

# General bathymetric Chart of the Oceans (GEBCO)



## About GEBCO

For over one hundred years GEBCO has been at the forefront of producing maps and digital data sets showing the shape of the global sea floor in the deep oceans with the first chart series initiated in 1903 by Prince Albert I of Monaco.

Today the GEBCO community consists of an international group of experts in sea floor mapping who develop and make available a range of data sets and products with the aim of providing the most authoritative publicly-available bathymetric data sets for the world's oceans.

Our work is directed by a **Guiding Committee** and is supported by **technical and mapping sub-committees** and working groups made up of experts in many fields, from organisations all around the world.

During our yearly committee meetings we hold the annual **GEBCO Science Day** - an opportunity to share new developments in ocean-floor mapping and its applications.

GEBCO operates under the joint auspices of the International Hydrographic Organization (IHO) and Intergovernmental Oceanographic Commission (IOC) of UNESCO.

Find out more about GEBCO: [www.gebco.net/about\\_us/overview/](http://www.gebco.net/about_us/overview/) Contact us: [www.gebco.net/about\\_us/contact\\_us/](http://www.gebco.net/about_us/contact_us/)

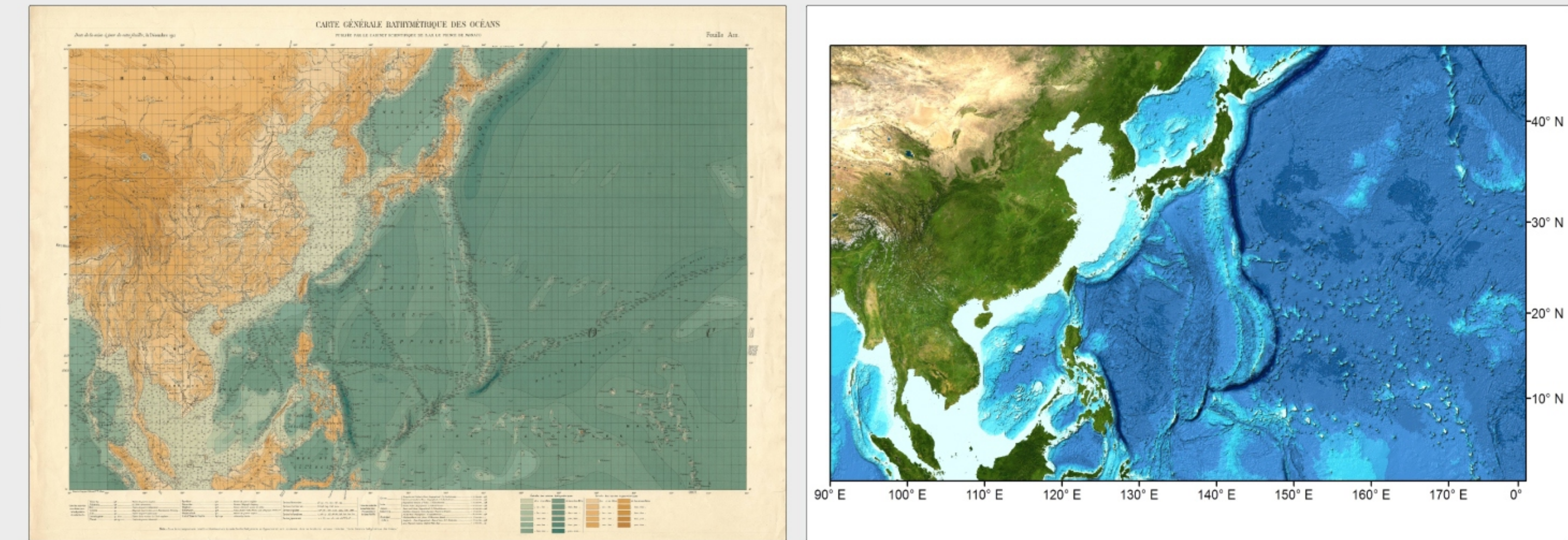


Fig. 1 - Imagery showing the shape of the sea floor in the Northwest Pacific Ocean area. The image on the left is from a chart of the Second Edition of GEBCO published between 1912 and 1930. The image on the right is based on GEBCO's latest product, the GEBCO\_2014 Grid.

## Grid building and regional mapping collaborations

The GEBCO Technical Sub-committee on Ocean Mapping (**TSCOM**) and Sub-committee on Regional Undersea Mapping (**SCRUM**) work to develop our technical expertise in bathymetric grid development and to build close collaborations with regional mapping efforts. This is with the aim of coordinating as well as encouraging the incorporation of their compilations into GEBCO.

The **GEBCO\_2014 Grid** is GEBCO's latest bathymetric data set - it is a global terrain model at 30 arc-second intervals and was released in December 2014.

It uses as a base the SRTM30\_plus v5 data set - a gridded data set developed from a database of ship-track soundings with interpolation between soundings guided by satellite-derived gravity data. Where they improve on this model, data sets generated by other methods have been included

The grid includes contributions from many regional mapping projects such as the International Bathymetric Charts of the Arctic Ocean (IBCAO) and Southern Ocean (IBCSO); the Baltic Sea Bathymetry Database and EMODnet Bathymetry for European waters. It is accompanied by a Source Identifier (SID) Grid showing which cells are based on soundings and which are interpolated.

The grid can be download from the internet in netCDF (CF Compliant), Esri ASCII raster or data GeoTiff formats for user-defined areas or as global grid files (netCDF format).

Find out more: [www.gebco.net/data\\_and\\_products/gridded\\_bathymetry\\_data/](http://www.gebco.net/data_and_products/gridded_bathymetry_data/)

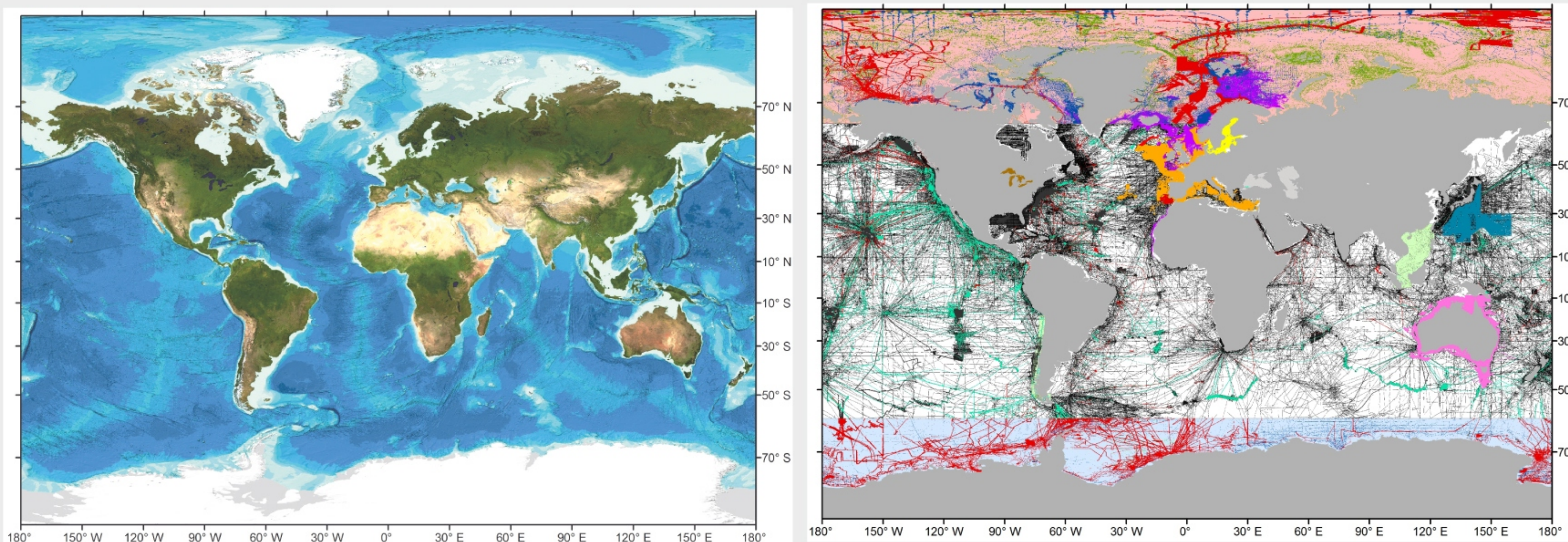


Fig. 2 - the GEBCO\_2014 Grid

Fig. 3 - the GEBCO\_2014 Source Identifier Grid

Region taken from IBCAO V3	LDED Global Multi-Resolution Topography Synthesis	North American Great Lakes bathymetry	Regions based on pre-prepared grids, (first included in the GEBCO_2014 Grid)
Region taken from IBCSO V1	Multibeam bathymetry	Coastal area updated using ENC soundings	Region based on interpolation guided by satellite-derived gravity data within the SRTM30_plus (v5) base grid
EMODnet 2013	Geoscience Australia Grid 2009	Olex AS data	Single beam bathymetry
Japan Oceanographic Data Center (JODC) of the Japan Coast Guard Grid	Trackline control information from the SRTM30_plus (v5) base grid	Baltic Sea Bathymetry Database	Bathymetric contours from charts

Table 1 - Key for SID Grid - identifying the source data sets included in the GEBCO\_2014 Grid

## Naming undersea features

The GEBCO Sub-Committee on Undersea Feature Names (**SCUFN**) maintains and makes available a gazetteer giving the name, geographic location and extent of features on the sea floor. SCUFN arose from the need to have consistency in naming features on maps and charts.

The gazetteer contains over 3,800 features and is available to view, search and download via the internet in a number of formats including comma separated text, spreadsheet and shapefile.

SCUFN also provides information on undersea feature terms and definitions and details on how to propose names for newly-discovered features.

Find out more: [www.gebco.net/data\\_and\\_products/undersea\\_feature\\_names/](http://www.gebco.net/data_and_products/undersea_feature_names/)

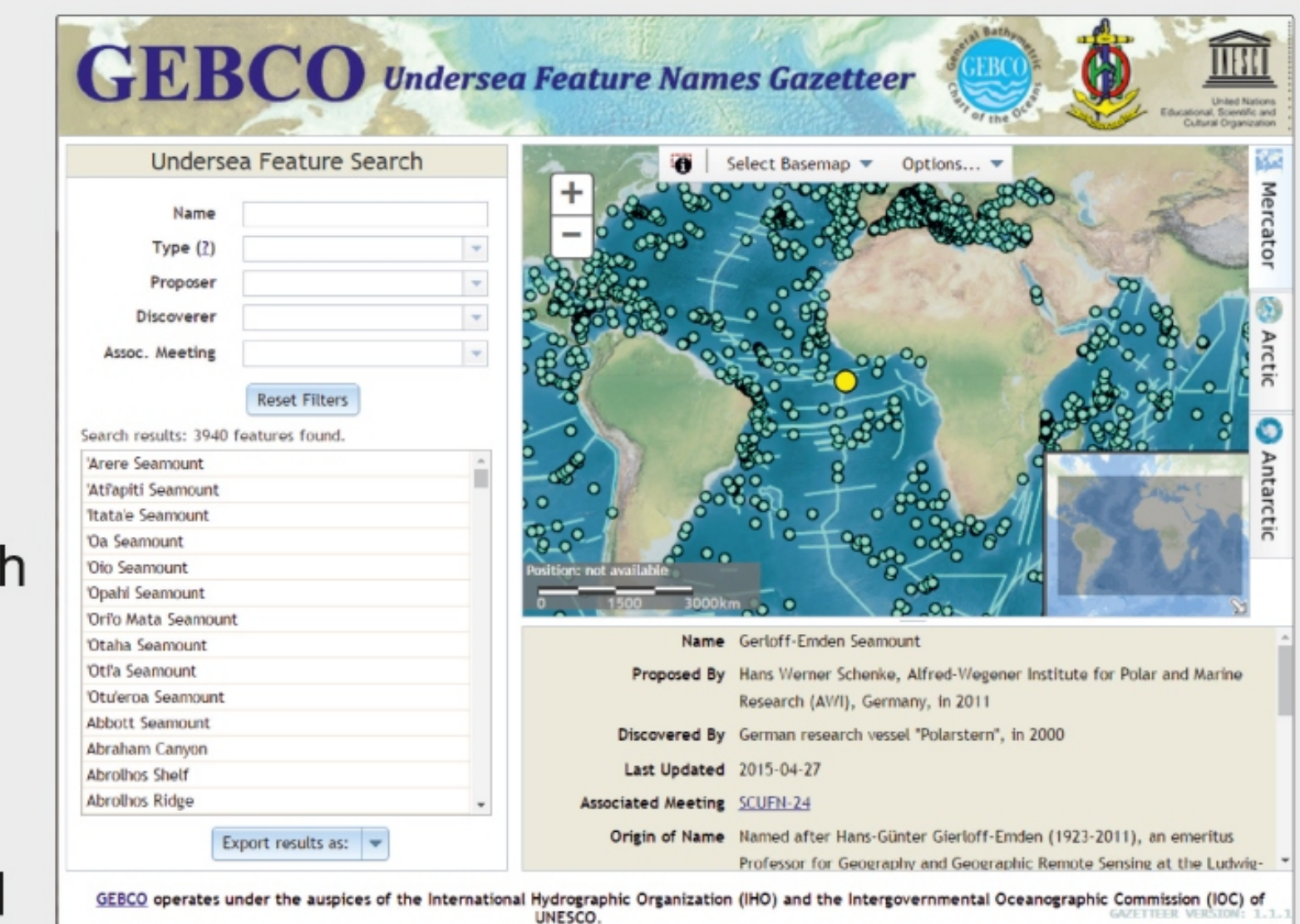


Fig. 4 - interface for the GEBCO Gazetteer of Undersea Feature Names

## Our range of products

We develop and make available a range of bathymetric data sets and products:

- GEBCO\_2014 Grid - a global terrain model at 30 arc-seconds
- Gazetteer of Undersea Feature Names
- GEBCO Digital Atlas
- GEBCO world map
- Web Map Services (WMS)
- IHO-IOC GEBCO Cook Book
- History of GEBCO Book

Find out more and how to access our data sets: [www.gebco.net/data\\_and\\_products/](http://www.gebco.net/data_and_products/)

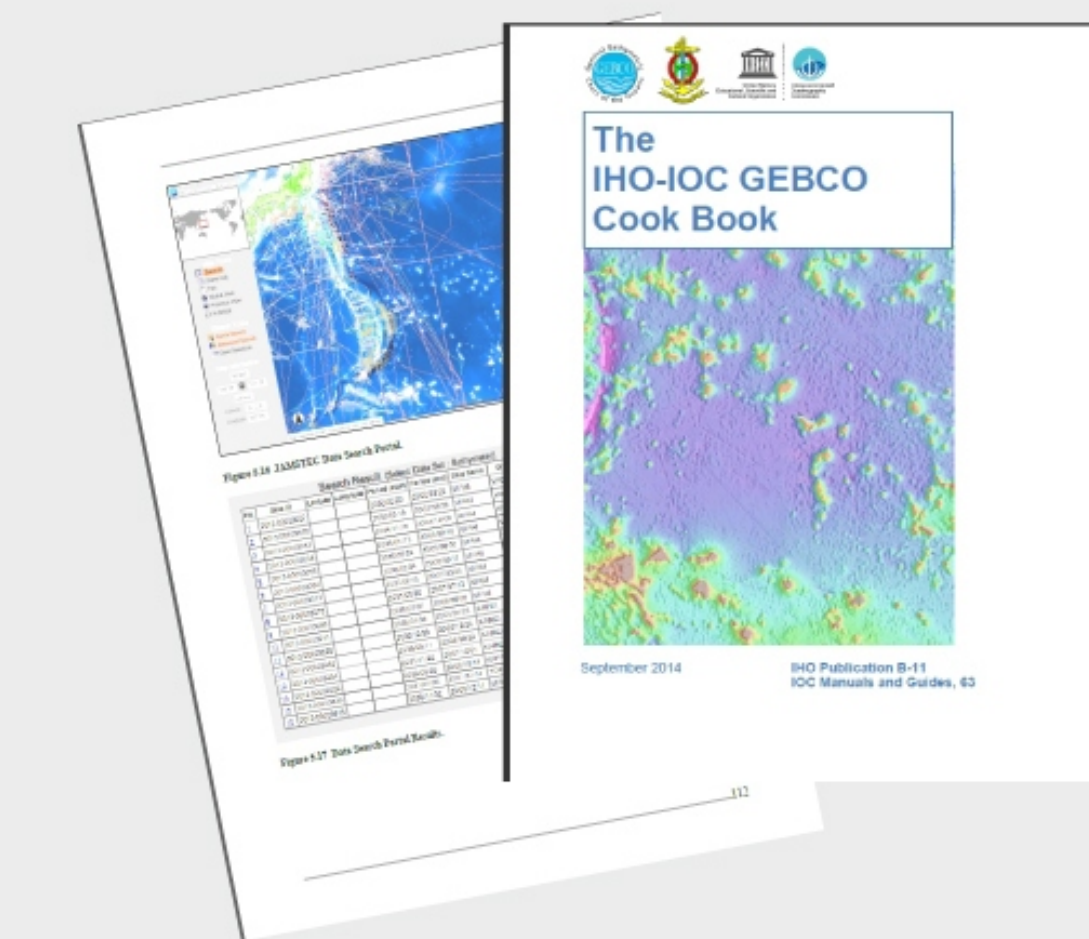


Fig. 5 - the IHO-IOC GEBCO Cook Book

## Training Programme



The Nippon Foundation/GEBCO Training Programme is helping to train a new generation of seafloor mappers.

The 12 month-course leads to a Postgraduate Certificate in Ocean Bathymetry and has been held at the University of New Hampshire, USA since 2004. Funding for the programme is provided by the Nippon Foundation of Japan.

Over 70 scholars have now taken part in the course, representing 33 coastal states — helping to create and strengthen GEBCO's links in all regions. Find out more: [www.gebco.net/training/](http://www.gebco.net/training/)

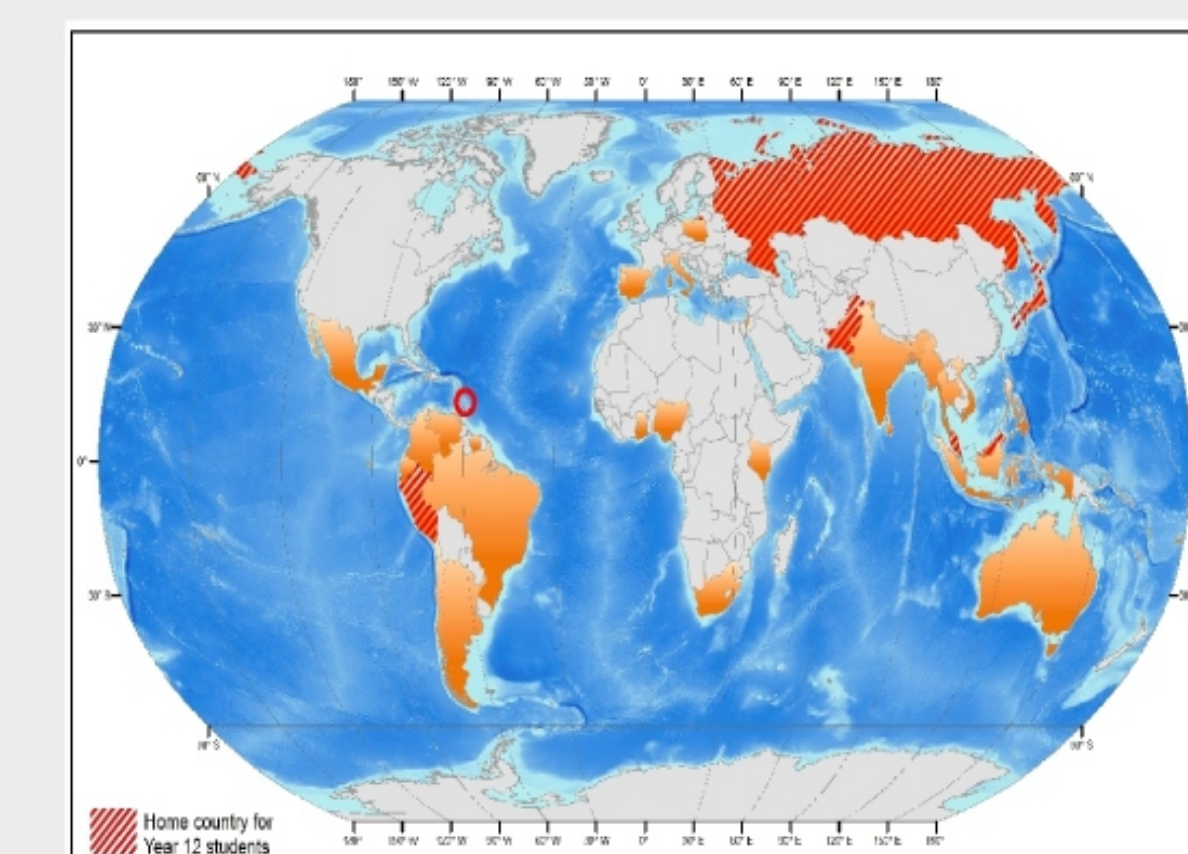


Fig. 6 - home countries of the Nippon Foundation/GEBCO Training Programme Scholars shown in orange. The red hashed areas show the home countries of the class of 2015-2016.