

Engineering Weekly Report 3/19/2026 - 3/26/2026

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Overhauled VARS Localize internals
 - Integrated SAM 3 with VARS Localize
 - 902504 - Scalable Semantic Mapping
 - Supported CoMPAS lab cruise
 - 902604 - VARS-ML Vector Database
 - Wrote real-time sync process for modified bounding boxes → embedding → vector DB
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Buoy plate design
 - 902106 - Niobicon-Based AUV Docking Development
 - Testing brushes
 - Project management
 - 902504 - Scalable Semantic Mapping
 - Designing subastian sled
 - DQ2445 - NOWRDC Uncrewed Systems
 - meetings
- Danelle Cline
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Continued evaluation/exploration of perch 2.0 - hoplite applied to MBARI soundscape recordings. I am posed to do transfer learning using some of our orca and dolphin recordings harvested from earlier model investigation.
 - Team meeting
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Team meeting
 - Overhead
 - Group meeting.
 - Intern 2026 evaluation and selection. Scheduling teleconference interviews with top 3 candidates.
 - Out of Office
 - Medical Thurs March 19 2026
- Kevin Gomes
- Andy Hamilton
- Kent Headley

- 300078 - DMO Support - AUV
 - Tested refactoring of layered control macro code, and sent a write up and new scripts to DMO for testing at sea.
- 902204 - Scalable Robotics
 - Learning mb-system tools (e.g. editing) to understand sonar data pipeline into mapping.
 - Profiling two implementations of an LCM log merge tool to compare memory and CPU use
- Overhead
 - Strategic planning meeting
 - Misc admin
- Rich Henthorn
 - Out of Office
 - March 23 to 24 - WFH
 - March 25 to 28 - Vacation
 - Apr 9 to 13 - Durkin Packard Cruise
 - May 18 to 28 - Vacation
 - June 29 to July 6 - Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Meeting with Brian from CVision to go over final changes as this stage of collaboration ends
 - 902101 - LRAUV Technology Development
 - LRAUV group meetings + meetings with Brett to go over Imagenx sonar data and documentation, discussion on how the module might work
 - Go through LRAUV app and understand how missions and behaviours work
 - Finished setting up basic simulation with dvl and profiling sonar, will be useful to test algorithms before integrating with LRAUV-app
 - Prepare setting up nvidia orin nano as backseat computer to test with
 - 902204 - Scalable Robotics
 - Test packard cruise data with sonar based navigation stack, figure out which surveys are actually relevant first, and run the system
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity
 - Various tests with floating anode. Generated rough graph of titration time vs distance or current, data is messy. System seems to be titrating itself after titration ends. Experiments with better flushing or reversing current (firmware change). Latest results point to flushing as the main issue
 - Weird precipitate shows up on anode, investigating
 - Probed TA-alk Lionix chips using fuzz button jig. Inconsistent and confusing results. Compiled data into a ppt so Yui can email Lionix.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Planned out spacing for chassis rewiring, ordered and printed some parts
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Weekly meetings; prepping for deployment in April
- Scott Jensen
 - Out of Office
 - March 23-April 2
 - May 11-24 (vacation)

- June 29-July 7 (vacation)
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- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Characterizing new power supplies for Viper radios at Mt Toro.
 - Building 1U power supply setup for Vipers
 - 902004 - Planktivore
 - Recovered Ahi and downloaded data
 - Created and testing automated data download and mission prep script
 - 902111 - Carbon Flux Ecology
 - Prepping Benthos modem for upcoming cruise
- Chad Keycy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - Supporting Triton deployment this week. On call, did checkout, deployed.
 - 902101 - LRAUV Technology Development
 - Lots of TRN this week. Debugging issue with ingest of solution.
 - DQ2445 - NOWRDC Uncrewed Systems
 - Workshop prep meeting and attending workshop today/tomorrow
 - Overhead
 - Lots of help for WHOI and Stella. Stella remains on the bottom of Lake Erie in 22m of water.
 - Out of Office
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- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Helping coordinate sled fit test on the Packard
 - LASS rebuild and testing has begun
 - Firmware inplace test for the tcu controller
 - Kraken will be connecting to troubleshoot issues on the lidar.
 - Met with Vetana pilots for replumbing of swing arms for safety.
 - 902504 - Scalable Semantic Mapping
 - Last week on the RV Packard was a very successful cruise, and so many thanks to all who contributed.
 - There were some issues developing over dives with fiber loss. It could be temperature issues in the SFPs
 - Reviewing the designs for the Subastian plate for the cruise to the amazon in May.
 - 902606 - Low Altitude Survey AUV
 - On a break as I'm between projects
 - Met with Paul Roberts to decide on follow up actions from his Oceanology trip.
 - Trying to engage some contractor services
 - Overhead
 - Participated in the big ideas workshop.
- Thom Maughan
 - 300078 - DMO Support - AUV
 - Parts kit, BOM and centroid for EE Tech partial stuff of power supply board to enable Erik's development

- Finished updating next rev of power supply design, layout is complete, preparing fab and assembly package for JLCPCB
- 300083 - DMO Support - LRAUV
 - Working with Jim M on wiring modifications for Galene.
- 901217 - Chemical Sensors
 - Proof of concept prototype using an STM32u585 processor gpio to replace the fpga in the spectrometer interface boards.
 - Schematic design of improved mms2 analog board
- 901805 - Coastal Biogeochemical Sensing Program
 - MoSoS v5.2 serial command testing on nanoFET
- 902004 - Planktivore
 - Weekly meeting, coordinating with Denis
 - Working on options for project proposal
- Out of Office
 - A week vacation in second half of April (TBD)
 - Ten days mid-June (dates tbd) for Norway Planktivore collaboration with Tidal and imaging workshop in Sweden.
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Stood up a duplicate docker stack on dods-internal2 to provide load balancing for nginx
 - Working on [translating DStoNetCDF.pl to Python](#) in mooring-ssds
 - 901101 - Seafloor Mapping
 - [smdb.shore.mbari.org](#) OS Upgrade to Ubuntu 24 scheduled for Thursday morning
 - Advising capstone students – they’re doing good work figuring out mbmesh and 3D Tiles
 - 901221 - Midwater Time Series
 - Talked to Rob about ROVCTD oxygen calibration in comparison to i2map O2 data
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Helped Marguerite by [generating ODV-formatted Sipper data](#) for LRAUV daphne
 - Overhead
 - Moved the [expd_mapping repo to GitHub](#) from BitBucket & set up auto-renewing certs
 - Worked with Peter on upgrading the OSs for [emdb](#) and [stogs](#) to Ubuntu 24
 - Out of Office
 - 19 April: Serving as a judge for a CSUMB hackathon
 - 19 June - 10 July: Vacation
 - 18-24 July: SIGGRAPH in LA
- Enoch Nicholson
 - Out of Office
 - Sick
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - January 2, 2026 - vacation
 - January 19, 2026 - January 30, 2026 - vacation
 - March 4-5, 2026 - vacation
 - March 16, 2026 - vacation
 - March 30, 2026 - vacation
- Paul Roberts
 - 901513 - Targeted Sampling by AUVs
 - Triton 52 deployment

- 901809 - Deep Sea Bioinspiration
 - Triton 52 deployment
- 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR chassis rewire support
- 902004 - Planktivore
 - Collab with TidalX planning
- 902111 - Carbon Flux Ecology
 - SINKER recovery and support
- Out of Office
 - June 13 - June 20, 2026 MidSEC, Sweeden
- Brent Roman
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Internship applications review; scheduling interviews.
 - LLM related literature review
 - Group meeting
 - 902101 - LRAUV Technology Development
 - AI prototyping ([LRAUV operations assistant using RAG](#)), and discussion ([slides](#)) with Quinn S. and Kevin G. Next steps include reconnecting with AWS GenAI folks toward a POC.
 - SE interviews
 - 902504 - Scalable Semantic Mapping
 - Dial use in recent expeditions:
 - “Dial was fundamental for planning and launching missions”
 - Real-time detections successfully exercised
 - Per some meetings/discussions, added various Dial tasks in Notion.
 - Overhead
 - IE group meeting / brown bag
 - Out of Office
 - April 1-2: Drs. appt, plus vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Working with Rob S. to get updated CTD coefficients for the O2 flag for the EXPD.
 - 300057 - Mooring Maintenance
 - Still chasing some M1 Viper issues for downloads with Brett H.
 - 901101 - Seafloor Mapping
 - Finished testing and fixes of updated SMDB Dash code on smdb-dev and awaiting Mike M.’s review and hopeful push to production....
 - 902101 - LRAUV Technology Development
 - Was PIC for several recent LRAUV missions
 - Planning to attend the next MBARI/SAAB discussion for SAAB’s development of LRAUVs
 - Continuing to work on the dash5 issues and updates. I have several fixes that have gone through review on dash5 on my local system and are awaiting review by Jim Jeffers and hopefully pushes to first dash5-staging and then dash5 for official rollout.
 - 902111 - Carbon Flux Ecology
 - Worked on various features and bug fixes for the SINKER Dash
 - Out of Office
 - OOO Friday-Tuesday of last/this week. Returned to office today.
 - Vacation: Mar 20 - 24, 2026.

- On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - New release of [VARS Annotation](#) to address some JavaFX version bugs.
 - A number of quality-of-life improvements to the in-development DSG <https://gehenna.shore.mbari.org/dsg>. Also support for on-demand depth and time histograms: <https://gehenna.shore.mbari.org/dsg/#/plots/concept/Pandalus%20platyceros/Monterey%20Bay%20Region>
 - Added an event bus to VARS to publish CRUD notifications to [nats](#).
 - 902111 - Carbon Flux Ecology
 - All Station M deployments have been migrated from the old vars system into the current one.
 - 902403 - Expedition DB Modern
 - Added data migrations between the existing database and the new design for ROV CTD config related tables, video assets and Waypoints. <https://github.com/mbari-org/expd-support>
 - Refactoring design to allow external files (web hosted) to be attached to expeditions, dives, people and devices. Also refactoring waypoints into points-of-interest that can be associated with dives or expeditions. <https://github.com/mbari-org/expd-rest-api>
 - Added support for publishing notifications for creating/update/delete objects to Nats for notification support.
 - Overhead
 - Some support for both DARC and OSU's VARS installations
 - Out of Office
 - April 6 - April 24: Vacation
 - Jun 13 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
- Quinn Shemet
 - 300062 - DMO Support - Doc Ricketts
 - Followup presets discussion with Drew
 - 902101 - LRAUV Technology Development
 - Waterlinked test data analysis
 - Docking tank testing
 - AI prototyping and meeting with Carlos and Kevin
 - DQ2445 - NOWRDC Uncrewed Systems
 - Workshop
 - Overhead
 - Interviews and hiring meetings
- Alana Sherman
- George Stern
 - 300078 - DMO Support - AUV
 - Test plan for pressure testing
 - Initial discussions with stake holders to get pressure test scheduled/started
 - 902106 - Niobicon-Based AUV Docking Development
 - Lots of tank testing and subsea bottle mods to fix all possible problem causes for bottom topside plc coms failures. Testing indicates the modems achieve 24Mbps/s and the bottom side is limiting speed; still poking at the nice to have increased speeds but have been unable to reproduce dead coms encountered during last years deployments.
 - Networking troubleshooting on Pontus backseat
 - 902304 - Piscivore Cam

- Last minute alternative options research/final preparations for a last time buy from oclea
- Justin Tucker
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Battery endcap design
 - 902004 - Planktivore
 - CFD batch run configuration on DeepRip2 for ANSYS and OpenFoam
 - 902204 - Scalable Robotics
 - VN100 housing design
 - 902606 - Low Altitude Survey AUV
 - Continued work on energy usage simulation and thruster positioning
 - Out of Office
 - OOO 3/27-4/3
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Assisted in Arctic trip packing
 - 902208 - Mini ROV Operations
 - Got a quote for Sonardyne battery replacement
 - Purchased bulkheads for the new heading sensor housing
 - Camera calibration for GT's sled
 - Removed GT's sensors afterwards for his next deployment
 - 902312 - Seafloor Processes
 - Working on project update presentation