

**IHO HYDROGRAPHIC COMMITTEE ON ANTARCTICA (HCA)  
7th Meeting, Buenos Aires, Argentina, 3-5 October 2007**

**International Bathymetric Chart of the Southern Ocean (IBCSO)  
Status Report  
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**General**

IBCSO makes progress:

After some time of stagnation, the status of the IBCSO project has now changed to active.

The expert group IBCSO, established in 2004 by SCAR, is now supported by a full-time postdoctoral position at the Alfred Wegener Institute, Bathymetry and Geodesy working group. The position is filled with a geoscientific expert in digital data processing and GIS techniques to serve as IBCSO scientific editor.

Duties and responsibilities of the new scientific editor are:

- development and maintenance of a new IBCSO website (web-administrator)
- build-up and operation of IBCSO members communication network (service-interface)
- data acquisition from different agencies (database-administrator)
- data processing and data optimisation in an integrated 2D-, 3D-GIS environment

In the meantime some topics of the project have been revised or updated:

- collection of new bathymetric data by various cruises with RV Polarstern
- planning of new expeditions
- relaunch of the IBCSO website for web presentation ([www.ibcso.org](http://www.ibcso.org))
- updating the mailing list of participating IBCSO members
- development and conceptual design of work flow

Beside this, future work comprises:

- data compilation and data evaluation of bathymetric data from various sources
- data integration of bathymetry, topography, and satellite altimetry
- updating the terms of reference

- presentation of IBCSO reports for IOC-HCA, IHO, SCAR, and GEBCO
- request for funding to get additional support for IBCSO

The most critical point in the early stages of IBCSO is the compilation of bathymetric data from a great number of organisations and other sources. In the nearest future we shall approach all hydrographic institutes, organisations, universities, agencies, and research institutions that are in the possession of single and multibeam data south of 50°S and ask to supply the data for the preparation of IBCSO. To minimise the influence of data errors s.a. blunders and systematic effects, data evaluation and corrections will be performed to each data set. Once the data is registered to a consistent gridded mosaic, data modelling and optimisation is applied by use of filtering and other techniques provided by GIS. Additionally, meta-data will be stored in the bathymetry meta-database established at AWI. The integration of bathymetric data together with other data from satellite altimetry and topography will result in printed maps as well as digital web maps for use in GEBCO and other projects.

Topographic data and information for IBCSO will be taken from the RAMP-data set. The RAMP data set consists of derived products from the 1997 and 2000 observation campaigns of AMM-1 (Antarctic Mapping Mission with Radarsat) and MAMM (Modified Antarctic Mapping Mission or AMM-2). Data sets include digital image mosaics, velocity mosaics, coastlines, backscatter maps, and coherence maps. Data sets are offered in a variety of formats. A series of approximately 90 image tiles covers the entire continent at 25 m resolution, and single mosaic images derived from these tiles cover the continent at resolutions ranging from 125 m to 1 km. The single images provide good detail in convenient image formats. The tile products preserve the highest resolution of spatial detail, and retain the quantitative measure of backscatter intensity, but are necessarily large files that require assembly by the user.

RAMP is an international cooperation between the United States and Canada. Partners in the Antarctic Mapping Mission (AMM) include the Canadian Space Agency (CSA) and NASA. AMM-1 data are copyrighted by the Canadian Space Agency. Only NASA-approved RAMP investigators may access or use the 25 m resolution AMM-1 data.

## **Meetings**

IBCSO was discussed at the SCOR Summit of International Marine Research Projects London, UK, 7-9 December 2006. The importance of bathymetric survey in the Southern Ocean was expressed. The SCAR/SCOR Expert Group on Oceanography takes lead in the development of a Southern Ocean Observing System (SOOS) with cooperation to the IBCSO project. A letter urging to financially support Southern Ocean Mapping programs, like IBCSO, was sent out by the Executive Directors from SCAR and SCOR to various national funding agencies (like NSF, DFG, etc.).

1<sup>st</sup> Business Meeting of IBCSO on Saturday, 1 September 2007 (8:00 a.m. to noon), Meeting Place: UCSB University Center, during the International Symposium of Antarctic Earth Sciences (ISAES) in Santa Barbara, USA.

## **Agenda of the Business Meeting in Santa Barbara:**

### **Data**

1. Topographic Data (SAR, DTM, sea- and ice-bed topography, Coastline, Grounding-line, ...)
2. Geophysical Data (gravity, magnetic anomalies, isochrones, age amp)
3. Global Data Sets (GEBCO, ETOPO2, S&S, ...)
4. Echo Sounding Data (AAD, ADD, AWI, BAS, HDNO, IHO-DCDB, LDEO, NIWA, Scripps, UKHO, VNI...)
5. HDNO – Antarctic Atlas
6. AUV Multibeam Synthesis
7. Metadata Infrastructure

### **Management Perspectives**

8. SCAR/SCOR Recommendations,
9. IHO, IOC, HCA, SCOR and SCAR Representatives
10. Additional Funding
11. Cooperation and Support
  - a. IBCSO – a German-Canadian joint effort (OMG of UB)
  - b. IBCSO Products – defining the Southern Ocean Limits
  - c. Polarstern MB Data for other regional maps

### **Upcoming Events**

12. GEBCO SCDB Meeting, 11-13 Sept. 2007, Palisades, NY
13. SOOS Planning Workshop, 1-3 Oct. 2007, Bremen
14. IHO Hydrographic Committee on Antarctica, 3-5 Oct. 07, Buenos Aires
15. SCAR SC-AGI Meeting, 8-10 Oct. 2007, Buenos Aires
16. Ocean Science Meeting, 2-7 March 2008, Orlando, FL
17. Biennial SCAR Meeting, 5-7 July 2008, St. Petersburg

Annual meeting of the GEBCO Technical Sub-Committee of Ocean Mapping on 11 to 13 Sept at Lamont Doherty Earth Observatory (LDEO), NY. A report is not yet available.

### **Publications and outreach**

- A web-site was developed: <http://www.ibcso.org/>
- A new logo was created
- Status Report in GeoReach,  
[http://www.scar.org/researchgroups/geoscience/GS\\_Newsletter\\_Oct2006.pdf](http://www.scar.org/researchgroups/geoscience/GS_Newsletter_Oct2006.pdf)
- conceptual design and development of work flow
- Report in the EOS Transactions titled: **Southern Ocean mapping Program Restarts**  
<http://www.agu.org/journals/eo/eo0731/2007EO310003.pdf>
- Oral presentation of IBCSO at the International Symposium of Antarctic Earth Sciences  
<http://isaes.confex.com/isaes/2007/techprogram/S1205.HTM>