U.S. Coast Guard Great Lakes Oil Spill Center of Expertise

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HISTORY

- **2016** – Congress required Coast Guard to prepare an oil spill response assessment in the Great Lakes

- **2018** – The report from the Coast Guard to Congress informed Section 807 of the Coast Guard Authorization Act of 2018, directing the establishment of the Great Lakes National Center of Expertise for Oil Spill Preparedness and Response (GLCOE)

- **2018** – Senator Peters secured $4.5M for the Great Lakes Center of Expertise initiative.

- **2020** – Homeland Security Operational Analysis Center made recommendations for short/long-term progress and logistics, including staffing positions, partnerships, and site locations.

- **Summer/Fall 2022** – Active Duty positions are staffed and Civilian positions have been posted.

SEC. 807. [14 U.S.C. 313 note] CENTER OF EXPERTISE FOR GREAT LAKES OIL SPILL SEARCH AND RESPONSE.

(a) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Commandant of the Coast Guard shall establish a Center of Expertise for Great Lakes Oil Spill Preparedness and Response (referred to in this section as the "Center of Expertise") in accordance with section 313 of title 14, United States Code, as amended by this Act.

(b) LOCATION.—The Center of Expertise shall be located in close proximity to—

(1) critical crude oil transportation infrastructure on and connecting the Great Lakes, such as submerged pipelines and high-traffic navigation locks; and

(2) an institution of higher education with adequate aquatic research laboratory facilities and capabilities and expertise in Great Lakes aquatic ecology, environmental chemistry, fish and wildlife, and water resources.

(c) FUNCTIONS.—The Center of Expertise shall—

(1) monitor and assess, on an ongoing basis, the current state of knowledge regarding freshwater oil spill response technologies and the behavior and effects of oil spills in the Great Lakes;

(2) identify any significant gaps in Great Lakes oil spill research, including an assessment of major scientific or technological deficiencies in responses to past spills in the Great Lakes and other freshwater bodies, and seek to fill those gaps;

(3) conduct research, development, testing, and evaluation for freshwater oil spill response equipment, technologies, and techniques to mitigate and respond to oil spills in the Great Lakes;

(4) educate and train Federal, State, and local first responders located in Coast Guard District 9 in—

(A) the incident command system structure;

(B) Great Lakes oil spill response techniques and strategies; and

(C) public affairs; and

(5) work with academic and private sector response training centers to develop and standardize maritime oil spill response training and techniques for use on the Great Lakes.

(d) DEFINITION.—In this section, the term "Great Lakes" means Lake Superior, Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario.

SITE LOCATIONS

Lake Superior State University (LSSU)

- Why LSSU?

  - Location: St Mary's River, Critical crude oil transportation infrastructure and connecting the Great Lakes

  - Aquatic research laboratory; expertise in Great Lakes aquatic ecology, environmental chemistry, fish/wildlife, and water resources

  - Open to the public

NOAA Great Lakes Environmental Research Laboratory (GLERL)

- Why GLERL?

  - Hosts key partners such as NOAA's National Ocean Service, Marine Sanctuary Program, National Marine Fisheries Service, Great Lakes Regional Collaboration Team, Great Lakes Sea Grant, and the International Association for Great Lakes Research.

  - CIGLR - Cooperative Institute for Great Lakes Research

    - 10 Universities, 2 NGOs, & 3 businesses
    - Lead Collaborator - University of Michigan

GLCOE Status Update & Collaboration

Status:
- Combination of active duty & civilian personnel at each location
- Hiring of GS positions ongoing
- Strategic project planning & integration for each location
- Focus to operationalize research

Collaborative Partnerships:
- NOAA OR&R
- NOAA GLERL & CIGLR
- ICCOPR
- NOAA Sea Grant Collaboration
- USCG Ninth District/local Sectors
- Canadian stakeholders

Highlighted Projects

Oil Spill Modeling

NOAA GLERL – Evaluate General NOAA Operational Modeling Environment (GNOME) for predicting trajectories in the Great Lakes and incorporate Great Lakes Coastal Forecasting Systems (GLCFS) surface currents forecast.

ROV/UAS Purchases

USCG – Initial purchase and field testing of UASs and ROVs in D9. Operationally used during commercial vessel groundings, vessel fires, sunken vessels, harbor spills, and hurricane response.

Great Lakes ESI Maps

NOAA OR&R – Updates for the Great Lakes Environmental Sensitivity Index maps.

Great Lakes Spill Response Capability and Gap Analysis

HSOAC – Identify partnerships, capabilities, capacity, and roles to develop oil spill scenarios and identify gaps. Improve response to potential oil spills in the Great Lakes to reduce health, environmental, and economic risks.
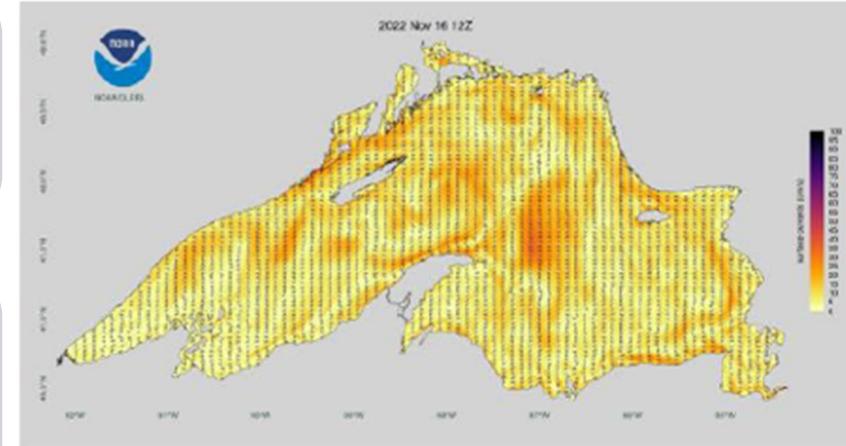
Highlighted Projects


Detection of Oil in Ice with Unmanned Systems

NOAA OR&R – Conduct field trials with UAS in an area with complicating elements of ice infested freshwater environment. Create protocols for flying and characterizing ice coverage in the field for application during actual oil spill incidents.

Spills of Opportunity

NOAA OR&R – Develop framework for soliciting, selecting, and updating an annual list of potential Spills of Opportunity projects; allow for rapid deployment during an incident to enhance our overall ability to support cleanup, assessments, and minimize ecological harm.

Proof of Concept – Polaris Oil Spill Detection Systems (PODS)

NOAA GLERL – Conduct a literature and market research of similar technologies to provide a comprehensive report on results and outcomes of best effective technologies for detecting and monitoring oil spills; evaluate the system's ability to, in real-time autonomous operation to monitor.
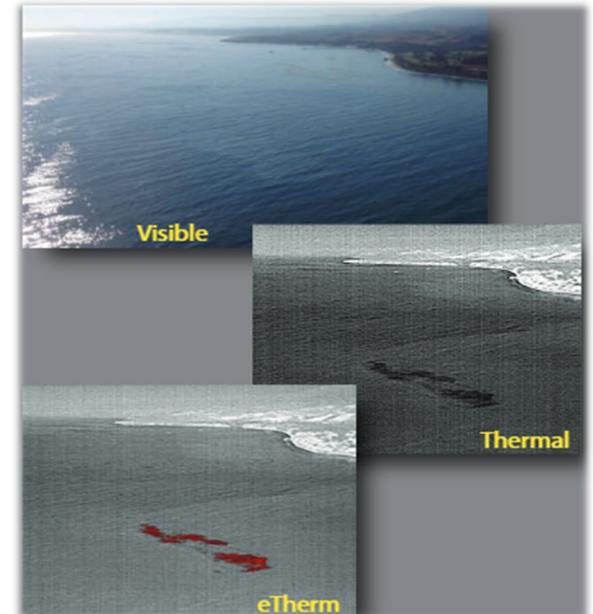
Thank you! Questions?

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