

Work Item C

**Gather, prioritize & respond to HO-specific issues/
opportunities regarding national policy/regulations
related to CSB**

Report to CSBWG16

26-28 March 2025

By Jennifer Jencks (Work Item Lead)

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Work Item Background

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To gather a better understanding of hydrographic office-specific issues and opportunities related to national policy/ regulations regarding CSB.

The thought was that only in truly understanding what those issues are, can we begin to develop (and ultimately implement) strategies to overcome them.



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Work Item Purpose

A key purpose was to **capture the** known or perceived **issues** and look into discovering possible "unknown" or untold issues regarding national policy/regulations/culture affecting the endorsement of CSB.

This work has been completed.



With a better understanding of these issues, the **current purpose** is to **identify and apply potential solutions and/or suggestions** to overcome them.

The **goal** is to see an increase in [positive responses](#) to IHO CL 21/2020 and IRCC CL 01/2020 and/or an increase in coastal State engagement in the discussion and activities surrounding CSB.



1. National Policies and Regulations
 - CSB Data Collection Confused with Systematic Survey
 - Legal and Liability Issues
2. CSB Data is Unnecessary
3. Data Quality and Accuracy Concerns
4. Standardization and Compatibility
5. Integration with Existing Data Sources
6. Public Awareness and Engagement
7. Resource Constraints
8. Addressing these challenges would require collaborative efforts from governments, stakeholders, and the public.

ACCEPTANCE OF CROWDSOURCED BATHYMETRY ACTIVITIES AND PROVISION OF RESULTANT DATASETS IN NATIONAL WATERS OF JURISDICTION

1. Based on the comments received to the questionnaire in Annex B to IHO CL 11/2019 and to the questionnaire in Enclosure to IHO CL 21/2020, the following table is published as the Positive List to guide potential data gathering and provision activities undertaken by the wider maritime community in waters of national jurisdiction:

Coastal State	Internal	Caveat	Territorial	Caveat	EEZ	Caveat
Argentina	No	-	No	-	Yes	Provide copy of dataset to Hydrographic Office
Australia	No	-	Yes	Prior authorisation required, inform Hydrographic Office of new dataset to allow review of data	Yes	Prior authorisation required, inform Hydrographic Office of new dataset to allow review of data
Belgium	No	-	Yes	Inform Hydrographic Office of new dataset to allow review of data, provide copy of dataset and highlight major variances	Yes	Inform Hydrographic Office of new dataset to allow review of data, provide copy of dataset and highlight major variances



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Work Item Purpose

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Activity: Propose solutions regarding national policy/regulations /culture affecting the endorsement of CSB

Proposed Solutions:

- Direct comms/outreach focused on the two main barriers
- Tailor specific use cases to each audience
- Highlight the support of positive-position CS and the progress of global mapping objectives
- Publications and Presentations

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Work Item Update (blue text = changes/updates)

International

Work Item	Title	Priority <i>H-high M-medium L-low</i>	Next milestone	Start Date	End Date	Status <i>P-planned O-ongoing C-completed S-Superseded</i>	Contact Person(s)	Related Pubs / Standard	Remarks
C-1	Capture issues (& propose solutions) regarding national policy/regulations /culture affecting the endorsement of CSB	H	Consolidate and draft proposed solutions to overcome them	2023	CSBWG15 & CSBWG17; update at Intersessional	O	C. Rathnayake	CSBWG10: Responses to IHO Circular Letters on CSB	First three issues investigated, solutions captured, activities underway. The remaining 5 will be discussed and presented at 17
C-2	Draft proposed rationale to the issuing of a new brief circular letter (and questionnaire) to MS explaining the purpose of IHO CL 21/2020 and encouraging a positive response	L	Present to CSBWG and determine whether to issue to MS	2023	CSBWG14	C	Chair	IHO CL 21/2020	Decision made at CSBWG15 that, at present, the rationale does not exist to draft a new CL. Will coordinate with Outreach Team on future messaging and engagement (includes for IRCC Workshop)
C-3	Request the policy framework(s) or guideline(s) adopted by selected coastal States who positively responded to IHO CL 21/2020 or IRCC CL 01/2020	M	Identify States who might be willing to share their experience and request guidance.	2023	CSBWG17	O	Chair	IHO CL 21/2020, IRCC CL 01/2020	The chair has discussed the original milestone with the IHO and has been encouraged to reach out directly to a select States that could offer unique experiences that may be applicable to others.
C-4	Educate CSBWG members on International Law of the Sea as it pertains to passage sounding collection.	H	S Keating to provide presentation to CSBWG14; provide resource materials to CSBWG16	2023	CSBWG16	C	S. Keating	CSBWG14-3.1: CSB and International Law	S Keating provided shortened slide deck to CSBWG members before Dec 2024 retirement



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Progress Since CSBWG15

C-3: Request the policy framework(s) or guideline(s) adopted by coastal States who positively responded to IHO CL 21/2020 or IRCC CL 01/2020

Activity: *Identify coastal States who might be willing to share their experience and request their feedback and guidance - deadline: CSBWG16*

- **Norway:** Positive response with minimal caveats (no MBES). Adopted quickly. May represent what a fast track with minimal government interference might look; confident the national hydrographer will reply to our request
- **Costa Rica:** Positive response with minimal caveats; represents a coastal State response to the IRCC CL
- **Germany:** Straightforward response, adopted quickly; confident the national hydrographer will reply to our request
- **Kiribati:** One of the newest responders; confident the national hydrographer will reply to our request
- **Uruguay:** Feedback may help encourage additional responses in the region



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Progress Since CSBWG15

C-3: Request the policy framework(s) or guideline(s) adopted by coastal States who positively responded to IHO CL 21/2020 or IRCC CL 01/2020

Activity: *Identify coastal States who might be willing to share their experience and request their feedback and guidance - deadline: CSBWG16*

“Kiribati has been working towards implementing CSB, recognizing its value in enhancing our hydrographic capabilities and broader maritime operations. However, we have yet to find vessels that are fully compatible with the required data loggers.

In response to your question, our hydrographic office and government reached a positive response to IHO CL 21/2020 by recognizing the long-term benefits of CSB, particularly in addressing our data gaps and supporting maritime safety, environmental monitoring, and disaster preparedness. The decision was guided by our commitment to leveraging international collaboration and emerging technologies to strengthen Kiribati’s hydrographic capacity.”



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Progress Since CSBWG15

C-4: Educate CSBWG members on International Law of the Sea as it pertains to passage sounding collection.

Activity: *S. Keating has developed slides for the WG to use that are authoritative, concise, and provide a response to the two biggest barriers the Work Item team sees with regards to MS (or MS via HO) acceptance today: (1) CSB Data Collection Confused with Systematic Survey and (2) Legal and Liability Issues*

Crowdsourced Bathymetry (CSB) : Incidental Passage Soundings that are Essential to Successfully Map the Seabed by 2030



Image from IHO CSBWG
UNCLASSIFIED

What CSB IS...by Official IHO definition

CSB is the collection and sharing of depth measurements from vessels, using [standard navigation instruments \(SNI\)*](#), while engaged in [routine maritime operations \(RMO\)**](#)

[*SNI = Compasses, Echosounders, Radar, GPS receivers](#)

[**RMO = routine operations like transiting, passenger carriage, towing,](#)

See: **CSBWGIS01-2024_2.3 Presentation** on the [CSBWG Intersession Meetings page](#) for access to the slide deck.



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Reporting

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The team has not measured or reported success to date.

However, we have agreed that a way to do so could involve:

(1) reporting the number of new responses to IHO CL 21/2020 and IRCC CL 01/2020

- ***United Kingdom, Cyprus*, Fiji****

(2) CSBWG-led activities that are intended to encourage positive CL responses and increased CSB activities.

- ***IRCC Workshop, RHC participation, publications***



*** Cyprus & Fiji have updated their responses by removing the caveat requesting a review of the data before public distribution.**



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Reporting

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Presentations on CSB at several RHC meetings.
(coordination with work item E)

CSB-DATA
collected in the
Baltic area, from
just one "Plotter"
manufacturer,
up to 2020.

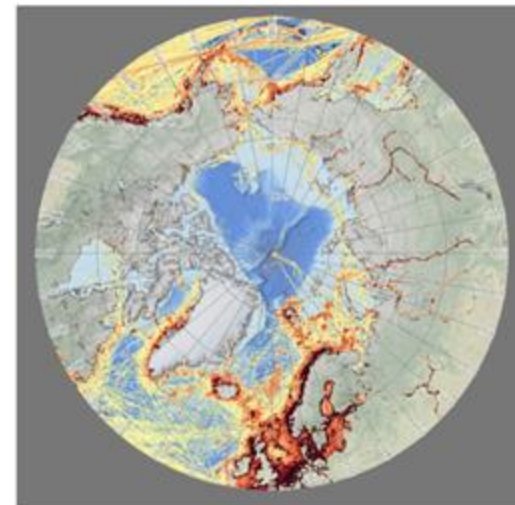
PROBABLY MUCH MORE
NOW FOUR YEARS LATER.



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The ARHC is requested to:

- Note this presentation
- Actively support the adoption, contribution, publicization, and use of CSB data within this region
- Follow the latest developments of the CSBWG
- Connect with your RHC CSB/Seabed2030 Coordinator
- Take ownership of these data and their potential uses!



Global Maritime Traffic Density Service (GMTDS)



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A CHALLENGE TO THE NIOHC:

Investigate how CSB can be used to support HOs in the NIOHC Region

- *As input to resurvey schemes.*
- *As a data source for lower prioritised areas*

Consider taking ownership of these data and their potential uses!



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Reporting

Organized a CSB Workshop (26 Apr 2024)

- 107 participants from over 50 coastal States
- Active engagement with over a dozen questions posed, time to provide adequate answers, and positive feedback provided during the event and afterwards
- Several MSs have since reached out reiterating the value of this type of engagement and highlighting that previous modes of communications around the various aspects of CSB had not always been clear.



Crowdsourced Bathymetry (CSB) :
Legal Considerations & Misconceptions
Inter Regional Coordination Committee Workshop on CSB
IHO Headquarters, Monaco

Steven G. Keating, United States Observer to the Advisory Board on the Law of the Sea



CROWDSOURCED BATHYMETRY FRENCH NATIONAL POSITION

Workshop on
Crowdsourced Bathymetry (CSB)
Friday 26 April 2024, 13:00 – 15:30 CEST

Hybrid Event: In-person at the IHO Secretariat – Monaco & online
Open to all



iho.int/en/csbwg-ircc-workshop-2024



The Utility of Crowdsourced Bathymetry Data A NOAA Perspective

Anthony Klemm, NOAA
Coast Survey Development Lab
26 April 2024



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Several articles in the International Hydrographic Review (IHR) volume 30(1)

Citizen Hydrospatial Sciences – To csB or not to csB, that is the question!



Denis Hains



Steven Geoffrey Keating



Chandana Rathnayake



Victoria Obura



Shereen Sharma



Stephen Hall

Published
31 May 2024 - 09:34

Last Updated
31 May 2024 - 09:34

From volunteer ping to community map – The CHS' Community Hydrography Program



Mathieu Rondeau



Michel Breton



Gabriel Montpetit-Allard



Michel Leger



Yan Bilodeau



Johnny Kasudluak

Published
31 May 2024 - 09:44

Last Updated
31 May 2024 - 09:44

Abstract

To support coastal communities in collecting and using bathymetric data in the nearshore areas they depend on for travel, hunting, and fishing, the Canadian Hydrographic Service (CHS) launched its Community Hydrography Program in 2022. The Program was

CSB as part of the modern hydrographic toolbox



Jennifer Jencks



Belen Jimenez Baron

Published
31 May 2024 - 09:34

Last Updated
31 May 2024 - 09:34

Preamble

This paper is intended as a response to a Note by Philip Payne, published in The International Hydrographic Review (IHR, <https://ihr.iho.int/>) in November 2023: Payne, P. (2023). Crowdsourced bathymetry and its use to support resurvey activity in the North Sea region. *The International Hydrographic Review*, 29(2), pp. 248-253. <https://doi.org/10.58440/ihr-29-2-n16>



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Planned Activities

C-1: Capture issues (& propose solutions) regarding national policy/regulations /culture affecting the endorsement of CSB

Activity: *Propose solutions regarding national policy/regulations /culture affecting the endorsement of CSB*

- Discuss and propose solutions to Issues 4-8
- The Chair will continue to share any identified “proposed solutions” to RHCs in conjunction with Work Item E.

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5. **Integration with Existing Data Sources**
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8. **Addressing these challenges would require collaborative efforts from governments, stakeholders, and the public.**



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Issues/Risks/Concerns/Barriers

After S. Keating's retirement (January 2025), there is the known issue that the CSBWG has now lost a legal perspective that has been very valuable to the group.

Lack of participation - we need more viewpoints represented on this Work Item Team





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Requests to CSBWG

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Proposed Changes to Work Item

There are no proposed changes at this time.

Action to CSBWG

The CSBWG is requested to:

- A. Note** the information provided;
- B. Coastal States who responded to IHO CL 21/2020 or IRCC CL 01/2020: ask you National Hydrographer if they would be willing to share their experience
- C. Consider joining Work Item Team C
- D. Take** any other actions, as appropriate.