Why RSM?
Regional Sediment Management

A systems approach for efficient and effective use of sediments and management of projects in our Coastal, Estuarine, Riverine, and Watershed environments.
RSM = Sustainable Solutions for…..

RSM Operating Principles:
- Recognize sediments as a regional resource; prioritize use
- Link and leverage across multiple projects, business lines, authorities
- Improve operational efficiencies & natural exchange of sediments
- Economically viable, environmentally sustainable solutions
- Local sediment actions which benefit the region, consider regional impacts
- Enhance technical knowledge/tools for regional approaches
- Share information and data
- Communicate and collaborate – USACE, Stakeholders, Partners
RSM Process

Understand Region
- Sediment Budget
- Beach Morphology, Landcover & Environmental Resources
- Coastal Processes
  *Anticipate weak links in system*

Identify Gaps/Improve Knowledge

Data Management/Regional Tools
*Information accessible for decision-making*

Identify/Evaluate Opportunities to Optimize Use of Sediments Across Multiple Projects
*Modular networks – components are independent of, & complement each other*

Take Action: Construct Pilot Projects

Monitor: Evaluate Performance

Incorporate Standard Practice
*Provide diverse and redundant protection*
RSM and Resilience Successes
Portland District - Mouth of the Columbia River, OR

Collaboration 2002:
- District & Stakeholders
- Leverage:
  - Projects, Resources, Models, Tools, Data Collection...
- Long-term strategy
- Construction 2012
- Monitoring 2013-2014

Benefits
- 4 New nearshore BU sites
- Reduced dredging costs
- Protect navigation structures channel system
- Stabilize Inlet morphology
- Extend capital investments
- Reduce shoreline erosion
- Environmental habitat
Mobile District
RSM Domain

375-miles of Shoreline
21 Federal Projects
8 State Parks
7 Military Installations

Gulf Islands National Seashore
Harrison County Beach Fill
Panama City Beach Fill
Local Projects
Mobile District RSM Demonstration 2000-2003
Regional to Local Opportunities

Regional Sediment Management Domain

- **Sub-Region 9**: Mobile Bay, Dauphin Island
- **Sub-Region 7**: Pensacola Pass, East Pass
- **Sub-Region 5**: Panama City Beaches
- **Sub-Region 3**: Port St Joe, Mexico Beach
- **Sub-Region 1**: Alligator Point
- **Sub-Region 8**: Perdido Pass
- **Sub-Region 6**: Walton County Beaches
- **Sub-Region 4**: Shell Island
- **Sub-Region 2**: Apalachicola Bay
Perdido Pass, AL

Pre-RSM

Post-RSM

Shoaling Area
Placement Area

0.5-1.5 mi
Hurricane Ivan 2004

- Strong Cat. 3
- 130 mph winds
- + 14-foot surge
East side of Pass: Gulf State Park, Florida Point
Natural beach system, Wide beaches
Developed dune fields - 15-foot crest elevations above MSL
Abundantly vegetated with sea oats and other native plants
Habitat for several listed species
- Perdido Key beach mouse
- Piping plovers
- Least terns
- Nesting sea turtles.
West side of Pass: – infrastructure protected

East side of Pass: X100,000s cubic yards of sand lost from beaches and dunes
  ▶ Eroded into Pass
  ▶ Overwashed into back-bay
  ▶ Transported seaward

5 to 10 feet of elevation lost

Leveled dune fields

Major beach erosion

Much of the critical habitat destroyed
Post Ivan Recovery:
Multi-agency effort to quickly develop & implement a restoration plan

- **U.S. Fish and Wildlife Service**
  - Restoration of critical habitat
  - Coordination for threatened and endangered species
  - Critical habitats
- **Alabama Dept. of Conservation and Natural Resources**
  - Use of state lands
- **Alabama Dept. of Environmental Management**
  - Water Quality Certification / Coastal Zone Consistency
- **Gulf State Parks**
  - Environmental coordination
- **City of Orange Beach**
  - Easements and right of ways
- **USACE**
  - Planning
  - Engineering
  - Operations
Post placement:
- 90 least tern nests
- 16 black skimmer nests
- 1 documented sea turtle nest
- Natural vegetation returning

Perdido Pass – Resilience
- Prepare: Regional/local Understanding
  Identify Opportunities
- Resist: RSM Sediment Optimization
- Recover: Partnerships, Coordination,
  Post Dredging/Placement
- Adapt: Florida Point Restoration
Why RSM is Important & supports resilience

- Improve utilization of sediments - local & regional
- Link multiple projects, authorities, leverage funding, reduce timelines
- Improve channel availability, shoreline erosion, environmental habitat
- Increase benefits while reducing/maintaining costs
- Share data, tools, and capabilities
- Improve partnerships and collaboration
Tools and Data
Sediment Budget Analysis System (SBAS)
CE-Dredge-RSM Dredging Manager & Viewer
Models and Databases
Etc…
14th Annual RSM and EWN In-Progress-Review and Workshop
22-24 July 2014 Vicksburg, MS

2013 RSM and EWN IPR and Workshop
Coastal and Hydraulics Laboratory, Vicksburg

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