

CSBWG Work Item H

Work Item Title

Submitted by Brian Calder (CCOM/JHC, University of New Hampshire)

SUMMARY

Executive Summary: This document provides details on activities conducted related to ...

Action to be taken: See below

Related documents: None

Work Item Team Members: Calder, Campbell, Hartmann, Jensen, Masetti, Miles, Morissette, Rondeau, Schmitt, Solomon, Thomson, Wise

Work Item Background

The practice of collecting, archiving, and using volunteer data inevitably raises questions of how the data should be treated, what manipulations are required, and how the various parts of this enterprise interact. Although the CSBWG as a whole has addressed components of this through the development work on the B-12 guidance document, as data has started to be collected the group concluded that there were a number of details that required further investigation. This work item is intended to provide input on these details, essentially providing clarification to the high-level description of the process in B-12. The work item is not intended to modify or update B-12, but rather to provide input to this process, making recommendations for required updates, and providing specific solutions for problems encountered in practice where possible.

Current Work Item Purpose

This work item aims to assess the components (theoretical, procedural, technical) for the data life cycle of volunteer data, with the ultimate goal of making recommendations for best practice for data collection, processing, and management. This includes recommendations for update to B-12 (e.g., expanded or modified metadata requirements), best practice for data processing (e.g., how to generate estimates of uncertainty or correct for unknown vertical offsets), and archive (e.g., additional services from DCDB to make use of data more efficient). The WG is pursuing these goals through a mixture of coordination meetings, directed development, and white papers.

Work Item Update

| Work Item | Title | Priority <i>H-high M-med L-low</i> | Next milestone | Start Date | End Date | Status <i>P-planned O-ongoing C-completed S-Superseded</i> | Remarks |
|-----------|--|---|------------------------|------------|------------|---|---|
| 1 | Recommendations for DCDB data access | H | CSBWG15 Intersessional | 2024-06-01 | 2024-08-28 | C | See below. |
| 2 | Consensus on workflow for developers | M | CSBWG16 | 2024-04-26 | N/A | O | Proposed workflow developed; editing and consensus required. |
| 3 | Consensus on workflow for end-users | M | CSBWG16 | 2024-04-26 | 2025-06-30 | O | Proposed workflow developed as part of OpenVBI; editing and consensus required. |
| 4 | OpenVBI code review and development | H | CSBWG16 | 2024-04-26 | 2025-03-30 | O | Initial code base review required to provide stable basis for further work. |
| 5 | Vertical bias corrections in OpenVBI | L | CSBWG16 | 2024-04-26 | 2025-03-30 | O | Background research done, implementation required. |
| 6 | Uncertainty estimation in OpenVBI | L | CSBWG16 | 2024-04-26 | N/A | O | Background research done, implementation required. |
| 7 | Merge activities of sub-group (work item) F. | M | CSBWG16 | 2024-08-01 | N/A | O | Agreed in principle; actual adoption to be discussed at next WG meeting. |

Progress Since Prior Meeting

As reported at the inter-sessional meeting, H.1 has been completed and is now closed.

Preparatory work on H.4 (OpenVBI review) has been done prior to the CSB Tools Workshop and should be considered finished by the end of the workshop.

An initial model for water level correction has been added to OpenVBI (H.5) with a specific case of NOAA corrections (contributed by Klemm) by way of example. CHS has also contributed a corrections model (via GitHub) and the integration of this, and remaining corrections (for sounder offset), should be completed, or at least significantly progressed, by the end of the CSB Tools Workshop.

CIDCO have contributed (via GitHub) an initial model for CSB uncertainty estimation (H.6), and CCOM/JHC have contributed a wrapper for better OpenVBI compatibility, but full integration remains to be completed.

Work on integration of Work Item F tasks, as reported at the inter-sessional meeting, will be progressed during CSBWG16.

Reporting

N/A

Planned Work & Timeline

We expect to see significant advance on H.4-H.6 through the CSB Tools Workshop development effort (2025-03-25). Although details of the development effort are still to be finalized at time of reporting, it is expected that the development will include at least integration of the CHS vertical correction methodology, addition of an estimator for vertical bias due to echosounder offset, and potentially initial integration of an uncertainty estimation element. Given the effort applied, it is also likely that any limitations in the current implementation of OpenVBI will be found and corrected, so that the primary goal of H.4 should be completed.

As mentioned above, we expect significant effort on H.7 through a side-meeting at CSBWG16, at which point further tasks may be added to the list above.

Issues/Risks/Concerns/Barriers

None

Proposed Changes to Work Item

Consider whether, pending discussion of proposal to IRCC for modified maintenance process for B-12 (see Work Item A), items recommending modifications to B-12 should be decreased in priority since there will be other mechanisms for this.

Action to CSBWG

The CSBWG is requested to:

- A. **Note** the information provided;
- B. **Take** any other actions, as appropriate.