

WeeklyReport

Engineering Weekly Report 5/8/2025 - 5/15/2025

<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
 - May 8, 2025 - May 9, 2025 – vacation
 - May 22, 2025 - May 23, 2025 – vacation
 - Jun 3, 2025 - Jun 10, 2025 – vacation
 - Jun 11, 2025 - Jun 15, 2025 – CVPR
 - Jun 23, 2025 - Jun 26, 2025 – HPE Discover
 - Aug 7, 2025 – vacation
 - Aug 11, 2025 - Aug 12, 2025 – vacation
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Wave energy buoy deployment, preparations, cleanup
 - Monitoring buoy
 - 902106 - Niobicon-Based AUV Docking Development
 - Preparations for buoy deployment
 - Photosensor assembly
 - Project management
- Danelle Cline
 - Out of Office
 - Vacation 5/26-5/30
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Continued eval of Google Kaggle multi-species whale model. Next step is to try tuning denoising the resampled 24kHz data – a simple denoising is removing too much signal and not yielding good classification results.
 - Experimenting with R in preparation for summer intern work.
 - Out of Office
 - Dental appt May 14, 2025
 - Doctor appt May 16, 2025
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Installed navproc on Packard and have a couple of data streams flowing (raw data from signal distribution box right now)
 - 300070 - DMO Support - Ventana
 - Working on new data portal/dive log

- Diving back into authentication
- 901009 - CANON
 - Helping people get platform tracks and layers on the ODSS
 - Built movie for Saildrone cruises for Francisco
- Overhead
 - Abstracts and presentations
 - Hosted AWS visit
 - Coordinating work with NVIDIA
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - worked on some slides for abstract
 - 300078 - DMO Support - AUV
 - Added feature to the substack proof-of-concept that enables a substack to be re-run, i.e. it can be used like a macro
 - Next steps are to review with Erik and Rich, and experiment with more use cases
 - 902204 - Scalable Robotics
 - Investigating some issues reported with the mb1stream application: decreased swath width and asymmetric (off-center) beams
 - So far, have not been able to reproduce the issue
 - Did find a limitation in max number of beams in MB1 record, and updated for mb1stream
 - 902405 - Precision Control Technologies
 - At Mike Risi's suggestion, estimating potential amount of Steve Rock time we could potentially use on a contract basis for various efforts
 - Overhead
 - met w/ Antje
 - hiring process
 - misc admin
 - Out of Office
 - May 20 afternoon
 - Jul 14-31 (vacation)
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Spare controller dev
 - 902401 - Geo-Sense
 - Log file access via Windows
 - Alternative log file access methods
 - Overhead
 - Proposal activity
 - Out of Office
 - Occasional sick days Apr 21 to May 12
 - May 19 - May 29: Vacation, email contact
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Resume writing Triton drivers using VimbPy as backbone instead of GenICAM. Will offer more control over settings.
 - Go through documentation on Orin setup again to prepare deployment ready version.
 - 902204 - Scalable Robotics
 - Added an interactive console client to update norbit settings in real time without needing to restart driver.

- Added GUI to control norbit settings, using the console client as the backbone. GUI also contains a low bandwidth snapshot mode for taking snaps of bathymetry plots for debugging and viewing sonar data.
 - Water tank testing for new changes, investigate why soundings were poor in last paragon off shore test. Possibly loose cable covering Norbit.
 - Out of Office
 - July 3 - July 8 Vacation
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Various coding tasks and troubleshooting handed off by Thom
 - Various power and timing measurements
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR multispec front light working with camera, minor troubleshooting
 - Code for coordination with backlight
 - Out of Office
 - 5/13/25: Dr Appt
- Scott Jensen
 - 706008 - READI-Net
 - Beginning the processes of ramping back up after shutdown
 - 808015 - Monitoring McCloud
 - Installed two instruments at Bollibokka and The Nature Conservancy
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Building up RaspberryPi zero and evaluating if it can replace SIPPER PIC24
 - 901502 - Ocean Soundscape
 - Instituted real time data processing and plotting. Now served on gizo.mbari.org
 - meetings
 - 901805 - Coastal Biogeochemical Sensing Program
 - Mechanical design of NanoFET v2
 - Spray code tweaks
 - 902004 - Planktivore
 - meetings
 - 902101 - LRAUV Technology Development
 - Recovered stuck LRAUV Galene
- Chad Kechy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 6/16-24
 - 9/15-30 (UTC+2)
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Follow up work on the cruise, repairing strobes.
 - Meetings with 3D@Depth and preparing to return ship the unit to Colorado for continued work.
 - Abstract presentation work
 - 901103 - Biodiversity and Biooptics of Zooplankton (ROVVR Support)
 - HMC last meeting and project wrap up.

- 902204 - Scalable Robotics
 - Thruster work in tank with Vicente
 - Support Javiera's hunt for the rock
 - Review of Poster for ICRA
 - Project Management
- 902504 - Scalable Semantic Mapping
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- Out of Office
 - Comp ½ day friday.
- Thom Maughan
 - Out of Office
 - TBD, Trip to UW after MSC3 passes our test plan, new forecast is mid-May.
- Mike McCann
 - 901221 - Midwater Time Series
 - Identified confusing duplicate i2MAP mission log directories in M3/master
 - 902403 - Expedition DB Modern
 - Wrote dive_hours.py script to give IS information for sizing onboard storage for ROV video data
 - I am working on getting tests to pass in expd-django's expd-next branch
 - Overhead
 - Debugging of RovCTD data processing following ShipData move to thalassa
 - Out of Office
 - 19 May – CSUMB School of Computing and Design annual retreat at Cabrillo College
 - 21-25 July – ESIP Summer Meeting
 - 28 July - 8 August – Remote work
 - 10-14 August – SIGGRAPH
 - 18 August - 5 September – Vacation
 - 8-13 September – Web3D & Digital Heritage Conference
- Paul McGill
 - 902401 - Geo-Sense
 - Made slides for upcoming project update
 - Decimating Geo-Sense DAS data from 1 kHz to 1 Hz to search for internal waves
 - Out of Office
 - Out Monday for medical appt
- Enoch Nicholson
 - 706008 - READI-Net
 - Restarting purchasing for FIDO
 - 901007 - Benthic Biology & Ecology
 - Starting Instrument Assembly
 - 901205 - ESP SURF Center
 - McCloud Deployment last week
 - 902306 - SINKER
 - Supporting build of deployment frame
 - Overhead
 - PDM Support
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Miscellaneous bug fixes
 - Started navproc integration on David Packard
 - 300062 - DMO Support - Doc Ricketts

- Finished external control interface for testing
- 901101 - Seafloor Mapping
 - LASS AUV scoping meeting
- 902405 - Precision Control Technologies
 - Working on implementation of filters to eliminate pitch oscillations during midwater tracking
- Out of Office
 - Offsite on Tuesday and Friday
 - March 3 - March 6, 2025 - vacation
 - June 2 - June 6, 2025 - vacation
- Paul Roberts
 - 702108 - Deployable AI
 - Hardware assembly and testing
 - Galene 27 deployment
 - 902204 - Scalable Robotics
 - PoE can 2 assembly
 - Overhead
 - Abstract presentation
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - ESP deployed off La Push continues sampling once every other day
 - Working with APL electrical engineer to debug power supply issues
 - Certus modem inrush current requires buffering with a large cap and slow-start circuit
 - 901205 - ESP SURF Center
 - Helped Nadia understand why 3G PV actuators' calibrations are drifting
 - After she discovered printed parts are flexing and cracking
 - Revamped sampler vacuum calibration to more easily handle flow resistance varying between machines.
 - 902304 - Piscivore Cam
 - Finally got the CV25 Ambarella based camera board image configured to my liking
 - With support for High-Speed WiFi, Wireguard VPN and SDcard storage
 - Overhead
 - Filling new shelves in my office
 - Out of Office
 - May 30 – June 23
- Carlos Rueda
 - 901513 - Targeted Sampling by AUVs
 - Basic testing of tracking software on the waveglider (smc-2) in preparation for deployment (tentatively, early June). Some ssh connection issues, though.
 - LR's looking into issues I'm facing when trying to sign in in WGMS (related to MFA).
 - 902101 - LRAUV Technology Development
 - TehysDash/Dash4: Adjustments/useability fixes in implementation of the new tracking feature.
 - The above has been deployed at <https://oceanids.mbari.org/dash49/>, the version that has had the new user authentication (including MBARI SSO) in place since early this year. Per discussion with Brian K., I understand we can now make it the "official" dash4. I will then be doing the following:
 - Deploy the current dash4 (with the traditional auth mechanism) so it gets accessible at <https://oceanids.mbari.org/dash48/> (note, 48), mainly as a backup in case non-MBARI users encounter sign-in issues (though these are unexpected).
 - Enable the new auth system at the usual location: <https://oceanids.mbari.org/dash4/>

- Notify users via usual channels.
 - Remove <https://oceanids.mbari.org/dash49/>
 - TethysL is now [4.4.1](#). In particular, I'm revising the generation of LRAUV information that is captured for TethysL purposes. Main goal is to reduce redundancy, while also increasing accuracy/consistency.
 - Exchanges on lrauv-ux channel regarding specification of command/vehicle status report from the LRAUV via Dash backend (a 3-year outstanding issue).
- 902504 - Scalable Semantic Mapping
 - While doing Dial dev, discovered and reported a mission script parsing issue in MOLARS.
- Overhead
 - IE group meeting with Amazon re GenAI and use cases.
- Out of Office
 - Beginning of June: 4-6 days vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Working with Rob to better define some of the ROV CTD O2 flag states (0-3)
 - 300057 - Mooring Maintenance
 - Attended a meeting last week regarding the upcoming Mooring proposal process and submission.
 - 902101 - LRAUV Technology Development
 - Working hard to complete many of the updates on the Map for the team before shifting my focus over to Sinker
 - 902306 - SINKER
 - Participated in a meeting regarding the UI for Sinker and the teams expectations.
 - Working with Danelle Cline to start to build up of the front end in React on the VM sinker.shore.mbari.org
 - 902403 - Expedition DB Modern
 - Attended the weekly team meeting on database updates and progress by Brian. I owe him some quick research on most popular SQL calls by users for the pre and post cruises in the past.
 - Overhead
 - Spent quite a bit of time helping update the pre and post cruise email scripts with Peter, Matt and Joe following the MBARI email upgrade to Outlook. The emails all seem to be working again.
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Fixes to Oni to support the new knowledgebase webapp development
 - Manual registration of videos while waiting for the titan to thalass migration to complete. (Once that's done we can turn on the automated registration again)
 - 902403 - Expedition DB Modern
 - Lots of development on the database design and [REST API](#). Working through authorization and authentication; it needs to support both duo (human-in-the-loop authentication) as well as apiKey (i.e. machine-to-machine) authentication.
 - Out of Office
 - Jun 16 - Vacation
 - Jul 21 - 24 - Vacation
 - Aug 11 - 12 - Vacation
 - Aug 18 - 21 - Vacation

- Alana Sherman
 - 902401 - Geo-Sense
 - We have been working the last two weeks to get the new DAS up and running. So far we have fixed, terminated, and tested
 - We tested the deployed cable and made sure that the oil-absorption did not make any difference
 - We purchased rack mount chassis and hard case for travel
 - Meetings over the logistics of a potential greece deployment
 - Putting together project update
 - Overhead
 - abstracts!
- George Stern
 - 300078 - DMO Support - AUV
 - Quotes and final proposal for new gauge/safety interlock for the small pressure chamber to enable testing reviewed with Aaron and sent to Paul
 - 902204 - Scalable Robotics
 - Disassembled the mola control station and identified an easier approach to blocking the MQTT server that didn't require hardware modifications; after more updates from Boxfish, there is an even easier method with two nice script commands they should have given us years ago
 - 902208 - Mini ROV Operations
 - Continued reviewing power supply options, vicor makes some neat products but it is unclear if they will work, need to find out what the typical max thruster RPM is
 - 902304 - Piscivore Cam
 - Continued working on the can design for the next camera, mostly tried to identify ways to transfer heat from the board to the can without using air since that increase camera noise floor
 - Created one design with thermal straps but it requires machining copper which is a pain
 - Created a 2nd design with heat pipes; but it is unclear how easy it will be to bend them, will see when they arrive.
- Justin Tucker
 - 708178 - Marine E Development NAV
 - Battery housing basic review
 - 901007 - Benthic Biology & Ecology
 - BRS build
 - 902010 - Mesopelagic LRAUV
 - DAT cover
 - Propeller scaling
 - Planktivore nose fairing design and analysis
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Integrated a relay on the Blueboat to remotely power the Norbit
 - Built up a network map of Blueboat - working with Adriana & Travis for Tailscale VPN integration
 - Overhead
 - Debugged Roberto's SBE 16 CTDs
 - Out of Office
 - Dec 16th - Jan 10th - Vacation