Nippon Foundation-GEBCO Seabed 2030 Project - aiming to map the global ocean floor by 2030

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Despite many of years of effort, less than 20 per cent of the global seafloor has been mapped using modern echo-sounding techniques. The percentage depends on the target mapping resolution. This greatly diminishes our ability to explore and understand critical ocean and seafloor processes.

To help address these issues, the General Bathymetric Chart of the Oceans (GEBCO) and the Nippon Foundation of Japan have collaborated to create the **Nippon Foundation-GEBCO Seabed 2030 Project**, an international effort with the aim to bring together all available bathymetry data to produce the definitive map of the world ocean floor by 2030 and make it available to all.

The project was launched at the United Nations (UN) Ocean Conference in June 2017 and is aligned with the UN's Sustainable Development Goal #14 to conserve and sustainably use the oceans, seas and marine resources.

To achieve its goal, the Seabed 2030 Project will work and collaborate with international organizations, mapping initiatives, the scientific community and maritime industries to bring together existing data and help to prioritize new survey operations through highlighting gaps in existing data coverage.

Seabed 2030 Structure

The project sits within the existing International Hydrographic Organization (IHO)-Intergovernmental Oceanographic Commission (IOC) of UNESCO GEBCO framework and greatly benefits from the input and work of GEBCO's committees and working groups.

Seabed 2030 has four Regional Centers. Each Center has a dedicated team of experts who are responsible for championing mapping activities; assembling and compiling bathymetric information and collaborating with existing mapping initiatives within their region. A Global Center is responsible for assembling and delivering centralized GEBCO products. The work is led by a Project Director.

The Regional and Global Centers will not act as a permanent archive or distributor of the data they are assembling, i.e. they will not be duplicating the responsibilities of existing international and national data centres or regional data compilation efforts but will work with these organisations to contribute and access data.

Seabed 2030 will maintain a strong working relationship with the IHO Data Center for Digital Bathymetry, hosted by the US National Centers for Environmental Information, USA, which is the

recognized IHO repository for all deep ocean bathymetric data (deeper than 100m) and recommend it as a data archive to potential data contributors.

Seabed 2030 Centers :

- Southern Ocean - hosted at the Alfred Wegener Institute (AWI), Germany
- South and West Pacific Ocean - hosted at the National Institute of Water and Atmospheric Research (NIWA), New Zealand
- Atlantic and Indian Ocean - hosted at the Lamont-Doherty Earth Observatory (LDEO), Columbia University, USA,
- Arctic and North Pacific Ocean - hosted at Stockholm University (SU), Sweden and the Center for Coastal and Ocean Mapping (CCOM) at the University of New Hampshire (UNH), USA
- Global Data Center - hosted at the British Oceanographic Data Centre (BODC), NOC, UK

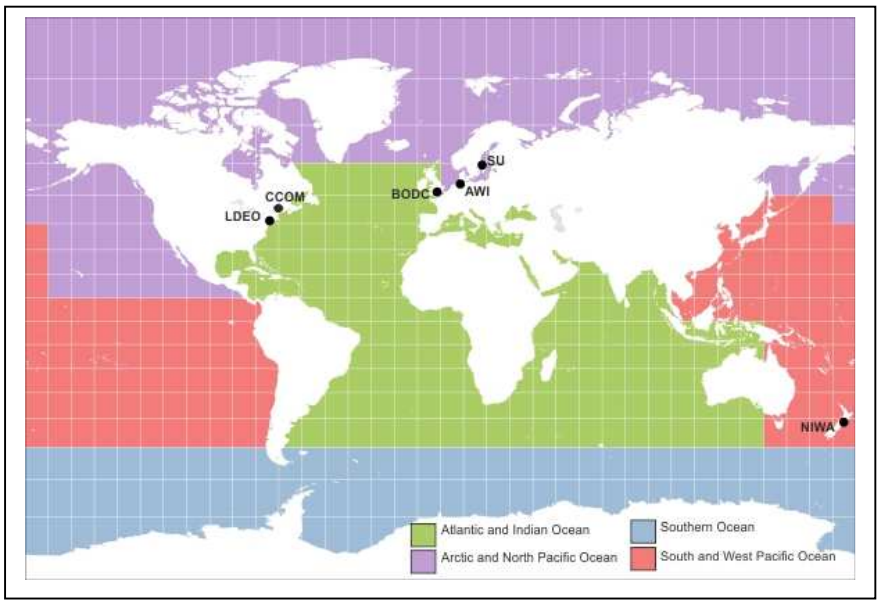

Figure 1: Location of the Seabed 2030 Regional and Global Data Centers

As well as assembling and processing existing bathymetric data sets, the Regional Centers will also work to identify gaps in our current data coverage and look at new data collection opportunities.

At what resolution will Seabed 2030 map the ocean floor ?

Seabed 2030 will map the ocean floor at the best possible resolution within practical limits. However, gathering bathymetric data gets more difficult as the ocean gets deeper. Taking this into account, Seabed 2030 we will establish a depth-variable resolution goal and consider the seafloor “mapped” if at least one sounding falls in a grid cell of the size described in Table 1.

Depth Range	Grid-Cell Size	% of World Ocean
0–1500 m	100 × 100 m	13.7
1500–3000 m	200 × 200 m	11
3000–5750 m	400 × 400 m	72.6
5750–11,000 m	800 × 800 m	2.7

Table 1. Feasible resolution based on state-of-the-art 2° × 2° deep-water multibeam installed on surface vessel, calculated at 60° from nadir.