

RSM RCX: Project Implementation

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THE
NEW YORKER

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THE WORLD IS RUNNING OUT OF SAND

It's one of our most widely used natural resources, but it's scarcer than you think.



By David Owen



The Economist explains

Why there is a shortage of sand

It may be plentiful, but so is the demand for it



Miami Beach has run out of sand. Now what?

For years the sea has been eating away at the shore, and the city has spent millions of dollars pumping up sand from the seafloor to replace it, only to have it wash away again.

THEVERGE.COM



Machine Crushes Beer Bottles Into Sand to Save New Zealand Beaches - Geek.com

Drink beer, save the environment. That's the rallying cry of DB Breweries, a New Zealand-based company helping to combat the global sand shortage. The firm, as...



RSM-RCX: DRIVING POLICY



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WIIN/WRDA 2016

- S. 1122 – Beneficial Use of Dredged Material Pilot Program. Regional Beneficial Use Teams. Cost Sharing under Section 204 of WRDA 92.
 - ▶ Status: Waiting on Implementation Guidance from HQ.
- S. 1122(i) – Changes language of CAP Section 204 to allow for repeated events, fed or non fed sources of sediment, and ability to accept NF funds to place dredged sediment
- S. 1188 – Sense of Congress – State WQC and disposal of dredged material, open-water disposal should be reduced to maximum extent practicable.
- S. 1189 – Disposal of Dredged Material not the Federal Standard if it violates the State WQ standards approved by EPA.
- S. 1204 – South Atlantic Coastal Study. Geographical boundaries of SAD, identifying risks and vulnerabilities of HSDR due to Sea Level Rise with focus on Regional Sediment Management.
 - ▶ Status: Authorized but not funded, see SCA.
- S. 1115 – Reservoir Sediment. Pilot program to allow non-Federal entities to remove sediment behind Federal dams



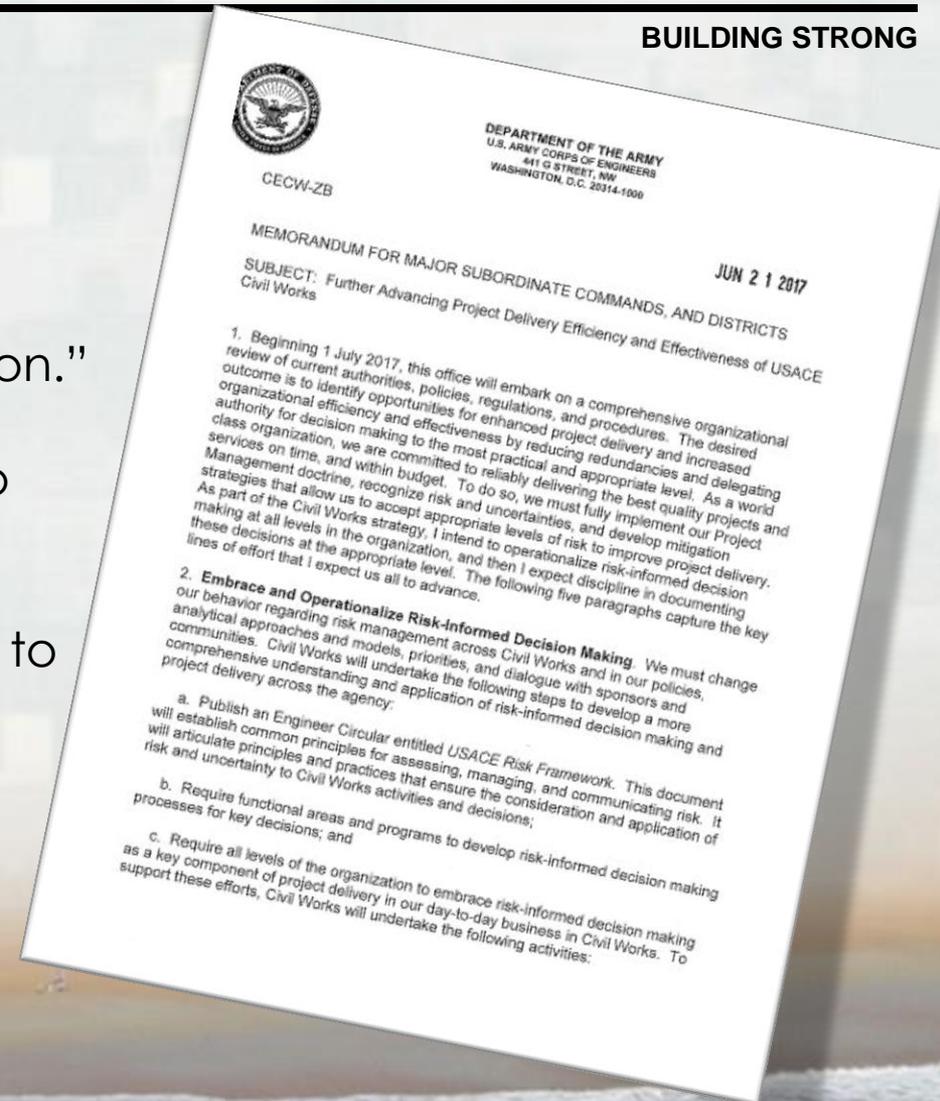
DIRECTOR OF CIVIL WORKS

21 June MEMO



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- Issued June 21st 2017 for MSCs and districts.
- Paragraph 6: “Incorporate Social and Environmental Benefits into Project Formulation, Design, and Implementation.”
- RSM quantifies and qualifies benefits to multiple projects within a region.
- RSM-RCX is currently working on efforts to quantify environmental benefits of projects.
- RSM gives a broader picture of the lifecycle benefits to inform decision making.



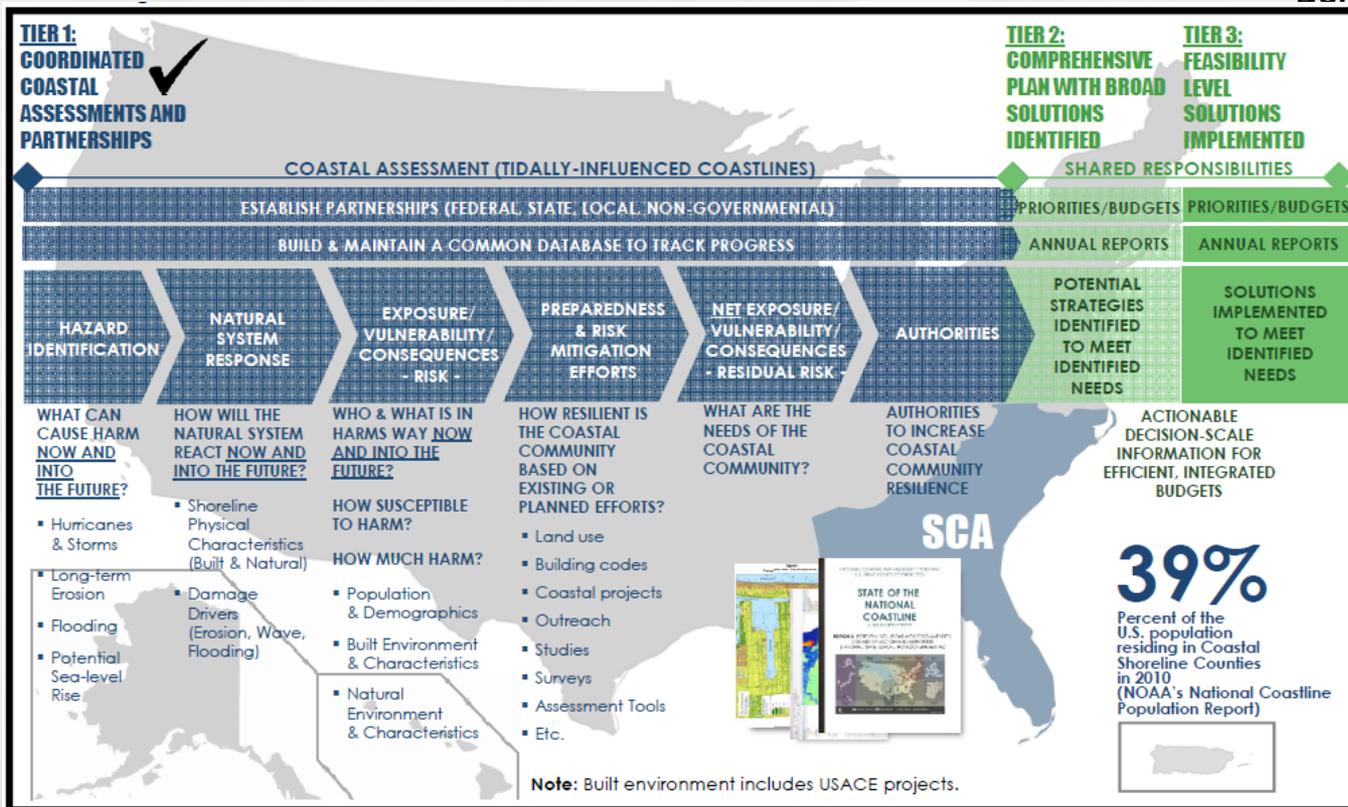


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Southeast Coastal Assessment



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<http://www.sad.usace.army.mil/SCA/>

Project Managers: Jackie Keiser and Laurel Reichold

Southeast Coastal Assessment

Challenge:

The SAD AOR has a large and diverse coast that experiences frequent storms and is expected to see significant increases in population. Natural and fiscal resource constraints threaten the sustainability of the current program which is isolated to ocean facing shorelines.

2,500 MILES OF OCEAN COASTLINE

18,000 MILES TIDALLY INFLUENCED COASTLINE

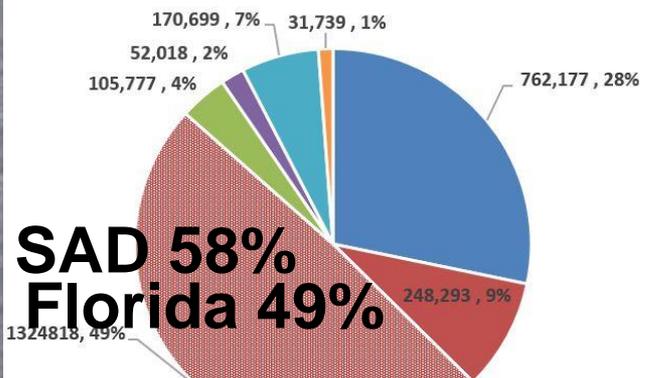


217 Listed Species

SAD Population Growth



Homes Below 6' MHHW by USACE Division & State of Florida



Status of SAJ Federal CSRM Projects – PL 84-99

PROJECT STATUS

PIR IN PROGRESS

PRE-STORM CONDITION



SPONSOR REQUESTED ASSISTANCE

POST-STORM CONDITION



Last 24: PIRs in progress. Responding to SAD comments on Nassau County. FCCE eligibility definitions requested from SAD.

Next 24-48:

PROJECT FUNDS

CLOSEOUT

FUNDS FOR PIR

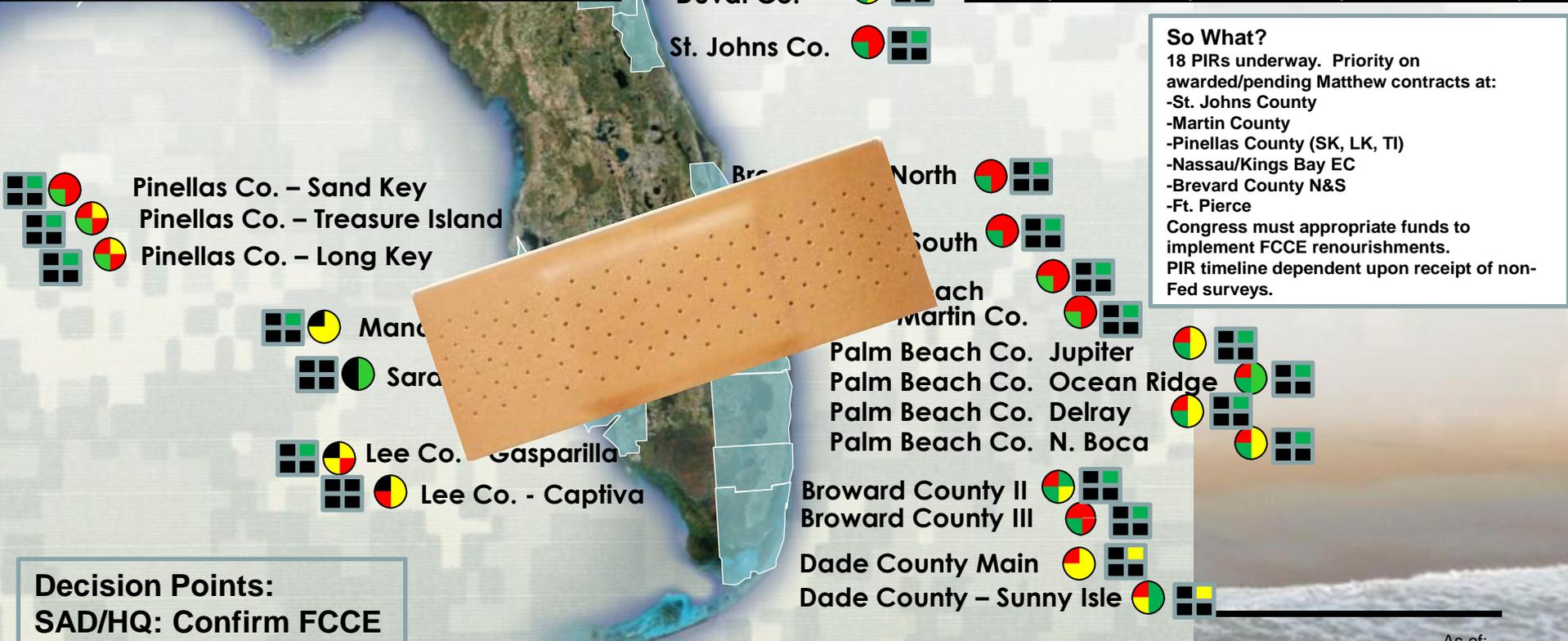


CONSTRUCTION FUNDS

FUNDS FOR E&D

PRE-STORM	POST-STORM	SPONSOR REQ	PIR STATUS
> 50% Advance Fill		In writing	At Division
< 50% Advance Fill		Verbal	> 50% done
Berm compromised		Waiting to hear	< 50% done
Unknown		Will not send	Not started

1. PIR FUNDS	2. E&D FUNDS	3. CONST FUNDS	4. CLOSEOUT
Received	Received	Received	Completed
Requested	Requested	Requested	In progress
At District	At District	At District	Not started
Too Early	Too Early	Too Early	Too Early



So What?
 18 PIRs underway. Priority on awarded/pending Matthew contracts at:
 -St. Johns County
 -Martin County
 -Pinellas County (SK, LK, TI)
 -Nassau/Kings Bay EC
 -Brevard County N&S
 -Ft. Pierce
 Congress must appropriate funds to implement FCCE renourishments.
 PIR timeline dependent upon receipt of non-Fed surveys.

Decision Points:
 SAD/HQ: Confirm FCCE eligible volumes

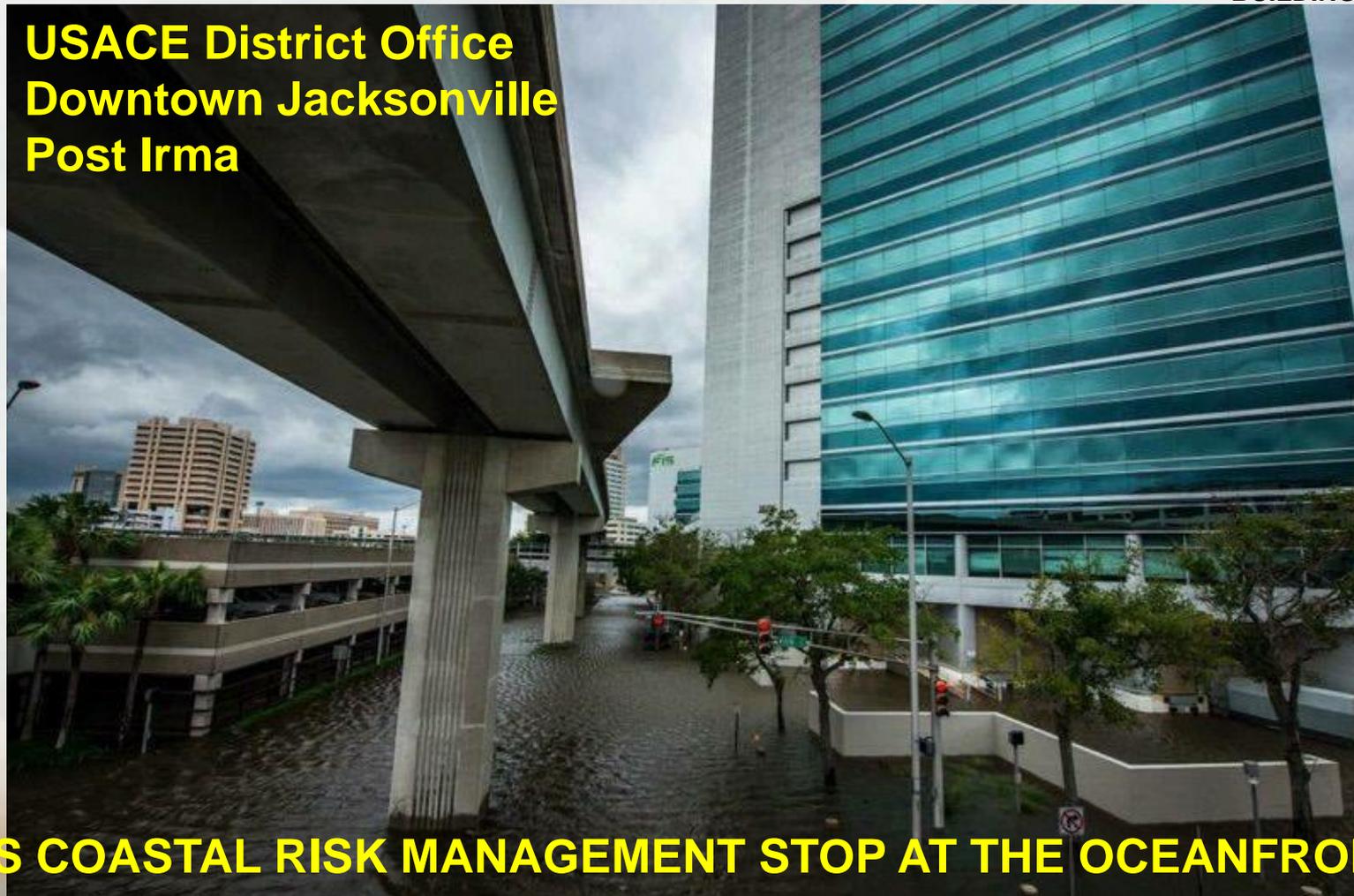


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USACE District Office Downtown Jacksonville Post Irma



DOES COASTAL RISK MANAGEMENT STOP AT THE OCEANFRONT?



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Sediment Exchange Program (SedX)

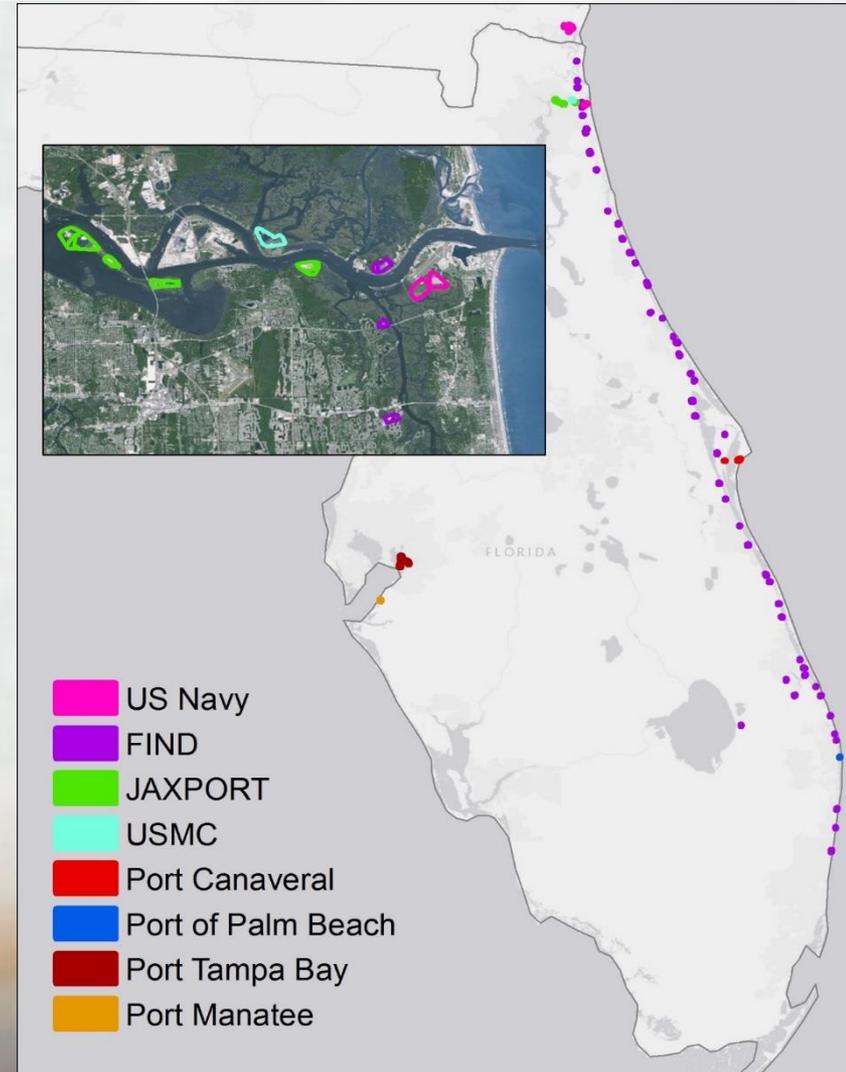


Goal:

Promote beneficial re-use of dredged material placed in upland sites in the South Atlantic Division through collaboration and engagement with the dredging community.

Problem:

- Majority of dredged material is placed upland or offshore
- Management of upland placement facilities is expensive
- Lots of valuable material is wasted –
Sediment is a resource!





We Need Your Input!



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Who: Site owners/operators and end-users

What: Develop inventory of upland placement sites

- Sediment characteristics, available volumes, points of contact, logistical considerations for offloading, best practices
- RSM Opportunities – beach/dune placement, marsh restoration/enhancement, habitat creation
- Other BU Opportunities – construction fill, commercial uses

Products:

- Public-facing website, GIS database
- Fact sheets

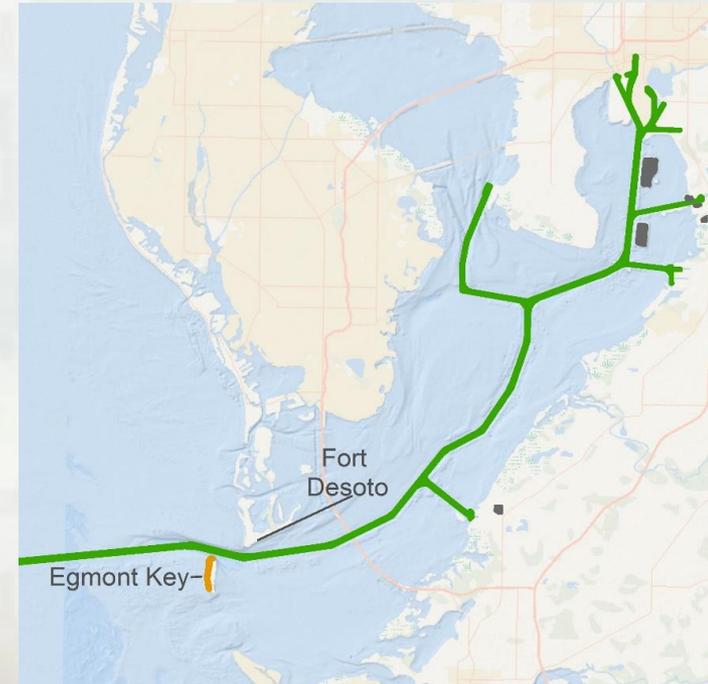


RSM Optimization: Bottom Line Up Front



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- **Implementation and achievement of Integrated Water Resource Management**
 - **Cross business lines approach (Navigation, Flood Risk Management, Environmental)**
- **Benefits include:**
 - **tangible sustainability results for projects, people, and processes**
 - **saving millions of appropriated dollars**
 - **maintenance of low-use projects**
 - **local & regional benefit at no cost to the federal government**





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What does maximum efficiency look like in the budget?

- **Federal: FRM, NAV, Eco (Federal Standard)**
- **Non-Federal**

What are Districts doing well? Where are opportunities?

Identify challenges (R&D, policy, environmental)

Maximize use of existing data/tools and provide for:

- **Transparent and defensible value dashboard & tool**
- **Knowledge management**





Methods



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Consult with District Experts

Define all reasonable dredging/placement options and beneficial uses

- Determine total project costs: USACE labor, Contract Cost (mob/demob, dredge volume x per CY cost)
- Lifecycle benefits of placement for FRM projects
- Unquantified value: cost of developing/maintaining upland/offshore placement areas, wetland creation (environmental value)

Calculate total costs and value for identified placement options



SAD RSM Optimization: Results



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- Annual SAD Dredging
 - 100+ Dredging Projects, 35.5 MCY/yr
 - Cost: \$220M(NAV)+\$30M(FRM)=\$250M
- Through RSM Efficiency/Value
 - Creating \$97M in Total Value
 - Increasing Federal project execution by:
 - Total USACE: \$80M or 32%
 - NAV ONLY: \$65M or 30%
 - FRM ONLY: \$16M or 53%
 - Non USACE (regional/local): >\$17M
 - Regional contracts can increase savings by \$25M/yr





Total Dredge Volume and Value of RSM Implemented SAD NAV-FRM Projects



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District	*Total Dredge Volume (CY)	% Managed by RSM Strategies	Annual RSM Value (\$ M)
SAD Total	62,421,600	49%	\$97.3
Charleston	17,726,100	58%	\$38.9
Jacksonville	10,027,000	53%	\$27.6
Mobile	18,996,500	56%	\$18.3
Savannah	6,572,000	4%	\$0.0
Wilmington	9,100,000	48%	\$12.5

*Total dredge volume calculated as the sum of all material dredged from NAV projects per dredge cycle.



Projects with \$2+ Million in Annual RSM Value



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<u>Project</u>	<u>Material RSMed</u>	<u>Annual RSM Value (\$ M)</u>	<u>Primary Benefactor</u>
Charleston Harbor	57%	\$37.6	NAV
Mobile Harbor	51%	\$11.9	NAV
Tampa Harbor	70%	\$4.5	Other
Pinellas Shallow Draft	100%	\$4.4	FRM
St. Aug - St. Johns	100%	\$4.2	NAV
Wilmington Harbor	29%	\$3.8	Other
Morehead City	42%	\$2.8	Other
Fort Myers	100%	\$2.5	FRM-NAV
Pascagoula Harbor	65%	\$2.5	NAV
Kings Bay - Nassau Co	28%	\$2.4	NAV
Baker's Haulover-Miami Harbor	100%	\$2.2	FRM





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SAD Optimization: 2016 USACE Innovation of the Year



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SAD Optimization Part II

- Optimization is about understanding and communicating value
- Next step is to go after unrealized potential- IMPLEMENT
- SAD Pilots established to take optimization to the next level
- SAD Focus Areas
 - ▶ TLP and In water placement
 - ▶ Nearshore feeder berms
 - ▶ Turbidity/Fate of fines
 - ▶ Mitigation Credit
 - ▶ Ecosystem Value
 - ▶ Industry Collaboration
- Show the value, get the \$





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- Next step is to go after unrealized potential
- SAD Pilots established to take optimization to the next level
 - ▶ Brevard Co SPP/Canaveral O&M
 - ▶ Jekyll AIWW
 - ▶ Folly River/Beach
 - ▶ Kings Bay-Fernandina
 - ▶ Brunswick Harbor
 - ▶ Regional Contracts
 - ▶ SAD Focus Areas -
 - ▶ TLP and In water placement
 - ▶ Nearshore feeder berms
 - ▶ Turbidity/Fate of fines
 - ▶ Mitigation Credit
 - ▶ Ecosystem Value
 - ▶ Industry Collaboration
 - ▶ Communication



Advancing policy and regulations to save Millions annually

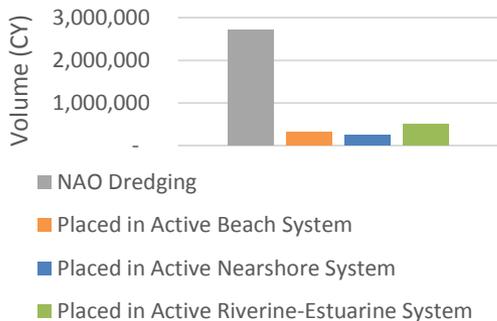


NAD RSM Optimization



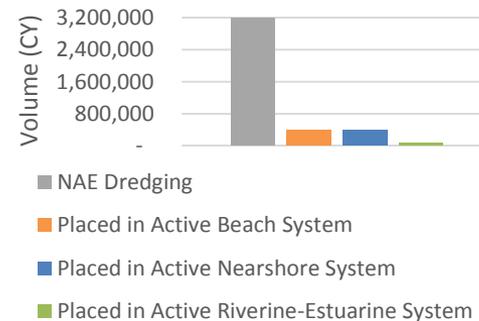
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- Status: In progress
- Areas of Interest:
 - Coupling NAV and ECO projects (NAB-Chesapeake Bay)
 - Lifecycle management costs and federal standard
 - Offloading is expensive!



RSM Value	
FED (NAV):	\$4.9 M
FED (FRM):	\$1.8 M
Other:	\$1.2 M
Total:	\$7.8 M

Beneficial Use of Dredged Material: 40%



RSM Value	
FED (NAV):	\$1.6 M
FED (FRM):	\$0.0 M
Other:	\$5.5 M
Total:	\$7.2 M

Beneficial Use of Dredged Material: 27%