

**INTERNATIONAL HYDROGRAPHIC ORGANIZATION
EASTERN ATLANTIC HYDROGRAPHIC COMMISSION
(EAthC)**



CAPACITY BUILDING PLAN FOR 2024-2026

(Updated April 2023)

Foreword

Complementarity of "Plan in word/pdf" and "Plan/Presentation in ppt/pdf"): this document does not repeat certain points detailed in the " CBSC21-08.6C_EAtHC-3-year-Work-plan_PRESENTATION" which must also be consulted.

1. INTRODUCTION

1.1. Background information on the IHO capacity building programme

See for further information the IHO Capacity Building Strategy:

<https://iho.int/en/miscellaneous-2>: "Capacity_Building_Strategy_2021_ver05"

With respect to issues related to the safety of maritime navigation in the sub-region, 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 safe 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.

In accordance with the IHO Capacity Building Strategy (Principles 12.f), **funding of Non Member States is generally limited to technical visits and Phase 1 projects** (this will include an overall assessment of the status of hydrography and information of relevant authorities). Exceptions to this have to be reflected against the resources provided, the expected output and the situation in the country.

Coastal States have certain treaty obligations under the IMO Convention on Safety of Life at Sea (SOLAS) and the IHO/EAtHC 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/EAtHC is a key.

1.2. Capacity building challenges in the EAthC region

The Eastern Atlantic (EAthC) region comprises 26 coastal States: eight (8) are IHO and EAthC members, ten (10) are EAthC associated members and eight (8) are observers.

The African part of the region is especially concerned by capacity building issues. This report deals only with this sub-region.

A few coastal States (except Morocco and Nigeria) have started to develop hydrographic organizations. They mainly consist in hydrographic cells under the main port authority. They may include well trained people, although in small numbers, and, in a few cases, have recent, adapted and properly maintained equipment. However, the existing organizations are suitable for limited survey works and may not be sufficient to meet the increasing needs of port development and do not allow the necessary hydrographic services to be provided at the national level to cover all the maritime basins of the sub-regions.

At last, too few coastal States have managed to set up an organization for collecting and disseminating marine safety information.

Since 2002, and in accordance with the 2001 extraordinary Conference of the EAthC Commission decision to form an expert team, named the Western African Action Team (WAAT, composed of representatives from all countries having charting responsibilities in the region (France, United Kingdom and Portugal) and from the United States of America), a particular attention has been paid by the IHO and the Member States to support the development of hydrographic capabilities in the sub-region. This specific effort has mainly included:

- technical visits (not a lot of High Level Visits) : most of the coastal States have been visited since 2002, some of them twice;
- technical workshops on maritime safety information (MSI), maritime spatial data infrastructure (MSDI), hydrographic risk assessment and survey specification, relation with Primary Chart Authorities, in addition to more general awareness seminar on hydrography and charting;
- category B and A training (separately funded).

Awareness has increased, including at the highest political level, as reflected in the 2007 Abuja declaration, in which the African ministers responsible for maritime transport,

“Concerned by ... the lack of ... modern hydrographic surveys, up-to-date nautical charts and maritime safety information in a number of African countries ... undertake to ... promote and encourage appropriate structures and measures for the improvement of ... hydrographic survey, nautical cartography and maritime safety information”.

As a consequence, the 2050 Africa’s Integrated Maritime Strategy has included in 2012 in its framework for strategic action:

“The African Union shall make an assertive call to concerned Member States to become members of the International Hydrographic Organization (IHO), World Meteorology Organisation (WMO) and UNESCO Intergovernmental Oceanography Commission (IOC) so as to advance maritime safety, efficiency and the protection and sustainable use of the marine environment. This will help create a global environment in which AU coastal Member States provide adequate and timely hydrographic data, products and services and ensure their widest possible use.”

However, slow progress is noted in hydrographic capacity, including nautical information.

The last Eastern Atlantic Hydrographic Commission conferences have again highlighted the continuing challenges of capacity development in the sub-region:

- awareness, at all levels, and in particular at high political level, of the need for hydrographic services, for safer maritime navigation but also more generally for knowledge of the maritime environment in order to strengthen environmental protection, support economic development (*blue economy*), prevent coastal erosion, and better anticipate and adapt to climate change, remains to be strengthened for a better governance of the maritime space;
- collection and dissemination of maritime safety information, a fundamental component of hydrographic services, remains a problem in the sub-region with very little information disseminated locally and reported to the NAVAREA coordinator;
- where hydrographic data exist, they are generally not referenced or easily available to those who need them. Data availability should be enhanced for the benefit of national planning or for other applications, such as marine disasters prevention;
- when hydrographic organisations emerge, their sustainability is not ensured, in the absence of a long-term strategy, and due to a lack of trained personnel and difficulties in keeping equipment in working order;
- training needs are still largely unsatisfied, particularly because of the limited availability of local training adapted to the needs of coastal States;
- difficulty, in some cases, to put into practice the training received, due to the lack of equipment.

Morocco is a good example of success in developing its hydrographic, oceanographic and cartographic capabilities. This is the result of a dynamic of sustained efforts over time by this country and support by many countries in terms of training, and more particularly by France as PCA for Moroccan waters which has set up a co-production of nautical documents which has enabled Morocco to become autonomous in publishing its nautical documents.

Nigeria is also another good example.

1.3. 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 to support the strengthening 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 harbors 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;
- g) to support the transition S-100 products and services to sustain the development of e-navigation.

Comment 1: to be as attentive to the development of capacities other than hydrography and cartography

Some recent Technical Visits have clearly demonstrated that it is not enough to train only hydrographers and cartographers.

As it has been written in recent TV reports: “Also have "support" and "managerial" skills”. It is indeed recalled the importance of:

- the "Support" function in specific equipment (GPS, echo sounders, tide gauges, etc.): maintenance in operational condition of equipment, IT (software, databases, webmaster, etc.).
- the “management” function which will be very important to coordinate (committee) in a global way at the national level (inter organizations) the development of hydrography and nautical cartography of the country:
 - completeness of the needs (to be planned) to be met (navigation, coastal development, coastal protection, etc.); Definition of the corresponding products (charts in particular);
 - identification of all stakeholders (public and private) who have an interest in cooperating to derive benefits (they come together to pool capacities);
 - definition of the production systems to be implemented: hydro-oceanographic, cartographic and support functions (logistics);
 - definition of the means of intervention at sea (boats ...);
 - definition of infrastructures on land for data processing and archiving;
 - definition of governance (supervision, contracts of objectives and means, therefore financing, agreements);
 - definition of human resources needs in sufficient quantity and quality for all structures and all professions combined;
 - definition of financial needs.

Comment 2: to be as attentive to the necessity to organize any capacity initiative as a project: objectives, delays, resources (costs to be eventually taken in charge by International Organizations or other dedicated funds)

1.4. Priorities

Despite the breadth of need existing in the region, for the period of 2024 to 2026, 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.

Note the link between the training activities listed in paragraph “2. Activities” below and priorities 0 to 4 listed above and CB Phases listed above (§1.1).

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:

<https://iho.int/en/cb-procedures>

1.5. Methodology and Procedures

This Plan sets the goals for the period 2024 to 2026 and will be reviewed each year, and adjustments made as necessary. Each year the EAthC 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.

The EAthC Capacity Building Coordinator will send to the Chair, no later than March 15th of each year details of all planned projects.

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 according to schedule, otherwise, will take the appropriate action.

2. ACTIVITIES

* Phase 2 and Phase 3 activities reserved for IHO Member States except in some cases (in accordance with the IHO CB strategy).

2.1. Assessment and Awareness: Visits and Seminars

Priorities / CB Phase	Activity	Project Objective	Target Audience
0.1 / Phase 1	<u>High-level visits</u> 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 / Phase 1	<u>Technical visits</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
0.3 / Phase 1	<u>Technical implementation visits</u> 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 / Phase 1	<u>Seminar on Raising Awareness of Hydrography</u>	Seminars to promote and raise awareness on the importance of Hydrography as part of the national	Maritime sector, national agencies, stakeholders and decision makers

Priorities / CB Phase	Activity	Project Objective	Target Audience
		economic infrastructure and key element for social development.	
	<p>This type of seminar, backed up by the plenary conference, has proved to be very effective in mobilising actors from the region</p> <p>Joint IHO and IALA workshops make it possible to mobilise a wide range of stakeholders and participants, as well as to bring hydrographic and aids to navigation communities together.</p>		

2.2. Short courses

Note : The coming years will see teaching methodologies evolve with the gradual introduction of e-learning.

Priorities / CB Phase	Activity	Project Objective	Target Audience
1.1 / Phase 1	<u>MSI Course (3 days)</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
1.2 / Phase 1	<u>Phase 1 Skills (5 days)</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
1.3 / Phase 1	<u>MSI Workshop (3 days)</u> 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 / Phase 2*	<u>Basic Hydrographic Survey Course (10 days)</u>	To provide awareness of national hydrography, hydrographic surveying and nautical cartography, and skills to specify contract support.	Maritime Sector Decision Makers
2.2 / Phase 2*	<u>Port and Shallow Water Survey Course (5 days)</u>	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 / Phase 2*	<u>MBES Processing (5 days)</u>	To train a group of hydrographic surveyors the techniques required to post-process MBES data	Hydrographic Practitioners
2.4 / Phase 2*	<u>MSDI and Data Management (5 days)</u>	To give participants an understanding of spatial data infrastructures (SDI) for the provision of basic geospatial data	Government Planners
2.5 / Phase 2*	<u>Tides and Water Level Workshop (5 days)</u>	To provide fundamental knowledge and understanding of tides and water level, and their applications for hydrographic surveying and mapping activities	Hydrographic Practitioners

Priorities / CB Phase	Activity	Project Objective	Target Audience
2.6 / Phase 2*	<u>Seabed Classification Workshop (5 days)</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
3.1 / Phase 3*	<u>Basic ENC and ENC Production course (10 days)</u>	To train a group of professionals with a practical introduction to S-57 data	Cartographic Practitioners
3.2 / Phase 3*	<u>ENC Production and QA (5 days)</u>	To train a group of professionals to verify and validate S-57 data	Cartographic Practitioners
3.3 / Phase 3*	<u>MSDI and Data Assessment (5 days)</u>	To give participants an understanding of spatial data infrastructures (SDI) for data assessment and cartographic production	Government Planners
4.1 / Beyond Phase 3*	<u>Law of the Sea Workshop (5 days)</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
4.2 / Beyond Phase 3*	<u>Tsunami inundation mapping workshop (5 days)</u>	To improve the modelling and presentation of regional tsunami inundation maps	Maritime Sector and emergency planning

2.3. Long courses

Note : An important restriction deserves to be pointed out: the sponsorship of the IHO (even those of International Cooperation's such as from Japan or Korea), namely the financial support of training, travel, accommodation expenses, etc., is limited to IHO members, which significantly limits the number of African countries that can apply. However, the training of those IHO non-members can increase the awareness of the importance of hydrography at national levels and facilitate the process to IHO membership (provided that the support actions have the necessary visibility with the country's institutions)

Long courses at Category "A" and Category "B" levels for both Hydrographic Surveying and Nautical Cartography can be supported by the IHO and by other agencies. Coastal States will be notified by the EAtHC 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	<u>Category "A" Hydrographic Programme</u>	All EAtHC African Coastal States. Particular need to have access to multi-language courses.
HB	<u>Category "B" Hydrographic Programme</u>	All EAtHC African Coastal States. Particular need to have access to multi-language courses.
CA	<u>Category "A" Nautical Cartography Programme</u>	All EAtHC African Coastal States. Particular need to have access to multi-language courses.
CB	<u>Category "B" Nautical Cartography Programme</u>	All EAtHC African Coastal States. Particular need to have access to multi-language courses.

The selection to these courses, due to their cost and level of requirement, is particularly rigorous. Countries wishing to propose a candidate should pay particular attention to the conditions of application. They concern in particular the trainee's opportunities at the end of the training: it is essential that he or she be able to put the newly acquired skills immediately and directly to the benefit of the beneficiary country.

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	<u>On-the-job training</u>	All African EAtHC coastal States.
OB	<u>Onboard training</u>	All African EAtHC coastal States.

3. Capacity Building Program

The program of capacity building activities for the period 2024 – 2026 is detailed in **Annex B**.

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Annex A to CB Plan

EAtHC Counties/Territories Capacity Building Phase Stage

Reference: CB Procedure 11: <https://iho.int/uploads/user/Inter-Regional%20Coordination/CBSC/MISC/Templates%20Procedures/PDF/Procedure%2011.pdf>

In case of disagreement with this evaluation, please inform the EAtHC CB coordinator: dmi-rex-d@shom.fr

N.	Coastal State/Territory	NHC/NHCC	Phase 1	Phase 2	Phase 3	Last TV	IMSAS Programme (Updated 01 October 2021)
19	Benin	0	3	3	3	2003, 2022	October 2022
29	Cabo Verde	0	2	3	3	2003, 2017	May 2017
31	Cameroon	0	2	3	3	2011 2019 (training center visit)	November 2022
39	Congo	0	3	3	3	2003, 2021	October 2018
42	Côte d'Ivoire	0	2	3	3	2021	February 2016
48	Democratic Republic of the Congo	0	2	3	3	2003 (not a real TV)	May 2017
56	Equatorial Guinea	0	2	1	3	2003	September 2018
62	France	2	4	4	4	N/R	September 2023
63	Gabon	0	1	1	3	2003, 2012 2019 (training center visit)	April 2017
64	Gambia	0	2	2	3	2017, 2019	September 2018
67	Ghana	2	3	1	3	2003 / 2019 (training center visit)	January 2017
71	Guinea	1	2	3	3	2002	July 2016
72	Guinea-Bissau	0	2	1	3	2003, 2012	2024
98	Liberia	0	2	1	3	2016	January 2023
110	Mauritania	0	2	3	3	2023	April 2016

117	Morocco	2	3	4	3	2023 (Tbc)	July 2024
127	Nigeria	1	2	4	3	2003 / 2018 (training centers visit)	June 2016
139	Portugal	2	4	4	4	N/R	April 2016
151	Sao Tome and Principe	0	3	3	3		November 2018
153	Senegal	2	3	3	3	2022	July 2016
156	Sierra Leone	0	2	1	3	2023	November 2018
164	Spain	2	4	4	4	N/R	March 2022
177	Togo	2	3	3	3	2020	February 2016

Angola : next audit in 2024

The numerical grid below describes the status of the National Hydrographic Committee (NHC) / National Hydrographic Coordination Committee (NHCC):	
-1	No information available / <i>Pas d'information disponible</i>
0	The country does not have a NHC/NHCC / <i>Le pays n'a pas de CHN/CCHN</i>
1	The country is in the process to establish a NHC/NHCC / <i>Le pays est en cours de création d'un CHN/CCHN</i>
2	The country established a NHC/NHCC / <i>Le pays a mis en place un CHN/CCHN</i>
The numerical grid below applies to the Phases:	
-1	No information available / <i>Pas d'information disponible</i>
0	The country is unaware of its national obligations / <i>Le pays n'est pas conscient de ses obligations</i>
1	The country is aware of its national obligations but does not have the means to do it / <i>Le pays est conscient de ses obligations mais ne possède pas les moyens ad hoc</i>
2	The country has the ability to fulfil national obligations / <i>Le pays a la capacité de remplir ses obligations</i> (could be changed by 3: "The country fulfils its national obligations through a third party")
3	The country fulfils its national obligations through a third party / <i>Le pays remplit ses obligations via un tiers</i> (could be changed by 2: "The country has the ability to fulfil national obligations")
4	The country fulfils its national obligations in a sustainable manner / <i>Le pays remplit ses obligations de manière durable</i>

Annex B to CB Plan

Capacity Building Program for the period 2024 – 2026

2024

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.
Seminar “20 Years of Capacity Building actions in EAtHC Assessment and Prospect” (Priority 1/3)	All EAtHC countries	EAtHC CB Coordinator (Shom)	13-14 May 2024	See note
Technical Visit (Priority 2/3)	Republic of Guinea (Conakry)	EAtHC CB Coordinator (Shom)		
Technical Visit (Priority 3/3)	Democratic Republic of Congo (DRC)	To be decided		

Note for seminar: Extract from “*Regional Awareness Seminar: “Working with NAVAREA II and your Primary Charting Authority”* 26 – 27 September 2022” (post meeting documents: <https://iho.int/en/eathc17-2022>)

It recalls that the backing of a funded seminar to a face-to-face EAtHC conference is an essential condition for a significant presence at the latter.

In other words, the next face-to-face 2024 EAtHC conference in Morocco must, as far as possible, be associated with a new seminar in order to maintain a significant and essential participation rate for the dynamics of regional cooperation. A proposal for a seminar will be submitted to this effect during the next CBSC in 2023. The theme of the seminar could relate to the aspects of governance which, if not applied, cause a country to participate only too far in the activities of the IHO: “*Become at least an associate member of EAtHC; better, become a member of the IHO; follow its governance recommendations; participate in its working groups; share existing regional capacities to educate and train hydrographers...*”.

Countries that have made real progress in their intentions, often announced in this matter during Technical Visits or Regional Conferences, would be invited to participate in this seminar (by being funded).

Seminar which could then precede formal and official decisions during the conference which would follow.

2025 & 2026

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.
Regional training center visit	For identified coastal States			To support the emergence of local training opportunities
Technical visit or Technical implementation visits	For identified coastal States			2 or 3 per year. Coastal States to be identified according to the demands and opportunities
Seminar	All EAtHC countries	EAtHC CB Coordinator (Shom)		1 per year (at least 1 every EAtHC in face to face). Subject to be defined according to the needs