

## Help Us Solve a 55-year-old Mystery in Lake Superior by Using Autonomous Technology ~Smart Ships Coalition Launching a New Era of Exploration~

### The Disappearing Plane Over the “Great Lakes Triangle”



*Missing Beechcraft 65-80 Queen Air used by NCAR for research flights in late 1960's.*

In late October of 1968, a National Center for Atmospheric Research (NCAR) plane carrying two pilots and a University of Wisconsin graduate student disappeared over Lake Superior, sparking a **decades long unsolved mystery**. The plane, on a routine mission to collect water radiation and temperature data, vanished without a trace after its last contact with the Houghton County Memorial Airport in Michigan.

Despite extensive search efforts, only a few pieces of debris have washed ashore between 1969 and 2014, baffling investigators. The plane vanished in the “Great Lakes Triangle,” a region known for mysterious disappearances of planes and ships. The NCAR case still remains open today.

***We aim to launch a new, modern search mission. Using an 8-meter state-of-the-art autonomous surface vessel (ASV), outfitted with a Norbit ultra-high-resolution 3D bathymetric sonar system, we will map and explore Lake Superior and attempt to crack this case.***

#### What is “Mission Find NCAR”?

The mission will deploy the ASV in Western Lake Superior, adjacent to the Keweenaw Peninsula, to conduct **large-scale mapping and archaeological exploration** of the lakebed to demonstrate the capabilities of autonomous technology and search for the wreckage.



*8m Armada 8 ASV docked at Great Lakes Research Center in 2024*

In addition to testing and demonstrating, we will also be able to **analyze bathymetric data** images in real time to see what is on the floor of the lake.

Given the expected public interest in this search effort and the ASV technology, **we will live-stream the search of Lake Superior**, so the public can follow along as we try to locate the missing NCAR aircraft.

#### Why ASV?

**Greater coverage.** Lake Superior has 2,726 miles of shoreline, a surface area of 31,700 square miles, and the average depth is nearly 500 feet with the deepest point being 1,333 feet – too deep for divers. Using ASV will cover a greater area in the same amount of time than previous conventional searches. It will collect high-quality survey data with overlapping coverage from throughout the search area.

**Advanced data.** Most existing maps lack detailed bathymetry, to see the lakebed floor. Only 15% of the Great Lakes’ lakebed has been mapped at high-density. This advanced data allows for the visualization of objects as small as cables and boulders to larger targets such as pipelines and shipwrecks, enhancing our understanding, management, and preservation of the lakes' underwater landscape.

**More affordable.** These types of searches are nearly impossible for conventional vessels given the cost, weather factors, low-density data maps, the size of Lake Superior, etc.

### Why is this Significant?

ASV brings us closer to solving the NCAR mystery and possibly many others. With its enhanced coverage that is more affordable, requires less manpower, and can do more in less time, ASV could become a **game changer** for search and rescue operations, dredging, lake exploration, and more.

Modern, high-density mapping is crucial for creating detailed maps. These maps are essential for effective lake management, research, innovation, and a growing blue economy in the Great Lakes region.

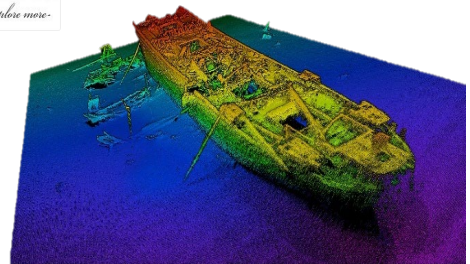
### What if You Can't Find the NCAR Plane?

We hope to find it using this technology. If we don't, **countless other unsolved mysteries** lie beneath the depths of Lake Superior, so we feel confident we will find something. Other aircraft, several shipwrecks, shipwreck debris fields, relics, intentionally discarded materials, flotsam and jetsam, Native watercraft, lost aids to navigation, and other isolated artifacts are all in Lake Superior.

### What is the Goal of this Project?

This project is the first in a **series of planned tests** showcasing the diverse applications for autonomous technology in the Great Lakes. Beyond solving specific challenges and enhancing existing techniques, these tests will contribute to the development of the next generation of maritime professionals. They also solidify the Great Lakes St. Lawrence region's status as a hub for freshwater marine autonomy research and development.

**NORBIT**  
*-explore more-*



*Example of a shipwreck scanned using Norbit Winghead multibeam echosounder technology.*

By demonstrating the benefits of autonomy in large-scale lakebed surveying, we aim to foster broad stakeholder support for future missions and ignite an interest in high-tech exploration and preservation of the Great Lakes.

### Who is Organizing this?

**The Great Lakes Smart Ships Coalition** unites more than 60 universities, state and federal agencies, private and non-profit companies, and international organizations that share a common interest in the advancement and application of autonomous technologies operated in marine environments. Michigan Technological University, the Conference of Great Lakes St. Lawrence Governors and Premiers, and the Michigan Office of the Great Lakes are the Coalition's founding members.

**The autonomous surface vessel (ASV)** is operated by [Ocean Infinity](#) and currently housed at the Great Lakes Research Center of Michigan Technological University (GLRC) through an industry-university partnership aimed at advancing research, science, and education in the Great Lakes region. We'll work closely with Great Lakes maritime archaeologists as we seek to unearth historical and cultural artifacts. Aligned with the objectives of [Lakebed 2030](#), we will share our data with the public, allowing uses beyond mapping and archaeology.

Kongsberg will be contributing an additional multibeam sonar system to be installed on GLRC's research vessel, which will allow for its crew to simultaneously operate the ASV and its sonar system as well as collect multibeam data along adjacent survey lines. An ASV operating alongside a crewed survey vessel is commonly referred to as a "force multiplier," effectively doubling our potential search area and survey of Lake Superior's lakebed.



Partners for this project include:



#### Sponsorship Opportunities:

**Platinum \$25,000:** Participation on the project planning team; speaking opportunity at the launch event; logo recognition on all materials; 4 tickets to the welcome reception and dinner; professional photo with the vessel and project team.

**Gold \$10,000:** Speaking opportunity at the launch event; logo recognition on all materials; 2 tickets to the welcome reception; professional photo with the vessel and project team.

**Silver \$5,000:** Logo recognition on all materials; 2 tickets to the welcome reception.

#### To become a sponsor or for more information, contact:

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All donations are payable to the Council of Great Lakes Governors, Inc., a U.S. 501(c)(3) not-for-profit corporation.