National Regional Sediment Management Program

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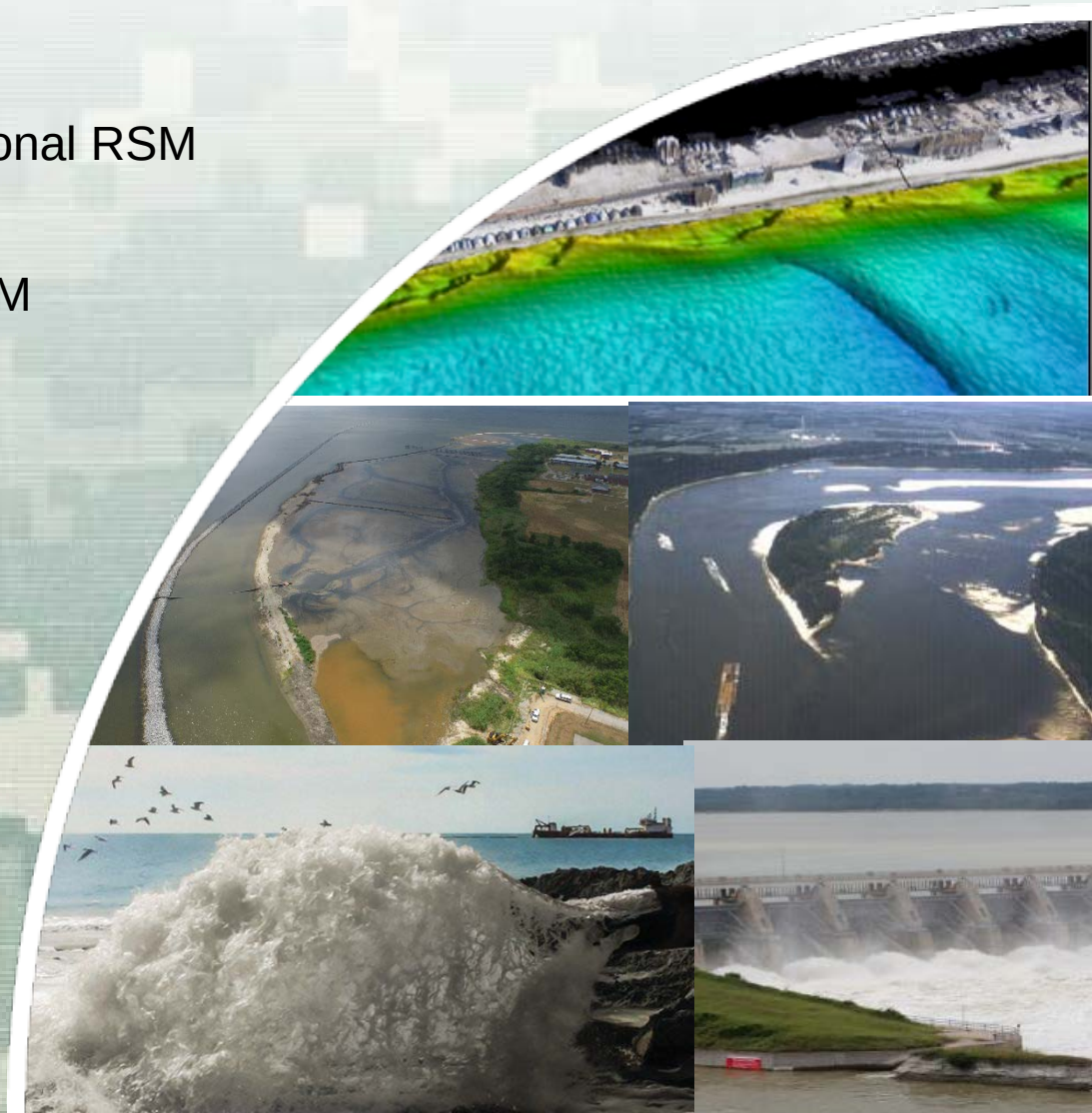
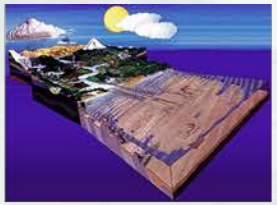


ERDC
Engineer Research and Development Center

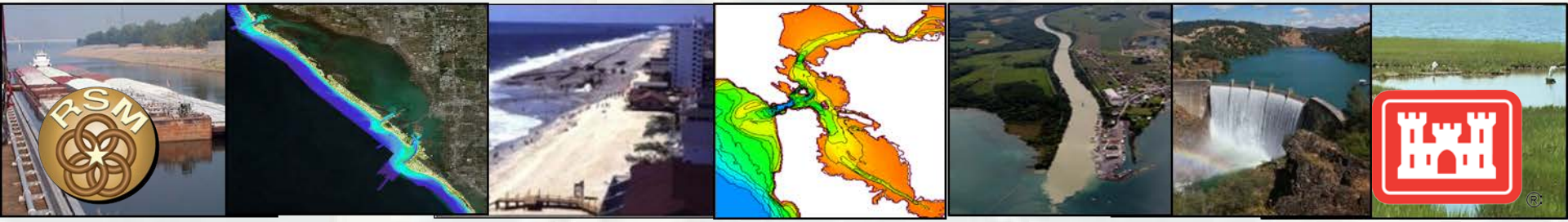


Regional Sediment Management…

Est 1999, CERB Charge

…a systems approach using best management practices for more efficient and effective use of sediments in coastal, estuarine, and inland environments = Healthy Systems

- Navigation, Flood Risk Mgmt, Ecosystem, Emergency Mgmt:
  - Short/long-term economically viable & environmentally sustainable solutions
- Recognizes sediment as a valuable resource (local and regional)
- Link and leverage across multiple projects, authorities, business lines
- Improve operational efficiencies & natural exchange of sediments
- Consider regional implications of local actions - Adaptive Management
- Enhance & share tools, technologies, lessons learned for RSM approaches
- Improved relationships through collaboration and decision making



RSM Goals and Strategies

Reduce Upland/CDF Disposal

Bypass Backpass Sediments

Reduce Erosion

Save Capacity

- Keep sediments in the system
- Mimic natural sediment processes
- Reduce unwanted sedimentation
- Environmental enhancement
- Maintain & protect infrastructure

Stabilize Structures

Reduce Channel Shoaling

Reduce Runoff

Ecosystem Habitat Restoration

RSM Process

1. UNDERSTAND REGION
-Sediment sources, project needs, processes, gaps, engineering actions, ecological considerations
-Resources, challenges & requirements

2. EVALUATE RSM STRATEGIES (PROJECT SCALE)
-Efficient & effective use of sediments
-Project-level analysis (tools, models, technologies)
-RSM pilot projects

3. REGIONAL RSM STRATEGY
-Integrate projects into Regional Strategy
-ID authorities, funding, permit requirements, leveraging opportunities
-Prioritize: need, benefits, timelines

4. TAKE ACTION
-Construct, monitor & adaptively manage
-Capture benefits & lessons learned
-Incorporate into standard practice

Communication, Collaboration, Innovation, Decision Making
Interagency, Stakeholders, Partners, Resource Agencies

RSM Network of Experts
National RSM Program Participation (2000-2018)
>200 Projects

Collaboration

29 Districts
20 Coastal
9 Inland
6 Coastal/Inland
ERDC, IWR, HEC

Tools & Technologies

USACE Navigation Data Integration Framework (NDIF)

Data Management & Integrated Tools

Projects
Navigation
Shore Protection
Ecosystem, etc

Sediment Budgets
Sources
Sinks
Transport

Surveys
Beach Profiles
LIDAR
Channel Surveys

Sediments
Physical
Biological
Chemistry

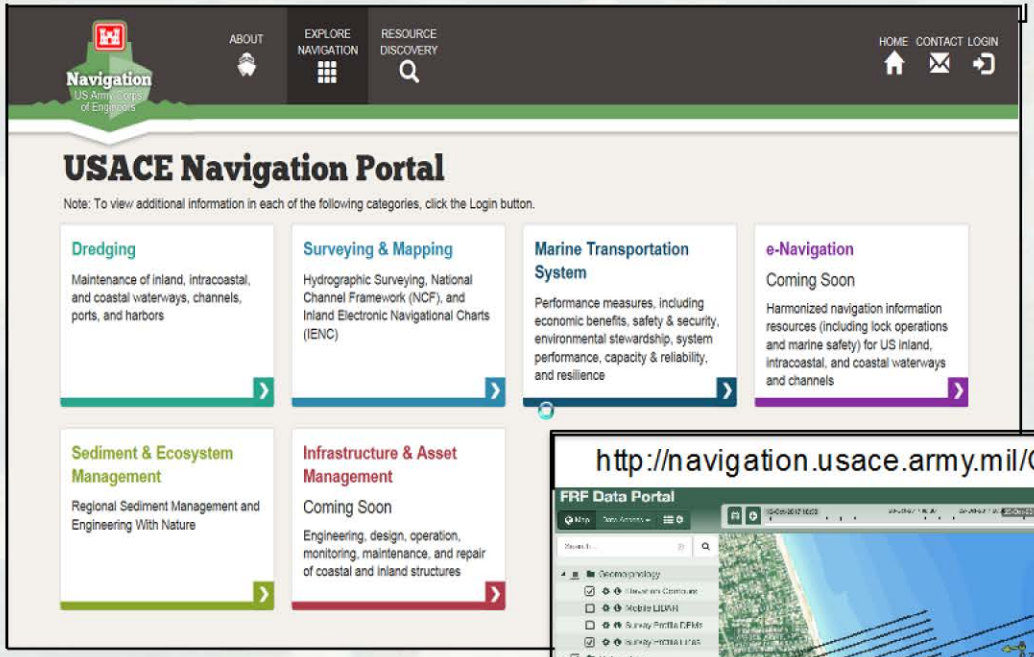
Dredging
When
Where
Volume

Placement Areas
Capacity
BU Type
Activity

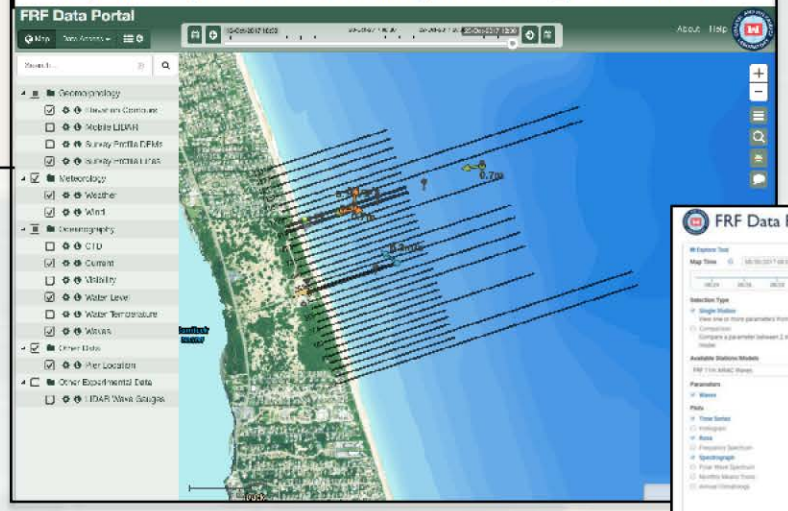
Forcing
Waves
Water-Levels
Currents, Winds

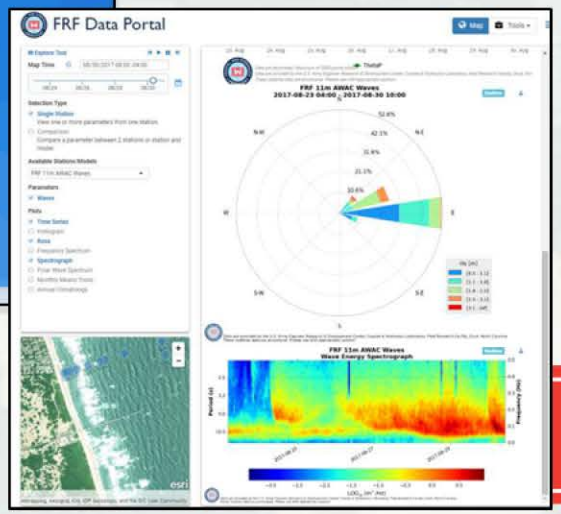
Model
Input Conditions
Grids
Results

http://navigation.usace.army.mil



http://navigation.usace.army.mil/CHL_Viewer/FRF/





RSM.USACE.ARMY.MIL

RSM Technical Notes, Reports, Manuals, Conference Papers

Annual
RSM IPR & Meeting

District
Stakeholder Workshops

RSM University
(ERDC, HEC, RSM Center)
USACE/Stakeholder Training
Tools, Technologies, Implementation

Technical Webinars
with Districts

USACE Bi-Monthly RSM Call/Webinars