



PORTUGAL NATIONAL REPORT

11TH SOUTHERN AFRICA AND ISLANDS HYDROGRAPHIC COMMISSION (SAIHC) MEETING

Maputo, Mozambique

11th – 13th August 2014

INSTITUTO HIDROGRÁFICO
(IHPT)

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INTRODUCTION

This report describes the main technical activities and developments at the Portuguese Hydrographic Institute (IHPT) during the period from September 2013 to August 2014. It was elaborated in order to be presented to the 11th SAIHC Meeting and covers the following areas: Hydrography, Cartography, Information Technologies and GIS, Marine Safety, and Technical Assistance and Training.

HYDROGRAPHIC OFFICE

The most relevant information is presented in Annex Alfa.

Since 30th of June IHPT has a new Director-general, Rear-admiral José Luís Branco Seabra de Melo.

1- SURVEYS

Both oceanic hydrographic ships NRP “D. Carlos I” and NRP “Almirante Gago Coutinho” (see figure 1), continue to be employed on several projects, such as the data acquisition to complement the project of the extension of the Portuguese Continental Shelf, presented to the United Nations Organization on May 2009. Those ships are very well equipped for hydrographic surveys. Each one has one multibeam echosounder system for deep waters (KONGSBERG EM 120) and NRP “Almirante Gago Coutinho” also has a multibeam system for medium depths (KONGSBERG EM 710). In addition, to complement its survey capacities, each ship may carry a small survey launch with a multibeam echosounder system for shallow waters.



Figure 1 – Hydrographic ship NRP “D. Carlos I”.

IHPT also have two coastal hydrographic ships and several survey launches to survey in the coast and in the interior waters (see figure 2).



Figure 2 – Coastal hydrographic ship and survey launches.

At the end of 2103 the IH modernized and increased its capacity to perform hydrographic surveys in shallow waters with a full seafloor search. To complement the two multibeam systems KONGSBERG EM 3002, two new systems were acquired, one multibeam system KONGSBERG EM2040C and one interferometer system KONGSBERG GeoSwath 500 Plus.

To improve the quality of the bathymetric data, IHPT also acquired, in the period of this report, an MVP UnderwaySV of the OceanScience (see figure 3). This system allows, almost a continuously acquisition of sound velocity profiles and consequently the reduction of the time interval between consecutive profiles, which will result in an improvement of the bathymetric data quality.

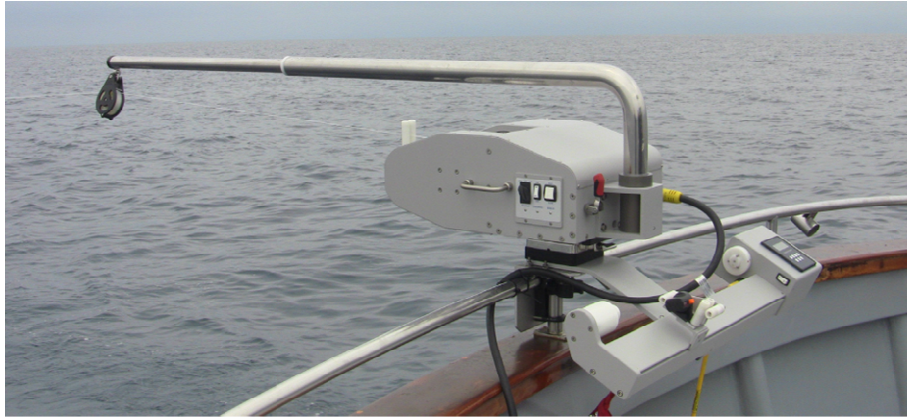


Figure 3 – Moving Vessel Profiler

There was also an investment in the analysis of the water column acoustic reflectivity, with the acquisition of a license to record these data obtained by our multibeam systems (see figure 4).

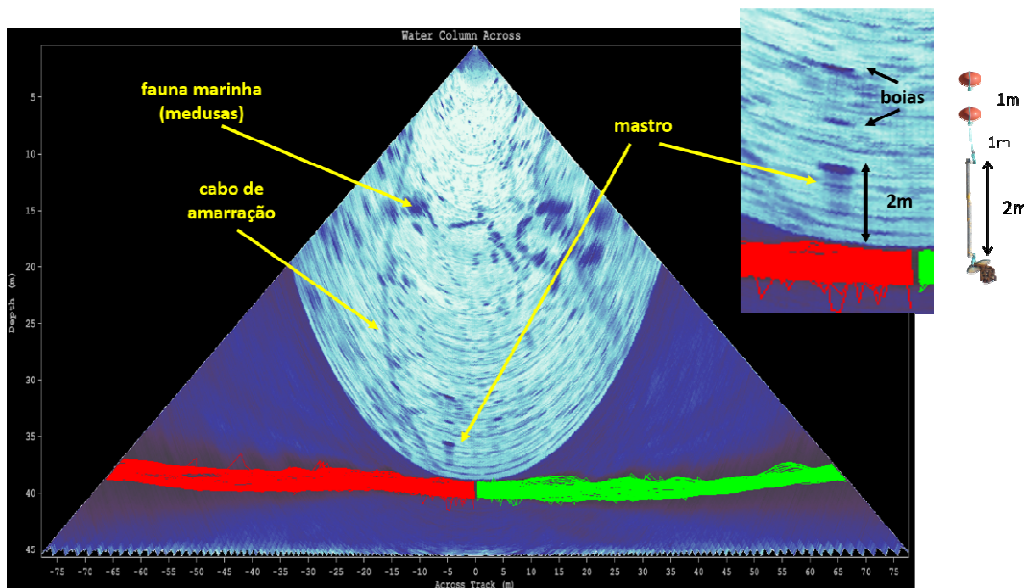


Figure 4 – Water column acoustic reflectivity from an anchored array

Special attention continues to be paid to the development of procedures for Quality Assurance (QA) and Quality Control (QC) of hydrographic data.

Due to the limitations of the previous bathymetric database, the Hydrographic Data Warehouse (HDW), IHPT purchased recently the BathyDatabase from CARIS.

During the period of this report no surveys were executed on the SAIHC Region.

2- CHARTS AND UPDATES

IHPT continued the implementation of CARIS – Hydrographic Production Database (HPD) as the unique cartographic production system.

In addition to the Nautical Charts and the Electronic Navigational Charts, some charts for special purposes are also produced, for instance: charts for fishermen, charts for pleasure crafts, sedimentological charts and special charts for training purposes. All those charts are in accordance with IHO specifications and were very well accepted by the users.

All IHPT new charts and new editions are bilingual (Portuguese and English) and follow INT specifications, whether or not they belong to INT series.

Paper Charts

Since the last SAIHC meeting Portugal did not produce any nautical charts of the region.

Print on Demand (PoD).

Presently IHPT provides 100% of the national Nautical Charts using a Print-on-Demand system.

PoD-charts are continuously updated according to the published “Notices to Mariners”.

Electronic Navigational Charts (ENCs).

IHPT is a member and participates actively in the works of the International Centre for ENCs (IC-ENC), including their Technical Experts Working Groups.

On the SAIHC region IHPT produced one ENC cell (usage band 2) corresponding to a small scale INT chart of Angola coast (see figure 5).

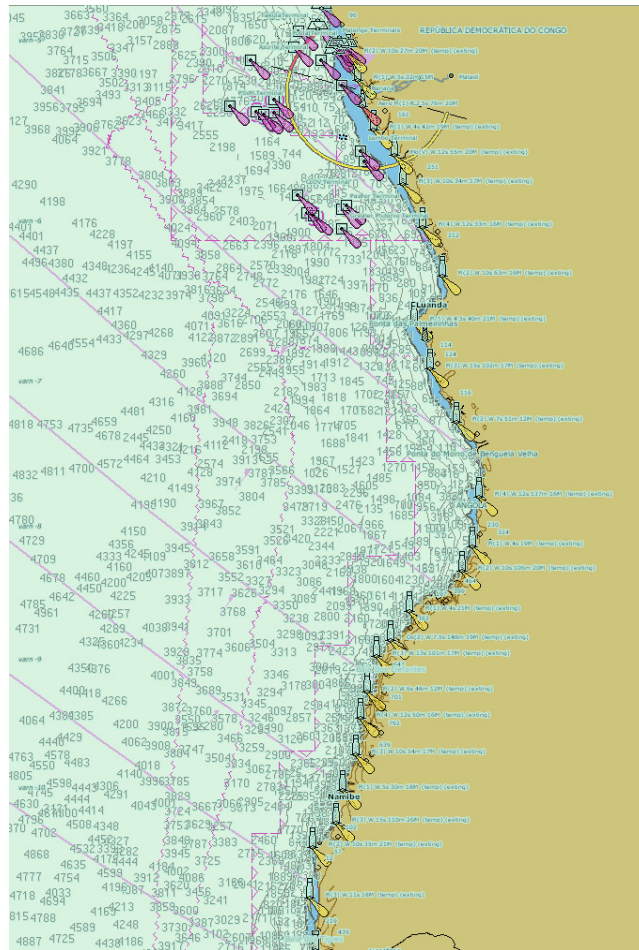


Figure 5 – ENC PT271101 – Cabinda à Baía dos Tigres (produced in 2014).

3- NEW PUBLICATIONS AND UPDATES

Since September of 2013, IHPT published the Annual Group of Notices to Mariners (2014).

In addition to the Tide Tables for the main harbours of Continental Portugal, the Azores and Madeira Archipelagos, IHPT also publishes annually the Tide Tables to the African Portuguese Speaking Countries which, in the SAIHC, region includes the main harbours from Angola and Mozambique.



Figure 6 – Tide table for African Portuguese Speaking Countries

4- MARITIME SAFETY INFORMATION

IHPT, as the national coordinator for the Maritime Safety Information, provides a 24h service of Navigational Warnings, in cooperation with the NAVAREA II coordinator.

NAVTEX broadcast is made both in English and Portuguese and it is transmitted from Penalva Station (near Lisbon), São Miguel Island (in the Azores Archipelago) and from Porto Santo Island (in the Madeira Archipelago).

The GMDSS coverage is not completed yet due to delays on the establishment of Digital Selective Call capability, which are expected to be solved in a near future.

Monthly, IHPT publishes the Group of Notices to Mariners, containing all permanent, preliminary, and temporary warnings in force for the corresponding period. This information, covers all navigation charts and publications of Portugal, Angola, Cabo Verde, Guiné and São Tomé e Príncipe, and is also available on the web site (<http://www.hidrografico.pt>).

IHPT on-line application - ANAVnet, provides either entire NtM publications, or single NtM affecting individual documents; allowing in any case consultation and printing, including entire correction pages of nautical publications and graphical annexes to paste on charts. Regarding Navigational Warnings, ANAVnet allows consultation of warnings broadcasted by any of the Portuguese NAVTEX stations (coastal and local warnings), both in Portuguese and English languages.

Regarding Broadcast Stations (BS) from the national differential GPS network, the Continental Portugal component consists of two DGPS BS, with redundancy and integrity monitoring, located at Cape Carvoeiro and Sagres. There are also two BS in Azores Archipelago (Horta station) and in Madeira Archipelago (Porto Santo station).

Portugal has also three AIS coastal stations in Continental Portugal and in Azores and Madeira Archipelagos.

5- CAPACITY BUILDING

The cooperation of Portugal within the SAIHC region in the hydrography sphere, during this report's period, was the following:

a. ANGOLA

IHPT established contacts with the Director of IHSMA (Hydrographic and Maritime Signalization Institute of Angola), Angola's HO, related to the future collaboration between IHPT and IHSMA. An agreement of collaboration to develop IHSMA hydrographic capacity is about to be signed. A proposal was also presented to execute the hydrographic and topographic surveys of the most important Angolan harbours and to produce the respective Nautical Charts and ENC's.

b. MOZAMBIQUE

In 1995 Portugal and Mozambique signed a Bilateral Agreement in the field of Hydrography, Nautical Cartography, Safety of Navigation and Oceanography.

Under the mentioned agreement, in April 2013, a cartographer from IHPT was at INAHINA providing advice/training in the production of nautical charts.

Under the mentioned agreement, in March of 2014, a cartographer from INHAINA had an internship on IHPT Hydrographic Division related with the production of nautical charts.

6- OCEANOGRAPHIC ACTIVITIES

IHPT has regular and robust activity in respect to physical, geological and chemical oceanography participating in national and european research projects in those fields.

IHPT is running, presently, a comprehensive network of tide gauges (17), wave and parametric buoys (7), and coastal weather stations (3) and HF radar systems (to measure superficial currents and waves: 3 stations) in the Portuguese EEZ (see figure 7).

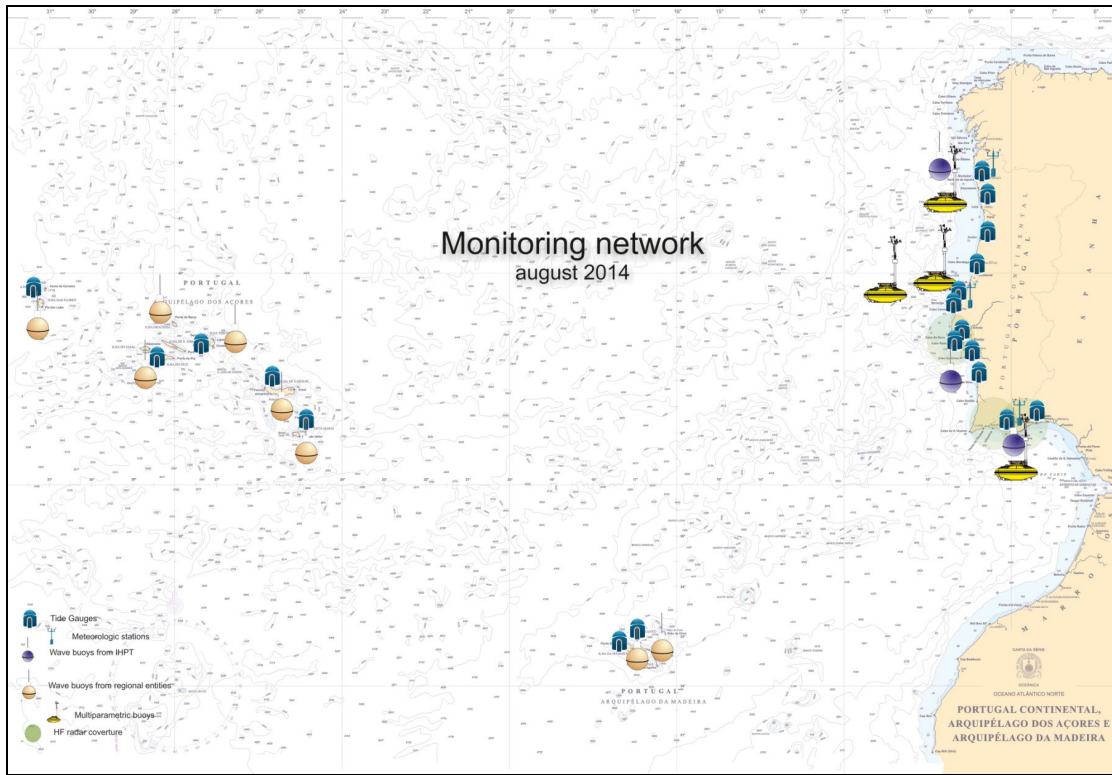


Figure 7 – Monitoring network

7- OTHER ACTIVITIES

a. Information technologies and GIS

IHPT has several portals at Internet and Intranet (hidrografico.pt) presenting information about its organization, main activities, products offered and specific geo-spatial on-line data.

In the last year an operational forecast system for sea state, called “Qual é a tua Onda?” was developed, depicting sea state forecasts and other generic information to the public. This information system covers all the Portuguese mainland coasts and several parts of the archipelagos. This system is available to the general public, on the IHPT web portal, organized into usability sectors, such as the surf community, recreational navigation and fisheries.

Notices to Mariners and Navigational Warnings issued by the IHPT are also available at IHPT Internet portal ANAVNet, as well as general information on the Portuguese Nautical Charts and Nautical Publications.

IHPT also supports IC-ENC by providing a world ENC availability catalogue (independent of maker or distributor) to support the mariners.

b. Courses in Hydrography

IHPT School of Hydrography and Oceanography provides Specialization Courses in Hydrography (FIG/IHO/ICA Category A and B).

During the period of this report attended the courses the following students:

- 2013/2014 – Cat. A – 5 militaries of the Portuguese Navy and 3 civilians (one Spanish). From March 11 to April 14 of 2014 a cartographer from INAHINA attended the Cartographic Projections and Nautical Cartography modules of this Course.
- 2014/2015 (about to start) - Cat. B - 3 militaries of the Portuguese Navy and 1 Portuguese civilian. IHPT also expect 6 students from Angola and 2 from Morocco.



Figure 8 – IHPT School of Hydrography and Oceanography

ANNEX A

HYDROGRAPHIC OFFICE GENERAL INFORMATION PORTUGAL (PORTUGUESE REPUBLIC)

INSTITUTO HIDROGRAFICO Rua das Trinas – 49 1249-093 LISBOA	
Department of which the Hydrographic Office is part <i>Ministère dont dépend le Service Hydrographique Ministerio del que depende el Servicio Hidrográfico</i>	Ministry of National Defence – Navy.
Principal functions of the H.O. - <i>Attributions principales du S.H.</i> <i>Principales funciones del S.H.</i>	Hydrographic Surveys, Analogue and Digital Nautical Charts, Sailing Directions, Lights and Radio Signals Lists, Notices to Mariners (monthly), Immediate Navigational Warnings, Tide Tables, Tidal Currents, Magnetic Compass Certification and Adjustment. Aids to Navigation Plans. DGPS, AIS projects. Oceanography. Provision of geophysical and environmental information for scientific and defence issues
National day - Fête nationale – Fiesta nacional	10 June
Telephone : Fax : E-mails : WEB site:	+ 351 21 094 3000 + 351 21 094 3299 dirgeral@hidrografico.pt dirtecnica@hidrografico.pt hidrografia@hidrografico.pt http://www.hidrografico.pt
Date of establishment and Relevant National Legislation – Date de fondation et législation nationale concernée – Fecha de establecimiento y Leyes nacionales dereferencia	22 September 1960 <ul style="list-style-type: none"> • Territorial Sea: Law n° 34/2006 • Baseline: Laws n° 2130/66 and 495/85 • EEZ: Laws n° 34/2006, n° 119/78 and n° 52/85
Name and rank of the Director or Head - <i>Nom et grade du directeur –</i> <i>Apellidos y graduación del Director</i>	Rear-admiral José Luís Branco Seabra de Melo, Director General
Tonnage – Tonelaje	2011 = 1,334,011
Total Budget - Budget total – Presupuesto Total	9 million Euros
Staff employed - Effectifs – Plantilla	For details, consult the WEB site: http://www.hidrografico.pt
N° of charts published - Nombres de cartes publiées – <i>N° de cartas publicadas</i>	225
N° of INT charts published – Nombres de cartes INT publiées - N° de cartas INT publicadas. N° of ENC cells published – Nombres de cellules ENC publiées - N° de células ENC publicadas.	35 74
Type of publications produced (e.g. Tide Tables, Sailing Directions, List of Lights etc.) – Type de publications produites (par ex: Tables des marées, Instructions nautiques, Livres des Feux, etc. - Tipo de publicaciones producidas (por ej: Tablas de mareas, Derroteros, Libros de Faros etc.)	<ul style="list-style-type: none"> - Catalogue of Charts and Nautical Publications; - Catalogue of Nautical Charts of Portugal; - Tide Tables – Volume I – Portugal; - Tide Tables – Volume II – African Portuguese Speaking Countries; - List of Radio Aids and Services; - List of Lights, buoys, beacons and fog signals – Volume I – Portugal; - List of Lights buoys, beacons and fog signals – Volume II – Angola, Moçambique, São Tomé and Guiné Bissau; - List of Lights buoys, beacons and fog signals – Volume III – Cape Verde Archipelago - Sailing Directions – Continental Portugal – Volumes I to III; - Sailing Directions – Azores Archipelago – Volumes I to II; - Sailing Directions – Madeira Archipelago;

	<ul style="list-style-type: none"> - Sailing Directions - Angola and São Tomé e Príncipe Ports Pilot; - Sailing Directions - Cabo Verde – Volumes I to V; - Sailing Directions (Pleasure Craft) – Continental Portugal (Portuguese/English). 		
Surveying vessels/ Aircraft – Bâtiments <i>hydrographiques/aéronefs – Buques hidrográficos/ Aeronaves</i>	Displacement	Date Launched	Crew
D. CARLOS I	2285	1989	34
Almirante GAGO COUTINHO	2285	1985	34
ANDRÓMEDA	245	1985	13
AURIGA	245	1987	13
ATLANTA	38.7	1981	3
FISÁLIA	38.7	1981	3
Other information of interest – Autres <i>informations utiles - Otra información de interés.</i>	IHPT School of Hydrography and Oceanography provides Hydrography and Oceanography FIG/IHO category A and B courses.		