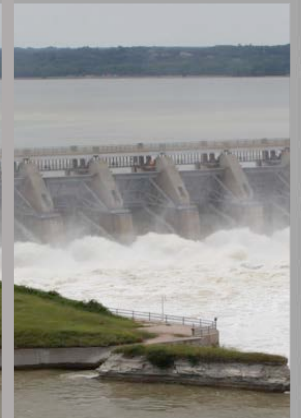


REGIONAL SEDIMENT MANAGEMENT PROGRAM UPDATE

Katherine E. Brutsché, PhD
Deputy Program Manager
National Regional Sediment Management Program

Linda S. Lillycrop
Program Manager
National Regional Sediment Management Program

RSM In-Progress Review and Meeting
15-17 May 2018
Mobile, AL



Innovative solutions for a safer, better world



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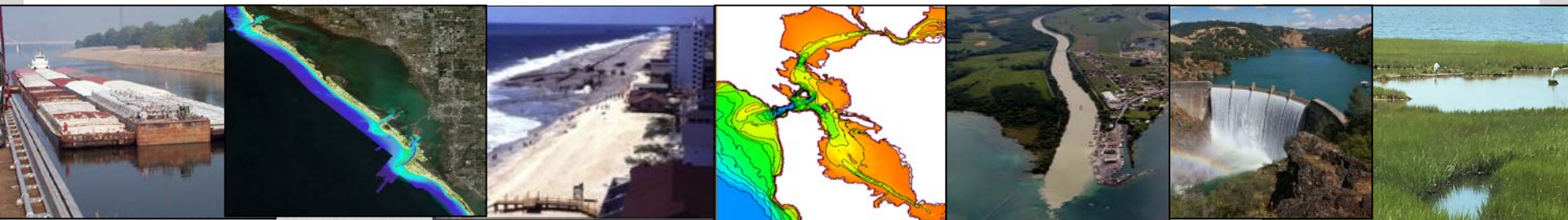
Regional Sediment Management

Established 1999, CERB Charge



“A systems approach using best management practices for more efficient and effective use of sediments in coastal, estuarine, and inland environments for healthier and more resilient systems.”

- Recognizes sediment as a valuable resource
- Work across business lines, projects, and authorities to create short and long-term economically viable and environmentally sustainable solutions
- Improve operational efficiencies and natural exchange of sediments
- Consider regional implications of project scale actions and benefits
- Apply/Enhance tools and technologies for regional approaches
- Share lessons learned, information, data, tools, and technologies
- Communicate and collaborate





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**

Reduce
Channel
Shoaling



Reduce
Runoff



Ecosystem
Habitat
Restoration



Stabilize
Structures



RSM Process

4. TAKE ACTION

- Construct, monitor & adaptively manage
- Capture benefits & lessons learned
- Incorporate into standard practice



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



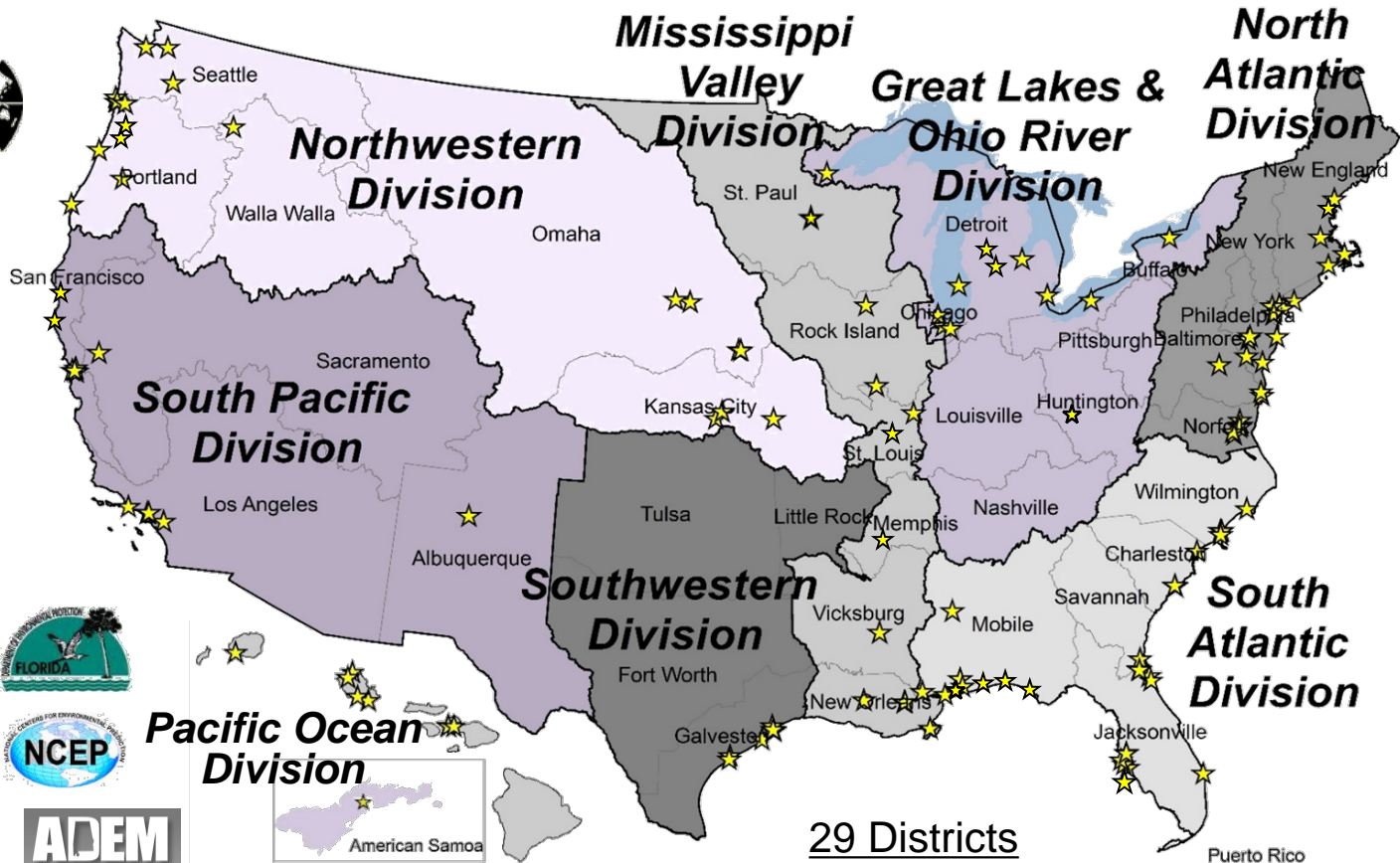
Communication, Collaboration, Innovation, Decision Making
Interagency, Stakeholders, Partners, Resource Agencies

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

US Army Corps of Engineers • Engineer Research and Development Center

RSM Collaboration: National and Regional Teams



RSM Program Funding Process

- Annual Request for Proposals: *Submittals Due* ****22 June 2018****
- Submittals THROUGH:
 - District RSM POC
 - District Navigation BL Leader
 - MSC RSM POC and MSC Navigation BL Leader
- Submittals TO:
 - HQ, Navigation Business Line Manager
 - ERDC Nat'l RSM Program Manager
- Review Team: Districts (Coastal/Inland OP, PD, EN); HQ CWG/Inland Leads
- Recommend Program/Budget: ERDC RSM PM/Deputy PM & TD Nav
- Approval: HQ Navigation Business Line Manager
- Required from all initiatives
 - Quarterly Progress Reports, Fact Sheets, Present RSM IPR& Workshop
 - Lessons Learned: RSM TN/TRs, Newsletters

FY18 Funded Proposals

ERDC/LRC: Regional Sediment Budget Workflows, Tools, Web Map

ERDC: Annual Sediment Yield Ohio River Catchments 1980-2017

LRB: Lake Erie Sediment Budget

LRB: Lake Ontario Sediment Budget

LRC/CHL: UAS Technologies to Monitor Nearshore Placement

LRE/CHL: Sediment Source to Sink Lag Time

LRD: GLTM Program Outreach

NAP: RSM Strategies Along the DE & MD Coasts

NAP/ERDC: Application of GenCade DE & MD Coasts

NAO: James River Federal Navigation Channel RSM

NWK: RSM Effects of Bank Stabilization Kansas River Basin

MVP: Evaluation of Real Time Bedload Transport Chippewa

MVR: Impact of Reservoir Sedimentation on Project Benefits

MVS: Sedimentation Impacts within the St. Louis Harbor Reach

MVS/MVM/ERDC: Chirp Geophysical Data for RSM Goals

MVD/ERDC: Analytic Methods to Reduce the Uncertainties in ISSDOT

SPN: Monitoring Placement Pillar Point Harbor

NWP: Site Selection Framework: Estuary Habitat Restoration

NWP: North Head Argus Station Engineering Projects for RSM

NWP: West Sand Island Shore Stabilization

POH: Kahului Harbor Sediment Infilling

POH: Kahului Harbor Beneficial Use Opportunities

MVN: Sediment Sources Calcasieu Ship Channel

SWG: Utilization and Design for Channel to Victoria BU Sites

SAJ/ERDC: Sediment Sorting During the Dredging Process

****Plus workshops, RSM-U,
conferences, outreach, etc.**

**51 Proposals
28 Funded**

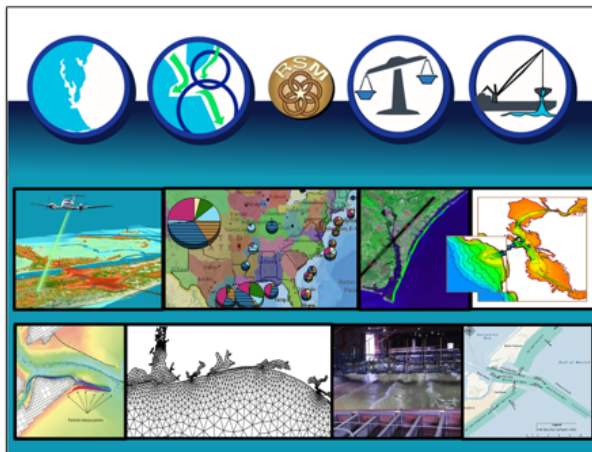
Outreach and Communication (Highlights)

- RSM Website Updates
- Bi-Monthly RSM Web Meetings
- Trifold Pamphlets
- Coastal and Inland Tools & Technologies Brochures
- Environmental Advisory Board Mtg (Jacksonville, FL)
- USACE Nat'l Asset Management Meeting
- BoR International Reservoir Sedimentation & Sustainability Workshop (Denver, CO)
- NAO James River Partnership Meeting (Newport News, VA)
- LRD Great Lakes Tributary Model Workshop (Chicago, IL)
- POH Stakeholder Workshop (Maui, HI)
- ASBPA National Coastal Conference (Fort Lauderdale, FL)
- FSBPA Conference on Beach Preservation Technology (Panama City Beach, FL)
- ASBPA Summit (Washington, DC)
- BOEM Offshore Sand Sources Workshops
- SuperRARG (Vicksburg, MS)
- CSEC Meeting (Beaumont, TX)
- Storms Workshop (St. Petersburg, FL)
- Executive Governance Meeting (Vicksburg, MS)
- RSM-U LRD Sediment Budget Workshop/Training
- RSM-U Reservoir Sediment Management (Lawrence, KS)
- RSM-U Sediment Tracer Workshop (Great Lakes)
- EAB Meeting in Kansas City
- Natural Infrastructure Initiative with EWN and CAT
-

FY18: Volume I, Coastal

Regional Sediment Management Tools and Technologies

Volume I • Coastal • February 2018



ERDC
Engineer Research and
Development Center

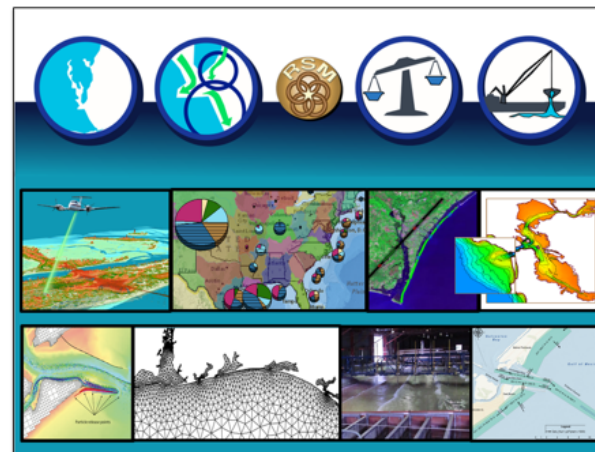
*Regional Sediment Management: Integrated Solutions
for Sediment Related Challenges*

FY18: Volume II, Inland

DRAFT MAY 3 2018

Regional Sediment Management Tools and Technologies

Volume II • Inland • May 2018



ERDC
Engineer Research and
Development Center

*Regional Sediment Management: Integrated Solutions
for Sediment Related Challenges*

RSM Technical Notes, Reports Manuals



Published

74 RSM Technical Notes

24 RSM Technical Reports

In Publication

10 RSM Technical Notes

5 RSM Technical Reports

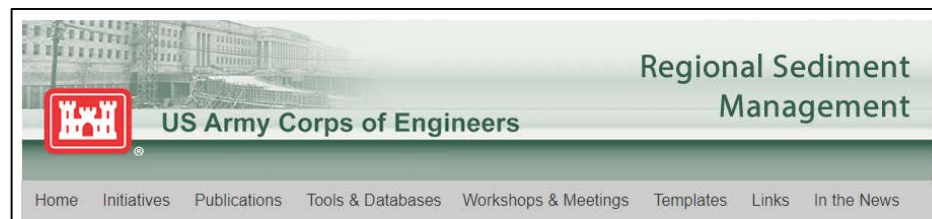
Other

Journal Articles

Conference Papers and Briefs

Newsletter Articles

RSM.USACE.ARMY.MIL



Technical Notes (CHETNs and other)

▲ (CIRP) ✎ (DOER) ◀ (NavSys) denote publications co-sponsored with RSM or directly funded by indicated program(s).

FY 18	<ul style="list-style-type: none"> Physical Monitoring Methods for the Nearshore Placement of Dredged Sediment Potential RSM Projects: Utulei Beach Region, American Samoa American Samoa RSM: Numerical Modeling of Waves and Currents in the Utulei Beach Region User's guide for the Sediment Mobility Tool web application The Cross Section Viewer: A Tool for Automating Geomorphic Analysis Using Riverine Cross-Section Data Understanding Regional Shoreline Change and Coastal Processes at the Sunset Beach Region, Oahu, Hawaii Regional Sediment Dynamics in Mobile Bay, Alabama: A Sediment Budget Perspective
FY 17	<ul style="list-style-type: none"> Identification of Alternatives to Reduce Shoaling in the lower Matagorda Ship Channel Pinellas, Manatee, and Sarasota Counties, Florida: Regional Sediment Budget Reservoir Sediment Management Workshop for Milford Lake in the Kansas River Basin Beach and Morphology Change Using Lidar Gaillard Island Bio-degradable Geotube Test Project, Mobile Bay, Alabama
FY 16	<ul style="list-style-type: none"> Evaluating sediment mobility for siting nearshore berms ▲ Regional CMS Modeling: Southwest Florida Gulf Coast ▲ Applying 1D Sediment Models to Reservoir Flushing Studies: Measuring, Monitoring, and Modeling the Spencer Dam Sediment Flush with HEC-RAS Applications of Dredging and Beach Fills in GenCade ▲ Identification of Challenges and Opportunities for Regional Sediment Management (RSM) and Engineering with Nature (EWN) within Inland USACE Districts Coastal Modeling System: Dredging Module ▲ Regional Sediment Management (RSM) Assessment of Longboat Pass, Manatee County, FL Environmental Benefits of Restoring Sediment Continuity to the Kansas River Passage Key Inlet, Florida: CMS Modeling and Borrow Site Impact Analysis ▲ The Atlantic Coast of Maryland, Sediment Budget Update: Tier 2, Assateague Island and Ocean City Inlet Calculating Depth of Closure Using WIS Hindcast Data ▲ Saco Bay, Maine: Sediment Budget for Late Twentieth Century to Present Potential RSM Projects: West Maui Region, Maui, Hawaii Flocculation and Settling Velocity Estimates for Reservoir Sedimentation Analysis Alternatives to Reduce Shoaling in the Gulf Intracoastal Waterway and Prevent Erosion of Bay Islands along the North Shoreline of West Galveston Bay Identification of Alternatives to Reduce Shoaling in the Galveston Entrance Channels, Texas
FY 15	<ul style="list-style-type: none"> Using GenCade to Create a Sediment Budget in SBAS ▲ Particle Tracking Model Transport Process Verification: Diffusion Algorithm ✎ Reservoir Sediment Management Workshop for Tuttle Creek Lake and Perry Lake Reservoirs in the Kansas River Basin Regional Sediment Management (RSM) Strategy for Mobile Bay, Alabama

ASBPA Summit 2018

Lifetime Achievement Award to Linda Lillycrop



1st RSMmy Awards



Outstanding Collaboration and Outreach

Innovative Technical Achievement

Exceptional Team Achievement

RSMer of the Year

District of the Year

Lifetime Achievement



And the RSMmy goes to....



Complete RSM Tasks and Submit Products: 30 Sept 2018



****No FY18 Carry Over**