

Realization of RSM Benefits

A Discussion

Presented by:

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U.S. Army Corps of Engineers

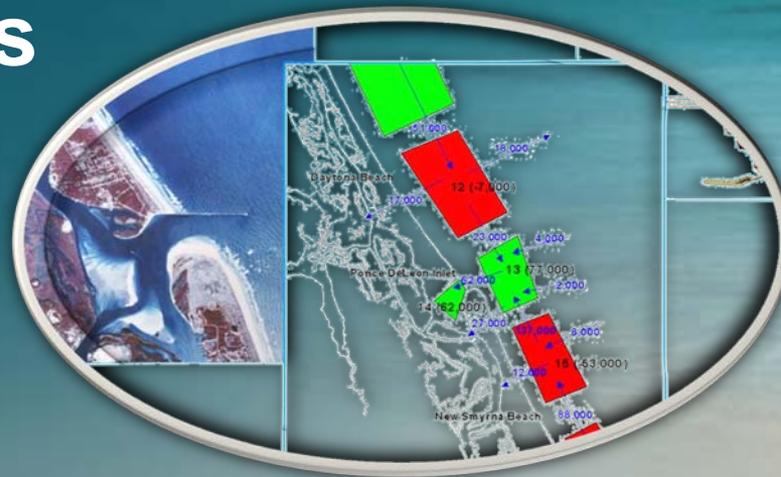
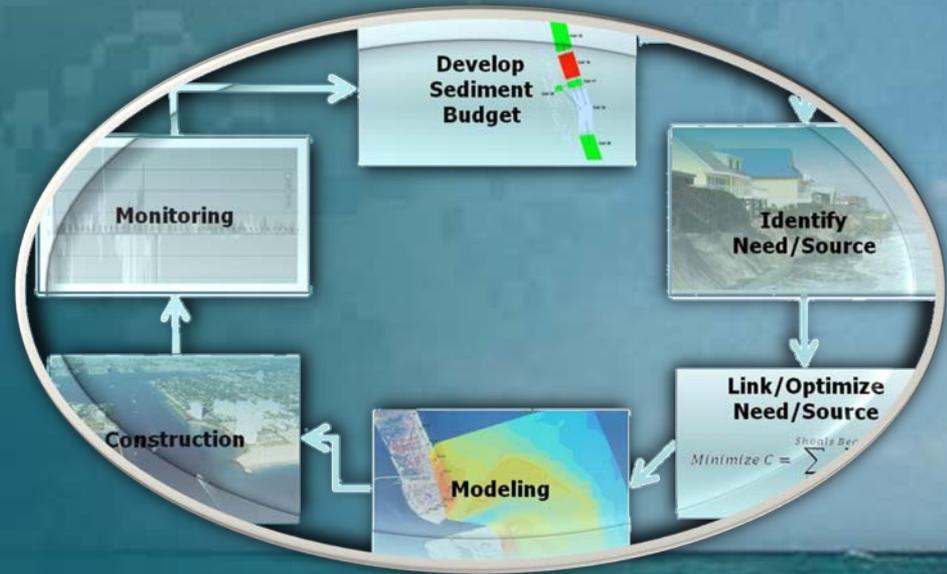
Jacksonville District



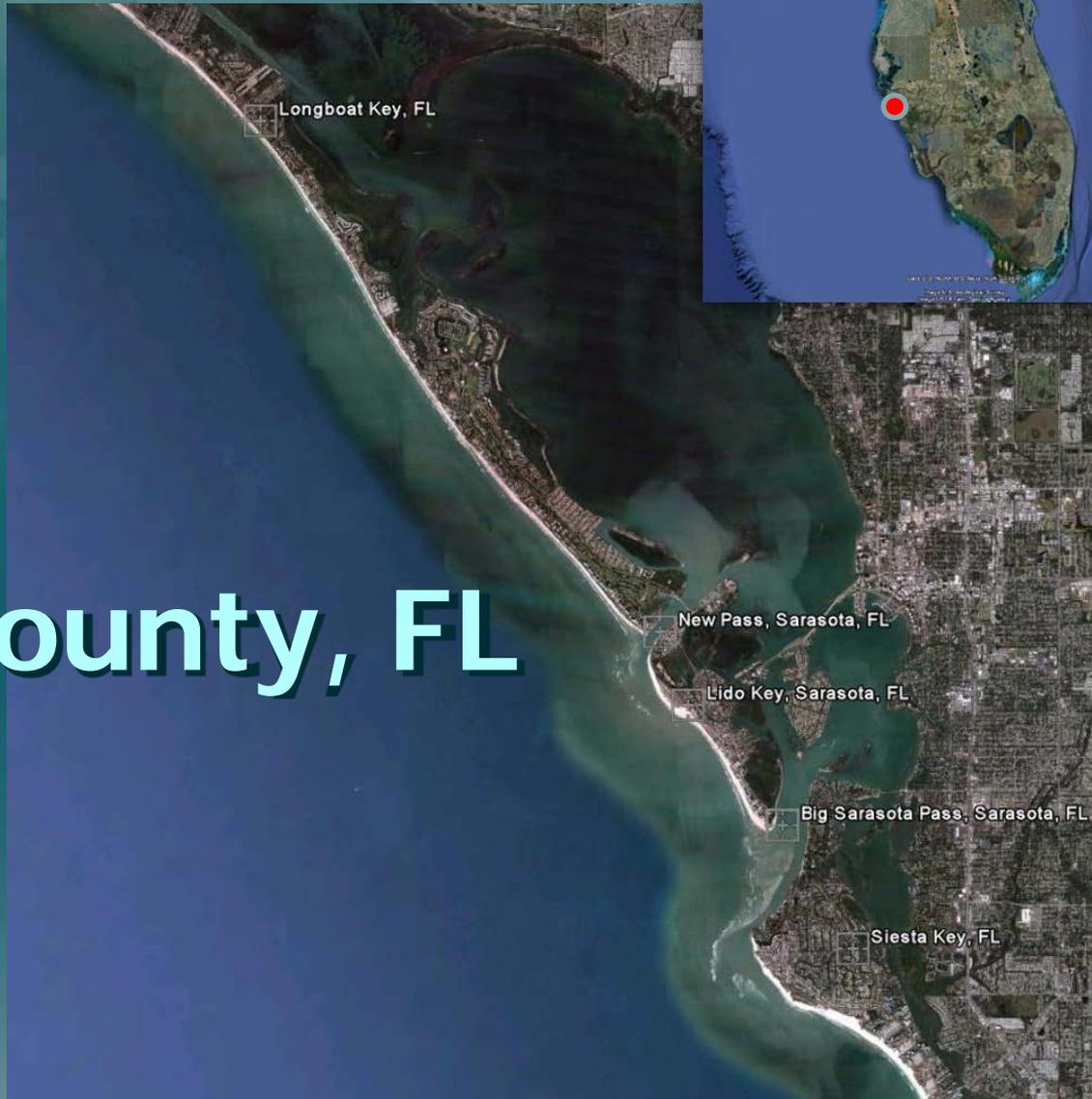
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Realization of Benefits/Setbacks

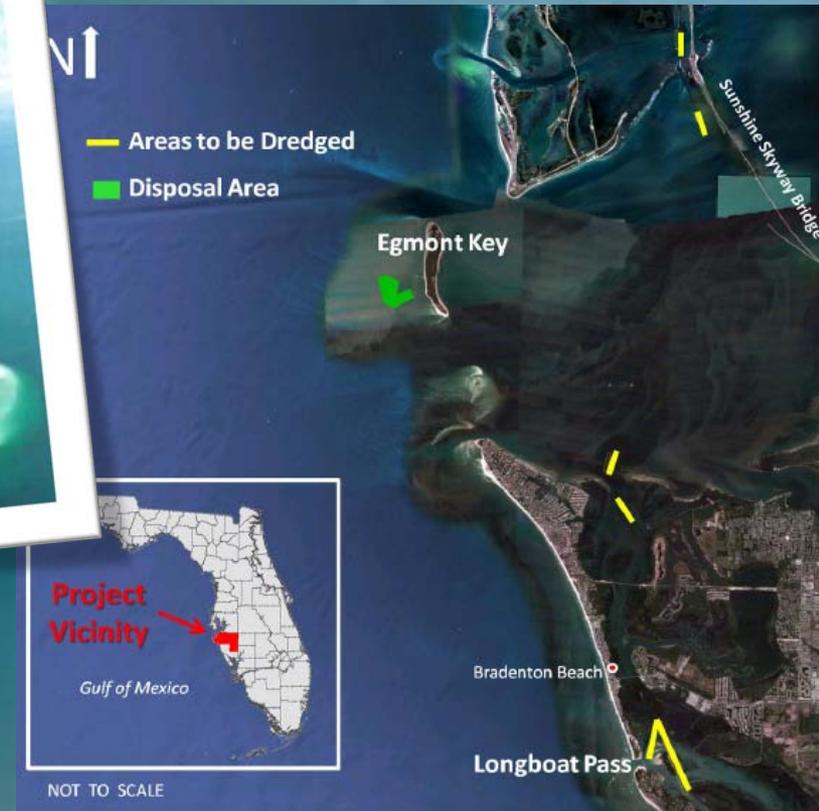
- Regional Data Collection
- Informs Regional Action
- Regional Action Results in Benefits
- Regional Action Setbacks



Sarasota County, FL



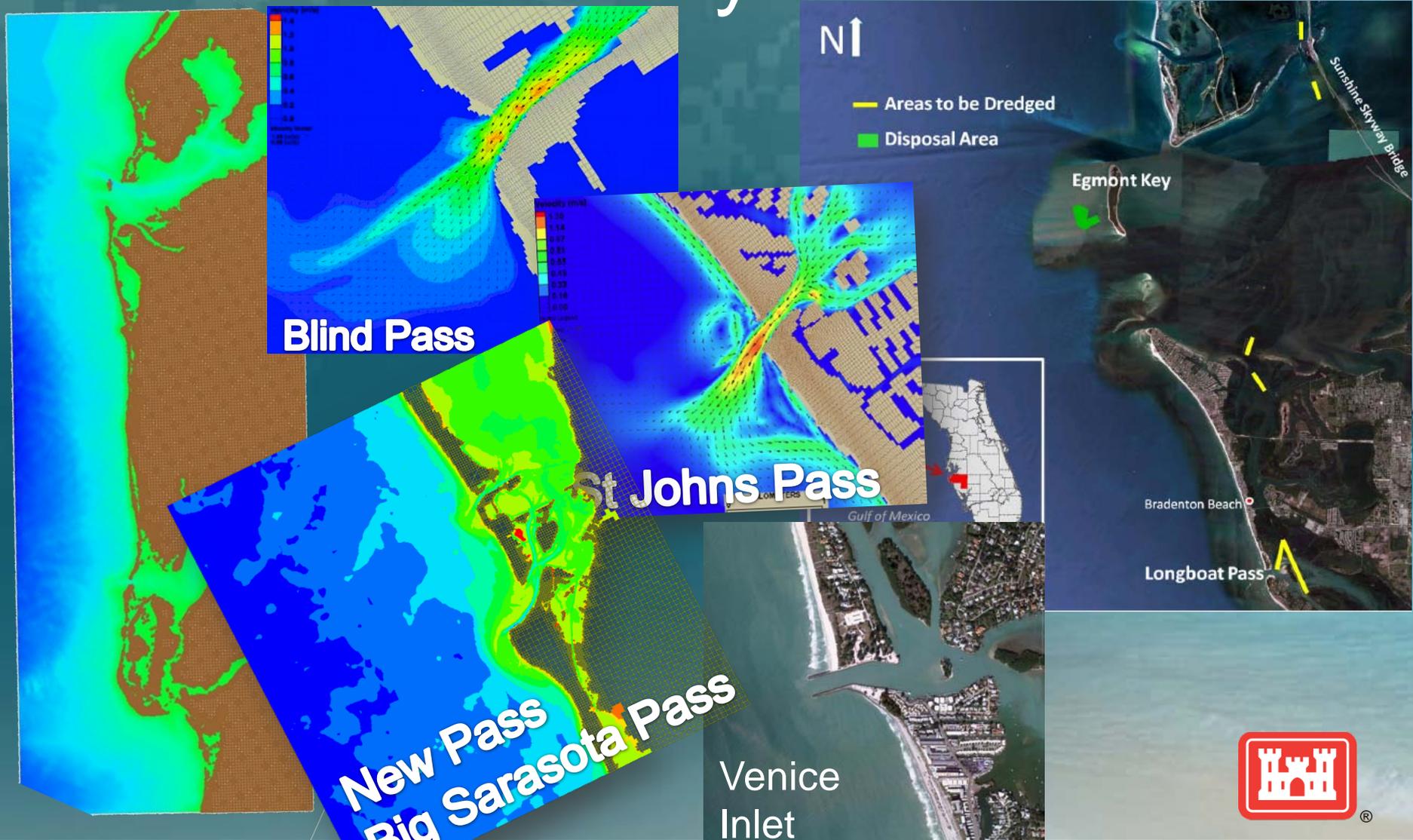
Nearshore Berm



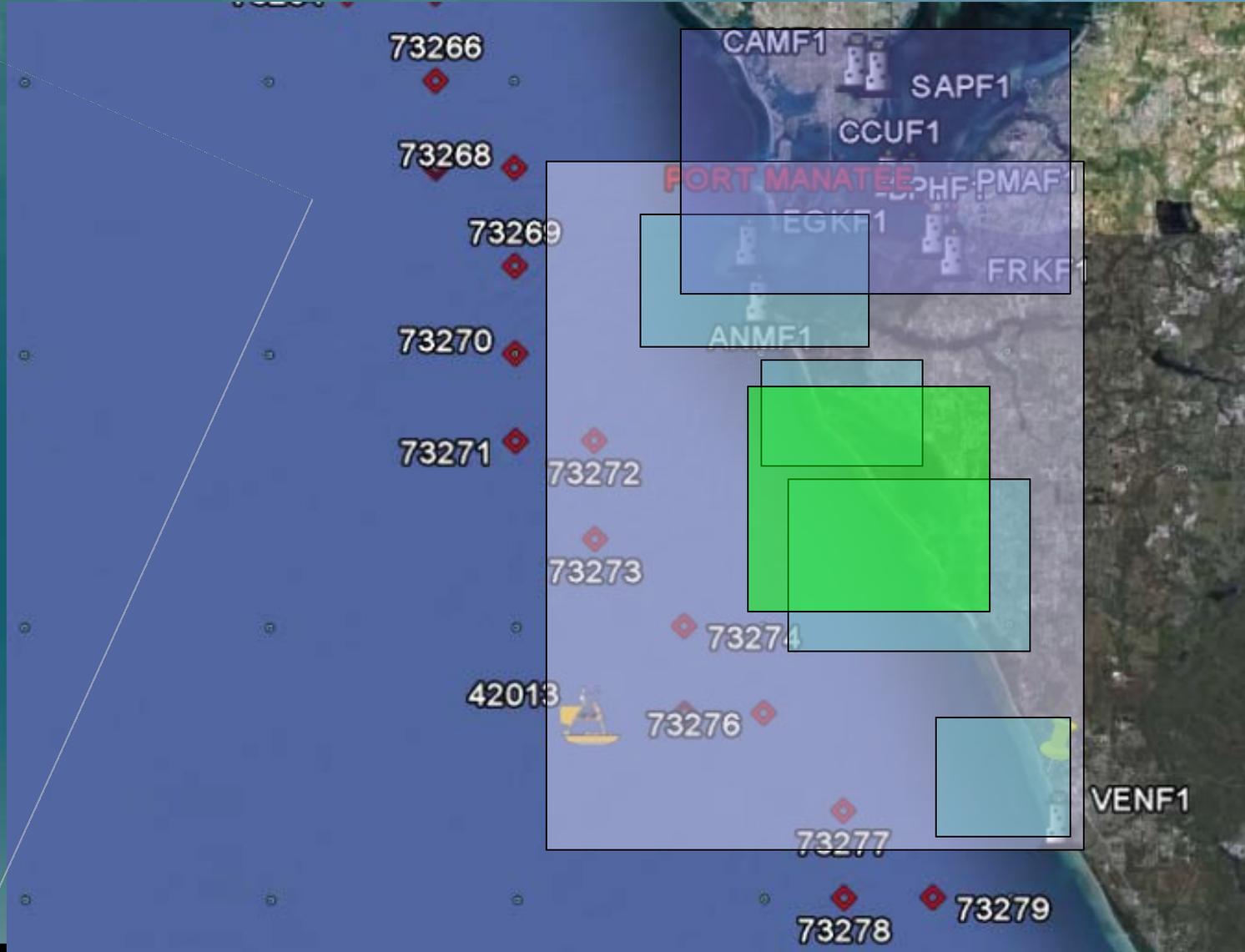
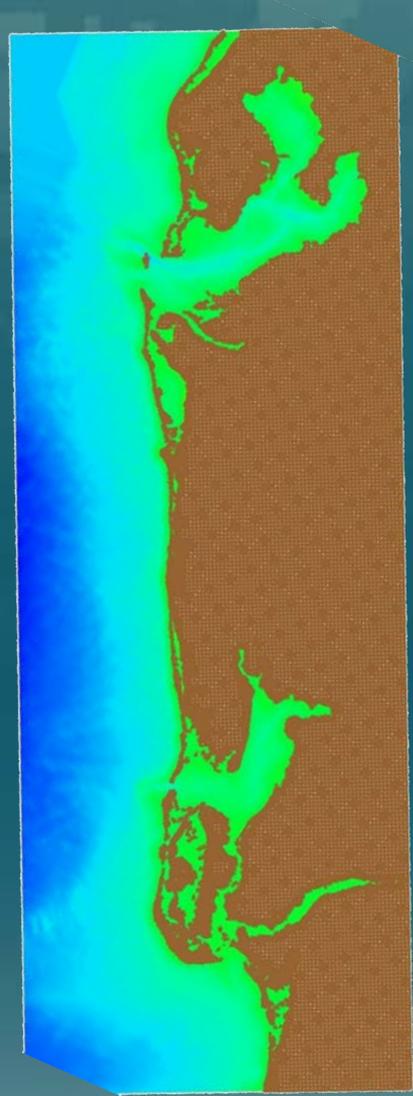
- Nearshore berm placement at Egmont Key from Longboat Pass – Skyway Bridge



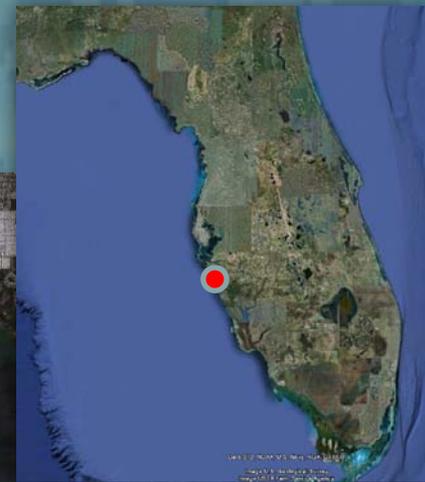
Morphological Modeling for Multiple Inlet Systems



Regional Measurements



Sarasota County, FL



Regional Data Collection

- Encompass four inlets with multiple federal projects including deep draft navigation
- Supports ERDC nearshore berm research
- RSM funds leveraged with CG and O&M funds

Informs Regional Action

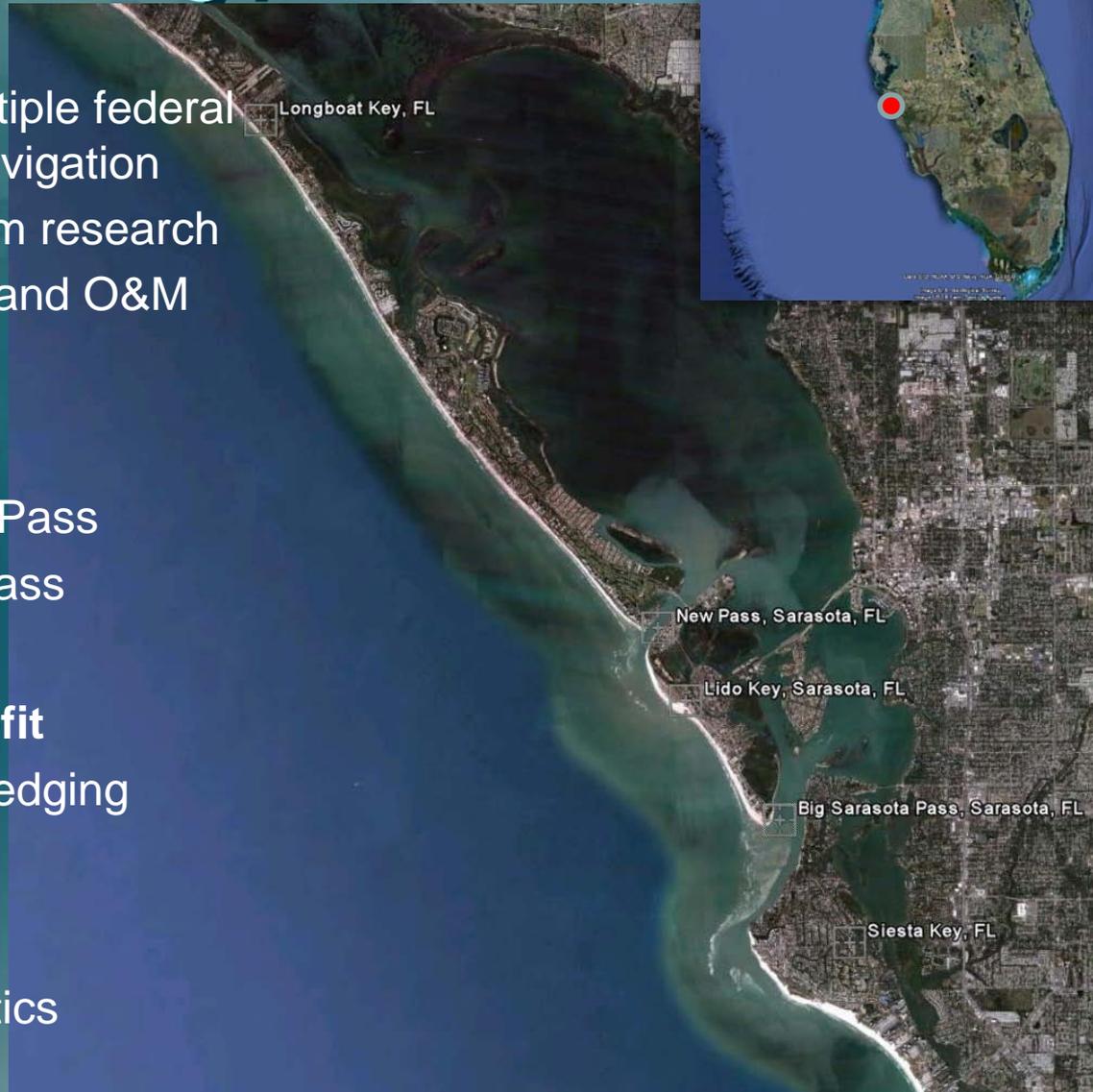
- FY11 no dredging at Longboat Pass
- FY12 RSM plan for Sarasota Pass

Regional Action Results in Benefit

- Cost savings realized by not dredging

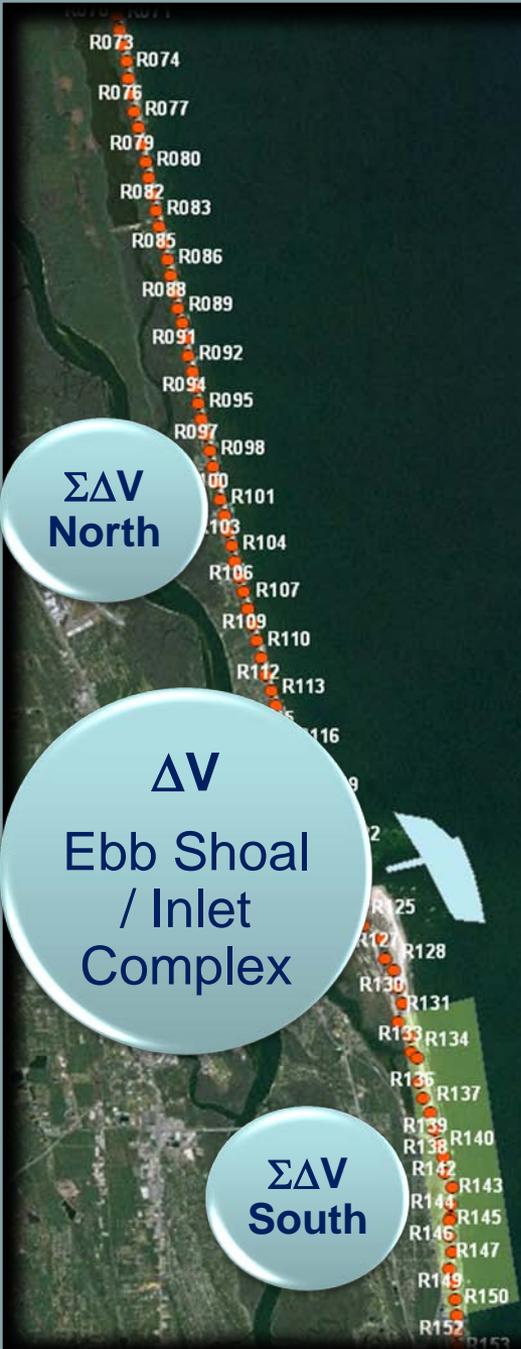
Regional Action Setbacks

- Potential future setbacks = politics

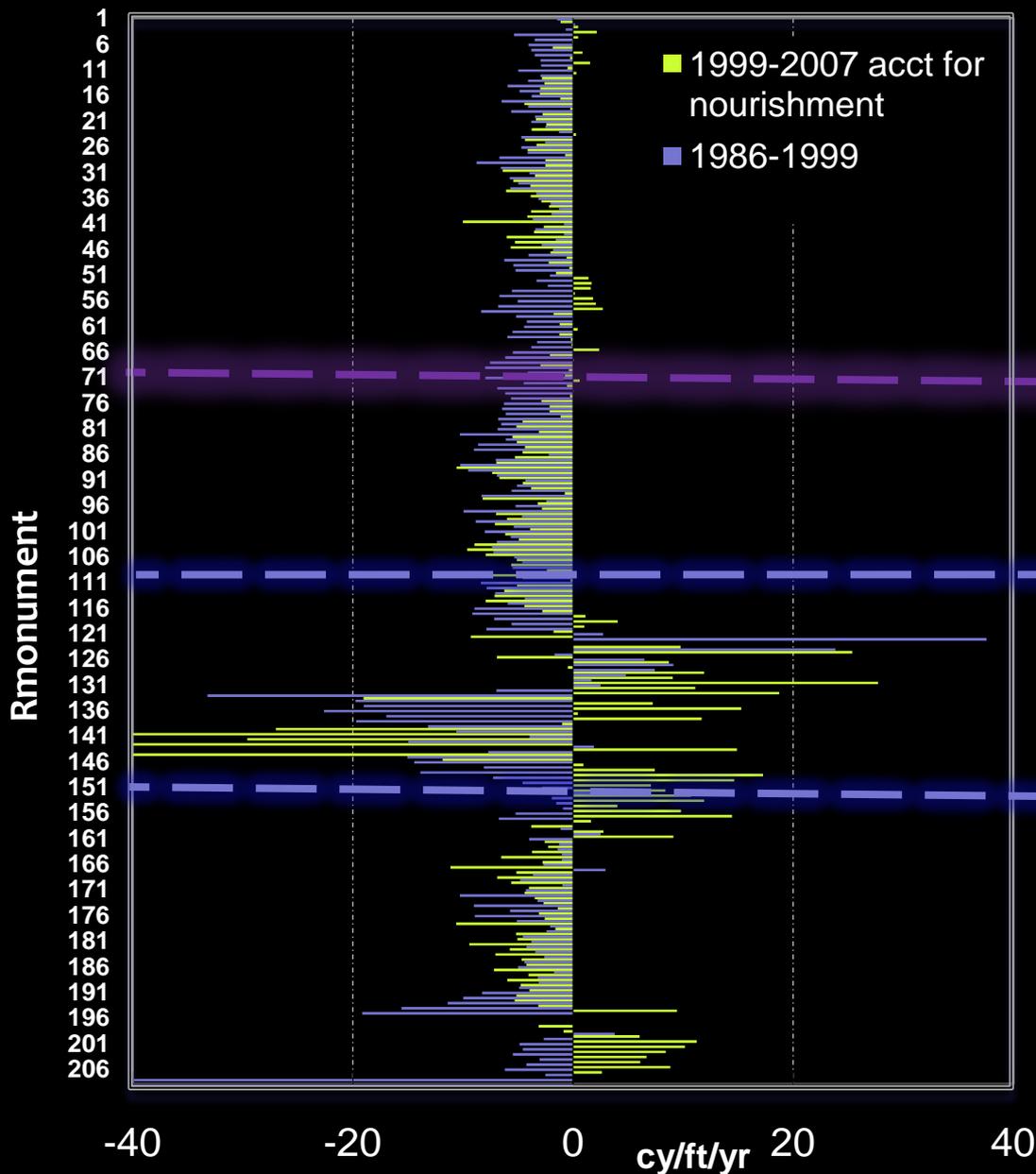


St. Johns County

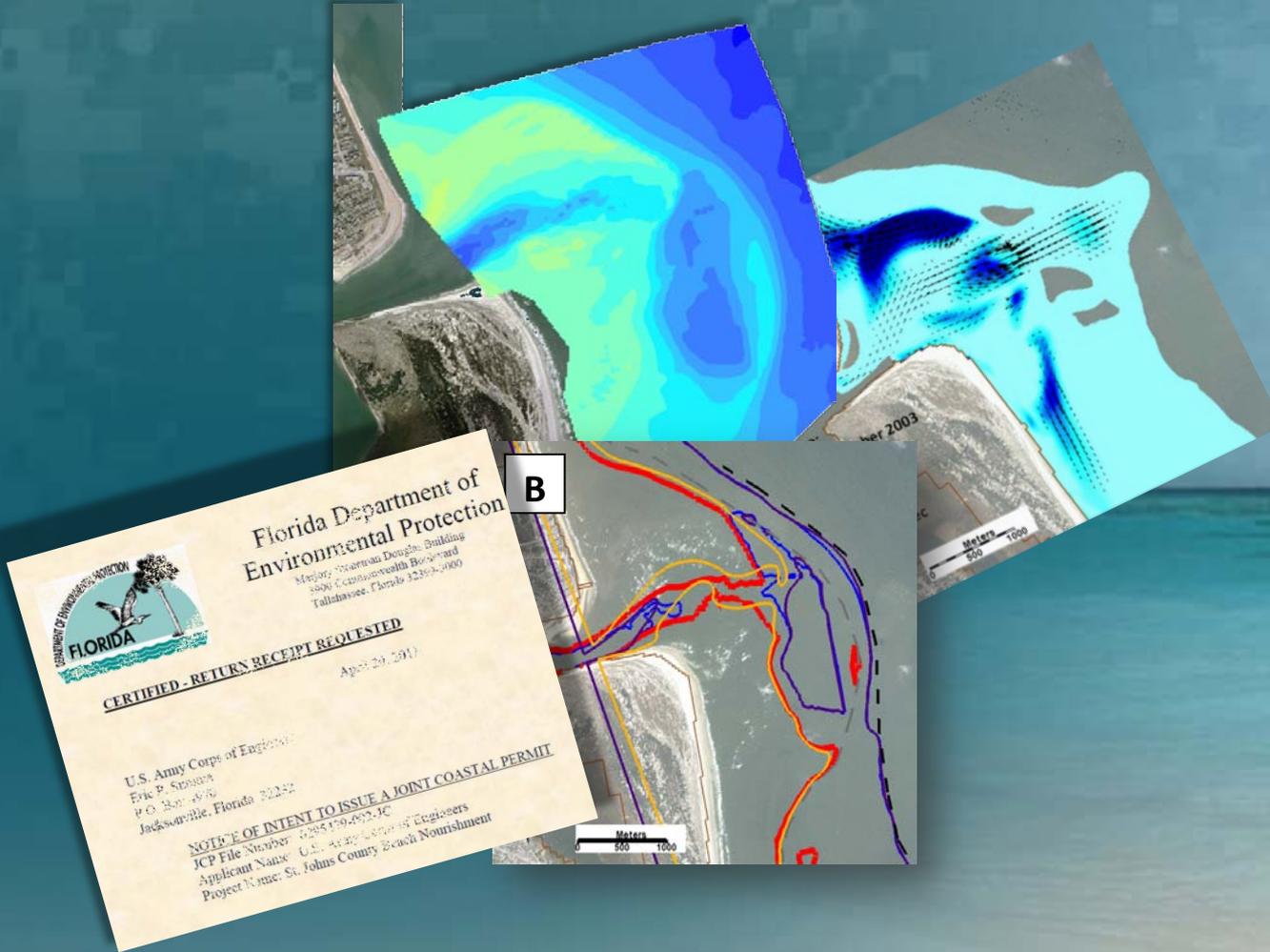




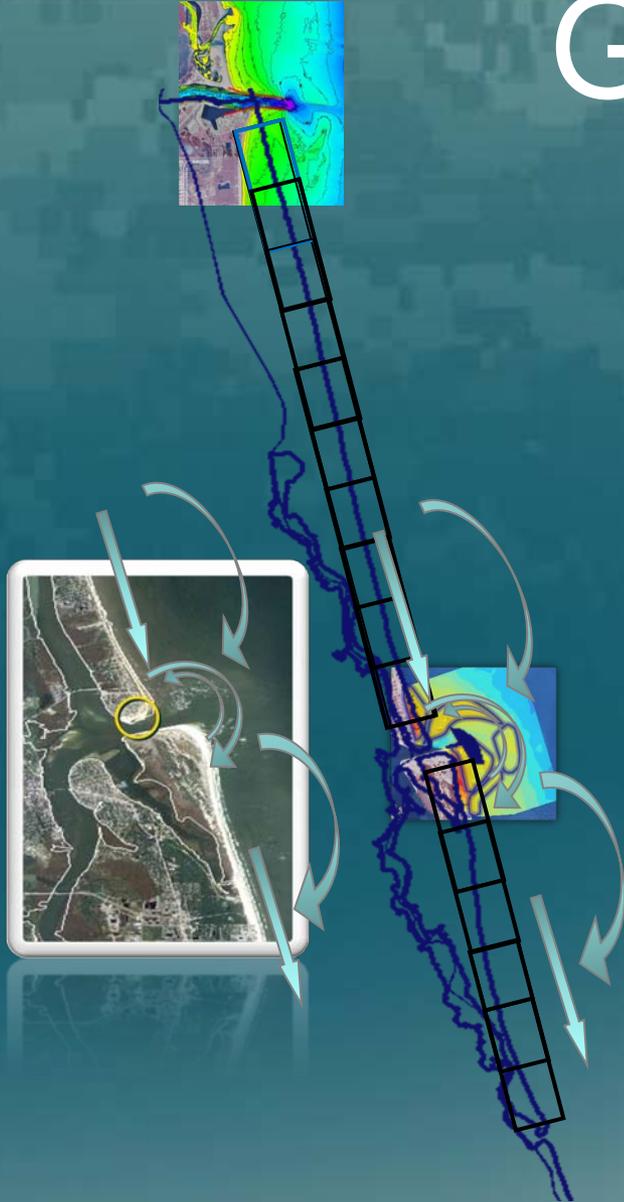
Volume Rate of Change 1986 - 1999 / 1999 - 2007



Coastal Modeling System - CMS



GenCade



St. Johns County



Regional Data Collection

- Expanded project monitoring
- Supports ERDC GenCade effort
- Stakeholders demanded regional analysis
- RSM funds leveraged with CG funds

Informs Regional Action

- Granted permit to bypass sand from ebb shoal
- Got people talking
- Brought RSM potential to light

Regional Action Results in Benefit

- Currituck is dredging with nearshore placement today
- Opportunities identified and ready for action

Regional Action Setbacks

- Politics and posturing
- Contributed Funds Agreement (Programmatic)



Duval County, FL – Jax Harbor

Regional Data Collection

- Supports three numerical environmental impact models
- Unprecedented synoptic dataset
- In-depth geotech analysis of sediment

Informs Regional Action

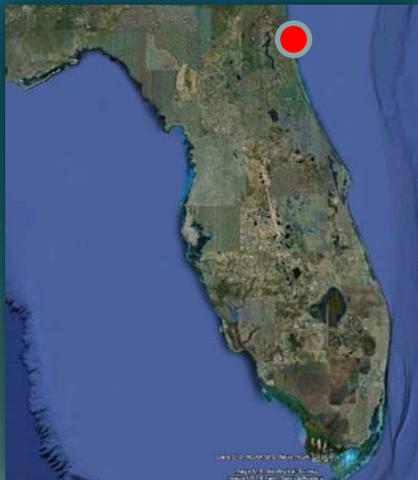
- Proper model selection and resolution
- Beneficial use on Duval SPP
- Draft DMMP highlights nearshore placement

Regional Action Results in Benefit

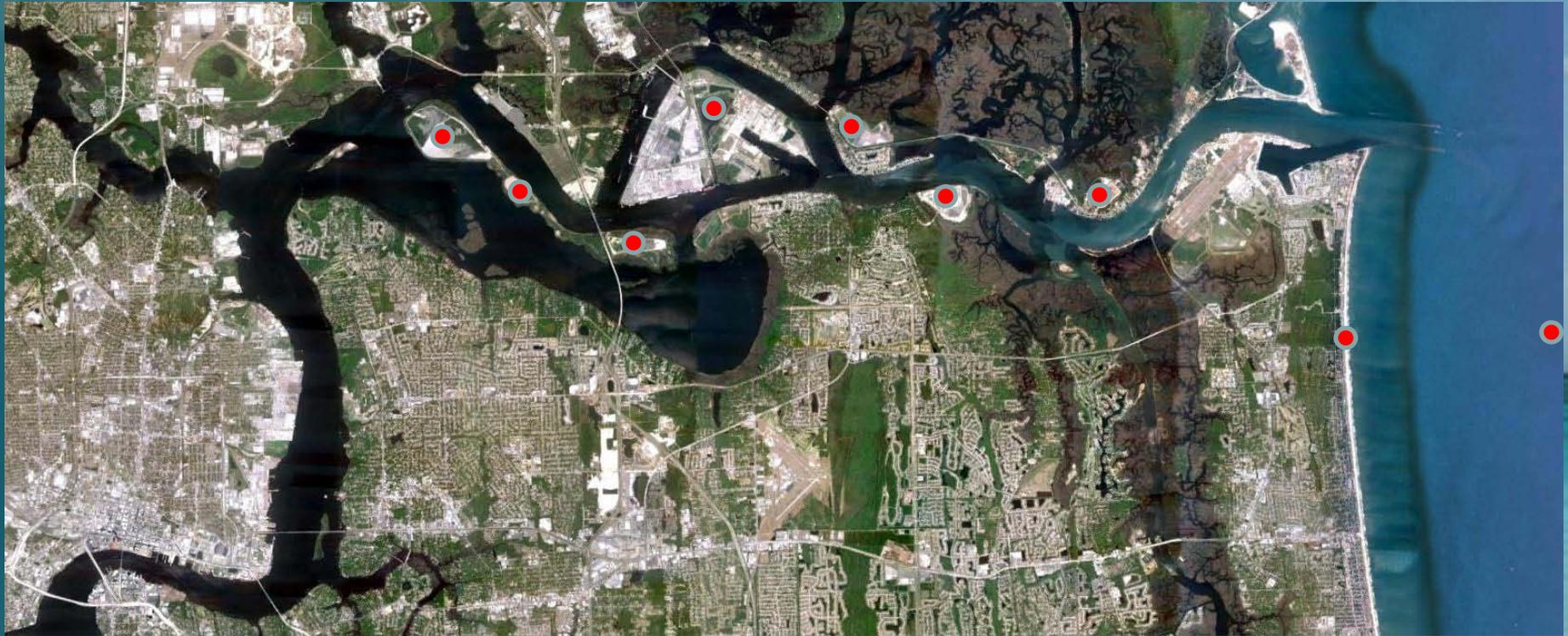
- Beneficial use has placed 11 mcy since '79
- Equals ½ of total volume placed on
- One-time beneficial use saved \$8 million

Regional Action Setbacks

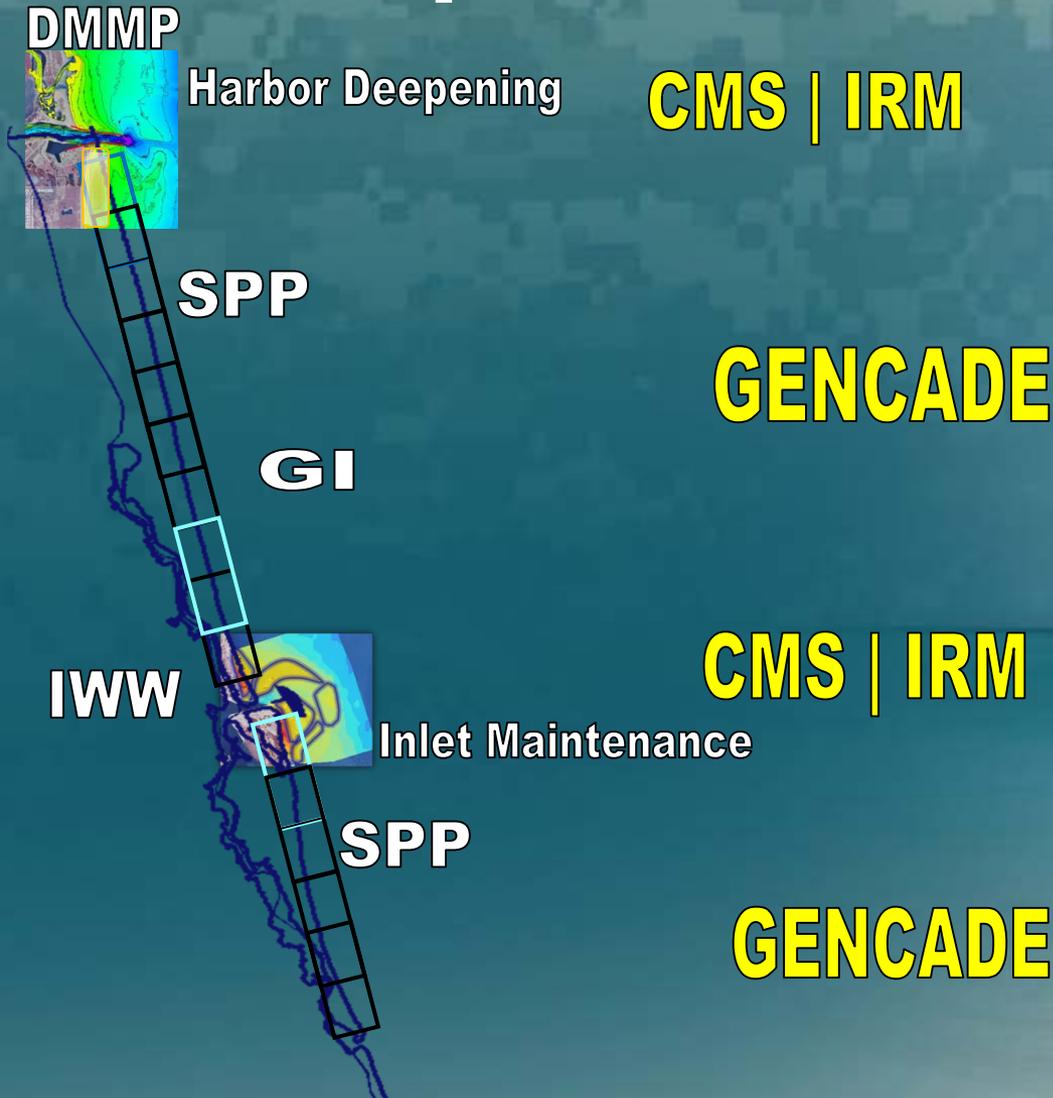
- Expired permits for nearshore placement
- Limited knowledge of sediment type



RSM Regional Optimization



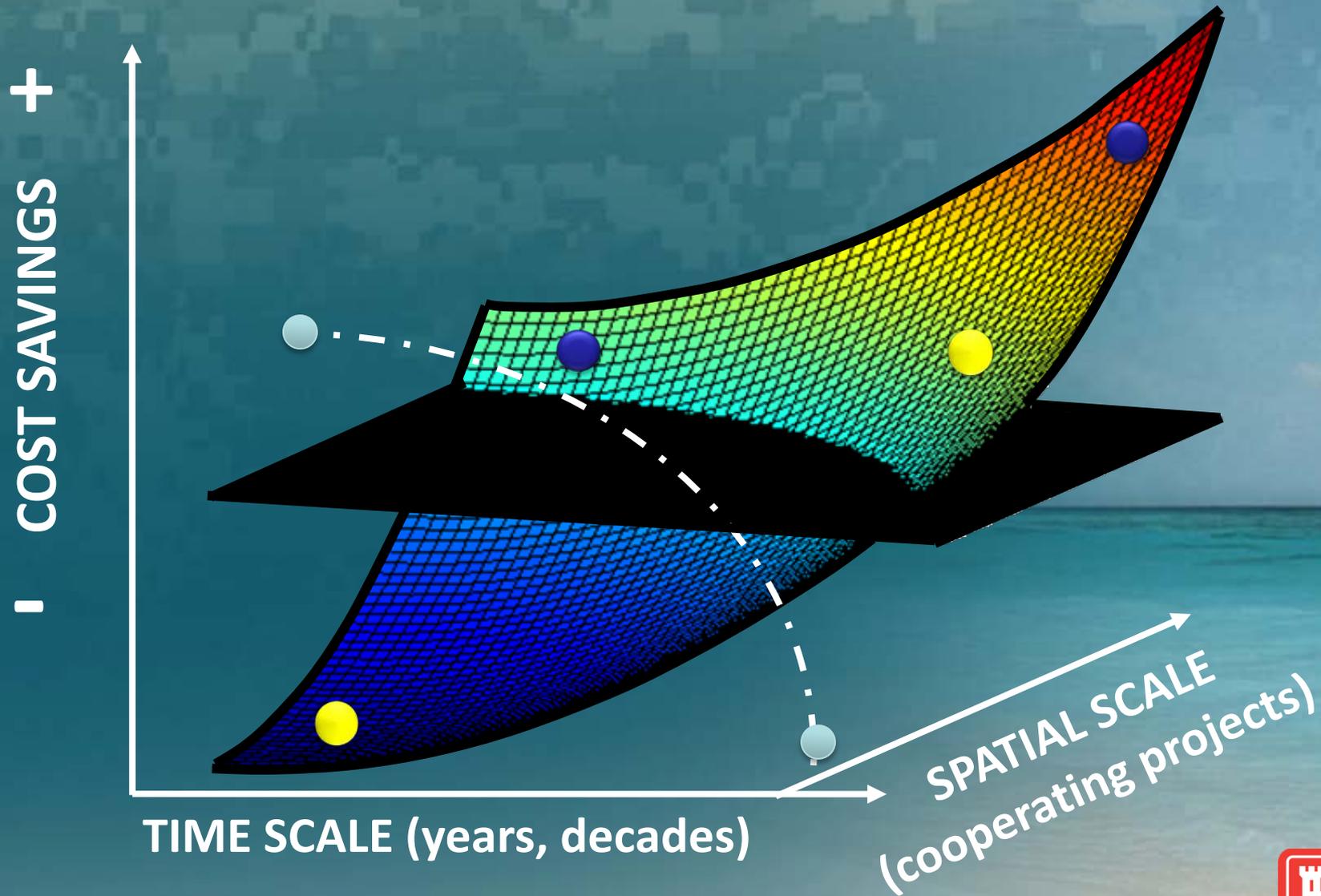
Optimization Tools



Project Model



COOPERATION & SUSTAINABILITY



Summary



Sand as a Resource / Sand Lost to the Littoral Zone

Dean and Walton (1975) estimated the amount of sand in the outer shoals (ebb tide bars) of 23 tidal inlets in Florida and estimated about 400 million cu yd of sand were in those outer shoals, and that this was about one half Florida's inlet total.

Great quantities of beach quality sand have been lost from the littoral, by dumping offshore the sand dredged from inlets of some projects. reported Robert G. Dean's estimate of 56 million cu yd of sand dumped in this manner in Florida - sufficient to advance the sandy beach about 25 ft seaward along Florida's 375-mile east coast. (*NRC Committee on Coastal Erosion Zone Management*, 1990, p. 33)

