Report of the Crowdsourced Bathymetry Working Group

Submitted by:	Chair
Related Documents:	IHO CSBWG8 and IHO CSBWG9 reports, IHO CSB Guidance Document (B-12) Edition 2.0.2, IHO CL 21/2020 dated 3 June 2020, IRCC CL 1/2020 dated 15 June 2020, IRCC12-08A.2: CSBWG paper on raising the awareness of CSB within RHCs and proposed actions within RHCs to support the IHO CSB initiative
Related Projects: none	

Chair:	Jennifer Jencks, USA
Vice-Chair:	Serge Gosselin, Canada (until 25 October 2019) Marta Pratellesi, Italy (from 25 October 2019)
Secretary:	David Wyatt, IHO
Member States:	Canada, Croatia, Denmark, Finland, France, Germany, India, Italy, Netherlands, Nigeria, Norway, Philippines, Portugal, UK, USA
Expert: Contributors:	CCOM-JHC, ChartWorld/SevenC's, CIDCO, Da Gamma Maritime Ltd, Dongseo U, ECC AS, ESRI, FarSounder, FLIR Systems AB, Fugro, GMATEK, Inc., James Cook U, JAMSTEC, Navico/C-Map, ONE Data Tech Co., Olex, PYA, Seabed 2030,TeamSurv, Teledyne CARIS, Sea-ID, World Maritime University, and World Ocean Council
See Annex A for full details	

1. Meetings Held During Reporting Period

The working group held its 8th meeting at the offices of the IHO Secretariat in Monaco, from 23 to 25 October 2019. The Vice-Chair, in the absence of the Chair, chaired the meeting which was attended by representatives from nine Member States (Canada, Denmark, India, Italy, Japan, Netherlands, Norway, UK and USA), and observers and expert contributors from Fugro, Da Gama Maritime Ltd, FLIR Systems AB, Sea-ID and ChartWorld/SevenCs. The Chair, Farsounder INC, TeamSurv, James Cook University and CIDCO participated remotely for various agenda items and subsequent discussions. IHO Secretary-General Dr Jonas Mathias and Assistant Director David Wyatt (Secretary) represented the IHO Secretariat. See Annex A for list of participants.

The working group held its 9th meeting, virtually, from 30 June to 02 July 2020. The meeting was led by the Chair and Vice-Chair and attended by 43 participants, see Annex A for list of participants. IHO Assistant Director David Wyatt (Secretary) represented the IHO Secretariat.

2. Work Programme

CSBWG8

At its 8th meeting, the CSBWG briefly reviewed the final draft version of the B-12 Guidelines which was presented to Member States for adoption via IHO Circular Letter 11/2019. A full explanation was provided on the background to the generation of Edition 2.0.0 within such a short timeframe. The WG decided to start considering ways of obtaining user community feedback and comments at its next meeting, which will allow some operational experience to be gained with the current version.

CCOM-JHC/UNH provided a demonstration of potential e-publication formats for B-12, highlighting the benefits and limitations of the various formats. It was agreed that this should be demonstrated at IRCC12 for approval as the future format of the publication and as a potential format for other IHO publications.

The participants also considered the outreach and recognition strategies, which should be developed. The group decided to focus on Geophysical, the Research vessel, Cruise Liner, Submarine Cable, and Recreational Leisure sectors, including the Super Yacht community. It was agreed that representation at a number of events and meetings was essential to raise awareness and to progress the five headline topics (need, how, what, incentives and benefits) to increase contributions and participation. It was also agreed that leading organizations and companies within each sector could be identified and approached to act as CSB ambassadors. It was proposed that the first three CSB partner sector ambassadors should be Carnival and MacGregor on behalf of the cruise industry, Fugro on behalf of the marine survey industry and PGS on behalf of the seismic survey industry. Additionally, it was agreed that closer liaison needed to be established with other IHO bodies as well as the Seabed 2030 project, in particular the Chairs of the Data Quality Working Group (DQWG) and Marine Spatial Data Infrastructure Working Group (MSDIWG) should be invited to future meetings. It was suggested that the Director and Deputy Director of the Seabed 2030 project should be invited to participate and that close harmonization of the outreach activities of both groups should be a priority.

CSBWG9

Due to the challenges that accompany a virtually-held meeting, the scope of CSBWG9 was vastly reduced. The three day (3 hours/day) meeting focused on: Current DCDB Work and IHO Projects, Current CSB Efforts, Messaging and Coordination, CSB Guidance and Outreach.

Current DCDB Work and IHO Projects

The Chair provided an update on developments to the IHO Data Centre for Digital Bathymetry (DCDB), including improved CSB data upload and download capabilities, the addition of MacGregor/Carnival Cruise Lines and FarSounder as the latest data contributors, and the implementation of a geographic filter for incoming data to take into account the positions of coastal states on the collection of CSB in their areas of jurisdiction.

Current CSB Efforts

Summaries of on-going CBS efforts and projects were provided to the WG prior to the meeting and are available on the CSBWG9 web page. Projects discussed include: Navico C-Map, CIDCO, FarSounder, JAMSTEC, TeamSurv, The Great Barrier Reef Project

Messaging and Coordination

The main purpose of this section was to focus on how the CSBWG can improve the engagement and leverage of other organizations already active in their outreach. Harmonization and coordination between the IHO, IOC, CSBWG, GEBCO and Seabed 2030 and the need for close cooperation to avoid duplication of effort was discussed.

Representatives from GEBCO, Seabed 2030, the WOC and the DQWG were in attendance to discuss synergies between the groups.

"Outreach to Regional Hydrographic Commissions (RHCs)" was its own agenda item. The revised IHO CL and new IRCC letter to RHCs to obtain support for the provision of CSB data into the public domain were discussed. Specifically pointing out that the new letters now recognise that CSB is being collected, even if currently all data is not being made available. The Vice-Chair proposed a submission to IRCC requesting the inclusion of CSB activity in RHCs meetings and National reports and suggesting that the CSB/Seabed 2030 Regional Coordinators should be participating members of the CSBWG, see IRCC12-08A.2; this proposal was endorsed by the WG

CSB Guidance and Outreach
The WG has agreed to generate sector-specific CSB Summary Guides over the next year aimed at the following sectors: Super yacht and leisure community, Survey, Geophysical and Submarine Cable industry, Fisheries, Cruise Line industry, Software/hardware industry, Hydrographic Offices, and the Academic/Scientific Research sector. Working group members and expert contributors were asked to volunteer for their sector of interest and knowledge.

Concrete actions (upcoming virtual meetings, publications, etc) on how to address a selected group of sectors were also discussed.

3. Progress on IRCC Action Items

Decision 24: to reappoint the CSBWG to continue its work under the existing ToRs.

No Actions

4. Problems Encountered

Despite the significant progress achieved over the short time of the CSBWG, there remains a considerable degree of confusion between the opportunistic and random CSB data gathering activity and the UNCLOS regulated planned scientific data gathering and systematic hydrographic survey operations. It is clear that many coastal states continue to misunderstand the objectives and focus of the CSB initiative, which is to collect data in poorly surveyed or unsurveyed areas. CSB data can play a role in completing the picture of the seabed by supporting the objectives of numerous international projects and initiatives, such as Seabed 2030, the UN Decade for Ocean Science for Sustainable Development and UN Sustainable Development Goal 14, and a plethora of scientific research, modelling, management and planning uses, which might include safety of navigation either directly onto charts or as a comparator to published data. Increased awareness and information as well as continued stakeholder engagement/involvement should all help to overcome these reservations.

There continues to be concern over the apparent lack of dedicated resources available within national HOs to process data available via the DCDB. While recognizing the resource limitations particularly in the current environment, it should be considered that the quantities of data likely to be generated and of interest to individual HOs will be relatively small. Any significant variance with published data highlighted during CSB collection should be reported directly to the relevant HO via Hydrographic Note, as is the current practice; the remaining CSB data is therefore unlikely to be of major interest to HOs, except in areas where data is sparse or non-existent.

5. Any Other Items of Note

The importance of liaison with other IHO bodies, as well as appropriate engagement with industry to progress the work items, continues to be a key enabler for the project. There is also a continued need to showcase various use cases of CSB data to MS to explain the benefits and utilization of 'free' data for national uses.

6. Justification and Impacts

N/A

7. Actions Required of IRCC

The IRCC is invited to:

a. Note the contents of this report;
b. Encourage all Member States to review IHO CL 21/2020 and, if possible, offer a positive response, even if qualified, to enable provision of CSB data into the public domain collected from ships within waters subject to their national jurisdiction.
c. Encourage all coastal states to review IRCC CL 1/2020 and, if possible, offer a positive response, even if qualified, to enable provision of CSB data into the public domain collected from ships within waters subject to their national jurisdiction.
d. Encourage Member States to release datasets or subsets into the public domain via the IHO DCDB;
e. Encourage Member States to support the CSB initiative with positive actions, such as requiring all research vessels to collect bathymetric data for late uploading, when on passage or when it does not interfere with other research activities;
f. Endorse the e-publication of B-12 and use as an example for other IHO publications;
g. Take what other action is deemed necessary.

Annexes:

A. List of members.

IHO Crowd-Sourced Bathymetry Working Group (CSBWG)
List of Members

Member State	Organization	Name	E-mail (correspondence)
Canada	Canadian Hydrographic Service (CHS)	Mathieu Rondeau	Mathieu.Rondeau@dfo-mpo.gc.ca
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