

**14th MEETING OF THE IHO INTER-REGIONAL COORDINATING COMMITTEE
IHO-IRCC14**

VTC, 6-8 June 2022

Report of the

United States of America – Canada Hydrographic Commission (USCHC)

1. Chair

Co-Chair and Host of USCHC45: Dr. Geneviève Béchar, Canada

Co-Chair: RDML Benjamin Evans, United States of America

2. Membership

United States of America

- Office of Coast Survey, NOAA
- National Geospatial Intelligence Agency (NGA)
- United States Navy (USN)

Canada

- Canadian Hydrographic Service
- Canadian Forces Intelligent Command, Department of National Defence

Associate member(s): none

Observers: IHO Secretariat, United Kingdom Hydrographic Office

3. Meetings:

Following USCHC meetings have taken place since :

There has been no USCHC meetings since IRRC13.

The next USCHC meeting will take place June 9 – 10 in Ottawa, Canada.

Meetings of the USCHC Hydrographic Geospatial Products and Services Committee (HGpsc) held intermittently by VTC.

NOAA-CHS Great Lakes Operations [informal] Group meets monthly by VTC.

4. Current USCHC Working Groups:

- a) Hydrographic Geospatial Products and Services Committee (HGpsc)
- b) Ad hoc NOAA-CHS Great Lakes Working Group

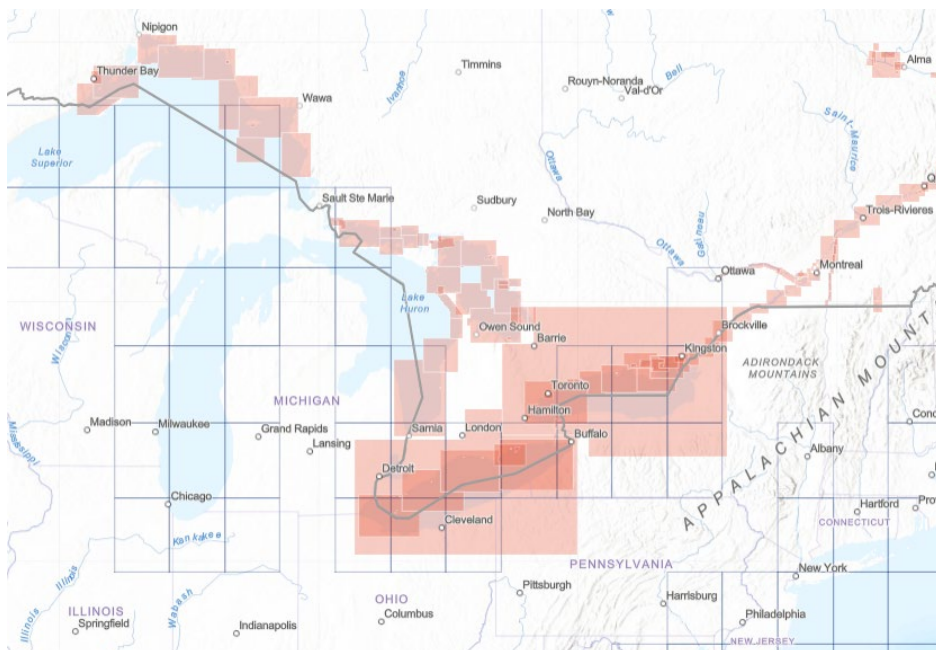
5. Status of IRCC actions relevant for the USCHC

#	Action	Deadline	Status
1	Upon the recommendations based on the proposals made by the NCWG on the Future of the Nautical Paper Chart, RHC to	IRCC14	Canada / USA investigating common ENC schemes in Arctic / Ongoing To be discussed at USCHC45

	encourage Member States to focus on ENC Schemes, but still follow applicable IHO Resolutions and Standards for any continuing INT chart production.		
2	RHCs to recommend Member States to Note the information on ECDIS anomalies and support the implementation of the recommendations given by the ENCWG.	IRCC14	Completed
3	RHC to identify regional coordinators to act as a point of contact for CSB/Seabed 2030 and to raise the profile of data gather and provision within their respective Region.	IRCC14	Completed. Co-coordinators have been identified. They are Andy Armstrong (USA) and Dana Gallant (Canada).
5	RHC to encourage MS to participate in the Empowering Women in Hydrography project.	IRCC14	Canada has contributed funds and USA has offered ship time under this project. / Ongoing
6	RHCs to consider extend the role of Charting Regional Coordinators for the implementation of the S-100 Implementation Roadmap.	IRCC14	Ongoing. To be considered at USCHC45.
7	RHCs to try to plan at least one face-to-face meeting between the 2nd and the 3rd Session of the IHO Assembly.	IRCC14	Completed
8	RHCs to apply Resolution 1/2005 in case of disasters occurred to support the affected States in their regions.	IRCC14	Permanent
9	RHCs to invite relevant Member States to report to the IMO Secretariat and the Chair of the EGC Coordinating Panel on the progress and status of implementation of newly recognized mobile satellite services by MSI providers.	IRCC14	Ongoing
10	RHC to encourage MS to submit Articles and Notes for publication in the IHR	IRCC14	Permanent
11	RHCs to encourage all Member States to actively contribute with new data to GEBCO and to discuss how MS can share existing data.	IRCC14	Permanent
12	RHCs and WGs to include the measurement of the SPI attributed by IRCC in their annual Work Plans	IRCC14	Permanent. To be discussed at USCHC45

6. Items of Note:

- a. As with all organizations, the COVID-19 pandemic continued to present a number of challenges throughout the past year. This has impacted both domestic hydrographic programs as well as USCHC activities. Despite “VTC fatigue”, there have been opportunities for more frequent and information communications (e.g. Great Lakes Operations Group).
- b. Updates have been made to the Trans-Boundary Limit GIS tool. In collaboration with CHS, NOAA stood up the USCHC Transboundary Web Application (see screen-grab below; [link](#)) which indicates current and re-schemed ENC coverage. This allows both agencies and the general public to follow the changes in coverage resulting in re-scheming. It is important to note that the information for the application is being drawn from each HO’s database. Since the last report, updates have been made to incorporate the new CA ENC schema into the tool. This has added the ability to see current ENC coverage.



- c. The Hydrographic Geospatial Products and Services Committee (HGSPC) has worked with different regional groups over the last year. The Great Lakes offices have been meeting monthly. The relationships have strengthened, and we have successfully handled some recent single agency charting solution exercises. Office of Coast Survey’s Nautical Data Branch now references a Canadian gridded cell coverage layer to identify source data that falls on Canadian-only charts. Previously, these data may not have been captured and sent to CHS. Also, through our strong collaborative relationship, we have been able to efficiently share information about deleting Canadian buoys that fall only on United States charts. We have had a successful opening meeting between our collective Atlantic regions to lay the groundwork for discussions about transboundary products based on the new gridded schemes. We also had the same opening meeting with our Pacific regions. Plans are in place to hold a second meeting to discuss specific areas of interest for transboundary decisions. In addition, HGSPC co-chairs have encouraged and supported each region to have monthly collaborative meetings similar to those held for the Great Lakes region. Everyone was supportive of this idea. At USCHC, HGSPC hopes to demo the web map for transboundary ENCs on the grid. HGSPC developed this tool after it was approved at USCHC to aid in updating the Transboundary Memoranda of Agreement between the US and Canada. The web map has been beneficial for both organizations to help visualize the grids and how they relate to the international boundary and support bi-lateral discussions. HGSPC will continue to support these regional meetings and targeted discussions on transboundary ENCs.

- d. USCHC will continue to work together to develop and implement a common approach for generating paper charts directly from ENC's. Many of the technical issues related to this process have been resolved, while the more challenging policy issues are being addressed. While it is recognized that each hydrographic office has sole authority for determining the content of their products, USCHC Member States will strive for a regionally consistent approach which is in the best interest of mariners.
- e. The USCHC Capacity Building coordinator, CDR Jen Landry (US) delivered her report to CBSC20. The report can be found in Annex A of this report and on the CBSC20 web site [CBSC20-5.1D](#).

Both CA and US participated in the ARHC's IHO Strategic Plan gap analysis exercise. The outcomes of that analysis will be discussed in the USCHC context at USCHC45 and the Commission will be looking the drafting of a Work Plan that includes the SPI implementations.

Generally, the region is on a very path towards the stated goals of the IHO Strategic Plan. There is more work required by the USCHC with respect to the measuring and reporting of the strategic plan indicators (SPIs). Member States (MS) did attend both IRCC workshop on SPIs which were found to be very useful. USCHC is looking forward to working with other RHCs, MS and the IHO Secretariat to better define the methodologies for generating meaningful and consistent SPIs.

- f. CA and the US continue to leverage the mechanism within USCHC Memorandum of Understanding (MOU) for the exchange of products, data, and expertise to facilitate to facilitate hydrographic survey collaboration between the participants including reciprocal access to waters subject to the jurisdiction of Canada and of the United States, respectively, to conduct modern hydrographic surveys.

There are agreed-upon transboundary areas of responsibility which creates an environment of more effective data collection, production, and maintenance. This is also known as 'single-agency charting'. Annex B is an example of an amendment (or 'Schedule A') of the MOU which acknowledges that the NOAA ship *Thomas Jefferson* and her survey launches will conduct be conducting a survey in the Detroit River and that some portions of which may fall into the transboundary area. This Schedule A enables NOAA, contingent on the stated conditions, to enter Canadian waters in the Detroit River as necessary to conduct surveying for the described project and that NOAA will make available the data collected to CHS to improve both nations' nautical charting products in the area.

7. Recommendations and Observations:

- a. USCHC continues to be an effective structure for collaboration and coordination in the trans-boundary waters of this region.
- b. USCHC is willing to engage with other HOs and RHCs to advance the development and implementation of the automated generation of paper charts from ENC's.
- c. USCHC recommends that the major organs of the IHO, that is, IRCC, HSSC, IHO Council, and the IHO Secretariat continue to provide guidance with respect to the compilation of IHO Strategic Plan SPIs.

8. Actions required from the IRCC14:

The IRCC is invited to:

- a. Consider continuing the IRCC's active role in providing guidance to RHCs with respect to IHO strategic performance indicators.
- b. Note this report.

ANNEX A

**20th 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

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

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 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).

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

3. Starting Data and Duration of Project:

Project commencement is based on available weather conditions and is planned to occur between May 1, 2022, and September 30, 2022. If the project does not happen in 2022, it may be planned for the following year between May 1, 2023, and September 30, 2023, as conditions allow. The duration of the project will be approximately three weeks but this is subject to change based on weather conditions and vessel traffic.

This survey will focus on the Detroit River from Grosse Point to Pointe Mouillee, Michigan, covering approximately 30 SNM.

The following graphic shows the area of intended work.



4. Deliverables (reports, etc.):

Validated bathymetric data and accompanying reports will be made publicly available on NOAA's National Centers for Environmental Information website, <https://www.ngdc.noaa.gov/> within 1-2 years.

When the survey is completed and as soon as practically possible, NOAA will provide the processed data and any relevant information to CHS.

NOAA will assess and report any uncharted hazards or critical depths less than charted, found within Canadian Waters via NAVWARNs through MCTS Prescott NAVWARN.MCTSPrescott@innav.gc.ca

5. Financial Arrangements (which participant is paying for travel, training, shipping, etc.):

Financial arrangements and responsibility are that of the sponsoring institution, NOAA's Office of Coast Survey.

6. Additional Information:


The timing and execution of this project by NOAA are subject to the conditions of operations and trans-boundary movement in force in each country and by each organization due to the COVID-19 situation. NOAA will work with the Canadian point of contact to ensure that all regulations and directives are being adhered to prior to initiating the field work.

This Schedule A remains in effect regardless of a change in dates. This includes the project potentially being postponed until a subsequent field season (e.g., 2023).

The Principal Investigator in charge of the project is: Christina Fandel, NOAA Hydrographic Surveys Division, Acting Chief Operations Branch, 1315 East-West Highway #6206, Silver Spring, MD, USA, Tel: (240) 533-0037 (o), (301) 717-7271 (c), and email: christina.fandel@noaa.gov.

The Canadian point of contact is: Andrew Leyzack, Operations Manager, 867 Lakeshore Road, Burlington, Ontario, Canada, L7S 1A1, Cell: (905) 630-2165 and email: andrew.leyzack@dfo-mpo.gc.ca.

This Schedule A is not intended by the Participants to be a legally binding "international agreement" as defined by the Case-Zablocki Act. The intent is solely to foster cooperation on activities of mutual interest.


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RDML Benjamin K. Evans
Director and U.S. National Hydrographer
of Coast Survey
National Ocean Service
National Oceanic and
Atmospheric Administration
U.S. Department of Commerce

**Geneviève
Bécharde**

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Dr. Geneviève Bécharde
Hydrographer General of Canada and Office
Director General, Canadian Hydrographic
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Science Sector
Department of Fisheries and Oceans,
Canada

[IRCC body] Proposed Work Plan - [date] to [date]

1. Any remarks relevant to the understanding of the plan to be inserted in here.

[IRCC body] Tasks

- A.
 - B.
 - C.
 - D.
- et cetera

Task	Work Item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
A1	Description								
A2									
A3									
B1									
B2									