The International Bathymetric Chart of the Southern Ocean
Version 1.0

New ‘classic’ and lenticular Maps of Antarctica for Science and Outreach

Arndt, Jan Erik¹; Schenke, Hans Werner¹; Buchroithner, Manfred²; Radig, Lars²; Schwenn, Teresa²

¹ Alfred-Wegener-Institute; ² TU Dresden
Antarctica
What is IBCSO?

• International Regional Seafloor Mapping Project
• Goal:
  – Collect all available data
  – Create a first seamless bathymetric grid for Antarctica
  – Visualization of the grid

Map products
Organization of the IBCSO

- Expert Group of SCAR since 2004
- Regional Mapping project of General Bathymetric Chart of the Oceans (GEBCO)
- Operates under the joint auspices of the Intergovernmental Oceanographic Commission (IOC) (of UNESCO) and the International Hydrographic Organization (IHO)
- Cooperation with the IHO Hydrographic Commission on Antarctica (HCA)
- Located at the Alfred Wegener Institute (AWI)
IBCSO Database

- Soundings
  - Multibeam
  - Singlebeam
- Nautical Charts
- Bathymetric Compilations
- Predicted bathymetry from satellite altimetry
- Continental Data
Basis data in several formats

- HDCS
- XYZ
- Images
- Grids
- MB System
- Shape
- etc...

Homogenization

IBCSO data base

ASCII (X; Y; Z; Weight; ID)

Iterations

Gridding:
remove-restore
gap-fill

Data Cleaning:
QPS Fledermaus

Digital Bathymetric Model and Source Identifier Grid
Comparison to GEBCO_08
Comparison to GEBCO_08
Comparison to GEBCO_08
Comparison to GEBCO_08
IBCSO Version 1.0

(Arndt et al. 2013, GRL)
Basis data in several formats

Homogenization

IBCSO data base

Gridding:
- remove
- restore
- gap-fill

Data Cleaning:
QPS Fledermaus

Digital Bathymetric Model
and
Source Identifier Grid

Maps

20.09.2013 1426th International Cartographic Conference
Map products

Science

- GIS Background GeoTiff
- Wallpaper Chart
- Foldable IBCSO – IBCAO map

Outreach

- Lenticular Map

Planned
Wallpaper Chart
Map products

Science

- GIS Background GeoTiff
- Wallpaper Chart
- Foldable IBCSO – IBCAO map

Outreach

- Planned
- Lenticular Map
Lenticular Map

Foil with micro-lenses on top

Image with multiple synthetic views
Lenticular Map – Preview 3D
Thanks for your attention!

For further information visit
www.ibcso.org
or contact me via
Jan.Erik.Arndt@awi.de