

Engineering Weekly Report 6/4/2026 - 6/11/2026

<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
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - PTO preparations
 - 902106 - Niobicon-Based AUV Docking Development
 - New solar panels
 - Plans for 2027 and proposal
 - Pontus brushes upgrade and Triton.
- Laura Chrobak
 - Out of Office
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Danelle Cline
 - 901502 - Ocean Soundscape
 - Labeling single segmented sound file for optimized STM hyperparameter sweeps. Perch2 model + Voxel51 + Raven Annotation proving useful for this task. ARI with a simple tonal benchmark reached 0.8 confirms the sweeps are good.
 - Discussion with our new summer intern, Arie Raizmanl, Master CS student of UCSC on STM approach, hop-lite, and our overall goals.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Onboarding Sarah with [AI/UAV](#) documentation and tools. Setup account on drone for downloading annotation data, setup Slack channel, weekly meetings, and added to github repos for documentation. She is off to a great start!
 - Visual observer for NewBrighton deployment
 - 902111 - Carbon Flux Ecology
 - Migrating syncing to a new service account
 - 200K plankton images stratified samples across depth/time were clustered and loaded for the team to annotate
 - Overhead
 - AIDevSummit conference, San Francisco. Some follow-up with vendors.
 - Out of Office
 - September 21-24 Oceans Conference, Monterey
- Duane Edgington

- 901502 - Ocean Soundscape
 - Great progress and success doing agile modeling on Google perch2 model using perch-hoplite vector database system. Labeled ~200 examples of orca/not orca (roughly 50/50), trained 2 linear classifier models against embeddings from one day of data, and inference one day, with some 220 detects. Will screen detects in RavenPro to assess accuracy.
 - Next steps – get embeddings from a month of data, expand the training set, and inference over multiple days.
- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Welcome summer intern Sarah Williams, graduate of Harvey Mudd College, soon to matriculate as Masters CS student University of Chicago.
 - Sarah is working on training a new version of RF-DETR detector (updated by Roboflow team) and training/comparing with Yolo26. Great progress already. She is working in CoLab and on her MacBookPro M1 from IS.
- Overhead
 - Budget and proposal work
- Out of Office
 - June 10 Medical appointment
 - June 15, 17. 19 Medical Appointment
 - September 21-24 IEEE Oceans Conference Monterey
- 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
 - Out of Office
 - n/a
- Rich Henthorn
 - Out of Office
 - June 10 - Carson
 - June 29 to July 6 - Vacation
 - July 16 to 24 - Caress LASS cruise
 - August 10 - 13 - Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Setup pipeline to convert Triton lcmlogs to hevc using gpu encoding. Might have to think about on device/share conversion as it copies files over network and back to convert which is the main bottleneck.
 - Prepare for next weeks deployment, get new detection/backseat module tested and installed on Triton backseat.
 - 902101 - LRAUV Technology Development
 - Meetings
 - Overhead
 - OCEANS reviews.
- Brett Hobson
- Irene Hu
 - 901101 - Seafloor Mapping
 - Review of first layout of ORP board

- 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Coral hugger deployment went well, imaged many corals. Ground fault is back
 - Working on code to interface with camera directly instead of using Vimba Viewer
- Out of Office
 - May be periodically out of office due to back pain
- Scott Jensen
 - Out of Office
 - June 26-July 7 (vacation)
 - July 15 - 21 (vacation)
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Testing claude's ability to code for the PIC32. Trying to wedge in an SD card
 - 901502 - Ocean Soundscape
 - WW prep
 - WW telemetry package not communicating with inductive modem. Diagnosing
 - 901805 - Coastal Biogeochemical Sensing Program
 - Diagnosing RS232 comms issue with new nanoFETv2
 - Stuffed and bringing up another nanoFETv2 elux package
- Chad Key
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300078 - DMO Support - AUV
 - Reviewing hyperion proposal. Labor gaps to fill.
 - 300082 - DMO Support - Wave Glider
 - Piloted last weekend
 - 300083 - DMO Support - LRAUV
 - Lots of support for the Makai deployment. 3 other LRAUVs also out.
 - Need to fix a handful of things on Makai
 - 902101 - LRAUV Technology Development
 - Opah deployment. Looking into GF issues with DAT
 - Investigating mockdock modem failure
 - Lots of work calculating CB/CG on hovering vehicle Tethys
 - 902304 - Piscivore Cam
 - Went over design ideas for new G4 camera system
 - 902607 - Autonomous Surface Vessel Replacement
 - Met with team to discuss proposal
 - Met with end user to hear about Lightfish
 - Overhead
 - TRN debugging
 - Proposal planning
 - Scrubbed Makai logs for Erie
 - Out of Office
 - 07/01 (GMT -7)
 - 07/17-07/22 (GMT -4)
 - 07/26-08/07 (GMT +9)
 - 08/26-08/28 (GMT -4)
- Denis Klimov
- Eric Martin

- Thom Maughan
 - 300078 - DMO Support - AUV
 - Hyperion Power supply assembly
 - Review / feedback on designs
 - Proposal review
 - 300083 - DMO Support - LRAUV
 - BPC2 battery packs are ready to go in Galene, awaiting ASO closeout
 - 901217 - Chemical Sensors
 - Worked with Josh on failed deuterium lamp analysis.
 - MoSoS v5.2 for MSC3
 - 901805 - Coastal Biogeochemical Sensing Program
 - Released MoSoS v5.2 for NanoFET, working with Jess on test
 - Working with Jim Davis for NAND low footprint filesystem
 - 902004 - Planktivore
 - Planktivore V2 'B' is ready for integration on Opah
 - Prep and packaging of Planktivore V1 for trip to MidSEC conference and follow on collaboration with Tidal at Salmon Farm in Bergen Norway
 - Proposal discussions
 - Out of Office
 - Two week vacation July 6 to July 17, Colorado
 - Dental appointments. Two in June, One in July.
 - Fifteen days mid-June (dates tbd) for Norway Planktivore collaboration with Tidal and imaging workshop in Sweden.
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Continuing to work on [replacing perl data processing scripts](#) – working on the plots now
 - 901101 - Seafloor Mapping
 - Gave some input for next year's proposal
 - Initial pull request for the mbmesh addition to MB-System has been merged into master
 - Independent Contractor Agreement is in place for getting mbmesh to work with X3DOM
 - 901221 - Midwater Time Series
 - Reprocessed May's i2MAP mission with corrected seabird25p.cfg file
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Fixups for pyxis realtime energy consumption plots
 - Overhead
 - Wrote a reference letter for one of last semester's capstone students
 - Out of Office
 - 19 June - 10 July: Vacation
 - 18-24 July: SIGGRAPH in LA
 - 21-24 September: Oceans Conference
- Enoch Nicholson
 - 706008 - READI-Net
 - Reprogrammed FIDO5
 - Continued FIDO wrap-up documentation and finalized open items
 - Met with Jim to plan BOM completion; focus on parts inventory and data cards
 - Continued cylinder assembly
 - Onboarded summer intern Brooke
 - 901007 - Benthic Biology & Ecology
 - Cleaned lab space
 - Relocated BRS cart to the G high bay

- Supported BRS Deployment
- 902609 - TIDE OMICS
 - Attended middleware update meeting
 - Met with Nadia and Kev to scope 3G work (BioLink integration, 3G depth hardening) and next-year deep sampling requirements
 - Reviewed labor allocations with Kev for sub-task breakdown
- 902111 - Carbon Flux Ecology
 - Helped come up with a concept for an acoustic released recovery line. Yamir to build.
- 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
 - May 18, 2026 - vacation
 - June 22, 2026 - vacation
- Paul Roberts
 - Out of Office
 - June 13 - June 20, 2026 MidSEC, Sweeden
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - La Push WA deployment continues
 - 902204 - Scalable Robotics
 - Experimenting with SD-cards and Flash drives to store uncompressed video
 - 902304 - Piscivore Cam
 - Improved imx415 driver to enable 4k video @25hz and HD@60hz
 - Continue working to enable digital fish-eye lens dewarping
 - DQ2435 - GLERL AK
 - Working with GLERL to ready their ASV for ESP
- Carlos Rueda
 - Out of Office
 - June 29-30 vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Preparing for M1 Mooring turn on Jun 19, 2026
 - 901101 - Seafloor Mapping
 - Fixed .fnv file parser to always skip lines beginning with # (PR #308, Jun 2)
 - 902101 - LRAUV Technology Development
 - Science/Vehicle chart time windows — PR #679 (Issues #651, #677)
 1. Added deployment-scoped time window selector to Science/Vehicle data charts (Latest Dive, 3 Days, 7 Days, Full Deployment)
 2. Created new useDeploymentChartData hook and getVariableData API client to fetch data across log session boundaries
 3. Fixed infinite loading caused by DateTime.utc() being recomputed on every render, invalidating React Query cache keys on each re-render (memoized with useMemo)

4. Decoupled variable-name lookup from selected time window so 3-day/7-day windows always resolve chart variables even when the vehicle is mid-dive
 5. Treated TethysDash 404 responses as "no data" instead of errors so missing variables are silently omitted rather than breaking the chart section
 6. Removed 24-hour window option — too short for typical LRAUV dive cycles (last processed data is often 25–48h old)
 7. Omit maxlen cap for windows > 4 days; decimate client-side to 5,000 points to prevent truncation to most-recent data only
 8. Added informative empty state messages distinguishing "no data in window" from "data exists but not in this category"
 9. Multiple rounds of Copilot review fixes
- Log links / Data toolbar — PR #676
 1. Added Data toolbar button to RealTimeLogs alongside existing Shore and ESP buttons
 2. Fixed broken log directory links (corrected shore.kml filename, URL construction)
 3. Added Dash4-style log navigation features
 - FullWidthVehicleDiagram / DepthSparkline
 1. Added Okeanids link button anchored to vehicle SVG coordinate system
 2. Unified DepthSparkline and vehicle widget as a single scaling unit
 3. Fixed volt/amp threshold text using alarm color incorrectly (now neutral)
 4. Fixed sparkline position clamping and gate on vehicle-loaded state
 5. Fixed recovered vehicle status display and RECOVERED docked-state handling
 6. Multiple rounds of Copilot review fixes on PRs #657 and #578
- 902111 - Carbon Flux Ecology
 - Fixed a silent breakage in the nginx deployment where docker compose pull was replacing the custom MBARI nginx image (compiled with RTMP + fancyindex) with a stock Docker Hub image, causing all routing to fail with no error output. Added pull_policy: build to force Docker Compose to always build nginx from the local Dockerfile on both dev and prod. (deploy-sinker, Jun 4)
 - 902403 - Expedition DB Modern
 - Reading through Brian's proposal for next year.
 - Out of Office
 - March 22-24, 2027 - Vacation
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Working on MidSEC presentation
 - Deployed [new Deep-sea Guide internally](#) and [externally](#).
 - Work in prep for releasing the [new external Deep-sea Guide](#)
 Updated code [for watermarking external framegrabs](#) and adding EXIF metadata. (e.g. [Original](#), [Watermarked](#))
 Updated external database embargoes ([M3_ANNOTATIONS](#), [VARS_KB](#))
 Configuring [calypso.mbari.org](#) to replace [ione.mbari.org](#) as the external DSG server. Updated the orchestration project, [vars-quickstart-mbari](#), to support the new external configuration.
 - [Addressed video labs request](#) for a method to download large image queries from the VARS Query. Due to browser limitations, [wrote a command line tool](#).
 - New release of VARS Annotation ([v2.4.0](#)). This addresses issues with framecapture on very fast computers, misc bugs, and adds features requested by [Steve Haddock](#) for at-sea annotation.

- Wrote a python script for Steve Haddock to scrape framegrabs from the VARS [server](#) while at sea.
 - Worked with Nancy on 2027 Video Annotation DM proposal
 - Fixed issues with framecapture on the David Packard prior to Steve's cruise.
 - Investigate issues with merging Mini ROV nav/ctd for dives 116-128.
 - Updates to the public VARS orchestration project, [vars-quickstart-public](#), in preparation for MidSEC.
- 901809 - Deep Sea Bioinspiration
 - Reviewed Kevin B's [pull request for worms-server](#). Added a fix for recent changes to the worms data format.
- 902403 - Expedition DB Modern
 - Working on 2027 proposal
 - Working with Kevin, Andrew, and Travis on cross-app authentication using Entra.
- Overhead
 - Reviewing submissions to Oceans 2026
- Out of Office
 - Jun 11 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
 - Jun 22 - Jun 26: Vacation
 - Jul 27 - Aug 6: Vacation
- Quinn Shemet
 - 300062 - DMO Support - Doc Ricketts
 - Met with Mike briefly to discuss path forward for pt presets and labor next year
 - 300083 - DMO Support - LRAUV
 - Piscivore oncall
 - 902101 - LRAUV Technology Development
 - Dock testing, homing improvements, MIMO controls testing
 - Prep for Emme start
 - Started docking paper
 - Overhead
 - Lots of proposal discussions and planning
 - Bootloop presentation
 - ML advisory group
 - DOEST prep
 - ASV proposal meeting and SeaSats user call
 - Out of Office
 - Jun 26 - Jul 5: Vacation
- Alana Sherman
- George Stern
 - 300078 - DMO Support - AUV
 - Tested a few things on the over pressured board and motor controllers; one polymer cap was hard shorted and replaced, the other had a soft short
 - Got cost clarification and discussed funding, need to follow up on the funding or take the risk and get the design started again
 - 902106 - Niobicon-Based AUV Docking Development
 - Top side power off except modem feasibility study
 - Tested all the various modem modes with the real buoy cable and generator on in the test tank to emulate stretched out hose - should be able to get >125mbps with margin
 - 902204 - Scalable Robotics
 - Worked with Brent to test OAK-D and raspi image recording bottle neck; hardware alone is a poor fix

- 902304 - Piscivore Cam
 - Schematic work continues but is nearing completion
- Justin Tucker
 - Out of Office
 - 6/5-6/12
- Johann Voigtlander
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Visual observer for the VTOL UAV in Santa Cruz
 - 902204 - Scalable Robotics
 - Blueboat harbor survey with the Cerulean Sonar
 - Set up Conch laptop with blueboat software
 - Installed Compas lab equipment on the MiniROV
 - 902208 - Mini ROV Operations
 - Finished up control van wiring
 - Ordered new UPS
 - Made fixture for NAS in rack
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 - 902101 - LRAUV Tech Dev & Fleet Ops
 - Reconfigured hovering AUV thrusters to match MOLAs thruster configuration