

WeeklyReport

Engineering Weekly Report 5/22/2025 - 5/29/2025

<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
 - Monitoring buoy
 - Preparing Spotter mooring
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing Brizo hardware
 - 902204 - Scalable Robotics
 - Designing Ventana mapping drawer
- Danelle Cline
 - Out of Office
 - Vacation 5/26-5/30
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Preparing for summer intern Franny Oppenheimer
 - Looking at alternatives to Google Kaggle multi-species whale model.
 - Out of Office
 - Dental appt May 29
 - Doctor appt June 9
- Jon Erickson
- Kevin Gomes
- Andy Hamilton
- Kent Headley
 - 300078 - DMO Support - AUV
 - Met w/ Erik re macro behaviors for informal review/feedback
 - Looking into suggested semantics changes
 - 902204 - Scalable Robotics
 - Added cmake build to mb1stream

- Updates ready for testing
 - Testing updates to MB-System
- Overhead
 - proposal / budget prep
 - Hiring process
 - Misc admin
- Out of Office
 - May 23 (vacation)
 - Jul 14-31 (vacation)
- Rich Henthorn
 - Out of Office
 - Occasional sick days Apr 21 to May 12
 - May 19 - May 29: Vacation, email contact
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Worked on Multicam driver for allied vision CSI/2 MIPI cameras.
 - Migrated to VmbPy backend to have better control over camera settings.
 - Driver can now run at max frame rate and resolution
 - Modularized driver to choose individual settings for each camera parameters and saving
 - Wrote profiles for setting + custom profiles
 - Working on video streaming
 - 902204 - Scalable Robotics
 - Worked on MBES localization system.
 - Finished first module + unit tests for database management and submap query system based on location. This covers databases for both reference and query maps.
 - Working on registration system + pose graph backend next.
 - Out of Office
 - July 3 - July 8 Vacation
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Random support, e.g. measuring timing of different processes, current measurements, troubleshooting broken boards
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity board: tests with electrodes in NaCl water, finished board design
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Tests with internal linear actuator; PWM is not working
- Scott Jensen
 - Out of Office
 - 7/3-7/25 vacation
 - 7/17-22/25 vacation
- Brent Jones
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - Ahi is out for another plaktivore i2map run

- Ahi, Daphne, and Triton were out last week. Acoustic tracking and traditional tracking DB tracking were used due to a configuration error on Triton. Successful data collection around the drifter. Daphne failed sample collection due to a clog.
 - Recovered Tiny and Triton.
- 902010 - Mesopelagic LRAUV
 - Fixed issue with battery configuration
 - Tested cold oil transfer and duplicated issue observed offshore.
- 902101 - LRAUV Technology Development
 - Acoustic debug on Triton following deployment. Quick test with Tiny.
 - Made a new feature in waypoint to deal with bearing correction
 - Loaded up Pontus for docking missions next week.
- Overhead
 - Met with Oshen team to discuss final test plan on their new vehicle.
- Out of Office
 - 05/27-06/02 (MST)
 - 6/16-24 (MST)
 - 9/15-30 (UTC+2)
- Denis Klimov
- Eric Martin
 - Out of Office
 - Jun 10, 2025 - Jun 19, 2025 : Vacation
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Working with Cole and Varsha on LRAUV battery.
 - BPC2 out for assembly.
 - Moving forward with software dev on the handbuilt backplanes
 - 901217 - Chemical Sensors
 - Handed off to UW on May 16 for integration with APF11 controller.
 - Working thru integration and bug fixes, as of May 28th, handed of MoSoS v5.1.5 as the candidate to begin the float simulation phase.
 - 902004 - Planktivore
 - Weekly meetings
 - Ongoing deployments
 - Out of Office
 - Vacation: June 16 to July 8
- Mike McCann
 - 901101 - Seafloor Mapping
 - Submitted industrial use case paper for Web3D 2025
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Tested Michael's biolume proxy correction code and merged it into main
 - Fixed broken CI tests in GitHub Actions
 - Starting on remaining open Issues before doing the reprocessing
 - Out of Office
 - 29 May – Vacation
 - 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

- 701147 - MARS O&M IV
 - Met with Kaya, Danielle H, and MARS team to discuss NSF proposal and PI turnover
- 902401 - Geo-Sense
 - Finally succeeded in decimating 500 GB data set down to 500 MB (1 Hz)
- Overhead
 - Met with Rebecca E to discuss analysis of Seismosands OBS data
- Enoch Nicholson
- 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
- Paul Roberts
 - 702108 - Deployable AI
 - Assembly and testing of Triton camera
 - vehicle integration and testing
 - 902004 - Planktivore
 - i2MAP/Planktivore deployment
 - 902204 - Scalable Robotics
 - 10G Interface can wiring and assembly
 - 902405 - Precision Control Technologies
 - May 27, testing 3rd order filter on CFE lab dive
 - Out of Office
 - June 20 - June 29, Whistler, BC
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - Patched deployed ESPeddie to better recover from Forearm cage creep
 - 808015 - Monitoring McCloud
 - Developed a simple procedure to recover deployed ESPgordon from I2C gateway serial I/O errors
 - 901205 - ESP SURF Center
 - Diagnosed hardware problems on a few of the failed ESP 3G heater boards
 - 902304 - Piscivore Cam
 - Finally (sort of) wrapped my head around BitBake and Yocto.
 - The prototype is recording HD video @60hz while serving a real-time RTSP stream.
 - Also corrects for camera lens warping and provides a WiFi link.
 - Worked with George Stern and Oclea to find a hardware fix for Battery Backed RTC.
 - Out of Office
 - May 30 – June 23
- Carlos Rueda
 - 902101 - LRAUV Technology Development
 - Dash4 [4.94.2](#) and [backend 4.94.4](#):
 - New tracking feature successfully exercised in the field. (*"thanks for putting this together Carlos! It's totally saving us right now on Triton. Definitely one of the strangest issues I've seen with acoustics. We're very happy to have the tracking option."*)
 - Fix in piloting time report.
 - Cell timeout note now includes ID of associated command.
 - Several more users are now exercising the new authentication system (including SSO). No reported issues.

- Out of Office
 - 5/27 - sick
 - 5/29 - vacation
 - Beginning of June: 4-6 days vacation
- Karen Salamy
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 902002 - FathomNet
 - Working on [port of the REST API from Micronaut to Quarkus](#). (Micronaut has been difficult to support.)
 - 902403 - Expedition DB Modern
 - The project now has the following pieces in place. I'm moving on to other projects for the moment:
 - A new [database schema](#)
 - [Tools for migrating the existing database to the new schema](#).
 - A documented [REST API](#) ([source](#)). Along with a [python SDK](#) to simplify developer use (and an [example](#) to get started with).
 - Authentication via [MBARI's Duo](#) (for human-in-the-loop apps) or using [API keys](#) (via an X-API-Key http header) for non-interactive applications.
 - Out of Office
 - Jun 16 - Vacation
 - Jul 21 - 24 - Vacation
 - Aug 11 - 12 - Vacation
 - Aug 18 - 21 - Vacation
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Looked into data storage options for Coral Macro
 - 902208 - Mini ROV Operations
 - Trying to get a handle on our budget situation for the rest of the year
 - 902401 - Geo-Sense
 - Trying to plan and test components for Norway
 - Working through plans for 2026 proposal
 - Spent a lot of energy getting budget in order and still that is in process
 - Overhead
 - Did project update May 21
 - Modifying project update to DOEST talk now
- George Stern
 - 300078 - DMO Support - AUV
 - Found money and ordered new gauge for small pressure test chamber so in ~6wks we can start 7km tests
 - 902304 - Piscivore Cam
 - Completed schematic capture and layout
 - Began ordering parts
- Justin Tucker
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Prep for spotter buoy deployment
 - Battery housing weekly discussions
 - 902010 - Mesopelagic LRAUV
 - Propeller scaling and drag analysis.

- ANSYS fluent training
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Working on Blueboat Norbit WBMS pole re-design
 - 902208 - Mini ROV Operations
 - Following up on delivery date for Focal board. They are still expected to arrive well before the Arctic expedition
 - 902402 - CSEM
 - Working with Mr. Shin on winch deck placement changes
 - Out of Office
 - Dec 16th - Jan 10th - Vacation