

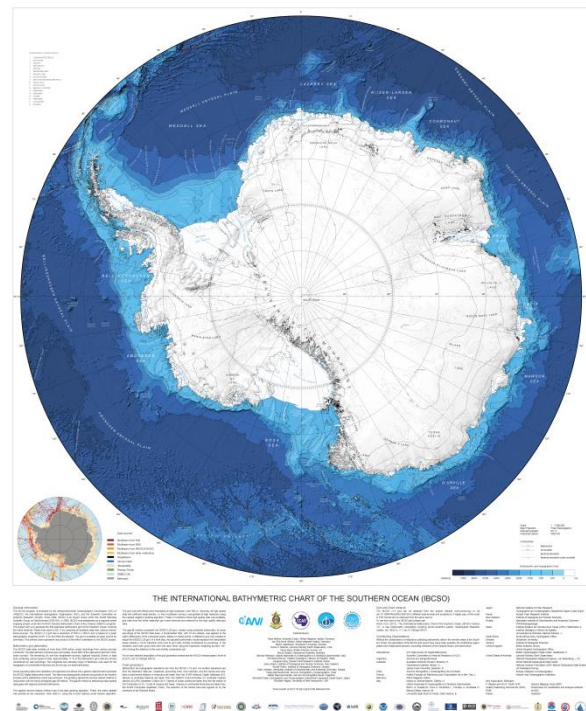
IBCSO Report 2013

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Introduction

The IBCSO project generated the first seamless bathymetric grid of the Southern Ocean covering the entire Antarctic Treaty Area south of 60° S by compiling all available data from various international sources. The IBCSO programme is endorsed by the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the International Hydrographic Organization (IHO), and the Scientific Committee on Antarctic Research (SCAR). Since 2004, IBCSO is an Expert Group within the SCAR Standing Scientific Group on GeoSciences (SSG-GS). In 2006, IBCSO was established as a regional ocean mapping project under the IHO/IOC General Bathymetric Chart of the Oceans (GEBCO) program. Since 2007 The IBCSO project was funded by AWI with a 50% contribution from IHO/IOC-GEBCO for the years 2012-2013.



IBCSO v1.0 grid

IBCSO Version 1.0 is a digital bathymetric model (DBM) of the Southern Ocean south of 60°S with a resolution of 500 m x 500 m. The DBM has a polar stereographic projection (standard parallel 65°S) on the WGS-84 ellipsoid. The data base from which the grid is derived consists of more than 4,200 million ocean soundings from various sources worldwide. About 98% of the data points are from multibeam surveys. The remaining 2% are from singlebeam surveys, digitized Nautical Charts, or datasets containing various types of data. Approximately 17 % of the bathymetric grid cells are constrained by soundings. For the topography of continental Antarctica and for the sub ice-shelf bathymetry, the sub glacial elevation layer of Bedmap2 was used. To realise IBCSO v1.0 grid scientists from 15 countries and more that 30 institutions provided bathymetry data.

IBCSO Chart

On the IBCSO Chart, bathymetric and topographic elevations are from the IBCSO v1.0 grid. Ice surface elevations are from the Bedmap2 data set. Coastlines, grounding lines, rock outcrops, and the names and positions of permanent stations in Antarctica are taken from the SCAR Antarctic Digital Database v6.0. Names of undersea features are taken from the GEBCO Sub-Committee on Undersea Feature Names (SCUFN) Gazetteer, Edition 2011. Names of ocean bodies are taken from the 4th edition of IHO Publication S-23, "Limits of Oceans and Seas". Names on continental Antarctica are taken from the SCAR Composite Gazetteer (CGA).

Publication and Outreach

The IBCSO v1.0 grid is available as open source for download. This IBCSO chart represents one product of the effort undertaken by the IBCSO project. Grid and chart can be obtained from the IBCSO website (www.ibcso.org) or via doi:10.1594/PANGAEA.805736 Citation:Arndt, et al. (2013), 'The International Bathymetric Chart of the Southern Ocean (IBCSO) Version1.0 - A new bathymetric compilation covering circum-Antarctic waters', *Geophysical Research Letters*, Vol. 40(9), p. 1-7, doi:10.1002/grl.50413.

In addition, 4,000 hard copies of the IBCSO chart were printed 1,000 for distribution by the AWI and 3,000 for distribution by the NGDC.

IBCSO grid and chart were presented at the Joint meeting of the GEBCO TSCOM and SCRUM at the Istituto di Scienze Marine Consiglio Nazionale delle Ricerche in Venezia, Italy on October 7 & 9, 2013