance & reorganize while undergoing change
- Retains essentially the same function, structure, identity, & feedbacks

Community (Carri 2013)

- Ability to anticipate risk, limit impact, & bounce back rapidly
- Grows via survival, adaptability, & evolution, in the face of turbulent change

RECOVER: USACE PL115-123 C & I SUPPLEMENTAL PROGRAM NUMBER APPROVED PROJECTS BY STATE



Jacksonville District has more approved projects than any other Division in USACE

- 68 projects
- >\$3.6B approved



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RECOVER: JACKSONVILLE DISTRICT SUPPLEMENTAL PROGRAM

Investigations		FCCE		O&M		Construction, Florida		Construction, Puerto Rico		Construction (CAP)	
Study	\$	Project	\$	Project	\$	Project	\$	Project	\$	Project	\$
COLLIER COUNTY BEACH EROSION CONTROL*	\$3,000,000	BREVARD COUNTY, South Reach	\$9,020,000	ANCLOTE RIVER		BREVARD COUNTY	\$2,000,000	RIO DE LA PLATA	\$500,000,000	MT. SINAI MEDICAL CENTER (SEC 14)	\$4,594,000
DADE COUNTY	\$2,000,000	BROWARD COUNTY, Segment II	\$29,237,000	CANAVERAL HARBOR, FL		BROWARD COUNTY	\$2,000,000	RIO GRANDE DE ARECIBO	\$82,892,000	LOIZA, PR (SEC 14)	\$5,170,000
MIAMI BACK BAY*	\$3,000,000	BROWARD COUNTY, Segment III	\$66,838,000	CANAVERAL HARBOR, FL, Sand Bypass		DUVAL COUNTY	\$2,000,000	RIO GRANDE DE LOIZA	\$250,000,000	SALUD CREEK AT SAN GERMAN, PR (SEC 14)	\$2,066,000
MONROE COUNTY*	\$3,000,000	DUVAL COUNTY, FL	\$16,500,000	CENTRAL & SOUTHERN FLORIDA, FL		LEE COUNTY	\$2,000,000	RIO GUANAJIBO at MAYAGUEZ	\$60,000,000		
PINELLAS COUNTY	\$2,000,000	LEE COUNTY, FL, Gasparilla	\$7,171,000	CHANNEL FROM NAPLES TO BIG MARCO PASS		NASSAU COUNTY	\$2,000,000	RIO NIGUA at SALINAS	\$60,000,000		
FL Subtotal	\$13,000,000	PALM BEACH COUNTY, Jupiter	\$16,458,000	FORT MYERS BEACH		PALM BEACH COUNTY	\$2,000,000	RIO PUERTO NUEVO	\$1,552,453,000		
SOUTH ATLANTIC COASTAL STUDY, FL, PR & USVI	\$16,000,000	PALM BEACH COUNTY, Ocean Ridge	\$8,955,000	HORSESHOE COVE		SARASOTA COUNTY (VENICE)	\$2,000,000				
PUERTO RICO COASTAL	\$3,000,000	PALM BEACH COUNTY, Delray	\$8,285,000	IWW, JACKSONVILLE TO MIAMI		ST. JOHN'S COUNTY	\$2,000,000				
RIO CULEBRINAS*	\$400,000	PALM BEACH COUNTY, North Boca	\$13,815,000	MANATEE HARBOR, FL		DADE COUNTY	\$158,300,000				
RIO GRANDE de MANATI*	\$1,200,000	RIO PUERTO NUEVO	\$8,285,000	MIAMI HARBOR, FL		FLAGLER COUNTY	\$17,500,000				
RIO GUAYANILLA*	\$3,000,000			OKEECHOBEE		HERBERT HOOVER DIKE	\$514,208,000				
SAN JUAN METRO AREA	\$3,000,000			PALM BEACH HARBOR, FL		MANATEE COUNTY	\$14,300,000				
SAVAN GUT PHASE II, ST. THOMAS	\$400,000			PONCE DE LEON INLET		PALM BEACH COUNTY, MID-TOWN SEGMENT	\$25,000,000				
TURPENTINE RUN, ST. THOMAS	\$400,000			SUWANNEE RIVER		ST. LUCIE COUNTY, SOUTH SEGMENT	\$20,276,000				
				TAMPA HARBOR, FL		ST. JOHN'S COUNTY, VILLANO SEGMENT	\$36,834,000				
				FL Subtotal							
				ARECIBO HARBOR		FL Construction		PR Construction			
				MAYAQUEZ HARBOR		\$802,418,000		\$2,135,345,000			
INV \$27,200,000		FCCE \$184,564,000		O&M \$53,750,000		Total Long Term Construction		\$2,937,763,000		CAP \$11,830,000	

- FL Coastal
- FL FRM
- FL NAV
- FL CAP
- PR Coastal
- PR/USVI FRM
- PR/USVI NAV
- PR/USVI CAP

Work being led by other USACE District

RECOVER: BIPARTISAN BUDGET ACT (BBA) FLORIDA

BBA FUNDING SOURCE

INVESTIGATIONS
CONSTRUCTION
FCCE
O&M
CAP



- Total FCCE \$184,564,000
 - Supplemental O&M \$TBD**
 - Construction Supplemental \$802,418,000
 - Investigations \$29,000,000
 - CAP \$4,594,000
- Total FL BBA: \$1.02B**



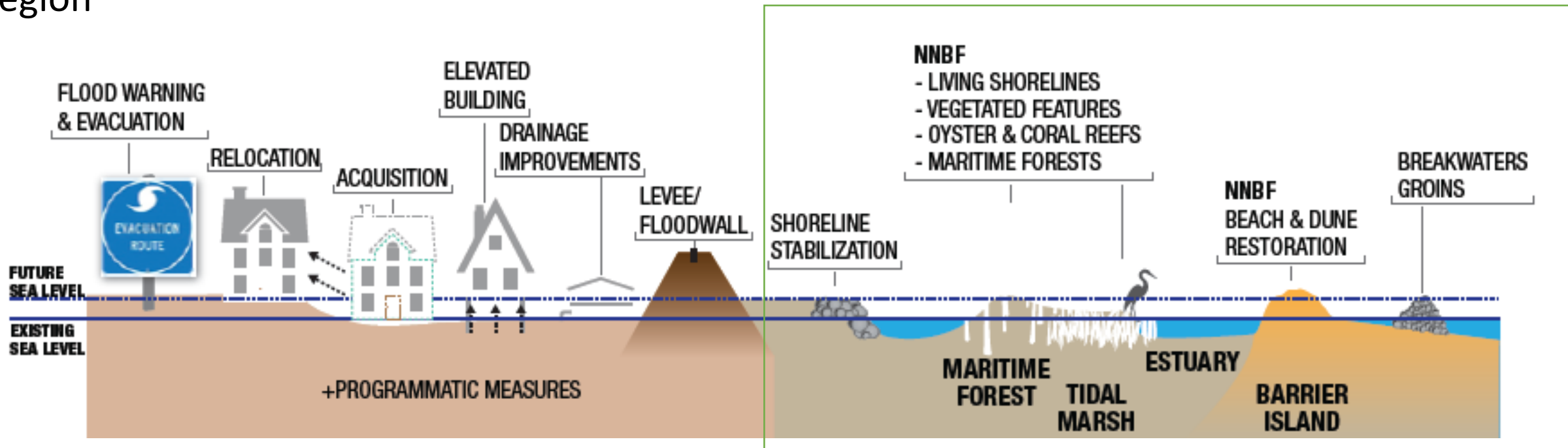
ADAPT: SOUTH ATLANTIC DIVISION NAVIGATION INITIATIVES

Regional Sediment Management Center For Implementation



RSM FUNDAMENTALS

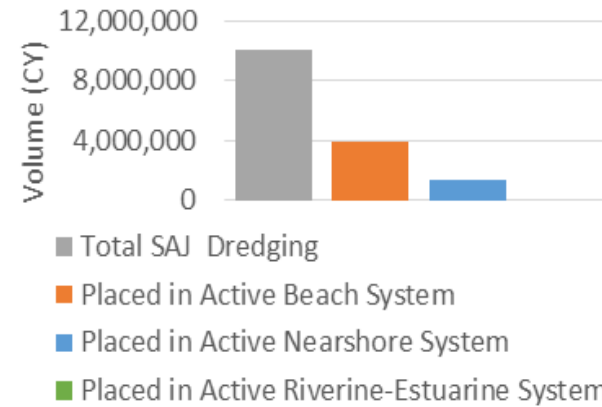
- Sediment is a valuable resource
- Recognizes implementation strategies across multiple projects and business lines to guide investments to achieve long-term economic, environmental, and social benefits
- Enhances relationships with stakeholders and partners to better manage sediments across a region



ADAPT: VALUE & FEDERAL STANDARD

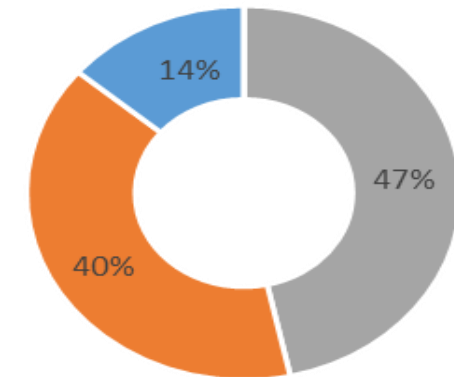
THINK OUT OF THE BOX TO FIND EFFICIENCIES

- Effective inlet management
- Settling basins/advance maintenance
- Jetty improvements
- Navigation material as sediment source for beach projects
- Cheaper sources of sediment, cheaper placement areas, no mobilization
- Benefitting shorelines: Nassau County, Mile Point (Duval), St. Johns County, Fort Pierce, Palm Beach County, Broward County, Miami-Dade County, Pinellas County, Fort Myers, Keewaydin Island
- Fort Clinch, Amelia Island State Park, Hobe Sound NWR, Anastasia State Park, Egmont Key State Park
- Benefit: Stakeholders fight for navigation projects which add resiliency



RSM Value	
FED (NAV):	\$9.9 M
FED (FRM):	13.0 M
Other:	\$4.7 M
Total:	\$27.6 M

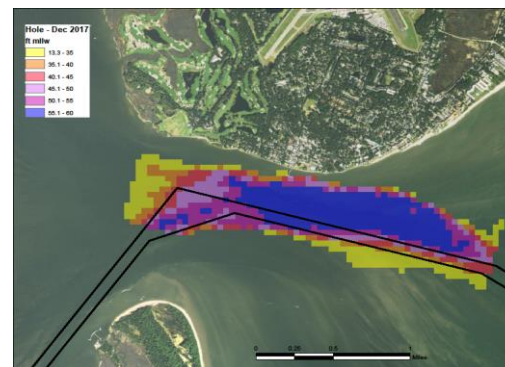
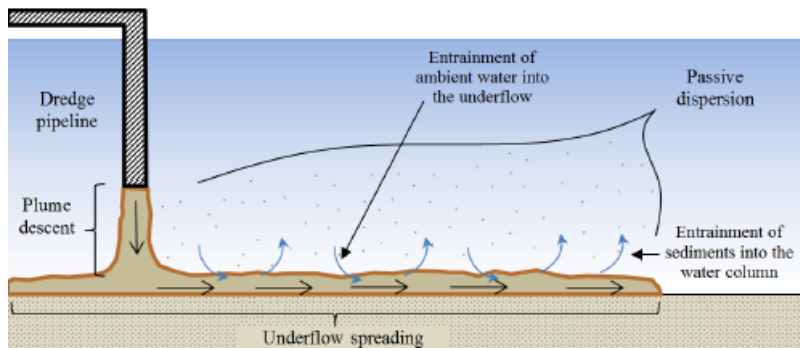
Beneficial Use of Dredged Material:
53%



- Upland/Offshore Placement
- Beach Placement
- Nearshore Placement
- Estuarine-Riverine Placement

ADAPT: SUITE OF PLACEMENT OPTIONS

- Creative solutions to solve problems
- Intra-agency coordination
- Stakeholder/agency engagement
- Consensus development
- Environmental monitoring/studies development

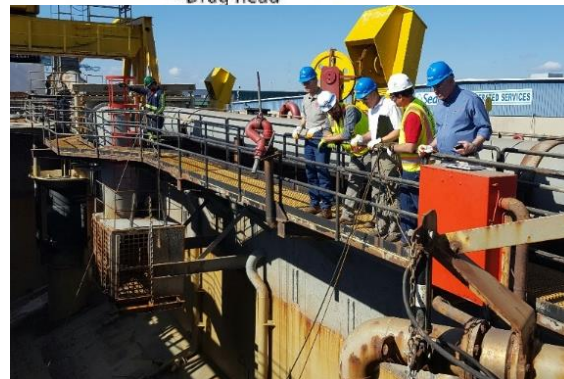
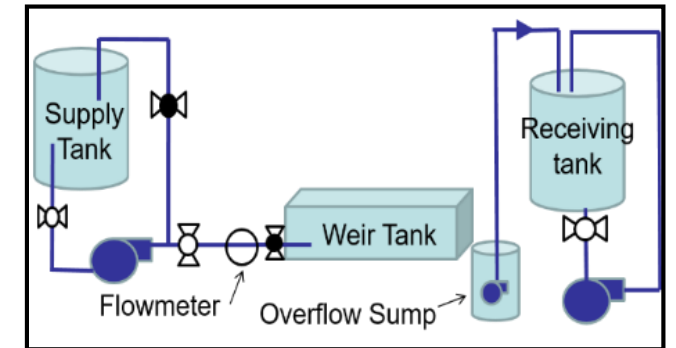
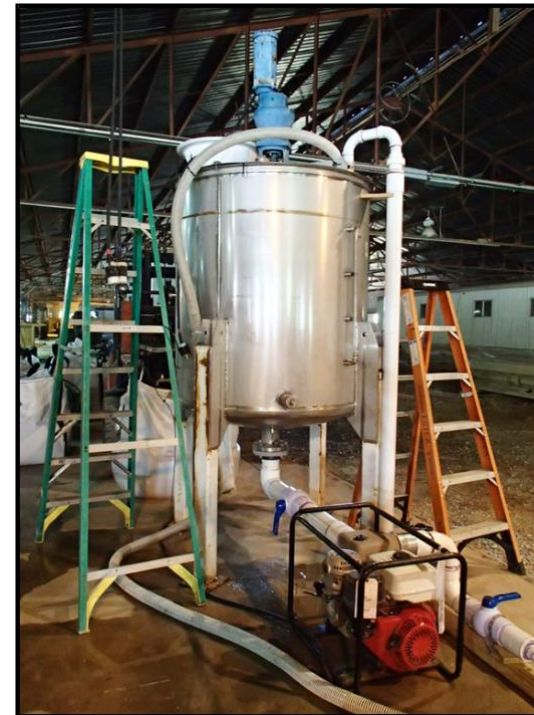
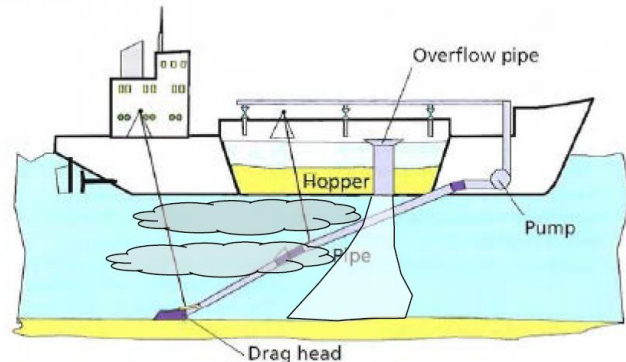


Nearshore, ODMDS, Upland, TLP, beach, deep water

ADAPT: SCIENCE BASED REGULATIONS

Driving Coastal Management and Policy: Sediment Sorting/Fate of Fines Turbidity

- Developing solutions for sediment starved environments
- Interagency coordination (BOEM, FDEP)
- Innovation of analytical methods
- Reducing environmental impacts and project costs



ADAPT: ENVIRONMENTAL WINDOWS

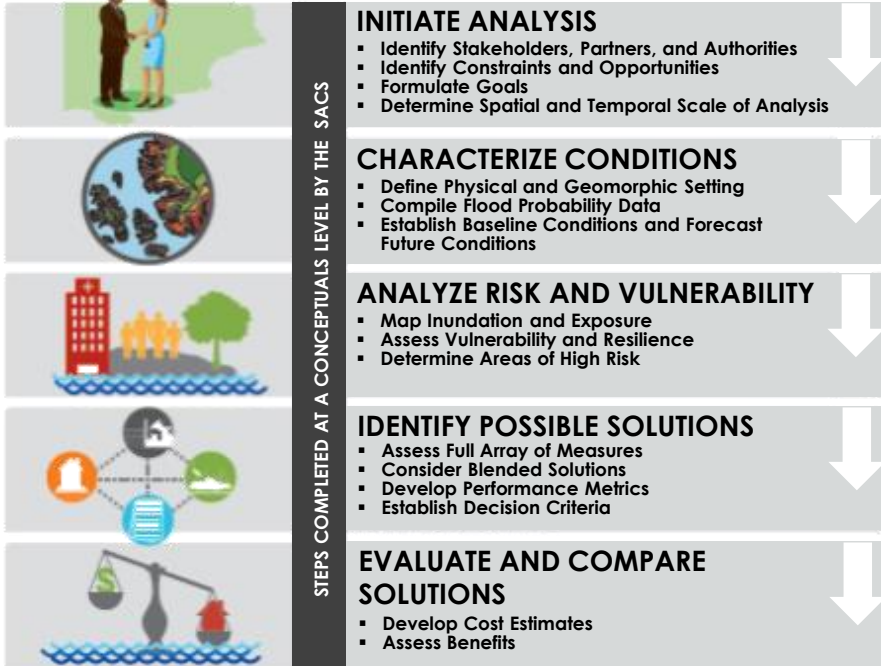
NFWS: South Atlantic Biologic Opinion (SARBO)

Ongoing efforts to remove environmental windows in South Atlantic Division (Aug 2019).

Risk informed decision making and quarterly coordination



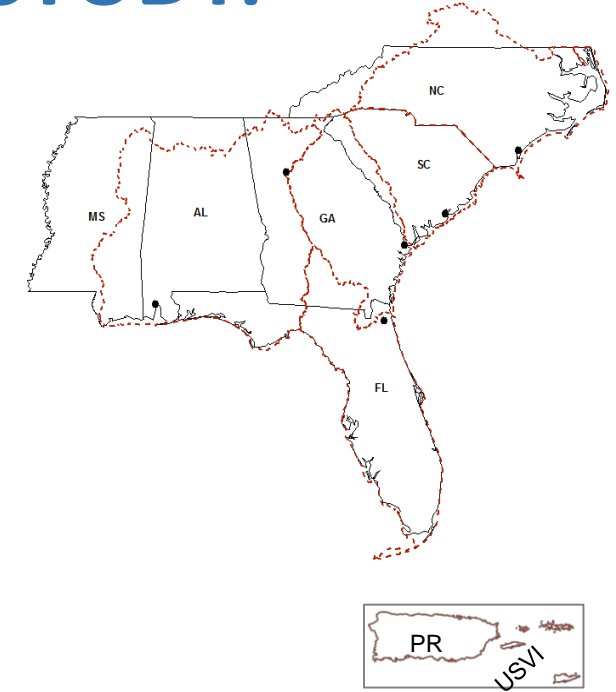
ADAPT: SOUTH ATLANTIC COASTAL STUDY:



Establish stakeholder relationships, coordinate up-front to leverage others' efforts.

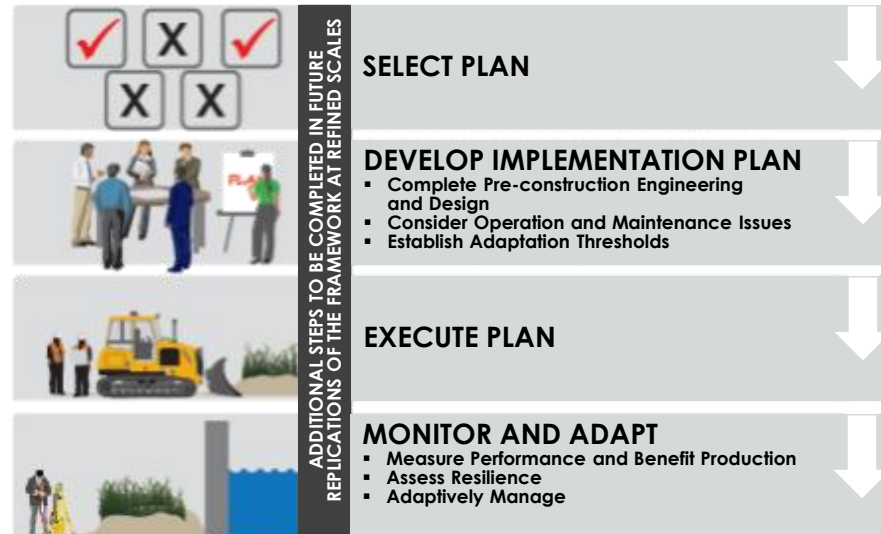
Modify "NACCS-consistent" risk assessment for southeast applicability as needed (SCA). Analyze coastal vulnerability and identify Focus Areas based on data and stakeholder input.

Provide useable data & tools to stakeholders. Identify general measures applicable to broad regions and specific solutions for focus areas.



FUTURE ACTIONS

TO BE COMPLETED BY AN APPROPRIATE LOCAL, STATE, OR FEDERAL AGENCY, OR NGO



Post-Coastal Study

Implementation of strategies by Federal and non-Federal efforts at the project specific level.

South Atlantic Comprehensive Study
Actionable measures that can be taken by Federal and non-Federal partners to reduce risk and vulnerability in the South Atlantic Division.

Get added to our stakeholder list. Email SACS@usace.army.mil

SACS Geoportal

SACS Risk Assessment Viewer



Population Infrastructure

Environment, Cultural & Habitat

Social Vulnerability

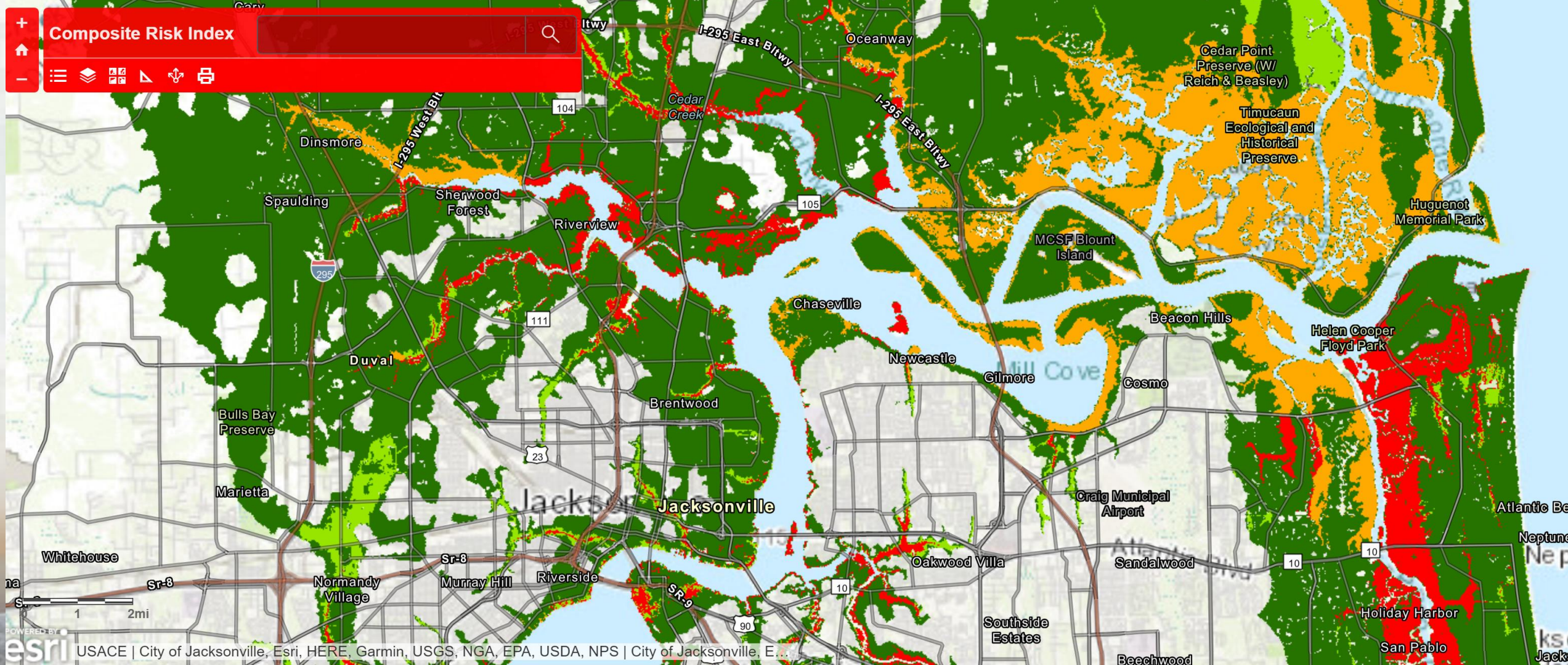
Hazards

Composite Risk Index

Risk Index Comparison

PR - USVI

Tier 1 Risk Assessment Explained



Composite Risk Index



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esri

USACE | City of Jacksonville, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS | City of Jacksonville, E...

ADAPT: SEDIMENT NEEDS AND AVAILABILITY

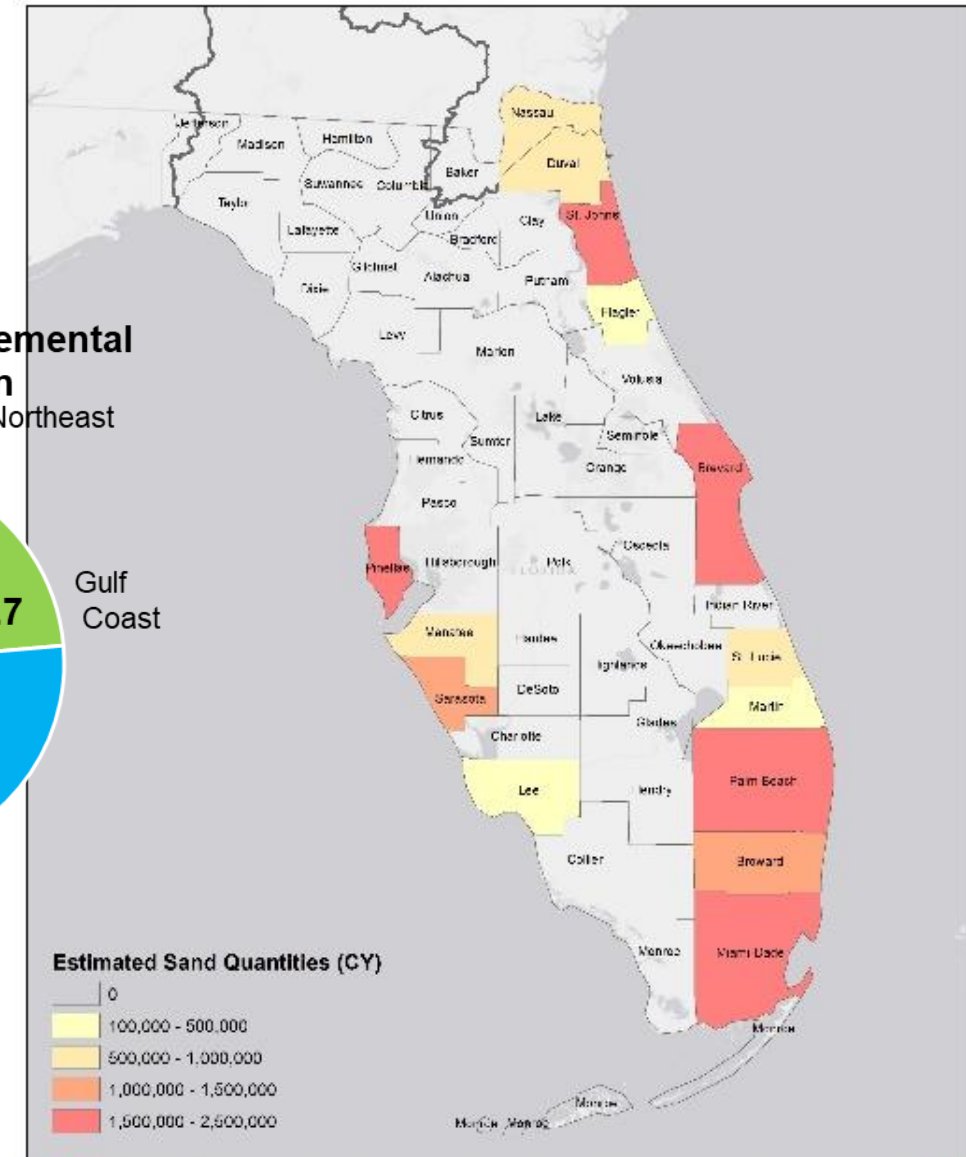
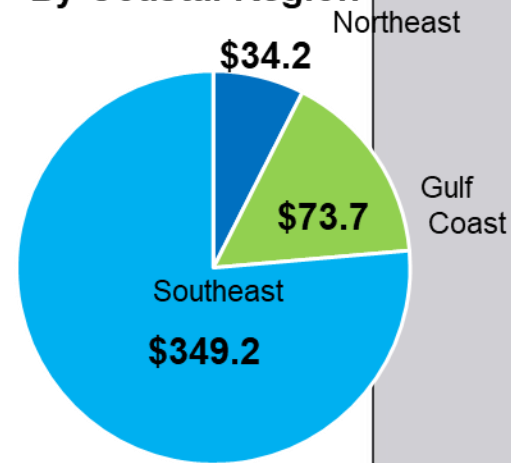
Issues

- Scarce resource in high demand
- Regulations and constraints
- Multi-user resource management conflicts

Resiliency Actions

- Identify long term needs and sources
 - CHANNELS AND DMMAS!
- Identify additional sources
- Be more efficient with identified resources
- Coordinated effort among stakeholders and management community to solve problems and develop agile policies and regulations

FY2018 Approved Supplemental
By Coastal Region



ADAPT: SEDIMENT EXCHANGE (SEDEX)

PROBLEM:

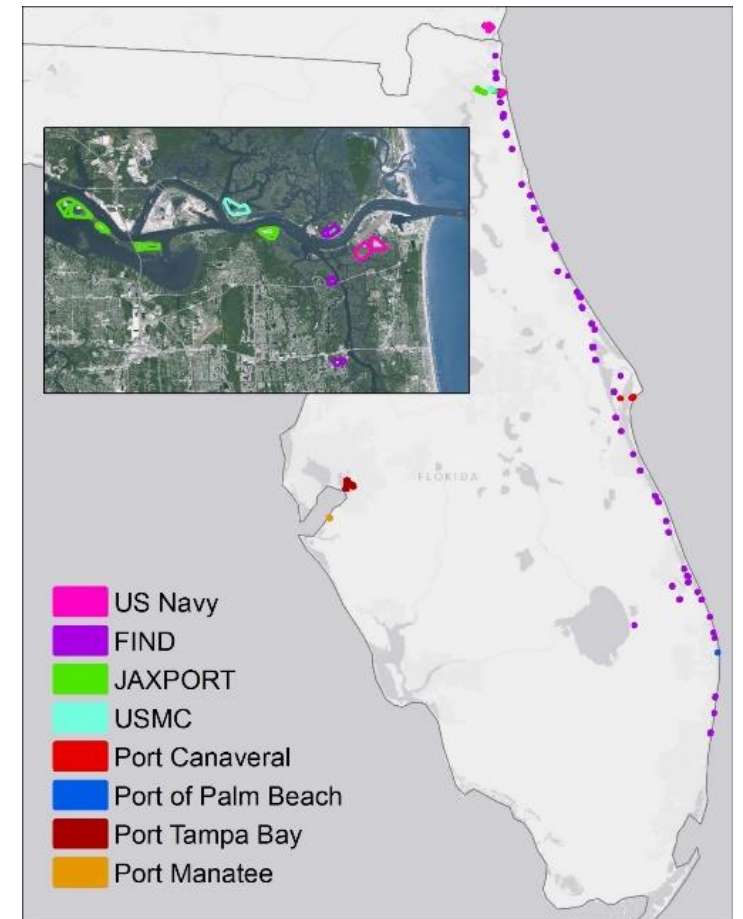
- Roughly half of all SAD dredged material is placed upland or offshore
- Management of upland placement facilities is expensive
- Valuable material is wasted

GOAL:

- Promote beneficial re-use of dredged material placed in upland sites in the South Atlantic Division through collaboration and engagement with stakeholders. GIS based inventory.

BENEFITS:

- Save money
- Reduce upland disposal needs
- Enhance coastal resiliency
- Environmentally responsible thing to do
- Strengthen partnerships with sponsors and stakeholders



ADAPT: RESILIENCY PROGRAM: \$22M

Innovative approach to adding resiliency to Federal CSRM projects through the addition of dunes where appropriate.

Study Effort:

6 months

\$100,000

Delegated approval



Nassau County, FL SPP	
Duval County, FL SPP	
St. Johns County, FL SPP	St. Augustine
Brevard County, FL SPP	North Reach
Brevard County, FL SPP	South Reach
Palm Beach County SPP	Jupiter Carlin
Palm Beach County SPP	Mid-town
Palm Beach County SPP	Ocean Ridge
Palm Beach County SPP	Delray
Palm Beach County SPP	North Boca Raton
Broward County, FL SPP	Segment II
Broward County, FL SPP	Segment III
Dade County, FL BEC&HPP	Sunny Isles
Lee County, FL BECP	Gasparilla
Sarasota County, FL SPP	Venice
Manatee County, FL SPP	Anna Maria Island



Jacksonville Beach, Florida at 6th Avenue South before and after Hurricane Matthew.

IMPLEMENTING RESILIENCE SUMMARY:



- O&M cannot mean business as usual
- Take advantage of every opportunity to evolve your projects and program
- Timely actions and sense of urgency
 - Study/research/analyze while DOING
- Ports need to tell the story of Resiliency
 - Long term and short term funds

THANK YOU!

“I’m right behind you.... until you slow down. Then I’m going to run you over.”
-Assistant Secretary of the Army, R.D. James