



**IHO HYDROGRAPHIC COMMITTEE ON ANTARCTICA (HCA)
13th Meeting, Cadiz, Spain, 3-5 December 2013**

NATIONAL REPORT – BRAZIL

Hydrographic Office / Directorate of Hydrography and Navigation (DHN)
Service:

1. Surveys: During the 31th Antarctic Commission (OPERANTAR XXX), performed by the Brazilian Navy Ships ALMIRANTE MAXIMIANO (Polar Ship) and ALMIRANTE ARY RONGEL (Oceanographic Support Ship), bathymetric surveys using single beam and multibeam echosounder were conducted in areas covered by the nautical charts 25120 – King George Bay, 25121 – Admiralty Bay (King George Island) and 25122 – Maxwell Bay (King George Island). Among other operations, sub-bottom profiler (SBP300) was used and GEBCO surveys took place.

2. New charts & updates: Brazil has concluded its Antarctic Cartographic Planning, gathering the following six (06) nautical charts:

Nautical Charts (paper):

- 25110 (INT 9150) – Antártica: Ilha Elefante e Proximidades, 1:200.000, Ed. 2009;
- 25115 – Antártica: Ilhas Shetland do Sul – Ilha Elefante, 1:100.000, Ed. 2005;
- 25119 – Antártica: Ilhas Shetland do Sul - Baía Serratt, 1:40.000, Ed. 2013;
- 25120 – Antártica: Ilhas Shetland do Sul - Baía Rei George, 1:40.000, Ed. 2013;
- 25121 – Antártica: Ilhas Shetland do Sul - Baía do Almirantado, 1:40.000, Ed. 2009; Inset A: Enseada Martel , 1:20 000; and Inset B: Estação Comandante Ferraz, 1:5.000; and
- 25122 – Antártica: Ilhas Shetland do Sul - Baía Maxwell, 1:40.000, Ed. 1994; and Inset: Enseada Ardley e Baía Edgell, 1:20.000.

Two new editions of nautical charts were released in March, 2013: 25119 (INT-9127) – Antártica: Ilhas Shetland do Sul – Baía Serratt,

1:40.000 and 25120 (INT-9126) – Antártica: Ilhas Shetland do Sul – Baía Rei George, 1:40.000.

ENCs:

- BR3 25110 – Ilha Elefante e Proximidades, 1:180.000;
- BR4 25119 – Ilhas Shetland do Sul - Baía Serratt, 1:40.000;
- BR4 25120 – Ilhas Shetland do Sul - Baía Rei George, 1:40.000;
- BR4 25121 – Baía do Almirantado (Ilha Rei George), 1:45.000;
- and
- BR5 25121 – Enseada Martel, 1:12.000.

Two new ENC cells were released in March 2013: BR4 25119 – Ilhas Shetland do Sul – Baía Serratt, 1:40.000 and BR4 25120 – Ilhas Shetland do Sul – Baía Rei George, 1:40.000.

3. New publications & updates: X X X
4. MSI X X X
5. S-55 Not applicable to INT Region M.

6. Capacity Building

- a) Training needed: X X X
- b) Training and courses offered:

COURSE	DESCRIPTION	DURATION
C-Esp-HN	Aims to qualify the student to be a technician in Hydrography and Navigation issues.	42 weeks
C-Ap-HN	Aims to increase the capability of the student to be a technician in Hydrography and Navigation.	35 weeks
CAHO (IHO Cat."A")	Aims to provide the student with the capability to plan, to conduct and to execute the activities related with the Hydrographic Service.	50 weeks
Hydro 1	Aims to provide the student with the capability of planning a hydrographic survey.	66 hours
Hydro 2	Aims to provide the student with the capability of conducting and executing a hydrographic survey using singlebeam ecosounders, multibeam ecosounders and side scan sonars.	98 hours
Training in singlebeam A/P	Aims to promote a day-by-day follow up of the singlebeam acquisition and of the processing tasks aboard.	-
Training in multibeam A/P	Aims to promote a day-by-day follow up of the multibeam acquisition and of the processing tasks aboard.	-
Training in Side	Aims to promote a day-by-day follow up of the	-

COURSE	DESCRIPTION	DURATION
Scan operation	side scan operation aboard.	
Training in gauge operation	Aims to promote a day-by-day follow up of the gauge operation aboard.	1 week
Training in GPS survey and post processing	Aims to provide the student with the capability of planning a GPS network, carrying out a classical survey, post-processing baselines and adjusting geodetic coordinate network stations.	1 week
Training in oceanographic data acquiring and post-processing	Aims to promote a training on CTD, ADCP Thermosalinometer operation and data processing	2 weeks

- On November 2013, DHN (Brazil) will host the Multibeam Sonar Training Course promoted by the University of New Brunswick, as a part of the Ocean Mapping Group effort to promote the multibeam echosounder technology capability.

This six-day, 36-lecture course is designed to provide a theoretical and practical background in marine swath survey technology and techniques for hydrographic surveys, continental shelf boundary delimitation, offshore engineering, harbour dredging, fisheries habitat, route survey and scientific research, and provides overviews of:

- the technology and problems associated with shallow water multibeam surveys;
- processing and visualization techniques designed to address the complexities of swath mapping; and
- constraints on using swath bathymetry to produce highest quality data.

c) Projects under development: XXX

7. Oceanographic activities

During OPERANTAR XXXI, the Brazilian Navy Polar Ship ALMIRANTE MAXIMIANO acquired oceanographic data from CTD/rosette, Thermosalinograph and water samples for chemical analysis. Drifting buoys were deployed as well as XBT. Current measurements were also taken, along with CTD/rosette deployments supporting Brazilian Scientific Community. During next OPERANTAR XXXII it is planned the acquirement of more oceanographic data in order to support Brazilian scientific projects.

GEBCO/IBC's activities: routine GEBCO soundings were performed by the Brazilian Navy Polar Ship ALMIRANTE MAXIMIANO during all the OPERANTAR XXXI operations. Problems detected: due to the isolation and harsh conditions of the Antarctic region, it is always necessary to keep a large number of spare equipments and parts to adequately perform the oceanographic measurements.

8. Other activities

Participation in IHO Committees / Working Groups: HSSC, IRCC, MACHC, SWATHC, HCA, TSMAD, SNPWG, DPSWG, CSPCWG, DQWG, MSDIWG, TWLWG, HDWG, EUWG, ABLOS, WWNWS, CBSC, WENDWG, IBSC, GEBCO-SCUNF, GEBCOTSCOM, IEHG, PAC-PRIMAR, IMO-NAV, IC-ENC.

9. Conclusions DHN continues its commitment in carrying forward hydrographic activities through the work of the Hydrographic Commission on Antarctica.