6th Meeting of the IHO Hydrographic Surveys Working Group
VTC 20-22 February 2024

7th Meeting of the IHO Hydrographic Surveys Working Group in person
30 September – 4 October
Frascati, ITALY

Contribution to the IHO Work Programme 2024

Task 2.1.2.9 Attendance of HSWG6 and HSWG7 meeting

High level summary:

- The Hydrographic Surveys Working Group (HSWG) has been tasked by the IHO Hydrographic Services and Standards Committee (HSSC) to act as the focal point for hydrographic surveying industry engagement with the IHO and maintain and promote the use of IHO publications S-44 Standards for Hydrographic Surveys, B-13 Guidance on Satellite Derived Bathymetry and C-13 Manual on Hydrography.
- Work continued on S-44 Ed. 6.2.0 ahead of expected publication in October 2024
- B-13 was completed and subsequently submitted to IRCC for approval.
- Work continued on C-13, especially that concerned with identifying the modern audience and associated format.
- Liaison with other IHO WGs to standardise use of language and terminology, especially as relates to uncertainty principles.

Details:

HSWG 6

The 6th Meeting of the IHO Hydrographic Surveys Working Group (HSWG6) was held in hybrid format from February 26 to March 1, 2024, at the Geological Survey of Ireland in Dublin. The IHO was represented virtually by Assistant Director Sam Harper. HSWG6 addressed updates to significant publications such as S-44, B-13, and C-13. The meeting also provided a platform to review progress on a number of other relevant IHO standards and set the course for intersessional activities.

S-44 Standards for Hydrographic Surveys. The current version, S-44 Edition 6.1, is undergoing updates, with a projected release of Edition 6.2 scheduled for October 2024. The Vice Chair outlined the two-year update cycle adopted by HSWG to ensure the standard evolves alongside technological advancements. During the meeting, Megan Greenaway reviewed a timeline for the update process and highlighted amendments under consideration. The updates aim to clarify ambiguities in existing standards, including concerns about bathymetric coverage and the usability of the matrix within survey orders.

Feedback tracking and operational experience formed a vital part of the discussion. Attendees emphasized the need to broaden the scope of S-44 to include methodologies like crowdsourced bathymetry (CSB). Additionally, challenges with defining percentages for bathymetric coverage were forwarded to the Bathymetric Coverage Sub Group (BCSG) for resolution. It was also agreed that the S-44 matrix, a

tool for defining survey orders, required greater promotion, and examples of its application would be shared at future regional and international forums.

Another focus was on integrating backscatter data and improving uncertainty definitions. The Uncertainty Sub Group (UNSG) reported progress in aligning uncertainty concepts within S-44 with international standards, such as JCGM. This alignment aims to enhance consistency and interoperability across hydrographic products.

Efforts to promote S-44 globally were also discussed. With over 1,300 downloads of S-44 in 2023, participants emphasized the need for additional metrics to evaluate its impact. A promotional subgroup was formed to create educational materials and surveys, encouraging wider adoption of the standard. Translation updates for S-44 into Chinese, Spanish, and French were reviewed, with further work required to publish Portuguese translations.

B-13 Satellite Derived Bathymetry Guidance. The Satellite-Derived Bathymetry Project Team (SDBPT) presented significant progress on B-13, a document offering guidance for the use of satellite-derived bathymetry (SDB). The group announced that the foreword for B-13 was finalized and would undergo final verification before submission for publication. This document is designed to standardize the application of SDB methodologies, which are increasingly recognized as cost-effective and efficient tools for hydrographic surveying, particularly in remote or shallow areas.

A draft press release was also proposed to publicize B-13's release. To ensure the sustainability of the document, the project team discussed revising its Terms of Reference (TOR) to accommodate a dedicated secretary role and enhance coordination with other project teams within HSWG. Furthermore, the work plan for maintaining B-13 will be reviewed to ensure its alignment with emerging technological trends and operational needs.

Personnel changes within SDBPT were also noted, with Emre Gülher taking over as secretary following the departure of Nigel Townsend. The meeting underscored the importance of SDB's role in the hydrographic community and the need for ongoing collaboration to refine and expand B-13's scope.

C-13 Manual on Hydrography. The Manual of Hydrography Project Team (MHPT) reported progress in revising the structure and content of the manual to better serve as a reference for students and certified hydrographers. The team highlighted their efforts to reorganize chapters and sections, ensuring the manual remains relevant and accessible.

Work on C-13 will continue in the intersession with an emphasis on aligning the manual's content with other IHO standards, such as S-44 and S-100. The team aims to present a comprehensive draft for review at the next HSWG meeting, ensuring that C-13 remains a cornerstone of hydrographic education and practice.

Other items of interest. HSWG6 also explored opportunities for collaboration with other IHO working groups and external stakeholders. The group emphasized the importance of liaising with the Tides, Water Levels, and Currents Working Group (TWCWG) to incorporate standards for water level and current measurements into S-44. Efforts to engage with the GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM) and the Crowdsourced Bathymetry Working Group (CSBWG) were also discussed, highlighting the need for greater interoperability and data sharing.

HSWG 7

The 7th meeting of the International Hydrographic Organization (IHO) Hydrographic Surveys Working Group was held from 30 September to 4 October 2024at the European Space Agency - ESA at Frascati near Rome, Italy. The IHO was represented by Assistant Director Sam Harper. 42 leading survey experts attended from IHO member states and industry, with delegates from five continents. The five-day agenda was able to cover detailed discussion on some of the longer-term improvements intended for the S-44 standard as well as parallel break out meetings for the Manual on Hydrography and Satellite Derived Bathymetry Project Teams.

S-44 Standards for Hydrographic Surveys. S-44 is now regularly updated on a two-year cycle. HSWG 7 considered how bathymetric coverage is consistently achieved as well as how uncertainty is managed, and enabling better harmonization with other IHO standards across a number of concepts and terms.

B-13 Satellite Derived Bathymetry Guidance. Published for the first time in 2024, this is the first document of its kind, which aims to help hydrographic offices and other users better understand the use cases, opportunities, and limitations of SDB. The update process and schedule were agreed. Due to opportunities and ideas presented during the week at ESA, it was decided to rename the SDB Project Team to become the Earth Observation Project Team to accommodate the broadening scope. External guest speakers from Oregon State university and Maxar contributed to the breakout session of this team.

C-13 Manual on Hydrography. C-13 was last updated in 2011 and is very out of date. A key observation of the team working on C-13 is that the modern audience for this publication is not the same as it was originally. Similarly, it was contended by the group that the format of the publication does not present information in a way that a modern audience would consume such a reference document. following a review of content and surveys to Industry/Academia work has started to update this text. This is proving challenging due to the significant amendments required and as a result the work plan has been updated to reflect the longer period of editing that will be required. A review of progress and the challenges involved along with alternate methods of updating this text were considered during this meeting. The view of the Project Team and Working Group was that MHPT would continue to work on the updates and continue work on multiple Chapters with regular intersessional reviews between Working Group Meetings.

HSWG Members gather for group photo next to the 1:4 scale model of Ariane Rocket

Upcoming meetings:

HSWG8 will be held via VTC from the 3 – 6 March 2025