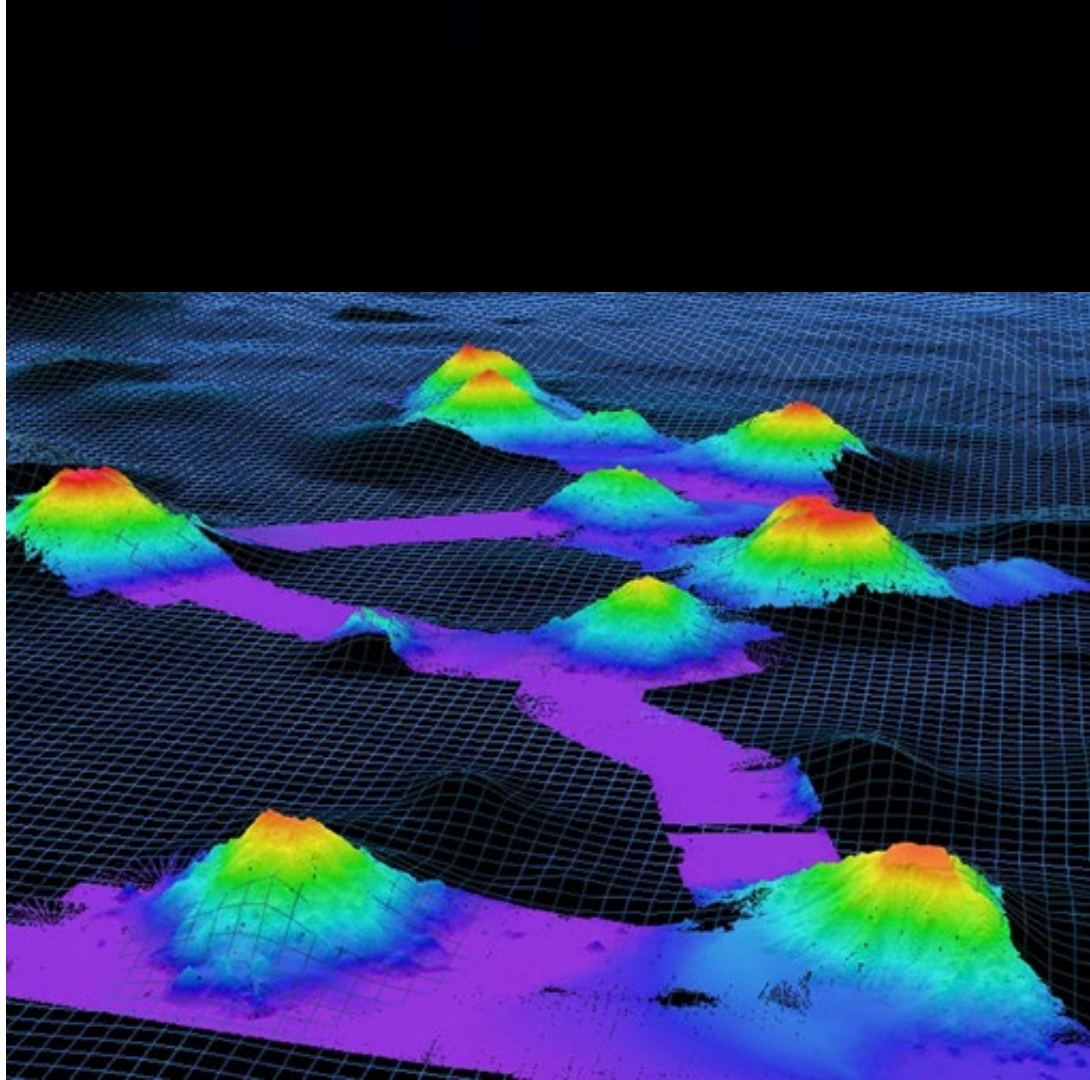

Optimizing Ocean Mapping Data for Various and Unknown Users

HSRP 2023

By Shannon Hoy
September 2023



Principles of Exploration Mapping



Always Collect Data



Systematically Maximize Coverage



Collect Useful and Quality Data



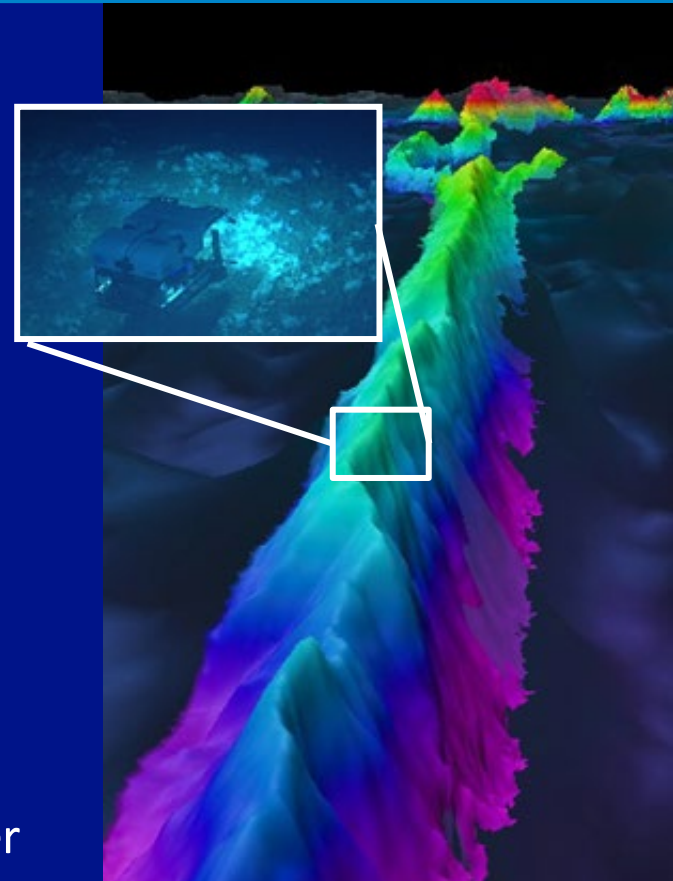
Produce Useful Products



Report Necessary Metadata



Release Open-Access Data in a Timely Manner



Objective

Our primary goal is to provide ocean mapping data that are useful for numerous stakeholders with a variety of needs.

We want to ensure that we provide data in formats for mapping super-users who prefer to process their own data, but also data that can be **effectively used** by stakeholders who do not have the **time, resources, or expertise** to process ocean mapping data, especially when needed for decision making and follow-up exploration.



Levels of Data

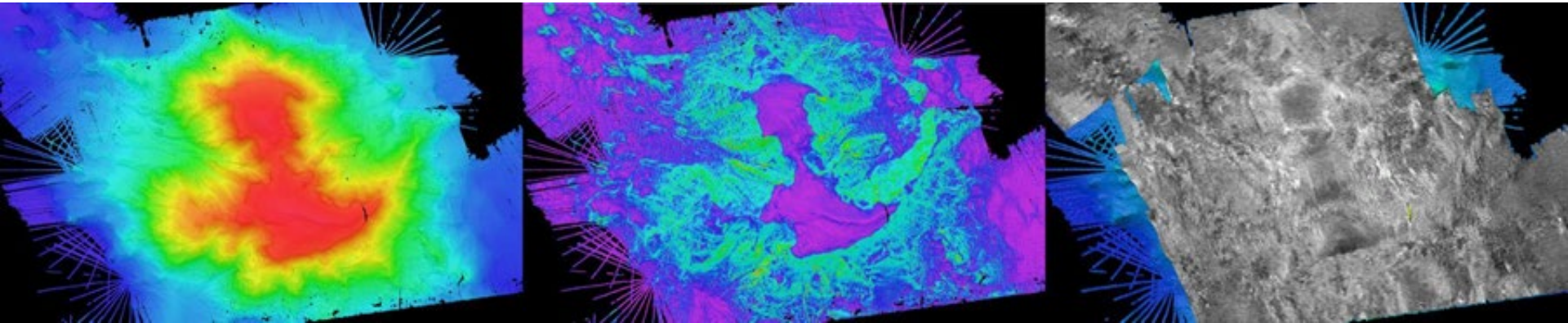
For each dataset we strive to provide Level 00, 01, 02, and 03 data, along with necessary metadata for our various stakeholders. We also provide both proprietary and non-proprietary formats. **All made possible through our strong partnership with NCEI.**

- **Level 00** - Raw unprocessed data in the sensor's native format (e.g., .kml)
- **Level 01** - Processed point files (e.g., .gsf) that support regridding of the dataset.
- **Level 02** - Products in multiple formats that are used throughout the community (e.g., .tif, .xyz, .sd, and .grd).
- **Level 03** - Web mapping services to enhance discoverability and accessibility (e.g., [Data Atlas](#) and [AGOL Services](#))
- **Ancillary Data** - All metadata useful for interpretation of the data (e.g., Data Reports, Calibration Reports, Acquisition and Processing Logs, Weather Logs, BISTs, Telnets, and PU Parameters).



Frequent Stakeholder Check-ins

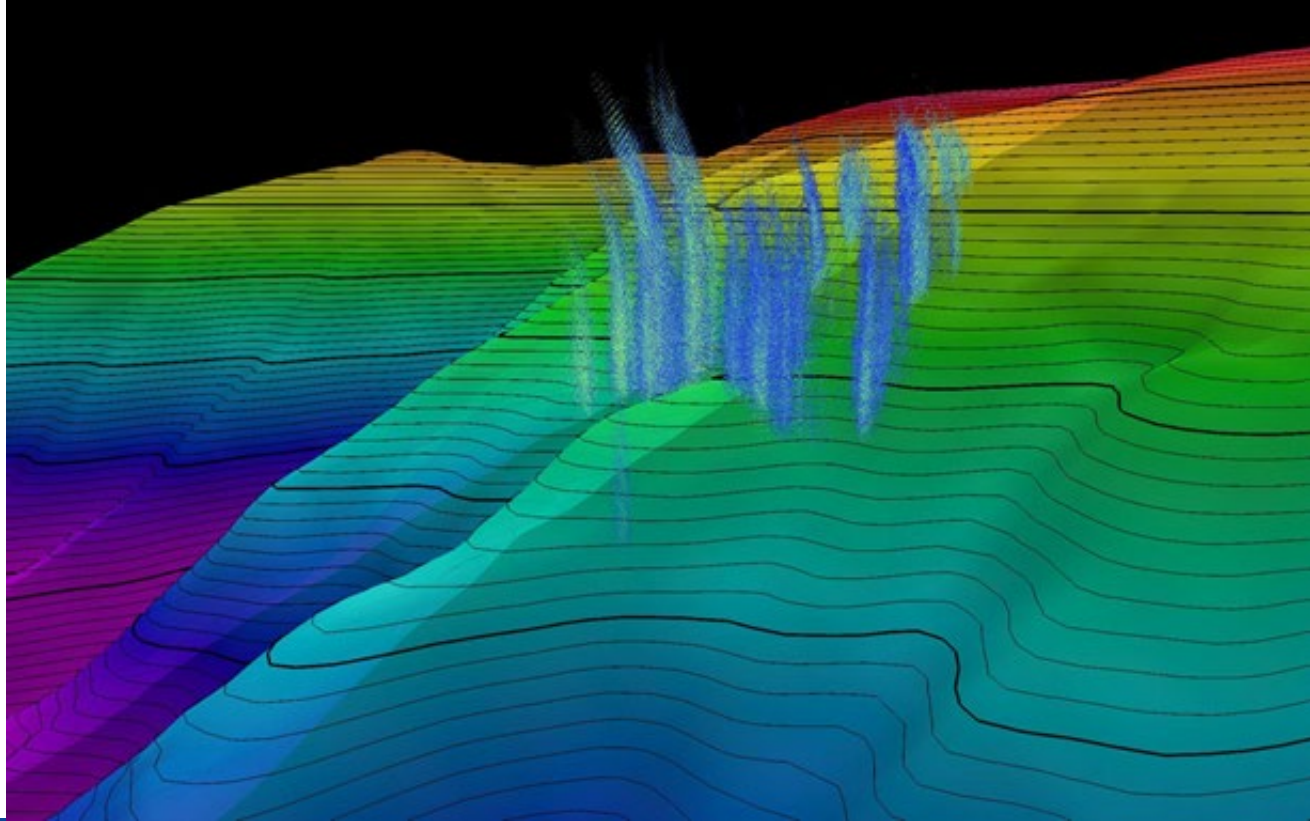
To ensure that we are meeting the needs of our various stakeholders - we frequently review our acquisition, processing, and data delivery methods with the various communities to identify ways to improve. We are also active in various domestic and international ocean mapping communities to maintain consistency across users and sectors.



Future Proofing

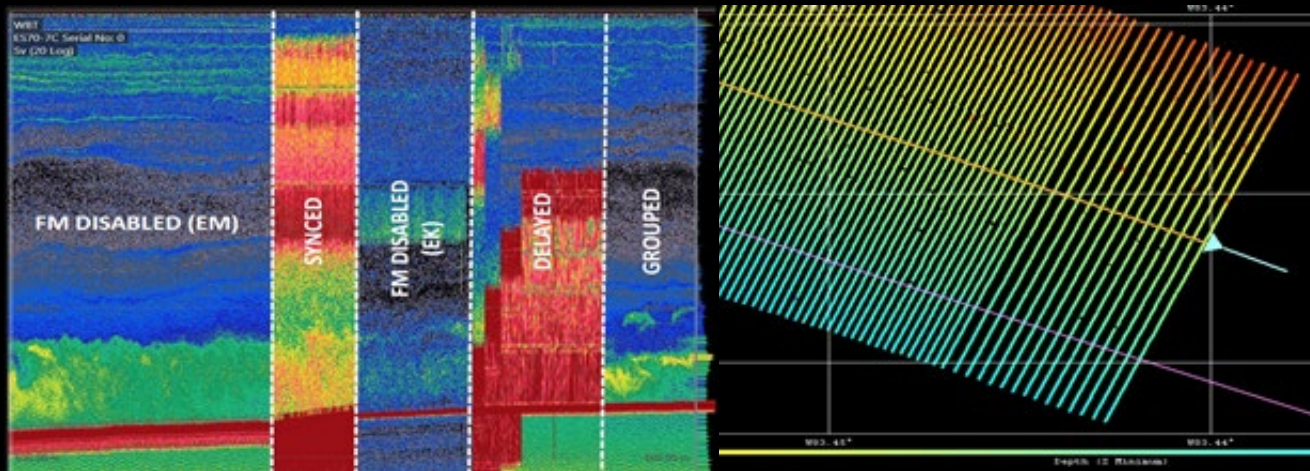
We aim to collect data that not only serves today's stakeholders, but also those of the future. For example:

- Collecting and archiving water column data which have been used to find water column anomalies, further oceanographic research, and to improve the performance of systems.
- Archiving positioning data needed for post-processing, including data collected in remote regions. So that the grids may be properly referenced once there are appropriate separation models.



Trade Offs

While we would love to meet every possible stakeholders objectives, we quickly run into physical limitations of how much sound we can put in the water column, and at times must choose between coverage and ideal resolution. We work diligently to determine priorities that benefit the largest number of users, but there is only so much one ship can do. **Coordinated efforts across the fleet could improve meeting the needs of the various stakeholders of ocean mapping data.**



From:
[Synchronization Presentation](#)



Questions?

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