



International Bathymetric Chart of the Southern Ocean

Minutes of the 2nd IBCSO Meeting XXX SCAR Science Week, 4-7 July 2008, St Petersburg, Russia

Date: Sunday, 6 July 2008 (14:00-18:00)

Venue: Arctic and Antarctic Research Institute (AARI), St Petersburg

Participants:

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|---------------------------|-----|---------------|
| 1. Hans Werner Schenke | HWS | (Germany) |
| 2. Norbert Ott | NO | (Germany) |
| 3. Dmitri Travin | DT | (IOC UNESCO) |
| 4. Vadim Sobolev | VS | (Russia) |
| 5. Alexey Glazko | AG | (Russia) |
| 6. Jesus Galindo-Zaldivar | JGZ | (Spain) |
| 7. Philip O'Brien | POB | (Australia) |
| 8. Fred Davey | FD | (New Zealand) |
| 9. Yoshifumi Nogi | YN | (Japan) |
| 10. Heinz Miller | HM | (Germany) |
| 11. Tara Deen | TD | (UK) |
| 12. Robert Arko | RA | (USA) |
| 13. Hamish Pritchard | HP | (UK) |
| 14. Zhou Chunxia | ZC | (China) |
| 15. Sasha Golynsky | SG | (Russia) |
| 16. Rudolph Greku | RG | (Ukraine) |

Recorder: Tara Deen

1. Opening:

Hans-Werner Schenke (HWS) opened the meeting at 14:10, welcoming Dr Dmitri Travin (DT) from the IOC, who is responsible for the IOC Ocean Mapping program and also the delegate from the Department of Navigation and Oceanography of Russia (DNO).

DT extended a welcome from Prof. Patricio Bernal, the Executive Secretary, IOC/UNESCO and gave a summary of the IOC. The IOC will continue their support for IBCSO but is looking for means and resources. He intended reporting the results of the meeting back to the IOC.

HWS followed this by indicating that the IOC Executive Secretary Patricio Bernal has given his support and encouragement to IBCSO **and** the associated SOGIS initiative. DT said that all ocean mapping initiatives must combine in order to survive.

2. Adoption of agenda: no changes were made, the agenda was adopted unanimously.

3. Introduction of participants: participants introduced themselves.

4. Report on progress of IBCSO:

HWS reported on the instigation, history and progress to date of IBCSO. He showed the tracks of data currently available to IBCSO – many tracks are still outstanding where data exists, for example Russian echo soundings and sonar data in the South Indian Ocean part. The major data gaps are in the Weddell and Amundsen Seas and the South Indian Ocean.

The idea was raised to use Sandwell's recently released ETOPO1 (a 1' bathymetry grid) as the basis of IBCSO maps. HWS thinks that the ETOPO1 data, valuable as it is, is suboptimal for this purpose because of interpolation in areas of data gaps. Using it as the basis of IBCSO would introduce fundamental systematic errors. FD suggested the problems with the new data set could be a problem with sound velocity conversion. The problem with the new data set is a disparity of ± 50 -100m from previous models.

NO described the way he intends using ArcGIS to combine mapping initiatives into SOGIS. A discussion was held into the need to consider land topography, ie. Radarsat and LIMA in inaccessible areas. The need to consider what coastline data to use was discussed. The possibility of using coastlines derived from LIMA was raised. It was pointed out that the most up-to-date coastline at present is that derived for the Antarctic Peninsula in the Antarctic Digital Database.

JGZ reported that Spain is ready to release data to IBCSO, with data available from Granada/Barcelona now. The Spanish Geological Survey has acted as an Antarctic Data Centre, but has only collected metadata.

HWS stated that IBCSO do not have the resources to process data, so data submitted to IBCSO should be processed. Grids would be OK, so long as they were submitted with track control as an overlay.

A discussion was held into ways to improve the levels of data submission to IBCSO. One suggestion was to compile a list of areas in which data was required, and to also compile a list of areas where data exists but have not been submitted. This could then be submitted to COMNAP.

Russia: Russian data is often held with individual institutions, which can make obtaining data difficult. It is up to the individual institutions.

Several countries were not present for the meeting, such as Argentina, Brazil, Chile and South Africa.

5. Report on SOGIS status:

NO presented a summary on SOGIS.

Objectives:

- To portray seafloor topography at several levels, from bathymetry patchwork to charts.
- To generate thematic maps and grids, with provision to incorporate DTM derivatives and surface models.
- To foster international collaboration at the acquisition stage
- To build up an effective working group.

SOGIS is planned to comprise:

- IBCSO bathymetry south from 50S with two grids: 2.5 km and 1'
- GEBCO bathymetry (1', 25 Mb)
- ETOPO2v2 (2', 30 Mb)
- GEOSAT/ERS1-1 (2')
- Smith and Sandwell bathymetry (3' x 1.5', 47 Mb)
- ADMAP Antarctic Digital Magnetic Anomaly Project (5km grid, 50 Mb)
- Age grid of ocean floor (6' grid)
- RAMP Radarsat Mosaic of Antarctica
- LIMA Landsat Image Mosaic of Antarctica
- BEDMAP bedrock and onshore topography

The issue was raised that many of these compilation have older coastlines of several generations – how is the accuracy of these to be checked?

6. Other Presentations:

Hamish Pritchard presented BEDMAP. BEDMAP extends north 60S. There is a plan to revise BEDMAP, and publish BEDMAP2 in 2010. BEDMAP2 faces challenges, such as how to deal with under shelf-ice topography – there is no way to deal with this without seismic. NO enquired about how BEDMAP define the coastline, as coastline must have the same definition to have an effective seamless interface of two projects. HP said that BEDMAP will probably use grounding lines defined by NASA interferometry.

Bob Arko presented the Marine Geoscience Data Synthesis (MGDS). This is a collection of databases hosted by the LDEO, focused on expeditionary datasets and collations. It contains a global multi-resolution topographic synthesis and utilises the visualisation tool GeoMapApp. The MGDS holds multibeam data from the *Nathaniel B Palmer* from the installation of multibeam on the ship in 1992. It currently has funding until 2012, and will soon release a new 3-D application based on GeoMapApp and Worldwind. This will also be used to deploy web services of the data, such as DTM flythroughs, during the next year.

Rudolf Greku presented sounding data obtained in the Ukrainian expeditions at boats within unsurveyed archipelagos of the West Antarctic and the ship soundings in the straits and the bathymetric map of the Argentine Archipelago. The Electronic Atlas of the Antarctic deep structure with the gravimetric tomography was presented also.

Zhou Chunxia presented some new data acquired by China. Prior to this year, China has only acquired bathymetry data using small boats. They have now installed an EA600 system, and this year commenced surveying. Their PANDA project plan to survey Prydz Bay and the Amery Shelf region in the coming season.

7. Topics under consideration:

7a. IBCSO at SCAR-SSG and Delegates meeting:

NO: IBCSO was presented at the SSG_GS that morning. Opinions were sought over how to best present IBCSO at the Moscow delegates meeting.

- Emphasise calls for delegates from each country to move this forward
- Establish an inventory of current swath data and submit this to COMNAP
- Emphasise linkage between BEDMAP and IBCSO
- Data policy will be based on IOC/IODE principles
- What possibility is there for external funding?

7b. External funding:

HWS commented that times have changed and more private companies are working in polar areas. We should take advantage of funding opportunities from private finance.

DT commented that private companies are eager customers of database like IBCSO and would contribute financially. External funding would be required to achieve a project as ambitious as IBCSO. He called for a first step to be to draw up a list of potential donors, ie selling bathymetry to navigational companies. An example of a funding source could be to delineate seafloor features and value-add to the data, such as supplying it through Google Earth.

Tara Deen commented that it was important to avoid any suggestion of selling on data. Any finding idea would need to be a value-added product. It would be necessary to have a comprehensive understanding of the legal and logistical requirements of such a move and what is possible under SCAR before any decisions could be made.

7c. Upcoming events:

There is a GEBCO meeting coming up. HWS pointed out that the reason GEBCO is so successful is that it meets every year. AG is meeting with the chief of Brazilian HO to ask them to contribute.

Should there be biennial or annual meetings? Possibilities:

- SCAR is the logical choice to attach a meeting, but there is a need for more frequent meetings
- ISAES is another logical partner for meetings, which would mean meetings every four years
- Ad hoc meetings in Bremerhaven as required
- Link to GEBCO meetings
- Would be good to have some meetings in the southern hemisphere
- Chair to decide appropriate venue for next meeting and inform members.

8. Outreach/reports:

- There have been two publications. One was published in the ISAES abstracts volume, and the other in Hydro International. These mention the IBCSO website and include the web address and mailing list.
- Prepared posters have included the sub-committee of GEBCO, showing the bathymetry patchwork (what data is where and when it was acquired), and describing SOGIS. Two posters have been presented at SCAR. The first covers the IBCAO and the other the product line of SCAR deliveries from IBCSO.

- A talk was presented at SCAR, covering IBCSO, SOGIS and SOOS, dedicated to SO observers. The next talk will be given at the end of September in Bremen, at the Intergeo meeting.

DT is to have a paper in Hydro International on IOC activities and ocean mapping. He will mention IBCSO in the article.

HWS mentioned that there was a Hydrographic Workshops at the ATCM in Kiev in June 2008, covering 5 presentations, including the “Hydrography and its contribution to Antarctic Sciences (Southern Ocean Mapping).

A query was raised as to whether it was time to prepare another paper. The decision was made to wait until the next meeting and reassess.

9. Any other business: There was no other business.

10. Next actions: These were not discussed as it was agreed they had been covered during the meeting.

11. Next meeting: TBA. The chair will decide appropriate venue for next meeting and inform members.

12. Closure: The meeting closed at 18:13.

Last edit: 18 September 2008