

## Lake Erie Discovery Report - Executive Summary

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The Federal Emergency Management Agency's (FEMA's) Lake Erie Discovery Report provides users with a comprehensive understanding of historical flood risk, existing coastal data, and current flood mitigation activities within the Lake Erie basin. The report also summarizes FEMA's intent to proceed with a coastal flood hazard study under FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) program and the Great Lakes Coastal Flood Study (GLCFS) project.

The GLCFS is a comprehensive study of coastal flood hazards for all United States shoreline along the Great Lakes Basin, including Lake Erie. The study is being performed by FEMA in cooperation with the U.S. Army Corps of Engineers (USACE), the Association of State Floodplain Managers, and other partners. The GLCFS project will put a wide range of data in the hands of communities along the Great Lakes, including Lake Erie, to promote long-term reduction in flood risk and enhance public safety.

An updated coastal flood study will provide a better estimate of coastal flood hazards and risk for the Great Lakes. The current, or effective, Flood Insurance Rate Maps (FIRMs) are outdated primarily because of the age of the data and the coastal methodologies used in producing them. These studies date back to the 1977 and 1988 USACE Open-Coast Reports. Major changes in National Flood Insurance Program (NFIP) policies and methodologies have occurred since the effective dates of many Flood Insurance Studies in the area, creating the need for an update that reflects a more detailed and complete hazard determination.

Like all other Risk MAP projects, the GLCFS includes a local Discovery phase. The Discovery process for Lake Erie involved extensive basin-wide data collection and outreach efforts with Lake Erie stakeholders. The Lake Erie stakeholder group includes representatives from FEMA, other Federal agencies, State agencies, local government, and several other technical focus groups. Data collection efforts in the Discovery phase include base map data, coastal data, historic flood data, risk assessment, flood mitigation information, community plans and projects along the shoreline, and other comments based on local knowledge of flood risk. Additionally, certain useful datasets are being developed for use in this study. These datasets include oblique imagery, topography and bathymetry data, shoreline feature dataset to classify shoreline characteristics, a draft transect layout, and a storm surge and wave study, all of which will feed into the coastal flood hazard analysis for Lake Erie.

The GLCFS for Lake Erie will include coastal engineering and mapping for communities located along the shoreline using the response-based approaches outlined in FEMA's draft *Guidelines and Specifications for Coastal Studies along the Great Lakes*, Appendix D.3 Update, dated May 2012. The coastal flood hazard results will be transferred to workmaps and released to communities for review prior to FIRM production. Coastal risk assessment products will be generated for identified Lake Erie coastal communities. These products may include Flood Risk Maps, Flood Risk Reports, Changes Since Last FIRM, Flood Depth and Analysis Grids, Multi-Hazard Risk Assessment and Loss Estimation Software Program (Hazard-MH) 2010 1-percent exposure, and some additional Great Lakes products that are under consideration.

The Lake Erie Coastal Flood Study may result in delineation of new Special Flood Hazard Areas, designation of Zone VE (coastal high hazard areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action greater than 3 feet in height), and identification of Limits of Moderate Wave Action (LiMWAs) on the FIRM for the first time. Communities participating in the NFIP that will have Zone VE

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mapped as a result of this study, will be required to adopt floodplain management regulations that meet or exceed the minimum Zone VE NFIP requirements. FEMA does not impose any additional floodplain management requirements based on the LiMWA. The LiMWA, which is an informational layer that shows the limit of the 1.5-foot wave, is provided to help communicate the higher risk that exists in that area compared to the rest of the Zone AE areas, which are subject to inundation by the 1-percent-annual-chance flood event and wave heights ranging from 0 to 3 feet.

In addition to identifying and assessing flood risk along the Great Lakes, the GLCFS project will provide communities with tools and information that encourage identification and implementation of mitigation actions to reduce risk. Mitigation is a critical foundation on which to reduce loss of life and property by avoiding or reducing the impact of hazard events, and it is an essential part of this coastal flood study process.

As part of the Discovery process, local Hazard Mitigation Plans were reviewed to better understand existing flood risk within the Lake Erie communities, as well as the strategies and actions that have already been developed as part of the local planning processes to mitigate that risk. By first obtaining a better understanding of existing local risk and mitigation actions during this Discovery phase, FEMA intends to begin working with communities to identify new mitigation actions and strengthen existing actions throughout the coastal flood study. In addition, FEMA will seek to identify communities that could benefit from mitigation assistance through partnership with FEMA.

To support the identification and attainment of mitigation actions, as well as local mitigation planning efforts during this coastal flood study, FEMA introduced the Mitigation Action Form and Mitigation Action Tracker to Lake Erie stakeholders during Discovery. The form and tracker demonstrate FEMA's effort to help track and identify local potential Areas of Mitigation Interest and new or improved mitigation actions that could reduce risk.

Ongoing communication and coordination with stakeholders is an essential part of the Lake Erie coastal flood study. The GLCFS Web site <http://www.greatlakescoast.org> is an excellent resource where stakeholders can obtain up-to-date information about the status of this study, data collection, upcoming meetings, new technical reports, the latest methodologies, fact sheets, and much more. FEMA encourages stakeholders to remain involved and will seek to identify partnership opportunities during the study.