

# CSB Guidance



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## Agenda

- IHO DCDB Website (Action 1)
- Review “pain points” for contributors
- Summary Guide of B-12 (Action 3)
- Guidance on Roles/Responsibilities of Trusted Nodes (Action 22)
- Guidelines of CSB Use for HOs (Action 9)
- CSBWG Wiki



# CSB Guidance - IHO DCDB Website

## *Action 1: Provide feedback on revised DBDC website and viewer to Chair*

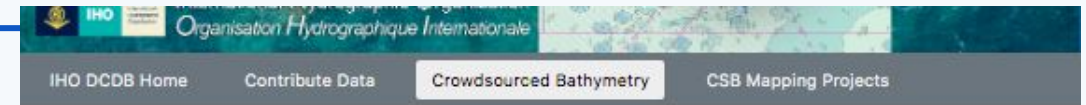
- Updated information on the Initiative, How to Contribute CSB, B-12, Role of CSB, CSB Mapping Projects
- [Feedback](#)

*[ngdc.noaa.gov/iho/](http://ngdc.noaa.gov/iho/)*

***New Action: Chair requests feedback via correspondence on revised DBDC website***



International Hydrographic Organization  
Organisation Hydrographique Internationale



### IHO Crowdsourced Bathymetry Initiative

**Crowdsourced bathymetry (CSB)** is the collection of depth measurements from vessels, using standard navigation instruments, while engaged in routine maritime operations. CSB can be used to supplement the more rigorous and scientific bathymetric coverage done by hydrographic offices, industry, and researchers around the world.

In 2014, the IHO recognized that traditional survey vessels alone could not be relied upon to solve data deficiency issues and agreed there was a need to encourage and support all mariners in an effort to "map the gaps." An initiative was established to support and enable mariners and professionally manned vessels to collect CSB. This approach leverages underway x, y, z, t data already being collected on vessels with common commercial echo sounders and Global Navigation Satellite System receivers.

### Contributing CSB Data to the DCDB

The DCDB accepts CSB contributions through a network of "Trusted Nodes," which may be organizations, companies or universities serving as data liaisons between mariners (data collectors) and the DCDB. Trusted Nodes may supply data logging equipment, provide technical support to vessels, download data from data loggers, and be responsible for data transfer directly to the DCDB.

CSB data must be provided in either CSV or GeoJSON, and capture the minimum required information (XYZ, timestamp). Examples of both data formats can be found in our [Ingest API documentation](#). As a trusted node, you will be asked to provide additional information about yourself (provider contact point/organization name, provider email, and unique ID).

Those interested in contributing data or becoming a Trusted Node should contact the DCDB at [bathydata@iho.int](mailto:bathydata@iho.int).



### IHO Guidance on Crowdsourced Bathymetry

The IHO's [Crowdsourced Bathymetry Working Group](#), comprised of international scientific, governmental and commercial hydrographic experts, was tasked by the IHO to draft a document that describes what constitutes CSB, the installation and use of data loggers, preferred data formats, and instructions for submitting data to the IHO DCDB.

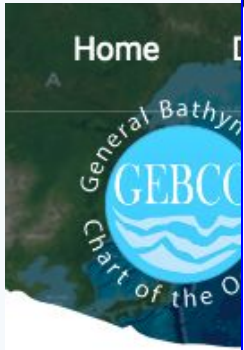
The guidance document also provides information about data uncertainty to help data collectors and data users better understand quality and accuracy issues with crowdsourced

### The Role of CSB

- Supports national and regional development activities
- Identifies uncharted features
- Verifies charted information
- Confirms that existing charts are appropriate for the latest traffic patterns
- Fills gaps where data is scarce (Arctic, SIDS, open ocean)
- Useful along shallow, complex coastlines where



Home



## Useful contacts

- Global Center [gdacc@seabed2030.org](mailto:gdacc@seabed2030.org)
- IHO DCDB [bathydata@iho.int](mailto:bathydata@iho.int)
- Seabed 2030 [Regional Centers](#)

Home »

## How to

Please use  
individual  
any problem  
([gdacc@seabed2030.org](mailto:gdacc@seabed2030.org))

## Join the Crowdsourced Bathymetry (CSB) data initiative

In order to map the whole of the global seafloor, we cannot rely on traditional survey vessels alone. An initiative has been setup to support and enable mariners and professionally manned vessels to collect CSB. This approach leverages underway x, y, z, t data already being collected on vessels with common commercial echo sounders and Global Navigation Satellite System receivers.

Find out [how to get involved](#).

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ntributed

## GEBCO Data Contribution Form

GEBCO's aim is to provide the most authoritative, publicly-available bathymetry of the world's oceans. It operates under the joint auspices of the International

[gebco.net/about\\_us/contributing\\_data/](http://gebco.net/about_us/contributing_data/)



# CSB Guidance - Contributing CSB data

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*“Review “pain points” for contributors”*




# CSB Guidance - Summary Guide of B-12

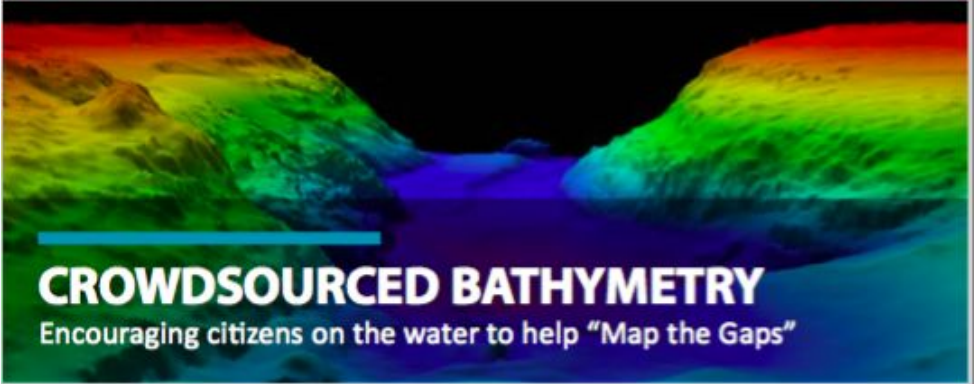
## *Action 3: Draft short summary guide to B-12 for wider public use*

- The goal is to draft several stakeholder-specific summary guides
- Side A: [Generic CSB information](#)
  - Currently in draft form; will be on an IHO template
- ***New Action: Chair to circulate to WG requesting feedback***



International Hydrographic Organization  
Organisation Hydrographique Internationale

National Oceanic and Atmospheric Administration | National Centers for Environmental Information




## CROWDSOURCED BATHYMETRY

Encouraging citizens on the water to help "Map the Gaps"

### What is crowdsourced bathymetry?

Crowdsourced bathymetry (CSB) is the collection of depth measurements from vessels, using standard navigation instruments, while engaged in routine maritime operations.



### Why is CSB data important?

Traditional survey vessels alone can not be relied upon to solve the world's data deficiency issues. CSB data can be used as an important supplement to the more rigorous and scientific bathymetric coverage done by hydrographic offices, industry, and researchers around the world in an effort to "map the gaps". While it may not meet accuracy requirements for charting, CSB can be used to identify

uncharted features, assist in verifying charted information, and help fill gaps where bathymetric data are scarce, such as unexplored areas of polar regions, around developing maritime nations, and the open ocean.

### How can I get involved?



The IHO's Data Centre for Digital Bathymetry (DCDB) accepts CSB data contributions through a network of "Trusted Nodes". These are organizations, companies or universities that serve as data aggregators and/or liaisons between mariners (data collectors) and the DCDB. Trusted Nodes can help the CSB effort in a variety of ways ranging from supplying data logging equipment or software, providing technical support to vessels, downloading data from data loggers, aggregating collected data, and facilitating data transfer directly to the DCDB.

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[www.nesdis.noaa.gov](http://www.nesdis.noaa.gov) | [www.ncel.noaa.gov](http://www.ncel.noaa.gov) | <https://www.ngdc.noaa.gov/iho/> | [TWITTER.COM/NOAA\\_NCEI](https://twitter.com/NOAA_NCEI) | [WWW.FACEBOOK.COM/NOAA.NCEI](https://www.facebook.com/NOAA.NCEI)


05/2020

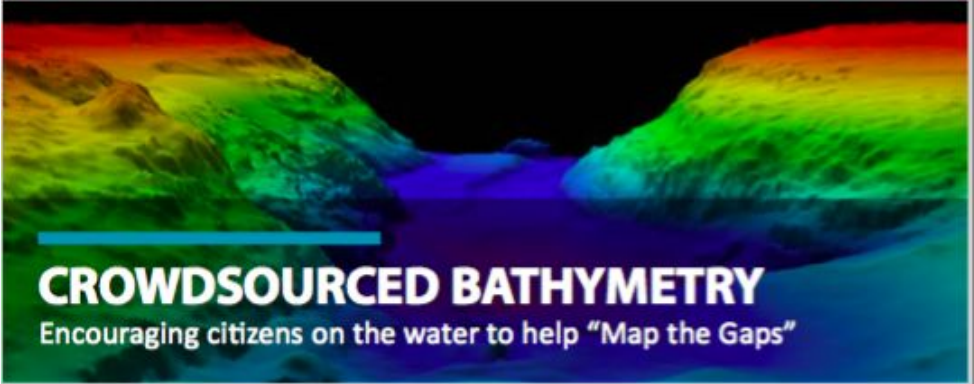


# CSB Guidance - Summary Guide of B-12

- Side B: One page summary for different sector.
  - What should this side include?
  - Who can write this?
- Suggested Sector Leads:
  - Yachting - Steve Monk
  - Geophysical Surveys - Evert Flier & PGS
  - Leisure Chart Market - Oreste Tommasi
  - HOs - Jens Peter Hartmann
  - Shipping, Submarine Cable, Cruise ships, etc



National Oceanic and Atmospheric Administration | National Centers for Environmental Information




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[www.nesdis.noaa.gov](http://www.nesdis.noaa.gov) | [www.ncel.noaa.gov](http://www.ncel.noaa.gov) | <https://www.ngdc.noaa.gov/iho/> | [TWITTER.COM/NOAA/DCDB](https://twitter.com/NOAA/DCDB) | [WWW.FACEBOOK.COM/NOAA/DCDB](https://www.facebook.com/NOAA/DCDB)



05/2020

# CSB Guidance - Guidance on Roles/Responsibilities of TNs

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***Action 22: Develop brief description on roles and responsibilities of a Trusted Node for inclusion in B-12***

- SealD has drafted a few paragraphs
- Question to the IHO - what is the process for review and addition to B-12?
- ***New Action: Chair to circulate to WG requesting feedback***





# CSB Guidance - CSB Use for HOs

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## ***Action 9: Draft guidance document for HOs on uses of CSB***

*“Trusted Crowd-Sourced Bathymetry: From the Trusted Crowd to the Chart”,*

A white paper jointly prepared by the Danish Geodata Agency and the Canadian Hydrographic Service

Describes current vision for the continuous acquisition and automated processing of Trusted Crowd-Sourced Bathymetry (TCSB) data stream from a network of selected partners (the ‘trusted crowd’) into nautical charts and publications.



# CSBWG Wiki


- Action 11: Provide presentations, articles and images for inclusion the CSB wiki
- Action 12: Provide details of Wiki to allow access for CSBWG to use content

- A convenient, easily accessible, internal place to keep all CSB-related materials
- Read-write: Anyone can edit.
- Not meant to be duplicative to IHO CSBWG site which houses WG meeting materials. IHO CSBWG site will link to CSB Wiki page
- Materials on wiki will be considered “open” and available for reuse by WG members

**signup at: [wiki.sea-id.org/login/request](https://wiki.sea-id.org/login/request)**



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### CSB Working Group material landing page edit

This part of our wiki is open to the members of the IHO's Crowd Sourced Bathymetry workgroup, with the aim to collaborate on gathering materials that anyone can use for the promotion of CSB. We've also included links to other materials we maintain that can help in processing a CSB dataset and maintaining a trusted node.

**Submit all relevant CSB materials here, for the workgroup to use on promoting CSB. Success stories, charts made from CSB data, ...**

Bathymetry is of crucial importance to a wide range of applications. Here's a few:

- Safety of navigation
- Blue economy: fisheries, minerals, energy, medicine, tourism, shipping, ...
- Scientific exploration
- Ecosystem identification and management
- Coastal and marine spatial planning
- Marine cultural heritage
- Risk management: emergency response, search and rescue, flood inundation, tsunami modelling, marine geohazards, coastal protection, sea level rise mitigation
- Climate and weather: ocean circulation, weather forecast, climate prediction

[Sri Lanka tsunami illustrates how knowledge of bathymetry may prevent loss of life on shore.](#) or [PDF](#) or [just get the image](#)

### Other materials:

- [Polygons of countries who have replied to CL 11/2019, allowing or objecting CSB in their EEZ – DO NOT COPY, LINK TO THIS PAGE](#)
- [Does crowdsourcing disturb the marine life?](#)