

Engineering Weekly Report 7/9/2026 - 7/16/2026

<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
 - Data mining for velella conaria using vector database VSS
 - Migrated data out of AWS S3 to qumulo object storage.
 - 901221 - Midwater Time Series
 - Export TWDA boxes to Voxel51 for review. Optimizations to fiftyone-sync service for faster processing, improved error handling, and to reduce disk and memory pressure on host doris.shore.
 - Pulling down all frame captures from AWS glacier to load into qumulo object storage
 - 901502 - Ocean Soundscape
 - Team meeting. STM optimization with panacetacea dataset. Minor maintenance on s3 cron. Drafting SMM workshop abstract.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Updates to mbari-aidata module to support summer intern, Sarah Williams, who is making good progress.
 - 902111 - Carbon Flux Ecology
 - Data mining for rare taxa in Planktivore low-mag using vector database VSS populated with Fernanda's labels.
 - Maintenance on deployment scripts to support both ansible and manual deployments
 - Out of Office
 - September 21-24 Oceans Conference, Monterey
 - October 18th, SMM 2026 pre-conference Workshop: Evolving AI Applications in Modern Marine Mammal Science: From Computer Vision to Generic and Agentic AI, Puerto Rico
 - Vacation July 27th-31th
- Duane Edgington
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach

- Team meeting with Intern Sarah Williams. Some work on infrastructure to support her model training.
 - Touched base with Tim Sananikone. He is working on a paper for the IEEE Oceans Conference. Danelle and I will review in a week or two.
- 901502 - Ocean Soundscape
 - Submitted poster proposal to Pytorch 2026 conference (October, San Jose). *"Perch 2.0 and Perch-Hoplite in Pure PyTorch: An End-to-End TensorFlow-Free Bioacoustics Pipeline"*
 - Present progress, status, and next steps to the Soundscape team July 15.
 - Good progress on analyzing results and ideas to address linear model's classification confusion.
- 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
 - 901101 - Seafloor Mapping
 - graphics update meeting w Tom and Dave
 - Overhead
 - proposal review
 - misc admin
 - Out of Office
 - Sep 21-24: Oceans conference
- Rich Henthorn
 - 300062 - DMO Support - Doc Ricketts
 - Caress cruise prep
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Camera Tripods
 - Overhead
 - Open enrollment stuff
 - Out of Office
 - July 13 - Illness
 - July 16 to 25 - Caress LASS cruise
 - August 10 to 13 - Vacation
 - August 31 to Sept 3 - Vacation
 - Sept 14 to 18 - Durkin Cruise
- Akshay Hinduja
 - Out of Office
 - PFL/Vacation: Jul 13, 2026 - Jul 17, 2026
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Picked parts for an LED excitation system for wastewater ISUS
 - 901805 - Coastal Biogeochemical Sensing Program

- Alkalinity
 1. After many discussions with Claude about Pt delamination, the observed delamination seems to have to do with too-high voltage at the anode (as well as other “bad behavior” like reversing current, possibly coupled with some fab choices like encapsulation window being larger than anode). Some of the observed voltage is from electrolysis of water, but tens of kilohms of observed resistance (which causes the high voltages) remains unaccounted for.
 2. After running various tests on a new chip (eg R/X with AC excitation using LCR meter) to determine source of resistance, no issues can be found- the new chip is showing better behavior than any other previously observed. Hypothesis is that previous chips might have been damaged early on by overvoltage, coupled with some fab inconsistencies.
 3. Currently exploring circuit solutions to limiting anode overvoltage. Previous circuit fix on the Howland pump op amp seems to be working.
- Nanofet
 1. Completed current measurements on a tester circuit for disabling bias battery power. The extra current consumption is <1 uA and there is no impact on voltage.
- Overhead
 - Open House
- Scott Jensen
 - Out of Office
 - June 26-July 7 (vacation)
 - July 15 - 21 (vacation)
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Working on integrating a RTCC in the SIPPER
 - 901805 - Coastal Biogeochemical Sensing Program
 - Finished the alkalinity flowcell. Sent to manuf
 - Overhead
 - EE-tech interviews
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 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
 - 200109 - Core Mooring Data - MDUC

- Trying to fix the Anubis challenge for external access to the M1 [contour.tstring](#) images
- 901101 - Seafloor Mapping
 - Meeting with capstone students working on actual mesh generation for the 3D Tiles work
- Overhead
 - Figuring out my work schedule now that I'm half time – away at SIGGRAPH next week
- Out of Office
 - Half time schedule: Generally away Mondays, Fridays, and alternate Thursdays
 - 18-24 July: SIGGRAPH in LA
 - 21-24 September: Oceans Conference
- Enoch Nicholson
 - Out of Office
 - June 26 to July 6th
- Tom O'Reilly
- Mike Risi
 - 300062 - DMO Support - Doc Ricketts
 - Helped install spare light boom pan and tilt and set limits
 - 901101 - Seafloor Mapping
 - Working on LASS MOB tasks for tomorrow's 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
 - 901809 - Deep Sea Bioinspiration
 - Triton deployment planning
 - Galene camera testing
 - Monocular midwater tracking
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Timelapse camera support
 - 902004 - Planktivore
 - Ahi timestamp restoration
 - 902204 - Scalable Robotics
 - Aug 5 cruise planning and Voyis camera integration
 - Out of Office
 - July 23 through Jul 27, 2026 , FITM, Glacier
- Brent Roman
 - 901205 - ESP SURF Center
 - Improved the calibration procedure for the 3G ESP's Carousel absolute position sensor
 - Hacked some custom firmware to correct ESPhonu's damaged abs pos sensor
 - 902204 - Scalable Robotics
 - Developed USB passthru mode to increase framerate
 - Working with George Stern to investigate the possibility of running USB between Mola cans to increase available bandwidth for camera.
 - 902304 - Piscivore Cam

- Deployed again
 - Working with AI toolkit on Lonny's models
- DQ2517 - ONR Middleware
 - Discovered that prospective valve control lacked an absolute position sensor
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Our intern, Ariel Raizman, continues making good progress on his project.
 - Group meeting, with external collaborators, and updates.
 - 902101 - LRAUV Technology Development
 - TethysDash: database access modernization on Jdbi/Flyway continues.
 1. Production instance now on [4.99.87](#).
 2. Staging instance (tethystest) with various additional migrations in development, which are looking good, but still under testing given the many very significant changes to make sure no regressions will occur when deploying into production, in particular when considering upgrades for installations out there (WHOI, Saab).
 - Overhead
 - Proposal related feedback.
 - 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
 - Spent time setting up for the new OA1 Mooring Turn on coredata8
 - Created a [spreadsheet](#) to help Jason and Jules clarify what the deployment will need
 - 902101 - LRAUV Technology Development
 - Features
 1. Implemented two-step verification code flow for adding/editing notification destinations (email/phone), matching TethysDash backend v4.99.85 — Issue #758, PR #767
 - Bug Fixes
 1. Fixed depth chart not refreshing on active deployments and added bidirectional sync between depth chart hover and map scrubber — Issue #772, PR #773
 2. Fixed Schedule tab showing raw command text (e.g. load Transport/keepstation.tl) instead of the clean mission name the vehicle reports — Issue #775, PR #776
 3. Fixed _vt vehicle-tailored mission files (e.g. profile_station_vt.tl) not matching the vehicle's own telemetry mission name — PR #774
 4. Fixed Leaflet zoom crash when navigating between vehicles with a stable MapContainer key — PR #769, PR #771
 5. Fixed trackline hover circles scaling incorrectly at high zoom levels (converted from geographic metres to pixel-based radius) — PR #770
 6. Disabled two compromised GeoServer tile layers (DK3HORRO, 2020 Summer Astrid) and suppressed noisy vehicle-info timeout errors — PR #766
 - Maintenance
 1. Upgraded Node.js from v20 (EOL April 2026) to v22 LTS (active through April 2027) — Issue #746, PR #768
 - Deployments

1. Tagged v5.2.14 through v5.2.18 for staging; v5.2.14-production pushed to production (dash5.mbari.org)
- 902111 - Carbon Flux Ecology
 - Features
 1. Removed the Images tab from Camera Views — the camera panel is now Videos-only mode
 - Bug Fixes
 1. Fixed TypeScript errors in CamerasTab and SinkersSchematic
 2. Fixed duplicate useCameraLastCaptureTimes hook calls and import in cameras.tsx
 3. Renamed cameraLastCaptureTimes → cameraLastCaptureTime to match hook declaration
 4. Fixed undeclared ADCP variable references (adcpLastDataParsed/adcpLastDataTimeRaw → adcpParsedTime/adcpLastDataTime)
 5. **Note:** Work is on develop branch, not yet tagged for deployment.
 - 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
 - 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
 - Getting Mega ready, there was issue with the new lens so zoom control will have to wait.
 - 902600 - Davidson Seamount Hot Spot
 - Working on all three cameras for this deployment
 - Having some problem with communicating with both SOLO and DUALIE for very different reasons
 - Overhead
 - Proposal reviews and running down details
 - Out of Office
 - On vacation 7/16-7/26
 - George Stern
 - 902106 - Niobicon-Based AUV Docking Development
 - Solar buoy electronics testing
 - 902204 - Scalable Robotics
 - Continued integrating the motor controller and began looking at a permanent deployable architecture
 - Ordered parts and made cables for a USB test
 - 902304 - Piscivore Cam
 - Worked with James to review the Gen4 board, begin ordering hardware and identify alternates for out of stock parts - the AI data centers or war seems to be recreating 2022 again

- Finally found a lens mount; unfortunately it arrived too late to make the July deployment but will be able to run camera comparison tests when the gen3 camera returns from deployment
 - Continued working on the light design.
- Overhead
 - Open house
- Justin Tucker
- Johann Voigtlander
 - 902312 - Seafloor Processes
 - In Italy for csem July 14 to 26.
- Emme Wiederhold