

**18<sup>th</sup> MEETING OF THE IHO CAPACITY BUILDING SUB-COMMITTEE**  
**IHO-CBSC18**  
**June 2020**

**Paper for the Consideration by CBSC18**

**Meso American & Caribbean Sea HC Report**

<b>Submitted by:</b>	MACHC CB Coordinator
<b>Executive Summary:</b>	This document provides a summary report of the CB activities at MACHC.
<b>Related Documents:</b>	MACHC CB Plan 2018-2020 MACHC CB Plan 2021-2023
<b>Related Projects:</b>	

## 1. Introduction / Background

A three-year plan for CB activity in the MACHC region was approved by the membership in December 2016. This plan covers the period 2018-2020 and is reviewed annually (during MACHC meetings) to ensure it meets regional requirements. The plan is based on assessing the phase of development of each of the coastal states within the MACHC region (as determined by the IHO's three phases of CB) and arranging training activity to build the necessary capability to meet SOLAS treaty obligations. There is a great deal of 'SOLAS awareness' required in this region.

A three-year plan for CB activity in the MACHC region has been drafted that cover the period 2021-2023. The plan looks to address emerging challenges in the region that will arise with changes in technology and standards.

## 2. Assessment of Capacity Building Phase Stage of Coastal States

	Country / Territory	NHC or NHCC	CB Phase 1	CB Phase 2	CB Phase 3	Last TV
1	Antigua & Barbuda	2	4	1	3	2006
2	Bahamas	-1	2	1	3	2006
3	Barbados	2	4	1	3	2006
4	Belize	1	2	2	3	2011
5	Brazil	-1	4	4	4	2008
6	Colombia	-1	4	4	4	N/R
7	Costa Rica	-1	2	1	3	2011
8	Cuba	1	4	4	4	N/R
9	Dominica	-1	2	1	3	2006
10	Dominican Republic	1	2	1	3	2018
11	El Salvador	1	1	3	3	2017
12	Grenada	0	3	1	3	2006
13	Guatemala	2	2	2	3	2019
14	Guyana	-1	4	2	3	2013
15	Haiti	-1	1	4	4	2017
16	Honduras	-1	1	2	3	2010

17	Jamaica	2	4	1	3	2006
18	Mexico	-1	4	4	4	N/R
19	Netherlands - Antilles & Aruba (Leeward)	2	4	4	4	N/R
20	Netherlands - Antilles (Windward)	2	4	4	4	N/R
21	Nicaragua	-1	2	2	3	2014
22	Panama	1	2	2	3	2020
23	St. Kitts & Nevis	1	4	1	3	2006
24	St. Lucia	-1	4	1	3	2006
25	St. Vincent & Grenadines	0	4	1	3	2006
26	Suriname	2	4	4	3	2008
27	Trinidad & Tobago	-1	2	1	3	2006
28	UK - Anguilla	1	2	3	3	2006
29	UK - Bermuda	-1	2	3	3	
30	UK - British Virgin	-1	2	3	3	2006
31	UK - Cayman	-1	2	3	3	2006
32	UK - Montserrat	2	2	3	3	2006
33	UK - Turks & Caicos	-1	2	3	3	2006
34	USA - Navassa	0	4	4	4	N/R
35	USA - Puerto Rico & US Virgin	2	4	4	4	N/R
36	United States of America	2	4	4	4	N/R
37	Venezuela	-1	4	4	4	N/R

### KEY

- 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 a NHC/NHCC
1	The country is in the process of establishing a NHC/NHCC
2	The country has established a NHC/NHCC

- The numerical grid below applies to the Phases:

Value	Assessment
-1	No information available
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 some ability to fulfil national obligations
3	The country fulfils its national obligations through a third party
4	The country fulfils its national obligations in a sustainable manner

Note: [the assessment represented by 3 is an alternative to 4] as explained in the IHO's Capacity Building Strategy

3. Those coastal states with a mature hydrographic service and consequently don't require a technical visit are marked as N/R (not required)

### 3. Activities completed since CBSC17

- A **Technical visit to Guatemala** was completed the week of 11-15 MAR 2019. The IHO TV delegation consisted of Mr. James Rogers and Ms. Ruth Perez Gamez of the National Geospatial-Intelligence Agency (NGA) Maritime Safety Office in the United States of America. The delegation visited the Direccion General De Asuntos Maritimos (DIGEMAR) in Guatemala City, the Comisión Interinstitucional de Investigación Hidro-oceanográfica (CIIHO) also in Guatemala City, and finally the Puerto Quetzal Port Authority. Guatemala is actively contributing to the Capacity Building (CB) Phase 1 Maritime Safety Information (MSI) mission. Additionally, after meeting with both DIGEMAR and the CIIHO it was found that Guatemala has a good foundation in the creation of a CB Phase 2 Surveying capability and are actively doing port surveys in each of their various ports. The CIIHO regularly meets with participants from several key government agencies related to hydrography and maritime interests in Guatemala. The CIIHO has worked on a few joint projects between the participants since its founding in Guatemala. The delegation also visited the Puerto Quetzal Port Authority to see the ongoing efforts to improve the port facility for Guatemalan maritime commerce. The TV was a very productive time for both the IHO TV delegation as well as the Guatemalan participants.

- A **Seminar on Raising Awareness of Hydrography** hosted by The Dominican Republic preceded MACHC20 in December 2019. The funding provided by the IHO Capacity Building fund enabled representatives from the following coastal states to attend: Costa Rica, Cuba, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Panama and Venezuela.

The Seminar was supported by the IHO, IALA and IMO who, as part of the UN goal, 'delivered as one'. The seminar raised awareness of the roles and responsibilities of the coastal states and provided an opportunity for the participants to discuss lessons learned during the previous year. The focus of the seminar was the development of Marine Spatial Data Infrastructures (MSDI) and the opportunities such development can provide coastal states in developing their blue economy. An overview of the MSDI training that has been developed by the IHO, Danish Geodata Agency and IC-ENC was given to raise awareness of the components that make a robust MSDI that the coastal states will need to consider developing.

- **MSI Course** was conducted by Peter Doherty and Chris Janus of WWNWS and held in Santo Domingo, Dominican Republic 9-11 December 2019 following MACHC20. The IHO Capacity Funding enabled participants from the following countries to attend - Anguilla, Belize, Costa Rica, Curacao, Ecuador, El Salvador, Guatemala, Honduras and Turks and Caicos.

#### **4. Activities planned for 2020**

The COVID-19 pandemic has impacted the delivery of capacity building activities that were planned for 2020 such as the Phase 1 skills course which will be resubmitted for funding at a later date; however it is hoped that the Tides workshop for Spanish Speakers will be delivered in November and will be held in Costa Rica. The workshop will be led by U.S. NOAA with additional financial assistance and delivery support from CARIBE EWS and COCATRAM.

#### **5. Challenges faced in the region**

The challenges in the MACHC region are complex. The rise in numbers of all types of vessels (commercial and cruise), the increasing size of vessels transiting the new larger locks of the Panama Canal, the age/reliability of the survey data that was used to compile the existing navigational products (and in some areas the lack of data) and climate change all add to the risk of transiting this area.

The Caribbean endures a hurricane season which extends from July to November. The 2019 hurricane season was the 4th consecutive year of above average and damaging seasons with 18 named storms, (6 of which achieved hurricane status) and 20 tropical cyclones. Hurricane Dorian was the most intense tropical cyclone on record to strike the Bahamas, causing catastrophic damage.

The region is also experiencing changes to rainfall levels. 2019-2020 has been the 5th driest year at the Panama Canal in 70 years and water saving measures have had to be implemented to ensure operational reliability. In 2018 rainfall was 20% below the historic average and it was predicted that there would be a significant restriction to cargo transiting the waterway if interventions were not employed.

Volcanic activity, though rare, can be devastating such as that experienced in Montserrat. There is a subsea volcanic area near Grenada that is often active which can change the hydrography dramatically and impacts shipping. In 2018, an exclusion zone was established around Kick 'em Jenny volcano located 8km off Grenada in the shipping route from St Vincent to Grenada for fear that increased gases could reduce the buoyancy of ships.

The high number of Small Island Developing States (SIDS) in the MACHC offers a unique challenge because these states generally have no hydrographic infrastructure and are usually reliant on a national Maritime Authority or some other organization for the provision of hydrographic services. Much work is still required in building and developing sustainable Hydrographic Governance in these states. This also applies to several Central American States.

The UKs Commonwealth Marine Economies (CME) and Overseas Territories Programmes (OTSMP), have worked across the region to improve the maritime framework through the development of hydrographic governance, undertaking seabed mapping to update navigational products assisting territories and countries in scope to meet their international obligations.

The CME programme is aimed at helping the most vulnerable SIDS make the most of their natural maritime advantages, to enable sustainable economic growth and alleviate poverty.

Under the programme a number of SIDS have benefitted from the development of Phase 2 training, building their data gathering capabilities.

## **6. Achievements and lessons learned**

The 2019 Seminar on Raising Awareness of Hydrography prior to MACHC included a workshop on MSDI. The development of MSDI will provide great benefits to the region enabling collaboration and coordination of activities. The MACHC wishes to encourage developing nations to consider MSDI at the outset as they learn about their other hydrographic obligations, and not as an afterthought. Whilst the broad range of hydrographic capability within the region enables the sharing of best practice, it is vital that it is recognized that one size does not fit all and the way that developing hydrographic organisations approach the development of MSDI does not need to be the same as well-established organisations. Developing organisations may be less hindered with legacy systems and policy and so their development of MSDI may be less constrained. They are also encouraged to take advantage of existing regional MSDI infrastructure, such as the Caribbean Marine Atlas and not have to recreate it individually with scarce resources.

The MACHC region continues to look for opportunities to work with other partners to better utilize resources and develop collaborative networks such as the IMO, IALA, IOCARIBE, the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS), and the Central American Marine Transportation Commission (COCATRAM). These latter two organisations, along with the neighboring RHCs (SWAtHC and SEPRHC) are co-sponsoring the Tides and Water Levels for Spanish speaker training that will be delivered in 2020 to deliver the broadest benefit for all participants.

The MACHC is beginning to explore potential CB opportunities with donor organizations such as the Inter-American Development Bank which made a presentation at the MACHC20. The Climate Investment Fund through the Inter-American Development Bank (IADB) has provided \$10.39 million USD in grant funding to implement over 5 years the Investment plan for the Caribbean Regional Track of the Pilot Program for Climate Resilience (PPCR). This includes the collection of Bathymetric LIDAR data in vulnerable coastal areas of interest in Jamaica and Haiti. Such activity is clearly of interest to the MACHC and presents a potential collaboration opportunity for increasing data collection and capacity building. However, there needs to be a better understanding of the criteria used for country participation and how to best engage with the IADB. The MACHC would welcome support from the CBSC to explore additional donor funding opportunities that could expand the resources available for capacity building across RHCs.

Mexico's FOCAHIMECA project is building Phase 2 capability in a number of Spanish speaking states and the UK's Commonwealth Marine Economies and Overseas Territories Seabed Mapping Programmes has assisted a number of SIDS with data gathering, hydrographic governance and data management in their littoral zones. Furthermore, the UK's approach to promoting the onward usage of seabed mapping data through its international programmes has gone a long way to raising the profile and importance of hydrography as a component part of Oceans Governance Policy.

## **7. Conclusions:**

The MACHC continues to raise hydrographic awareness throughout the region enabled through the provision of funding by the IHO for the seminar preceding the annual MACHC meeting. The attendance by Associate Member and Observers at the regional meeting enables

the importance of regional hydrography to be highlighted and the benefits of collaboration to be showcased.

Given that capacity building requirements far exceed the available IHO CB funds available, it is essential to identify further collaboration opportunities with donor organizations and other governmental, non-governmental and industry partners to leverage scarce resources to meet common CB goals.

The long-term impact of COVID-19 on the region cannot be fully understood at this time, nor how future requirements of coastal states will be shaped. By continuing to look for opportunities to work closely with other regional organizations it is hoped that regional education of the importance of hydrography, data collection and the provision of products and services will help in limiting the impact on the Blue Economy and the development of the region.

#### **8. Actions required of CBSC:**

The CBSC is invited to:

- a. note the report
- b. encourage all RHCs to collaborate on CB training of common interest to maximise the use of CB funds.
- c. invite the CBSC to explore opportunities with donor organizations and
- d. take any action considered appropriate.

Lucy Fieldhouse  
MACHC RHC CB Coordinator