

Engineering Weekly Report 1/9/2025 - 1/16/2025

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Assembling PTO. Replaced all seals.
 - Valve test
 - 902106 - Niobicon-Based AUV Docking Development
 - Project management
 - 902204 - Scalable Robotics
 - Laser brackets
 - Mini ROV bumper
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Drafting summary of 951 hours video processed through CoTracker3
 - 901221 - Midwater Time Series
 - ViTS model training. .89 top-1 balanced accuracy
 - Processed 200 meters with ViTS 8 block model focusing on fish; cluster results look great.
 - 901502 - Ocean Soundscape
 - Team meeting
 - Minor work on PBP; add license and doc changes. Reading pbp-agent docs in prep to evaluate feature to merge
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Send Bryan our ML synopsis for sanctuary report
 - Processing and cleaning Dec 2024 missions
 - Ongoing refactoring of FastAPI-tator to simplify revisions for bulk modifications
 - ViTS model training. .86 top-1 balanced accuracy
 - Working on SAM based corrections of some bird localizations
 - 902111 - Carbon Flux Ecology
 - Assisting Fernanda with model training and running inference
 - Loaded 5.4 hour ISIIS video
 - Setup jupyter server for model training on doris.shore.mbari.org using two IS maintained GPUs.
 - 902306 - SINKER
 - First meeting scheduled for Tuesday next week.
 - Overhead
 - Perf feedback training review
 - Group tech talk on authentication and authorization
- Duane Edgington

- 901502 - Ocean Soundscape
 - Team meeting 1/15
 - Orcasound meeting Saturday 1/18 (virtual)
- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Working on yolov11 detection model in quest for improved detection accuracy
- Overhead
 - Group meeting
 - Presentations on performance feedback
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Built more null modem cables and have all simulated signals running into Digit Terminal Server.
 - Working with Peter on a VM that has the necessary network interface tweaks to allow for LCM traffic to operate properly.
 - 300059 - DMO Support - RV David Packard
 - More work on ArcMapNav
 - 706008 - READI-Net
 - Looks like Brent's patches worked with some startup issues that will need to be addressed, but the AP bug seems to be fixed.
 - Working on web application changes to prep for Tasmania deployment
 - Overhead
 - Review preparations
 - Attended two meetings on feedback best practices
- Andy Hamilton
- Kent Headley
 - 902204 - Scalable Robotics
 - project kickoff meeting, team is planning for cruise (this week)
 - 902405 - Precision Control Technologies
 - meeting w/ Steve re TRN doc, reviews
 - Overhead
 - HR training Providing and Receiving Feedback for supervisors, staff
 - annual review prep
 - met w/ Tom O re slides for Bristlecon presentation on MBARI experience with OGC PUCK standard
 - meetings, misc admin
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Project meeting, visit test site March 10
 - 902401 - Geo-Sense
 - Set up log player station in Micallef lab (Docker+Sintela PlatformManager+image)
 - Training session for GeoSense DAS
 - 902405 - Precision Control Technologies
 - Finishing touches on latest LRAUV TRN updates
 - Out of Office
 - Feb 3 - 6: WFH and PTO
 - Mar 3 - 6: WFH and PTO
 - Mar 31 - Apr 3: WFH and PTO
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Looking into VimbaPy to get better control over camera config setting

- V4L system has issues where sometime settings are not registered as expected on startup
- 902101 - LRAUV Technology Development
 - Nc4 log reader looked at and extracted relevant information, Will contact Brian to meet to see where these data fields can be fed into simulator.
- 902204 - Scalable Robotics
 - Finished Norbit beta driver development to test on cruise days Jan 14 and 15 2025
 - Changes from alpha: Streamlined, and removed redundant features from alpha driver
 - Added verbose/debug modes to both drivers to limit console prints
 - Cruise days Jan 14/15
- Overhead
 - Performance review training (view recorded meeting)
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Planning for new baseboard with holes matching new toolsled, and new module with coordinated holes that also fits mini ISUS
 - Random help for Thom in troubleshooting code, as needed
 - 901805 - Coastal Biogeochemical Sensing Program
 - Reviewed alk circuit again, talked to Ellen Briggs (Scripps), reviewed materials she sent
 - Working on getting lioncap and NC-Nanofet to Ellen- need to check out boards
 - MiniISUS: trying to figure out what's going on with lamp (model in hand doesn't match documentation in hand) before can proceed
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Discussion meeting and some follow up tasks in coordination with Paul
 - Overhead
 - Rec com budget
 - Out of Office
 - Feb 26 - Mar 9: vacation
- Scott Jensen
 - 901205 - ESP SURF Center
 - Preparing for Australian deployment
 - Overhead
 - Building G move
- Brent Jones
 - 901502 - Ocean Soundscape
 - Beginning processing for 2022. Some problems associated with titan
 - 901805 - Coastal Biogeochemical Sensing Program
 - Moving start of descent pH sampling to minimum 2m depth. Dont want to suck in surface junk
 - 902004 - Planktivore
 - Troubleshooting BME 280 env sensor
 - Overhead
 - Moving into bldg G
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 01/14-16 (MST)
- Denis Klimov
- Eric Martin

- 901101 - Seafloor Mapping
 - Call last week with 3d at Depth
- 902204 - Scalable Robotics
 - Sprint Kickoff, postdoc reviews.
- 902504 - Scalable Semantic Mapping
 - Offshore with the team finalizing the configuration for the MiniROV payload for the arctic. We have been able to accommodate all of the lab's sensors alongside the benthic payload.
- 902505 - 2025 Arctic Expedition
 - Lots of coordination beginning on this already.
- Out of Office
 - Vacation 12/23-1/3
- Thom Maughan
- Mike McCann
 - 902101 - LRAUV Technology Development
 - Removed bad latitude data from processed ahi data to make [stogs_lrauv_dec2024](#) look better
 - 902403 - Expedition DB Modern
 - Built the [Django documentation polls app](#) to better understand the essentials of Django
 - Got expd-django's precruise to load data into the database using the legacy form
 - Writing more tests for precruise creation and expedition update views
 - Overhead
 - Conflict of interest statement, welcoming feedback training
- Paul McGill
 - Out of Office
 - On vacation all of last week and Monday
- Enoch Nicholson
 - 706008 - READI-Net
 - Finalizing Production CAD model for FIDO
 - Continuing ordering for production build components.
 - 901007 - Benthic Biology & Ecology
 - Discussed project timeline with Jim's lab.
 - Started handing off design work to Justin to keep the project moving during Jan & Feb
 - 902306 - SINKER
 - Successfully completed pressure testing of battery housings
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Tested navproc 2.0 during Rachel Carson maintenance period
 - Working on resolving miscellaneous issues that were discovered during testing
 - 901101 - Seafloor Mapping
 - Testing of GOB Ethernet prototype circuit for the new LASS relay and trigger control board stack
 - Working on control upgrades for April/June deployment
 - Configuring new Linux workstation for TCU to be deployed in April
 - 902405 - Precision Control Technologies
 - Meeting with Steve and Paul R. on mid-water tracking testing for April
 - 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

- Prep for Jan 21/22 field work
- 901221 - Midwater Time Series
 - 4k upgrade planning and hardware testing
- 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR System controller
 - SWIR strobe design
- 902004 - Planktivore
 - Instrument and data documentation
 - Deployment planning
- Out of Office
 - Jan 6-10 Vacation
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - Got PPP connection scripts working reliably with retries in chat scripts
 - Added a big capacitor to the telebuoy to deal with modem inrush
 - Discussed with UW how to incorporate this into the actual telebuoy
 - 901205 - ESP SURF Center
 - Helping bring up the new TTL
 - Working with Nadia to tame the increased friction of the 3-bearing Carousel
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Group meeting
 - 902101 - LRAUV Technology Development
 - Advancing Firebase Auth option for user authentication
 - Got the green light from the project to open source some repos. Now checking with Basilio before proceeding. (Quinn S. also interested in the discussion.)
 - 902504 - Scalable Semantic Mapping
 - Group meeting
 - Overhead
 - Tech meeting about user auth (OAuth, Firebase, Allauth).
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly checks for data downloads
 - Monitoring intermittent M1 download issues
 - 902306 - SINKER
 - First meeting scheduled for Tuesday next week.
 - Out of Office
 - Out sick several days this week. :(
 - Vacation March 3-11, 2025 - Holiday Vacation
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - Out of Office
 - Jan 10-17 - [Deep-sea Biology Symposium. Hong Kong](#)
- Alana Sherman
 - 902208 - Mini ROV Operations
 - Helped a little with some last minute issues on the mob
 - 902401 - Geo-Sense
 - Everything- working out a million details trying to get the system ready to go out next week.
 - So far biggest remaining issues are with the deployment rigging and sheave.
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- George Stern
 - 300078 - DMO Support - AUV
 - Prop drive board - Completed peer review updates and adding hooks for the actuator board to hopefully eliminate the need to layout and build a very similar 2nd card
 - Created a greatly reduced layout effort and build time board for preliminary pressure tests. The board will mostly answer the question if solder joints on QFNs and other parts survive the stress of repeated cycles to 6km while enabling some live checkout at pressure
 - 902304 - Piscivore Cam
 - First rhonda software meeting
 - 902306 - SINKER
 - Continued writing a script to control battery charging from the the Pi
 - charger harnessing schematic
- Justin Tucker
 - 300062 - DMO Support - Doc Ricketts
 - Structural analysis of IBC lifting bracket
 - 901007 - Benthic Biology & Ecology
 - Introduction of BRS, system and CAD familiarization
 - 901101 - Seafloor Mapping
 - Strobe model updates for screenshots/renders of Jason on LASS for NSF proposal
 - 902010 - Mesopelagic LRAUV
 - Model updates to CTD cover
 - Hovering module familiarization
 - Overhead
 - Review document prep
- Johann Voigtlander
 - Out of Office
 - Dec 16th - Jan 10th - Vacation