

GEBCO-NF Team's Concept for the Shell Ocean Discovery XPRIZE



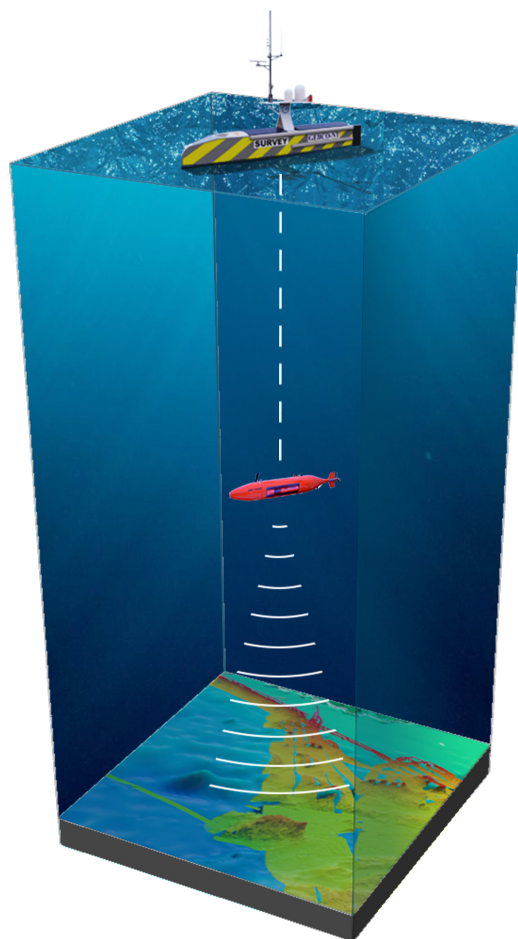
<http://gebco-nf.com/>

leading companies to collect higher resolution bathymetric data through autonomous means.

Our strategic approach is to augment the hardware, integration and software needs of the Team by developing strong partnerships with technology and service providers, and naval architects.

The GEBCO-NF Team is led by alumni of the Nippon Foundation / GEBCO Ocean Bathymetry Training Program at the University of New Hampshire and is distinguished by its diversity. We have a global distribution representing academic institutions, industry and national hydrographic offices. Our backgrounds range from ocean mapping, hydrography, geology, engineering, software development, physics and offshore project management. The Team is being advised by selected GEBCO and industry experts.

The **GEBCO-NF Team** is developing solutions to allow the world's oceans to be affordably mapped and monitored as our Shell Ocean Discovery XPRIZE submission. The Team will leverage state-of-the-art surveying technology with new innovations in offshore logistics backed by industry



The GEBCO-Nippon Foundation Team Approach



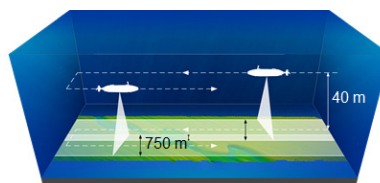
The SEA-KIT Unmanned Surface Vessel is being designed to exceed competition goals, not only for sustainable bathymetric surveying operations, but as a multipurpose AUV launch and recovery system with long-range transocean capabilities.

This innovative technology will autonomously manage AUV deployment, retrieval and re-charging. The remote desktop links and onboard software will allow onboard data processing and transfer.



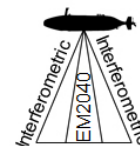
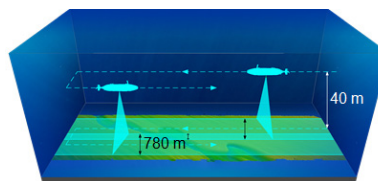
The Kongsberg HUGIN mounted with proprietary interferometric and SAS sonars will be used to collect bathymetric data.

Sonar Options



HiSAS 1032

Seabed Coverage=96 km²/16 hr

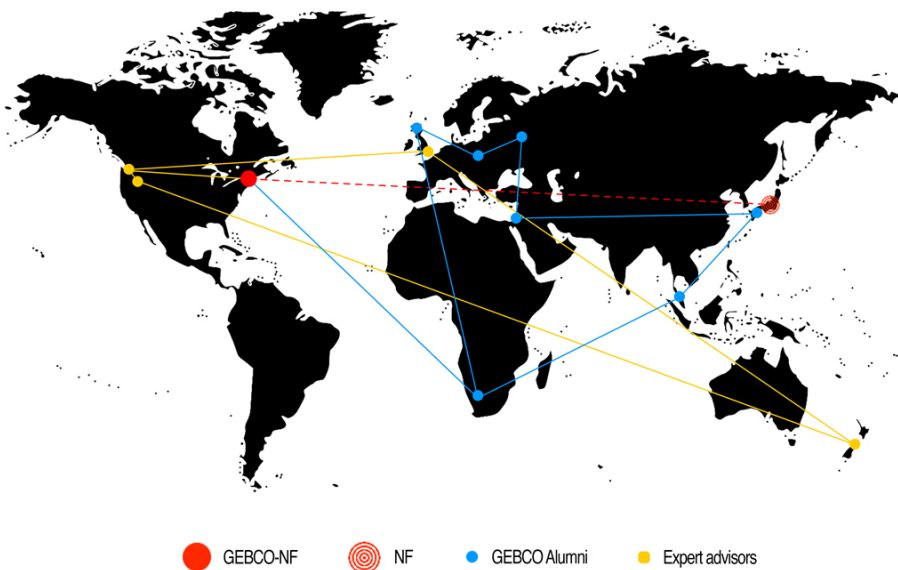


Interferometric Side Scan

Seabed Coverage=108 km²/16 hr

The challenge to map the oceans is the last frontier for discovery on our planet

General Bathymetric Chart of the Oceans (GEBCO) aims to provide the most authoritative publicly-available bathymetry of the world's oceans. It operates under the joint auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO where GEBCO is the only project with an international mandate to map the global ocean floor.



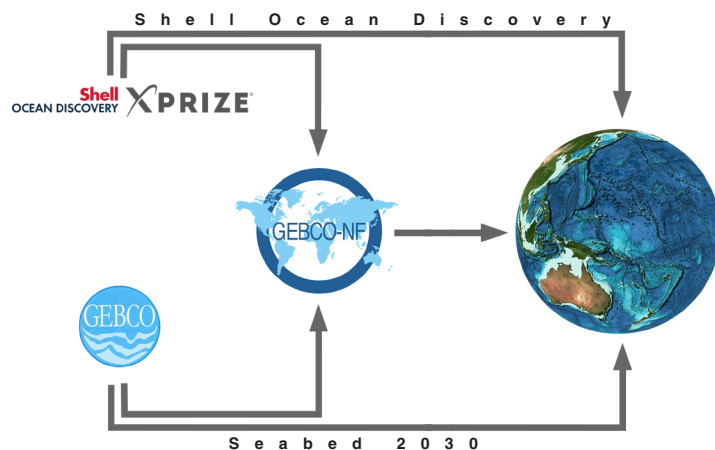
- The Nippon Foundation of Japan has provided funding to train a new generation of scientists and hydrographers in ocean mapping.
- The year-long postgraduate course has been held at the Center for Coastal and Ocean Mapping/Joint Hydrographic Center at the University of New Hampshire since 2004.
- Since inception of the Training Program 72 Alumni from 35 countries have graduated.

The GEBCO-NF alumni team will utilize their skill-set to address key issues related to ocean mapping by bringing together the leading high-technology and operator industry partners to work on pioneering approaches to map the ocean. The GEBCO-NF Team has an agreement in place with Kongsberg who "will collaborate and work with the Team and companies or institutes identified by the Team to provide a solution for the Shell Ocean Discovery XPRIZE."

Our solution aims to provide an innovative surface vessel that will be a support vehicle that is AUV charge-capable, acts as a data repeater station and USBL source and will facilitate autonomous and remote operations in the marine environment.

Autonomous solutions for mapping and monitoring marine environments are at the forefront of technology development. The SEA-KIT is a promising design for launch and recovery, positioning, and communication with AUVs.

Applications for the long-range unmanned surveys concept include habitat and marine environment mapping and monitoring, pipeline and cable monitoring and surveying, shipwreck discovery and imaging, object identification, weather/sea data collection, and restricted area surveys.



The GEBCO-NF Team is looking for sponsorship for the duration of the Shell Ocean Discovery XPRIZE competition over the next two years to ensure the Team's and XPRIZE's goals to understand and then to explore and discover the oceans are met. The development and building of the surface vessel, upgrades for the AUV, testing of the newly integrated system and all other operational expenditures will require US\$ 3.2 million.