



MICHIGAN COASTAL MANAGEMENT

The Michigan Coastal Management Program (MCMP) is the steward of the nation's longest freshwater coastline, which is composed of 3,288 linear miles of sandy beaches, coastal dunes, rocky bluffs, and vast coastal wetlands. We work with our coastal partners to devise creative and adaptive solutions to manage and mitigate the vast challenges associated with the unpredictability of the Great Lakes water levels, along with increasing storm intensity and frequency as a result of climate change.



State Program in Action

The MCMP awarded over \$700,000 in grant funds to coastal partners for a range of activities including planning for resiliency, conducting CLA workshops, capacity building, planning for enhanced public accessibility, and field investigations of underwater/submerged historic settlements to create a documentary to raise awareness of this unique cultural resource.

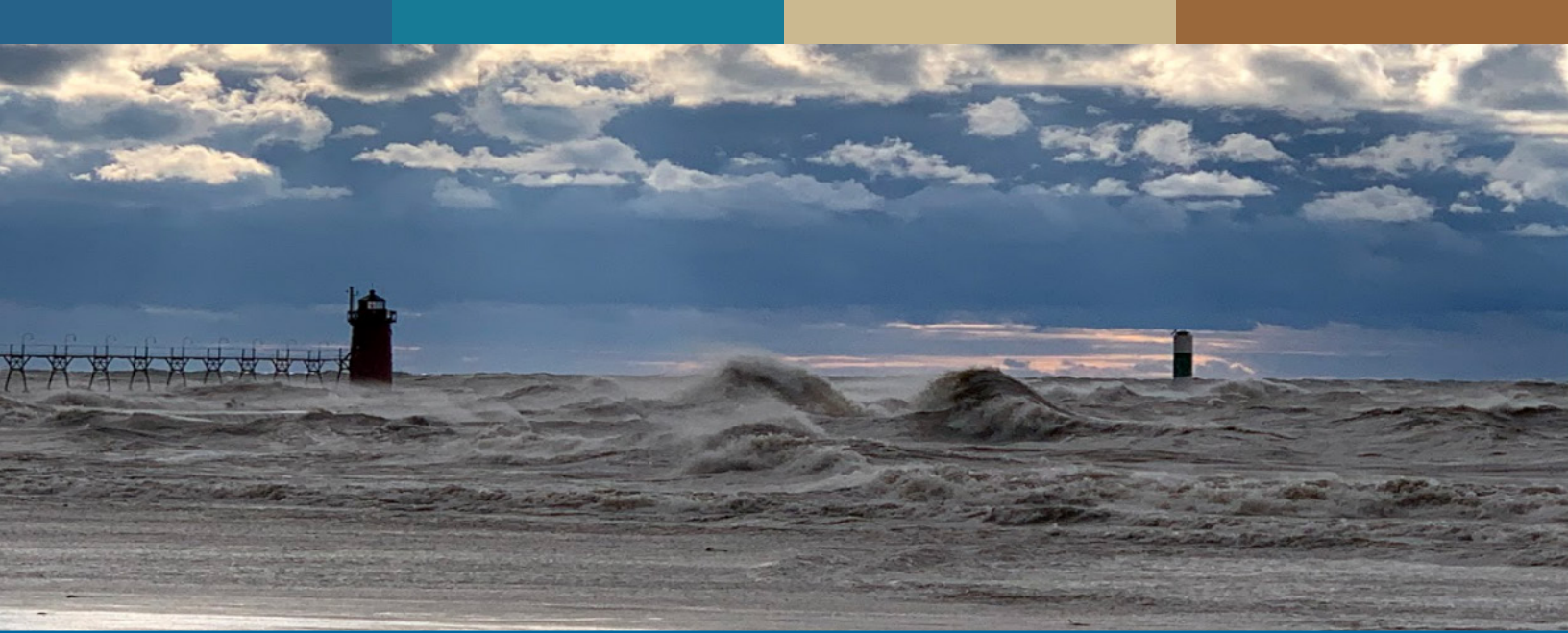


The MCMP devised the "Pathway to Resilience" to assist coastal communities to manage and mitigate the impacts of coastal hazards. The pathway's intent is to lay out steps for coastal communities to engage with the MCMP's recommend actions for sustainable coastal development and management. The pathway starting point is for increased knowledge via training on coastal hazards risks, planning and zoning practices, followed by site specific action a community can take such as on the ground nature-based infrastructure. The goal is for decision-makers within coastal communities to be equipped with planning and data tools to

effectively plan for growth and change; install practices and policies that protect, preserve, restore, enhance, and wisely develop coastal areas; and create networks for the collective impact of effective coastal management.

The Coastal Leadership Academy (CLA) is MCMP's technical training on Scenario-Based Planning and Zoning; Nature-based Solutions to Reduce Coastal Risks; and Adaptation Strategies for Coastal Hazards. Modelled after NOAA's Digital Coast training platform, the MCMP received funding from NOAA through a project of special merit to develop a flip classroom training module including a six-part "Building Coastal Resilience" video series. The CLA's intent is to increase knowledge of site specific/community coastal hazard challenges and inspire local decision makers to initiate actions to enhance resiliency on the coast.

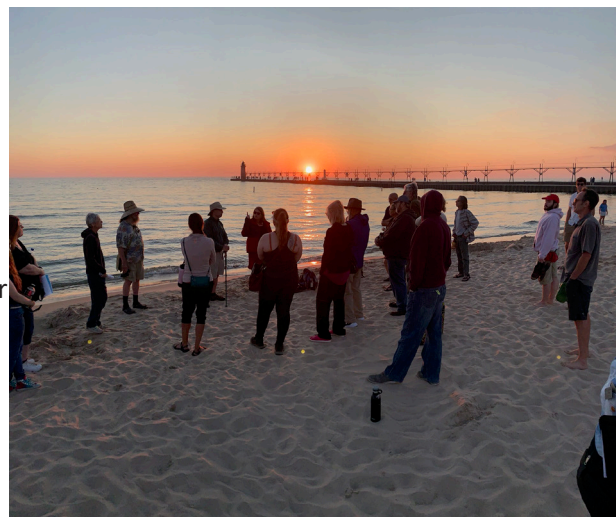
The Michigan Coastal Management Program's mission is to protect, preserve, restore, enhance, and wisely develop the natural resources and cultural heritage of our coastline.



Catalyzing Action to Address Coastal Hazards

Through the NOAA's Section 309 enhancement funding, the MCMP is creating a Resilient Communities' Adaptation Strategies Toolkit consisting of a technical guidance manual and a set of best management practices factsheets. The toolkit's intent is to provide technical guidance on adaptive approaches for shoreland protection that local decision-makers can adopt within their local zoning ordinances. The toolkit will investigate adaptation strategies such as avoidance, accommodation, and retreat options to promote coastal resilience for taking a balanced approach for coastal infrastructure and protecting public trust lands. The MCMP Toolkit's adaptation strategies will not only inform local policy but also our regulatory programs on feasible alternatives to traditional hardened shoreline structures.

The MCMP is partnering with Michigan State University to conduct research on nearshore sediment transport on select sites on Lake Michigan and Lake Huron. This research is to gain a better understanding of the physical/environmental conditions that contribute to erosional loss of sand from beaches, dunes, and bluffs; identify the short-term fate of sand that is liberated from coastal landscapes, and identify the controlling processes and coastal characteristics; develop a conceptual model of the processes and controls of how sand moves throughout representative coastal sites; incorporate the conceptual model with aerial photographic analyses of coastal change over the last decade to infer sediment transport rates and processes during the recent rise in the lake levels; and utilize these analyses to develop a simple probabilistic model that forecasts how sediment transport and subsequently coastal landscapes might change if lake level were to fall to pre-2013 levels or rise even higher than current record high levels. The goal for this work is to better understand what happens to sand once it is eroded from beaches, dunes, and bluffs during high lake level phases and storm events.



A State-Federal Partnership

The MCMP and the U.S. Army Corps of Engineers (USACE) are collaborating to conduct community engagement events referred to as "Beach Walks." Enabled through a Public Assistance to States agreement, the Beach Walks were conducted on eight sites along Lake Michigan, Huron, and Superior coastline. The events highlighted the dynamics and effects of the Great Lakes water levels, storm intensities, coastal processes, and coastal hazards at each respective beach site. The intent of the Beach Walks are to increase knowledge of coastal hazards to increase community resilience and provide opportunity for the public to interface with state and federal coastal experts.

Michigan Coastal Management Program
Department of Environment, Great Lakes, and
Energy, Water Resources Division
517-420-5921
www.Michigan.gov/CoastalManagement



Coastal States Organization
50 F St., NW, Suite 570
Washington, DC 20001
(202) 800-0580
www.coastalstates.org