The Nippon Foundation – GEBCO

SEABED 2030

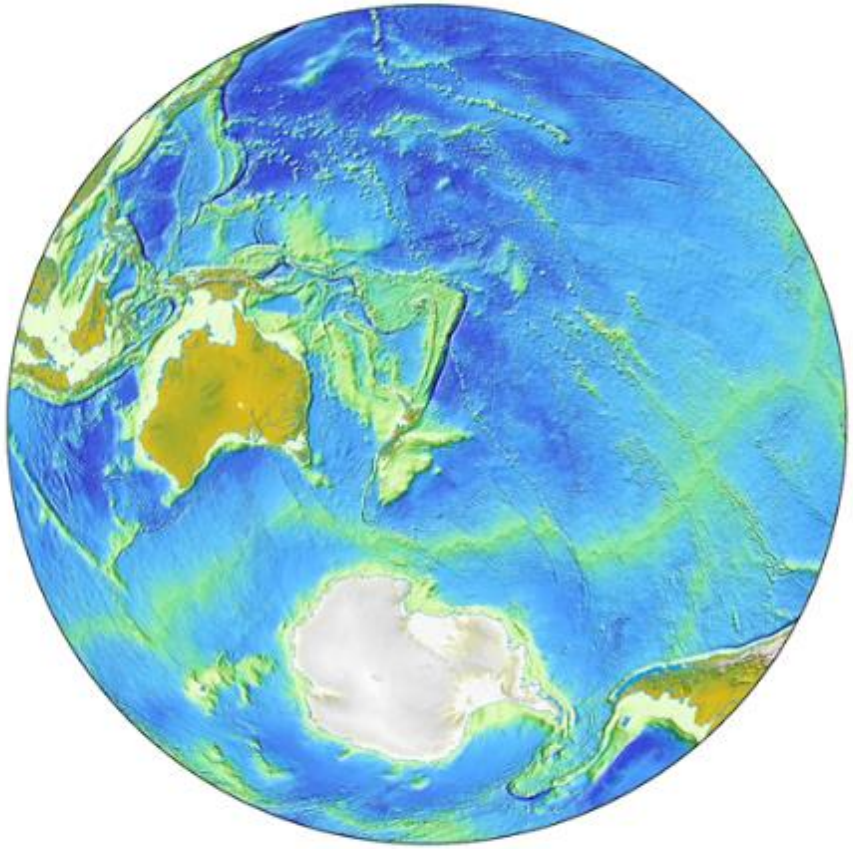
100% of the Ocean Floor Mapped by 2030

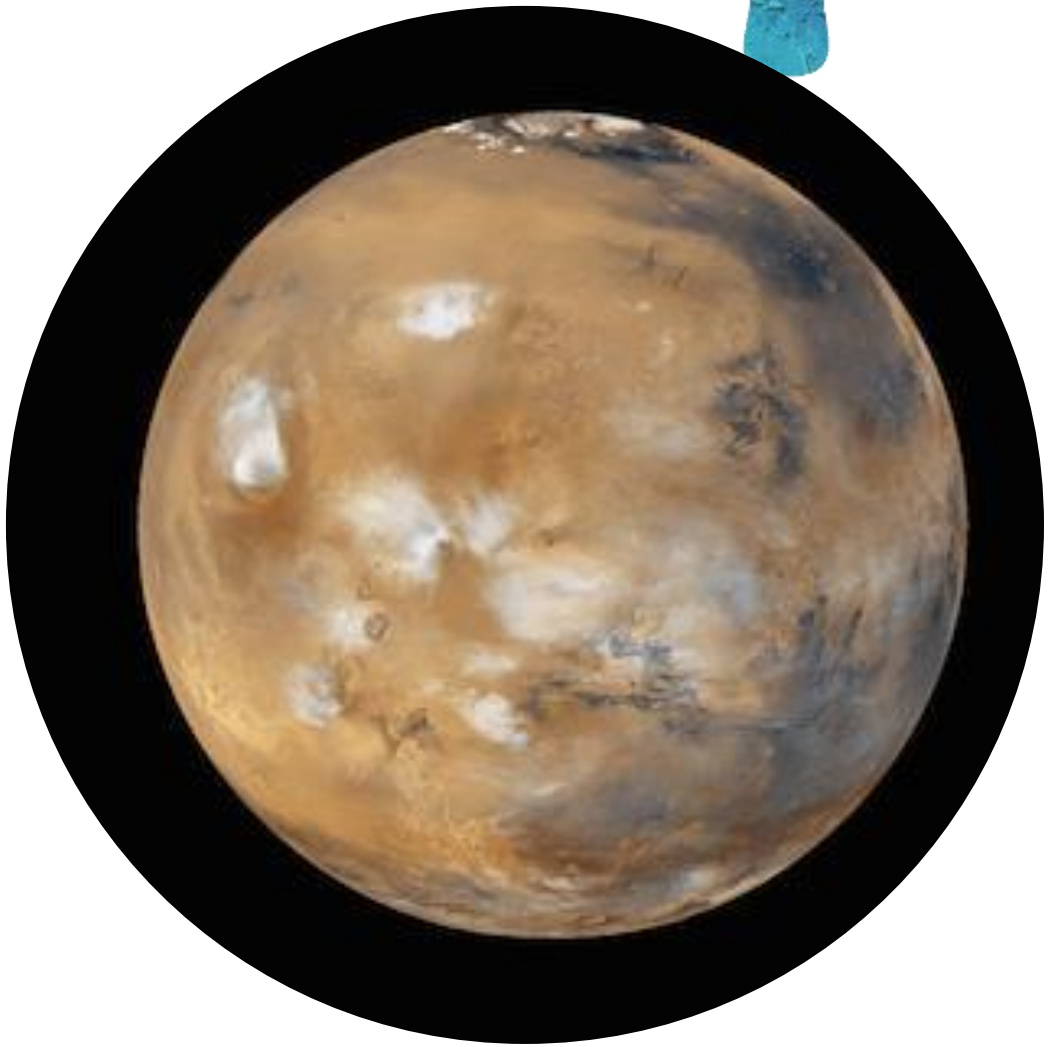
THE NIPPON FOUNDATION

General Bathymetric Chart of the Oceans

GEBCO

United Nations Educational, Scientific and Cultural Organization





Seabed 2030 Mission

100% of the Ocean Floor Mapped by 2030

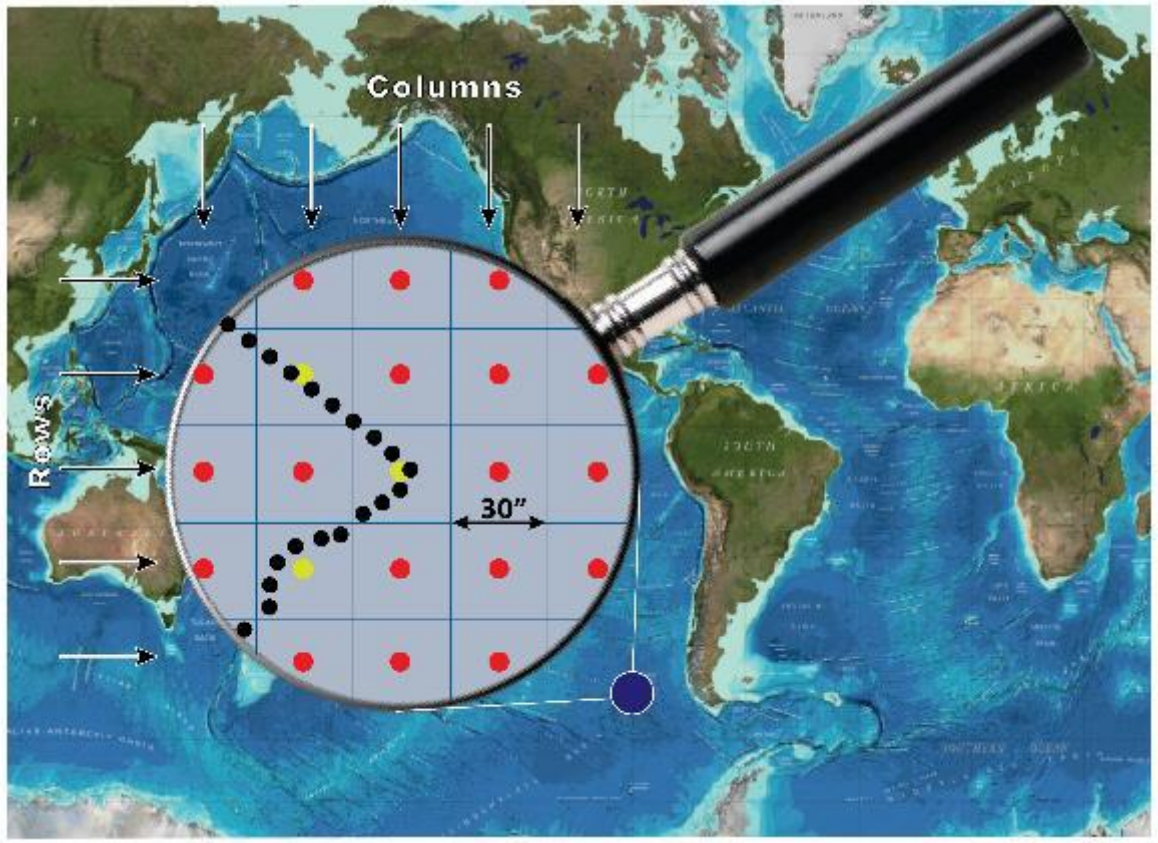
To empower the world to make *policy decisions*, *use the ocean sustainably* and *undertake scientific research* based on detailed bathymetric information of the Earth's seabed

Supports United Nations Sustainable Development Goal 14:
to conserve and sustainably use the world's oceans, seas and marine resources

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

SUSTAINABLE DEVELOPMENT GOALS

What does “100% mapped” mean?



- Real depth measurements
- Interpolated depth values
- Depth values derived from statistics of real depth values.

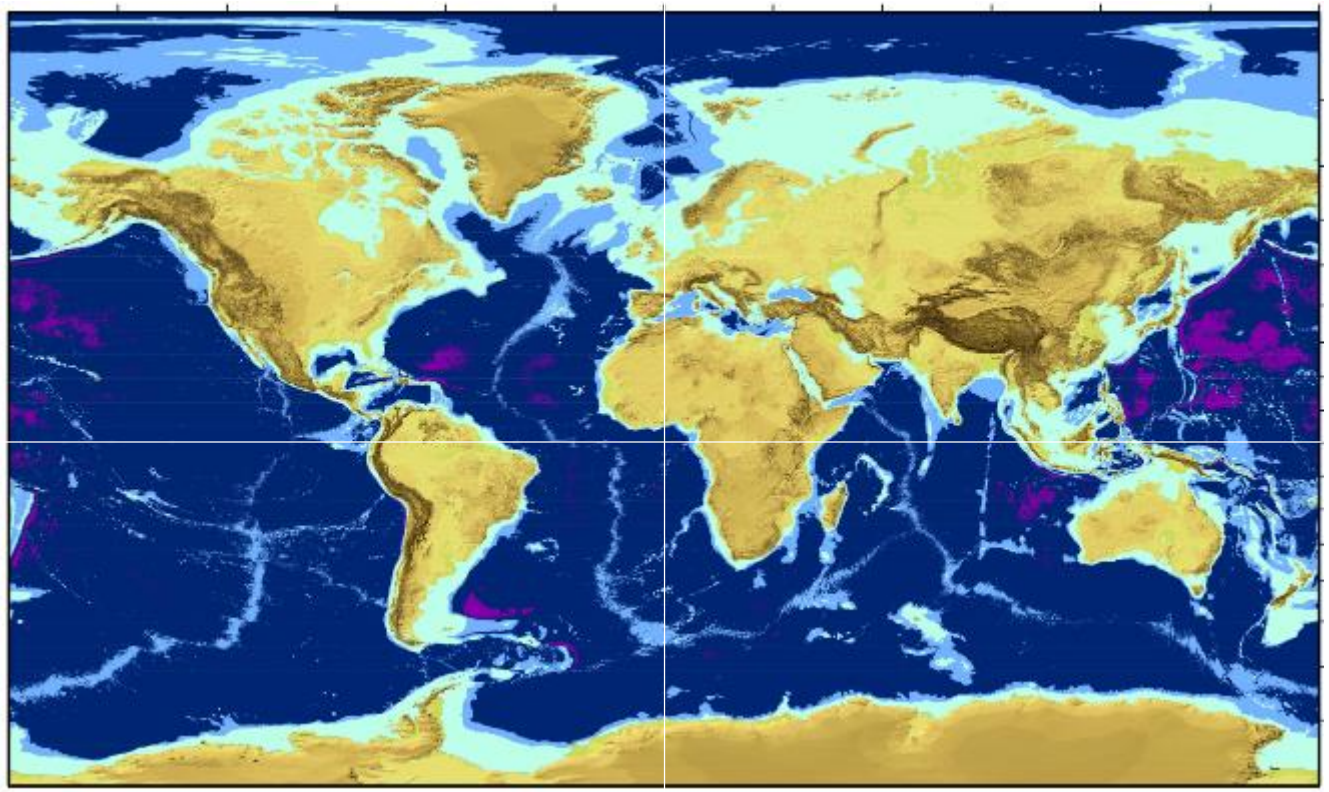
The GEBCO global terrain model grid

- ship-track soundings + interpolation guided by satellite-derived gravity data
- Includes regional grids which may be based on different interpolation models

18% of 30” cells have depth measurements

6% of 15” cells have depth measurements

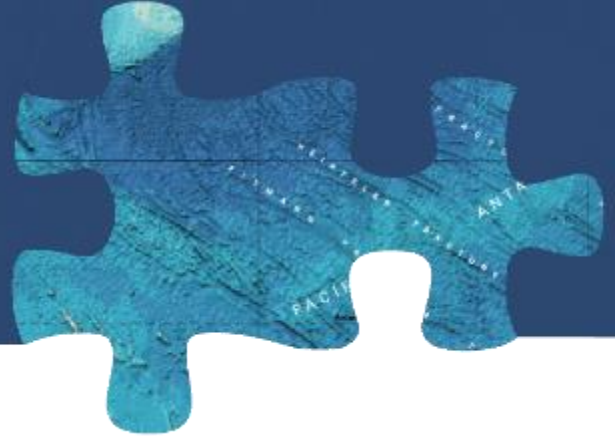
Target Grid Variable Resolution



Target GEBCO Grid
Depth-dependent Variable Resolution

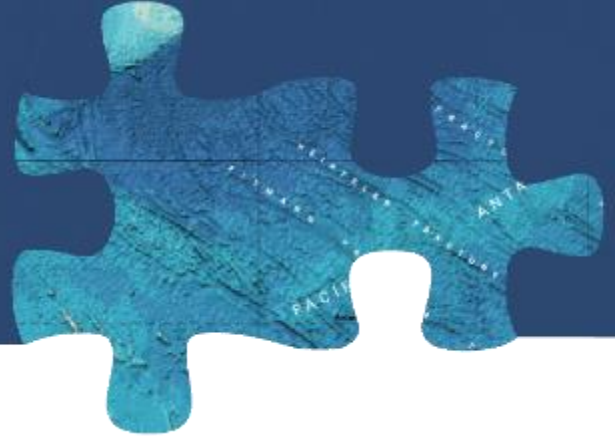
Depth Range	Resolution	% of ocean
0–1500 m	100 × 100 m	13.7
1500–3000 m	200 × 200 m	11
3000–5750 m	400 × 400 m	72.6
5750–11,000 m	800 × 800 m	2.7

Four Pillars of Seabed 2030



- Data Assembly and Coordination
  - Integrate and process existing data & identify data gaps to inform future mapping missions
  - Promote data sharing by encouraging contribution of data to the IHO DCDB
  - Create new data products – distribute through GEBCO
- Global Community Engagement
  - Identify & engage stakeholders through community events, traditional & digital media
- Consolidate Technical and Human Capacity
  - Explore and leverage new technology
  - Engage GEBCO Nippon Foundation Training Project Alumni
- Cross-cutting area of Corporate Governance
  - Strong stakeholder communication
  - Legal and accounting standards

Working plan



WP 1: Gathering, synthesizing, publishing bathymetric data

Merging all available data into the high resolution ocean map

WP 2: Development of standards, data assembly and delivery tools

Developing the tools and systems to facilitate building and using the map.

WP 3: Technology innovation

Identifying and encouraging technical innovation in bathymetric mapping

WP 4: Networking: map the gaps

Future mapping expeditions to increase the coverage

WP 5: Management

Managing the project

Seabed 2030 Culture

- Co-operation and Community Building
  - 3,000 individuals, 40 organizations, 50 countries and growing
- Coordination
  - Initial Seabed 2030 focus on > 200 meters water depth
  - Hydrographic Offices critical < 200 meters water depth
- Crowdsourcing
  - Fishing boats, cargo, passenger and cruise ships, private yachts…
- Credit and Attribution
  - Recognize data contributions, in-kind services, promotion, capacity building…

https://seabed2030.gebco.net

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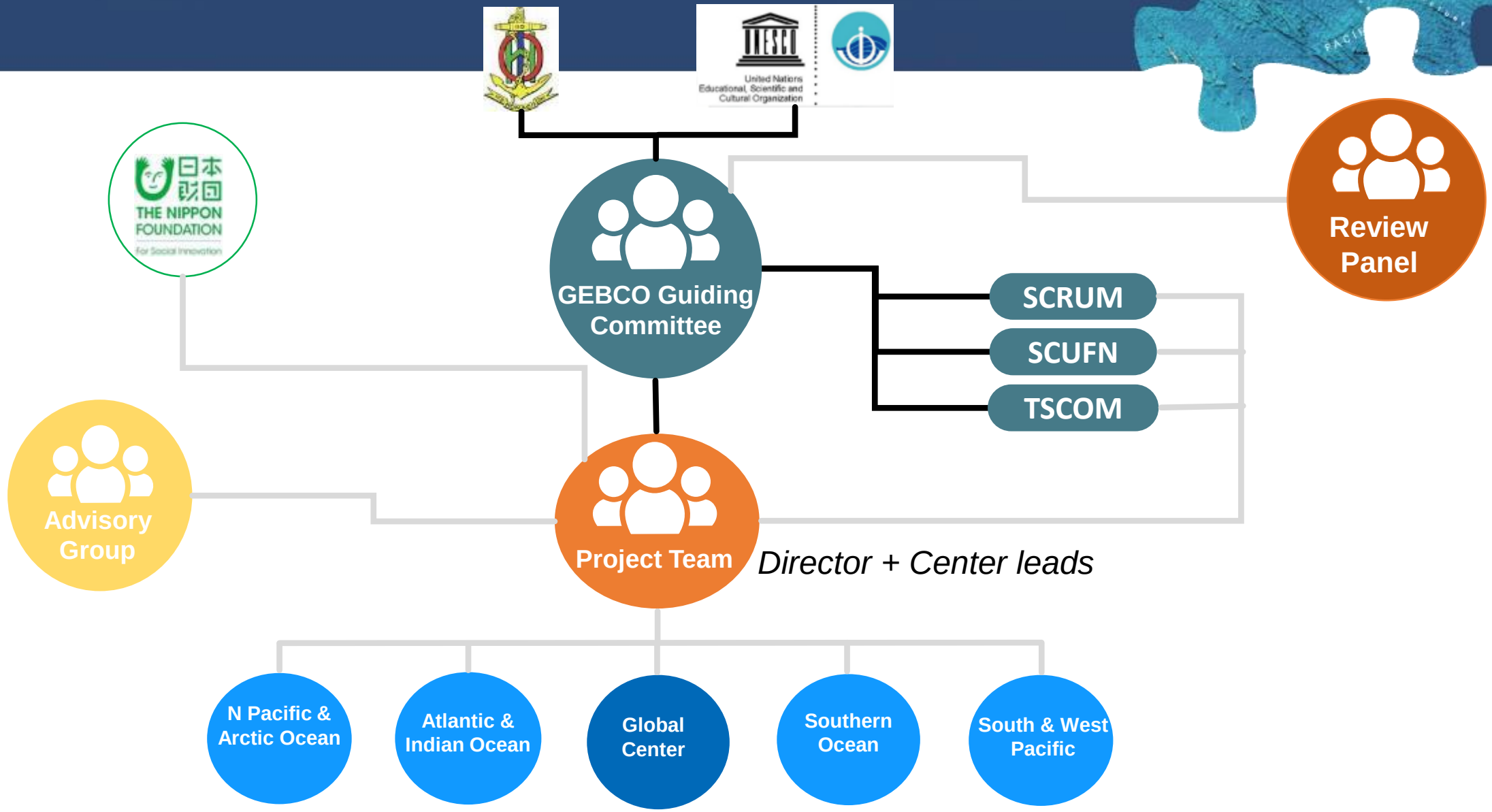
Seabed 2030 Governance & Operations



Seabed 2030 Governance & Operations
Leader Team

Operational since1st February 2018

From left to right:

- Graham Allen (Establishment Team)
- Vicki Ferrini (Regional Centre Lead)
- Larry Mayer (Regional Center co-Lead)
- Helen Snaith (Global Center Lead)
- Boris Dorschel (Regional Center Lead)
- Pauline Weatherall (Digital Atlas Manager)
- Martin Jakobsson (Regional Center co-Lead)
- Geoffroy Lamarche (Regional Center Lead)
- Patrick Orr (Comms)
- Henry Gilliver (Comms)

Seabed 2030 Governance & Operations

Strategic Advisroy Group

Advisory Group

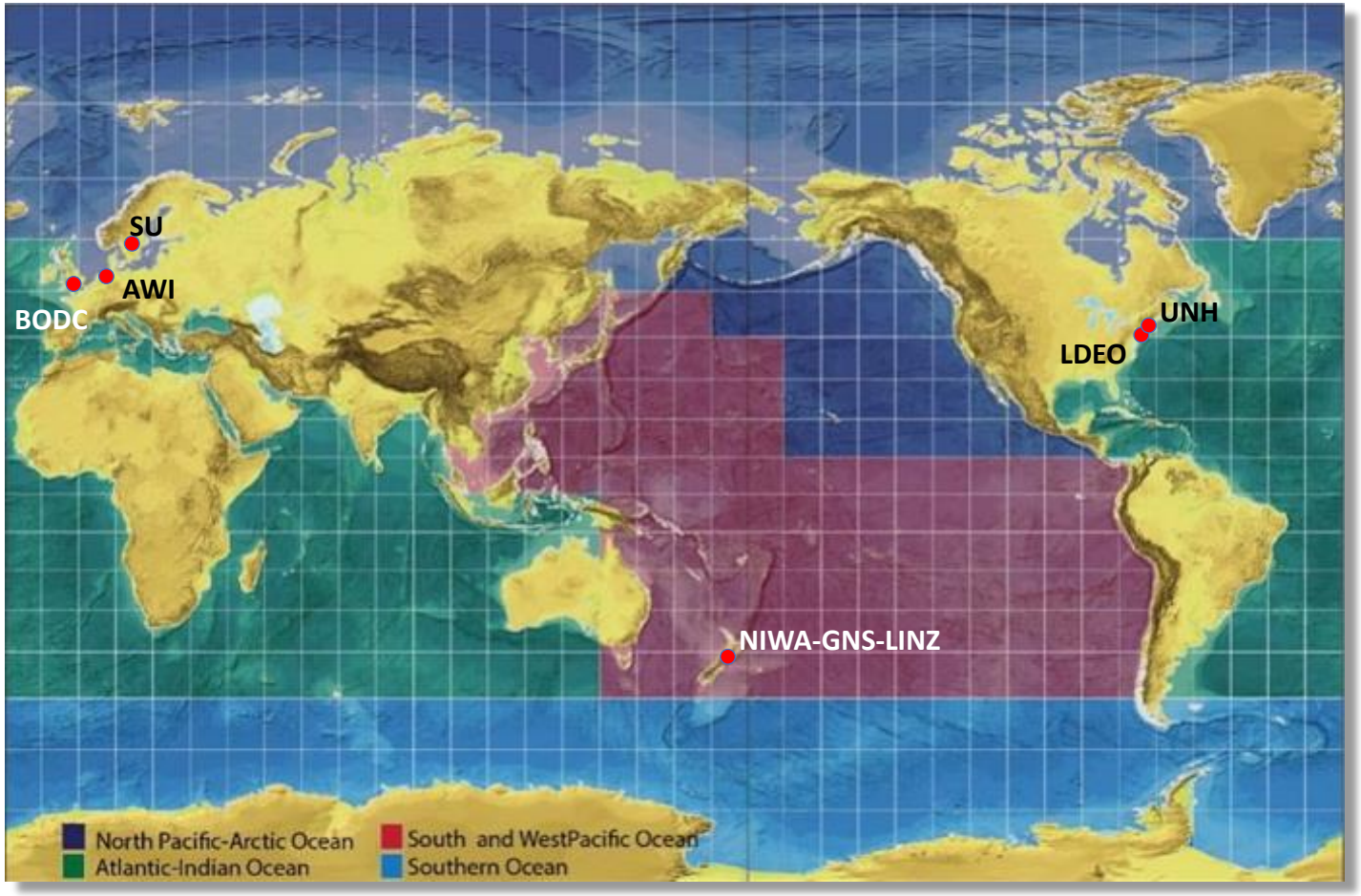
Dawn Wright
Chief Scientist, ESRI

Bjorn Jalving
Executive VP, Konsberg Maritime

Dr. Kilaparti Ramakrishna
Head of Strategy, Green Climate Fund

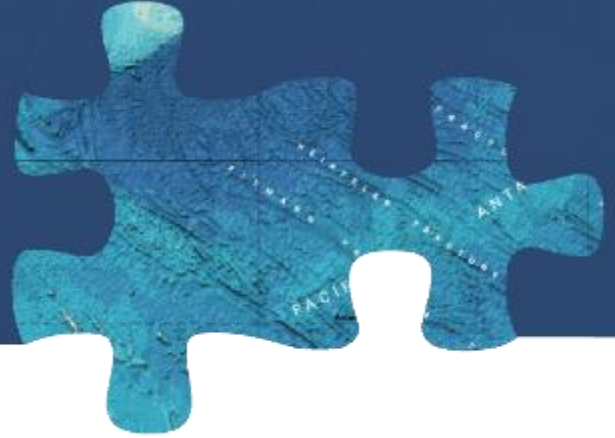
Yulia Zarayskaya
NF-GEBCO Alumni Team Lead XPrize

Regional Approach



- Regional stakeholders
- Regional data assembly & coordination
- Regional products feed into global GEBCO products
- Follows successful model of GEBCO Regional Mapping approach

Data Sources



Break down of the source of data types that the GEBCO grid is based on

Grid cell type (30 arc-second)	GEBCO_2014	New grid
Interpolation guided by satellite-derived gravity data	66.5%	62.4%
Interpolation guided by computer programme, e.g. GMT	14%	14.3%
Multibeam	9%	12.4%
Single beam	1.9%	1.8%
Pre-generated grid	2.7%	4.3%
Unidentified track type	3.9%	2.8%
Isolated soundings, e.g. ENC soundings	0.1%	0.1%
Contours	1.9%	1.9%