

Engineering Weekly Report 1/22/2026 - 1/29/2026

<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2026/>

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Designing new mooring
 - 902106 - Niobicon-Based AUV Docking Development
 - Helped prepare mockup LRAUV
 - 902204 - Scalable Robotics
 - meeting
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Mined 2018 and 2019 DocRicketts dives at 3 second stride for species. Preparing report for Haddock.
 - 901502 - Ocean Soundscape
 - Revised realtime MARS pipeline with calibrated spectrogram and improved plots. Code walkthrough with J. Ryan to verify correct output per expected 5 second time resolution. Next steps will be feedback from collaborators. [Triton](#) server is working very well for this application.
 - Bi-weekly meeting
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Working on <https://github.com/mbari-org/UAV-issues/issues/23>. Had some issues with the vGPU reporting no available memory that others have reported. A reboot fixed this issue.
 - Shared image mosaic of a mission with collaborator T. Sananikone who is working on a [SAM-based kelp coverage tool](#). He is evaluating the performance on a mission mosaic and looking towards the [SAM3](#) model.
 - 902111 - Carbon Flux Ecology
 - [VSS](#) (Vector Search System) updates to add augmentations supporting Fernanda's work exploring ISIIS classification model workflows.
 - Overhead
 - Annual review materials and met with supervisor to review
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Team meeting
 - Explored confidence threshold on OrcAI model. A low setting (0.1) lets in a lot of false positives. The default setting of 0.5 seems about right.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Debugging output of benchmark test set from tator database, in preparation for making coco format version for inference through RF-DETR detector.

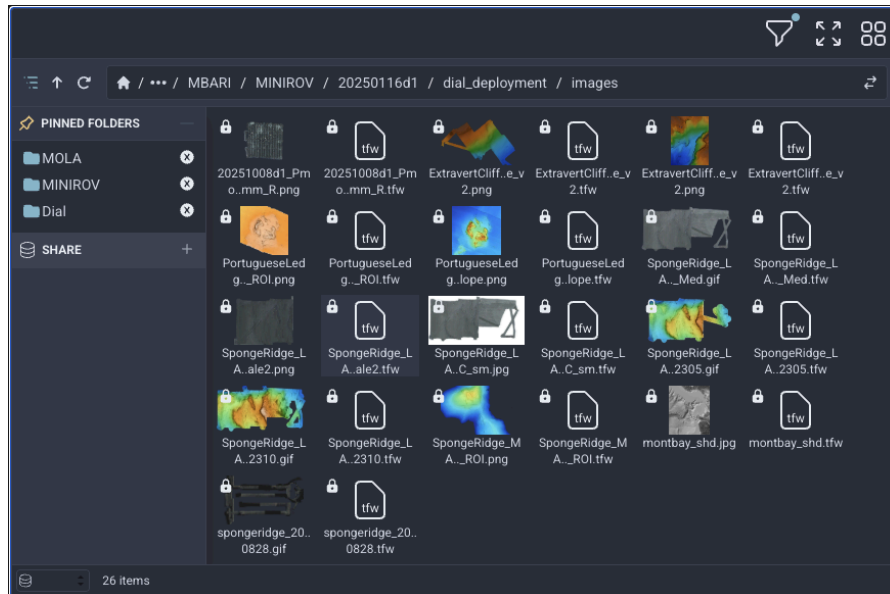
- Working on poster for OSM meeting with Tim Sananikone.
 - Team meeting.
- Overhead
 - Performance review work
- Out of Office
 - Appts AM January 28, January 29.
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Assisting with some change that broke a NMEA feed for the AUV team on the Carson
 - 300057 - Mooring Maintenance
 - Troubleshooting download issues with Karen and Jared
 - 300059 - DMO Support - RV David Packard
 - Writing support tools for Andy and Erlind to use while working on the LARS system on the Packard. They are for realtime monitoring and charting of the data coming from the ship and the LARS system (heave, roll, pitch, tether tension, motor speeds, etc.)
 - 300079 - DMO Support - RV Rachel Carson
 - AUV group used to have a NMEA feed from somewhere on the dry lab network and that has disappeared. Wasn't related to navproc that I can tell, but helping find alternatives.
 - 706008 - READi-net
 - Meeting and getting started on the Google sheet issue list
 - 902403 - Expedition DB Modern
 - Getting restarted on the data loading side of the API
 - Overhead
 - Lots of performance review stuff
 - Group meeting to kick off tech talks
- Andy Hamilton
- Kent Headley
 - 701147 - MARS O&M
 - Team meeting re system cooling, integration, deployment schedule
 - Will defer Mar deployment to address cooling issues: some redundancy in the cooling system is needed, along with additional cooling capacity.
 - Potential need for a little software to respond to temperature alarm conditions, e.g. detect failure, enable aux fans.
 - 901101 - Seafloor Mapping
 - Refactoring ROV TRN (LCM front end for TRN) continues
 - Tested basic data flow using a portuguese ledge DVL data set from a LASS cruise. Fixed a few issues in refactored plug-in and processing code. TRN performance is not good in that data, but data flow is OK after resolving a number of issues.
 - Eliminated a lot of unnecessary code from TrnClient, and did some initialization cleanup in base classes TerrainNav and TerrainNavClient.
 - 902204 - Scalable Robotics
 - Looking at possible areas of contribution, timing for 2026
 - Overhead
 - Review meetings, prep
- Rich Henthorn
 - 901221 - Midwater Time Series
 - Check into CARL comms
 - 902111 - Carbon Flux Ecology
 - Restructuring SINKER motor control software to add some new commands
 - 902305 - Event Detection Using the Sedimentation Event Sensor

- Reviewing Fluorometer data looking for event correlations
- 902401 - Geo-Sense
 - Deployment prep networking allowing Sintela access
- Overhead
 - Annual Review
- Out of Office
 - Feb 3 - Geo-Sense DAS deployment on Carson
 - March 5 - SINKER deployment on Carson
 - Apr 9 to 13 - Durkin Packard Cruise
 - May 18 to 28 - Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Meetings for lab, deepPIV and dev
 - Testing Sam3 for deepPIV image segmentation
 - Looking at using pre-available masks as prompts to segment similar organism scans
 - Go through CVision implementation
 - 902101 - LRAUV Technology Development
 - Attended bi-weekly meetings, brief discussion on terrain following using multibeam sonars
 - 902204 - Scalable Robotics
 - Attended meetings
 - Have working solution for live $\longleftrightarrow$ live loop closures + reference matching. Need to test out coordinate frame shift for matches, transforms might need a slight tweak.
 - Test system with grd conversions to databases for 3cm, 5cm and 1m res
 - Out of Office
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- Brett Hobson
- Irene Hu
 - 901101 - Seafloor Mapping
 - Discussions with Erik on how to proceed. Started looking at circuit diagrams for existing MAPR
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity:
 - Finished design for flowcell and other parts for floating anode setup, printed some mockups. Made drawings and sent to METechs to make out of acrylic
 - Made some solutions, wire harnesses, and other setup to test the alkalinity DSL in lab
 - Various tests to try to understand substrate leakage in DSL
 - Overhead
 - Performance review writeup / form
 - Out of Office
 - 1/330/26: WFH / dr appointment
- Scott Jensen
 - 901205 - ESP SURF Center
 - Supporting work for upcoming ASV deployments
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Helping set up calibration routines for the 6 new boards sets.
 - Overseeing HDS battery fabrication
 - Preparing lab set up for the arrival of the HDS battery
 - 902106 - Niobicon-Based AUV Docking Development
 - Meetings about surface to seafloor communications
 - Out of Office
 - March 23-31 (estimate)

- Brent Jones
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Keeping track of upgrades to the power can
 - 902204 - Scalable Robotics
 - Megatuna bringup
 - 902504 - Scalable Semantic Mapping
 - Unpacking the arctic
 - New arctic planning
 - 902606 - Low Altitude Survey AUV
 - Reviewing materials from Kraken batteries after NDA secured.
 - Start of Battery Trade Study
 - Meeting
 - ConOps document
 - Overhead
 - EE Group Performance Reviews
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- Thom Maughan
 - 300078 - DMO Support - AUV
 - Hyperion: parts ordering and pref for assembly by EE-Techs . PCBs and parts expected in the next day or so.
 - Hyperion: started environmental board design
 - 300083 - DMO Support - LRAUV
 - BatMan BPC2 packs integrated on Galene. One of the packs had a serial noise char. Root cause due to cable cross talk and tri-state RS232 transceiver. Worked through options and decided to enable RS232 transceivers since we are not need RS232 multidrop. Recommendations are for better cables (ground twisted with rx, ground twisted with tx), lower value pull down resistor (10K) when transceivers are tristate.
 - Started multiday discharge test
 - 901217 - Chemical Sensors
 - Finalizing MMS v2 Analog board design (new spectrometer interface). Started layout
 - Prelim MMS v2 Digital board design. Processor selection, power supply, ADC
 - 901805 - Coastal Biogeochemical Sensing Program
 - PO for Jim Davis
 - Started MoSoS v5.2 command testing on nanoFET, MFET, MpHOX.
 - 902004 - Planktivore
 - Weekly meeting
 - Working Planktivore v2 'B', aka second build
 - Overhead
 - Performance review
 - Out of Office
 - Vacation Feb 16 to 20
 - OSM Feb 19 to 23
- Mike McCann
 - 901101 - Seafloor Mapping

- Reviewing Pull Request for SMDB UI improvements
 - Meeting with capstone teams on Friday – CSUMB is going all in on teaching AI tools
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Updated Docker configuration of STOQS servers for automated SSL certificate renewal
 - Overhead
 - Performance review preparation
 - Finally starting on fixing the [elvis2 reverse proxy Issue](#)
 - Out of Office
 - 2-5 March: OGC 134th Member Meeting - remote attendance
- Enoch Nicholson
 - 706008 - READI-Net
 - Performed nitrogen leak and feature testing on FIDO
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Built flight data scraping tool for annual report generation
 - 902111 - Carbon Flux Ecology
 - SINKER deployment preparation
- Tom O'Reilly
 - Overhead
 - Completed feedback submissions
 - Keyence demo
 - Annual performance review preparation
 - Identified NWS contact for March forecasting seminar
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - January 2, 2026 - vacation
 - January 19, 2026 - January 30, 2026 - vacation
- Paul Roberts
 - 901513 - Targeted Sampling by AUVs
 - Nowrdc prep and krill detection slides
 - 901809 - Deep Sea Bioinspiration
 - Triton camera overview
 - OSM meeting prep
 - Scuba-EyeRIS build
 - 902603 - Miniature 4K Subsea Optics
 - Project coordination
 - 902606 - Low Altitude Survey AUV
 - Strobe concept design
 - Overhead
 - Nowrdc meeting
 - PW show
 - Out of Office
 - Jan 22 - Photonics West (SF)
 - Feb 21 - Feb 27: OSM 2026, Glasgow
 - Feb 28 - Mar 8: Vacation, Scotland
 - Mar 9 - Mar 13: OI 2026, London
 - April 13 - May 1: Falkor (too) Bioinspiration Lab
- Brent Roman
 - 901205 - ESP SURF Center
 - Supporting Preston, Nadia & Scott in prepper ESPkoa for Brazil

- 902101 - LRAUV Technology Development
 - Configured, tested and reviewed RUT-271 Teltonkia cellular router
- 902204 - Scalable Robotics
 - Met with Sebastian Rodriguez to learn project goals/challenges
 - Built camera driver on my workstation
 - Got the same error messages they get 😞
- 902304 - Piscivore Cam
 - Started testing new lower-power Ambarella CV28 SOC
 - Boots, but does not “see” attached camera
 - Working with George Stern to chase down likely hardware problem
- Carlos Rueda
 - 902101 - LRAUV Technology Development
 - A significant TethysL [4.9.0](#) release, with enhanced parsing of all relevant C++ LRAUV sources. This already reveals issues in a number of missions, but they are flagged as warnings instead of errors to avoid disrupting current makefiles and build scripts while the missions can be fixed.
 - Exchanges with WHOI regarding their dash configuration.
 - Saab wants to resume dash discussions; meeting tomorrow 1/29.
 - 902504 - Scalable Semantic Mapping
 - Dial UX: Completed Vuefinder based feature to navigate and interact with the file share.



- Overhead
 - Postdoc applications evaluation.
 - Annual performance review.
 - IE group mtg.
- Karen Salamy
 - Out of Office
 - On Vacation for Christmas Holidays: Mon. Dec. 22, 2025 - Fri. Jan 9, 2026. Back in the office on Jan 12th. I will be online and available to help during this time, albeit intermittently.
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Fixes for [Oni](#). [mbari-org/kb#15](#), [mbari-org/kb#16](#)
 - The server, [ione.mbari.org](#) which runs the external Deep-sea Guide, is slated for retirement (it runs CentOS). [Spun up a new VARS stack](#), [query](#), and the [in-development DSG](#) on ione's replacement, [calypso.mbari.org](#). Changes in this migration include moving the database from

the server done to rhea, updating the embargo SQL, and adding support for calypso to [vars-quickstart-mbari](#).

- Updates to [annosaurus](#), [vampire-squid](#), and [oni](#) so that they can run in read-only mode (for deployment to support the external query and Deep-sea Guide).
- Updated the [vars-cli](#) with [vars_anno_configure-jdbc](#) and [vars_expd_configure-jdbc](#) commands needed for locally storing database credentials used for some operations such as merging annotation with ship data.
- Ported [pythia](#) from java to python ([pythia-python](#)) in order to take advantage of [ultralytics](#). Pythia is a web service for running ML inference on images. [UI](#), [API](#)
- Updating the build for [vars-annotation](#) and integrating auto-generated SDKs to replace bespoke web service clients
- Overhead
 - Did a number of updates to the computer perceptron to bring it back up to date as a server for pythia.
 - Coordinating with Karen Osborn about a data management / bioinformatics session at [MidSEC](#)
- Out of Office
 - April 6 - April 24: Vacation
 - May 18 - May 22: Marine Imaging Workshop, Gibraltar
- Quinn Shemet
 - 902101 - LRAUV Technology Development
 - Battery software cleanup and testing
 - Docking homing investigation
 - Overhead
 - Review
 - Out of Office
 - Feb 17th - Feb 19th - Vacation
 - Feb 23rd - Feb 28th - OSM, Glasgow
- Alana Sherman
 - 902401 - Geo-Sense
 - Cruise prep
 - Overhead
 - Reviews
- George Stern
- Justin Tucker
 - Out of Office
 - Fridays through March 2026
- Johann Voigtlander