

Eighth GEBCO Science – presentation abstract

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Oral presentation title: IBCSO v1.0 - A new view on Antarctic Bathymetry

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Abstract

The International Bathymetric Chart of the Southern Ocean (IBCSO) is the regional mapping project of GEBCO for the area south of 60° S, covering all Antarctic waters. The project is endorsed by the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the International Hydrographic Organization (IHO) and the Scientific Committee on Antarctic Research (SCAR). The IBCSO steering committee is an Expert Group of the Standing Scientific Group of Geosciences (SSG-GS) of SCAR and works in collaboration with the IHO Hydrographic Commission on Antarctica (HCA).

This year the compilation of IBCSO Version 1.0 was completed and the digital bathymetric model and a printable chart became available. For the compilation of the digital bathymetric model, data were contributed by more than 30 institutions from 15 countries. The database consists of about 4200 million points including 177 multibeam cruises, numerous singlebeam cruises, digitized soundings from nautical charts and parts of regional bathymetric compilations.

IBCSO was gridded at a resolution of 500 x 500 m in polar stereographic projection with true scale at 65°S. For the gridding, a combination of the IBCAO V3 multi-resolution algorithm and a newly developed bending algorithm was applied. This bending tool minimized edge effects of multi-resolution gridding and allowed a smooth integration of the sounding grids with predicted bathymetry from global bathymetric data sets in areas without data points. On the printable chart of IBCSO, the new bathymetry is displayed together with up to date terrestrial datasets as Bedmap2 and ADD v6.0. Geographical names of undersea features were taken from the SCUFN gazetteer. The updated new bathymetry however required the relocation and adjustment of some undersea features. Additional geographical names were chosen from the SCAR composite gazetteer and the IHO S-23. The chart has a scale of 1 : 7,000,000 and is 1.0 x 1.2 meter in size.