

We're all in the same boat: Global collaboration to improve data quality

*Kevin Jerram, Paul Johnson, Vicki Ferrini, Anand Hiroji
Kongsberg Discovery FEMME 2026 - Genoa, Italy*



*Supported under NOAA grant NA25NOSX400C0001-T1-01 and
NSF grants 2614984 (UNH), 2614986 (LDEO), 2614985 (USM)*

Multibeam Advisory Committee



Paul Johnson
UNH



Vicki Ferrini
LDEO



Anand Hiroji
USM



Kevin Jerram
UNH

A community-based effort with the goal of ensuring consistent high-quality multibeam data are collected across the U.S. Academic Research Fleet

Website: mac.unols.org
Helpdesk: mac-help@unols.org
Wiki: oceanmapping.wiki

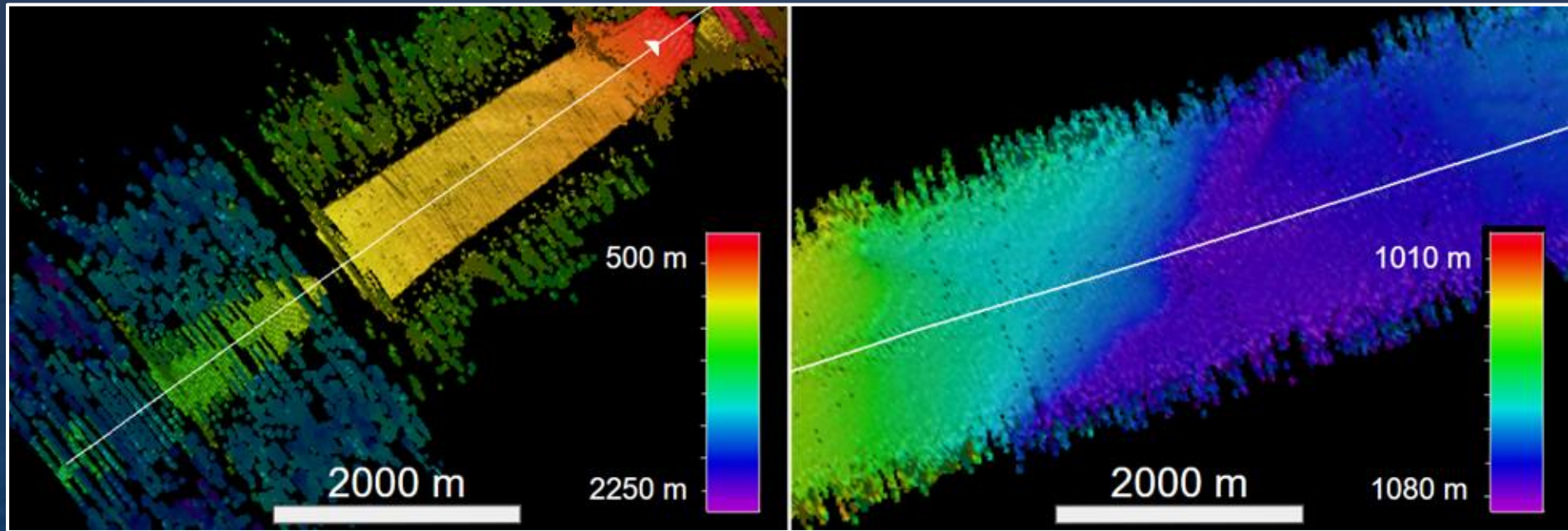


U.S. Academic Research Fleet

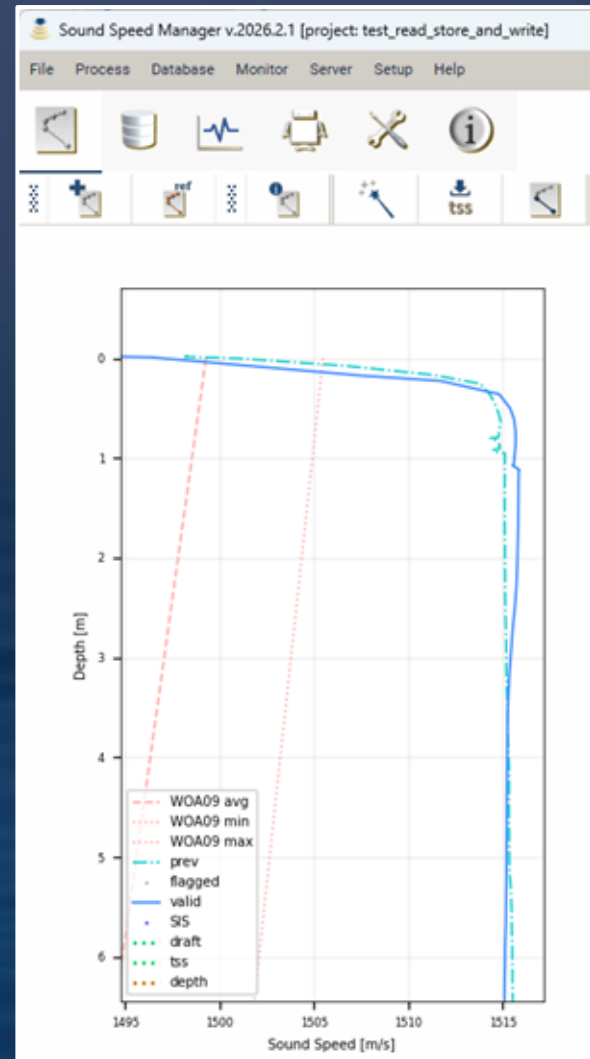
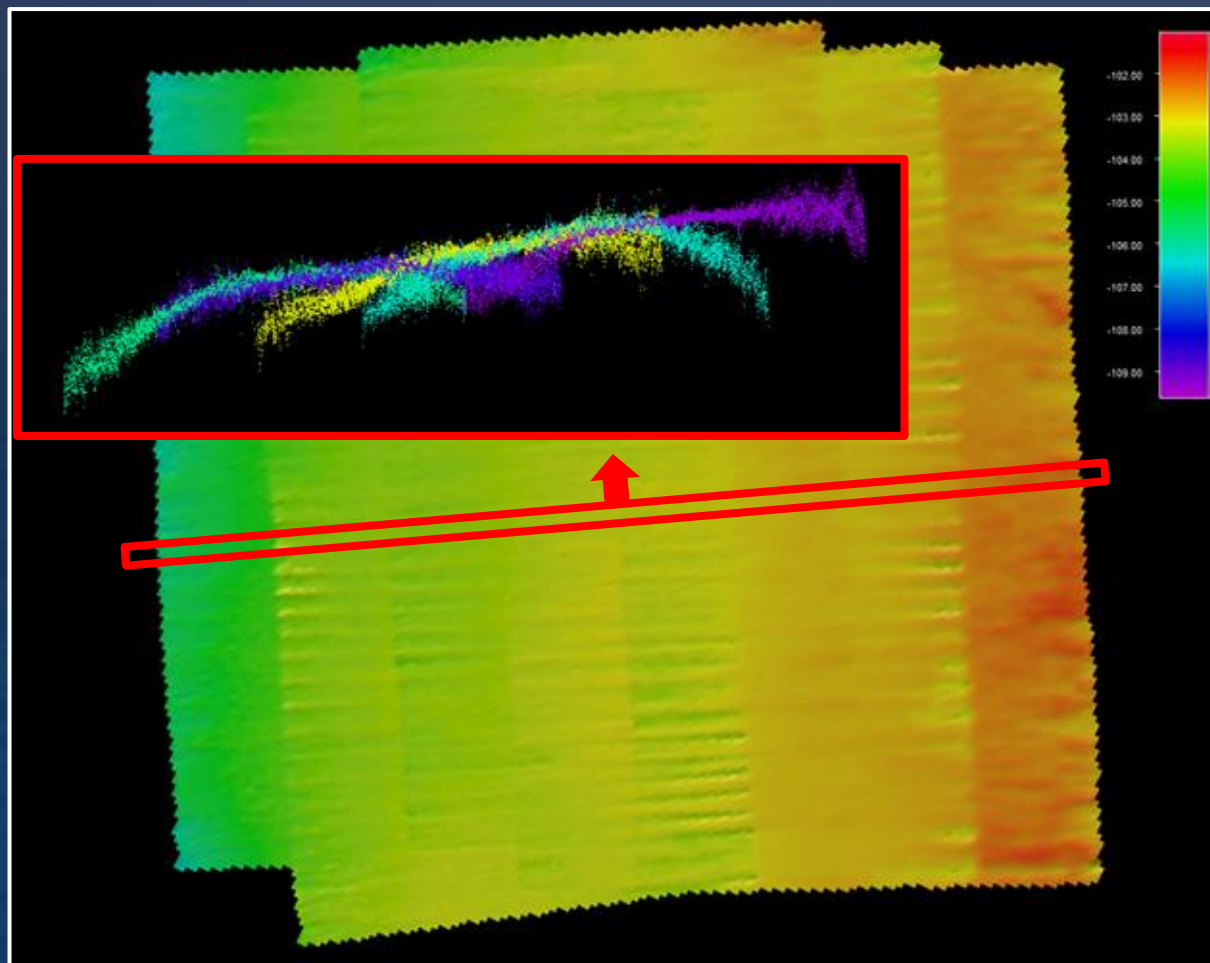
- **12 Vessels with MBES**
 - 10 RVs + 2 Icebreakers
 - 11 EM-equipped
- **14 Deep water EM systems**
 - EM124 / 122
 - EM304 MKII
 - EM712 / 710
- **3 Shallow water EM systems**
 - EM2042 / 2040
- **3 RCRVs (6 MBES) in 2027+**
 - EM304 & EM2040



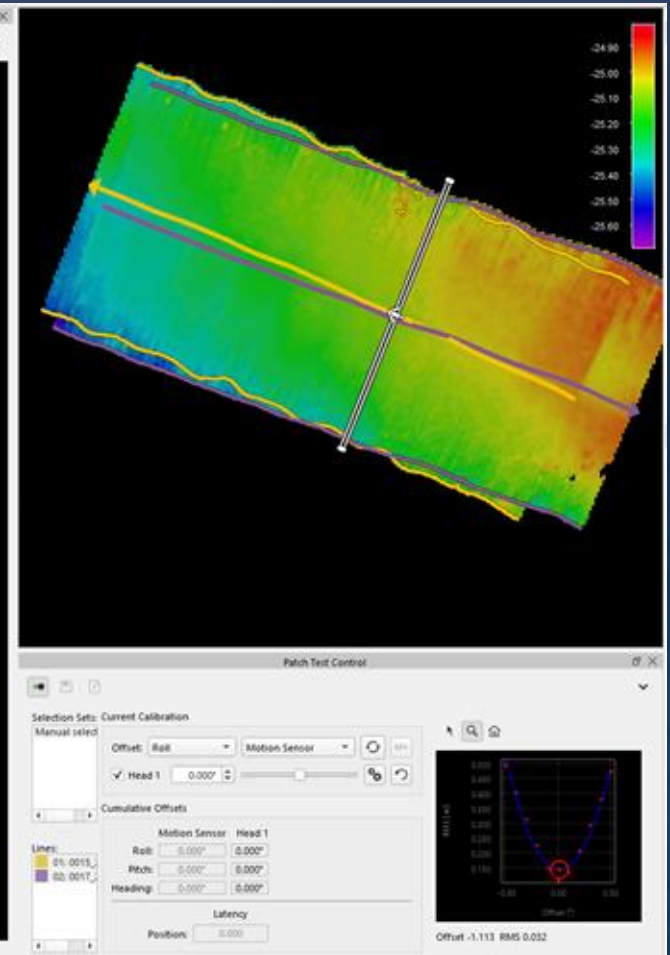
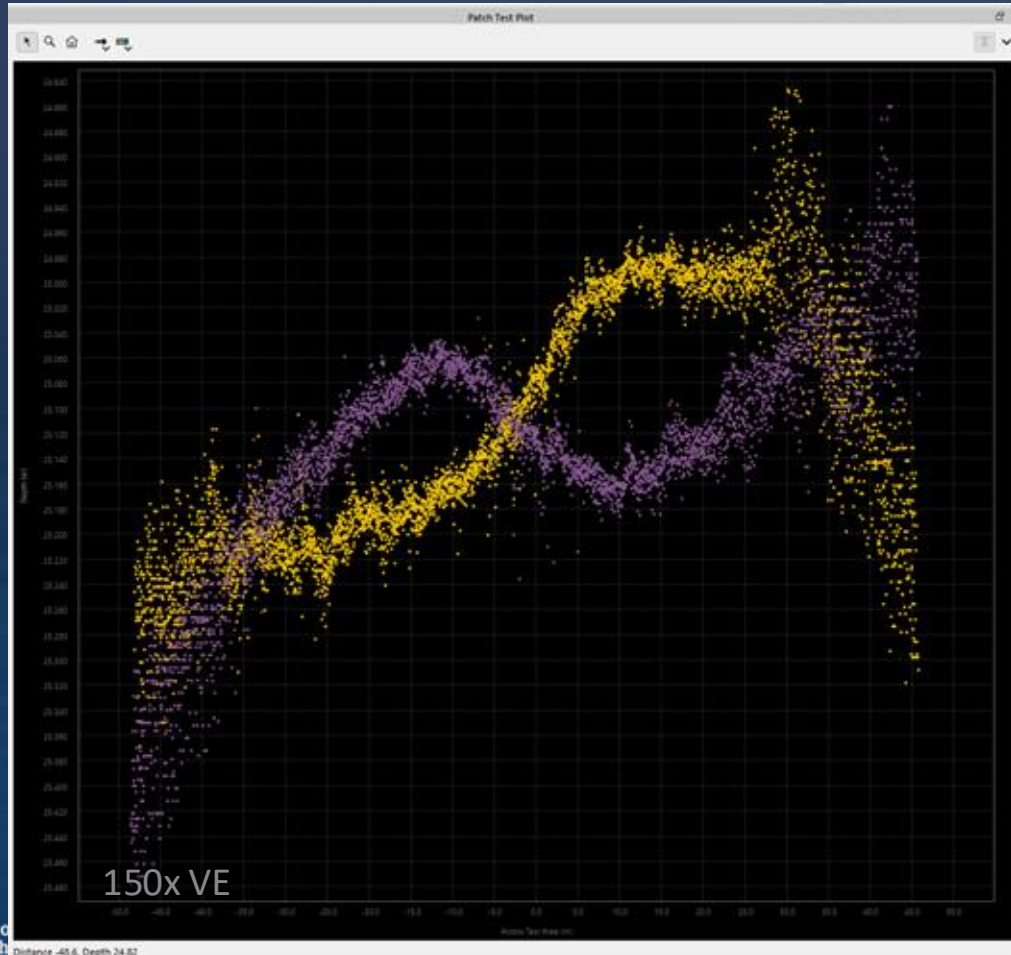
Data Quality Challenge: Configuration



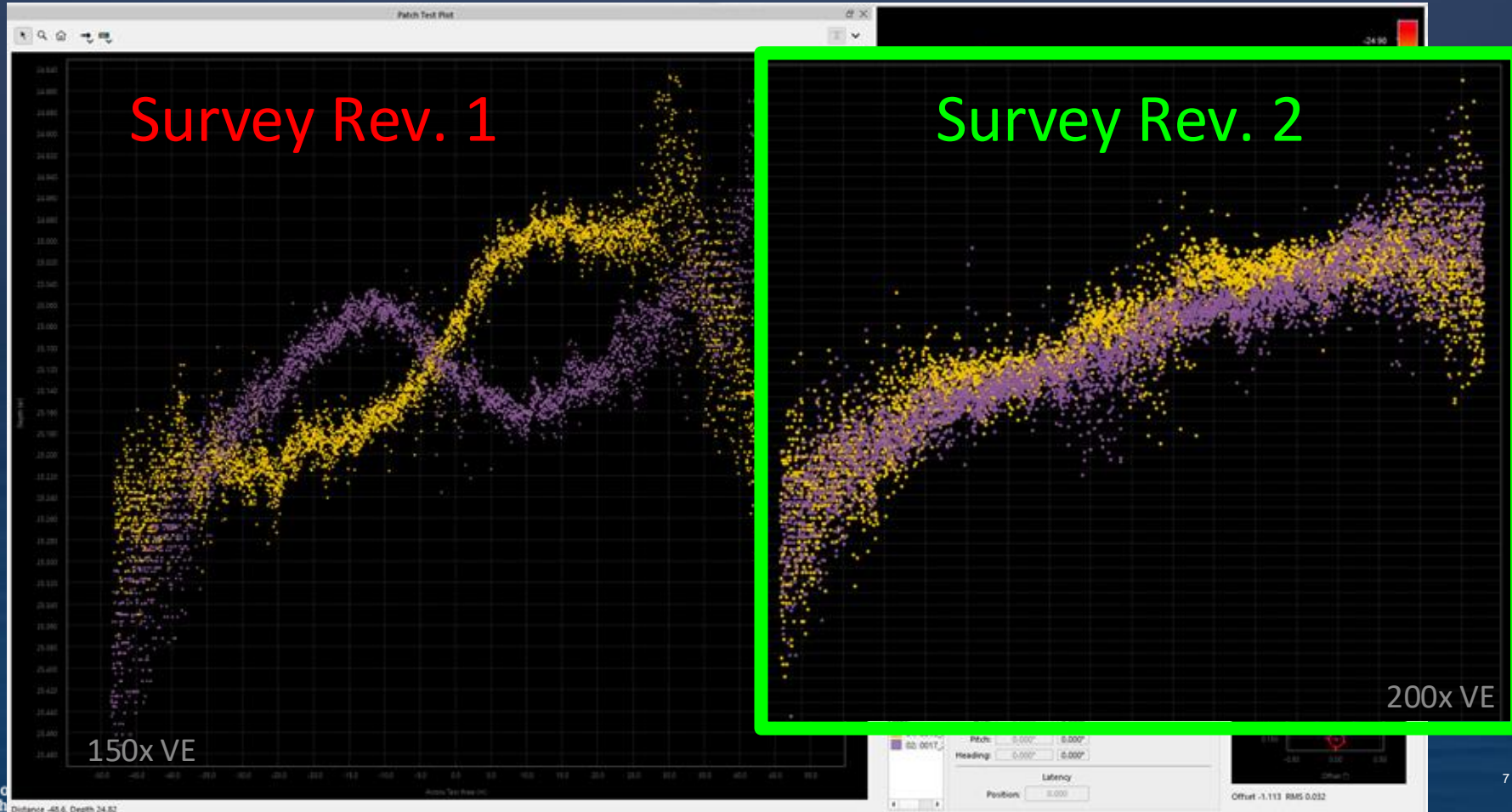
Data Quality Challenge: Sound Speed



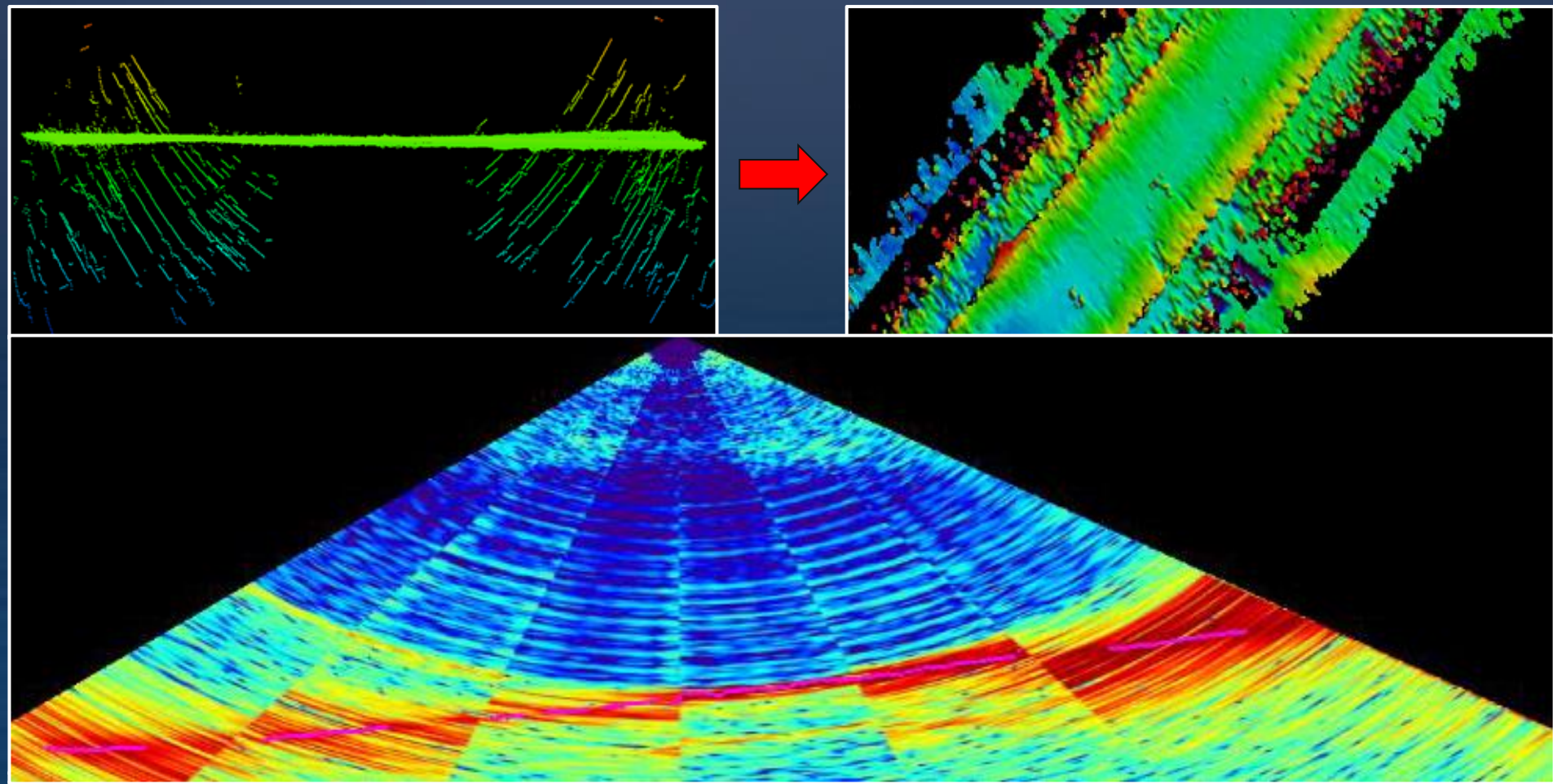
Data Quality Challenge: Sound Speed Calibration



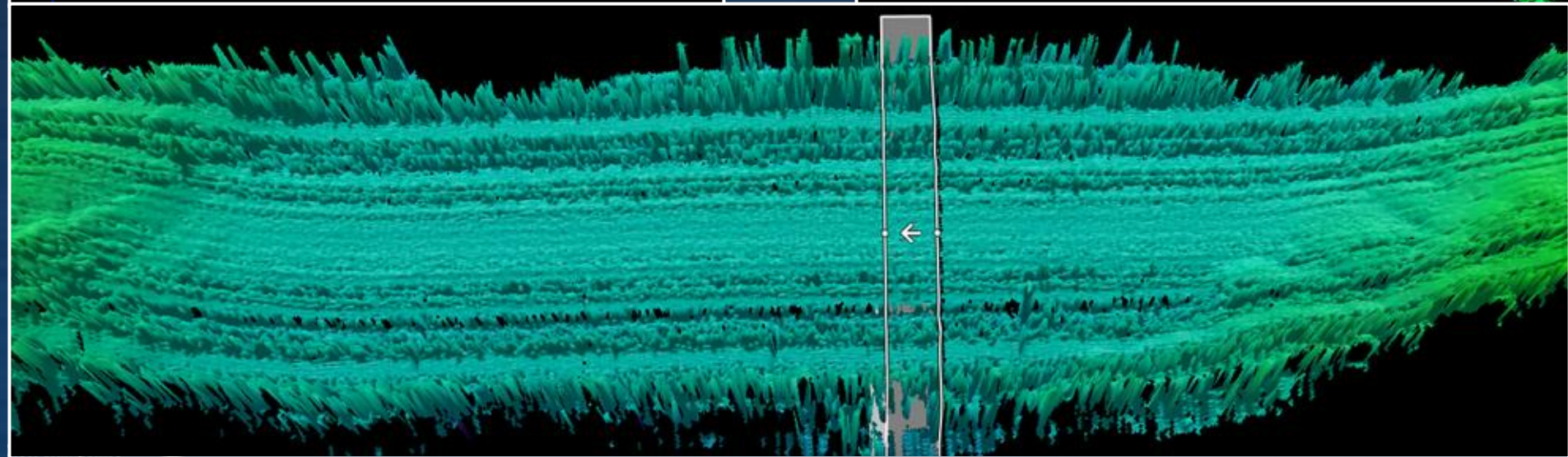
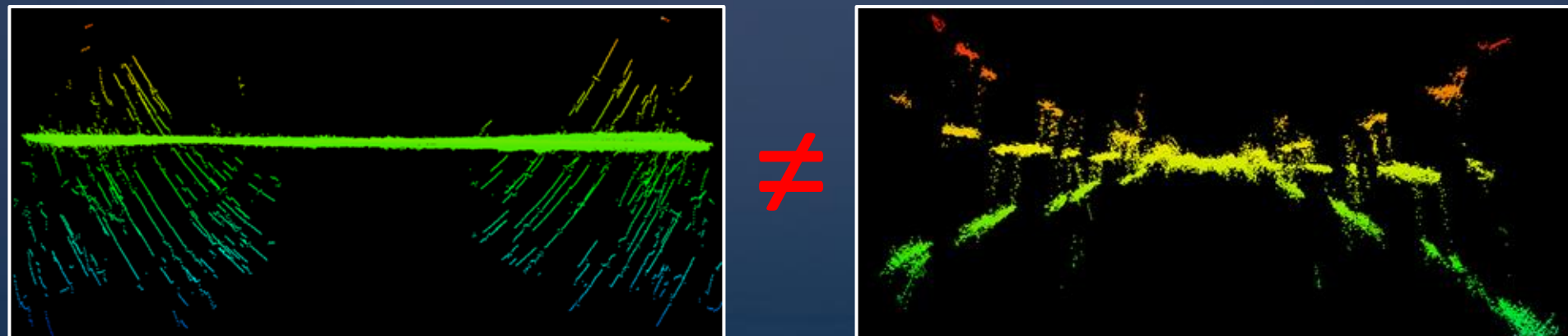
Data Quality Challenge: Sound Speed Calibration Survey



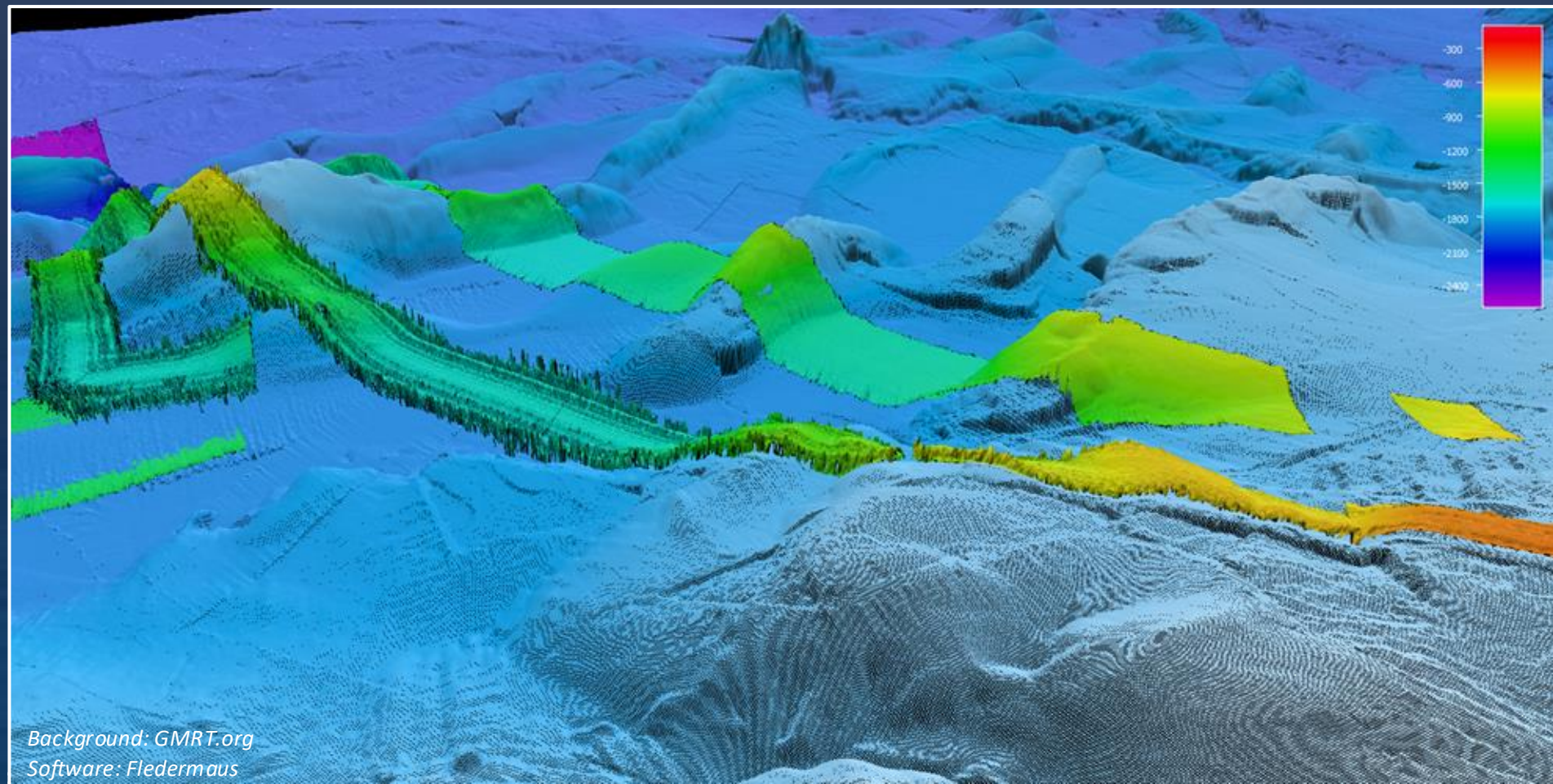
Data Quality Challenge: Noise



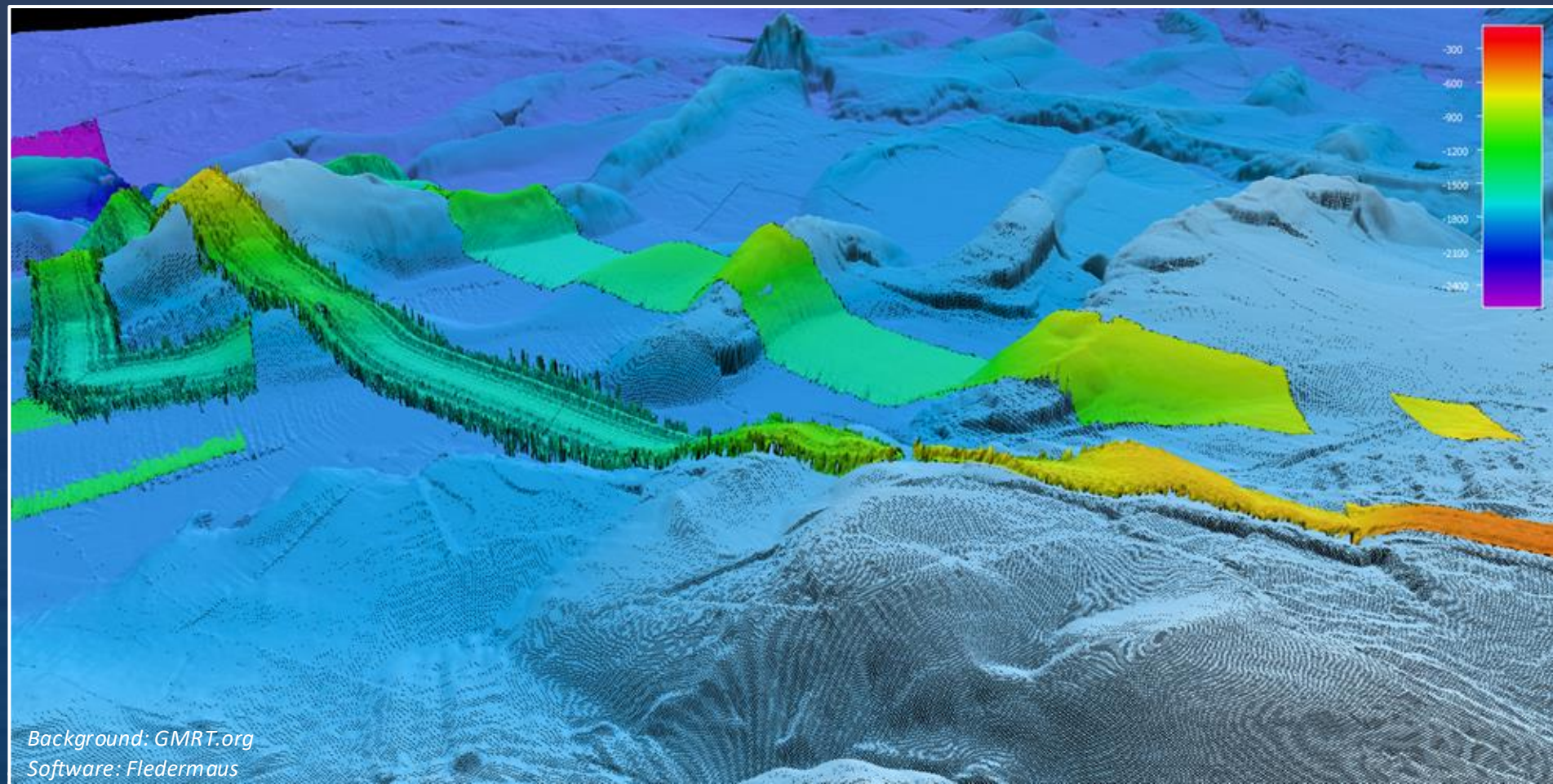
Data Quality Challenge: Noise Hardware



Data Quality Challenge: Noise Hardware Shipyard Issues



How do we find, fix, and prevent these challenges?



Multibeam Advisory Committee

USARF technical support for 15 years

Newly funded for the next five years

Standardize all stages of testing

Support on-board and remotely

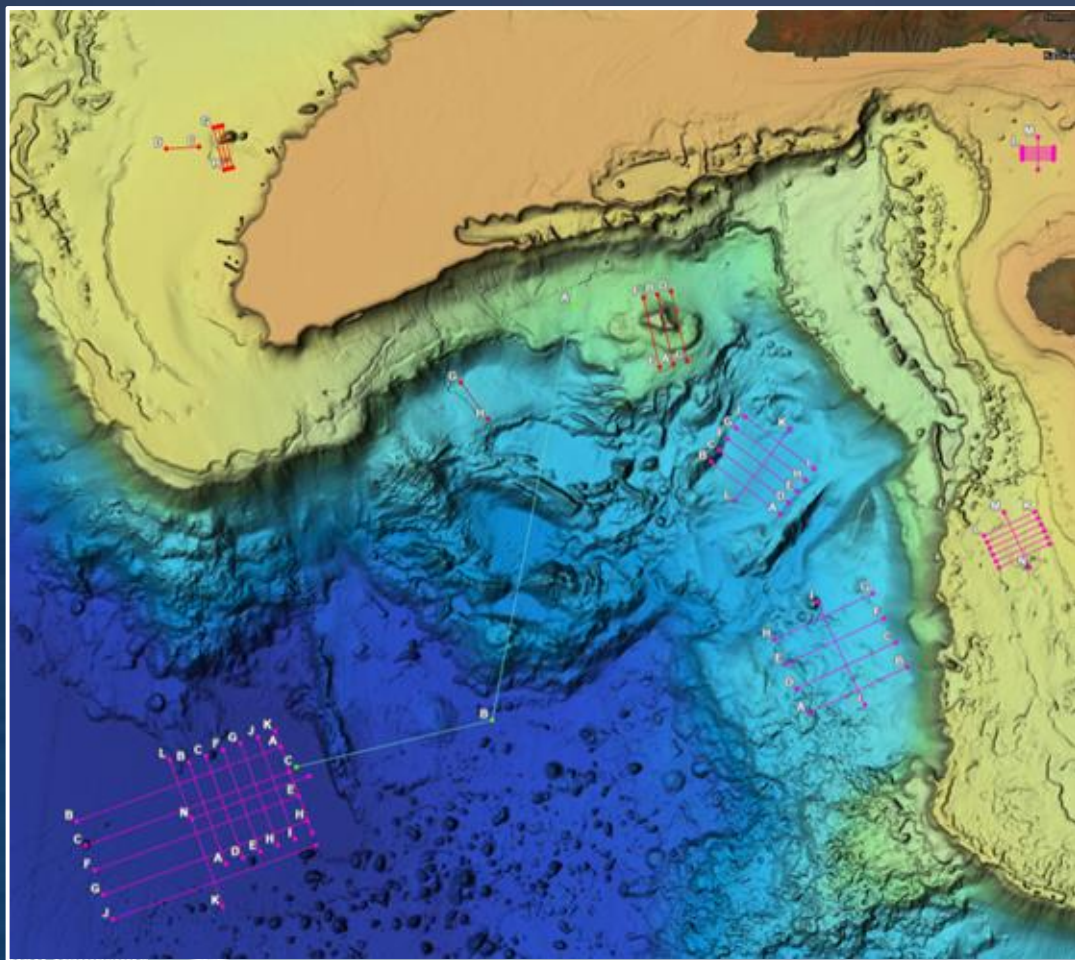
Share methods, tools, results

Website: **mac.unols.org**
Helpdesk: **mac-help@unols.org**
Wiki: **oceanmapping.wiki**

Multibeam Sonar Systems		
Ship Info	Sonar System Info	MAC Resources
 Atlantis (WHOI)	Kongsberg EM124 (12 kHz, 150°, 8x8° beams)	Tech Reports Ship Sonar System 2025 2025-26 R/V Kilo Moana EM122-EM710 QAT 2025 R/V Thompson EM124 SAT Report 2025 R/V Skuaq EM304 MK3 / EM710 QAT 2025 R/V Sally Ride EM124 / EM712 QAT 2025 R/V Roger Revelle EM712 EM124 QAT 2025 R/V Healy EM122 QAT 2024 2024 R/V Skuaq EM304 MK3/EM710 SAT 2024 R/V Sally Ride EM712/EM124 QAT & Seapath 380-FC SAT 2024 R/V Revelle EM712/EM124 QAT 2024 R/V Rachel Carson EM304 SAT 2024 R/V Healy EM122 QAT 2024 R/V David Packard EM304 MK3 SAT 2024 R/V Armstrong EM712/EM124 SAT 2023 2023 R/V Thompson EM302 QAT Report
 Elise Heron (USNS)	Reson SeaBat 8001 (240 kHz, 150°)	
 Healy (USCG)	Kongsberg EM122 (12 kHz, 150°)	
 Hugh E. Sharp (UDEL)	Reson SeaBat 7125 (200 kHz, 400kHz, 150°)	
 Kilo Moana (UW)	Kongsberg EM122 (12 kHz, 150°) Kongsberg EM710	
 Knoxx (retired) (WHOI)	SeaBeam 2112 (12 kHz, 120°)	
 Marcus G. Langseth (LDEO)	Kongsberg EM122 (12 kHz, 150° swath, 2x2° beams)	



MAC Approach: Planning



Early as possible

Planning

1. Review recent data, issues, etc.
2. Vessel + sensor offset survey
3. Site selection + scheduling
4. Software + firmware updates

1-2 days

Dockside

5. Configuration + offset review
6. Hardware health check
7. Test plan review with bridge
8. GNSS antenna calibration

1-10 days

At Sea

8. Calibration and verification
9. RX noise vs. speed / seas
10. Swath coverage testing
11. Swath accuracy testing
12. Swath performance testing
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1-2 mos.

Follow-Up

15. Data and config. backup
16. Public reporting
17. Opportunistic testing

MAC Approach: Planning

USCGC Healy EM304 MKII

Sea Acceptance Testing Checklist

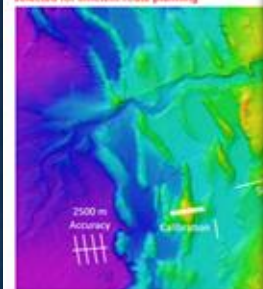
June/July 2026 - Portland to Ilwaco

Vessel: USCGC HEALY
Cruise: EM304 MKII Sea Acceptance Testing
Time/location: June 2026, Portland
Last update: 2026-06-28
Planned departure: June 30
Planned arrival: July 3 via small boat to Ilwaco
Neighboring comment: NAVO noise testing in

Purpose

This document provides guidance for Sea Acceptance Testing procedures performed by the Multibeam Advisory Committee (MAC) in establishing baseline performance, comparing performance, resolving problems, and delivering high quality data for multibeam echosounder service life (See Acceptance Testing).

For maximum efficiency and meaningful comparison, plan relies on successful EM304 calibration and ice-protected) and 2017 (fall-out), as well as new selected for efficient route planning



Quick Links

All documents/software will be available on Google Drive:

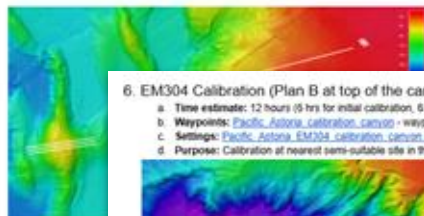
1. For the bridge:
 - a. Healy_EM304_SAI
 - b. Healy_EM304_M01
 - c. Healy_EM304_M02
2. HEALY offset review 2026
3. Healy_2026_Google_Drives
4. Data transfer Google Drives
5. Echosounder Test Site Details
6. Major planning based on 2017
7. Healy EM122 MAC reports
8. POS MV antenna calibration
9. MAC Planning and Assessment
10. Swath coverage test settings
11. Dimensional control and surf
12. 2020-2025 QAT info: EV.HLS
13. Selecting active navigation
14. Seward backup site for reference

Contact

Multibeam Advisory Committee: mac
Kevin Jernam: kjeram@com.unh.edu
Paul Johnson: pjohnson@com.unh.edu
Victi Ferrel: ferrel@com.unh.edu

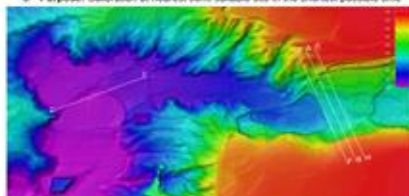
To Do

1. CRITICAL TSG surface scan
2. DONE: SP300 KM Binary file
3. POS MV setup
 - a. DONE: Horizontal offset
 - b. ATTEMPTING: GMS
 - c. PENDING: KM Binary
4. DONE: Sound Speed Mapping
5. DONE: XBT test
6. DONE: Maritime update
7. DONE: Review offsets with D
8. DONE: Priorities for bridge to
9. DONE: test small time scales



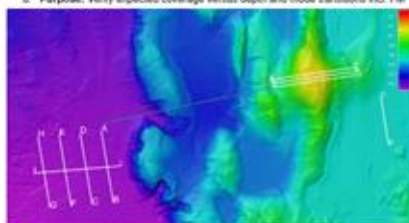
6. EM304 Calibration (Plan B at top of the canyon)

- a. Time estimate: 12 hours (6 hrs for initial calibration, 6 hrs for verification)
- b. Waypoints: Pacific Astoria Calibration Canyon - waypoint text files in multiple formats
- c. Settings: Pacific Astoria EM304 Calibration Canyon swath
- d. Purpose: Calibration at nearest same-outside site in the shortest possible time



7. Transit swath coverage testing (1600-2500 m) en route to accuracy

- a. Time estimate: 1.5 hrs at 8 km (~12 NM)
- b. Waypoints: No fixed waypoints, just heading VSW to cross contours en route to first waypoint in 2500 m accuracy reference survey (e.g., blue profile line, below)
- c. Settings: Swath coverage testing parameters
- d. Purpose: Verify expected coverage versus depth and mode transitions incl. FM



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1-10 days

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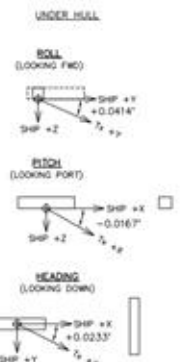
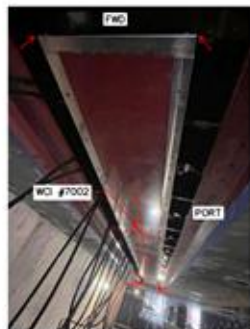
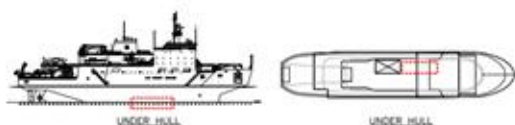
1-2 mos.

Follow-Up

15. Data and config. backup
16. Public reporting
17. Opportunistic testing



MAC Approach: Dockside



POINT LOCATION: UNDER HULL
WC POINT NUMBER: 7002
GENERAL DESCRIPTION: E FACE OF KONGSBERG EM-304 LONGITUDINAL TX MULTI BEAM ARRAY
X,Y,Z & HEADING CALCULATED FROM FOUR OUTSIDE CORNERS.
ROLL & PITCH CALCULATED FROM FRAME AS-BUILT.

X (LONGITUDINAL OFFSET) : -18.2622 M
Y (TRANSVERSE OFFSET) : -1.9055 M
Z (BASELINE OFFSET) : +9.1617 M
ROLL (ABOUT X AXIS) : +0.0414°
PITCH (ABOUT Y AXIS) : -0.0167°
HEADING (ABOUT Z AXIS) : +0.0233°

USCGC HEALY
SHIP SURVEY
SPRING 2026
COMPLETED AT VECOR MARINE
PORTLAND, OR

DATE: 2026-06-15
DRAWN BY: JWC
CHK BY: CRB
SCALE: NTS
REV #
LOW NO. 1033-002

WESTLAKE
CONSULTANTS INC.

ENGINEERING • SURVEYING • PLANNING
10000 NE 10TH AVE SUITE 1000 PORTLAND, OR 97217
TEL: 503.281.1111 FAX: 503.281.1112

TX

View from aft

View from port

View from mast

TX 1 LOCATION OFFSET (FORWARD, X)

-18.262

-1.906

TX 1 LOCATION OFFSET (DOWNWARD, Z)

9.162

TX 1 ANGULAR OFFSET (ROLL)

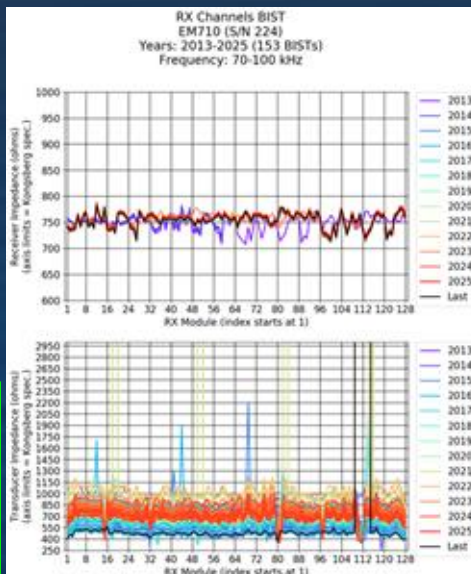
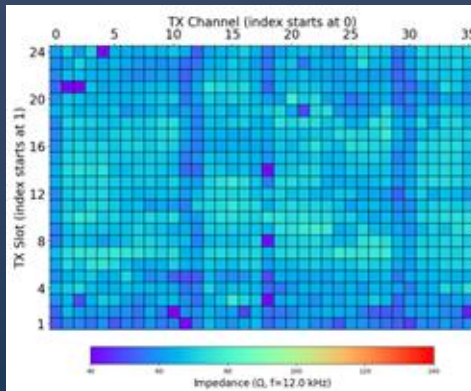
0.041

TX 1 ANGULAR OFFSET (PITCH)

-0.017

TX 1 ANGULAR OFFSET (HEADING)

0.023



Early as possible

1-2 days

1-10 days

1-2 mos.

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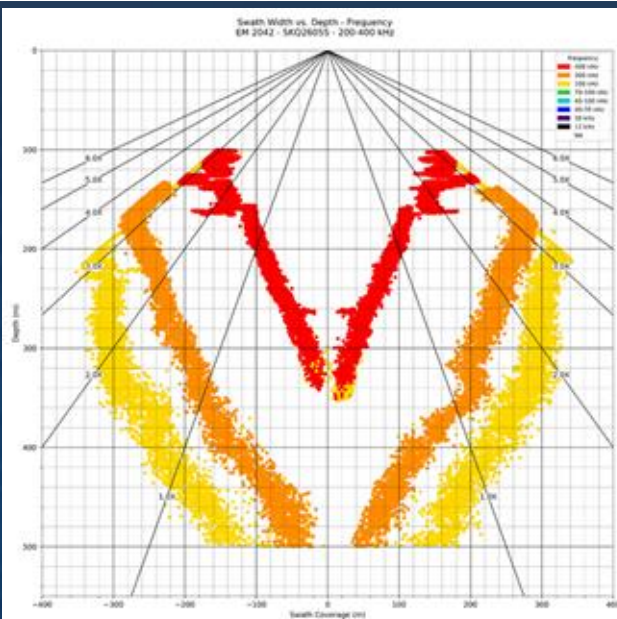
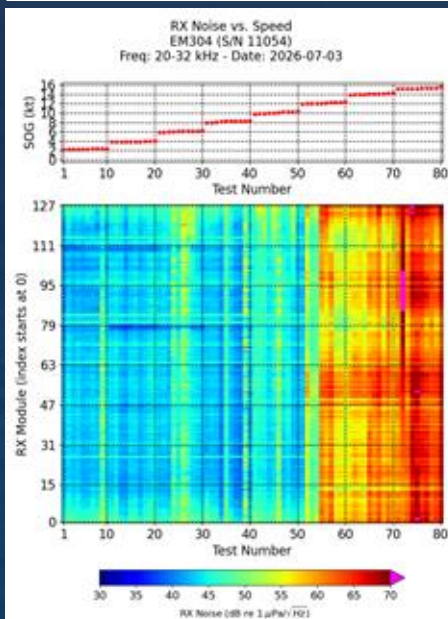
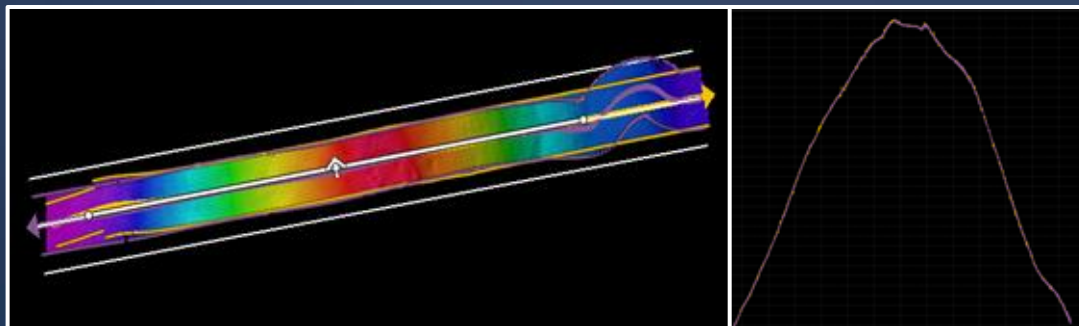
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MAC Approach: At Sea (On Board + Remote Support)



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1-2 days

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MAC Approach: Follow-Up

mac.unols.org



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U.S. Academic Research Fleet Contributions

USARF has contributed 86% of available US EEZ bathymetry

LEADING IN MAPPING OUR ECONOMIC EXCLUSIVE ZONE



In 2019, President Trump issued a Presidential Memorandum directing Federal agencies to develop a national strategy for mapping, exploring, and characterizing the U.S. Exclusive Economic Zone (EEZ). To date, 54% of the U.S. EEZ has been mapped and the U.S. Academic Research Fleet (ARF) has mapped approximately 46% of that 54% total. This means that when you look at the mapping data from the U.S. EEZ stored in the National Archives (specifically the National Center for Environmental Information), an astounding 86% of it comes directly from the dedicated work of the ARF.

[Access Public Data](#)



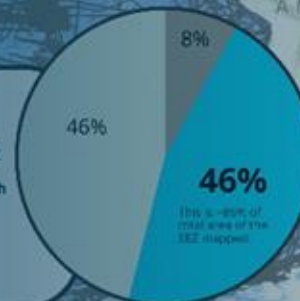
Percent of U.S. EEZ not mapped



Percent of U.S. EEZ mapped by U.S. Academic Research Fleet (ARF)



Percent of U.S. EEZ mapped by Other



NOAA, USARF, and Partner Vessels



+10 other oceanographic organizations



Sharing Field Experience: www.oceanmapping.wiki

oceanmapping / community

Type to search

Code Issues Pull requests Discussions Actions Projects Wiki Security and quality Insights Settings

Home

Kjeram edited this page 1 minute ago · 130 revisions



The Ocean Mapping Community Wiki is a collaborative space to share multibeam, split-beam, and sub-bottom expertise from the [global research fleet](#) and ocean mapping community.

Resources, best practices, and "lessons learned" are welcome with the aim of improving data quality for all. Please consider [contributing](#) in your area of interest or joining the public [discussions](#) and [troubleshooting](#) forums.

This effort is hosted by the [Multibeam Advisory Committee \(MAC\)](#) and partners from academia, government, and industry.

Announcements

Check out the [Community Announcements and Awareness](#) section for non-commercial news from around the ocean mapping community.

Contributing

We hope you'll [add your expertise](#) to the conversation and [provide feedback](#).

See the [Contribution Guidelines](#) to see who is contributing and how we are moderating the site content.

Recently updated

1. RVTEC 2023 [recordings](#) and [slides](#) are now available
2. New releases of the [Assessment Tools](#) are available for download and feedback
3. Review the recommended [SSS 5 setup](#) and [Runtime Parameters](#) as helpful starting points
4. Check out the [MFP research vessel map](#) to find your friends on the high seas
5. [Life and Science at Sea](#) covers a wealth of seagoing experience and practical guidance
6. Find the [RVTEC 2024 presentations](#) on YouTube (e.g., [EK60 Best Practices](#) and [MAC Assessment Tools demo](#))
7. Make a test plan with the [Echosounder Test Site Database](#) and [share your site](#) with the world (EX-cals tool)
8. Check out the [Multibeam Survey Planning Template](#) to help science parties define their mapping goals
9. Help out your navigators with the [ECDIS Converter](#) for survey line plans
10. Share non-commercial news under the [Community Announcements and Awareness](#) section
11. Concatenate files in the [File Trimmer](#) (e.g., for patch test processing)
12. The [Swath Coverage Plotter](#) now tracks changes in multibeam settings and offsets
13. Added a [Wishlist](#) for priority topics - chime in!
14. Started a [Software Updates](#) page to easily find the latest versions of common mapping software
15. Added an informal list of [Top 10 Multibeam Issues](#) to highlight common complications (and solutions)
16. Made a new page for [Sea Acceptance Testing](#) (and Quality Assurance Testing) to discuss approaches and expectations

Pages

Find a page or section...

- Home
- Assessment Tools
- Backscatter Normalization
- Backscatter Processing
- Bathymetry Processing
- Calibration (Patch Test)
- Coastal Mapping
- Data Acquisition
- Dimensional Control
- GNSS Positioning
- Hardware Health
- Sea Acceptance Testing
- Software Updates
- Sound Speed
- Top 10 multibeam issues
- Transit Mapping
- Troubleshooting
- Vessel Design
- Water Column Mapping

+ Add a custom sidebar

Clone this wiki locally
<https://github.com/oceanmapping/wiki>

Kongsberg Resources

Kongsberg multibeam systems are installed widely throughout the UNOLS fleet. As with all manufacturer-specific topics on the wiki, the references and guidance provided below are intended for quick reference and do not constitute an endorsement.

1. [Kongsberg Discovery Documentation](#) - manuals, technical notes, datasheets, etc.
2. [Kongsberg Discovery Software Downloads](#) - installation files and release notes.
3. [Kongsberg Discovery Software Licenses](#) - use this form to request a new license, upgrades, add-on features and demo licenses.
4. [Kongsberg Discovery Global Support](#) - If you have a critical issue, **CALL**. Follow up with an email - include the name of the vessel, model system, software version, etc. to help speed up the response times. Support is global, but start with your main support contact - they will forward the issue to Horten if additional assistance is needed - this helps keep everyone in the loop to track down issues and solutions!
5. [Kongsberg Discovery Support Form](#) - select your regional KD office and fill out this form for support with seafloor mapping products.

Wish list

The topics below are high priority for development; some may have placeholders or suggestions for content.

Sections can start small and snowball, so reach out if you'd like to contribute!

1. More examples of synchronization schemes for different systems, ships, operating priorities, etc.
2. Checklist for SSS uninstall/reinstall/upgrade steps
3. Recommendations for backscatter processing: tips, tricks, workflows, processing guides...
4. [Bathymetry processing](#) - what's on your mind?
 - I. Guidelines for gridding approaches / expectations for data quality
 - ii. When to worry about IHO compliance / relevance
 - iii. Approaches for "fixing" "bad data"
5. Expanding the GitHub issues base with [troubleshooting](#) examples from more users
6. [Multibeam data acquisition](#) recommendations
 - I. Synchronization - when is it needed?
 - a. Grid chart of system combinations, color-coded by interference (present / not present / uncertain)
7. [Water column mapping](#) resources
 - I. Target strength (sphere) calibration guides
 - a. Where, why, and how to do these?
 - b. Table of spheres required for each frequency range
8. Amazing data examples!
 - I. Every page --> highlight exciting data examples / new and unexpected uses for mapping systems
9. Recommendations on how to improve the wiki workflow
 - I. What are the roadblocks to accessing / requesting / contributing helpful information?
10. GitHub experts - reach out with recommendations on how to better use this space!



Sharing Field Experience: www.oceanmapping.wiki

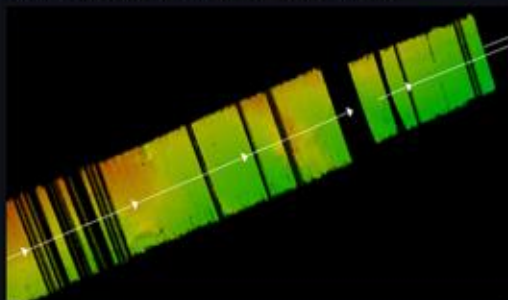
EM304 ping dropouts related to ship satellite network interruptions #22

Closed

kjeram opened on Nov 3, 2022 Last edited by kjeram Member

Context:
NOAA Ship Okeanos Explorer with EM304 M92 and POS MV/Seapath navigation inputs.

Symptoms:
The EM304 intermittently and unpredictably stops pinging / tracking seafloor, leaving large data gaps of variable duration. Logging continues as normal (no file increment).



Troubleshooting:
Extensive troubleshooting was conducted by the EX team on board in communication with Kongsberg support in Norway.

Multiple software and firmware updates were applied with no improvement.

The PU ethernet switch firmware was updated to v1.40 to address an issue with excessive BPDU packets (15).

EM dropouts were found to correlate with brief VSAT satellite internet outages, suggesting a broader ship network interruption impacting the EM network.

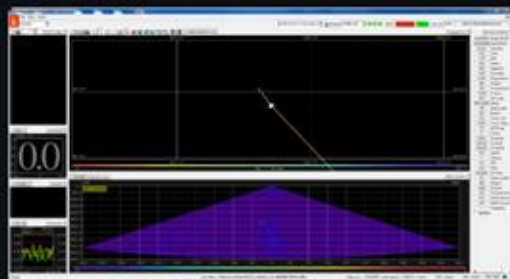
Solution:
The relationship between VSAT interruptions and EM network dropouts was traced to the on-board network's spanning tree protocol (STP).

Missing bottom detection after loading a (corrupt) sound speed profile #58

Closed

kjeram opened on Feb 25 Member

Summary
In SIS 4, obscure errors in sound speed profiles may lead to incorrect calculations / applications of absorption coefficients. These manifest as missing seafloor detections and extremely weak water column backscatter imagery even when pinging 'normally' by all other standards.



These issues have occurred after:

1. loading a corrupt sound speed profile, or
2. loading a sound speed profile from a network location (that later became unavailable to the SIS machine).

The solution involves resetting the absorption coefficients in the SQLite database (see PDF below).

The attached PDF was provided by Lynette Davis and Derek Sowers at Ocean Exploration Trust in 2025. It summarizes troubleshooting with Kongsberg support in 2025 as well as 2021 by Erin Heffron, Lindsay Gee, Justin Lowe, and Paul Johnson.

[NA174 EM302 Troubleshooting.pdf](#)

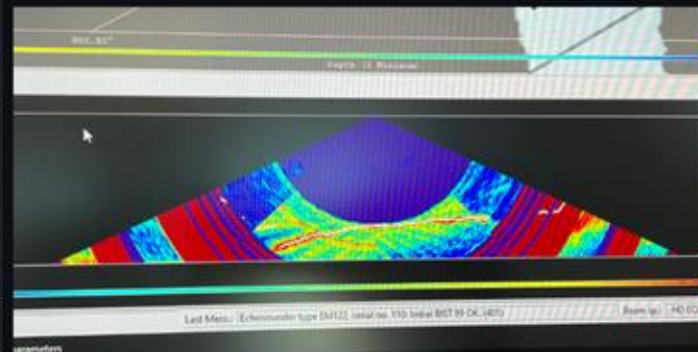
Major EM122 interference from unknown source #50

Closed

kjeram opened on Aug 14, 2024 Member

Credit to Brian Calder (UNR) for all information and images, adapted/paraphrased by MAC for posting here.

Context:
Major interference in EM122 data on US Oden in 400-500 m in Nares Strait (see images). This system is synchronized with other acoustic systems on board using a K-Sync. Operators and technicians are highly experienced multibeam users.



The Oden has been upgraded to an EM124.



cpeters220 closed this as **completed** on Aug 4, 2025



Sharing Field Experience: www.oceanmapping.wiki

EM304 ping dropouts related to ship satellite network interruptions #22

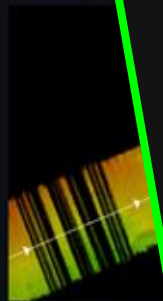
Closed

kjeram opened on Nov 3, 2022

Last edited by kjeram

Context:
NOAA Ship Okeanos Explorer with EM304 M90 and POS MV/Seapath

Symptoms:
The EM304 intermittent ping dropouts of variable duration



Troubleshooting:
Extensive troubleshooting was conducted with Kongsberg support in Norway. Multiple software and firmware updates were applied.

The PU ethernet switch firmware was updated to the latest version (v1.15).

EM dropouts were found to correlate with brief VSAT satellite internet outages, suggesting a broader ship network interruption impacting the EM network.

Solution:
The relationship between VSAT interruptions and EM network dropouts was traced to the on-board network's spanning tree protocol (STP).

Missing bottom detection after loading a (corrupt) sound speed profile #58

Closed

kjeram opened on Nov 3, 2022

Last edited by kjeram

Calculations /
for detections and
normally by all



The solution involves resetting the absorption coefficients in the SQLite database (see PDF below).

The attached PDF was provided by Lynette Davis and Derek Sowers at Ocean Exploration Trust in 2025. It summarizes troubleshooting with Kongsberg support in 2025 as well as 2021 by Erin Heffron, Lindsay Gee, Justin Lowe, and Paul Johnson.

[NA174 EM302 Troubleshooting.pdf](#)

Community request:
Can we crowdsource a comprehensive table of interference behaviors?
(Does this exist already?)

Major EM122 interference from unknown source #50

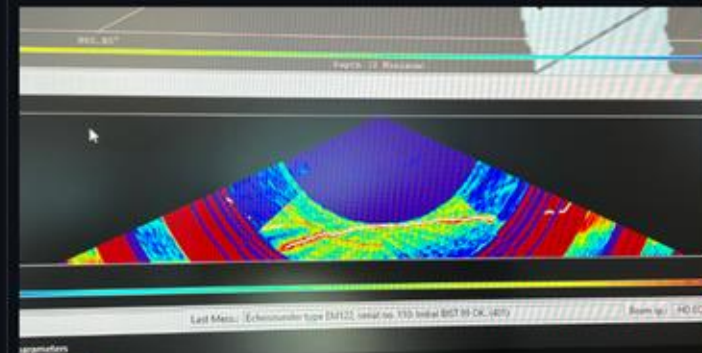
Closed

kjeram opened on Aug 14, 2024

Member

Credit to Brian Calder (UNR) for all information and images, adapted/paraphrased by MAC for pooling here.

Context:
Major interference in EM122 data on US Oden in 400-500 m in Nares Strait (see images). This system is synchronized with other acoustic systems on board using a K-Sync. Operators and technicians are highly experienced multibeam users.



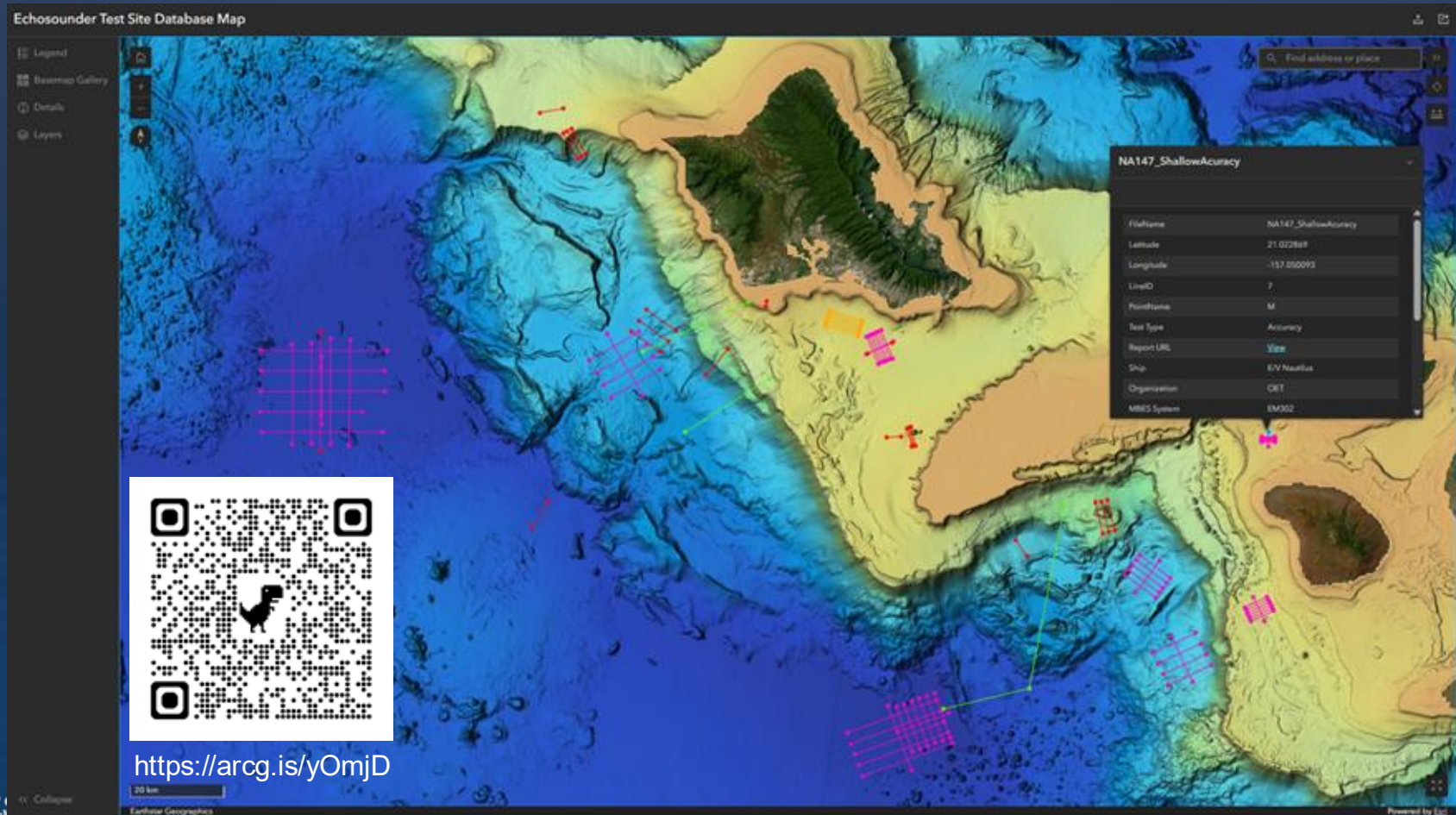
The Oden has been upgraded to an EM124.



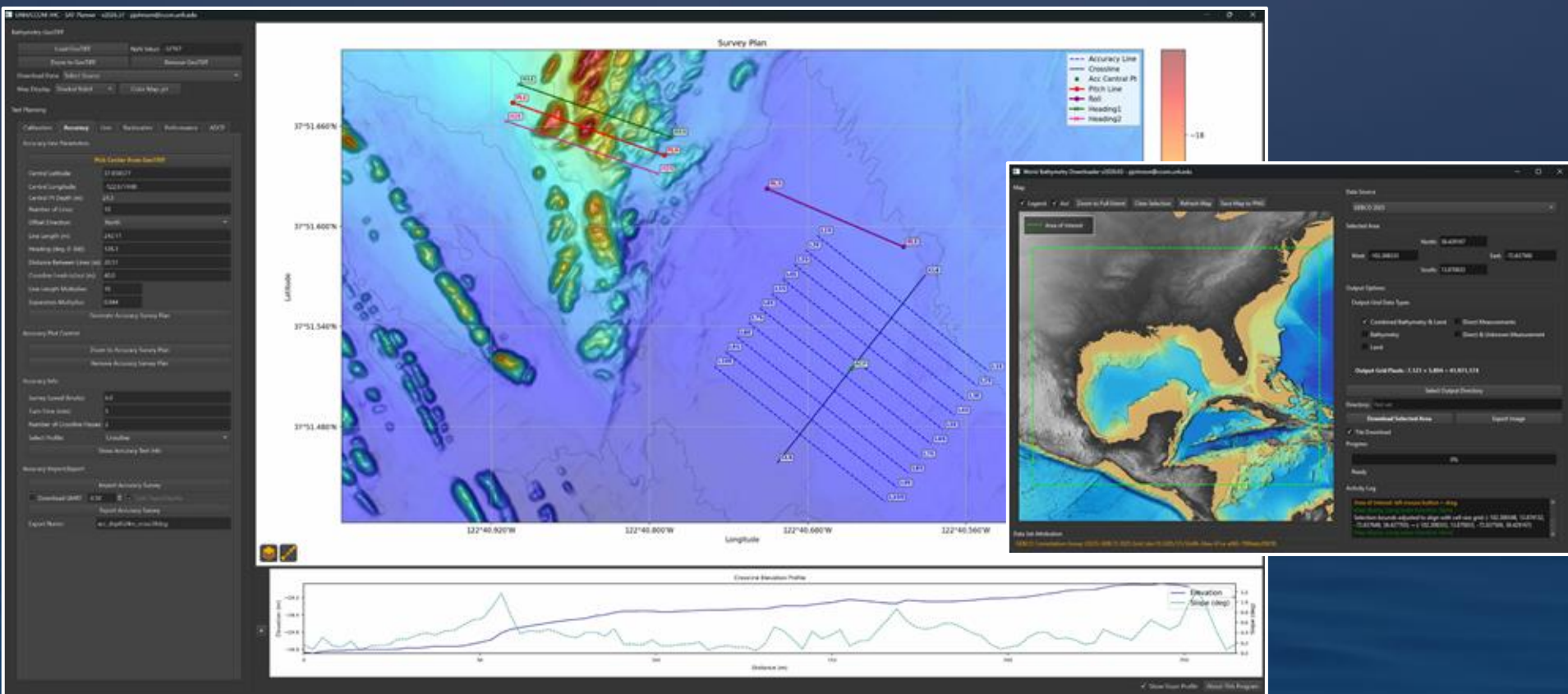
cpeters220 closed this as **completed** on Aug 4, 2025



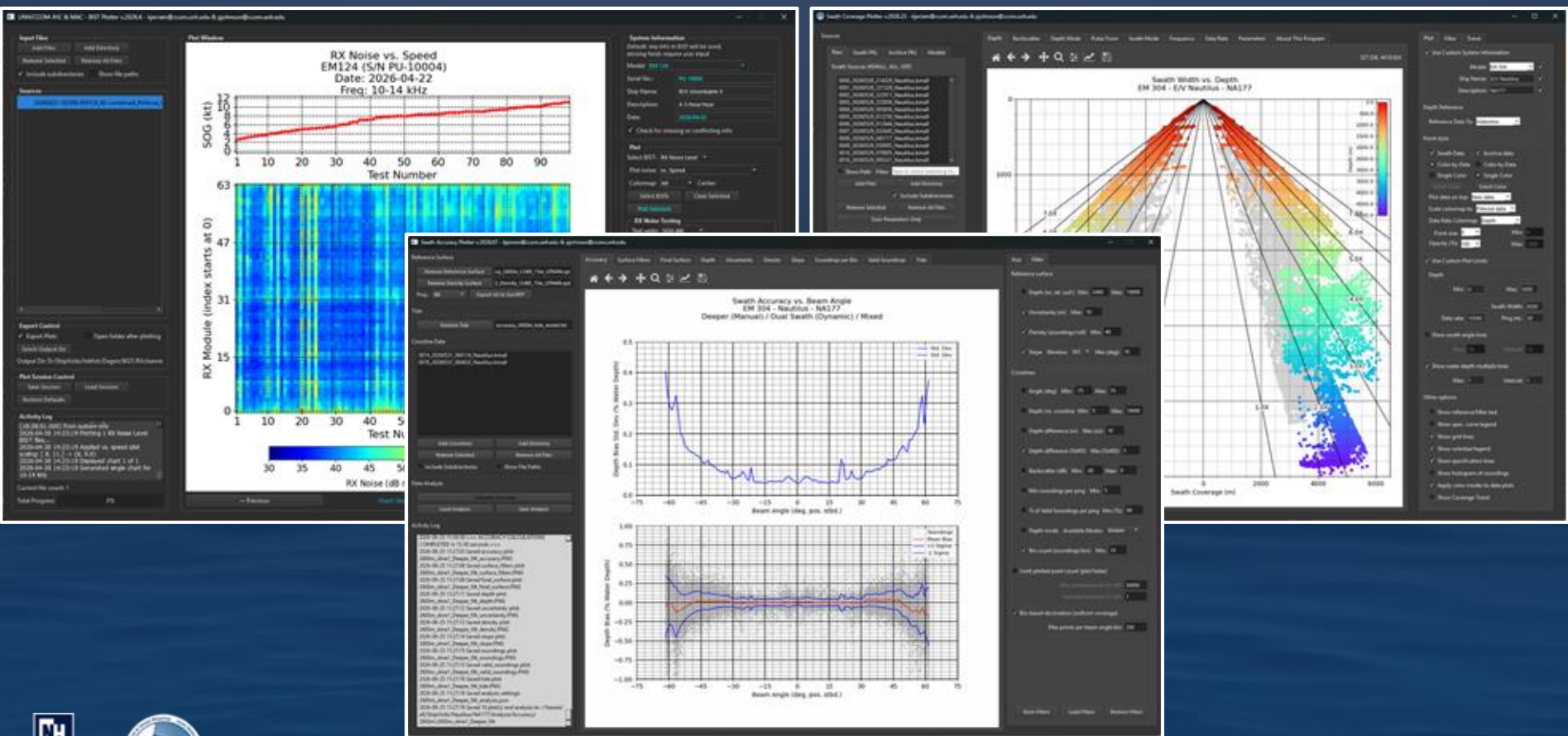
Sharing Test Sites: Echosounder Test Site Database



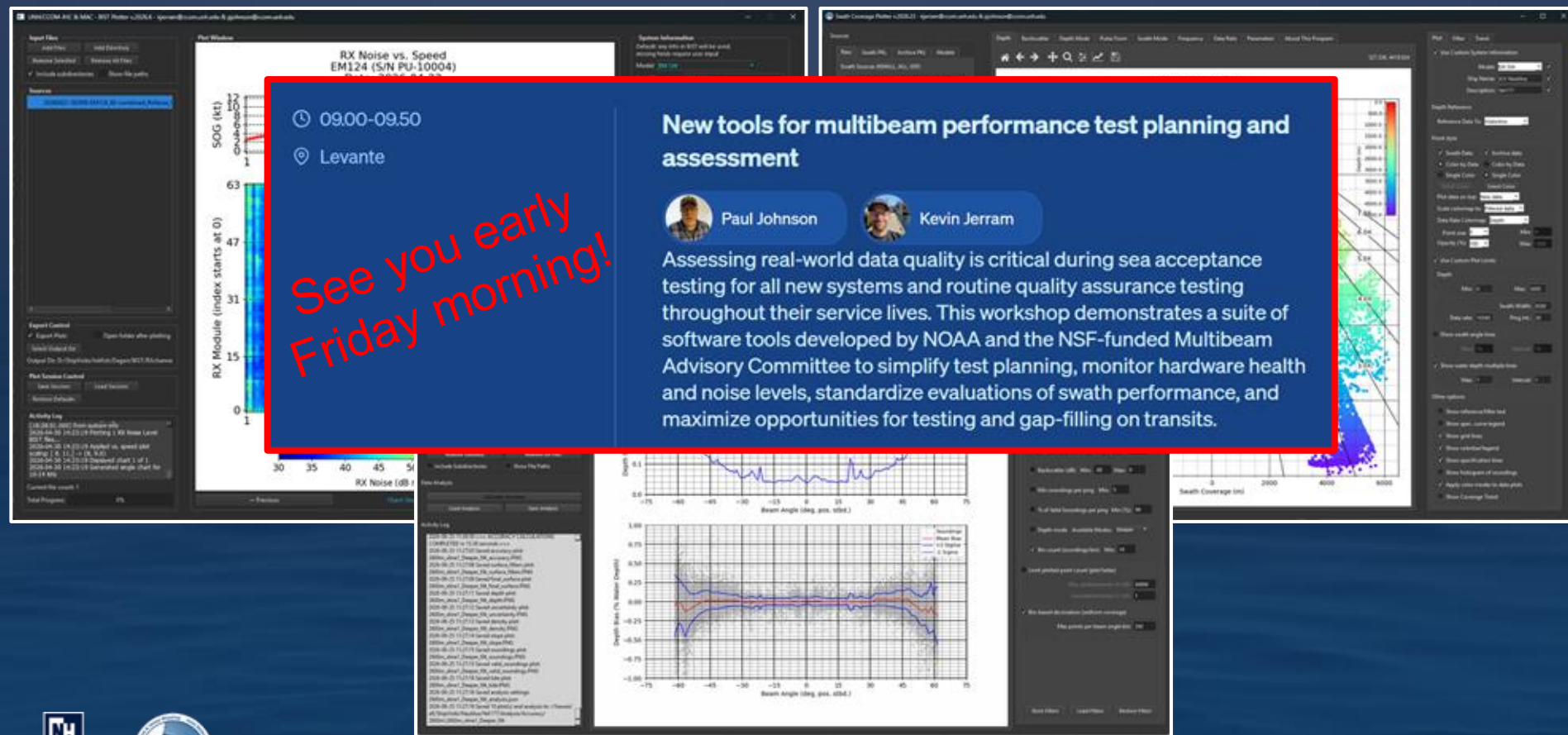
Sharing NOAA/MAC Tools: Planning



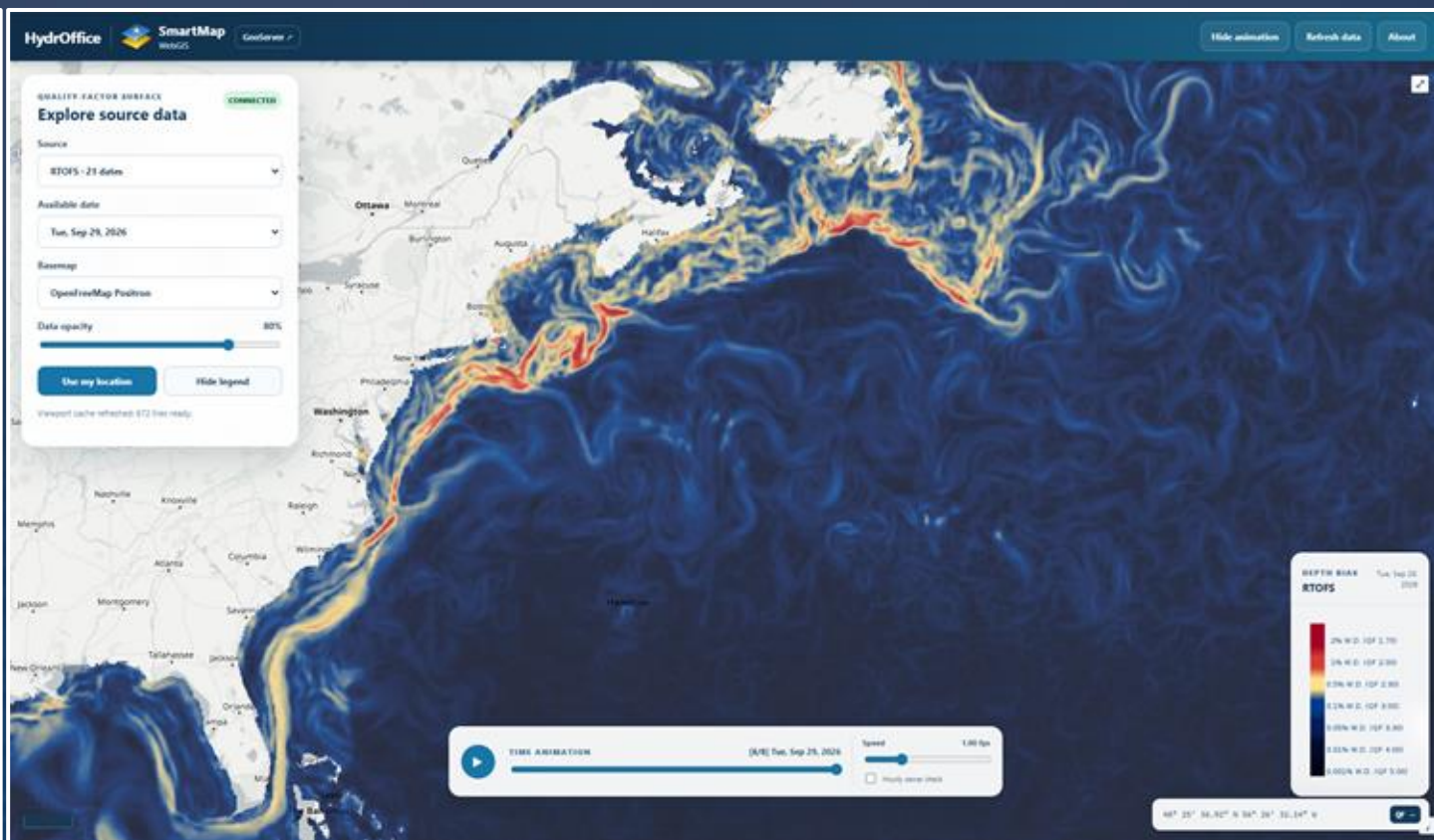
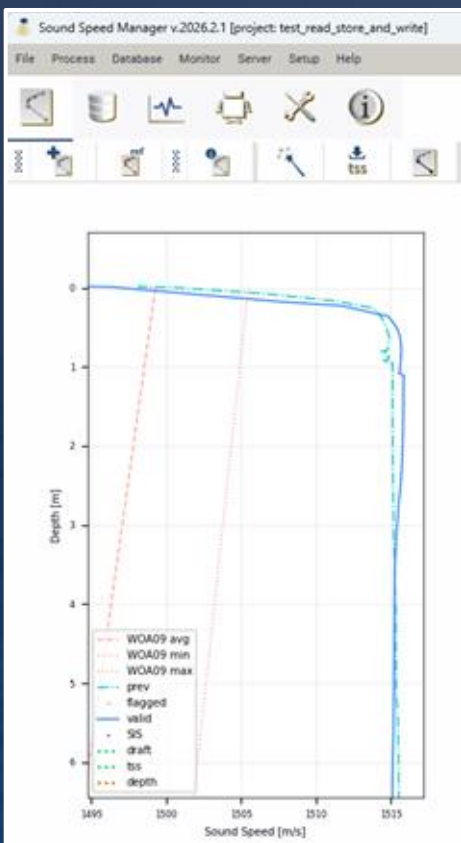
Sharing NOAA/MAC Tools: **Assessment**



Sharing NOAA/MAC Tools: Assessment



Sharing NOAA/MAC Tools: Sound Speed



Sharing Opportunities: Transit Mapping



WHY COLLECT TRANSIT BATHYMETRY DATA?

Despite decades of ocean mapping efforts, vast areas of the seafloor remain unmapped at high resolution. Ships transiting between operational areas offer a cost-effective opportunity to collect valuable bathymetric data using existing multibeam sonars. By capturing data during transits, we can significantly improve global seafloor maps and enhance scientific understanding, navigation safety, and resource management.

KEY BENEFITS

- **Enhancing Seafloor Knowledge:** Each transit fills critical gaps, improving maps used for science, navigation, and hazard assessment.
- **Cost-Effective Data Collection:** Transit mapping leverages existing infrastructure with minimal additional effort and cost.
- **Advancing Scientific Research:** High-resolution bathymetry supports studies in geology, oceanography, and ecosystem modeling.
- **Supporting Global Initiatives:** Contributes to projects like Seabed 2030, which aims to map the entire seafloor by 2030.

HOW YOU CAN HELP

- Enable data logging during transits whenever possible.
- Share collected data with public repositories to maximize impact.
- Collaborate with mapping initiatives to ensure data accessibility and usability.

EVERY TRANSIT MATTERS—HELP US BUILD A MORE COMPLETE PICTURE OF THE OCEAN FLOOR!



GEBCO Guidance for Multibeam Transit Mapping

Version 1.1 prepared by Dr. Vicki Ferrini & Jennifer Jencks
Endorsed by the GEBCO Guiding Committee May 2026



5 Enhancing the Value of Transit Mapping Through Planning

Although vessel transits are not planned surveys, even modest forethought and operational adjustments can greatly enhance the value of the data collected. By incorporating transit mapping considerations into voyage planning and shipboard practices, operators can maximize the scientific and operational return from time at sea.

5.1 Vessel

- **Route Selection:** Where possible, transit routes can be optimized to pass through areas with little or no modern bathymetric coverage. Strategic adjustments of only a few nautical miles can transform an otherwise routine passage into a meaningful contribution

From Model to Movement: Leveraging the U.S. Academic Fleet for Global Seafloor Mapping

Vicki Ferrini, Paul Johnson, Kevin Jensen, John Murnan, Madeline Young, Sheila Caceres, Tami Munkit, Frank Nitzsche, Andrew Souders

Abstract: The U.S. Academic Research Fleet demonstrates how modern research vessels, equipped with advanced sonar, can provide high-quality, open-access bathymetric data. This model improves data quality and coverage while supporting the value of observational-based individual science.

- The AMF Model: An Integrated Scientific Ecosystem**

The U.S. Academic Research Fleet (AMF) comprises 16 research vessels operated by 14 academic institutions. Shared technical expertise, data infrastructure, and open data policies allow for the rapid integration of research vessels to function as a coordinated scientific fleet.

 - **Multibeam-Archived Oceanographic (MARC)** provides high-resolution bathymetry, seafloor composition, and geospatial data.
 - **Seafloor Data Integration (SDI)** provides a centralized data pipeline.
 - **Global Bathymetric Research (GBR)** provides a global network of bathymetric data.
 - **Seafloor Data Integration (SDI)** provides a centralized data pipeline.
 - **Seafloor Data Integration (SDI)** provides a centralized data pipeline.
- End-to-End Data Pipeline**

The AMF enables high-quality data integration with a centralized data management system, providing a seamless flow from data collection to data sharing.
- MARC: Fleet-wide expertise improves data quality and system performance**

The Multibeam-Archived Oceanographic (MARC) provides a centralized data pipeline for the U.S. Academic Research Fleet, ensuring high-quality data collection, processing, and sharing.
- GBR: Fleet-wide expertise improves data quality and system performance**

The Global Bathymetric Research (GBR) provides a global network of bathymetric data, ensuring high-quality data collection, processing, and sharing.
- Seafloor Data Integration (SDI): Fleet-wide expertise improves data quality and system performance**

The Seafloor Data Integration (SDI) provides a centralized data pipeline for the U.S. Academic Research Fleet, ensuring high-quality data collection, processing, and sharing.

4. GHRT: Integration and Curation Increases Return on Investment and Broadens Access

GHRT is a distributed mapping system that integrates data from multiple sources, ensuring high-quality, open-access bathymetric data. This model improves data quality and coverage while supporting the value of observational-based individual science.

5. Openly-Available Tools and Workflows Foster Best Practices and Deliver Efficiencies

AMF vessels have developed tools and workflows that ensure high-quality data collection, processing, and sharing. These tools and workflows are openly available, ensuring that all users can benefit from the AMF's expertise.

6. Kongsberg HRES ACROSS THE AMF

The AMF's Kongsberg HRES ACROSS THE AMF provides a centralized data pipeline for the U.S. Academic Research Fleet, ensuring high-quality data collection, processing, and sharing.

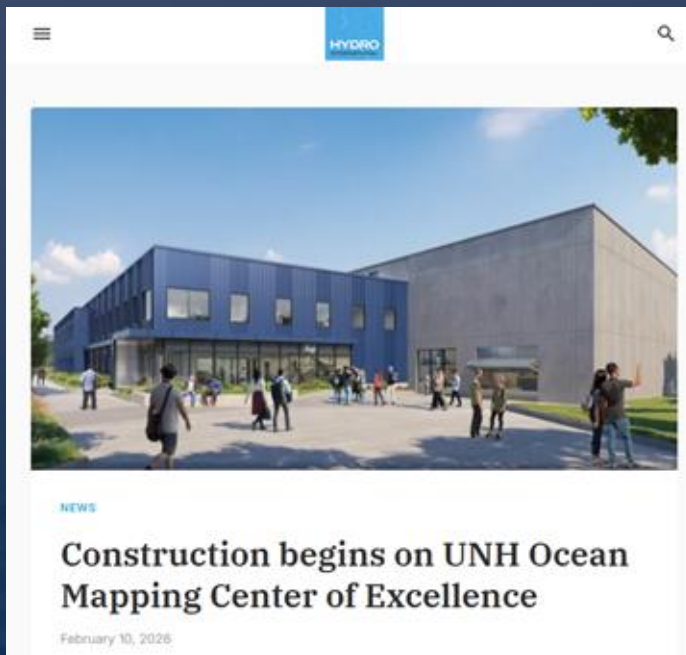
7. TRANSIT MAPPING WITH THE AMF

The AMF's transit mapping system provides a centralized data pipeline for the U.S. Academic Research Fleet, ensuring high-quality data collection, processing, and sharing.

8. CALL TO ACTION

Every transit is an opportunity to map the seafloor. Share your data, share your expertise, and share your passion for the ocean.

Sharing Opportunities: Training



MAC MULTIBEAM TRAINING (PM)

Presenters - Paul Johnson, Vicki Ferrini, Anand Hiroji, Kevin*

The Multibeam Advisory Committee (MAC) will host a half-day training session for maintaining high data quality. Topics will include data quality goals, system setup and readiness checks, underway data collection, and more. Participants are invited to submit questions and challenges for discussion during the session for open discussion.

KONGSBERG SIS 5.16 PREVIEW AND USER WORKSHOP

HALF DAY - AFTERNOON

Presenter - Colleen Peters, Product Manager, Mapping Software

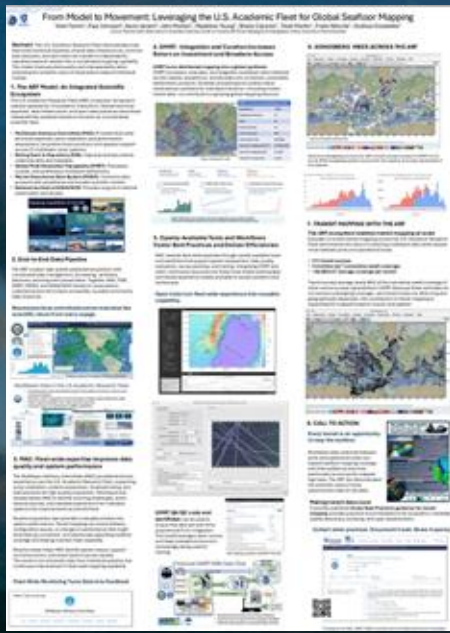
This workshop, for users of SIS 5, will provide training on the latest enhancements in SIS 5.16 and a look ahead at the future of Kongsberg's Seafloor Information System. Through demonstrations and discussion, attendees will learn how to take advantage of the latest functionality and gain a better understanding of how these changes can benefit vessel operations.

+Dimensional Control and Transit Mapping sessions



University of
New Hampshire





🕒 09.00-09.50

📍 Levante

Bring your
questions and
comments

New tools for multibeam performance test planning and assessment



Paul Johnson



Kevin Jerram

Assessing real-world data quality is critical during sea acceptance testing for all new systems and routine quality assurance testing throughout their service lives. This workshop demonstrates a suite of software tools developed by NOAA and the NSF-funded Multibeam Advisory Committee to simplify test planning, monitor hardware health and noise levels, standardize evaluations of swath performance, and maximize opportunities for testing and gap-filling on transits.

Website: mac.unols.org
 Helpdesk: mac-help@unols.org
 Wiki: oceanmapping.wiki

