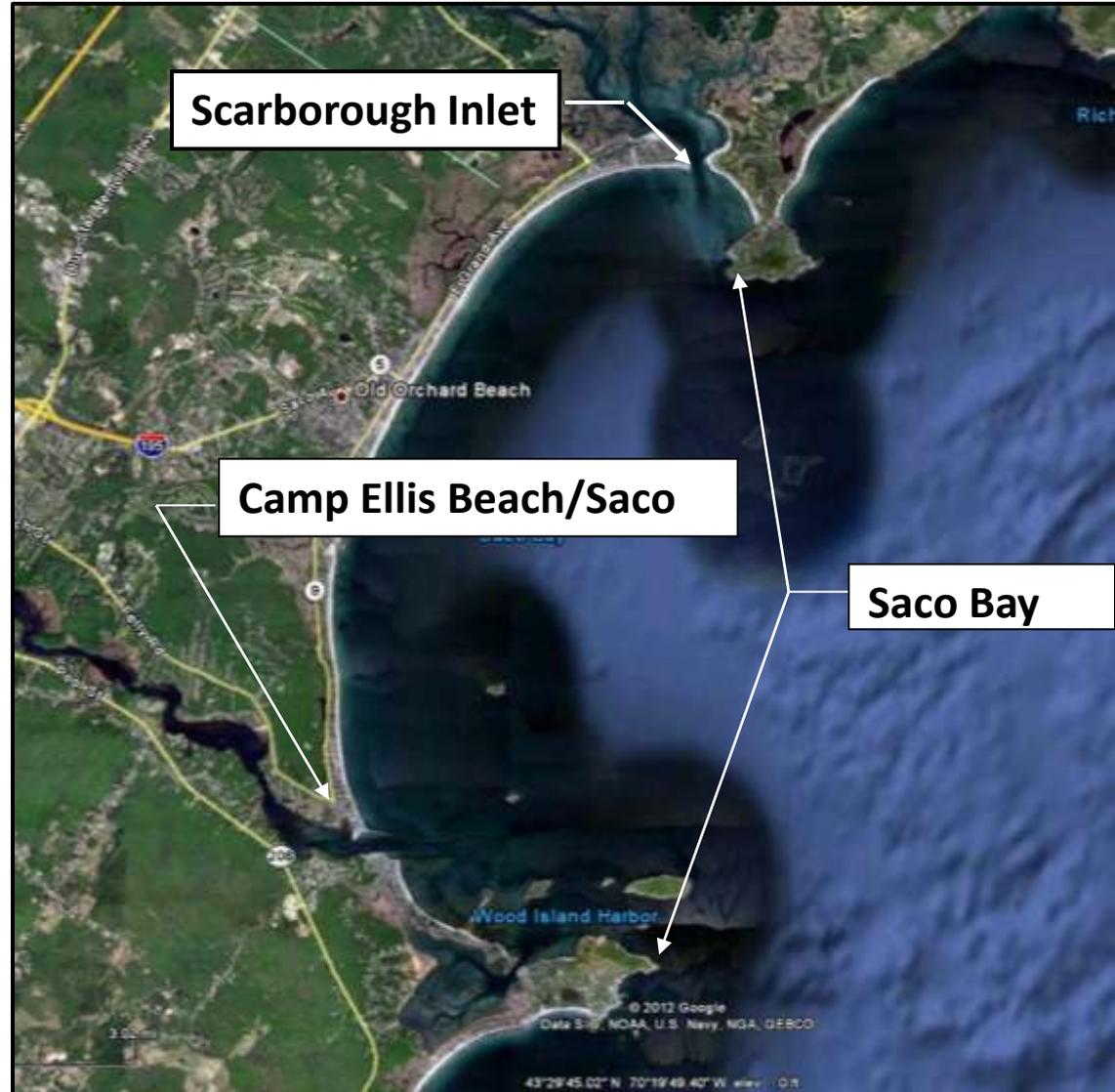


RSM FY12 IPR

New England District, Saco Bay Maine RSM Study John Winkelman and Mark Habel

Description/Challenge

- Need to manage sediment holistically and cost efficiently in Saco Bay
- Two Federal Navigation Channels
 - Saco River/Camp Ellis
 - Scarborough River Inlet
- Section 111 at Camp Ellis Beach

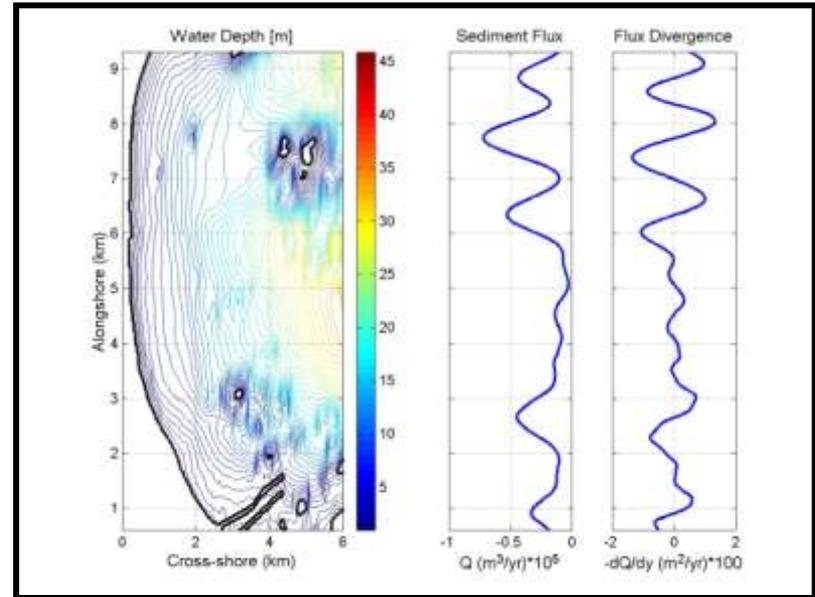


RSM FY12 IPR

New England District, Saco Bay Maine RSM Study

Goals/Issues to Address

- Develop a plan to better manage the dredged sand, to minimize cost, maximize environmental benefits, and minimize down drift impacts.
- To optimize the use of maintenance dredge sand from the Saco River and Scarborough Inlets for the Camp Ellis Beach Section 111 project and to reduce operational costs.
- Develop a sediment budget for each inlet and the bay.
- Develop an RSM Strategy for the Bay.



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New England District, Saco Bay Maine RSM Study

District PDT Members

- John Winkelman – Engineering
- Mark Habel - Planning
- Ed O'Donnell – Navigation
- Mike Walsh - Navigation

Stakeholders and Partners

- State of Maine Geologic Survey
- City of Saco, ME
- City of Scarborough, ME
- Town of Biddeford, ME

Leveraging/Collaborative Opportunities

- Camp Ellis Beach, Saco, ME Section 111
- Scarborough, ME Inlet Maintenance Dredge Material Placement Study
- State of Maine research efforts through UMaine and Geologic Survey

Milestones/Deliverables

- **Task 1:** Update Saco Bay and Scarborough, Maine Shoreline Change Maps and Sediment Transport Potential
- **Task2:** Compile Dredge Records and Develop Dredge Placement Maps
- **Task 3:** Bathymetric Mapping/Change Analysis
- **Task 4:** Coastal Geomorphology
- **Task 5:** Sediment Budgets for the Saco River and Scarborough Inlets and for Saco Bay.
- **Task 6:** RSM Strategy
- **Task 7:** Project Summary Report

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Approach

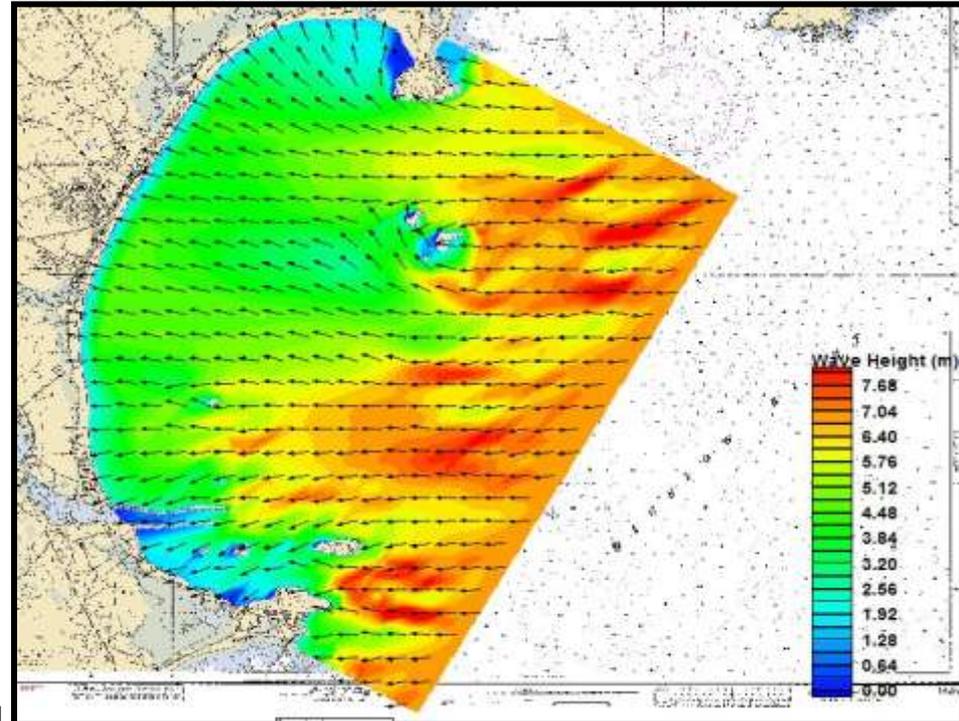
- Develop a sediment budget at each inlet and for the entire bay. This will lead directly to a RSM strategy.
- Update existing information
- Utilize in house, contractor and ERDC expertise

Benefits to O&M, FRM, Environmental

- Cost savings to O&M will be sought through:
 - lower placement costs
 - more efficient operations
 - perhaps lessening dredge requirements
- Provide a plan to O&M for dredge material placement
- Provide greater certainty of down drift impacts of placing sand east of Scarborough Inlet (environmental and recreational navigation)
- Provide a more cost effective source of sand for the Camp Ellis Beach Section 111 Project

Models, Tools, Databases, etc Used

- Shoreline Mapping in ArcGIS and USGS DSAS
- Bathymetric mapping – SMS and ArcGIS
- Sediment transport pot. – STWAVE and non-linear sediment transport model
- Sediment Budget - SBAS
- NCMP data
- WIS Hindcast data



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New England District, Saco Bay Maine RSM Study

Opportunities to Take Action

- As discussed previously

Accomplishments

- Significant work done already in previous studies
- Contract to update shoreline movement mapping and sediment transport potential modeling awarded (Task 1)
- Dredge records compiled (Task 2)
- Bathymetric mapping comparison underway (Task 3)
- **FY 13 Proposal submitted –Tasks 4 and 5. Tasks 6 and 7 in FY 14**

Volume of Sediment Moved

- 0.00 yds³ moved
- Saco Inlet dredging estimated at 8,000 yds³/yr
- Scarborough Inlet dredging estimated 20k to 25k yds³/yr
- Volume reduction to system caused by USACE – 13,000 to 22,000 yds³/yr (based on UM Sediment Budget)
- Volume needed to support Section 111 beach fill maintenance - 15,600 yds³/yr

Lessons Learned or Reconfirmed

- Contracting process is slowing down more and more
- RSM program came through on schedule with money – will not doubt that again
- I need to take on less work in FY 13