

7th Meeting of the Inter Regional Coordination Committee (IRCC-7)
Mexico City, Mexico, 1-3 June 2015

Paper for Consideration by IRCC

Establishment of Crowd-Sourced Bathymetry Working Group

Submitted by:	IHB
Executive Summary:	This paper proposes Terms of Reference for a Crowd-Sourced Bathymetry Working Group and nominates the Chair for that working group.
Related Documents:	IHO Publication B-11 - <i>IHO-IOC GEBCO Cook Book</i>
Related Projects:	Upgrading of DCDB internet portal and database management

Introduction / Background

- Decision 8 of the 5th Extraordinary International Hydrographic Conference (EIHC5) tasked the IRCC to
... establish a Working Group to prepare a new IHO publication on policy for trusted crowd-sourced bathymetry, taking into account EIHC5 PRO4 and the comments during the Conference. The WG should comprise IHO MS and invited expert contributors, including members of IHO-IOC TSCOM. The WG should seek advice and input from relevant HSSC Working Groups as required.

Discussion

- Proposed Terms of Reference (ToRs) for a Crowd-Sourced Bathymetry Working Group are included in Annex A to this paper. The ToRs take into account the guidance provided through the discussions at EIHC5 together with the work being supervised by the Director of the IHO Data Centre for Digital Bathymetry (DCDB) to enhance the existing DCDB capability. The DCDB is already the IHO bathymetric data and data discovery portal that provides access to much of the world's collection of bathymetric data for the oceans and directly supports the long-standing IHO-IOC GEBCO project that has, in effect, relied on data sourced from the scientific and maritime "crowd" for over a century.

Resources and Impacts

- A three-year development programme is already underway to enhance the existing DCDB data portal to streamline the ingest of data contributions, including CSB, and to provide improved data viewing, data discovery and data download capabilities.
- The IHB has received indications of widespread support from maritime industry representatives, established commercial CSB programmes and several IHO Member States - all of which are willing to participate and contribute to the work of the CSBWG.
- It is anticipated that the level of interest in the CSBWG is sufficient to ensure that a draft IHO publication on policy for trusted crowd-sourced bathymetry can be presented to the 8th meeting of the IRCC in 2016.
- Proposed Chair.** Noting that the IHO DCDB is a key component of a successful IHO CSB programme, that the USA is the host of the DCDB, and that the input requirements for CSB must be compatible with the DCDB, it seems to be logical and desirable that the Director of the DCDB Chairs the CSBWG in the first instance. Notably, the Director of the DCDB is also a member of the IHO-IOC GEBCO Guiding Committee and therefore also has a direct interest in ensuring the active participation of members of the IHO-IOC GEBCO Technical Sub Committee on Ocean Mapping (TSCOM). The USA has indicated that the Director of the DCDB can be made available to chair the CSBWG.

Action Required of IRCC

7. The IRCC is invited to:
 - a. **establish** a Crowd-Sourced Bathymetry Working Group (CSBWG) under the Terms of Reference contained in Annex A, and
 - b. **agree** that the Director of the IHO DCDB Chair the CSBWG.

CROWD-SOURCED BATHYMETRY WORKING GROUP (CSBWG)

Terms of Reference

1. Preamble

The 5th Extraordinary International Hydrographic Conference (EIHC-5) considered Proposal 4 on Crowd Sourced Bathymetry (CSB) and decided by Decision 8 to task the IRCC to establish a Working Group (WG) to prepare a new IHO publication on policy for trusted crowd-sourced bathymetry, taking into account EIHC-5 Proposal 4 and the comments made during the Conference.

2. Objective

- a. Prepare a draft IHO publication on policy for trusted crowd-sourced bathymetry for consideration and endorsement by the 8th meeting of the IRCC in 2016.
- b. The draft IHO publication on policy for trusted crowd-sourced bathymetry should provide guidelines on the collection and assessment of CSB data, not only for potential use for charting purposes but also for its wider use in non-navigational applications. The WG should:
 - (1) take into account EIHC-5 Proposal 4 and the comments made during the Conference;
 - (2) take into account the ongoing work to enhance the IHO Data Centre for Digital Bathymetry (DCDB) as a data discovery and upload/download portal for Crowd-Sourced Bathymetry;
 - (3) take into account the lessons learned and specifications created during the IHO CSB pilot project involving the Professional Yachting Association, Sea-ID and the DCDB, together with any other relevant CSB trials or operational services;
 - (4) actively seek input from other international organizations, industry and invited Expert Contributors on their methods and use of crowd-sourced information;
 - (5) seek advice and input from relevant HSSC Working Groups as required;
 - (6) identify the nature and minimum level of metadata required to accompany any crowd-sourced bathymetry data;
 - (7) identify methods for assessing and designating the uncertainty of crowd-sourced bathymetry, both as individual observations from a single observer and as repeat or duplicate observations from the same or different observers;
 - (8) identify preferred formats for the submission, exchange and preservation of crowd-sourced bathymetry data, taking into account the relevant international standards and existing industry or community practices;
 - (9) base its recommendations, wherever possible, on established and accepted crowd-sourced data gathering principles.
- c. The WG should provide IRCC with general advice on any relevant liability or legal issues associated with the collection or use of crowd-sourced data.

3. Authority

- a. The WG is a subsidiary of the Inter Regional Coordination Committee (IRCC) and its work is subject to IRCC approval.
- b. The need for the WG to continue shall be confirmed at each meeting of the IRCC.

4. Composition and Chairmanship

- a. The WG shall comprise representatives of IHO Member States, invited Expert Contributors, including members of IHO-IOC Technical Sub Committee on Ocean mapping (TSCOM) and Observers from accredited NGO, all of whom have expressed their willingness to participate, and a representative of the IHB (“IHB” to be replaced by “IHO Secretariat” when the IHO Secretariat is established).
- b. Member States, invited Expert Contributors and Observers may indicate their willingness to participate at any time. A membership list shall be maintained, posted on the IHO website and confirmed annually.
- c. Invited Expert Contributor membership is open to entities and organizations that can provide a relevant and constructive contribution to the work of the WG.
- d. The Chair and Vice Chair shall be a representative of a Member State. Unless already decided by the IRCC, the election of the Chair and Vice-Chair should be decided at the first meeting following each ordinary session of the Conference (“Conference” to be replaced by “Assembly” when the revised IHO Convention enters into force) and, in such case, shall be determined by vote of the Member States present and voting.
- e. If a secretary is required it should normally be drawn from a member of the WG.
- f. If the Chair is unable to carry out the duties of the office, the Vice-Chair shall assume the Chair with the same powers and duties.
- g. Invited Expert Contributors shall seek approval of membership from the Chair.
- h. Invited Expert Contributor membership may be withdrawn in the event that a majority of the MS represented in the WG agree that an Expert Contributor’s continued participation is irrelevant or unconstructive to the work of the WG.
- i. All members shall inform the Chair in advance of their intention to attend meetings of the WG.
- j. In the event that a large number of Invited Expert Contributor members seek to attend a meeting, the Chair may restrict attendance by inviting the Invited Expert Contributors to act through one or more collective representatives.

5. Procedures

- a. The WG should work primarily by correspondence.
- b. The WG should attempt to meet annually, and wherever possible, with another convenient forum.
- c. The WG should seek advice and input from relevant HSSC WGs as required.
- d. Decisions should generally be made by consensus. If voting is required on issues or to endorse proposals presented to the WG, only IHO Member States may cast a vote. Votes at meetings shall be on the basis of one vote per MS represented at the meeting. Votes by correspondence shall be on the basis of one vote per MS represented in the WG. In all cases of voting, a majority shall be determined based on the number of Member States casting a vote.