

**20<sup>th</sup> MEETING OF THE IHO CAPACITY BUILDING SUB-COMMITTEE  
IHO-CBSC20  
Denpasar - Bali, Indonesia + VTC (Hybrid Meeting), 1-3 June 2022**

**Paper for the Consideration by CBSC20**

**USCHC Report**

<b><i>Submitted by:</i></b>	USCHC CB Coordinator
<b><i>Executive Summary:</i></b>	This document provides a summary report of the CB activities at USCHC.
<b><i>Related Documents:</i></b>	
<b><i>Related Projects:</i></b>	

### **1. Introduction / Background**

USCHC - Canada and United States of America are full members.

The United States and Canada are active participants in the IHO Capacity Building Sub-Committee (CBSC). The United States directly supports the IHO Maritime Safety Information (MSI) training course as well as provides support to nations through on site and remote guidance and advice as they grow their hydrographic capacity.

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

Both Canada and the U.S. are considered to be at Phase 3.

### **3. Activities completed since CBSC19**

-The Empowering Women in Hydrography Project, led by Canadian Hydrographic Service and Fisheries and Oceans Canada, launched with the goal of raising awareness about career opportunities in hydrography, and to increase the number of women in leadership positions. A Kickoff VTC was held in September 2021, and in 2022 a Webinar was held and four internships were awarded through the IHO Secretariat and three candidates were selected for an at-sea internship with the U.S. National Oceanic and Atmospheric Administration (NOAA). This program will continue through 2022. <https://iho.int/en/basic-cb-sc-ewh>

-The Canadian Hydrographic Service (CHS) collaborates with the Canadian Coast Guard and local Arctic communities to install, test, and operate low cost bathymetric (depth) data collection systems onboard vessels operated by Inuit Peoples. The systems are configured to collect data whenever the vessels are operated, tracking the position and depth while the vessel is transiting community waters that has provided a basis to establish a community hydrography program led by the Canadian Hydrographic Service. CHS is developing basic training packages that can be delivered remotely to inform the use of the systems along with data extraction and transmission processes. CHS hopes to expand this project to 18 Arctic communities equipped with Community Rescue Boats. The resulting data will inform safer marine transportation in the near-shore environment, contribute to knowledge of the marine ecosystems, provide the option for communities to contribute to the Seabed 2030 initiative

and provide data to CHS. Communities have also created bathymetric overlays for use with charting apps as many of these locations have very little, or no direct measurements of the depth of the seafloor as they are outside of the proposed low impacting shipping corridors that commercial marine traffic transit. CHS shares their annual Arctic survey plan with the Territorial Governments in the Region to inform communities and receive feedback to identify areas of community interest. This program will continue through 2022.

#### 4. Activities planned for 2022

The activities in Section 3 above will continue through 2022.

Hydrographic Training opportunities are available at various institutions in the United States and Canada.

Category A certified hydrographic programs in Canada:

-Geodesy and Geomatics Engineering – Hydrographic Surveying Option, University of New Brunswick

<https://www.unb.ca/fredericton/engineering/depts/gge/index.html>

-International Hydrographer Certification Scheme Association of Canada Lands Surveyors (ACLS) in collaboration with the Canadian Hydrographic Association (CHA)

<https://www.acls-aatc.ca/offshore-expertise/canadian-hydrographer-certification-program/>

Category B certified hydrographic programs in Canada:

-Fisheries and Marine Institute of Memorial University of Newfoundland (MI)

<https://www.mi.mun.ca/programsandcourses/programs/oceanmapping/>

-Research and Development Center for Coastal and Ocean Mapping (CIDCO). This program combines 9 months of e-learning with 7 weeks of field work in Quebec and begins each year in October. <https://www.cidco.ca/en/education-and-training/hydrographic-survey-category-b-course>

Schemes:

-System for Certifying and Recognizing the Competency of Individuals as Hydrographic Surveyors in Canada, Association of Canada Lands Surveyors (ACLS) <https://www.acls-aatc.ca/offshore-expertise/canadian-hydrographer-certification-program/>

Category A certified hydrographic programs in the United States:

-The University of Southern Mississippi (USM)

<https://www.usm.edu/marine/hydrographic-science>

-The University of New Hampshire (UNH)

<https://marine.unh.edu/program/center-coastal-and-ocean-mappingjoint-hydrographic-center>

Category B certified hydrographic programs in the United States:

-NGA Category-B Competence Training for Nautical Cartography. NGA continues to work with IIC Technologies to provide training to analysts with a comprehensive 20-week instructor-led course and a six-week final project. Since 2020, the course has been

completed virtually in multi-week sessions throughout the course of a year. As of May 2022, 55 students have completed the program.

-International Hydrographic Management and Engineering Program (IHMEP). This is a six-month program beginning annually in February. The program is offered via Naval Meteorology and Oceanography Command and the Information Warfare Training Group in Gulfport, Mississippi.

-U.S. Navy offers mobile hydrographic training via Naval Oceanographic Office.

University of Southern Mississippi/U.S. Navy's Category A, B programs, and mobile training all qualify for Security Cooperation assistance.

Capt. Andrew Armstrong, NOAA (ret.), NOAA co-director of the Joint Hydrographic Center at UNH, is a member of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. As a member of the board, Capt. Armstrong is available to advise institutions on establishing hydrographic training curricula and preparing submissions to the International Board for Category A or Category B recognition. ([andy.armstrong@noaa.gov](mailto:andy.armstrong@noaa.gov)).

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

None Noted.

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

We will continue to leverage the increased use of technology during the COVID-19 pandemic to expand opportunities for capacity building throughout the upcoming year.

## **7. Conclusions:**

USCHC members continue to support various Capacity Building projects worldwide and are increasing opportunities for training aligned with IHO objectives and goals.

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

None.

Commander Jennifer Landry, U.S. Navy  
USCHC CB Coordinator