

# Coastal Habitat Conservation in a Changing Climate: Strategies and Tools for the Great Lakes Region

*September 12-14, 2011  
Ann Arbor, MI*

**Issue:** Coastal habitats in the U.S. and the valuable ecosystem services that they provide are already impacted by multiple stresses, and climate change will further exacerbate these existing challenges.<sup>1</sup> The Great Lakes region, in particular, is currently experiencing warmer air and water temperatures, decreases of lake ice, longer onset of lake stratification, changes to migration patterns of wildlife, more variable water levels, decreases in soil quality, longer growing seasons and extreme precipitation. Coastal habitat managers, ecological restoration experts and other decision makers at the federal, state, and local level need additional information, tools, and capacity to support the management and conservation of coastal habitats under changing climatic conditions.

While efforts are underway to address the impacts of a changing climate on coastal ecosystems at a variety of levels, additional work is needed to build capacity, experience, and collaboration. In an effort to begin to address these needs of coastal habitat managers, ecological restoration experts and other decision-makers, NOAA is working with its partners to develop region-focused workshops on climate change and coastal habitats such as this one in the Great Lakes.

**Action:** As part of a series of regional workshops, conduct a two-day workshop focused on tools and strategies to assess vulnerability and develop actions for climate-smart conservation of freshwater coastal habitats in the U.S. Great Lakes (MI, WI, MN, IN, IL, OH, PA, NY) region.

## **Goals:**

- Increase understanding of the current state of the climate science for the Great Lakes region and examine vulnerabilities of Great Lakes coastal habitats and species to climate change
- Provide habitat managers and ecological restoration experts with the tools and information necessary to incorporate climate change into their projects
- Connect federal agencies, states, tribal nations and non-governmental organizations in the Great Lakes region to identify potential strategies and opportunities for collaboration related to climate change adaptation, and identify information gaps
- Initiate or codify development of strategies for incorporating climate change into the conservation of freshwater coastal habitats

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<sup>1</sup> Global Climate Change Impacts in the United States, T.R. Karl, J.M. Melillo, & T.C. Peterson, (editors). Cambridge University Press, 2009.

**Target Audience:** Representatives from federal, state, tribal, and nongovernmental organizations directly involved in the planning and implementation of coastal habitat conservation activities in the Great Lakes, including habitat protection and restoration efforts (e.g. acquisition, easements, management, regulatory consultations, permitting).

**Outcomes:** Workshop participants will:

1. Examine issues of temporal scale for scientific modeling, regional planning and ecosystem health (e.g. adapting for 10 years, 50 years, 100 years). Identify some potential scenarios for scenario planning
2. Examine specific examples for assessing vulnerability of freshwater coastal habitats to a changing climate
3. Share knowledge of adaptation tactics, strategies and metrics for freshwater habitats to identify best practices
4. Identify possible solutions for improving conservation of freshwater coastal habitats in a changing climate and initiate development of collaborative conservation strategies for freshwater coastal habitats that incorporate climate change information.
5. Increase understanding of the climate related information needs of habitat managers to inform the development of NOAA's climate service efforts

**For more information and interest in participating and/or partnering, please contact:**

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Please visit: TBD for additional information.



**Support for this workshop provided by the NOAA Climate Program Office, Office of Habitat Conservation, and Great Lakes Regional Collaboration Team**