

WeeklyReport

Engineering Weekly Report 10/9/2025 - 10/16/2025

<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2025/>

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Oct 13, 2025 - Oct 15, 2025
- Francois Cazenave
 - 901221 - Midwater Time Series
 - Inspected and cleaned I2mqp housing
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Dove on buoy to open heave cone and remove acoustic modem
 - Preparing for recovery
 - 902106 - Niobicon-Based AUV Docking Development
 - Finished assembling and testing the new power transfer device in the lab
- Danelle Cline
 - 901221 - Midwater Time Series
 - Trained new ViTS models with i2MAP and M3 data
 - Using REDIS-based vector database system VSS, prepared pseudo labels for training object detector [RF-DETR](#) model.
 - 901502 - Ocean Soundscape
 - Supporting intern efforts on topic modeling, PBP doc updates, and migrated inference Triton server to Maximilian for testing real-time workflow.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - missionview webapp updates
 - Meeting with former intern Tim to discuss updates on Kelp model.
 - Created test dataset and loaded into version testdata on [drone.mbari.org](#).
 - 902111 - Carbon Flux Ecology
 - Working on data mining for good examples in low-mag planktivore
 - 902306 - SINKER
 - Updated ansible deployment with README.txt and generated build.sh script to support build on target.
 - Issues with rsync failing due to the sinker thalassa NFS mount becoming unresponsive - this is the same problem we have seen with PAM_Analysis on [gizo.shore](#) and multiple shares on [mantis.shore](#).
 - Overhead
 - Organizing GitHub issues with CoreAI.
 - General maintenance on ansible deployments to ensure cron jobs are deleted from the remote.

- Out sick 10-15
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Project meeting with team Oct 16
 - Working session with John Ryan on google multi-species whale model comparison with energy band models. Project planning.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Generated [rf-detr detection model](#). Danelle to incorporate into the detect/classify pipeline so we can compare with the [yolo11x detection model](#). mAP50 metrics suggest the rf-detr model to be superior.
 - Overhead
 - Group meeting Oct 15
 - Seminar Oct 15
 - Travel authorization; SAP concur expense report
 - Out of Office
 - Oct 28 Doctor appt
 - Oct 20 - 24, 2025. Pytorch Conference, San Francisco.
- Jon Erickson
- Kevin Gomes
 - 300070 - DMO Support - Ventana
 - Fixed time sync issues that were introduced during the GSS upgrade. Need guidance from GSS for a long term fix.
 - 706008 - READI-Net
 - Lots and lots of troubleshooting. Think I finally have the threading issues sorted between kernel threads, serial port reading loop, Python GIL and greenlets for MQTT synchronization with cloud EC2 server
 - Started running FIDO over cell and discovered issue with IPv6 attempts from tailscale which gets rejected after so many tries (cell does not support IPv6). I disabled IPv6 on cell connection.
 - 901009 - CANON
 - Working on more updates for ASTEP web page with Melissa's help.
 - 902403 - Expedition DB Modern
 - Looking into Dagster/Prometheus as ways to introduce orchestration, monitoring and alerting into the EXPD data pipelines I am re-working.
- Andy Hamilton
- Kent Headley
 - 300078 - DMO Support - AUV
 - Prepared a set of (4) mission scripts to test new features in Dorado layered control that will enable i2map tow out missions. The features include the ability to start/end behaviors using the system clock (specified date/time) rather than the (relative) mission clock. A second feature enables the definition of macros, a set of behaviors that can be repeated and reused, e.g. to transit to a location, surfacing periodically for a GPS update, or low-power station keeping. The plan is to test these Thursday on a test cruise to C1.
 - 3000xx - DMO Support - MARS O&M
 - Implemented proposed patch for GUI bug (relay state reported incorrectly, i.e. out of sync with true state). The patch addresses two issues in the current implementation: a single variable was used to maintain state for multiple ports, and the state variable was not being updated by other operations that changed the state. IMO, there is an underlying issue, which is that the existing code always assumes that hardware operation function calls succeed, when in fact they can fail without changing the hardware state.
 - Meeting with MARS team

- 902405 - Precision Control Technologies
 - working with Steve Rock to test the trn-player utility (TRN reference implementation) and TRN documentation. I think we're nearing the end of feature completion, and Steve is running data sets and comparing output with the Replay tool that he's used in the past.
- Overhead
 - omics interview panel feedback
 - proposal form review
 - misc admin
- Out of Office
 - 10/17-20 vacation
- Rich Henthorn
 - 901221 - Midwater Time Series
 - Spoke with Rob Sherlock about i2MAP 4K camera integration
 - 4K camera connected to 2K recorder should not require any CARL updates
 - 4K recorder will require some additional switching and probably commands
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Latest SES mission completed, started another to finish out the deployment
 - Analyzing data and trigger events
 - Recovery next month, working on maintenance list
 - Out of Office
 - Mon Oct 20 - Tue Oct 21: Sick leave
 - Fri Oct 24 - Wed Oct 29: Vacation
 - Mon Nov 10 - SES recovery from Carson
 - Dec 19 - Jan 1: Vacation
- Akshay Hinduja
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Simulated new and old circuits with pspice, updated circuit for improved current measurement
 - Updated alkalinity code to handle pumping
 - Continued support for mini ISUS tests
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Test of hugger with Ventana on Friday
 - Overhead
 - Rec com meeting and lots of charge processing
 - Out of Office
 - Nov 5-6: WFH / vacation
- Scott Jensen
 - 706008 - READI-Net
 - First dock deployment unveiled numerous problems and since then these have been dealt with.
 - Now, second dock deployment is underway and going much better with hopes that it will continue.
 - 808015 - Monitoring McCloud
 - Continued observation of the installations.
 - Out of Office
 - McCloud Recovery Oct 27-28
- Brent Jones
 - 901009 - CANON
 - Support for wire walker data ingestion

- 901112 - Monterey Bay Time Series
 - Continued porting of PIC24 code to PIC32 code
- 901502 - Ocean Soundscape
 - Wire walker recovered
 - Supporting transfer of Triton click detect software capability to collaborator
- Overhead
 - Recovered LRAUV Makai
- Chad Keycy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 07/23
 - 07/28-08/01 (MST)
 - 08/25-29 (PDT)
 - 9/15-30 (UTC+2)
- Denis Klimov
 - 901112 - Monterey Bay Time Series
 - The Power Buoy/ IFCB is scheduled to be recovered this week; both successfully performed for CANON, but lately had been on a last leg due to the comms failure to the heave plate.
 - 902004 - Planktivore
 - We are working on a V3 build. This week, designing and printing new retainer rings for the glass ball ring. The challenge is, those rings need to be different sizes for a particular unit, so making a set of different rings with identification features.
 - 902101 - LRAUV Technology Development
 - Interesting development on redesigning the hall sensor / actuator for the buoyancy system.
 - 902401 - Geo-Sense
 - Contacting Ocean Instruments in regards to the Hydrophone installation on the DAS frame.
- Eric Martin
 - 901101 - Seafloor Mapping
 - We had a successful 3 days offshore with Ventana, though some issues did arise as we brought a new Phinstasmic online and further tested the new lidar.
 - Ongoing issues with the science port on Ventana at 57600 bps
 - The phinstasmic was quite noisy on its dvl channel
 - The position on the phinstasmic was jumping while dvl aiding
 - The lidar still needs new features fully tested.
 - Data backup and analysis is underway.
 - We'll be back in the tank today to collect a few more data
 - 901103 - Biodiversity and Biooptics of Zooplankton (ROVVR Support)
 - Took a call 2 weeks ago with silverdraft to build a computer for 3 headset build.
 - 902204 - Scalable Robotics
 - Working on plan for 11/12 deployment
 - HSI, EVT, and FLS experiments
 - Out of Office
 - Week of 10/27 vacation
- Thom Maughan
 - 300070 - DMO Support - Ventana
 - Installed ventana ground fault xoyo app on DJs updated laptop. Quick but no thorough test.
 - 300078 - DMO Support - AUV

- PCB fab for the Hyperion mvc2 baseboard, aka, som carrier is in progress. There were a couple parts that went out of stock between ordering and assembly that caused a small delay, but expect boards to be received next week. Parts have been ordered for those that were not in stock at rapid proto assembly house.
 - Working on Hyperion mvc2 power supply. Finished the design of the 24v converter and am working on layout of that subsection. 12v, 5v and 3.3v are based on the same converter ic and that design is partially complete, needing simulation.
- 300083 - DMO Support - LRAUV
 - Debugging ADC issue. Rewriting ADC driver. Have cycled the discharge / charge cycle twice and the state machine only has a flaw with ADC during trickle to softstart.
- 902004 - Planktivore
 - In progress on the build of Planktivore V2B. Ethernet switch is mounted and wired. Denis is in progress on the strobes.
- Out of Office
 - Vacation 15 Oct to 24 Oct.
- Mike McCann
 - Out of Office
 - 27-30 October – Remote work
- Paul McGill
 - Out of Office
 - I've been busy sleeping in because I'm retired!
- Enoch Nicholson
 - 706008 - READI-Net
 - Developed restock sampler feature for FIDO
 - Completed FIDO user manual review
 - Built and tested puck chute design
 - Puck Bucket Sliders
 - FIDO dock setup
 - Testing reagent software
 - 901007 - Benthic Biology & Ecology
 - Supported BRS cruise operations
 - Out of Office
 - Thursdays at MLML
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - March 3 - March 6, 2025 - vacation
 - June 2 - June 6, 2025 - vacation
 - June 16, 2025 - vacation
 - July 2, 2025 - vacation
 - July 29 - August 1st - vacation
 - November 10 - November 14 - vacation
 - January 19, 2026 - January 30, 2026 - vacation
- Paul Roberts
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - Shipped kit of parts for cell modem tester to APL Engineer who mounted them into a deckbox
 - For testing alternative cell modems off La Push, WA
 - 901205 - ESP SURF Center

- Worked with Scott Jensen to help debug electrical issues that arose when loading 3G ESP
 - With the full complement of 60 smart cartridges
 - I2C bus and electrical overloads resulted
 - Modified ESP software and firmware to better report when overloads occur
 - 902304 - Piscivore Cam
 - Modified max gain halfway through deployment to see its effect on low light video quality
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Group meeting.
 - 901513 - Targeted Sampling by AUVs
 - (overhead) Some exchanges with the team about possible next window for a tracking exercise and about wave glider capabilities for algorithm adjustments.
 - 901809 - Deep Sea Bioinspiration
 - Met with Kevin re status of bulk review UI and associated pending API support.
 - 902101 - LRAUV Technology Development
 - TethysDash: As an exciting milestone, completed migration of application framework to Quarkus. Tested successfully in production during the last [few weeks](#) (with various incremental steps along the way), the code updates have now been merged into the main branch, and the version is now officially [4.99.0](#). Future work will include converting more endpoints to the new framework as well as taking advantage of more Quarkus features.
 - Irauv-application PRs merged (thanks Quinn and Brian).
 - 902504 - Scalable Semantic Mapping
 - Resuming work on Dial. Met with Sebastián to review status and prioritize tasks.
 - Overhead
 - Preparing tethysdash2-u for CentOS 7 EOL migration of tethysdash2. TethysDash system itself is almost ready, and Steve's widget generation scripts/cronjobs are now in place. Next steps are to transfer pending services / static sites, and plan for cutover.
 - Out of Office
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- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly maintenance and checks on data downloads
 - 901101 - Seafloor Mapping
 - Met with Jenny Paduan regarding the outlined work for me on the SMDB GUI
 - She mentioned that work on it will be delayed for a month or so due to an overhaul of the code by Mike M.
 - 902101 - LRAUV Technology Development
 - I added a few of the requested LRAUV Dash5 issues on the Github server this week.
 - 902306 - SINKER
 - Last week I "froze" the SINKER app UI code for the year. It is up and working at sinker.shore.mbari.org/sinker/. This is only version 1.0 and I have asked the SINKER team to review its functionality and to test various aspects of the web interface. I have also asked them to provide a list of issues that they would like to update, or fix. There is more to do but it is up and working.
 - Overhead
 - I have spent time today working to bring back up the SVN repo web view page on the kahuna server. IS upgraded all of the CentOS systems (including moonjelly and kahuna) last week to Rocky Linux. The old ViewVC code which hosted the browser viewing of the repositories on both servers was incompatible with the OS change. I have focused on the SVN repo today and was able to update the ViewVC version to 1.3 which is compatible with python3 that is running

on the OS. I admit this work has been quite challenging but I was finally successful in the upgrade and am working on the functionality and the look and feel. I believe Peter W. is currently looking into the CVS repo web browser.

- Out of Office
 - Working from home today due to a sinus infection
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - New release of [Charybdis](#) that [fetches config info from Raziel](#)
 - At IS' request, [replacing CentOS 7 servers with Ubuntu versions](#)
 - Completed [migration and registration](#) in the video asset manager of all 228,000 videos from Titan to Thalassa. There's a backlog of about 1200 4k videos that are still being processed (i.e. generating checksums)
 - Completed consolidation of various vars command line apps into [vars-cli](#). Released v1.0.2 with a number of util.
 - Updating a small library, [expd-java](#), I use for accessing the EXPD data for various tasks. [Publishing it to maven central](#) as it's used by other applications (all db info has been stripped out)
 - Working through some back end issues between the new knowledgebase editor app and the knowledgebase service, [oni](#).
 - "Emergency" requests to add new support for new platforms from [Cook Islands](#) and the Triton Cameras (deployed on LRAUV)
- Alana Sherman
 - Out of Office
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- George Stern
 - 902204 - Scalable Robotics
 - Killed 2nd FET on the HSI light current controller board; datasheet dive to reverify SOA curves and correctly configuring FET controller; everything looked right, PCBs assembled correctly, and all signals looked good; continued testing to try to capture a failure on the scope, killed another FET and might have caught the start of the failure. Reduced power by 10W and added likely unneeded protection diode. Could not get the infrequent death to occur again... is it fixed?
 - Checked thermal lockout circuit, regulated in air to ~85C. Little warmer than expected but ok,
 - Assembled HSI light housing
 - Continued ESC controller code, can now send and receive messages over USB UART without missing bits when characters are sent quickly.
- Justin Tucker
 - 901101 - Seafloor Mapping
 - LASS follow up on post cruise tasks
 - Overhead
 - LARS modeling design review prep
 - Out of Office
 - Out 10/27-11/7
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Wired up event camera
 - Fixed bugs in code
 - Out of Office
 - Dec 16th - Jan 10th - Vacation
 - May 30th - June 5th

■ Oct 9-13th