



in
the

Great Lakes



Photo Credit: NOAA GLERL

The National Oceanic and Atmospheric Administration (NOAA) provides expertise on Great Lakes issues to coastal constituents and federal, state, and international decision and policy makers. Through its participation in several regional programs—including the Great Lakes Restoration Initiative (GLRI) and the Great Lakes Water Quality Agreement (GLWQA)—NOAA transforms mission-directed research into products and services that people use every day, and helps address the following Great Lakes issues.

Harmful Algal Blooms (HABs)

Cyanobacteria HABs can develop due to degrading water quality and can lead to unsafe conditions for human health and aquatic life. NOAA research on the formation, duration, and toxicity of HABs is used to create products that help the public make informed decisions, such as how to manage drinking water plants or when to go to the beach. Throughout the bloom season (July-October), the Lake Erie HAB Forecast is updated twice-weekly and provides information on current extent and trajectory of HABs as they form. Within the Forecast, an animation combines remote sensing and modeling to produce 5-day forecasts of bloom extent, intensity, and movement. Toxin concentrations are also available in near real-time from the Environmental Sample Processor (ESP) network. This 'lab in a can' technology autonomously collects and analyzes water samples and sends data back to technicians. These real-time predictions can provide water intake managers, anglers, boaters, and beach users timely information for decision-making.

Habitat Restoration

Since 2007, NOAA has awarded over \$142 million through the Great Lakes Restoration Initiative (GLRI) to improve fish passage, clean up marine debris and associated contaminants, restore coastal wetlands, and remove invasive species. With more than 94 Great Lakes restoration projects, NOAA has restored over 4,950 acres of habitat for fish and wildlife, removed over 309,500 metric tons of waste and demolition material, and opened over 708 stream miles of river for fish passage.

Improved Marine Forecasts

Marine forecasting in the Great Lakes is serious business for both

commercial ships and recreational vessels. NOAA has developed new marine forecasting processes for predicting wind speed, wind direction, waves, water levels, and currents that better highlight dangerous conditions and potentially save lives.

Asian Carps

Asian carps are invasive fish with the potential to threaten the physical, ecological and socio-economic health of the Great Lakes. NOAA works collaboratively with federal, state, tribal, municipal and provincial partners to provide modeled information about the impact of these fish if they were to become established in the Great Lakes.

Preparedness

NOAA recognizes the importance of preparing communities and economies for disturbances in ecosystems and changes to natural resource production. The agency's role includes predicting conditions, supporting planning, promoting green infrastructure, and connecting partners with data, tools and technical assistance, in addition to preparing for unexpected natural and man-made hazards—both directly and in partnership with keystone partners, such as the state coastal zone management programs.

Vessels

NOAA provides a fleet of 13 small research vessels that operate throughout the Great Lakes to engage in science and promote stewardship. These vessels range from 23-80 feet in length. NOAA's Great Lakes Environmental Research Laboratory (GLERL) Lake Michigan Field Station in Muskegon, Mich., serves as home port, with vessels also located in Alpena, MI, Monroe, MI, Cleveland, OH and Superior, WI.



For additional information, please contact:

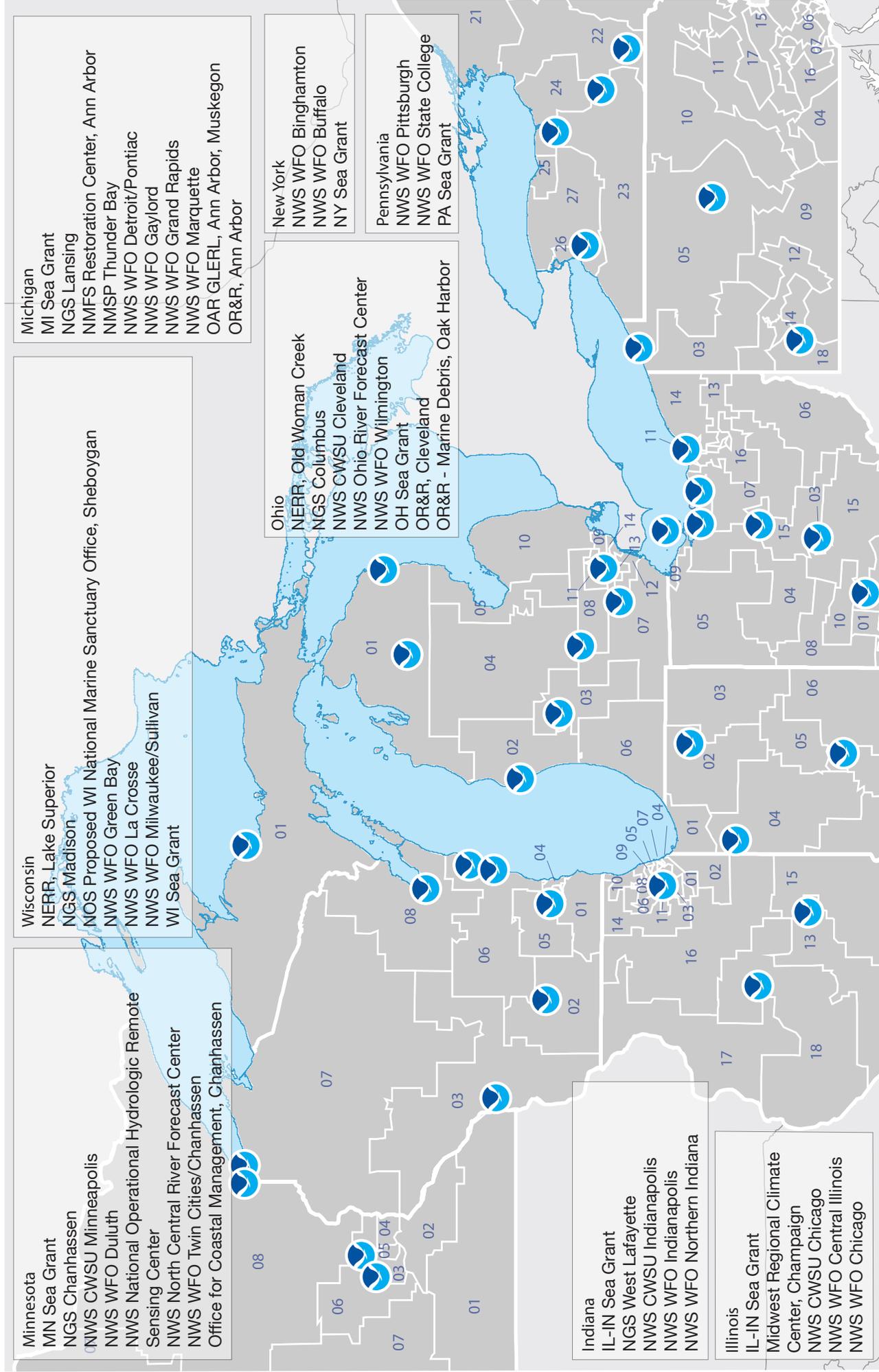
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NOAA In Your State

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KEY:
 U.S. Congressional District Numbers
 NERR=National Estuarine Research Reserve
 NGS=National Geodetic Survey
 NMFS=National Marine Fisheries Service
 NMSP=National Marine Sanctuary Program
 NOS=National Ocean Service
 NWS=National Weather Service
 NWS CWSU=NWS Central Weather Service Units
 NWS WFO=NWS Weather Forecasting Office
 OAR=Office of Oceanic & Atmospheric Research
 OR&R=Office of Response & Restoration