Regional Sediment Management Program

Lake Erie Sediment Transport Analysis

US Army Corps
of Engineers ®
Engineer Research and
Development Center

Description	The project consists of development of micro and macro sediment budgets for both Lake Erie using SBAS (Sediment Budget Analysis System) for Arc 10 for fine- and coarse-grained sediment over three historic time periods. The project area consists of the southern Lake Erie shore from Toledo, OH to Buffalo NY. Numbers in the map represent 1-km reaches used in the study.
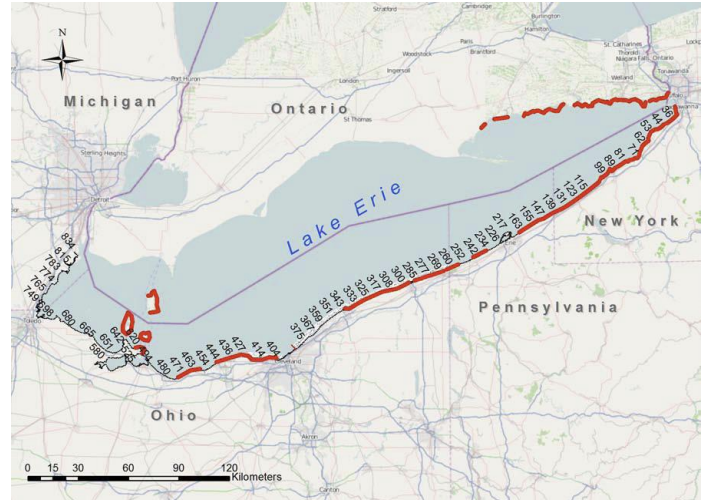
Issue/Challenges By developing a sediment transport model, the District hopes to improve predictions of shoaling patterns. The model will aid in the evaluation of measures to minimize accumulation of sediment in the channel. If harbor material is suitable for beneficial use, prediction of dredged quantities can also aid in planning for placement sites and uses.

Expected Products SBAS Complete on Lake Erie for NY, PA, and OH east of Cleveland by 7/31/2012.

Potential Users USACE Buffalo District, Ohio Department of Natural Resources (ODNR) – Division of Coastal Zone Management

Projected Benefits Project will contribute to a comprehensive nationwide sediment budget database, incorporating SBAS data at one kilometer increments for all of Lake Erie. This will ultimately lead to better decision making for planning for maintenance dredging and harbor structure projects to reduce sedimentation in Federal channels and minimize future dredging needs.

Leveraging Opportunities This model will leverage existing data presently in the form of georeferenced historic maps and aerial photographs, shore stratigraphy, location of human modifications to the nearshore zone, and recession rates. This information was used to determine fine- and coarse-grained sediment inputs at 1 km intervals and three historic time intervals from the 1870's to the present. By incorporating this information into SBAS, this information will ultimately become available to all State and Federal agencies.

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Participating Partners The sediment budget is being developed with support and participation from Ohio DNR.