



CAPACITY BUILDING PLAN
Programme document for the period 2013-2017

1. INTRODUCTION

1.1. Rationale

It is estimated that over 30% of the world's crude oil passes through the Caribbean which is home to over 50% of the world's cruise shipping. In addition, the Caribbean endures a hurricane season from July to November; the storms can and do leave a trail of devastation on the islands and their coasts. 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 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.

Coastal/maritime states have certain treaty obligations (SOLAS) placed on them and the IHO/MACHC 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.

MACHC 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, particularly after natural disaster or other incidents which could affect water depths in harbours and approaches; 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;

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 2013 to 2017, 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/territories 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 MACHC Capacity Building Coordinator will send to the Chair, no later than January 31st of each year details of all planned projects. The projects must be written in the standards established by the IHO CBSC (see Annex **B**).

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 no later than MARCH 15th, otherwise, will take the appropriate action.

2. Activities

Phase	Activity	Project Objective	Target Audience
0.1	<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
0.2	<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
1.1	<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 Practioners

Phase	Activity	Project Objective	Target Audience
1.2	<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 Practioners
2.1	<u>Basic Hydrographic Survey Course (10 days)</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 (5 days)</u>	A workshop to aid exchange of information and ideas about the challenges faced by port and shallow water surveyors in the MACHC region	Port Surveyors
2.3	<u>MBES Processing (5 days)</u>	To train a group of hydrographic surveyors the techniques required to post-process MBES data	Hydrographic Practioners
2.4	<u>MSDI and Database Management (5 days)</u>	To give participants an understanding of spatial data infrastructures (SDI) including the importance and role of data management and databases	Government Planners
2.5	<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 Practioners
2.6	<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 Practioners
3.1	<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 Practioners
3.2	<u>ENC Production and QA (5 days)</u>	To train a group of professionals to verify and validate S-57 data	Cartographic Practioners
3.3	<u>Module 1 – Marine Cartography of the CAT B Cartographic Course (5 weeks)</u>	To provide participants delegates with a practical understanding of nautical cartography and the necessary skills to carry out routine nautical cartographic skills	Cartographic Practioners
3.4	<u>Module 2 – Hydrographic Data Processing of the CAT B Cartographic Course (5 weeks)</u>	To provide participants with a practical understanding of hydrographic data processing the skills to carry out accurate assessment and an appreciation of the issues surrounding chart maintenance	Cartographic Practioners
3.5	<u>Module 3 – Electronic Navigational Charts (ENC) of the CAT B Cartographic Course (5 weeks)</u>	To provide a group of professionals with the skill and knowledge to produce ENCs	Cartographic Practioners
3.6	<u>Law of the Sea Workshop (5 days)</u>	To teach participants the basic technical principles applicable to	Maritime Sector Decision Makers

Phase	Activity	Project Objective	Target Audience
		maritime boundary delimitation. The delegates should be from technical hydrographic or cartographic backgrounds	
3.7	<u>Tsunami inundation mapping workshop (5 days)</u>	To improve the modelling and presentation of regional tsunami inundation maps	Maritime Sector and emergency planning

3. Capacity Building Program

The program of capacity building activities for the period 2013 – 2017 is detailed in Annex C.

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MACHC Counties/Territories Capacity Building Phase StageReference: http://www.iho-ohi.net/mtg_docs/CB/CBA_TechnicalVisits.htm

	Country / Territory	CB Phase 0	CB Phase 1	CB Phase 2	CB Phase 3	Last TV
1	Antigua & Barbuda		Self		UKHO	2006
2	Bahamas		?		UKHO	2006
3	Barbados		Self		UKHO	2006
4	Belize		?		UKHO	2011
5	Brazil		Self	Self	Self	2008
6	Colombia		Self	Self	Self	N/R
7	Costa Rica		?		US/UKHO	2011
8	Cuba		Self	Self	Self	N/R
9	Dominica	?	?		UKHO	2006
10	Dominican Republic		?		UKHO	2012
11	El Salvador		Self	US	US/UKHO	2010
12	Grenada		?		US/UKHO	2006
13	Guatemala		Self	Self	UKHO	2010
14	Guyana		Self	Self	UKHO	2012
15	Haiti		?	US	US/UKHO	2009
16	Honduras		?	Self	UKHO	2010
17	Jamaica		?		UKHO	2006
18	Mexico		Self	Self	Self	N/R
19	Netherlands - Antilles & Aruba (Leeward)		NLHO	NLHO	NLHO	N/R
20	Netherlands - Antilles (Windward)		NLHO	NLHO	NLHO	N/R
21	Nicaragua	?	Self	Self	Self	2005
22	Panama	?	?	US	UKHO	2005
23	St. Kitts & Nevis		Self		UKHO	2006
24	St. Lucia		Self		UKHO	2006
25	St. Vincent & Grenadines	?	?		UKHO	2006
26	Suriname		Self	Self	NLHO/UKHO	2008
27	Trinidad & Tobago		?		UKHO	2006
28	UK - Anguilla		Self	UK	UKHO	2006
29	UK - Bermuda	?	Self	UK	UKHO	
30	UK - British Virgin		Self	UK	UKHO	2006
31	UK - Cayman		Self	UK	UKHO	2006
32	UK - Montserrat		Self	UK	UKHO	2006
33	UK - Turks & Caicos		Self	UK	UKHO	2006
34	USA - Navassa		?	US	US	N/R
35	USA - Puerto Rico & US Virgin		?	US	US	N/R
36	United States of America		Self	Self	Self	N/R

37	Venezuela		Self	Self	Self	N/R
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KEY TO REQUIRED TRAINING ACTIVITY

	Technical visit
	MSI Training and development
	Hydrographic survey training and development



PROJECT SUBMISSION MODEL

IDENTIFICATION

Project Number :

Project Name:	
Submitting RHC/Country:	
Date:	
Institution executing the project:	
Name of responsible:	
Address:	
Telephone:	
Fax:	
e-mail:	

GENERAL SPECIFICATIONS

(Please provide detailed information in Annex of no more than three pages)

Background information	
<i>Justification of the project</i>	

<i>Countries involved</i>	
Exposition of the problem	
General objective	
Specific objectives	
Outputs/Products	
Other deliverables	
Achievements and awaited benefits	

Schedule of activities	
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RESOURCES

Contribution by countries involved	
Contribution	

by other parties	
Contribution expected from CBCFund	
Total Cost (euros)	
Breakdown of costs	

From CBC Fund (item and amount)	
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PROJECT SUMMARY

Sponsor RHC	Year of Execution	Country/ Countries involved	Priority/ Status	Project Name	Project Objective	Benefits	Assistance required	Cost	Allocation and Priority (to be filled by CBC)	Contact Person

Name and Signature of the RHC Chairman

Annex C to CB Plan

Capacity Building Program for the period 2013 – 2017

2013

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.
Technical and Advisory Visits	Dominica, St Vincent & Grenadines, St Kitts & Nevis, Panama	IHO and MACHC		The CBSC did not accept this submission at its meeting in Singapore June 2012
MSI Course (3 days)	For identified coastal states	MACHC CB Coordinator		
Basic Hydrographic Survey Course (10 days)	For identified coastal states	MACHC CB Coordinator		The CBSC did not accept this submission at its meeting in Singapore June 2012
Law of the Sea Workshop (5 days)	For identified coastal states	MACHC CB Coordinator		The CBSC did not accept this submission at its meeting in Singapore June 2012
MSDI and Database Management (5 days)	For identified coastal states	MACHC CB Coordinator		The CBSC did not accept this submission at its meeting in Singapore June 2012
IALA Academy Level 1+ Training Course (2 days)	For identified coastal states	IALA CB Coordinator/MACHC CB Coordinator		An extraordinary submission will have to be developed to seek funding to complement that offered by IALA

At the 13th MACHC meeting in Guatemala there was overwhelming support for a MSDI and Database Management course for the MACHC region

2014

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.

Technical and Advisory Visits	Nicaragua	IHO and MACHC		Approved by the CBSC11 meeting
Basic ENC and ENC Production Course (10 days)	For identified coastal states	MACHC CB Coordinator		This activity was completed in May 2012 so the 13 th MACHC participants agreed to replace it with an MSDI course
MSDI and Database Management (5 days)	For identified coastal states	MACHC CB Coordinator		Part funded by the CBSC11 meeting
Sub-regional course on Hydrography (for Spanish Speakers)	Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica and Dominican Republic	Guatemala		Approved by the CBSC11 meeting

At the 14th MACHC meeting in Sint Maarten's there was strong support for a Phase 1 Skills Course for Spanish Speakers. It was also decided to replace the MSDI and Database Management workshop (funded for 2014) with a 2-day Raising Awareness of hydrography seminar for Associate and non MACHC members (this seminar will precede the 15th MACHC meeting in Manzanillo).

- Mexico also offered the possibility of training in CARIS and the use of echo-sounders in a Latin American environment to Spanish speakers.
- 'Sea Riding' opportunities on survey vessels operating in the MACHC region were also raised as a possible training activity

2015

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.
Technical and Advisory Visits	Dominica, St Vincent & Grenadines, and St Kitts and Nevis	IHO and MACHC		Previously identified for technical visits in 2013 but all three states will be included in the OECS Hydro Project Scoping Study visits so suggest this activity is not submitted
Law of the Sea Workshop (5 days)	For identified coastal states	MACHC CB Coordinator		Suriname offered to host
Basic Hydrographic Survey Course (10	For identified coastal states	MACHC CB Coordinator		The IMO might fund a similar

days)				activity in region so suggest this course is not submitted
Phase 1 Skills Course (5 days) for Spanish Speakers	For Spanish Speaking coastal states	MACHC CB Coordinator in conjunction with Mexico		Mexico offered to both translate and deliver this course
2 day Hydrographic Awareness Seminar	For identified coastal states	MACHC CB Coordinator		IMO & IALA offered to join this activity on the understanding that the focus would be expanded to include their contribution to the Safety of Navigation. Hence this will be a joint 'Safety of Navigation' workshop

At the 15th MACHC meeting in Manzanillo there was strong support for a Spanish MSDI & Data Management workshop (Mexico offered to host and provide a Spanish speaking SME). The US proposed an SDB Workshop based on the GEBCO cookbook and SVG requested a 5 day MSI and Hydro Governance workshop. A 2-day Safety of Navigation Seminar (or similar) for Associate and non MACHC members (possibly in partnership with IMO and IALA) will precede the 16th MACHC meeting in St John's, Antigua.

- As before 'Sea Riding' opportunities on survey vessels operating in the MACHC region were also raised as a possible training activity

2016

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.
Basic ENC and ENC Production Course (10 days)	For identified coastal states	MACHC CB Coordinator		This activity received no support from the membership
MSDI and Database Management (5 days)	For identified coastal states	MACHC CB Coordinator		Proposed by Mexico
SDB Workshop based on the GEBCO cookbook	For identified coastal states	MACHC CB Coordinator		Proposed by US
MSI and Hydro	For identified coastal	MACHC CB		Proposed by US

Governance Workshop	states	Coordinator		NGA and extended by SVG
Hydrographic Awareness Seminar	For identified coastal states	MACHC CB Coordinator		This 2 day seminar will be a permanent fixture of the MACHC

2017

Activity	Beneficiaries Countries / Territories	Responsible	Period	Obs.
Technical and Advisory Visits	Repeat visits to selected coastal states	IHO and MACHC		
MSI Course (3 days)	For identified coastal states	MACHC CB Coordinator		
Basic Hydrographic Survey Course (10 days)	For identified coastal states	MACHC CB Coordinator		
MSDI and Database Management (5 days)	For identified coastal states	MACHC CB Coordinator		

Annex D to CB Plan

Table of Bilateral Arrangements between MACHC Countries

Country	Bilateral Arrangements with the following countries
Antigua & Barbuda	United Kingdom
Bahamas	
Barbados	United Kingdom
Belize	United Kingdom
Brazil	United Kingdom, France (Uruguay, Guyana, Suriname and Haiti in progress)
Colombia	United Kingdom
Costa Rica	
Cuba	United Kingdom
Dominica	
Dominican Republic	
El Salvador	United Kingdom, United States of America
Grenada	
France	United Kingdom, Brazil
Guatemala	
Guyana	United Kingdom
Haiti	
Honduras	United Kingdom
Jamaica	United Kingdom
Mexico	United Kingdom
Netherlands	United Kingdom, France
Nicaragua	
Panama	
St. Kitts & Nevis	
St. Lucia	
St. Vincent & Grenadines	
Suriname	United Kingdom, France, Netherlands, Brazil (in progress)
Trinidad & Tobago	
United Kingdom	Antigua & Barbuda, Barbados, Belize, Brazil, Colombia, Cuba, El Salvador, France, Guyana, Honduras, Jamaica, Mexico, Netherlands, United States of America, Venezuela
United States of America	United Kingdom, France
Venezuela	United Kingdom