

GEBCO Nippon Foundation Seabed 2030 Application for Year 1

Executive Summary

In the opening address of the Forum for Future Ocean Floor Mapping in Monaco in June 2016, Mr. Sasakawa, Chairman of The Nippon Foundation, set forth the initiative to partner with GEBCO to cooperatively work towards mapping 100% of the topography of the World Ocean by 2030. This initiative led to the formulation of **Seabed 2030**, a global project within the IHO-IOC GEBCO framework with the focused goal of producing the definitive, **high resolution bathymetric map of the entire World Ocean**. This ambitious initiative is driven by the strong motivation to empower the world to make policy decisions, use the ocean sustainably and undertake scientific research based on detailed bathymetric information of the Earth's seabed.

The Seabed 2030 project builds on more than 100 years of GEBCO's history and established regional connections to all corners of the World Ocean and benefits from the human network of mapping capacity built over 13 years through The Nippon Foundation – GEBCO training project. Through Seabed 2030, GEBCO will be recognized as the authoritative international initiative for mapping the World Ocean, from the coasts to the deepest trenches. The project will champion, develop and nurture the technical and human capacity to complete this task by 2030.

Seabed 2030 will establish a network of 4 regional centers. Each center will be the focus for gathering and assembling all available bathymetric data from the region and producing a regional map. A global center will merge the regional maps, producing the centralized GEBCO products. Complementing the regional centers, the Seabed 2030 Project Team will engage extensively with international marine, industry and intergovernmental organizations involved in ocean mapping and crowd sourcing initiatives to coordinate a global approach. Having the definitive view of the state of seabed mapping, Seabed 2030 will identify gaps in data coverage, prioritize and champion future survey operations to map the gaps. It will also stimulate the development of new technology. The extensive GEBCO community will provide the expertise to realize this ambitious but urgently needed initiative.

The Nippon Foundation support for Seabed 2030 over 10 years is currently planned to be \$18,531,019 (US). **This application is for Year One of the project.** Year One will comprise a) an establishment phase setting up the project team, governance structures and the regional and global centers; and b) the first six months of the project operations in which the centers will start operating. A capacity review will also be completed and a technology working group established.

The funds requested for Year One of Seabed 2030 are \$1,030,500 (US)

Overall Structure of Seabed 2030

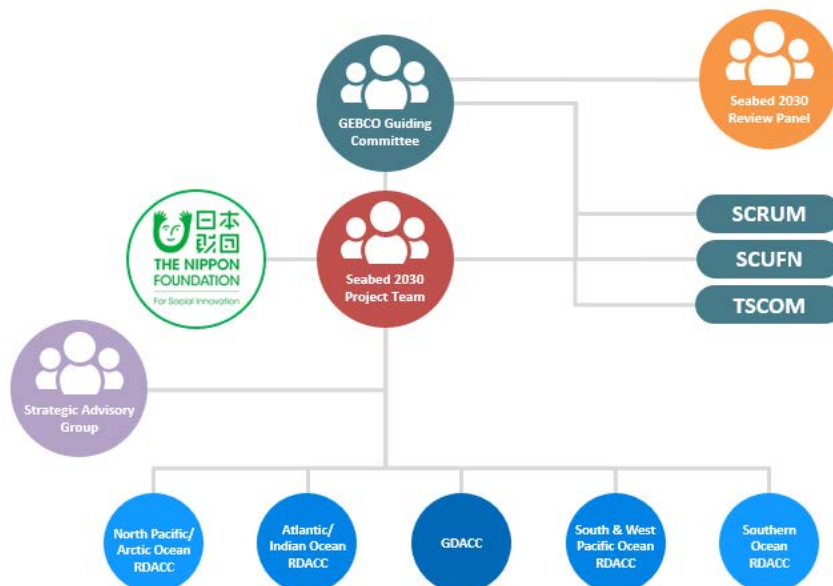


Figure 1. Seabed 2030 Project Structure

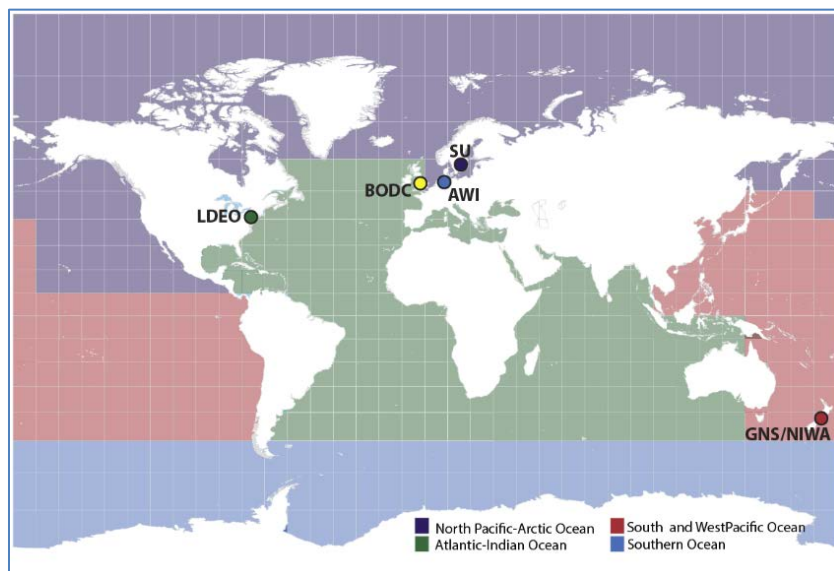


Figure 2: Global (GDACC) and Regional (RDACC) centres to be established during Phase 1. **BODC**= British Oceanographic Data Centre, National Oceanography Centre, UK; **AWI**= Alfred Wegener Institute, Germany; **GNS/NIWA**= National Institute of Water and Atmospheric Research, Wellington, NZ; **LDEO**= Lamont Doherty Earth Observatory, Columbia University, USA; **SU**= Stockholm University, Sweden. The colour of the dots for the RDACCs corresponds to their ocean area of responsibility.

Seabed 2030 Project Plan: Year One

Phase		Duration	US Dollars
Phase 1	Establishment phase	Months 1- 6	70,000
Phase 2	Operational phase : Year One	Months 7 - 12	960,500
	TOTAL	12 months	1,030,500

Phase 1 – Establishment Phase

Funds required: \$70,000

Duration – 6 months

Goals:

1. **Create Establishment Team** of Martin Jakobsson, Graham Allen, Robin Falconer, Marzia Rovere, Lisa Taylor, Larry Mayer, David Millar, Paul Holthus

- Created as soon as funding confirmed
- Meets primarily online
- Coordinates all Establishment Phase activities
- Disbanded at end of Establishment Phase

2. **Recruit Director**

- Recruitment Panel will be a sub-group of Establishment team + Nippon Foundation representation.
- Director in post by end of Establishment Phase
- Recruit support staff and agree host location for Director.

3. **Establish the Regional Data Assembly and Coordination Centers (RDACC)**

- Put all agreements and contracts in place
- Centers recruit all staff
- All RDACCs established by end of Establishment Phase

4. **Establish the Global Data Assembly and Coordination Center (GDACC)**

- Put all agreements and contracts in place
- Centre recruits all staff
- GDACC established by end of Establishment Phase

5. **Commence capacity development review**

- Convene working group to complete capacity development review
- Working group will be subgroup of establishment team plus co-opted experts.
- Review will be complete by the end of Year 1

6. **Establish Seabed 2030 Review Panel**



- Review panel in place by end of Year 1 to review progress of Year 1

7. Initiate outreach to ocean mapping community

- Before Director in place, Establishment Team to communicate with mapping community
- Secure public endorsement from key scientific and mapping organizations.

Phase 2 – Operational Phase --- first six months

Funds required: \$960,500

Duration – 6 months

Note: Phase 2 is 3 ½ years in duration. This application covers only the first 6 months of Phase 2.

Centre locations and staff numbers

Center	Host	Lead	Staff numbers	
North Pacific/Arctic Ocean RDACC	SU - Stockholm University, Sweden	Prof Martin Jakobsson		
			Mapping Lead	1
			Mapping Technician	1
			Total	2
Atlantic-Indian Ocean RDACC	LDEO - Lamont Doherty Earth Observatory, Columbia University, USA	Prof Suzane Carbotte		
			Mapping Lead	1
			Mapping Technician	1
			Total	2
South & West Pacific Ocean RDACC	GNS/NIWA - National Institute of Water and Atmospheric Research, Wellington, NZ	Dr Geoffroy Lamarche		
			Mapping Lead	1
			Mapping Technician	1
			Total	2
Southern Ocean RDACC	AWI - Alfred Wegener Institut, Germany	Dr Boris Dorschel		
			Mapping Lead	1
			Mapping Technician	1
			Total	2
Global Center GDACC	BODC - British Oceanographic Data Centre, National Oceanography Centre, UK	Pauline Weatherall		
			Centre Lead	1
			IT developer	1
			Digital Atlas manager	1
			Total	3
Project Team	Dependent on recruitment of Project Director			
			Director	1
			Admin support	1
			Total	2

Note: Leads from each Center are also part of the Project Team.

Goals:

RDACCs

1. Sourcing regional data

- Build working relationships with all potential contributor organizations in the region.
- Start gathering bathymetric data from industry, governments, academia and additional data sources
- Start crowd sourcing to source data from fishing, merchant and recreational vessels.
- By end of Year 1, all regional Editorial Boards set up.
- Confirm % of ocean mapped in region

2. First Seabed 2030 high-resolution map for the region with all available, existing bathymetric data

- Initiate compilation of each regional map

3. Technical meeting

- RDACC staff to attend first technical meeting

GDACC

1. Establish data standards for regional map integration

- Hold first technical meeting of Seabed 2030 by end of Year 1
- Publish data standards for data integration by end of Year 1

2. Prepare for production of the first updated world ocean map, Seabed Version 1. (It will be produced at the end of 2018 which is in Year Two of the project).

- Design website and user interfaces.
- Begin development of data assembly tools

Project Team

1. Complete the Capacity Development Review

- Review completed and submitted to the Seabed 2030 Project Team by end of Year 1.

2. Establish the Strategic Advisory Group

- Strategic Advisory Group in place by end of Year 1
- First meeting completed by end of Year 1.

3. Establish a technology innovation working group spanning industry, government and academia

- Complete first meeting of working group by end of Year 1
- Strategy for future work completed by end of Year 1



Progress towards a complete world ocean map

- Our current estimate is 15% of world ocean is mapped
- In the first 6 months of the project, we will analyze data and confirm the actual extent of current mapping coverage.
- In Year 1, we anticipate a small increase in data coverage.
- At the end of Year 1, % complete = 17%