



INTERNATIONAL HYDROGRAPHIC ORGANIZATION

SOUTH WEST ATLANTIC HYDROGRAPHIC COMMISSION



CAPACITY BUILDING PLAN

Programme document for the period 2018-2020

1. INTRODUCTION

1.1. Rationale

After several years of fruitful discussions, on 16 November 2006, Argentina, Brazil and Uruguay signed the cooperation agreement that result in South West Atlantic Hydrographic Commission (SWAtHC). Main achievements have been performed to develop a regional Cartographic Plan, establish a Planning Commission to coordinate INT Charts and ENC production and the acceptance of Bolivia and Paraguay as Associate Members.

The South West Atlantic region is composed of long coast lines, with harbours, maritime commercial routes, environmental preservation area, a lot of islands and archipelagos. We can also highlight the great number of inland waterways.

Two great oceanic currents flow in these area forming a large marine ecosystems: Brazil and Malvinas currents. Some of the species and habitats of these currents are unique.

The shipping lanes of those countries takes as starting points south west ports. This region contains many important commercial ports serving as hubs for traffic emanating from, and destined for Europe, Africa, Asia, the North America and the east and western coasts of South America. In addition to the large cargo ships travelling internationally, many smaller boats work and sail in coastal waters and harbours.

Oil and gas exploration programmes operating throughout the region bring additional risks.

For these reasons, it is crucial that SOLAS contracting Governments undertake hydrographic surveys as and when required, that they arrange for the compilation and publication of hydrographic data, the dissemination and keeping up to date of all nautical information necessary for safety navigation.

The IHO Capacity Building Strategy classifies the development of hydrographic services into three phases:

- those which are in Phase 1: collection and circulation of nautical information, necessary to maintain existing charts and publications up to date;
- those which are in Phase 2: creation of a surveying capability to conduct coastal and offshore projects; and
- those which are in Phase 3: produce paper charts, ENC and publications independently.

Coastal/maritime states have certain treaty obligations (SOLAS) placed on them and the IHO/SWAtHC effort aims at assisting states in meeting these obligations. To achieve this a national understanding and coordination effort is required noting that:

- resources (human, time, finance etc) are limited, consequently prioritization is a fundamental issue;
- planning must be realistic;
- longer term training such as CAT A or B are not covered because such training is out of the scope of the IHO CB budget.

Nowadays, the rapidly evolving technology has replaced old navigation paradigms and demands continuous investments in education and training so that the Hydrographic Services can continue to provide high quality products and services which satisfy new demands of the maritime community.

SWAtHC is aware of its Member States' efforts to provide quality service to the international maritime community in order to contribute to the safety and security of navigation and human life at sea as well as the preservation of the environment in its region and, as part of the IHO community, to contribute to the achievement of the objectives and directions of the Organization.

1.2. Aims and objectives

The aims of the Plan are:

- a) to train staff, at various levels, to ensure a much needed capability on hydrography and nautical cartography, and
- b) to comply with the IHO resolutions and guidelines regarding hydrographic and nautical cartographic activities.

The medium term objective of this Plan are:

- a) to ensure a basic level of MSI is established in all coastal states to, produce Local/Coastal/NAVAREA Warnings, communicate effectively with the charting authority and implement the MSI elements of GMDSS;

The longer term objectives are:

- a) to instruct staff in the region on the methods of carrying out hydrographic surveys, to improve safety of navigation through enhanced navigational products; and
- b) to promote the establishment of Hydrographic Services (HS) and the evolution of CB Phases of the established ones.

1.3. Priorities

Despite the breadth of need existing in the Region, for the period of 2018 to 2020, priorities should be set in the sequence of the following list, the first of which are the highest:

- 0 - activities which may promote awareness of national hydrographic obligations;
- 1 - activities which may improve the capacity of existing HS in Phase 1;
- 2 - activities which may improve the capacity of existing HS in Phase 2; and
- 3 - activities which may improve the capability of existing HS in Phase 3.

Note the link between the training activities listed in paragraph 2. Activities below, and phases 0 to 3 listed above

The current hydrographic capacity status of countries of the region is in Annex A.

1.4. Methodology and Procedures

This Plan will be reviewed each year, and adjustments made as necessary.

Each year the Commission will decide responsibilities for the programmed events of the subsequent year.

The SWAtHC Capacity Building Coordinator will send to the Chair, after SWAtHC meeting, details of all planned projects. The projects must be written in the standards established in the CB Procedure 1.

Projects supported by IHO CB Fund must follow the IHO CBSC procedures published at the IHO website.

The Chair will check the proposed projects and, if requesting IHO CB Fund support, will send them to the IHO CBSC Chair and Secretary, otherwise, will take the appropriate action.

2. ACTIVITIES

Phase	Activity	Project Objective	Target Audience
1.1	<u>Technical visits Type 1</u> High level technical visit to governmental authorities	To raise government awareness of their SOLAS treaty obligations	Related Ministries and Heads of National Agencies, particularly governmental decision makers
1.2	<u>Technical visits Type 2</u> Technical assessment and advice visit	Provide advice to identify how coastal states meet their hydrographic and MSI responsibilities	Maritime Sector National Agencies. Stakeholders and decision makers
1.3	<u>MSI Course</u> Training on establishment of MSI structure and basic MSI procedures	To establish a core group of trained persons to deal with MSI	MSI Practitioners
1.4	<u>Phase 1 Skills</u> An introduction to the assessment and promulgation of navigationally significant data	To provide a core group with the skills and knowledge to assess and promulgate navigationally significant information to the wider maritime community (this course supports the MSI course)	MSI Practitioners
2.1	<u>Basic Hydrographic Survey Course</u>	To provide awareness of national hydrography, hydrographic surveying and nautical cartography	Maritime Sector Decision Makers
2.2	<u>Port and Shallow Water Survey Course</u>	A workshop to aid exchange of information and ideas about the challenges faced by port and shallow water surveyors in the SWAtHC region	Port Surveyors
2.3	<u>Port and Shallow Water Survey Course (with emphasis on positioning)</u>	A training which the main aims are Installation of ground reference stations, datums, calibration, configuration and operation, data management.	Hydrographic Practitioners
2.4	<u>MBES Data acquisition and Processing</u>	To train a group of surveyors the techniques required to acquisition and post-process MBES data	Hydrographic Practitioners
2.5	<u>Side-scan sonar systems (images processing and interpretation)</u>	A training which the main aims are principles, components and geometry. Range and beam angle. Resolution in relation to beam width, sampling rate angle of incidence and pulse length. Hazard detection and seabed identification.	Hydrographic Practitioners
2.6	<u>MSDI and Database Management</u>	To give participants an understanding of spatial data infrastructures (SDI) including the importance and role of data management and databases	Government Planners

Phase	Activity	Project Objective	Target Audience
2.7	<u>Tides and Water Level Workshop</u>	To provide fundamental knowledge and understanding of tides and water level, and their applications for hydrographic surveying and mapping activities	Hydrographic Practitioners
2.8	<u>Seabed Classification Workshop</u>	To provide a group of professionals with the skill and knowledge to use acoustic techniques to map extensive seabed surfaces and to determine the products of seabed mapping	Hydrographic Practitioners
2.9	<u>Geology and geophysics Course</u>	To provide a group of professionals with the skill and knowledge to use geology and geophysics techniques to perform gravity, magnetic, and seismic surveys.	Hydrographic Practitioners
3.1	<u>Basic ENC and ENC Production course</u>	To train a group of professionals with a practical introduction to S-57 data	Cartographic Practitioners
3.2	<u>ENC Production and QA</u>	To train a group of professionals to verify and validate S-57 data	Cartographic Practitioners
3.3	<u>Foundation Module of the Marine Cartography & Data Assessment (MCDA) CAT B Course</u>	To provide participants with the knowledge of cartographic basics covering the underlying details of the nautical chart.	Cartographic Practitioners
3.4	<u>Compilation Module of the Marine Cartography & Data Assessment (MCDA) CAT B Course</u>	A highly practical module where the student will compile into a database all the relevant nautical chart content in compliance with IHO S-57 using CARIS S-57 Composer software.	Cartographic Practitioners
3.5	<u>Product Construction Module of the Marine Cartography & Data Assessment (MCDA) CAT B Course</u>	This module covers the production of an ENC base cell including ENC validation and exchange set creation using CARIS S-57 Composer together with the production of a Paper Chart using CARIS Paper Chart Composer.	Cartographic Practitioners
3.6	<u>Data Assessment Module of the Marine Cartography & Data Assessment (MCDA) CAT B Course</u>	This module focuses on decision making and processing of new information using software and traditional checking processes.	Cartographic Practitioners
3.7	<u>Maintenance Module of the Marine Cartography & Data Assessment (MCDA) CAT B Course</u>	Another highly practical module which features Notice to Mariner updating of digital and paper products together with New Edition maintenance of the ENC and Paper Chart.	Cartographic Practitioners
3.8	<u>Law of the Sea Workshop</u>	To teach participants the basic technical principles applicable to maritime boundary delimitation. The delegates should be from technical hydrographic or cartographic backgrounds	Maritime Sector Decision Makers

Phase	Activity	Project Objective	Target Audience
3.9	<u>Digital Photogrammetry with satellite images</u>	A training which the main aims are Computer configuration, analysis of availability of satellite images, the updating methods, the use of different GIS layers.	Cartographic Practitioners

3. CAPACITY BUILDING PROGRAM

The program of capacity building activities for the period 2018 – 2020 is detailed in Annex **B**.

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SWAtHC Countries Capacity Building Phase StageReference: http://www.iho-ohi.net/mtg_docs/CB/CBA_TechnicalVisits.htm

	Country / Territory	NHC or NHCC	CB Phase 1	CB Phase 2	CB Phase 3	Last TV
1	Argentina	Yes	3	3	3	2008
2	Brazil	Yes	3	3	3	2008
3	Uruguay	Yes	3	3	3	2008
4	Paraguay (Associated Member)	No	1	1	1	2014
5	Bolivia (Observer Member)	No	1	1	1	N/R

KEY TO REQUIRED TRAINING ACTIVITY

0	The country is unaware of its national obligations
1	The country is aware of its national obligations but does not have the means to do it
2	The country has the ability to fulfil national obligations
3	The country fulfils its national obligations in a sustainable manner
4	The country fulfils its national obligations through a third party

Capacity Building Program for the period 2018 – 2020

2018

Activity	Beneficiaries Countries	Responsible	Period	Obs.
Side-scan sonar systems (images processing and interpretation)	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.
Marine Spatial Data Infrastructure (MSDI)	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.

2019

Activity	Beneficiaries Countries	Responsible	Period	Obs.
MBES Data acquisition and Processing	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.
Tides and Water Level Workshop	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.

2020

Activity	Beneficiaries Countries	Responsible	Period	Obs.
Compilation Module of the Marine Cartography & Data Assessment (MCDA)	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.
Geology and geophysics Course (techniques to perform magnetic surveys).	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.
Geology and geophysics Course (techniques to perform seismic surveys).	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	x	x	The responsible and period of the activity will be set at the previous SWAtHC meeting.