



MESO AMERICAN AND CARIBBEAN SEA HYDROGRAPHIC COMMISSION 17th Meeting – Belém-PA, Brazil (14-17 December 2016)

NATIONAL REPORT – BRAZIL

1. Hydrographic Office / Service: Directorate of Hydrography and Navigation (DHN).
2. Surveys (MACHC region): Coverage of new surveys: during 2016, Brazilian Navy Hydrographic Ships conducted surveys on the Amazon Basin and in the north region of NAVAREA V, contributing to the nautical cartographic update of the area.

New technologies/equipment: XXX

New ships: XXX

Problems encountered: X X X.
3. New charts & updates (MACHC region):

New ENC cells:
 - BR44029 – Da Ilha Panumã a Itacoatiara;
 - BR54029C – Terminal Graneleiro;
 - BR54029B – Terminal de Itacoatiara;
 - BR54029A – Paraná do Serpa; and
 - BR500221 – Barra Norte do Rio Amazonas.
ENC distribution method: Brazilian ENCs are distributed by IC-ENC.

RNCs: DHN provides raster navigational charts for the NAVAREA V. 438 RNC (53 in MACHC region) are currently available at no cost for the entire community.

INT Charts: the INT nautical charts scheme for MACHC region is ready since NOV2013. There were no new editions in 2016.

National paper charts (MACHC region): the first edition of the nautical chart 4029A – Paraná do Serpa was published in JUL2016.

Other charts: X X X

Problems encountered: X X X.
4. New publications & updates: New publications:

Updated publications: Tide Tables DG6 54th Edition (DEZ2016) and Nautical Almanac DN5 73th Edition (DEZ2016).

Means of delivery: paper and digital format accessible (the last one can be downloaded at DHN INTERNET website).

Problems encountered: X X X.

5. MSI

Existing infrastructure for transmission: Brazilian Navy Hydrographic Centre is responsible for the reception, processing and promulgation of MSI for NAVAREA V, on behalf of DHN, in accordance with GMDSS Master Plan. Navigational warnings and Meteorological Information are broadcasted by SafetyNET service at scheduled times (0030 and 1230 UTC) twice a day. Meteorological information is broadcasted at scheduled times (0730 and 1930 UTC) twice a day. Bad weather warnings are forwarded any time, whenever it's necessary.

MSI is also broadcasted in VHF/HF by Rio de Janeiro Navy Radio Station, at least three times a day. Local navigational warnings are broadcasted by VHF/HF only.

SERVICE	YES	NO	PARTIAL	NOTES
LOCAL WARNINGS	X			
COASTAL WARNINGS	X			
NAVAREA WARNINGS	X			
INFORMATION ON PORTS AND HARBOURS	X			

GMDSS IMPLEMENTATION (IMO Publication 970 - GMDSS Handbook)

SERVICE	YES	NO	PARTIAL	NOTES
MASTER PLAN	X			
A1 AREA	x			
A2 AREA	x			
A3 AREA	X			
NAVTEX		X		
SafetyNET	X			

Problems encountered: X X X.

6. C-55

On April 26th the template with updates for C-55 was sent to IHO (divided in Region B and C1). The Region B was subdivided in 3 regions: Amazon Basin, Coast and São Pedro e São Paulo Archipelago.

Status of hydrographic survey:

Survey coverage, where:

A - Percentage which is adequately surveyed.

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

C - Percentage EEZ which has never been systematically surveyed.

1 – Amazon Basin:

	A	B	C
0 - 200m	55	45	0
Depths > 200m	---	---	---

2 – Coast

	A	B	C
0 - 200m	70	20	10
Depths > 200m	90	10	0

3 - São Pedro e São Paulo Archipelago

	A	B	C
0 - 200m	0	100	0
Depths > 200m	100	0	0

Status of nautical charting:

Coverage of charts published by your organization, where:

A - Percentage covered by INT series/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.

1 – Amazon Basin

Chart coverage	Passage (%)	Coastal (%)	Port (%)
INT	---	---	55
RNC	---	---	50
ENC	---	---	100
Status of Paper Charts			
Paper charts with depths in meters (%)	100		
Paper charts referenced to a satellite datum (%)	60		

2 - Coast

Chart coverage	Passage (%)	Coastal (%)	Port (%)
INT	100	100	100
RNC	100	100	80
ENC	100	75	100
Status of Paper Charts			
Paper charts with depths in meters (%)	100		
Paper charts referenced to a satellite datum (%)	100		

3 – São Pedro e São Paulo Archipelago

Chart coverage	Passage (%)	Coastal (%)	Port (%)
INT	100	100	---
RNC	100	100	---
ENC	100	100	---
Status of Paper Charts			
Paper charts with depths in meters (%)		100	
Paper charts referenced to a satellite datum (%)		100	

7. Capacity Building

Training needed: X X X.

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

On November 2016 DHN (Brazil) hosted a three-week Hydrographic Survey Course, as a part of an effort to build hydrographic capacity also to civilian companies.

a) Projects under development: X X X

8. Oceanographic activities

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

Oceanographic cruises were done by the Brazilian Navy Hydrographic Ships on the north, east and south coasts of Brazil, using CTD, XBT and ADCP.

The Brazilian National Buoy Program counts on 5 operational buoys. Drifting buoys were also deployed along the Brazilian coast during the oceanographic cruises.

GEBCO/IBC's activities: routine GEBCO soundings are performed by the Brazilian Hydrographic Navy Ships employed during the all the commissions done.

Tide gauge network: 407 tide gauges are distributed by the Brazilian territory (NOV2016 data). 104 tide gauges are placed in MACHC region.

New equipment: XXX

Problems encountered: X X X.

9. 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, CSBWG, GEBOTSCOM, IEHG, PAC-PRIMAR, NCSR-IMO and IC-EN.

Meteorological data collection: meteorological data are collected through fixed meteorological stations placed all over Brazil, through ships and also received from other institutions through internet links. All data is used for the Maritime Meteorological Service products, distributed and broadcasted at no cost all over Brazilian coast and by internet.

International: DHN and the Hydrographic Service of Uruguay (SOHMA) are developing the Uruguay-Brazil Waterway in Patos and Mirim Lagoons. When stated, this 1.400km waterway will help improving exportation of both countries, allowing Uruguay to use Rio Grande harbor (13.8 meters deep today).

Brazil and Suriname / Brazil and Guyana are discussing the implementation of a technical agreement between both countries in Hydrographic matters. The agreement is in Brazil Authorities for signature.

10. Conclusions

DHN-BR reassures its commitment with the MesoAmerican and Caribbean Sea Hydrographic Commission (MACHC) and plans continuous hydrographic activities so as to keep the nautical charts updated, as stated in regulations V and IX of the SOLAS Convention.