

IHO HYDROGRAPHIC COMMITTEE ON ANTARCTICA (HCA)
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National Report –Germany–

General

One of Germany's area of responsibility for preparing INT Charts in Antarctica is the area off the Dronning Maud Land, in particular the region which covers the Atka Bay (Atkabukta) and the Ekstroemisen, on which the German wintering station Neumayer is located. The German Research and Supply Vessel "Polarstern" visits the Neumayer Station at least two times the year for logistic and scientific reasons.

The two Nautical Charts INT 9055 and INT 9057, are needed for a safe approach, navigation and operation in this region.

- INT 9055 (DE 1702) „Atkabukta to Muskegbukta“
68°20'S - 71°00'S, 10°30'W - 01°30'E,
1:500 000 at a reference latitude of 66°S, Geodetic Datum: WGS-84

- INT 9057 (DE 1703) „Approaches to Atkabukta“
69°30'40"S - 70°50'S 10°00'W - 05°00'W,
1:200 000 at a reference latitude: of 70°S, Geodetic Datum: WGS-84

The paper charts and the corresponding ENCs are due to be produced in a joint project by Federal Maritime and Hydrographic Agency (BSH) as national HO, and the Alfred Wegener Institute for Polar and Marine Research (AWI) which holds most of the bathymetric and topographic source data for this region. The charts will be prepared in the same kind as INT 9056 and will include topographic information and Radarsat imagery.

BSH and AWI have started the workings on 1 November 2007 with the evaluation of the bathymetric and topographic data and the build-up of a data-archive. Funding for a full-time hydrographer has been made available at the AWI. Data evaluation and processing were carried out at the AWI. The production and editing of the data base for ENC and paper chart at the BSH has started in August 2008 and is due to be finished by the end of the year 2008 at the latest. Further updating of both paper charts and ENCs will be maintained under the regular BSH regime for such navigational publications.

Data

Hydrographic

The RV Polarstern multibeam data from 1989 until 2007 will be used for the soundings in the chart and the creation of contour lines. For this purpose a new DTM will be generated. The existing BCW (Bathymetric Chart of Weddell Sea, publication 1998) contour lines will be used in combination with the multibeam data contour lines to create complete contour lines over the chart areas.

Topographic

The imagery was taken from the Radarsat Antarctic Mapping Project (RAMP) data.

The coastline and grounding line were extracted from the ADD5.

The land elevation (glacier elevation) were extracted from the ADD4.

The ice concentration data: NSIDC (National Snow and Ice Data Center) from IFREMER.

Current work progress:

AWI

- Post-processed bathymetry data (multibeam data from RV "Polarstern") using Caris HIPS
- Extracted coastline, grounding line from RAMP and ADD4 and ADD5
- undersea features, land features from SCAR (CGA), SCUFN (GEBCO)
- features like Neumayer Station, Emperor Penguin colony
- ice concentration pictures and extracted lines (only the ice concentration is from the IFREMER)

BSH

- imported the data and features in the Hydrographic Production Database (HPD)
- created the first test paper chart with cartographic layout
- defined the sea ice limits
- delivered magnetic variation data
- verification and validation of depth data

Liaison:

GEBCO, SCAR, SCUFN, IBCSO, StAGN

Conclusions:

The publication of the paper charts and the corresponding ENCs is planned for the end of 2008.

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