

**MESOAMERICAN AND CARIBBEAN HYDROGRAPHIC COMMISSION**  
**12th Meeting, Basseterre, St.KTTS & Nevis, 6-9 December 2011**

**NATIONAL REPORT – BRAZIL**



**Directorate of Hydrography and Navigation (DHN)**

**1. Surveys:**

Coverage of new surveys: during 2011, the Brazilian Navy Hydrographic Ship Garnier Sampaio conducted surveys in the vicinity of the North Entrance of Amazon river and in a little area called Canal Grande de Curuá; and the Hydrographic Boats Denebola and Vega conducted surveys in the Tocantins river and in the vicinity of Macapá city.

**2. New charts & updates:**

**International Charts:**

INT	National	TITLE	Scale 1 :	1st Ed	To be edited
4071	21010	De Cayenne ao Cabo Guripi	1 000 000	2010	
2003	21020	De Salinópolis à Fortaleza	1 000 000	1999	
4194	21100	Do Cabo Orange à Ponta Tucumã	300 000	2010	
4195	21200	Da Ponta Tucumã à Ponta Guará	300 000	2011	
4196	21300	Do Cabo Norte ao Cabo Maguari	300 000		2012
4197	21400	Do Cabo Maguari à Ponta Boiuçucanga	300 000		2012

**ENC cells:**

Cell Nr	TITLE	Scale 1 :	1st Ed	To be edited
BR221010	De Cayenne ao Cabo Guripi	700 000	2011	
BR221020	De Salinópolis à Fortaleza	700 000	2010	
BR321100	Do Cabo Orange à Ponta Tucumã	180 000	2010	
BR321200	Da Ponta Tucumã à Ponta Guará	180 000	2011	
BR321300	Do Cabo Norte ao Cabo Maguari	180 000		2012
BR321400	Do Cabo Maguari à Ponta Boiuçucanga	180 000		2012
BR321500	Da Ponta Boiuçucanga a Ponta do Zumbi	180 000		2012
BR400011	Arquipélago de São Pedro e São Paulo	22 000	2010	
BR400201	Barra Norte do Rio Amazonas	45 000	2010	

BR400202	Da Ilha Bailique a Ponta do Capinal	45 000	2010	
BR400203	Da Ponta do Capinal às Ilhas Pedreira	45 000	2010	
BR400204	Das Ilhas Pedreira à Ilha de Santana	45 000	2010	

### 3. New publications & updates:

New Editions:

- List of Lights DH2 33rd Edition (by DEZ2012 - 2013);
- DHN/2011, "List of Nautical Charts and Publications – DH20";
- Tide Tables DG6 48th Edition (by DEZ2012); e
- Nautical Almanac DN5 68th Edition (by DEZ2012).

Means of delivery: paper and website.

### 4. MSI:

Brazilian Navy Hydrographic Centre is responsible for receiving, processing and promulgation of MSI for NAVAREA V area, on behalf of Directorate of Hydrography and Navigation (DHN), in accordance with GMDSS Master Plan. By SafetyNET service, navigational warnings are broadcasted at scheduled time (0030 and 1230 UTC). Meteorological information is broadcasted at scheduled times (0730 and 1930 UTC), at least twice a day. Bad weather warnings are issued at any time, whenever necessary.

For VHF/HF radio band, MSI is broadcast by the Rio de Janeiro Navy Radio station at least three times a day. Local navigational warnings are broadcast by VHF/HF radio band only.

SERVICE	Yes	No
LOCAL WARNINGS	X	
COASTAL WARNINGS	X	
NAVAREA WARNINGS	X	
INFORMATION ON PORTS AND HARBOURS		X

### 5. S-55:

Status of **hydrographic survey** of all navigable waters, including internal waters, out to the limits of the EEZ. Survey coverage, where:

A = percentage which is adequately surveyed.

B = percentage which requires re-survey at larger scale or to modern standards.

C = percentage which has never been systematically surveyed

	A	B	C
Depths < 200m	30	67	3
Depths > 200m	0	100	0

Status of **nautical charting** within the limits of the EEZ. Coverage of charts published by your organization, where:

A = percentage covered by INT series, or a paper chart series meeting the standards in S-4.

B = percentage covered by Raster Navigational Charts (RNCs) meeting the standards in S-61.  
 C = percentage covered by ENC's meeting the standards in S-57.

Purpose/Scale	A		B		C
	INT	National	INT	National	
Offshore passage / Small	100		50		50
Landfall and Coastal passage / Medium	50		50		50
Approaches and Ports / Large		100		96	100

## 6. Capacity Building

### Training and courses offered:

COURSE	DESCRIPTION	DURATION
CAHO (IHO Cat."A")	To provide the student with the capacity to plan, to conduct and to execute the activities related with the Hydrographic Service.	50 weeks
C-Ap-HN (IHO Cat."B")	To increase the capacity of the student to be a technician in Hydrography and Navigation.	35 weeks
C-Esp-HN	To qualify the student to be a technician in Hydrography and Navigation issues.	42 weeks
Hydro 1	To plan a hydrographic survey.	66 hours
Hydro 2	To conduct and to execute a hydrographic survey using singlebeam ecosounders, multibeam ecosounders and side scan sonars.	98 hours
Tide	To introduce the tide theory learning how to predict and how to get a harmonic analyses to a hydrographic survey use.	83 hours
Cartography Projections	To identify and to use cartographic projection systems commonly applied in hydrography.	51 hours
Nautical Chart Production	To describe the processes of the construction and updating of a Nautical Chart.	37 hours
Training in singlebeam acquisition and processing	To promote a day by day follow up of the singlebeam acquisition and of the processing tasks onboard.	-
Training in multibeam acquisition and processing	To promote a day by day follow up of the multibeam acquisition and of the processing tasks onboard.	-
Training in Side Scan operation	To promote a day by day follow up of the side scan operation onboard.	-
Training in gauges operation	To promote a day by day follow up of the gauge operation onboard.	1 week
Training in GPS survey and post processing	To plan a GPS network, to carry out a classical survey, to post-process baselines and to adjust geodetic coordinate network stations.	1 week
Training in oceanographic data acquiring and post-	To promote a training on CTD, ADCP Termosalinometer operation and data processing	2 weeks

COURSE	DESCRIPTION	DURATION
processing		

### **Training and courses carried out:**

On 16-18 May 2011, a Maritime Safety Information (MSI) Training Course to benefit countries in the area of influence of the South West Atlantic (SWAHC), South-East Pacific (SEPHC) and the MESO American & Caribbean Sea (MACHC) Hydrographic Commissions was held on behalf of the International Hydrographic Organization (IHO) Capacity Building Committee (CBC) and the IHO's World-Wide Navigational Warning Service – Sub Committee (WWNWS-SC). There were 2 professors and 18 attendees in the MSI course, sponsored by IHO-CBC (course registration fee, hotel and meals): 1 from Antigua & Barbuda, 2 from Argentina, 4 from Brazil, 1 from British Virgin Islands, 2 from Chile, 1 from Colômbia, 2 from Equador, 1 from Grenada, 2 from Peru, 1 from Suriname and 1 from Uruguay.

On 16-19 May 2011, the Brazilian Hydrographic Ship "Garnier Sampaio," moored in Paramaribo, held a training about hydrography activities for 25 participants from the Maritime Authority of Suriname. The training sessions were given by hydrographer officers of the ship and were about general aspects, procedures and equipment used in hydrographic surveys. Photos of training are attached to this report.

### **7. Oceanographic activities**

General: deployment of XBTs by Navy Ships of Opportunity, at Brazilian and international waters, and the operation and annual maintenance of eight PIRATA moored buoys by Hydrographic Navy Ships.

GEBCO/IBC's activities: routine GEBCO soundings are performed by the Hydrographic Navy Ships employed the oceanographic commissions in the area and in the annual maintenance of the eight PIRATA moored buoys.

Oceanographic cruises, managed by CHM, took place on the Brazilian SOUTH coast this year, with CTD, vessel and moored ADCP data acquisition. Next year CHM has the intention to concentrate the ADCP and CTD data collection on the Brazilian East coast.

The Brazilian National Buoy Program faced some operational problems and had to perform maintenance of the buoys that had been launched in the south and southeast coast. By the end of this year the network must have 6 operational buoys. Drifting buoys are regularly deployed along Brazilian coast by Navy Ships. Problems: Besides the great logistics involved in the launching and maintenance of the fixed buoys, they face a lot of vandalism.

### **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, GEBCO-TSCOM, IMO-MSC-NAV, IEHG.

### **9. Conclusions:**

DHN continues its commitment to carrying forward hydrographic activities through the work of the MESO American & Caribbean Sea Hydrographic Commission (MACHC).



