



# NOAA IN THE GREAT LAKES



The National Oceanic and Atmospheric Administration (NOAA) is a federal agency whose mission touches the lives of every American. Our reach goes from the surface of the sun to the depths of the ocean floor and across the vast expanse of the Great Lakes as we work to keep citizens informed and to make sense of the ever-changing environment around them.

From weather warnings to climate forecasts, from Great Lakes research to coastal protection and management, NOAA's products and services support economic vitality affecting more than one-third of America's gross domestic product. NOAA's dedicated staff and scientists provide citizens, planners, emergency managers, and other decision makers with the reliable information they need, when they need it, to further its mission of science, service, and stewardship.



Photo: NASA MODIS

## Freshwater

The Great Lakes hold 90 percent of the total freshwater in the United States. NOAA provides important tools and information for decision-making that affect this important global resource. NOAA in the Great Lakes addresses issues of human and ecosystem health, prediction of weather, water temperature, and water levels in support of commercial and recreational navigation, prediction of water quality and beach health in support of public safety, and the detection and monitoring of aquatic invasive species in support of Great Lakes ecosystem health.



Photo: Grand Haven, MI, R. Greaves

## Great Lakes Coasts

The Great Lakes, America's fourth coast, boast more than 10,000 miles of dynamic and unique shoreline. NOAA in the Great Lakes is committed to working on science-based solutions to the most critical problems facing our coastal areas. NOAA supports:

- ◆ coastal communities and decision-makers to address priorities such as coastal habitat protection and restoration
- ◆ marine spatial planning
- ◆ coastal area contamination
- ◆ ports and navigation
- ◆ cultural and historic maritime resources
- ◆ threats of coastal hazards
- ◆ public access
- ◆ local planning

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## Climate

Climate change is impacting the Great Lakes at the regional and local level. NOAA in the Great Lakes is bringing all of its national expertise and capability in climate research and monitoring to work with our partners to identify regional climate change information needs and to help regional decision-makers using the best available information and tools.

## Great Lakes Restoration Initiative

The Great Lakes are under significant stress. Years of degradation from the build-up of toxic contamination, destruction of coastal wetlands, damage from invasive species, and new threats from a changing climate have left the Great Lakes at a tipping point. Fortunately, we know many of the solutions to these serious threats, and NOAA is working hard to provide the information, services, and on-the ground action needed to achieve them.

The Great Lakes Restoration Initiative (GLRI), begun in 2010, has provided an infusion of funding for sustainable Great Lakes restoration, making it an ongoing program for coordination and oversight by NOAA's Great Lakes Team anchored in the region. NOAA's appropriations are leveraged with funds from the GLRI, and in collaboration with 16 other federal agencies and the states and local communities to provide maximum return to the region.

This investment in restoring the Great Lakes is an investment in our heritage, environment, economy, and ultimately, our future.



Photo: Muskegon Lake Restoration Project, NOAA.

## Engaging the Great Lakes Community

NOAA is a science-to-service agency, transforming its research into products and services that people use every day. Knowing and understanding the unique needs of those in the Great Lakes basin is an important part of NOAA's work and service in the region.

To this end, NOAA has created a Great Lakes Regional Team, with staff throughout NOAA and our program partners, who collaborate with other regional organizations, build relationships with residents, and capture the diverse needs of the region we serve. The Team also works to educate those in the Great Lakes community about its products, services, and research to improve information and decision making and to facilitate action. Through this type of engagement, NOAA can continually develop and enhance geographically-specific solutions in the Great Lakes and across the nation.

## Working Together



NOAA's focus in the Great Lakes is possible through its numerous offices, programs, and partnerships located across the region. This collaboration includes:

- Great Lakes Environmental Research Laboratory
- Thunder Bay National Marine Sanctuary at Alpena, MI
- Midwest Regional Climate Center
- Great Lakes Observing System Regional Association
- 2 River Forecast Centers
- 2 National Estuarine Research Reserves at Huron, OH and Superior, WI
- 2 Academic Cooperative Institutes at University of Michigan and University of Wisconsin
- 7 State Sea Grant Programs
- 8 State Coastal Zone Management Programs
- 8 State Geodetic Survey Representatives
- 18 Weather Forecasting Offices

And our greatest resource – the 670+ employees located in the Great Lakes.