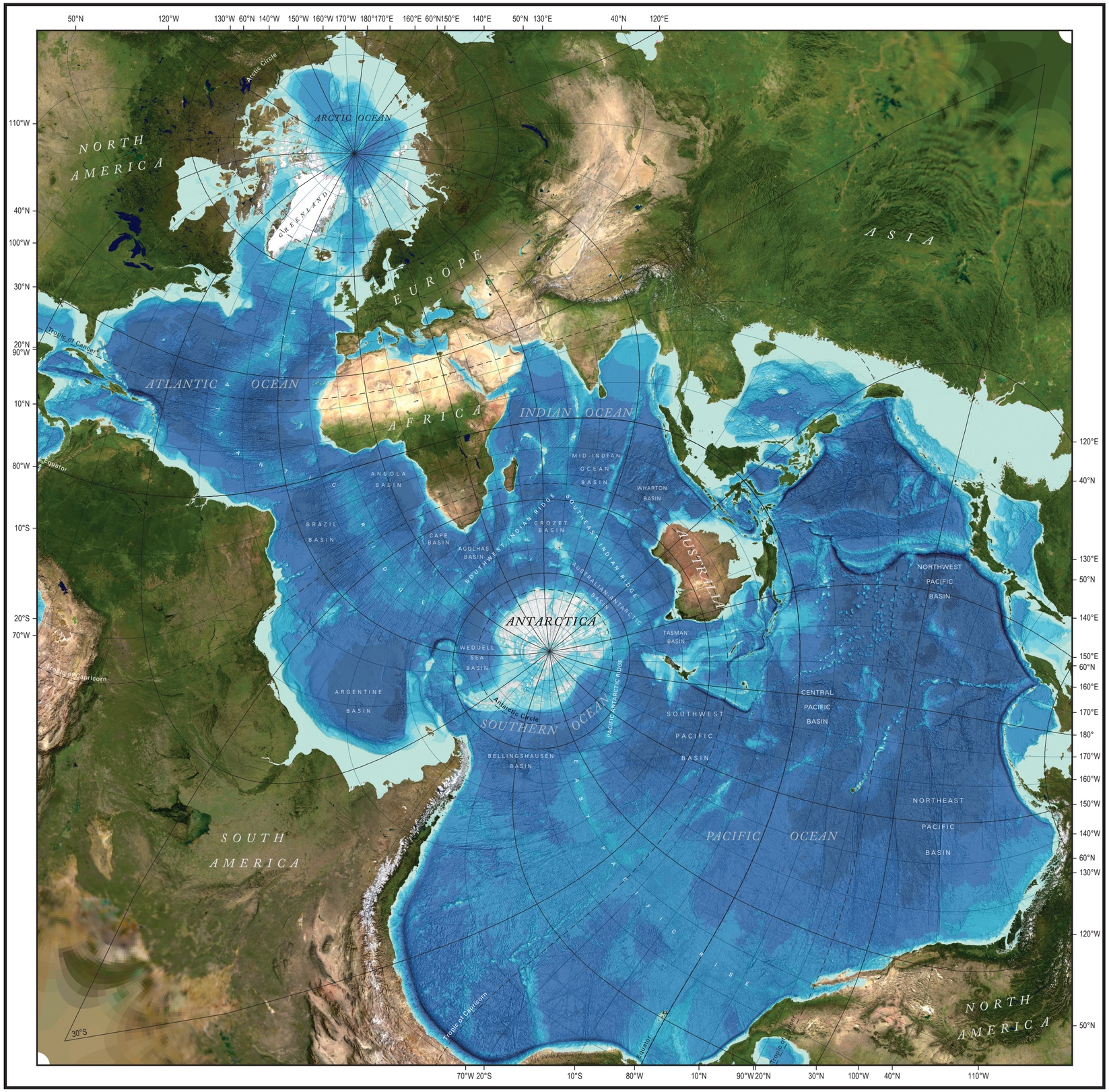
GENERAL BATHYMETRIC CHART OF THE OCEANS (GEBCO) WORLD OCEAN BATHYMETRY



0 1,000 2,000 km
at the Equator

2022:00

BACKGROUND

The GEBCO community consists of an international group of experts in seafloor mapping who work on the development of a range of bathymetric data sets and data products with the aim of providing the most authoritative publicly available bathymetry for the world's oceans. It operates under the joint auspices of the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the International Hydrographic Organization (IHO).

First proposed at the VII International Congress on Geography held in 1899 in Berlin, the General Bathymetric Chart of the Oceans was established in 1903 under the direction of Prince Albert I of Monaco. It was intended that bathymetric data from all cruises and expeditions, regardless of their national origin, would be brought together in one series of maps covering the entire world ocean. That intent was realized as oceanographic and hydrographic organizations and institutions, governments, commercial entities and academia have supplied the data on which five printed editions of GEBCO were produced between 1903 and 1982. The depth contours of the GEBCO Fifth Edition were digitized and put onto a CD-ROM (the GEBCO Digital Atlas, or GDA) in 1994. This digital data base was then improved as new bathymetric data became available, and new versions of the GDA were published in 1997 and 2003.

Recognizing the importance of the availability of gridded bathymetric data sets for applications such as ocean modelling work, GEBCO released its first global bathymetric grid in 2003. Since then, GEBCO have continued to update their global bathymetric grids. This map is based on the GEBCO_2022 Grid – a global grid at 15 arc-second intervals. The GEBCO_2022 Grid is the fourth data set developed through The Nippon Foundation-GEBCO Seabed 2030 Project (https://-seabed2030.org). This is a collaborative project between the Nippon Foundation of Japan and GEBCO, which aims to bring together all available bathymetric data to produce the definitive map of the world ocean floor by 2030. This release includes a version of the grid with under-ice topography/bathymetry information for Greenland and Antarctica. The grid is based on many data contributions from organizations around the world. A list is given in the data set's documentation. This combined grid of the World Ocean bathymetry is the base for this printed map and the undersea feature names are from the GEBCO Gazetteer, publication B-8 (2021). Further information on GEBCO can be found at www.gebco.net

MAP PRODUCTION

"It is recognized that for certain audiences such as geologists and ocean modelers, gridded data sets are an ideal means of the dissemination of bathymetric information." However, for other purposes a printed version of the bathymetric map is still the preferred representation. This map is the second GEBCO printed publication based on the digital bathymetry.

The printed map, initiated as a laboratory workshop project of the Nippon Foundation/GEBCO Training Program at the Center for Coastal and Ocean Mapping of the University of New Hampshire, USA, is a cartographic representation of the bathymetry of the world ocean floor, based upon the GEBCO_2022 bathymetric grid (15 arc-second resolution) available through www.gebco.net. The bathymetry is portrayed as shaded relief, hypsometrically colored with tint boundaries at 200m, 500m, and every 1000m. The basic methods of map production were kept to those used for the printable GEBCO world map released in 2012 but new GEBCO grid data in 2022 was used for the bathymetric data and satellite mosaic Blue Marble (NASA).

This map is produced and printed with support from the Korean Hydrographic and Oceanographic Agency (KHOA) and members of the GEBCO Sub-Committee on Communication, Outreach and Public Engagement (SCOPE) to celebrate the 120-year anniversary of GEBCO.

REFERENCES

General Bathymetric Chart of the Oceans (GEBCO) GEBCO Compilation Group (2022) GEBCO_2022 Grid (doi:10.5285/e0f0bb80-ab44-2739-e053-6c86abc0289c) Blue Marble satellite mosaic, NASA's Earth Observatory, www.nasa.gov/vision/earth/features/blue_marble.html
World Vector Shoreline, National Geophysical Data Center, http://rimmer.ngdc.noaa.gov/mgg/coast/wvs.html

Spilhaus Projection
Depths in corrected meters

200 500 1000 2000 3000 4000 5000 6000 7000

Bathymetric Tints
(Depths are in corrected meters below mean sea level)

GEBCO 1903-2023, Celebrating 120 Years of Ocean Discovery.