

Engineering Weekly Report 7/2/2026 - 7/9/2026

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

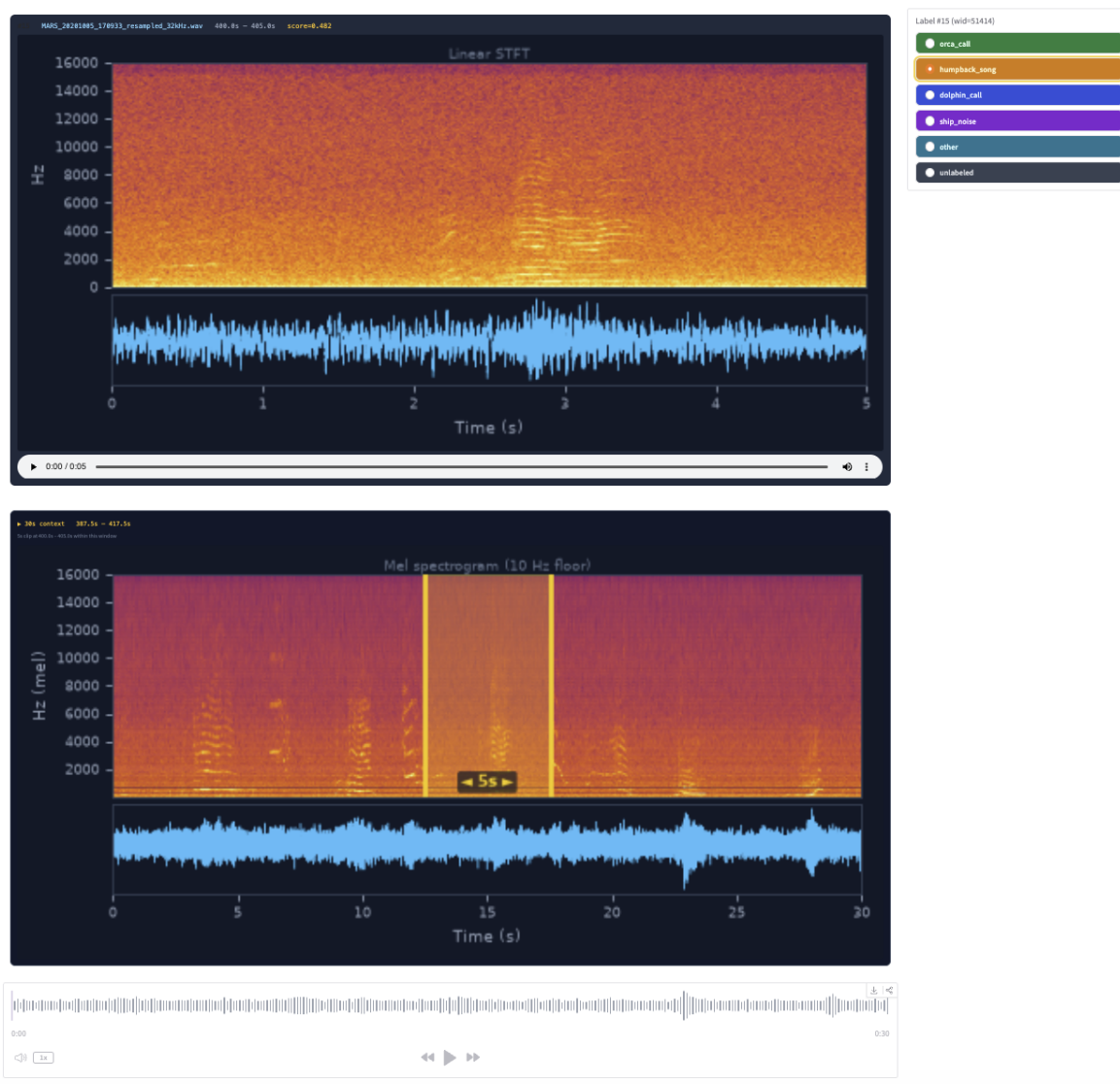
Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Working remotely May 11, 2026 – May 14, 2026
 - MIW May 18, 2026 – May 22, 2026
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Francois Cazenave
- Laura Chrobak
 - Out of Office
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Running VSS (Vector Search System) on planktivore low-mag to search for next stage Velella conaria with augmented examples. So far, none have been found but we have a lot of data to look through.
 - Improved memory management of REDIS to reduce storage overhead
 - 901221 - Midwater Time Series
 - Loading i2MAP images from AWS Glacier to Qumulo S3 by depth in preparation for mining deeper depths using Voxel51 to quickly edit
 - 901502 - Ocean Soundscape
 - STM model sweeps with panacetacea dataset
 - All three soundscape submissions for Oceans were accepted. Many thanks to Carlos, Duane, and John for their good work on this.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Helping intern Sara with aidata download and workflow design
 - 902111 - Carbon Flux Ecology
 - SINKER rsync migration completed; issues with file locking and backlog seem to be resolved
 - Advanced Jupyter notebook tutorials with download functionality; Fiftyone sync updates to add better dataset creation per users
 - Running VSS on planktivore low-mag to search for rare taxa
 - Issues with zmq-aggregator failures need further work. Thanks to Karen for her help with this.
 - Out of Office
 - September 21-24 Oceans Conference, Monterey
 - Vacation July 8th-13th
- Duane Edgington
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach

- Sara Williams continues to make great strides in training models and running inference. Meetings and sharing of code. Set up so she can run on NVIDIA DGX Spark if she needs to for long training runs.
- 901502 - Ocean Soundscape
 - Great progress in perch2 model and perch-hoplite framework project. Over the 4th holiday I ported perch2 from tensorflow to pure pytorch so I could run native (and fast) on my NVIDIA DGX Spark systems. Great joy. Hard tedious work, but very successful. I hope to present at the Pytorch conference as a poster in October.
 - Using “my” perch2 model and perch-hoplite agile modeling system (also ported to pure pytorch and python, no tensorflow), harvesting 5 second annotations of different sound sources, hunting for orcas. Getting great separation of different sounds within the perch2 embeddings
 - Enhanced Gradio audio custom annotation tool to show a 30 second context window for each 5 second audio clip to be annotated, which is critical in annotating humpback calls (which go on and on) where a 5 second clip is easily confused with other species. Motivated by John’s comments while using my Gradio tool to annotate humpbacks (which I did not recognize, then).



- Out of Office
 - September 8-13 ECCV conference. Present UAVS Yolo26/RFDETR model comparison.
 - September 21-24 IEEE Oceans Conference, Monterey. Present Perch-hoplite poster.
 - October 19-24 Pytorch Conference, San Jose. Present Perch2.0 port to pytorch poster.

- Kevin Gomes
 - Out of Office
 - Jun 29 - Jul 1 : Vacation
 - Aug 25-27: Monterey Data Conference
 - Sep 21-24: Oceans conference
- Andy Hamilton
- Kent Headley
 - 902204 - Scalable Robotics
 - Some testing of Cerulean sonar driver, and trying to understand
 - Overhead
 - proposal review
 - ocean soundscape demo setup w/ new computer (for Jennifer Gray visit)
 - misc admin
 - Out of Office
 - Sep 21-24: Oceans conference
- Rich Henthorn
 - 300078 - DMO Support - AUV
 - i2MAP control
 - Overhead
 - Open enrollment
 - Out of Office
 - June 29 to July 6 - Vacation
 - July 14 to 25 - Caress LASS cruise
 - August 10 to 13 - Vacation
 - August 31 to Sept 3 - Vacation
 - Sept 14 to 18 - Durkin Cruise
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Continue supporting triton deployments
 - Implement new syslog capabilities to understand vehicle behavior during dives.
 - 902101 - LRAUV Technology Development
 - Setup lrauv gz sim
 - Setup plugin for fls multibeam in sim
 - Test mission parameters for pitch and depth commands in sim
 - Wrote terrain avoidance module to interface over lcm and slate
 - Testing
 - 902204 - Scalable Robotics
 - Finished degeneracy aware SBN pipeline implementation.
 - Empirically found that Portuguese ledge surveys are a poor choice to test SBN, and may never be a good location for it to work at LASS survey altitudes.
 - Testing in Sponge Ridge datasets
 - Implementing new bounded terrain correlated correction, should help provide a coarse estimate as vehicle moves over larger distances.
 - Out of Office
 - PFL/Vacation: Jul 13, 2026 - Jul 17, 2026
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Wastewater ISUS opening meeting
 - Evaluated some LED and lens options for wastewater ISUS prototyping

- 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity
 1. After experimenting with built-up TApHl 002, was able to get some repeatable titrations with two inflection points. Need to use higher current (~50 uA) and flushing with a pump in the big tub seems to work better than stirring in a beaker.
 2. Alk setup suddenly stopped working; current was railed and stuck on. Behavior matches open circuit anode, and visual inspection shows that the Pt anode deposited on isfet seems to be coming off (similar to observed before). Circuit latching is a separate issue not previously observed before, and after some troubleshooting and help from Claude, the best hypothesis is that railing the op amp inputs from the open circuit load has damaged the op amp. New part selected and ordered.
 - Nanofet
 1. Continuing power draw tests for bias battery disabling circuit
- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Helped Tom with a flight
- Out of Office
 - July 8: WFH
- Scott Jensen
 - Out of Office
 - June 26-July 7 (vacation)
 - July 15 - 21 (vacation)
- Brent Jones
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - Supporting Ahi/Triton/Pontus deployments
 - 902101 - LRAUV Technology Development
 - TRN is now working in sim! Time to head offshore with it.
 - 902106 - Niobicon-Based AUV Docking Development
 - Re-assembled, tested, and deployed mock dock for testing with Pontus this week. Will survey in with WG Tiny next week.
 - DQ2445 - NOWRDC Uncrewed Systems
 - Charged time per Chris' direction.
 - Overhead
 - Supporting WHOI deployments. Fixed elevator issue and dropweight sensor issue on Pyxis over weekend. Along track DMG puts it nearly halfway home from Bermuda
 - Supported redeployment of Polaris for scallop surveys. Both Stella/Polaris both had successful runs down south on the shelf.
 - Out of Office
 - 07/17-07/22 (GMT -4)
 - 07/26-08/07 (GMT +9)
 - 08/26-08/28 (GMT -4)
 - 08/29-09/02 (GMT -5)
- Denis Klimov
- Eric Martin
- Thom Maughan

- Out of Office
 - Fifteen days June 12 - 29 for Norway Planktivore collaboration with Tidal and imaging workshop in Sweden.
 - Two week vacation July 6 to July 17, Colorado
- Mike McCann
 - Out of Office
 - 19 June - 10 July: Vacation
 - 18-24 July: SIGGRAPH in LA
 - 21-24 September: Oceans Conference
- Enoch Nicholson
 - 706008 - READI-Net
 - FIDO packing for the Newport deployment
 - Supporting intern project
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Open house prep
 - Overhead
 - Developed presentation for Highschool Robotics Camp
 - Out of Office
 - June 26 to July 6th
- Tom O'Reilly
- Mike Risi
 - 300070 - DMO Support - Ventana
 - Working on VISCA pan and tilt driver for Ventana Accupositioner
 - 901101 - Seafloor Mapping
 - Testing timer server event time stamps on TCU.
 - Working on LASS MOB tasks for July 14th expedition
 - 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
 - May 18, 2026 - vacation
 - June 22, 2026 - vacation
 - June 29, 2026 - July 1, 2026 - vacation
- Paul Roberts
 - 901513 - Targeted Sampling by AUVs
 - Triton58 LRAUV deployment
 - 901809 - Deep Sea Bioinspiration
 - Triton58 LRAUV deployment
 - 902004 - Planktivore
 - Tidal data review
 - Preparation for Barry lab DP cruise
 - 902111 - Carbon Flux Ecology
 - SINKER data processing
 - SINKER data management
 - 902603 - Miniature 4K Subsea Optics
 - Initiating PO with Gemini
 - 902606 - Low Altitude Survey AUV

- Voyis camera testing
- Out of Office
 - June 13 - June 20, 2026 MidSEC, Sweeden
- Brent Roman
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Intern mentoring, discussions, etc.
 - 902101 - LRAUV Technology Development
 - [TethysDash](#) / [Dash4](#): Implemented new *verification code step* when adding/editing recipient (phone number or email address) for event notifications. (The verification code is for now not forced by the backend while dash5 can also incorporate the step.)
 - TethysDash modernization: Started using Jdbi/Flyway as database access mechanism.
 - Updating [documentation](#) of the MBARI TethysDash system.
 - TethysDash Intro meeting with Emme.
 - Overhead
 - Upon notice from IOOS about an unresolvable vocabulary, restored the services behind <https://mmisw.org/ont/>. (BTW, some discussions are going on about the future sustainability of these ORR instances, including [ESIP COR.](#))
 - Out of Office
 - July 13-14: medical leave
 - Sept 8-11: vacation
 - Sept 21-24 (1-2 days) IEEE Oceans Conference.
 - Nov 11-12: vacation
 - Dec 9-10: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly maintenance and download checks.
 - Working on the new OA1 Mooring turn - potentially occurring at the end of the month.
 - 902101 - LRAUV Technology Development
 - Dash5 Features
 1. Added GPS surfacing position dots and sticky track tooltip to vehicle map track (Dash4 parity) — Issue #744, PR #745
 2. Updated Overview page vehicle widget to match full vehicle page (schedule indicator, payload info) — Issue #732, PR #743
 3. Added Watch Bill link to the user account dropdown menu for quick access — Issue #753, PR #754
 4. Made ship/TrackDB current position markers larger and more prominent on the map — Issue #755, PR #756
 5. Added quick-pick confirmation step for deployment start date to prevent accidental future dates from hiding vehicles on the map — Issue #757, PR #759
 - Dash5 Bug Fixes
 1. Fixed back button in mission wizard reverting to Parameters Summary step — Issue #723, PR #739
 2. Fixed logset tooltip being clipped in narrow science data sidebar — Issue #718, PR #738
 3. Fixed Ctrl+C/V clipboard state corruption in the document editor — Issue #740, PR #742
 4. Fixed Ctrl+C on map clobbering selected text in input fields and editable areas — Issue #751, PR #752

- 5. Fixed Schedule tab displaying pending missions in wrong order and hiding a second queued instance of the same mission — Issues #760, #762, PR #761
 - 6. Fixed depth chart zoom resetting immediately when moving the mouse after zooming in — Issue #763, PR #764
 - Dash5 Testing/Maintenance
 - 1. Fixed 3 pre-existing failing tests in the Irauv-dash2 test suite — Issue #750
 - 2. Added missing test coverage for v5.2.9 features — Issue #748
 - Dash5 Deployments
 - 1. Tagged v5.2.12 and v5.2.13 for staging deployment (dash5-staging.mbari.org)
- 902111 - Carbon Flux Ecology
 - Met with SINKER Team yesterday to go over various requests for the SINKER Dash from the team.
 - SINKER Dash Bug Fixes / Improvements
 - 1. Improved Dash Health UI clarity and added SedFlux dual-instrument instrument cards — v1.0.32
 - 2. Fixed logs 404 error and cleaned up console output — v1.0.32
 - 3. Added null guards for sumDurations and calculateBaseTime to prevent duration crashes — v1.0.31
 - 4. Silenced noisy debug/warn logging in InstrumentsTab and useADCPSSSE — v1.0.30
 - 5. Network health monitoring, toolbar widgets, camera controls, and API hardening — v1.0.29
 - SINKER Dash Deployments
 - 1. Tagged and deployed v1.0.32
- Out of Office
 - July 21-24, 2026 - Vacation
 - March 22-24, 2027 - Vacation
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Addressed [issues when localizing annotations using VARS Annotation and Sharktopoda](#).
 - New releases:
 - 1. <https://github.com/mbari-org/vars-annotation/releases/tag/2.4.1>
 - 2. <https://github.com/mbari-org/vcr4j/releases/tag/5.3.6> ([maven central](#))
 - 3. <https://github.com/mbari-org/commons> ([Java maven central](#), [Scala maven central](#))
 - Added [symmetric encryption to Raziel](#) to support storage of shared login credentials locally. A user supplies credentials to Raziel, and if valid, Raziel returns an encrypted file that can be saved locally and submitted as login credentials by other apps. Deployed to [gehenna](#) and [m3](#).
 - 902403 - Expedition DB Modern
 - Updated [code that migrates the existing database to the new design](#) to match changes in the database schema.
 - Investigating the use of SQL Server's [columnstore indexes](#) for the data tables that hold many 10s of millions of records (e.g. CTD, Navigation, etc). Running load tests against <https://github.com/mbari-org/expd-rest-api>. (Access to data will be [here](#))
 - Out of Office
 - Jul 13 - 17: Vacation
 - Jul 27 - Aug 6: Vacation
- Quinn Shemet

- Out of Office
 - June 25: Remote
 - Jun 26 - Jul 5: Vacation
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Prepping Mega,
 - 902600 - Davidson Seamount Hot Spot
 - Camera prep
 1. Replaced SOLO with newer camera and seems to be working
 2. Troubleshooting dualie
 - Overhead
 - Proposal review
- George Stern
 - 300070 - DMO Support - Ventana
 - Still waiting on DSPL to accept my pressure testing request so testing can begin
 - 902106 - Niobicon-Based AUV Docking Development
 - Tested solar buoy subsea can
 - 902204 - Scalable Robotics
 - Finished assembly/installation and testing of a prototype esc controller for mola which translates uart commands into dshot150 pulse streams
 - Continued working with Brent on OakD500m improvements
 - 902304 - Piscivore Cam
 - More lens testing - identified another lens to try with the other gen 4 enhancements
 - Tried to test the new IMX662 camera to discover metric fastener fit classes are far too complicated, framos's holders are cheap and I should have purchased holders with the lenses
 - Began working on lighting architecture
- Justin Tucker
- Johann Voigtlander
 - 902208 - Mini ROV Operations
 - Installed and tested VOYIS camera on the MiniROV.
 - Fixed clump cam flickering - was a faulty SDI bulkhead
 - Made some major improvements to the new joystick console
 1. Can now stream video on the network
 2. Has overlay for scientists/pilots/winch operator
 - 902312 - Seafloor Processes
 - Finalizing CSEM logistics in Italy.
 - 902504 - Scalable Semantic Mapping
 - Reinstalled the camera on the BlueBoat
 - Assisted Kent in turning the Cerulean sonar on for bench testing and to figure out how the new driver will work.
 - Tried to organize a blueboat Paragon deployment. Paragon was booked out.
- Emme Wiederhold