

Engineering Weekly Report 1/2/2025 - 1/9/2025

<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
 - Presssure tested PTO
 - Testing valve
 - 902204 - Scalable Robotics
 - Designing bracket for laser
- Danelle Cline
- Duane Edgington
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Discuss [WebUOT-1M](#) (NeurIPS 2024) and OKTrack
 - 901502 - Ocean Soundscape
 - Discuss [NatureLM-audio](#), [BEATs](#), [Whisper](#) with Danelle
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Team meeting 1/7/2025
 - Overhead
 - Back from illness 1/6/2025
 - Experimenting with AWS new [Sagemaker AI](#) (AWS Sagemaker Studio, replacing Sagemaker Studio Classic, and [AWS Sagemaker Unified Studio](#))
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - With Mike Risi, deployed the new navproc/logging software on the Carson to leverage the maintenance week for testing.
 - Setting up all logger configs for Carson
 - Close to having two separate simulators for the Carson (old and new navproc/logging) running onshore, all with VMs.
 - 300057 - Mooring Maintenance
 - Working through an issue where there were duplicate deployments of all the M1 instrumentation back in September. Large clean up needed.
 - 706008 - READI-Net
 - Making changes to the web app to support new features implemented in the sampler controller.
 - The issue of the wireless access point not appearing on reboot has resurfaced and is also repeating on multiple RockPis. Brent R has been awesome helping me try to resolve this issue, but likely we will need to use a hardwired ethernet connection work-around for the Australia deployment as time is too short.

- Overhead
 - Starting up the review process
 - Getting new year kick off documents out to my group.
 - Travis discussed security issues with the group
- Andy Hamilton
- Kent Headley
 - 902204 - Scalable Robotics
 - weekly project meeting
 - team is prepping for cruise next week to test SLAM and norbit sonar (no-op for me)
 - Overhead
 - annual review prep
 - misc admin
- Rich Henthorn
 - 902401 - Geo-Sense
 - Team received our customized Sintela ONYX nano DAS last week
 - Laser safety session
 - Sintela hands-on
 - 902405 - Precision Control Technologies
 - Successful integration of TRN into LRAUV navigation system
 - Out of Office
 - Jan 13 - 14: Vacation
 - Feb 3 - 6: WFH and Vacation
 - Mar 3 - 6: WFH and Vacation
 - Mar 31 - Apr 3: WFH and Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Fixed issues with allied cameras on CTI boards. First board was defective/damaged hence probably why there were issues with it. Unfortunately not covered by warranty.
 - Change code to access camera feeds. Currently using V4L-ctl, but not able to consistently set parameters for fps with it. Explore the use of Vimba Python library instead.
 - 902204 - Scalable Robotics
 - Beta development of Norbit driver in C++. Expected to be functionally same as alpha driver, but will get rid of some bloat, and experience speed improvements due to c++ arch. Expected to be tested by Thursday 01/09 in time for first cruise of January in week of 01/13
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Troubleshooting issue with revC baseboard vs revB, traced to BME280 addressing in code
 - MSC3 baseboard revD is being made by Indtec
 - Look into mounting holes issues, will be updated for baseboard revE / Tiva1290 module revB
 - Getting Jess's Python code working with MSC3 output
 - 901805 - Coastal Biogeochemical Sensing Program
 - Reviewed alkalinity sensor documentation
 - Mini ISUS baseboard recreated as modification of MSC3 baseboard revD
 - Interview for research specialist position
 - Overhead
 - Closed out rec com budget for 2024 and set up spreadsheets for 2025. Made a draft budget.
- Scott Jensen
- Brent Jones
- Chad Keczy

- Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - Supporting Daphne MBTS mission this week
 - 902101 - LRAUV Technology Development
 - Will run tests to diagnose light terminated yoyos
 - 902106 - Niobicon-Based AUV Docking Development
 - Supporting long duration LRAUV Pontus deployment that started yesterday
 - Overhead
 - Wrapped up Oshen collaboration deployments yesterday following recovery of ASV Emperor.
 - Out of Office
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- Denis Klimov
- Eric Martin
 - 300079 - DMO Support - RV Rachel Carson
 - Preparing telerepresence for MINI cruises next week.
 - 901101 - Seafloor Mapping
 - Design review for thruster drive eval board.
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 - 902204 - Scalable Robotics
 - Project task setup
 - Annual planning
 - 902504 - Scalable Semantic Mapping
 - Preparing the mini for offshore work next week.
 - Calibrations
 - Out of Office
 - Vacation 12/23-1/3
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Working with Varsha on battery backplane BPC2 RevB board bringup. Found and fixed a few things, enough to spin a RevC.
 - Sent PO to Indtec and then put a hold on the assembly. We'll be making a RevC to address the issues.
 - 901217 - Chemical Sensors
 - Working with Ben and Josh on building six 'dev / test' boxes with MSC3 RevB and Tiva 123g
 - Working with Jacob Schloss to merge 1290 changes. Dev box sent to Jacob to enable Nitrate and pH driver testing.
 - Working to finish serial protocol
 - Working with
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Examined M1's current QC plots page for why it's not properly updating
 - 902101 - LRAUV Technology Development
 - Identified some missing full resolution .nc4 files from pontus's december 2024 deployments
 - Recreated pontus .nc files and reloaded [stogs_lrauv_dec2024](#)
 - 902403 - Expedition DB Modern
 - Trying to get the Precruise Step 2 "Check these entries..." page to work in expd-django
 - Overhead
 - Caught up on email and completed training, surveys, software updates, etc.

- Paul McGill
 - 902401 - Geo-Sense
 - Got battery spheres under vacuum and sealed
 - Set up a low-frequency “shaker” to test DAS response
 - Out of Office
 - On vacation all of last week and Monday
- Enoch Nicholson
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - December 30 - January 3, 2025 - vacation
- Paul Roberts
 - Out of Office
 - Jan 6-10 Vacation
- Brent Roman
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Security related adjustments in pbp-jupyter.
 - 902101 - LRAUV Technology Development
 - TethysL maintenance release 4.3.5.
 - TethysDash: Upgrading libs related to configuration
 - Inquiring project lead about open sourcing some of the repos
 - Revisiting Firebase for user auth (which I successfully used 6 years ago for the myVan webapp).
The goal is to use Firebase as a replacement of the current user authentication mechanism in the Dash4/TethysDash system. (Supabase is one other possible alternative.)
 - Overhead
 - Overall review of postdoc applications
 - Lib/security updates in a few projects
 - Out of Office
 - Jan 2–6: vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Updated latest round of ROV CTD QC flags into EXPD for Rob Sherlock.
 - 300057 - Mooring Maintenance
 - Checking in on intermittent issues with M1 data downloads. Working with Jared and Kevin to try and determine the cause.
 - Overhead
 - Spent some time setting up my new office. G106.
 - Went to lunch with the SWE group yesterday. Thanks Kevin!
 - Out of Office
 - Vacation March 3-11, 2025 - Holiday Vacation
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - 902002 - FathomNet
 - Finished putting together a talk for DSBS
 - Group meeting to [prioritize 2025 work](#).
 - 902111 - Carbon Flux Ecology
 - Starting work to merge annotations from a very old VARS database (perseus:/VARS_Images) into the main M3_ANNOTATIONS database. The main challenge is resurrecting the old VARS

database layer; many of the dependencies it used were hosted on a maven repo on bintray, which was “disappeared” a few years ago.

- Overhead
 - Put together 2025 work plan
- Out of Office
 - Jan 10-17 - [Deep-sea Biology Symposium. Hong Kong](#)
- Alana Sherman
 - 902208 - Mini ROV Operations
 - Prepared the 20ft control van for the Carson dives, lots of small issues to troubleshoot including:
 - Networking loop
 - KVM switch issues with cordless keyboard and mouse
 - Issues with the overlay video components
 - 902401 - Geo-Sense
 - Big progress, bench tested the new DAS during 2 zoom calls with Sintella. Learned to operate system, adjust parameters and record data.
 - Finished schematic for electronics sphere and overseeing wiring of e-sphere
 - Worked with DMO to identify release and 600m piece of spectra line
 - Looked at a lot of trawl blocks but need some guidance from Kavi
 - Tested deepsea connect through water and had success
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 - Overhead
 - First steps of employee performance review
- George Stern
 - 300078 - DMO Support - AUV
 - Continued schematic entry/detailed design for the Dorado Prop/Actuator board
 - Peer review for the board
 - 902306 - SINKER
 - Began writing software to control the power supplies for battery charging
 - Preparation for battery housing electronics assembly
- Justin Tucker
 - 901101 - Seafloor Mapping
 - Thermal experiment flow simulation to assess pressure and thermal uniformity through nozzle array.
 - CAD model updates for as built sled strobe arms
 - Overhead
 - OpenFOAM updates on VM
- Johann Voigtlander
 - Out of Office
 - Dec 16th - Jan 10th - Vacation