



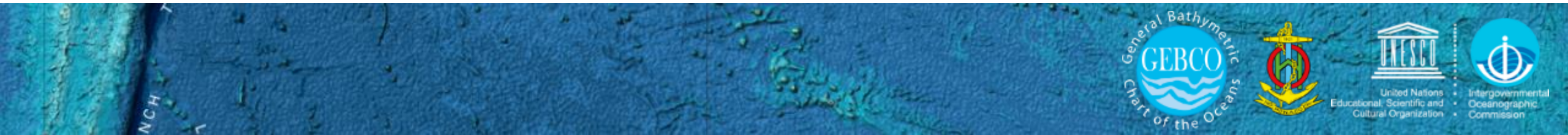
# Briefing on the work of GEBCO



# What is GEBCO?

**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

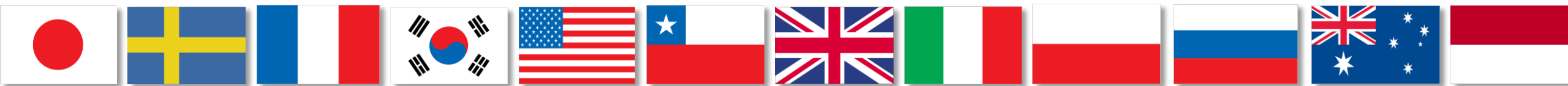




# What is GEBCO?

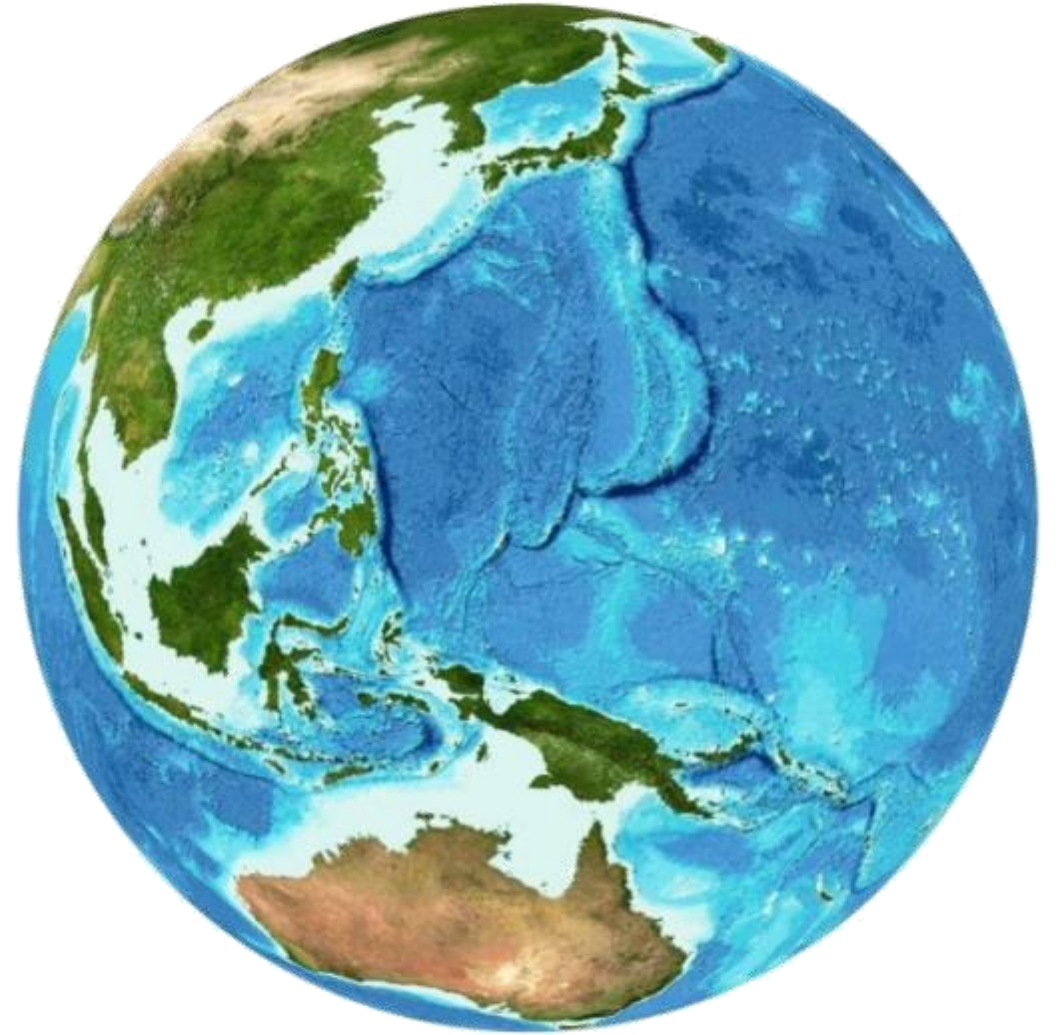
GEBCO's work is directed by a *Guiding Committee* and supported by *sub-committees* and *ad hoc working groups*:

- Technical Sub-Committee for Ocean Mapping (TSCOM)
- Sub-Committee for Undersea Feature Names (SCUFN)
- Sub-Committee for Regional Undersea Mapping (SCRUM)
- Outreach Working group
- IHO-IOC GEBCO Cook Book Working group



# GEBCO Products

- Global gridded bathymetric data
  - GEBCO 2014: 30 arc-second grid
  - GEBCO 2019 15 arc-second grid
- Gazetteer of Undersea Feature Names
- Digital Atlas
- Grid viewing software
- Printable maps
- Web Map Service (WMS)
- IHO-IOC GEBCO Cook Book





# Capacity-building Initiative: Postgraduate Certificate in Ocean Bathymetry



*Funded by:*

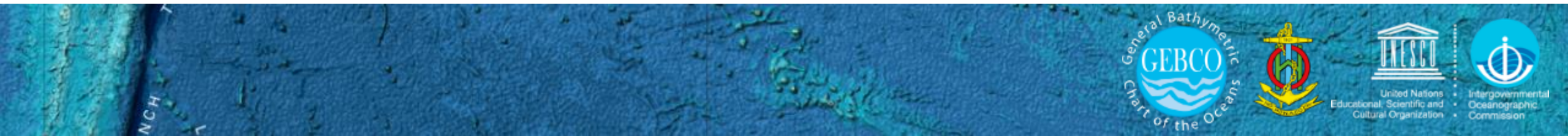
The Nippon Foundation of Japan

*Taught at:*

The Center for Coastal and Ocean Mapping / Joint Hydrographic Center;  
University of New Hampshire, USA

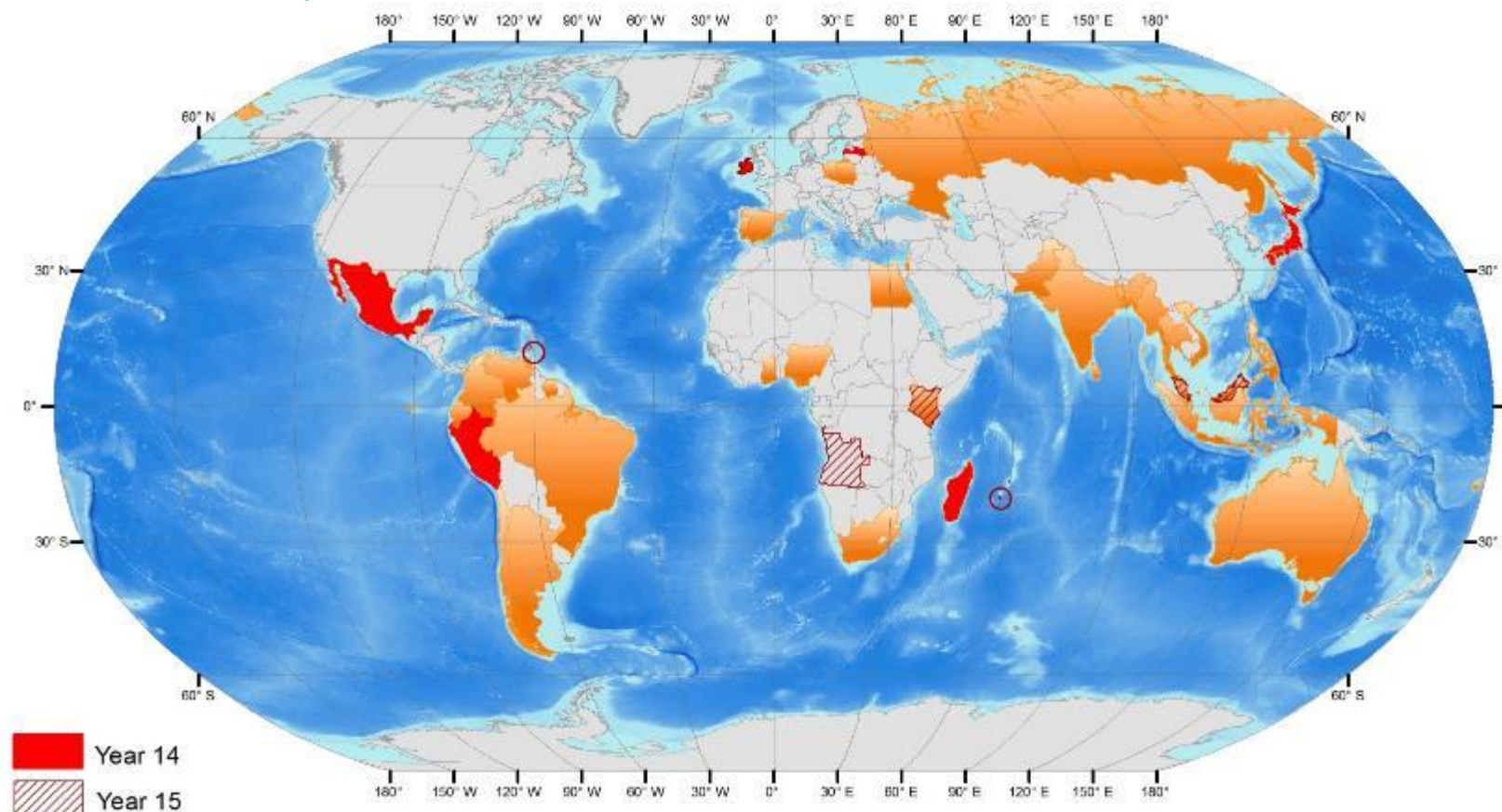
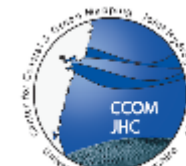


*Training a new generation of scientists and hydrographers in ocean bathymetry*





# Capacity-building Initiative: Nippon Foundation / GEBCO Alumni



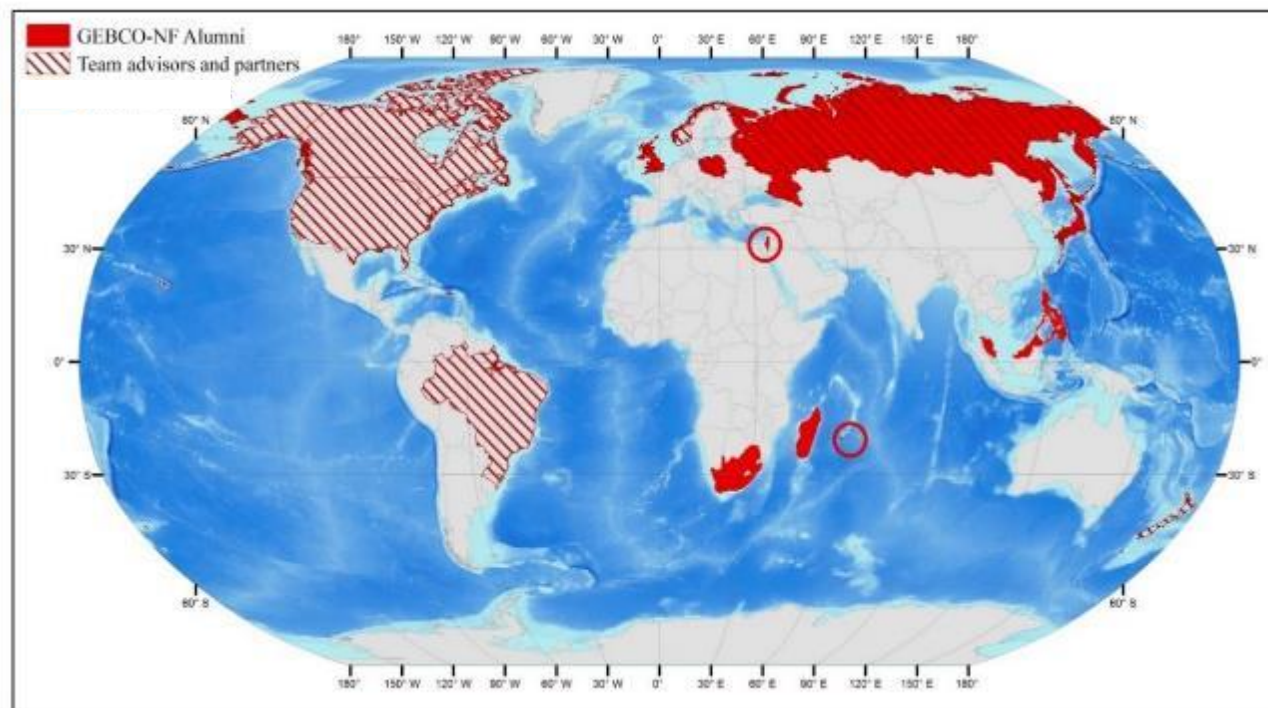
**90 Scholars from 40 coastal states over last 15 years!**







# GEBCO-NF Alumni Team





## Vision Established through 2016 Forum for Future Ocean Floor Mapping



## Project Announced at 2017 UN Ocean Conference







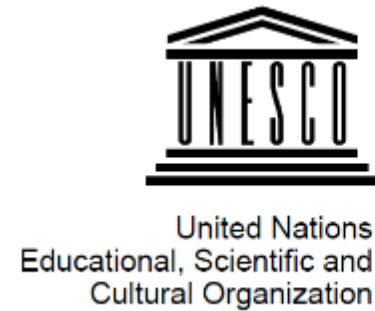
# The Nippon Foundation-GEBCO Seabed 2030 Project

A collaborative project between the Nippon Foundation and GEBCO to inspire the complete mapping of the world's ocean by 2030, and to compile all bathymetric data into the freely-available GEBCO Ocean Map.

# Seabed 2030



***Seabed 2030*** is a global initiative to cooperatively work towards creating a high resolution complete map of the world's ocean floor by 2030.



-The **Nippon Foundation** is a private Japanese-based, non-profit grant-making organization with a mission based around philanthropic activities to pursue global maritime development and assistance for humanitarian work.

-The **General Bathymetric Chart of the Oceans (GEBCO)** organization operates under the joint auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO



A world map showing the global ocean floor. The map is overlaid with a dense network of blue and purple lines, representing survey tracks. These tracks are most concentrated along the coastlines and in the shallow waters of the continental shelves. The deep ocean floor, particularly in the mid-ocean ridges and abyssal plains, is largely unexplored and appears as dark, featureless areas. Labels on the map include 'Gulf of Mexico', 'Atlantic Ocean', 'Pacific Ocean', and 'Indian Ocean'.

Empower the world to *make policy decisions, use the ocean sustainably*, and *undertake scientific research* that is informed by a detailed understanding of the global ocean floor.

*Only a small portion of the ocean has been mapped with direct measurement.  
~ 50% of the world's coastal waters remain unsurveyed\**

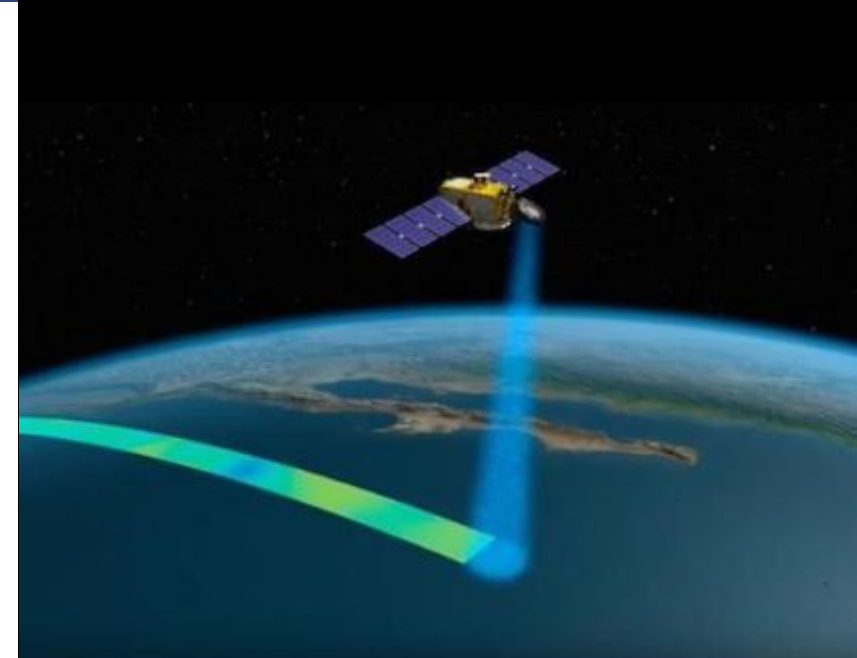
\*IHO publication C-55, Status of Surveying and Charting Worldwide



# Why are Bathymetry Data Important?



- Nautical charts
- Oil and gas exploration
- Safety and storm surge/tsunami inundation models
- Ecosystem identification and management
- Emergency response
- Satellite verification models
- Ocean Models
- Coastal/Marine Spatial Planning
- Coastal Hazard Assessment
- Ocean Exploration
- Coastal Change Analysis
- Sea Level Rise Mitigation
- New Energy Siting
- Marine heritage

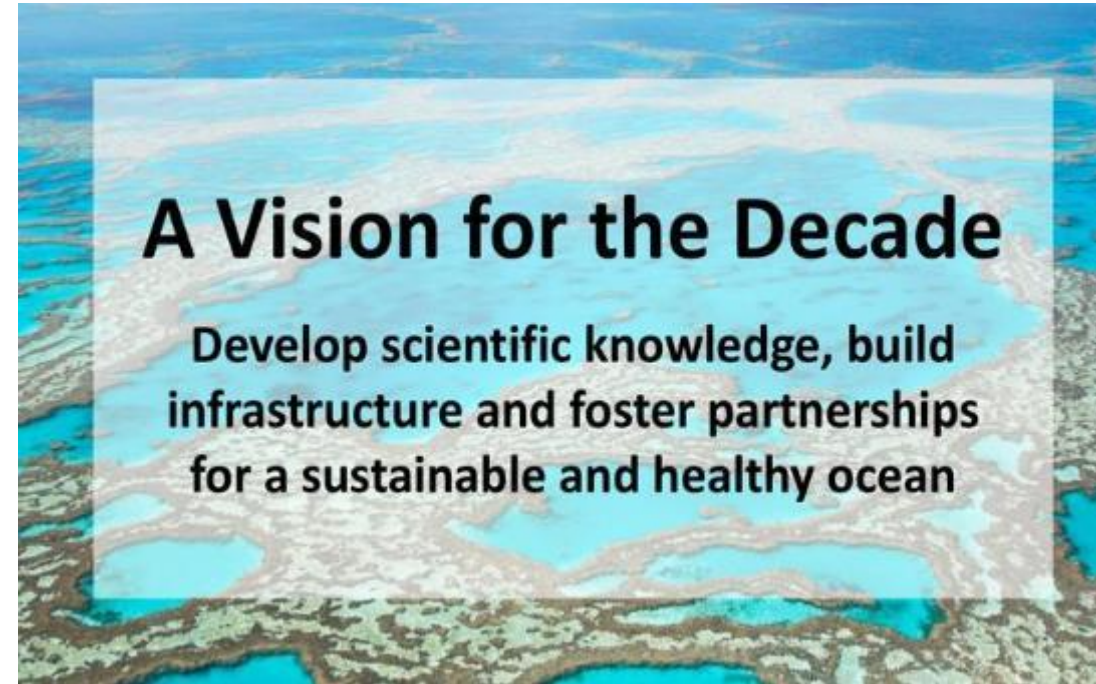




# The UN Decade of Ocean Science for Sustainable Development (2021-2030)



SDG14 will not be achievable without a comprehensive map of the world ocean floor





## Partnership

- Work with all stakeholders to form a global coalition dedicated to giving the world a complete GEBCO Ocean Map.

## Sharing and acknowledging

- Encourage and facilitate the sharing of bathymetric data, giving due acknowledgement to Partners and data contributors.

## Invest in human capacity development

- Invest in capacity development to increase skills and greater capacity in ocean mapping, and meet growing needs of big data analysis and visualization.

## Leverage technology innovation

- Work with technology partners to apply new mapping and data analysis techniques to support Seabed 2030's mission.



# Seabed 2030 Regional Data Assembly



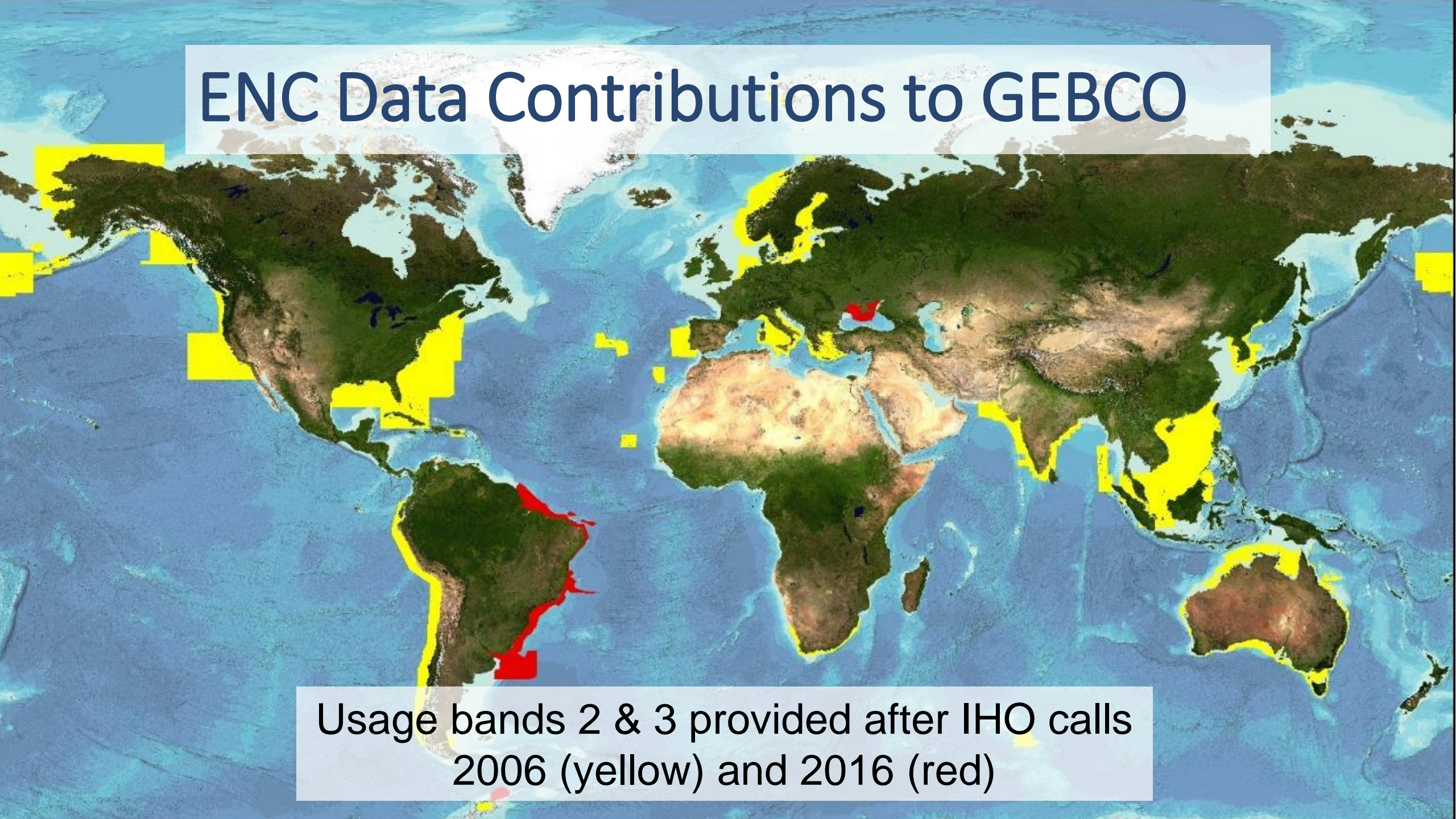


# Seabed 2030: Data Centers





# ENC Data Contributions to GEBCO

A world map showing ENC data contributions to GEBCO. The map uses a color-coded system to indicate data availability: yellow for areas where usage bands 2 & 3 were provided after IHO calls in 2006, and red for areas where they were provided after IHO calls in 2016. Yellow areas are widespread across the Americas, Europe, Africa, Asia, and Australia. Red areas are concentrated along the coastlines of South America and parts of Europe and Africa. The map also shows landmasses in green and brown, and oceans in blue.

Usage bands 2 & 3 provided after IHO calls  
2006 (yellow) and 2016 (red)



# Coordinating with IBCs

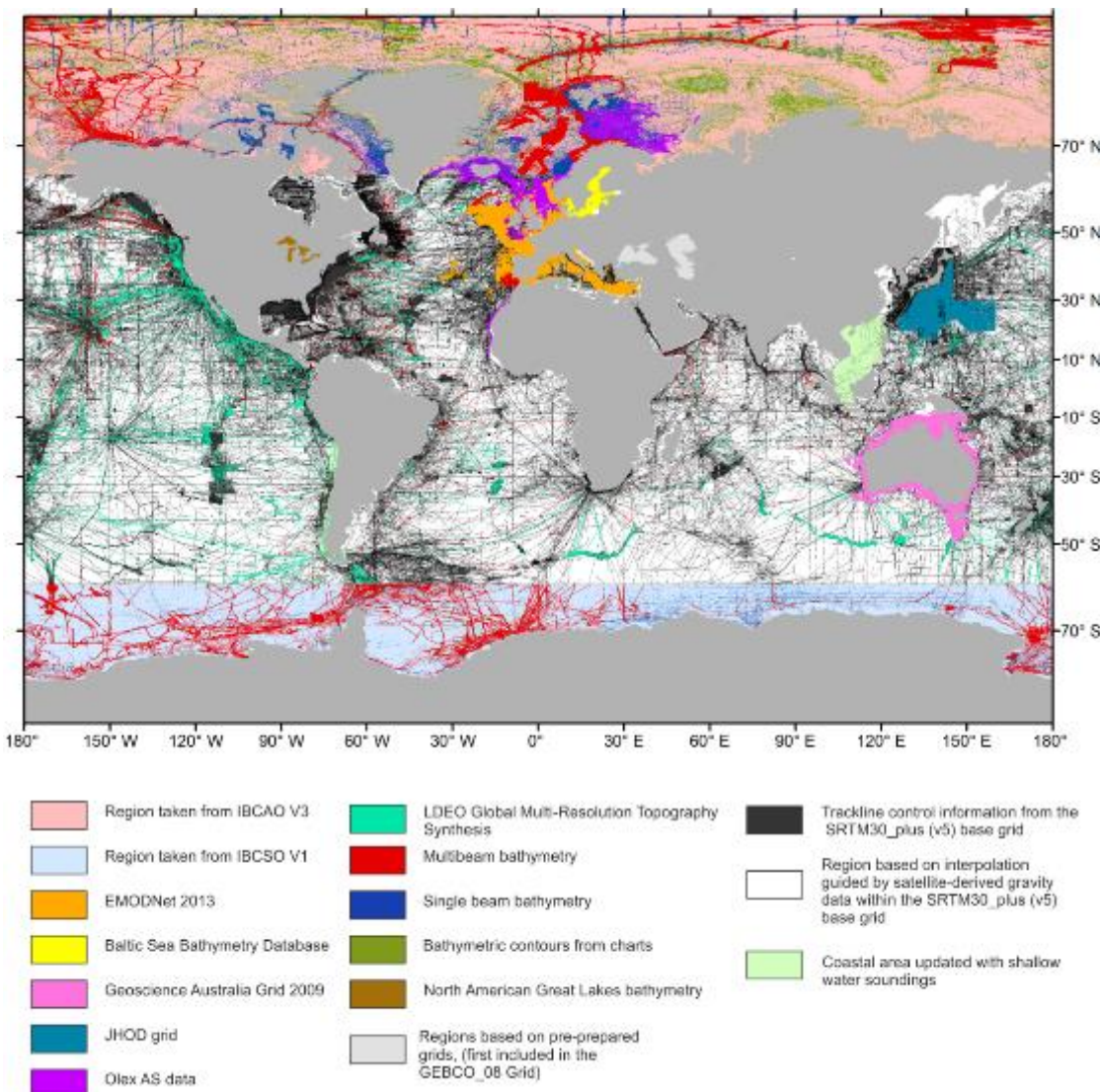


- Seabed 2030 Atlantic/Indian Oceans Data Center
  - IBC of the Caribbean Sea & Gulf of Mexico (IBCCA)
  - IBC of the Central Eastern Atlantic (IBCEA)
  - IBC of the Mediterranean (IBCM)
  - IBC of the Western Indian Ocean (IBCWIO)
- Seabed 2030 South & West Pacific Data Center
  - IBC of the South Eastern Pacific (IBCSEP)
- Seabed 2030 Arctic/North Pacific Data Center
  - IBC of the Arctic Ocean (IBCAO)
  - IBC of the Caribbean Sea & Gulf of Mexico (IBCCA)
- Seabed 2030 Southern Ocean Data Center
  - IBC of the Southern Ocean (IBCSO)





# How much of the ocean is mapped?



$$X + Y + Z = 100\%$$

known



unknown

X: Data in GEBCO products

Y: Data that exists but are not yet integrated

- Public
- Embargoed

Z: Data that must be acquired





# How to participate



- Contribute information about existing data coverage
- Contribute data
  - Gridded data products
  - Points from ENCs
- Share information about future mapping plans
- Engage with Data Centers
- Support and promote GEBCO activities and products



[seabed2030.org](https://seabed2030.org)

@seabed2030 





Thank you!  
[www.gebco.net](http://www.gebco.net)