

WeeklyReport

Engineering Weekly Report 7/31/2025 - 8/7/2025

<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
 - Aug 11, 2025 - Aug 12, 2025 – vacation
- Francois Cazenave
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Refactoring to merge planktivore low and high magnification configurations for VSS (vector database system for vector similarity search) into compose stack with other projects
 - Populated low mag augmented exemplar for searching velella medusae on single mission to test. CENCOOS team to finish preparing all planktivore low-magnification data for processing soon..
 - 901502 - Ocean Soundscape
 - Support summer intern model hyperparameter sweeps
 - PBP support and manual AWS opendata sync for Hawaii collaborator
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Intern meeting
 - 902111 - Carbon Flux Ecology
 - Planktivore meeting. Team to work towards a working pipeline by end of September.
 - 902306 - SINKER
 - Integrated ADCP data incoming from MARS to dashboard as SSE
 - Setup rsync from MARS to shore, deployed via [Ansible](#)
 - Investigating issue with low-frame rate refresh HLS stream on sediment cameras
 - Overhead
 - ML workshop preparation and presentation
 - Proposal review
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Evaluating [google kaggle whale multi-species model](#) on 5 sec audio segments from selected [10 min MARS MBARI Pacific Ocean Sound Recordings](#) audio files. Scoring for presence/absence of Orca call in each 5 second segment vs model sigmoid confidence scores. So far, very good correlation between ground truth (as I hear it and see in MEL spectrogram) vs model confidence score.
 - Gearing up for large runs against MARS audio archive
 - Discussed application to embedded LRAUV with Danelle.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Intern meetings

- Start collaborator agreement process
- Overhead
 - ML workshop preparation, attendance, follow-up
- Jon Erickson
- Kevin Gomes
 - 300057 - Mooring Maintenance
 - Fixed 225/50 m microcats which I had swapped
- Andy Hamilton
- Kent Headley
 - Overhead
 - Proposal review
 - Hiring (scheduling interviews)
 - Attended ML workshop (hosted by K Gomes)
 - Misc admin
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Monitoring MARS deployment
 - Image processing test tools
 - Prep Trigger Trap for deployment in 2 weeks
 - 902401 - Geo-Sense
 - Checking on data drives in DAS unit
 - Overhead
 - Rec-Com
 - Out of Office
 - Aug 7 and Aug 11: Vacation, email contact
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Literature review for DeepPIV ML based improvements
 - Prep work for ML@MBARI workshop
 - 902204 - Scalable Robotics
 - Feature adds and deployment readiness for sen-norbit, 7k-writer in preparation of arctic cruise
 - Improvements to mbes_localization pipeline for UTM coordinate reference frames
 - Continue improvement on mbes_localization system using older data, might be not ideal due to possibly poor overlap.
 - Improvements to reference_preprocess submodule to move from mb-grid → submap database
 - Overhead
 - ML@MBARI-workshop
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Ongoing tests to track down pH noise with MSC3 in PTC
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - RS485 interface board almost done in Kicad
 - Overhead
 - Aug 5: Bike to work
 - Out of Office
 - Aug 12: WFH
 - Aug 11-15: out one day TBD to move
- Scott Jensen
 - 706008 - READI-Net

- Preparing for first run of 100 instruments
 - Completed first run of the 10 instruments
- 808015 - Monitoring McCloud
 - TNC has intermittent communications
- 901205 - ESP SURF Center
 - Bulkhead valves are being a real problem
 - Electronic Component failures
 - Mechanical assembly failures
- 901405 - Wave-Energy Conversion for Oceanographic Applications
 - A bit more working getting PCB package out for Fabrication and Assembly
- Overhead
 - M-Tech interviews
- Out of Office
 - 8/(7-8) Vacation
 - 9/(8-12) Vacation
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Finished design of new PIC32 PCB for SIPPER. Sent to manuf
 - Diagnose pump failure in joint MBARI/SIO Spray 25
 - 901502 - Ocean Soundscape
 - Initial port of MBARI HMB code to NVIDIA Orin
 - 902004 - Planktivore
 - Pilot Ahi in support of I2MAP
- Chad Key
 - 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
 - 702106 - CeNCOOS
 - Monitoring the IFCB operation. We have lower power generation by Power Buoy due to the condition of the heave cone not closing; we had to shutdown the IBFB several times for a duration from several hours to a couple of days. Resuming operation of IFCB so far was OK.
 - 901809 - Deep Sea Bioinspiration
 - Feedback on intern dry run talks.
 - 902004 - Planktivore
 - We are assembling the new Planktivore, first in a series of three. I am working on the strobe assembly and started with modifying the camera mount with insulating / heat transfer gasket, as well as designing/ printing parts to check optics alignment.
 - Found there is 1 mm offset, that is, in order to be fixed, requires parts modification. Modifying and re-printing parts look to be easiest.
 - 902401 - Geo-Sense
 - We had Aaron M. and Aaron S. working hard in Norway on DAS deployment. I was working on preparing two fiber optic spools, in particular, on housing/ securing "Black Holes" termination, using 3D printed parts, inside the spool tube for Linder fiber, and on the side of the spool for FIS 900 um tight-buffer fiber.

- Overhead
 - LSA activity: New/ updated TWA as well as a set of outdoor laser safety signs had to be prepared for the Norway deployment. This or next week, we plan to review/ de-brief on any feedback.
 - BSA activity: working on the Packard battery storage. Had quite an interesting experience and interaction with the group from UC David conducting small boat operation training; James Fitzgerald might be able to help with some links as far as expertise about handling battery fires on moving platforms such as ships are concerned.
 - ERT: We have a monthly meeting this week.
- Eric Martin
 - 901101 - Seafloor Mapping
 - Phins+Tasman assembly
 - Handing off efforts to Arctic
 - 901217 - Chemical Sensor Program
 - RUDICS box working, need to test call functionality and then install on roof.
 - 902204 - Scalable Robotics
 - See arctic work
 - HSI Light design review
 - DVL bringup.
 - Intern help by the tank
 - Attended Vicente's defense, he passed!
 - 902505 - 2025 Arctic Expedition
 - Meeting last week
 - Lots of knowledge transition
 - Packing of hand-carry equipment
 - Out of Office
 - Aug 4, 2025 - Aug 5, 2025 : Vacation
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Updated Batman firmware to address protocol feedback
 - Troubleshooting serial garbage chars, fixed with a 10k terminator
 - 901805 - Coastal Biogeochemical Sensing Program
 - Working with Jim Davis on MoSoS v5.x support for Carbon lab platforms
 - 902004 - Planktivore
 - Planktivore v2 build is in progress. Orin's are all programmed, Denis is fine tuning the optics chassis and alignment, camera controller electronics are ready to go.
 - Working with Aaron on housings.
 - Overhead
 - Machine Learning Workshop
 - Out of Office
 - Out sick a couple days
- Mike McCann
 - 901009 - CANON
 - With IS help replicating elvis/dods/search services on new ubuntu VM elvis2
 - New AD account needed for hyrax bes container access to data shares
 - New AD account needed for thredds container access to data shares
 - Rolling the apache2 service into the docker-compose.yml
 - Putting documentation in docs.mbari.org, the elvis-services repo, and in WHD tickets
 - All configuration changes will now be managed in version control
 - 901101 - Seafloor Mapping

- Some preparation for SIGGRAPH Carto BoF talk next week
- Out of Office
 - 28 July - 8 August – Remote work
 - 10-14 August – SIGGRAPH
 - 18-29 August – Remote work
 - 1-5 September – Vacation
 - 8-13 September – Web3D & Digital Heritage Conference
 - 15-18 September – Vacation
- Paul McGill
 - Out of Office
 - I've been busy sleeping in because I'm retired!
- Enoch Nicholson
 - 706008 - READI-Net
 - Continued FIDO instrument assembly - completed zip tie installations and began side panel installation
 - Resolved cylinder drive slot manufacturing issue and coordinated machining corrections
 - Installed side panels, cutout covers, lids, and connector shells on FIDO units
 - Built FIDO cylinders, coordinated plate painting, and modified reagent cup holders
 - FIDO firmware discussions and checkout code testing with Elicia and Scott
 - 901007 - Benthic Biology & Ecology
 - Completed project documentation migration to new lab notebook system
 - 901205 - ESP SURF Center
 - ESP Group Meeting and HK Scientific SBIR presentation on marine eDNA detection
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Consolidated payload development documentation for multi-platform deployment (kites, aerostats, UAVs)
 - Hardware procurement complete: GoPro Hero 12, Raspberry Pi 4, and accessories
 - Continued collaboration discussions with Seahawk for aerostat winch deployment system
 - 902306 - SINKER
 - Completed project documentation migration to new lab notebook system
 - Overhead
 - ME candidate interview and monthly ME Group Meeting
 - Freudenberg diaphragm vendor call for sourcing discussions
 - ME apprenticeship program coordination
 - July expense report completion
 - Dr. Dawson seminar attendance and ocean equity outreach registration
 - Out of Office
 - Tsunami warning delayed start on July 30
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Completed and Accupositioner pan and tilt driver modifications
 - 300062 - DMO Support - Doc Ricketts
 - Coordinating with ROV pilots on testing advance nav interface on SMD visit next week
 - Working on proposed additions to MBARI/SMD protocol spec
 - 901101 - Seafloor Mapping
 - Finishing up board to board communication of LASS GOB stack
 - Working on commands for GOB computer board and LASS system board
 - Modifying GUI to working with new LASS GOB stack
 - 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
- Paul Roberts
 - 702108 - Deployable AI
 - ML workshop
 - Deployment data review
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR system build prep
 - 902004 - Planktivore
 - V2B build support
 - Data processing support
 - 902204 - Scalable Robotics
 - HSI strobe design
 - 902306 - SINKER
 - Data publishing for dashboard
 - Overhead
 - ML workshop
 - Out of Office
 - Aug 7-Aug10, Truckee
- Brent Roman
- Carlos Rueda
 - Out of Office
 - Next Tuesday 8/5: vacation
 - 7/22: out sick part of the day
- Karen Salamy
 - Overhead
 - Returned from vacation and going through emails.
 - Updated the precruise text as requested by Matt S.
 - Provided Bill Ussler with some information on how to properly dispose of the Drill Sled Blasting Caps that were stored in the hazardous waste bunker.
 - Out of Office
 - July 30-August 5, 2025 - Personal vacation time
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Working with the video lab to resolve issues with the migration of the video archive from Titan to Thalassa. <https://github.com/mbari-org/vars-feedback/issues/209>
 - Updated [Pythia](#) to add support for manually specified thresholds for inference. Also throwing together a version (ultra-pythia) to use the ultralytics library directly.
 - 902002 - FathomNet
 - There's two major updates in the pipes, Kevin B's work on migrating the [front-end from Vue 2 to Vue 3](#), and Brian's work on migrating the [back-end from Micronaut to Quarkus](#). These are deployed on the development server <https://dev-fathomnet.shore.mbari.org/> and Brian is [reviewing and testing](#) everything before it's deployed.
 - Out of Office
 - Jul 29, 2025 - Aug 1, 2025 - Out due to illness

- Aug 7, 2025 - Aug 12, 2025 - Vacation
 - Aug 18, 2025 - Aug 21, 2025 - Vacation
 - Sep 3, 2025 - Sep 17, 2025 - Out of Office
- Alana Sherman
 - Out of Office
 - Worked remotely Monday
- George Stern
 - 902204 - Scalable Robotics
 - Completed Mola Dock Stereo Vision box design and started drawings
 - 902304 - Piscivore Cam
 - Continued integration on LRAUV and final can build a revised lens
 - New Lens/Camera comparison test with the gofish camera
- Justin Tucker
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Assisting with Mola in test tank
 - 3D modelling new blueboat Norbit mount
 - 902402 - CSEM
 - Wiring done on the new CSEM triggerbox
 - Continuing code development
 - Out of Office
 - Dec 16th - Jan 10th - Vacation
 - May 30th - June 5th