

WeeklyReport

Engineering Weekly Report 5/15/2025 - 5/22/2025

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

Executive Council Notes

-

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 buoy
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing Brizo nose
 - 902204 - Scalable Robotics
 - Met with Eric to define new project
- Danelle Cline
 - 901221 - Midwater Time Series
 - Finished processing i2MAP_20250402 300 meter day/night transect with custom YOLO BioTracker strided no tracking
 - 901502 - Ocean Soundscape
 - Soundscape recording is running steady now after some adjustments to the network settings to allow for longer timeouts
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Assisting as VO for flights
 - Briefly tried the tool <https://www.animaldetect.com/> . Worked at 0% confidence threshold on uncluttered drone images to detect larger megafauna. Limited to 1G for free version Worth trying further on images with high reflectance.
 - Met with collaborator to discuss shark/kelp data
 - IS request for new VM drone to host data externally for broader access
 - 902111 - Carbon Flux Ecology
 - Finished performance and feature upgrades to sdcat to support processing larger collections with better reporting and export to parquet format. Release v1.21.0
 - Processing Hawaii ISIIS data 3 million ROIs on doris VM
 - Team meetings with Planktivore/CenCOOS groups to discuss workflow and next steps

- Overhead
 - Group meeting on authentication
- Out of Office
 - Vacation 5/26-5/30
- Duane Edgington
 - Out of Office
 - Dental appt May 14, 2025
 - Doctor appt May 16, 2025
- Jon Erickson
- Kevin Gomes
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - Prepared some slides for the abstract presentation
 - 901221 - Midwater Time Series
 - Added a station keeping substack to test mission to make it more like an i2map mission, and fixed a bug that caused a substack not to be activated. The test mission appears to be working in sim, though Matlab has been unavailable, so it hasn't been possible to review the results graphically.
 - 902204 - Scalable Robotics
 - Found root cause of issue reported from cruise in the mbtrnpp/mb1stream SLAM data. The issue was related to the logic that mbtrnpp uses for beam decimation/selection. An integer decimation modulus is typically > 1 in the TRN context that mbtrnpp is normally used. In the SLAM context, the modulus is reduced to 1, which selects the first N records in the specified swath. Also the number of beams requested is less than the number of beams in the requested swath. Thus, the subtend an angle less than the swath, and are not centered. A new floating point scheme has been implemented that distributes the requested number of beams over the swath. It's in feature/compas-dev branch of MB-System, for testing with the SLAM pipeline.
 - Proposed some changes to viz_bathy to make the display more intuitive
- Overhead
 - Attended abstract presentations
 - Hiring: scheduling tech interviews
 - Attended Chris's surprise celebration
 - 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
 - Resume writing VmbPY based driver for Triton.
 - 902204 - Scalable Robotics
 - Changes made to 7k-writer, asv branch created for use with blueboat lcm channels to generate s7k records from seismosands survey
 - Updates to norbit driver, reverting back to vehicle frame for bathy messages

- Out of Office
 - July 3 - July 8 Vacation
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Help with code troubleshooting for MSC3's final push
 - Power, bootup time, etc measurements for MSC3
 - 901805 - Coastal Biogeochemical Sensing Program
 - Presentation on electronics for lab meeting
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Code for UDP comms (requires some restructuring of other code)
 - Testing controller-controller comms, servo motor PWM code
 - Out of Office
 - 5/12/25: Dr Appt
- Scott Jensen
 - 706008 - READI-Net
 - Setting up and collecting characterization data for the force sensor
 - 901205 - ESP SURF Center
 - Preparing for Iceland deployment by fabricating needed parts and collecting equipment
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Meetings about numbers of cells and the like for the design of the battery pack
 - 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
 - Lot's of deployments this past week! Opah, Ahi, Triton, Daphne, Galene
 - 902010 - Mesopelagic LRAUV
 - Opah's first deployment was last week. Down to 500m, did i2map tests, nav tests, etc. Planning to deploy again to 900m with larger prop testing.
 - Opah preliminary data analysis
 - Fixed battery issue in the config code
 - 902101 - LRAUV Technology Development
 - Added bearing recalc to waypoint behavior
 - Went over i2map mission with Cole for next time out
 - Ignore depth added for altitude envelope
 - Fixed Tridente component issues
 - Lots of UX work this week with the team. Focusing on state of comms
 - Overhead
 - Oshen shipping logistics continue
 - Hiring committee work
 - Out of Office
 - 6/16-24
 - 9/15-30 (UTC+2)
- Denis Klimov
- Eric Martin

- 901101 - Seafloor Mapping
 - Setting goals
- 902204 - Scalable Robotics
 - Prep for Jun 28 carson Day
 - POE can build
 - Ordering parts
 - Drawer design concept
 -
- Out of Office
 - Jun 10, 2025 - Jun 19, 2025 : Vacation
- Thom Maughan
 - Out of Office
 - TBD, Trip to UW after MSC3 passes our test plan, new forecast is mid-May.
- Mike McCann
 - 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
 - Out of Office
 - Out Monday for medical appt
- Enoch Nicholson
 - 706008 - READI-Net
 - Restarted purchasing
 - Checking out printed first articles
 - Supporting First Production instrument bring up
 - 901007 - Benthic Biology & Ecology
 - BRS Instrument assembly
 - BRS Hydraulic pump testing, redesign and assembly
 - 902306 - SINKER
 - Supporting build of SINKER Frame
 - Overhead
 - Concluding PDM Project
- 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
 - Hardware assembly and testing
 - 901809 - Deep Sea Bioinspiration
 - Review of Optim Galene 27 video and planning for next deployment
 - 902004 - Planktivore
 - Data management
 - Planktivore deployment on LRAUV Ahi

- 902111 - Carbon Flux Ecology
 - Chiton deployment on LRAUV Triton
 - 902204 - Scalable Robotics
 - PoE Can 2 assembly
- Brent Roman
 - Out of Office
 - May 30 – June 23
- Carlos Rueda
 - Out of Office
 - 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
 - 902403 - Expedition DB Modern
 - Continuing work on the database design and REST API. Many new endpoints added to the api. Swagger docs are at <http://gehenna.shore.mbari.org:9999/q/docs/>
 - Added authentication and role-based access control (RBAC)
 - Added OpenID Connect (OIDC) authorization (via Duo). Test login page at <http://gehenna.shore.mbari.org:9999/oidc.html>
 - Added X-API-Key authentication. Test apikey page at <http://gehenna.shore.mbari.org:9999/xapikey.html>
 - 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
 - Trying to figure out expanding image storage on Macro
 - 902401 - Geo-Sense
 - Held Project Update on Monday, so spent many of the days preceding figuring making the presentation.
 - Working with Aaron to determine if we could make logistics work for seep site in Milos but I think we have decided we would need more time to prepare, as our initial site had logistic difficulties and danger to the cable we could not overcome
- George Stern
 - 300078 - DMO Support - AUV
 - Found money to fix the small pressure chamber
 - 902304 - Piscivore Cam
 - Began schematic capture and layout
 - Ordering hardware and refining mechanical design
- Justin Tucker
 - 901007 - Benthic Biology & Ecology
 - BRS build continues
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Battery design discussions
 - 902010 - Mesopelagic LRAUV
 - Planktivore fairing design for 1500m vehicle
- Johann Voigtlander

- 902204 - Scalable Robotics
 - Deployed Blueboat on the beach from the paragon - hull sustained damage
 - Installed cradlepoint router in the boat and installed tailscale VPN
- 902402 - CSEM
 - Discussions with Mr. Shin regarding CSEM deck placement.
- Out of Office
 - Dec 16th - Jan 10th - Vacation