

FY13 RSM IPR

SAJ, SW FL RSM, Kelly Legault

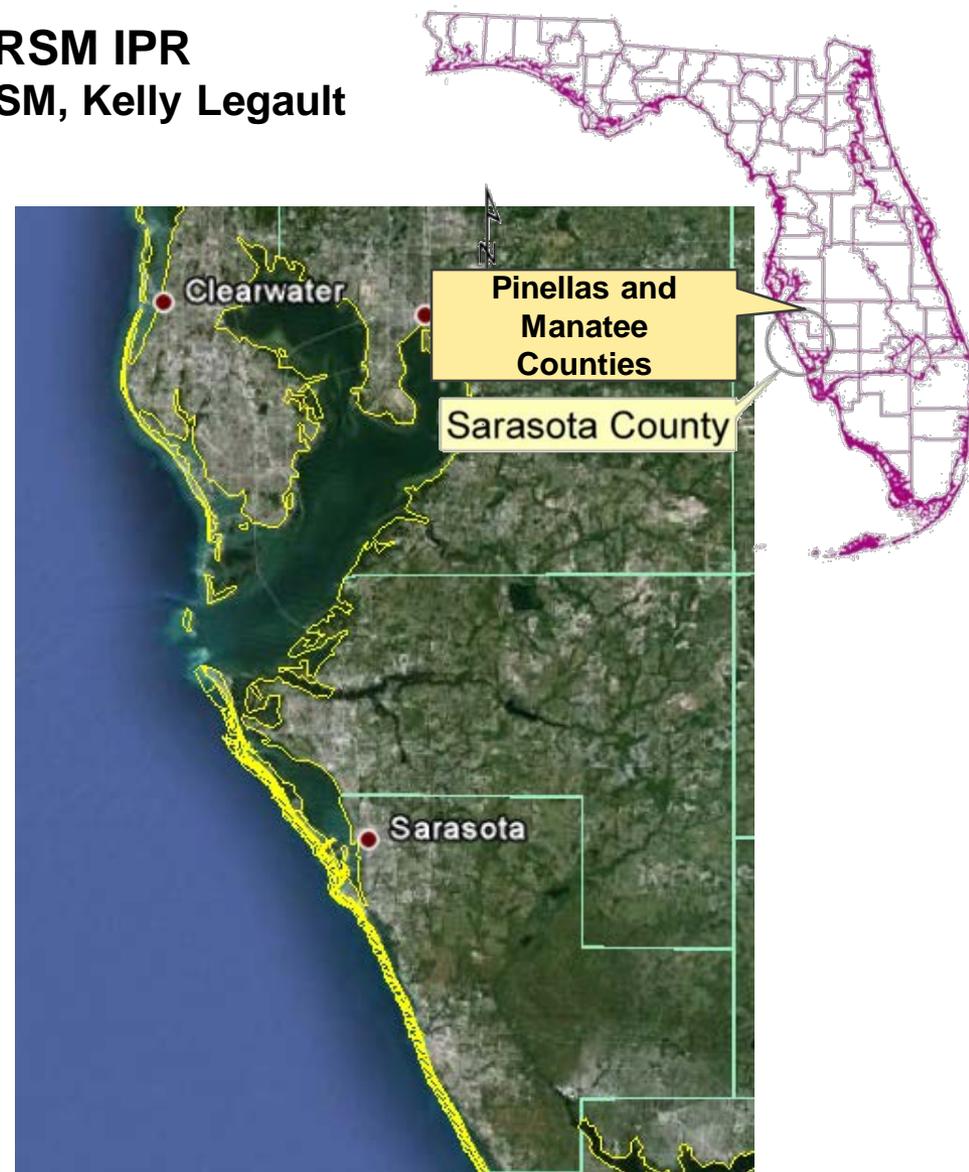
Objectives

- Understand regional/local morphology
- Develop detailed, synoptic volume changes
- Update regional sediment budget
- **Obtain state water quality permit to obtain sand from NP and/or BSP for Lido Key Initial construction**
- Understand the dredging/nourishment cycle
- **Work with State and local stakeholders to develop a sustainable plan for management**

Description/Challenges

- Inadequate volume of offshore sand for SPP along the SW coast of FL
- Scarce offshore sand for beach nourishment projects
- **Clear pattern of high value beach sand moving into inlet channels/shoals for which we have ever more limited funding**

BLUF: Create a regional framework of oceanographic, topographic and bathymetric data and regional and local numerical models to understand shoreline, beach profile and inlet complex volumetric change. The existence of such a framework enables rapid assessment, analyses and response to District needs.

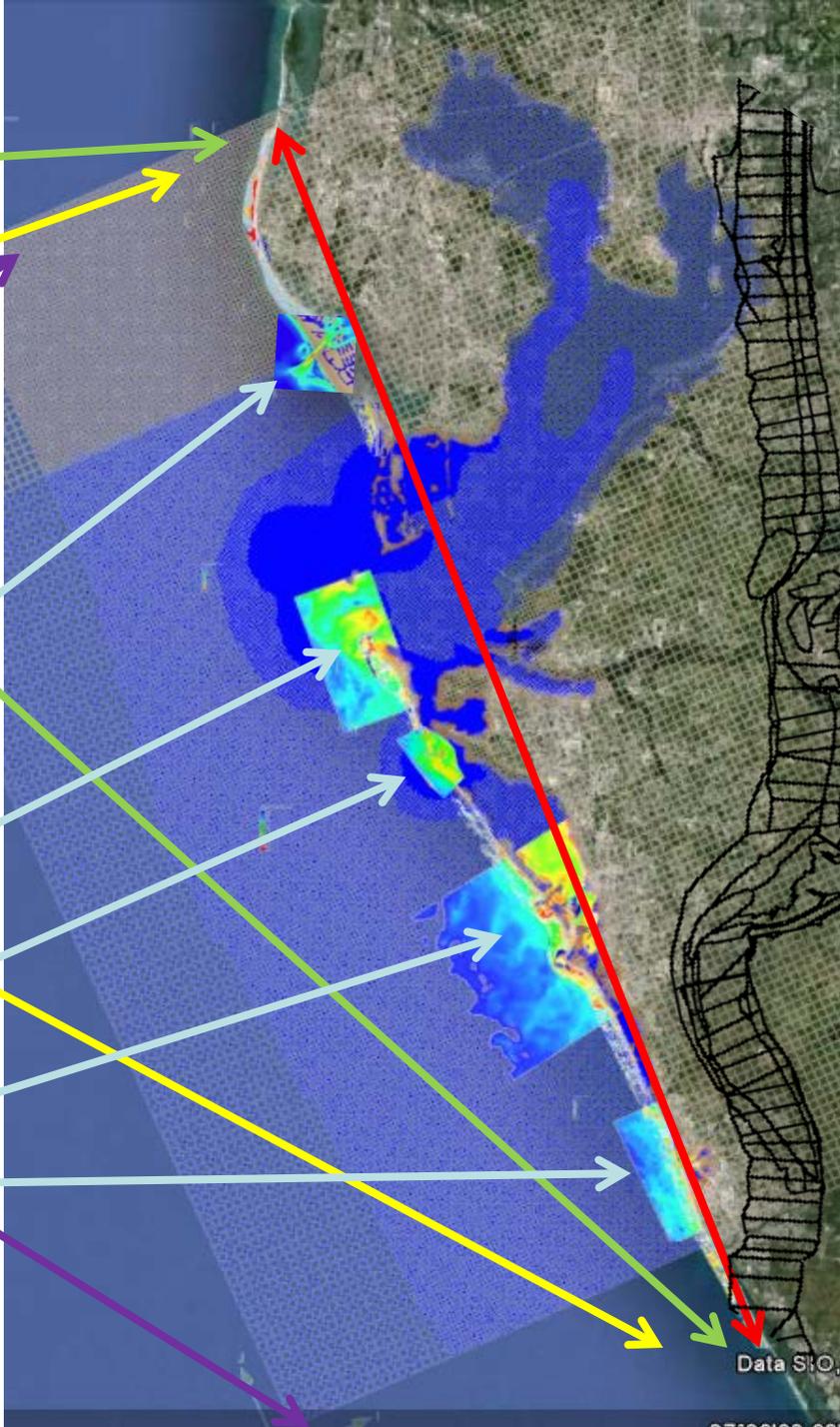


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- **Beach Profile Surveys**
 - Sarasota, Manatee and Pinellas County
 - USF data – entire county every 2 months between 2006 and 2013
 - 75 mile grid
- Map Module and Cartesian Grid to determine integrated volume change
- **LiDAR**
 - 2004/2006/2010 for beaches and inlets/passages
 - JALBTCX analysis beach morphology / Coastal Engineering Indices for Sarasota County
- **CMS Modeling**
 - **SW FL Regional Grid**
 - **CMS nested Models**
 - Johns Pass (ERDC)
 - Passage Key Inlet (SAJ)
 - Longboat Pass (SAJ - in prep)
 - New Pass / Big Sarasota Pass (SAJ)
 - Venice Inlet (SAJ)

Deliverables – 5TNs

- Pinellas County Hi-Frequency Volume Change
- Sarasota Volume Change and Beach Geomorphology
- Regional and Nested CMS models for Sarasota Bay
- Longboat Pass : A study of cyclic behavior
- The Dredge Murden – GIWW and Egmont Key



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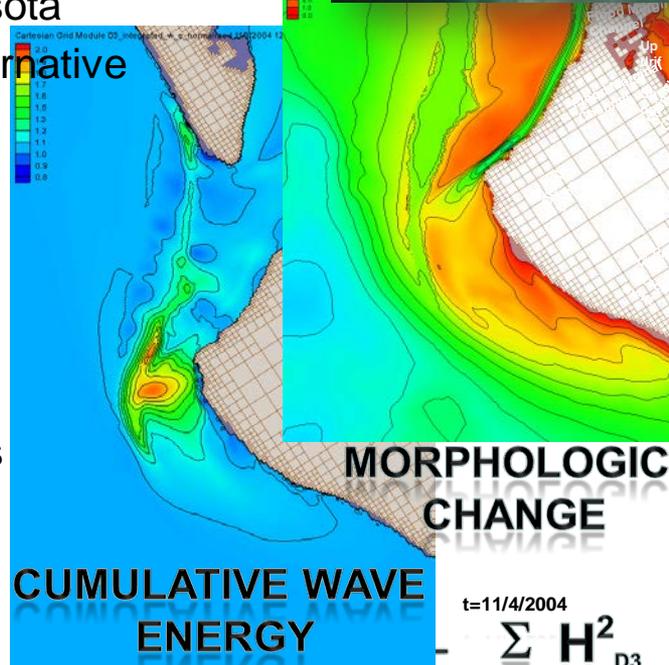
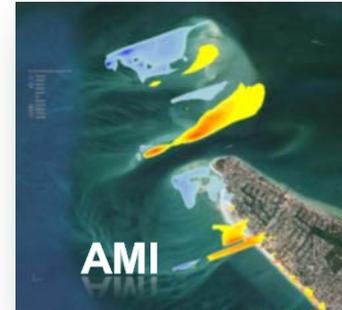
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Accomplishments/Benefits/Lessons Learned

- Examine volume change and high-frequency variability on regional spatial scales – close the offshore boundary – Sand Waves through the system
- Extent to which inlets are shoaling with sand
- Collaborate with JALBTCX to examine beach morphology factors integrate Coastal Engineering Indices's with volume change at Sarasota
- Use of CMS for Ebb Shoal Mining Alternative Design and Groin Design

Opportunities to take action

- Manatee FCCE
 - Very fast turnaround due to RSM framework
- FL Gulf Coast Inlet Management Plans
 - FDEP plans to update FY14
- Provide relief from offshore sand search – improve confidence in mining ebb shoals for SPP and maintaining navigation



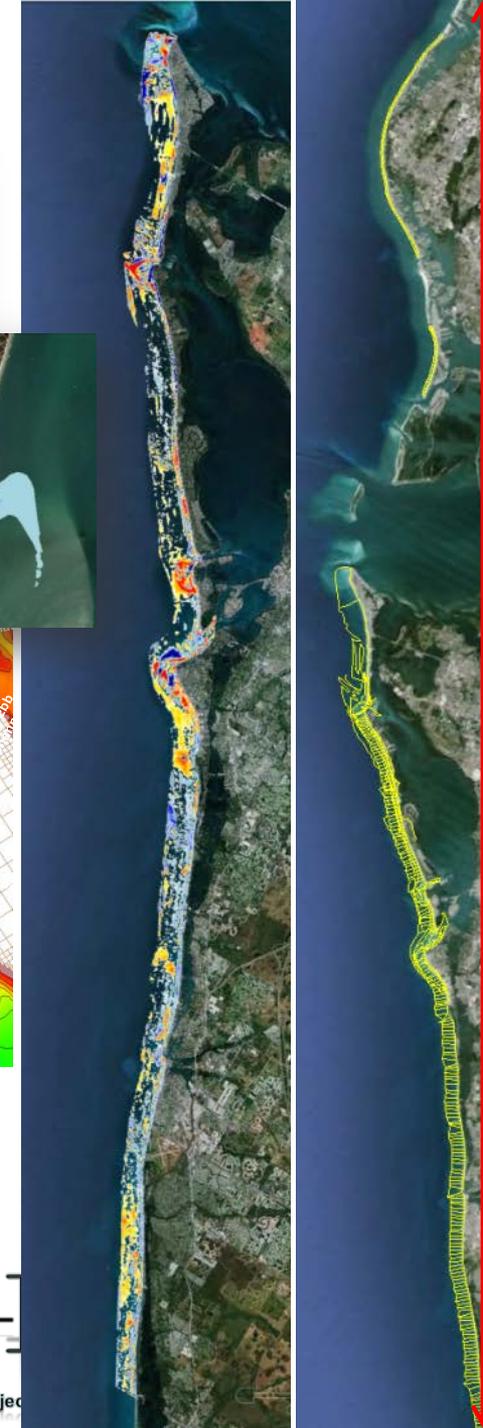
$$\frac{\sum_{t=5/4/200}^t H^2_{D3}}{\sum_{t=5/4/2004}^t H^2_{no\ project}}$$

t=11/4/2004

t=5/4/200

t=11/4/2004

t=5/4/2004



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District PDT Members

- Matt Schrader
- Jason Engle
- Sirisha Rayaprolu
- Kevin Hodgens

Leveraging/Collaborative Opportunities

- SAJ Sarasota SPP, Manatee SPP, Pinellas SPP, Longboat Pass O&M
- ERDC –
 - CIRP Program
 - Nearshore Berm Program
- USACE Coastal Resilience Program
- USF
 - Coastal Research Lab updating Inlet Management Plans in FY14
 - FDEP asked USF to collaborate with SAJ (Wang and Legault)
- JALBTCX
 - Coastal Engineering Indices and Land Use Characterizations

Stakeholders and Partners

- ERDC (Tanya Beck, Julie Rosati)
- JALBTCX (Lauren Dunkin, Jennifer Wozencraft)
- USF (Ping Wang, Katie Brutsche)
- FDEP
- County of Sarasota

