INTERNATIONAL HYDROGRAPHIC ORGANIZATION

SOUTH WEST ATLANTIC HYDROGRAPHIC COMMISSION (SWAtHC)

CAPACITY BUILDING WORK PLAN FOR 2023-2025

1. INTRODUCTION

1.1. Rationale

After several years of fruitful discussions, on 16 November 2006, Argentine, Brazil and Uruguay signed the cooperation agreement that resulted in the 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 Observer and Associate Members.

The South West Atlantic region is composed of long coast lines, with harbours, maritime commercial routes, environmental preservation areas, and numerous islands and archipelagos. A vast system of inland waterways links the Atlantic Ocean to the heart of South America, notably via the mouths of the Amazon and the La Plata rivers. Two great oceanic currents flow in this area forming a large marine ecosystem: Brazil and Malvinas currents. Some of the species and habitats of these currents are unique.

The shipping lanes of those countries take as starting points south west ports. This region contains many important commercial ports serving as hubs for traffic emanating from, and destined to Europe, Africa, Asia, North America and the east and western coasts of South America. The major SWAtHC's ports are *Ushuaia* – ARG, *Bahia Blanca* – ARG, *Mar Del Plata* – ARG, *Buenos Aires* – ARG, *Montevideo* – URU, *Rio Grande* – RS/BRA, *Itajaí* – SC/BRA, *Paranaguá* – PR/BRA, *São Sebastião* – SP/BRA, *Santos* – SP/BRA, *Itaguaí* – RJ/BRA, *Rio de Janeiro* – RJ/BRA, *Vitória* – ES/BRA, *Salvador* – BA/BRA, *Recife* – PE/BRA, *Suape* – PE/BRA, *Natal* – RN/BRA, *Fortaleza* – CE/BRA, *Itaquí* – MA/BRA, *Belém* – PA/BRA, *Manaus* – AM/BRA, *Asunción* – PAR, *Concepción* – PAR and *Aguirre* – BOL.

South West Atlantic has huge oil and gas offshore producing areas, such as Malvinas, *Colorado Marina*, *Santos*, *Campos* and *Espírito Santo* Basins. Then, oil and gas exploration programmes operating throughout these regions bring additional risks to environmental protection.

In addition, many smaller boats work and sail in coastal waters and harbours.

For these reasons, it is crucial that SOLAS contracting Governments undertake hydrographic surveys as and when required, arrange for the compilation and publication of hydrographic data, and disseminate nautical information for the safety of navigation.

In this context, Capacity Building is a vital component of the efforts of intergovernmental technical organizations to support the development of hydrographic activities, contributing to safety of life at sea, to the protection of the environment, and to regional economic development.

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

a) Phase 1: collection and circulation of nautical information, necessary to maintain existing charts and publications up to date;

b) Phase 2: creation of a surveying capability to conduct coastal and offshore projects; and

c) Phase 3: produce paper charts, ENC and publications independently.

Coastal States have certain treaty obligations under the IMO Convention on Safety of Life at Sea (SOLAS) and the IHO/SWAtHC Capacity Building Plan aims at directing the efforts to assist States in meeting these obligations. To achieve this a national understanding and coordination effort is required noting that:

i) resources (human, time, finance etc.) are limited, consequently prioritization is a fundamental issue;
ii) planning must be realistic; and
iii) commitment from coastal States in working with the IHO/SWAtHC is a key element to develop quality hydrographic service to the international maritime community.

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.

1.2. Aims and objectives

The aims 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;
b) to promote the establishment of Hydrographic Services (HS) and the evolution of CB Phases of the established ones;
c) to train staff, at various levels, to ensure a much-needed capability on hydrography and nautical cartography, including after natural disaster or other incidents which could affect water depths in harbours and approaches;
d) to instruct staff in the region on the methods of carrying out hydrographic surveys, to improve safety of navigation through enhanced navigational products;
e) to comply with the IHO resolutions and guidelines regarding hydrographic and nautical cartographic activities;
f) to ensure that hydrographic data and information are available to support the sustainable use of marine resources; and
g) to improve the e-learning activities, allowing knowledge to be promulgated to a larger number of students and at a lower financial cost. However, it should be considered the importance of practical exercises (or face-to-face) aspects required by the nature of hydrography.

1.3. Priorities

Despite the breadth of need existing in the region, for the period of 2023 to 2025, 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;
3 – activities which may improve the capability of existing HS in Phase 3; and
4 – activities which go beyond Phase 3.

Item 2 (Activities) below lists the activities to be supported and are linked to the Phases 1 to 3 listed above.

The current hydrographic capacity status of coastal States in the region is in **Annex A** and the assessment is made in accordance with the CB Procedure 11 – Assessment of Capacity Building Phase Stage of Coastal States.

1.4. Methodology and Procedures

This Plan sets the goals for the period 2023 to 2025 and will be reviewed each year, and adjustments made as necessary. Each year the SWAtHC will decide responsibilities for the programmed events of the subsequent year and will consider the plans and proposals from other RHCs to identify synergies that could benefit developing countries in the region.

2. ACTIVITIES

2.1. Assessment and Awareness

Phase	Activity	Project Objective	Target Audience
0.1	High-level visits High level visit to governmental authorities	To raise government awareness of their SOLAS treaty obligations	Related Ministries and Heads of national agencies, particularly governmental decision makers
0.2	Technical visits 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
0.3	Technical implementation visits A follow up visit to the types 0.1 and 0.2 listed above	To audit the state of recommendations made as a result of previous technical visits and support further development	Maritime sector, national agencies, stakeholders and decision makers
0.4	Seminar on Raising Awareness of Hydrography	Seminars to promote and raise awareness on the importance of Hydrography as part of the national economic infrastructure and key element for social development.	Maritime sector, national agencies, stakeholders and decision makers

2.2. Short courses

Phase	Activity	Project Objective	Target Audience
1.1	MSI Course (3 days) Training on establishment of MSI structure and basic MSI procedures	To establish a core group of trained persons to deal with MSI	MSI Practitioners
1.2	Phase 1 Skills (5 days) An introduction to the assessment and promulgation of	To provide a core group with the skills and knowledge to assess and promulgate navigationally significant information to the wider	MSI Practitioners

Phase	Activity	Project Objective	Target Audience
	navigationally significant data	maritime community (this course supports the MSI course)	
1.3	MSI Workshop (3 days) Assessment and implementation of effective measures to establish MSI infrastructure.	To provide a core group with the skills and knowledge to assess and implement effective measures to establish MSI infrastructures, following formal MSI Courses.	MSI Practitioners
2.1	Basic Hydrographic Survey Course (10 days)	To provide awareness of national hydrography, hydrographic surveying and nautical cartography, and skills to specify contract support.	Maritime Sector Decision Makers
2.2	Port and Shallow Water Survey Course (5 days)	A workshop to aid exchange of information and ideas about the challenges faced by port and shallow water surveyors in the region	Port Surveyors
2.3	MBES Processing (5 days)	To train a group of hydrographic surveyors the techniques required to post-process MBES data	Hydrographic Practitioners
2.4	MSDI and Data Management (5 days)	To give participants an understanding of spatial data infrastructures (SDI) for the provision of basic geospatial data	Government Planners
2.5	Tides and Water Level Workshop (5 days)	To provide fundamental knowledge and understanding of tides and water level, and their applications for hydrographic surveying and mapping activities	Hydrographic Practitioners
2.6	Seabed Classification Workshop (5 days)	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
2.7	Bathymetry training course using RTK technology	To give participants an understanding how to use RTK technology in order to achieve the IHO S-44 standards on bathymetric data, especially on positioning.	Hydrographic Practitioners
3.1	Basic ENC and ENC Production course (10 days)	To train a group of professionals with a practical introduction to S-57 data	Cartographic Practitioners
3.2	ENC Production and QA (5 days)	To train a group of professionals to verify and validate S-57 data	Cartographic Practitioners
3.3	MSDI and Data Assessment (5 days)	To give participants an understanding of spatial data	Government Planners

Phase	Activity	Project Objective	Target Audience
		infrastructures (SDI) for data assessment and cartographic production	
3.4	Data management for ENC S-101 production	To give participants an understanding of the new data coding standard for the production of Electronic Navigation Charts (ENC) S-101. To practice transforming S-57 files into S-101 files, as well as generating data in the new format. To establish quality control and redundancy standards.	Cartographic Practitioners
4.1	Law of the Sea Workshop (5 days)	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
4.2	Tsunami inundation mapping workshop (5 days)	To improve the modelling and presentation of regional tsunami inundation maps	Maritime Sector and emergency planning

2.3. Long courses

Long courses at Category "A" and Category "B" levels for both Hydrographic Surveying and Nautical Cartography are provided by the IHO and by other agencies. Coastal States will be notified by the SWAtHC CB Coordinator about opportunities. Developing countries in need of long courses are also indicated in the CB Programme as follows:

Id.	Activity	Countries in need
HA	Category "A" Hydrographic Programme	Bolivia and Paraguay.
HB	Category "B" Hydrographic Programme	Bolivia and Paraguay.
CA	Category "A" Nautical Cartography Programme	xxx
CB	Category "B" Nautical Cartography Programme	xxx

2.4. On-the-job and onboard trainings

Opportunities for on-the-job and onboard trainings will be sought by the CB Coordinators in liaison with coastal States. States that have ships transiting in the region are invited to consider offering onboard training for developing countries in the region. Developing countries in need of on-the-job and onboard trainings are also indicated in the CB Programme as follows:

Id.	Activity	Countries in need
OJ	On-the-job training	Bolivia and Paraguay.
OB	Onboard training	Bolivia and Paraguay.

2.5. Other trainings

Other training and development need maybe identified which cannot be matched to the courses listed. These needs can be identified in textual form under “Other” in the CB Programme (item 3).

3. CAPACITY BUILDING PROGRAM

The program of capacity building activities for the period 2023 – 2025 is detailed in **Annex B**. The countries in need of training and education listed under items 2.3 and 2.4 are included in the programme.

Niterói, RJ, Brazil, May 15th, 2023.

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CAPACITY BUILDING PHASE STAGE OF SWATHC COUNTRIES

Members	NHC or NHCC	CB Phase 1	CB Phase 2	CB Phase 3	Last TV
Argentina	2	4	4	4	N/A
Brazil	2	4	4	4	N/A
Uruguay	2	4	4	4	N/A
Paraguay (Associate)	1	2	2	1	2014
Bolivia (Observer)	0	0	3	2	2022

* A Technical Visit to Bolivia took place in 2022.

KEY

1. The numerical grid below describes the status of the National Hydrographic Committee (NHC)/National Hydrographic Coordination Committee (NHCC):

Value	Assessment
-1	No information available.
0	The country does not have an NHC/NHCC.
1	The country is in the process of establishing an NHC/NHCC.
2	The country has established an NHC/NHCC.

2. The numerical grid below applies to the Phases:

Value	Assessment
-1	No information available.
0	The country is unaware of its national obligations 1.
1	The county is aware of its national obligations but does not have the means to do it.
2	The country fulfills its national obligations through a third party.
3	The country has the ability to fulfill national obligations.
4	The country fulfills its national obligations in a sustainable manner.

3. Those coastal states with a mature hydrographic service and consequently do not require a technical visit are marked as N/A (does not apply).

Technical Visit reference: https://www.iho.int/mtg_docs/CB/Assessment_Reports.htm

Annex B to SWAtHC CB Plan for 2023-2025

Capacity Building Work Program for the period 2023-2025

2023

Activity	Beneficiary countries	Responsible	Period	Obs.
MBES Data Processing Course (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Argentina (SHN)	To be confirmed	Priority 1
Data management for ENC S-100 production (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Uruguay (SOHMA)	To be confirmed	Priority 2
Tides and water level workshop (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Brazil (DHN)	To be confirmed	Priority 3

2024

Activity	Beneficiary countries	Responsible	Period	Obs.
Seminar in Hydrographic Awareness	Argentina, Brazil, Uruguay, Paraguay and Bolivia.	Argentina (SIHN) Host country	To be confirmed	Priority 1
MBES Data Processing Course (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Uruguay (SOHMA)	To be confirmed	Priority 2
Basic ENC production (S-100) (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Argentina (SIHN)	To be confirmed	Priority 3
MSDI and Data Assessment (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Brazil (DHN)	To be confirmed	Priority 4

2025

Activity	Beneficiary countries	Responsible	Period	Obs.
Data management course for ENC S-100 production (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Brazil (DHN)	To be confirmed	Priority 1
MBES Acquisition and Processing Survey Course (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Argentina (SIHN)	To be confirmed	Priority 2
Tides and Water Level Workshop (5 days)	Argentina, Brazil, Uruguay, at least one country from SEPRHC and one from MACHC.	Uruguay (SOHMA)	To be confirmed	Priority 3