



GENERAL BATHYMETRIC CHART OF THE OCEANS (GEBCO)

13th Southern African and Islands Hydrographic Commission (SAIHC) Meeting, Cape Town, South Africa

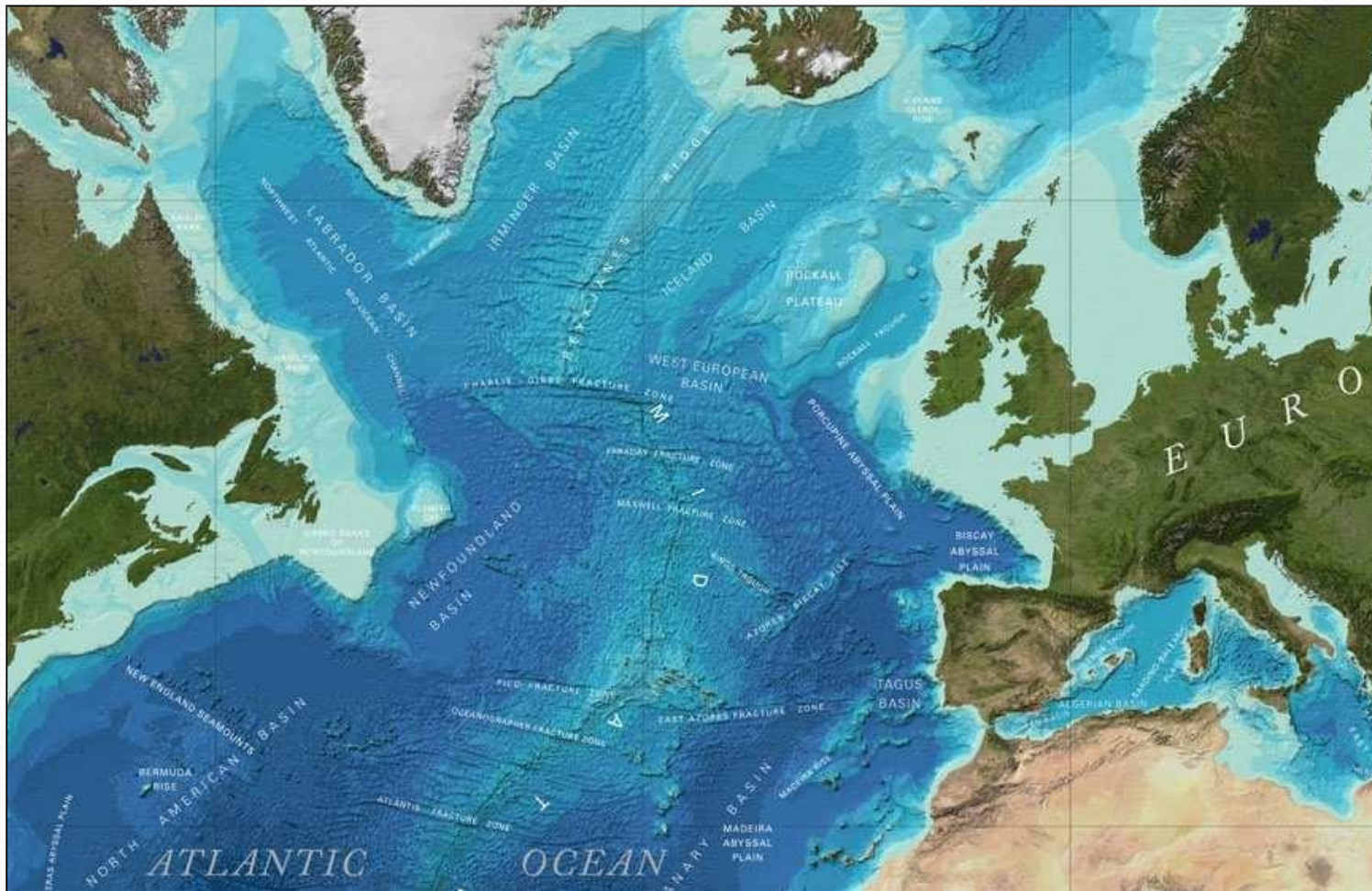


What is GEBCO?

The General Bathymetric Chart of the Oceans (GEBCO),
www.gebco.net:

- Aims to provide the **most authoritative, publicly-available bathymetric data sets for the world's oceans**
- Operates under the joint auspices of the **International Hydrographic Organization (IHO) and Intergovernmental Oceanographic Commission (IOC) of UNESCO**
- First GEBCO paper chart **series initiated in 1903**

What is GEBCO?



Imagery developed from the GEBCO **global bathymetric grid** (showing the shape of the sea floor in the North Atlantic Ocean) and **gazetteer of undersea feature names**

GEBCO's organisational structure

- GEBCO is led by a **Guiding Committee** consisting of **five IHO-**appointed members; **five IOC-appointed members**; Sub-committee Chairs and the Director of the IHO-DCDB
- It has 3 sub-committees and a number of working groups:
 - Sub-Committee on **Undersea Feature Names** (SCUFN)
 - Technical **Sub-Committee on Ocean Mapping** (TSCOM)
 - Sub-Committee on **Regional Undersea Mapping** (SCRUM)
 - Working groups on **Outreach** and the **IHO-IOC GEBCO Cook Book**

[www.gebco.net/about us/committees and groups/](http://www.gebco.net/about_us/committees_and_groups/)





Regional mapping work

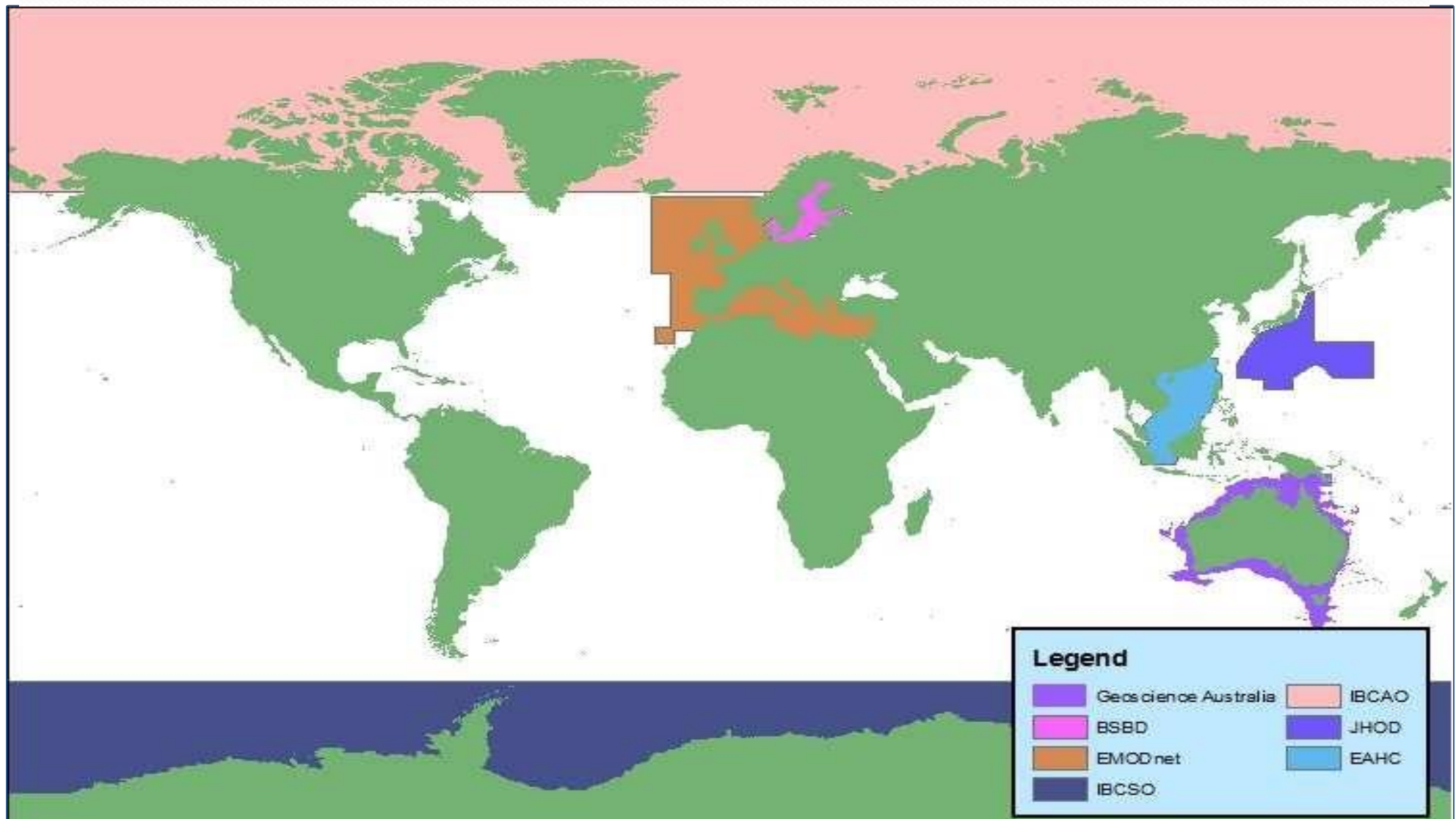
Sub-Committee on Regional Undersea **Mapping (SCRUM)** to:

- Primary objective of SCRUM is to build **closer collaboration between regional mapping efforts** .
- Regional grids are used to improve the **Global GEBCO grids**.

www.gebco.net/regional_mapping/mapping_projects/

Regional mapping work

Coverage of some of the regional compilations included in the current GEBCO Grid





GEBCO's products

Our bathymetric data sets and products:

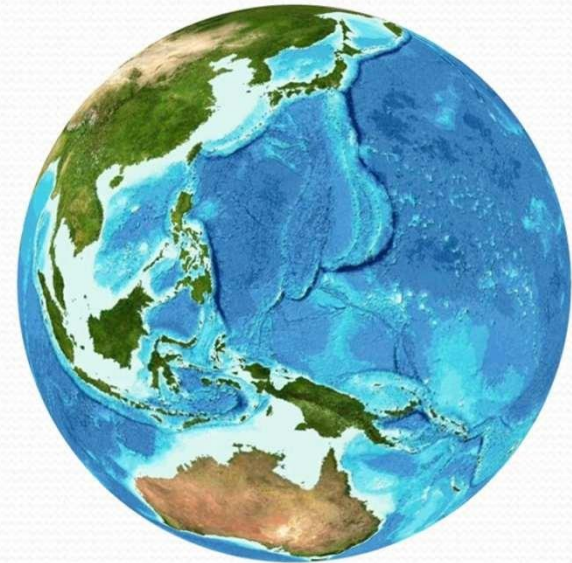
- Global gridded bathymetric data set (30 arc-second interval)
- GEBCO Gazetteer of Undersea Feature Names
- GEBCO Digital Atlas
- Grid viewing software
- Printable maps (www.iho-wms.net/gebco)
- Web Map Service (WMS)
- IHO-IOC GEBCO Cook Book

[www.gebco.net/data and products/](http://www.gebco.net/data_and_products/)

GEBCO's products: global bathymetric grid

The GEBCO Grid is a global terrain model at 30 arc-second intervals:

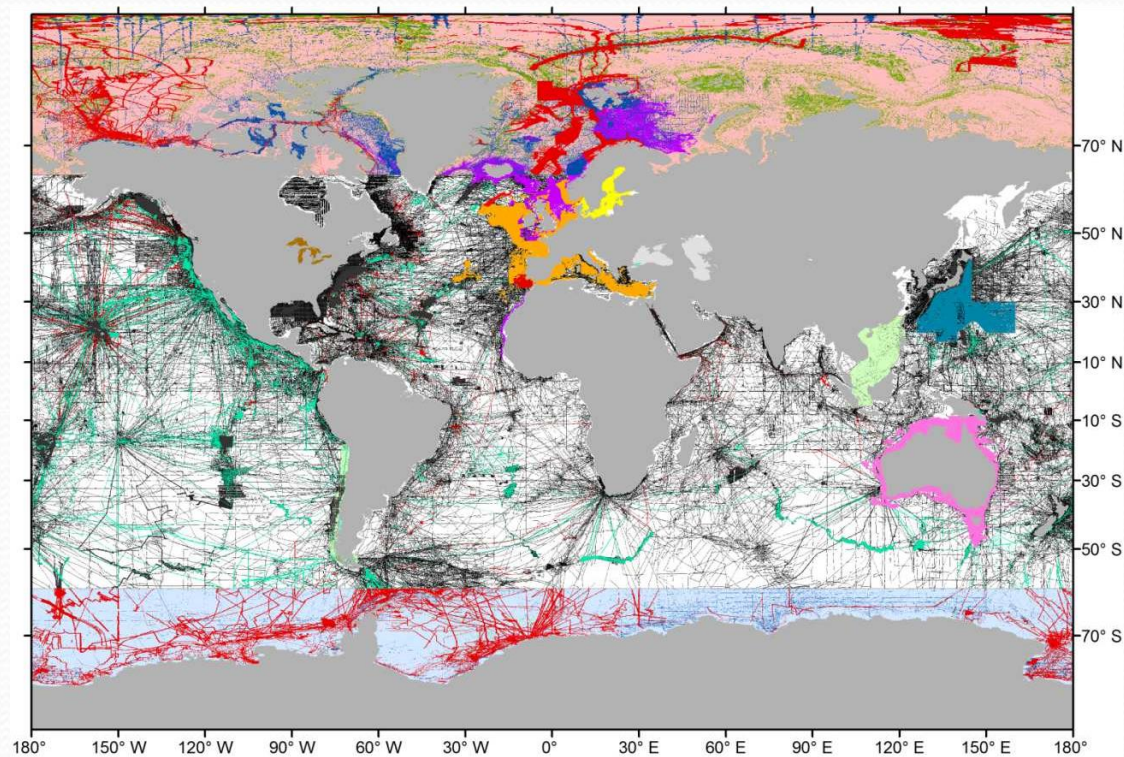
- Largely based on a database of **ship-track soundings** with **interpolation between soundings guided by satellite-derived gravity data**
- Includes **regional grids** which may be based on different interpolation models
- Accompanied by a **Source Identifier Grid** showing which cells are based on soundings or existing grids and which are interpolated



GEBCO's grids are made available for non-navigational purposes:

www.gebco.net/data and [products/gridded bathymetry data/](http://www.gebco.net/products/gridded_bathymetry_data/)

GEBCO's products: Source Identifier Grid



Example of the GEBCO Source Identifier (SID) Grid showing the **source of depth value in each grid cell**, i.e. if it is based on **trackline data**; **pre-existing grids** or if it is based on **interpolation**





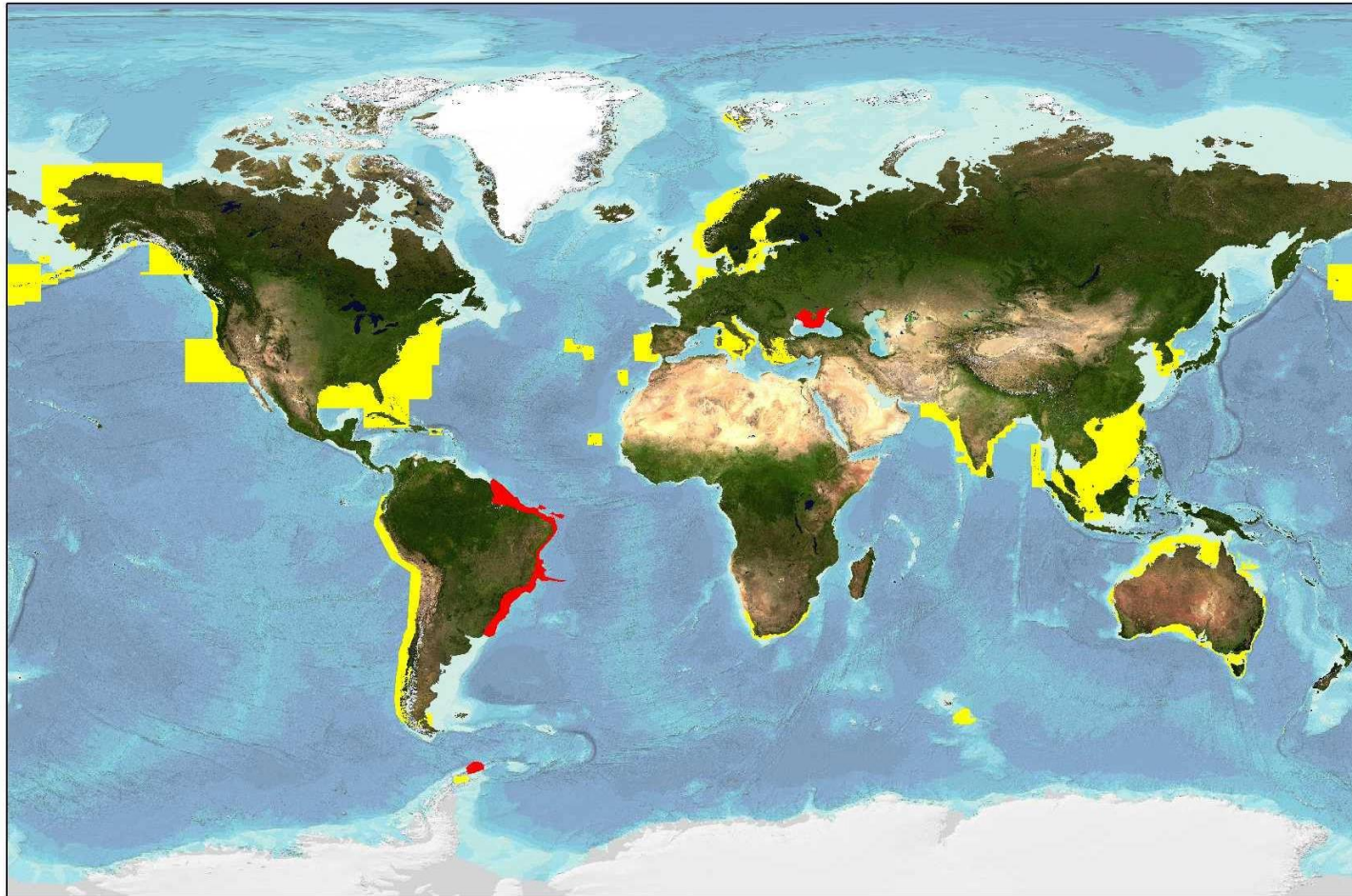
Filling the data gaps

- Raising awareness of the 'data gaps' to **encourage data collection in these regions**
- **Encouraging organizations to make their bathymetric data sets easily discoverable and accessible**, either directly or by contributing data to international publically-available databases such as the IHO Data Center for Digital Bathymetry (IHO-DCDB)
- **Crowd-sourced bathymetry (CSB) initiatives** – such as the IHO CSB Working Group
- GEBCO initiative to request **shallow water bathymetry data extracted from Electronic Navigation Charts** from the Hydrographic community

Shallow water bathymetry data

- To more accurately model the shape of the ocean floor in all areas and serve a wider user community, GEBCO is striving to improve its gridded bathymetric datasets in shallower waters
- In **2006** a request was made to **IHO Member States to provide ENC data (usage bands 2 and 3)** to GEBCO to help update its global model
- New request to IHO MS for ENC data sent out in **March 2016 (circular letter 11/2016)**

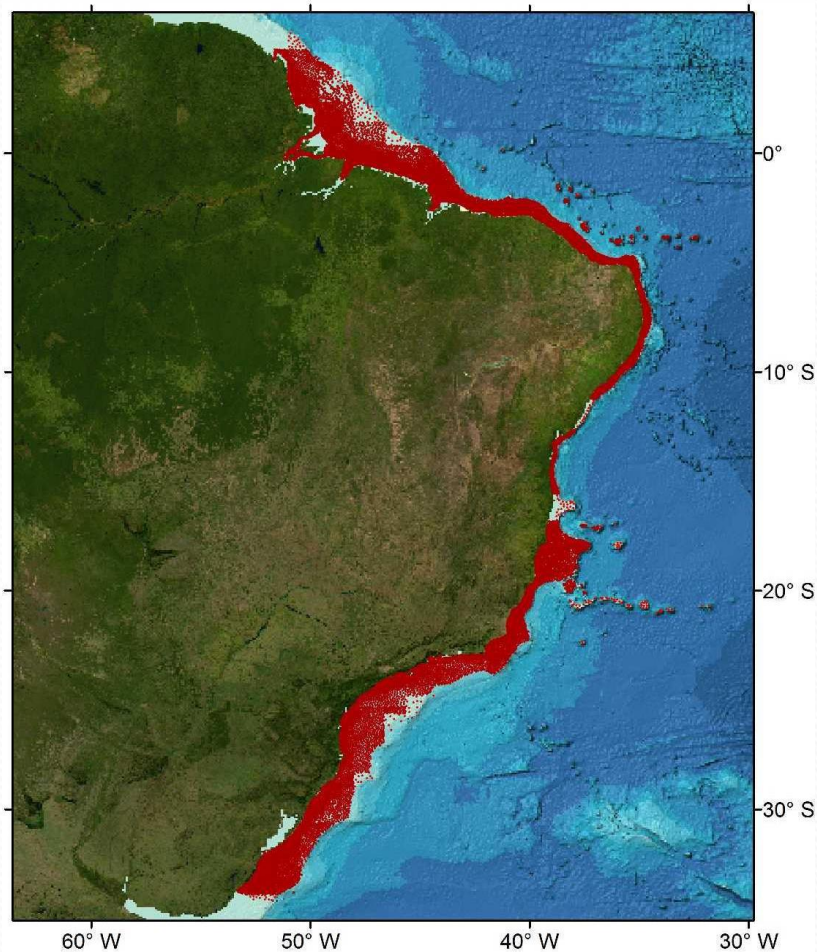
Shallow water bathymetry – ENC data



ENC data coverage (usage bands 2 & 3) provided by IHO MS and organizations, to date, to GEBCO for grid updating work after calls in 2006 (yellow) and 2016 (red),

Shallow water bathymetry – ENC data

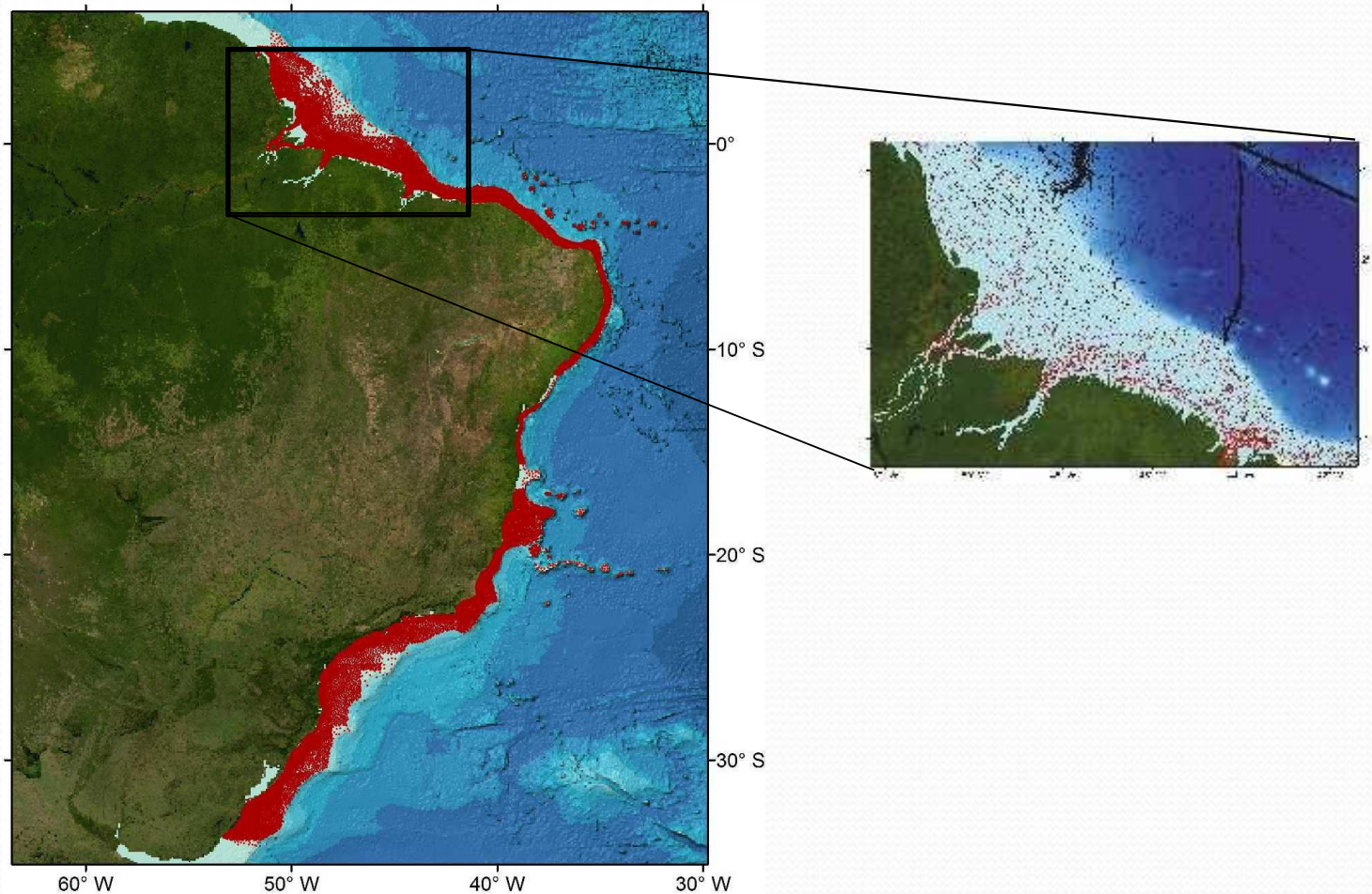
- Data for waters off Brazil



Soundings points extracted from ENCs recently supplied to GEBCO for the waters off Brazil

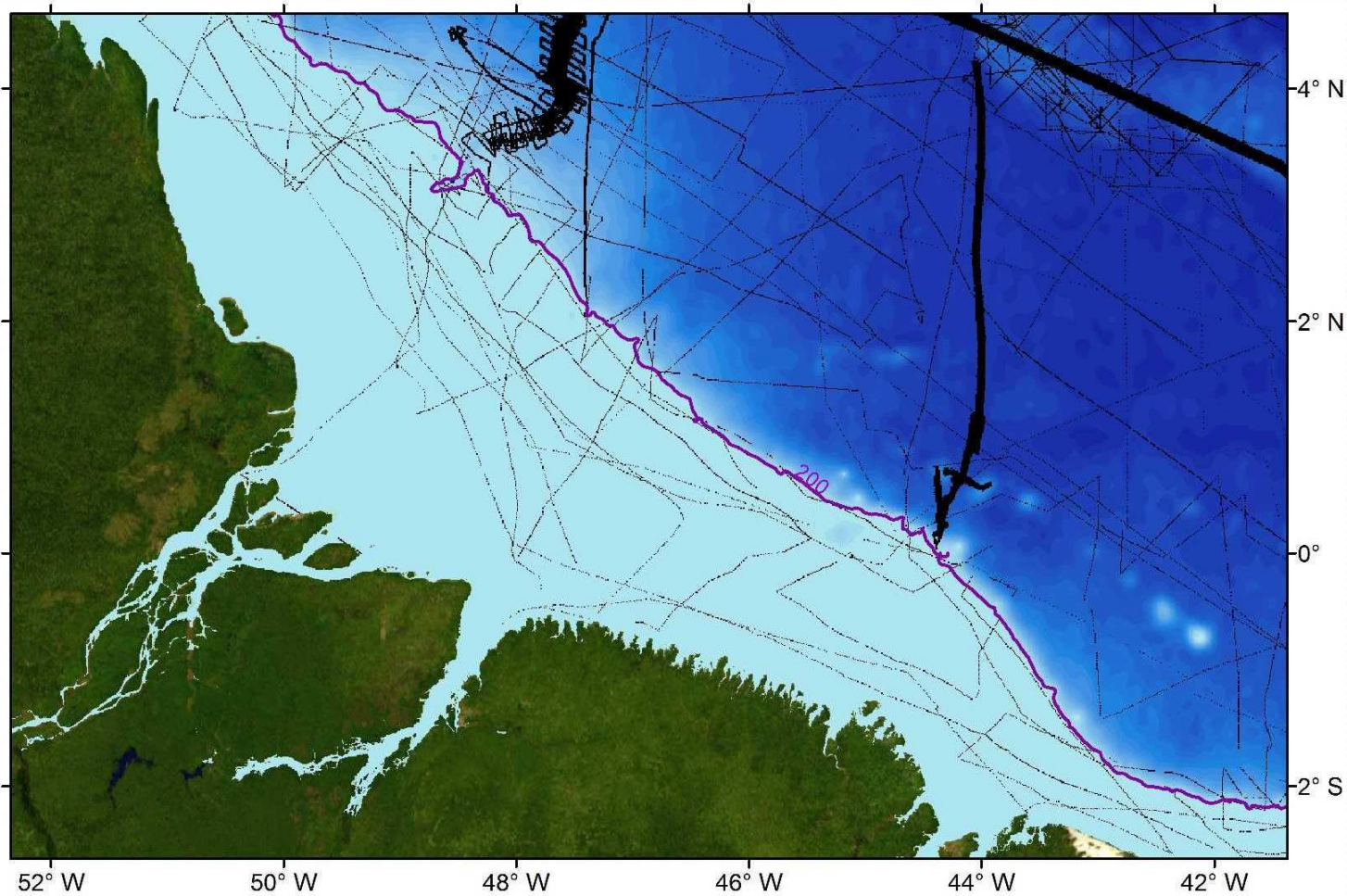
Shallow water bathymetry – ENC data

- Data for waters off Brazil



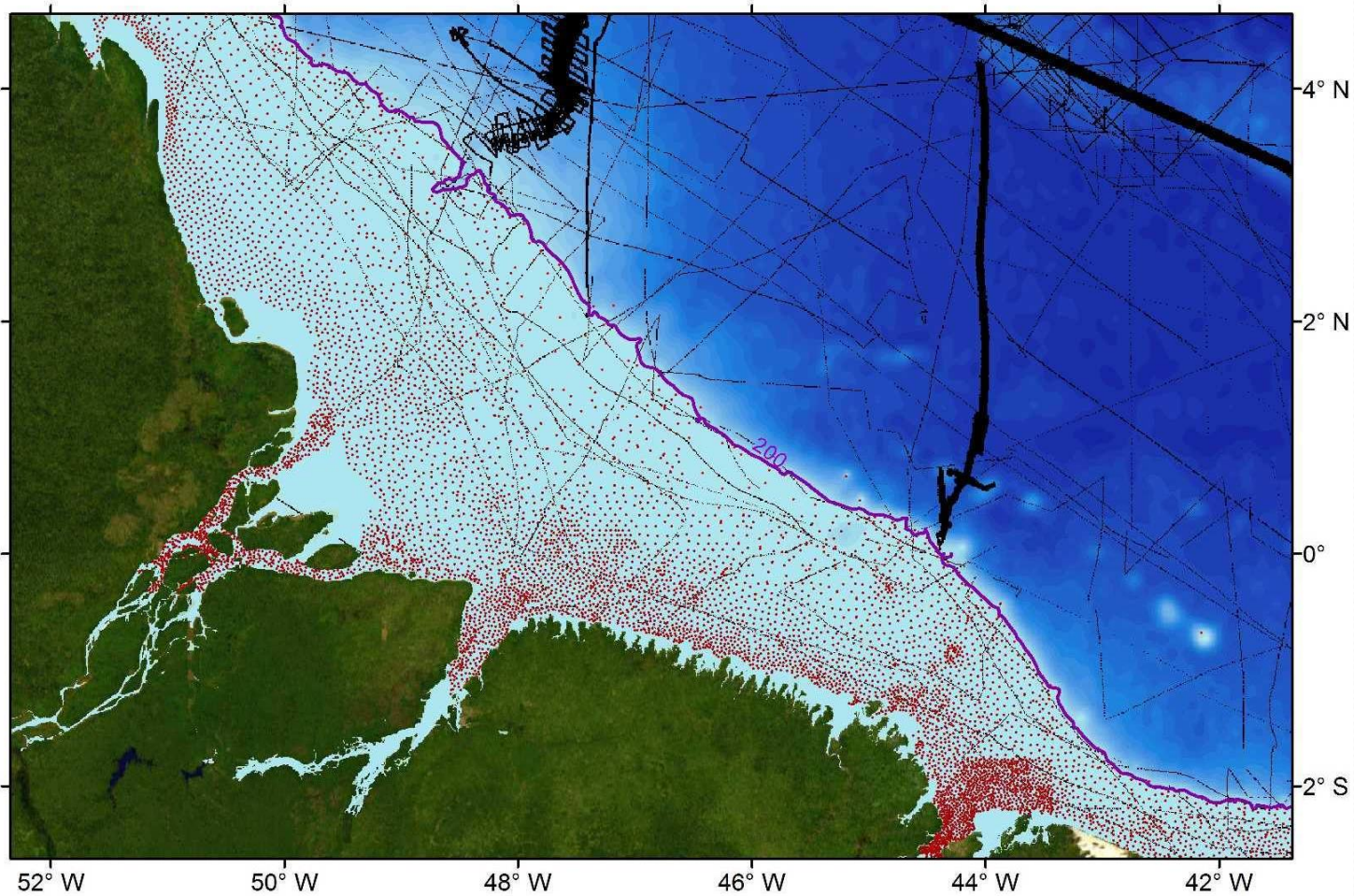
Shallow water bathymetry data

- Current GEBCO trackline coverage (black lines)



Shallow water bathymetry data

- GEBCO trackline coverage (black lines), plus ENC soundings (red)





Summary

GEBCO aims to:

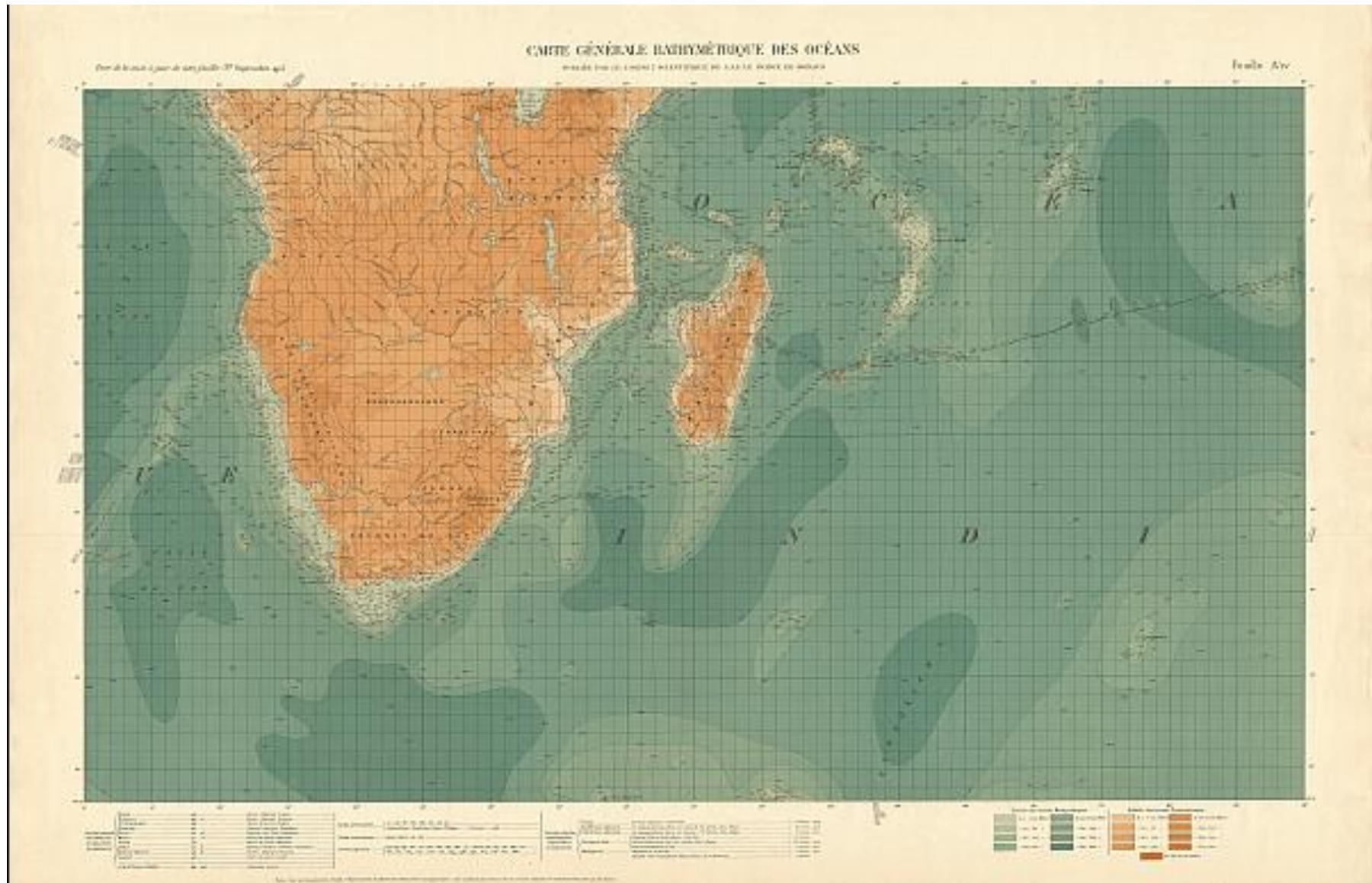
Continually update and improve the global grid.

Encourage bathymetry data contributions.

How to contribute data to help update GEBCO's global grid:

[www.gebco.net/about us/contributing data/](http://www.gebco.net/about_us/contributing_data/)

GEBCO Five Series of Bathymetric Charts (Maps) 1903 - 1982



<http://www.iho-wms.net/gebco/>



Thank you

Any questions?