

FY15 RSM-EWN IPR

Buffalo District, Lake Erie Sediment Budget, Weston Cross

BLUF: Creation of system wide sediment budget allows for quicker analysis of proposed shoreline projects, better management of existing projects and easier communication with stakeholders

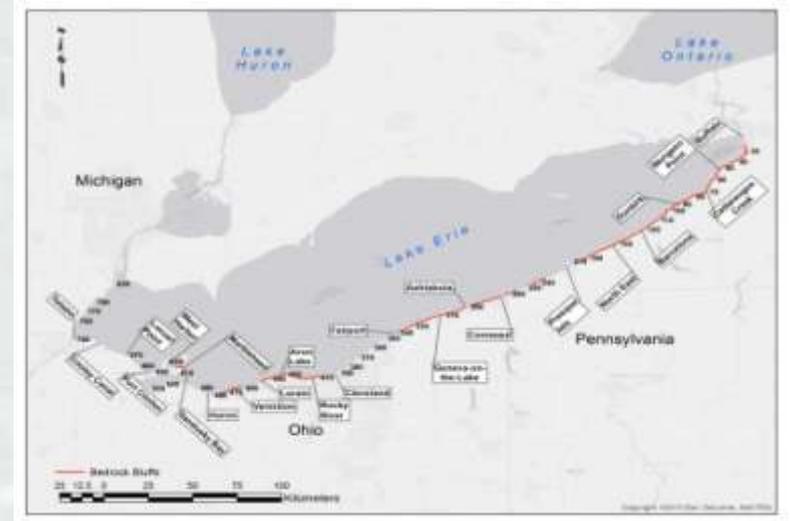
Problem Statement/Issue

- Historically, shoreline dominated by wide beaches
- Today – shoreline is sediment starved
- 28 main river mouths or harbors along U.S. Shore
 - Most modified around protecting navigation interests

Approach to Address Problem

(non-technical)

- Gain a better understanding of coastal processes in the area.
- Identify effects of harbor structures on these processes.
- Identify sources and pathways of sediment.
- Determine if sediment sources have changed over a century due to engineering activities and bluff armoring.



2015 Effort

- Finalization of Tech Report
- Testing and implementation of NEW version of SBAS

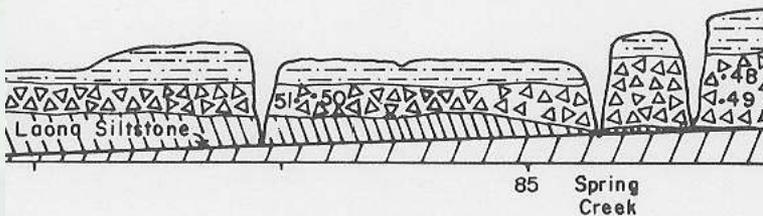
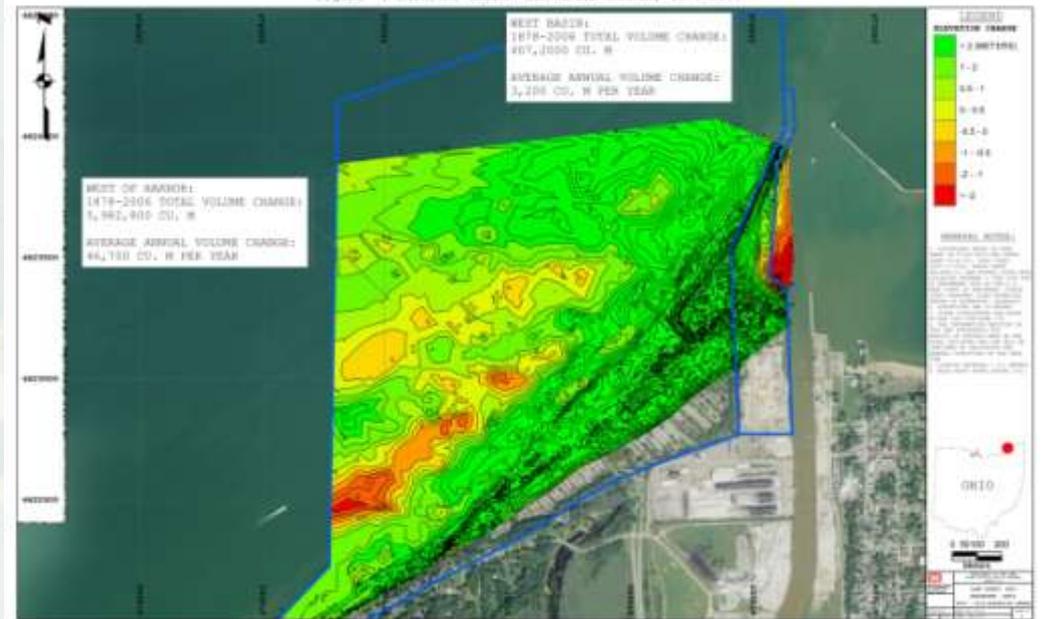
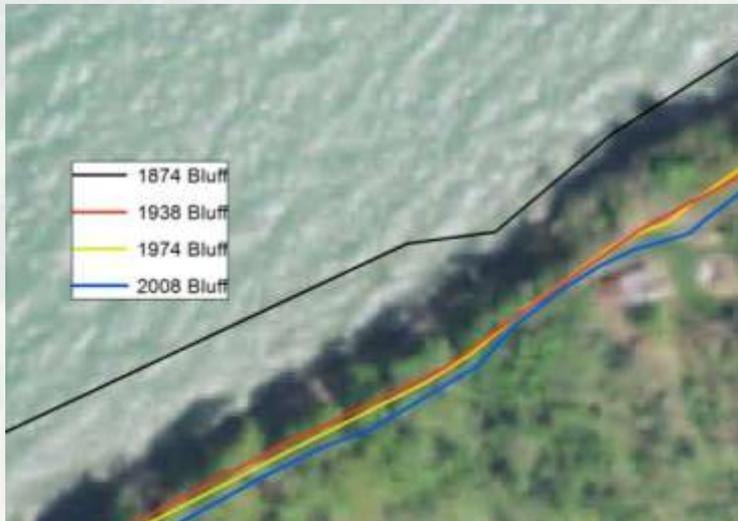
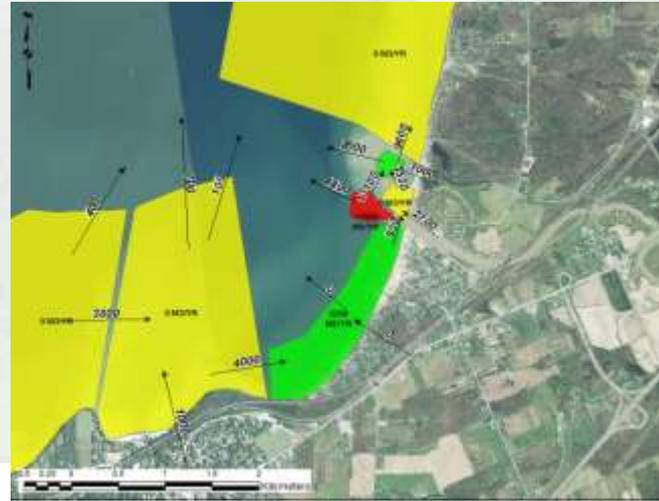


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Approach to Address Problem (Tools, Models, Technologies)

- ArcGIS
- SBAS
- DSAS
- Harbor/shoreline development history
- Bluff Line Recession and Geology
- Previous Sediment Budget Studies



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Sediment Sink:

Trapping at Harbor Mouths – Full Analysis at 10 District Harbors



~6.4 M Cu. M since 1874

Fairport Harbor, OH



~2.4 M Cu. M since 1866

Conneaut Harbor, OH



1938

Ashtabula Harbor, OH



2006

~2.8 M Cu. M since 1874

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USACE RSM PDT

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Stakeholders/Partners

- ODNR, Don Guy

What key leveraging opportunity(s) did stakeholders/partners provide?

- Technical Reviews – A great deal of knowledge about the complicated Ohio Coastline shared



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UPs – 3 Positives from effort

- SBAS working fantastically!
- Data being incorporated into district reviews/planning
- Increased Beneficial Use of Dredged Material



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DOWNs – 3 Negatives/Challenges from effort

- Time
- The New York State Shale Uncertainty
- Difficulty in going from modeling to moving sediment



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Value to the Nation

- Identification of Sediment Transport Pathways for potential BU projects
- Ability to provide concrete measurements to Regulatory in analysis of permitting process
- Data coordination with ODNR, Penn State, NYS
- Compilation of wide variety of Historical Data for quick retrieval and implementation
- Software testing for SBAS prior to full roll-out

