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Workplan

Project Title: Encourage Use of a Common Generic Sensor Format for Bathymetry

Project Overview:

As the archive of raw swath sonar data continues to increase, we can leverage their value by also sharing and archiving the next stage of processed swath data, and ultimately avoid duplication of the processing efforts.

However, it is critical to ensure the validity and longevity of the archive, and not risk access and usability for future users by having a non-proprietary and open format. Sharing data in an interoperable processed swath file format enables down-stream users to generate additional bathymetry and backscatter products, and further processing without having to revert to raw data. A standard and supported GSF format and tools also ensures interoperability and protects the future of the data archived.

To achieve the aims, the project will promote the value of preserving and sharing processed swath data in a generic sensor format data to the archive(s) via technical papers and presentations. It will also facilitate technical discussions to address issues with the existing generic sensor format to ensure validity of existing archived data, and identify and support the development of additional tools and translators to facilitate the conversion of valid data between different formats.

Project Goals:

- Develop a white paper to promote the value of archiving a processed swath data format, and outlines the issues and project goals and plan.
- Support/develop papers and presentations for publication and to present in appropriate publications (HydroInt, IHR), community forums and conferences (US Hydro & GeoHab 2025).
- Provide some examples/demonstration of use of the generic sensor format to improve data sharing, improved and multiple grid resolution bathymetry and backscatter products (DCDB/NCEI and GMRT archives).
- Facilitate a technical forum to address the issues and requirements for the processed swath generic sensor format.
- Outline requirements for additional technical support for the generic sensor format, including user and development documentation and tutorials, and additional tools for data format analysis, validation, and translation from other formats.
- Work with various organizations to support development and distribution of documentation and tools.
- Work with other GEBCO subcommittees to provide information to the community about the format, available tools, location of archived processed data and examples.

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Timeline:

Q3 2024 - Define project scope, draft white paper and facilitate discussions between stakeholders and developers.

Q4 2024 - Facilitate key stakeholder development group meeting to address technical issues and project requirements. Continue to develop white paper and paper/s for publication and abstracts for presentations. Continue outreach to the GSF user community.

Q1 2025 - Further identify and refine the project plan for any development to address issues and initial development of additional tools and documentation. Continue to outreach to the GEBCO community with presentations at conferences and publications.

Q2 and Q3 2025 - Provide initial additional tools to the developer and user community.

Task Description	Start Date	End Date	Responsible Party
Phase 1: Planning			
1.1 Define project scope	1 July 2024	10 August 2024	TSCOM
1.2 Identify key stakeholders	1 July 2024	17 August 2024	TSCOM, Gee
1.3 Develop project work plan	1 July 2024	31 August 2024	TSCOM, Gee
Phase 2: Execution			
2.1 Task 1.0: Draft white paper to promote value of processed swath generic sensor format	17 August 2024	27 September 2024	Gee, Ferrini
2.2 Task 2.1: Draft white paper for publication (Hydro Int, IHR)	31 August 2024	27 September 2024	Gee, Ferrini, TSCOM
2.3 Task 2.2 Submit abstract for US Hydro	28 September 2024	TBD (abstract date not posted)	Gee, TSCOM
2.4 Task 2.3 Submit abstract for GeoHab	28 September 2024	17 January 2025	Gee, Ferrini, Foglini, TSCOM
2.5 Task 2.4 Prepare demonstration processed swath data	1 October 2024	31 December 2024	Gee, Ferrini, Foglini
2.6 Task 3 Facilitate technical GSF forum	5 August 2024	31 December 2024	Gee, Ferrini, TSCOM
2.7 Task 4.0 Draft Technical Development Project Plan	1 December 2024	15 January 2025	Gee, Ferrini, TSCOM
2.8 Task 4.1 Outline user requirements for generic sensor support – documentation and tutorials	1 December 2024	15 January 2025	Gee, Ferrini, TSCOM
2.9 Task 4.2 Outline user requirements for additional tools for format analysis, QC and data translation.	1 December 2024	15 January 2025	Gee, Ferrini, TSCOM
2,10 Task 4.3 Facilitate the development of tools and support documentation from tasks 4.1 and 4.2	15 January 2025	30 March 2025	Gee, Ferrini, TSCOM
2.11 Task 5.0 Distribute tools and documentation to the user community	1 April 2025	30 June 2025	Gee, Ferrini, TSCOM

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Task Description	Start Date	End Date	Responsible Party
Phase 3: Monitoring & Control			
3.1 Regular progress updates			TSCOM, Gee
3.2 Address any issues/risks			TSCOM, Gee
Phase 4: Closure			
4.1 Review project outcomes			

Deliverables:

- Generic Sensor Format white paper
- Papers and presentations to promote GSF use in the GEBCO community
- Technical project plan to address issues and development of additional tools, with updated budget
- Updated user documentation and additional tools
- Plan for maintenance and support of tools and documentation

Roles and Responsibilities:

- **Project Manager:** Lindsay Gee
- **Coordinator:** George Spoelstra, TSCOM Co-Chair.
- **Team Member 1:** Vicki Ferrini
    - TSCOM, GMRT, Head Seabed 2030 Atlantic and Indian Ocean Center: Technical expertise/input, represents an external data service provider (GMRT) and provides additional guidance on GSF needs and requirements.
- **Team Member 2:**. Federica Foglini
    - TSCOM Co-Chair, Metadata Working Group Lead: Provide input into the requirements for GEBCO.
- **Team Member 3:**. Jennifer Jencks
    - DCDB Director, TSCOM Member: Represent DCDB as the IHO data center host and the NCEI data archive;.
- **Team Member 4:** Technical Development Group TBA

Communication Plan:

- Online meetings to discuss progress, generate feedback
    - Primary Team Members (Gee, Ferrini, Foglini)
    - Technical group (Gee, Ferrini, TBA)
- Centralized documentation location - Google Drive

Risk Management:

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- A primary risk is that the US Naval Oceanographic Office will not support a more open management of the Generic Sensor Format, and options may need to be investigated to improve the current management of the format.
- A general risk is there may be insufficient support for the ongoing GSF format and a new generic format be proposed/developed. This will need a broad community review to address the impact on the existing archives and data.
- Identifying funding for ongoing maintenance of additional tools and supporting documentation

Budget:

- Travel Support: $2500 (technical meeting before December 2024)
- Project management and facilitation: $5,000
- Technical development: $25,000 (estimate to be refined with technical project plan)

Potential Additional Funding and/or Support:

- US Federal Agencies (NOAA, NAVOCEANO, NGA): ?
- IHO DCDB: Contribution in-kind
- GEBCO/Seabed 2030: ?
- Ocean Mapping Training LLC (L. Gee): Contribution in-kind

Approval: