

Engineering Weekly Report 9/10/2026 - 9/17/2026

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
- Laura Chrobak
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - 2026/27 project discussion
 - 901221 - Midwater Time Series
 - Evaluating performance metrics for two pipelines on i2MAP: VARS YOLO26+Boostrack and VARS YOLO26+i2MAP DINOv3+Boostrack in 3 annotated videos. Between 40-50% of species are not correctly detected and 0.3 to 8.5% false positives. Long-tail issue.
 - 901502 - Ocean Soundscape
 - Reviewed Humpback poster, SAM3 kelp poster, and finished PBP Oceans 2026 poster. Thanks to the co-authors for reviewing and Melissa for putting the final touches and printing. Reviewed submission for IEEE.
 - Modernization of the topic modeling code [stm](#) and testing linear probe with unit designators for panacetacea dataset
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Finished [mbari-aidata data loader for Matrise camera](#)
 - Team meeting with HappyWhale.
 - 902111 - Carbon Flux Ecology
 - SINKER redeployed on MARS 09-16
 - Fixed bug in video stream recovery
 - Some enhancements to [fiftyone-sync](#) code to handle up to 1.5 million ROI datasets which is where we are hitting issues with memory. Added selectable class labels and optional cleanvision filtering.
 - 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
- Duane Edgington
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Considering IEEE presentation/publication of Sarah Williams internship work at [UT27](#). Draft abstract circulated to author team. Two page abstract uploaded to UT27 submission portal.
 - Tim's SAM3 Kelp Oceans 2026 poster completed, and printed out. Ready to go. Possible update Sept 17.

- Team meeting.
- 901502 - Ocean Soundscape
 - IEEE Oceans 2026 poster printed. Ready to go.
 - Abstract drafted and uploaded to [UT27](#) for full paper presentation at the conference and IEEE xplore publication
 - Hard drives and ssd added to Spark systems to aid processing flow and storage of 32kHz resampled files for access by annotation tool and to support publications.
 - Analysis continues – have completed 2 years of the 11 year archive. V10 detector is really good.
 - PyTorch Conference poster updated after feedback. Need to post pdf to conference by Oct 4.
- Out of Office
 - ~~September 8-13 ECCV conference. Present UAVS Yolo26/RFDETR model performance. Have reservations. Registered. Cancelled~~ Virtual attendance only
 - September 21-24 IEEE Oceans Conference, Monterey. Present poster on Perch-hoplite. Registered.
 - October 19-24 Pytorch Conference, San Jose. Present poster on Perch2.0 port to pytorch. Registered. Have reservations.
- Kevin Gomes
 - Out of Office
 - Aug 25-27: Monterey Data Conference
 - Sep 21-24: Oceans conference
- Andy Hamilton
- Kent Headley
 - Out of Office
 - Sep 21-24: Oceans conference
- Rich Henthorn
 - 300078 - DMO Support - AUV
 - i2MAP power management
 - 902111 - Carbon Flux Ecology
 - At sea recovering and deploying SINKer
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - At sea recovering and deploying SES
 - Out of Office
 - Sept 14 to 18 - Durkin Cruise
 - Dec 21 to Dec 31 - Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Initial research on improving segmentation for deepPIV pipeline
 - 902101 - LRAUV Technology Development
 - Group and mapping meetings
 - Tethystales support
 - Prep work for Imagenex setup on Galene backseat
 - Finesse drop out model for sim sonar emulator, refine terrain awareness params
 - Setup observer/shadow mode for module for test runs
 - Overhead
 - IROS poster preparation
 - Out of Office
 - Sep 24, 2026 - Oct 2, 2026 - IROS 2026
 - Sep 21, 2026 and Sep 23, 2026 - Oceans 2026

- Brett Hobson
- Irene Hu
 - 901101 - Seafloor Mapping
 - Sorting through some theoretical descriptions of electrodes to better understand system
 - 901217 - Chemical Sensors
 - Ordered some parts for wastewater ISUS
 - Latest batch of digital MMS boards seems to have a crisis, stay tuned
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity
 - SEM session was very interesting. All anode pad junctions appear to be broken. For anode delamination, titanium seemed to crack and flake off to both sides. Claude has several hypotheses but bottom line seems to be that my operating conditions did the damage (will be restricted in next version of board); a slow attack may still be possible and will be monitored
 - Compiled results and came up with list of talking points for LioniX
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Sat in on meeting with Ted Cheeseman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Compiled a summary of normalization efforts and results for both multispec and hugger cameras
 - Discussed in long meeting and now working on follow-up efforts to resolve some confusions
 - Overhead
 - Chad's design review for ROV joystick controller
- Scott Jensen
 - Out of Office
 - September 23-28 (Vacation)
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Building new sipper. New maxon EPOS4 motor controller has upgraded firmware that is causing issues. Furiously coding to fix
 - 901805 - Coastal Biogeochemical Sensing Program
 - Issued PO for nanofet manifolds at SIO
 - Overhead
 - Successfully tested tcp point to point tunnel from MBARI VM to OASIS3 serial console through the Sierra Wireless cell modem. Coding MBARI VM to be new shore side server
 - Design review for ventana controller (Chad)
- Chad Kechy
 - 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

- 300059 - DMO Support - RV David Packard
 - Telepresence support on the Durkin Expedition
- 902204 - Scalable Robotics
 - Cruise planning
- 902504 - Scalable Semantic Mapping
 - Cruise planning
- 902606 - Low Altitude Survey AUV
 - Material prep
 - Send out lettucemeet for the review week. Narrowing down a time.
- Out of Office
 - Sick 8/24-8/26
- Thom Maughan
 - 300078 - DMO Support - AUV
 - Working on hyperion environmental board.
 - Design sim for next hyperion power supply, moving away from GaN fets as they are too challenging for assembly.
 - 300083 - DMO Support - LRAUV
 - Upgrading MCUXpresso IDE to the latest version.
 - 901217 - Chemical Sensors
 - Helped with board issues.
 - Setting up a second MSC3 for command comparison between 5.1.8 and 5.2.x
 - Chem sensors is looking at purchasing a high perf computer. Met with Ken on options. Asked that Guillaume try the IS virtual machines to measure performance vs deepedna3.
 - 901805 - Coastal Biogeochemical Sensing Program
 - MoSoS v5.2 on nanoFET
 - Working with Jim Davis on tinyFS.
 - 902004 - Planktivore
 - I7c eval board was sent out for fab, digikey parts ordered. Ordered a spare set for use in ADAS as a 12v supply as needed.
 - Out of Office
 - September 21-24 Oceans Conference, Monterey
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Testing the stitching together of all the QC'd and realtime deployment data
 - Project update meeting
 - 901101 - Seafloor Mapping
 - Got poster for Oceans printed out
 - Will be testing mbgrd2gltf and mbmesh on langseth VM
 - Overhead
 - Migrating emdb's authentication from DUO to ENTRA [hit a snag](#)
 - Out of Office
 - Half time schedule: Generally away Mondays, Fridays, and alternate Thursdays
 - 21-24 September: Oceans Conference
 - 12-16 October: Web3D Conference
 - 20-29 October: Remote/Comp time
- Enoch Nicholson
 - 901205 - ESP SURF Center
 - FIDO licensing discussion
 - OCEANS poster
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach

- Happywhale meeting
 - Flight request system
- 902101 - LRAUV Technology Development
 - Hydraulic setup
- 902111 - Carbon Flux Ecology
 - SINKER Recovery Support
- Out of Office
 - June 26 to July 6th
 - July 30 to Aug 10
- 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
 - June 29, 2026 - July 1, 2026 - vacation
 - August 17, 2026 - vacation
 - September 8, 2026 - September 10, 2026 - vacation
- Paul Roberts
- Brent Roman
 - Out of Office
 - Sept 8 - Oct 16 (vacation)
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - OCEANS poster completed (thanks to all co-authors).
 - 902101 - LRAUV Technology Development
 - Dash4 [4.99.53](#).
 - TethysDash [4.99.128](#).
 - 902504 - Scalable Semantic Mapping
 - Dial [2.5.0](#).
 - Overhead
 - Eng. mtg.
 - WEbinar
 - Out of Office
 - ~~Sept 8-11: vacation~~
 - Sept 22-24: IEEE Oceans Conference
 - End of Oct–Beg of Nov: vacation (dates TBD)
 - Nov 12: vacation
 - Dec 9-10: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly maintenance and download success checks.
 - 902101 - LRAUV Technology Development
 - Features

- Send command or mission on launch and recover events — draft PR opened ([#853](#)) - In progress
- Issues Filed
 - ux: New Deployment modal — add Now shortcut for start time ([#850](#)) (Sep 10)
 - fix: hide Save Changes button until Custom Date is selected ([#851](#)) (Sep 10)
 - fix: block or warn when start date is set after an existing launch date ([#852](#)) (Sep 10)
 - fix: add dialog semantics, focus trap, and aria attributes to LaunchCommandDialog ([#854](#)) (Sep 10)
 - enhancement: dynamic x-axis for depth sparkline during long-dive fallback ([#856](#)) (Sep 11)
 - fix: map positions up to 10 minutes stale vs Dash4's ~1 minute (reported by Sebastian Sudek) ([#857](#)) (Sep 14)
- In Review (all open PRs) - Current Sprint
 - Science charts reload on scroll fix ([#848](#)) (Sep 8)
 - Restore short aria-label in SbdChunkBoxes ([#845](#)) (Sep 3)
 - Schedule "Unknown" operator fix ([#825](#))
 - Mission modal & Schedule log polish ([#814](#))
 - Restore depth sparkline for dives >8h ([#810](#))
 - Display mission ID in pending Schedule rows ([#805](#))
 - Gate map marker edits behind login — changes requested by Emme ([#790](#))
- 902111 - Carbon Flux Ecology
 - Features
 - Restructure Data Viz tabs by science question — draft PR opened ([#103](#)) (Sep 14)
 - Bug Fixes
 - Show ADCP spiral after Redis restart — merged ([#105](#)) (Sep 15)
 - Issues Filed
 - feat(data-viz): restructure tabs by science question ([#102](#)) (Sep 14)
- Overhead
 - EXPD (legacy) code revision
 - Fixed precruise revision logic in [precruise.asp](#) — REVISED email now only sent if [update\(\)](#) succeeds; added explicit DB connection cleanup on error paths (Sep 10)
 - **What went wrong (for posterity):** “The website form was fine (*which is why it took forever to find the issue*). However, when a precruise is revised, a copy is also saved in a history table. That history copy only allowed about 2,000 characters for the equipment/chemicals section. The original precruise writeup was just under that. The new chemicals list went over the limit, so SQL Server rejected the whole save. The page still said “updated,” which was misleading (*and I have noted that should be fixed ASAP*), but nothing had actually changed until I widened that history field.”
- Out of Office
 - March 15-24, 2027 - Vacation
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining

102 commits across 15 repos, 7 PRs opened (all merged), 9 PRs merged including two older ones.

 - 500055 - VARS, M3/RS, DSG
 - Released a new version the annosaurus-java-sdk. See [PR 1](#).
 - 901809 - Deep Sea Bioinspiration
 - Released [v2.6.0](#) of the FathomNet REST API. The major change is the addition of [granular licensing](#), where every image and bounding box is assigned its own license

from an [accepted list](#). Also addressed performance issues when accessing the [WoRMS API](#) directly for taxonomy lookups.

- [Fix to the fathomnet-cli's NCEI archive scanner tool](#).
- Addressed [issue where large \(e.g. slow\) taxa trees were causing client connections to timeout](#) in FathomNets custom [worms-server](#).
- 901221 - Midwater Time Series
 - Added o2 QC Flags to [script that generates CTDO profiles for all midwater dives](#).
- 902403 - Expedition DB Modern
 - [Work](#) on the [rest API](#) to add a [search expeditions by criteria](#) method to the API. Also [modified the Device](#) table to allow the frontend to autopopulate Ships/ROVs/etc from records in the database.
 - Starting work on [expd-web](#), Kevin G. has set up a nice backend-for-frontend service for handling Entra Auth. I'm starting to build on that foundation. Added [autogeneration of a JavaScript client](#) from the OpenAPI spec. Organized the [dev commands](#), updated the UI to [use the new criteria query for search](#).
 - UI (in very early development): <https://expd-dev.shore.mbari.org/>
 - AP Docs: <https://expd-dev.shore.mbari.org/api/q/docs/>
- Out of Office
 - Sep 9 - Vacation
 - Oct 21 - 24 - Oceans Conference, Monterey
 - Nov 12 - Vacation
- Quinn Shemet
 - Out of Office
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- Alana Sherman
 - 902208 - Mini ROV Operations
 - More back and forth on details for R/V Gaia Blu
 - 902401 - Geo-Sense
 - Prep for Milos
 - Overhead
 - Phase 2 proposal all day M-team review
 - PI meetings
 - Out of Office
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- George Stern
 - 300078 - DMO Support - AUV
 - Finished testing pressure test boards and began checking the previously reviewed (Jan 2025) dorado prop development board against the now existing hyperion load controllers. Discovered that unfortunately a bunch of parts I designed in 1.5years ago are quite popular in data centers/not available for months and must be designed out - started
 - 902204 - Scalable Robotics
 - Deep dive into STM32 USB stack/HAL and what could have gone wrong during mola tests with the ESC controller; no obvious code errors but all interrupts had the same priority so something, probably the USB which seemed to be behaving oddly the day before, may have not have returned from an interrupt and blocked the reset timer. Updated to code lower most IRQ priorities and added an independent watch dog timer to guarantee main is running properly or force reset.
 - 902304 - Piscivore Cam

- Completed experiments to determine light reflector height and worked with Denis to polish a reflector.
 - Finished I2C debugging; the uC pins are pulling the line high and need to be programmed. There is another 100bytes of communication with the TPM module on the old boards vs the new boards, hopefully Oclea help support will be willing to give us a fix
- Justin Tucker
 - 902606 - Low Altitude Survey AUV
 - Concept review mission profile trade study and energy budget
 - Continued work on CFD validation
 - Overhead
 - Stanford Student project team pitch presentation
 - Out of Office
 - Oceans: September 21-24
 - Vacation: September 25th
 - Stanford Project team: September 29th
 - Vacation: October 13th-23rd
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Finished BlueBoat poster for Oceans
 - 902208 - Mini ROV Operations
 - Replied to Pietro
 - 902312 - Seafloor Processes
 - Made Norbit cable and CTD cable for blueboat
 - 902504 - Scalable Semantic Mapping
 - CTD is fully integrated with the boat now
 - Bubble camera is electrically done and has solid software. It is ready for longer submerged tests.
 - 902101 - LRAUV Tech Dev & Fleet Ops
 - Met with Brett to discuss some new work
- Emme Wiederhold
 - Out of Office
 - November 25th - December 8th