

Engineering Weekly Report 9/5/2024 - 9/12/2024

<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2024/>

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - MBARI Open House comp day Jul 19, 2024
- Francois Cazenave
 - Out of Office
 - Vacation
- Danelle Cline
 - Out of Office
 - September 24/25 NOAA SoundCoop workshop Boulder, CO
 - Oct 7-10 - 5th Marine Imaging Workshop in Monterey
- Duane Edgington
 - Out of Office
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
 - Dec 8 - Dec 17, 2024. [Neurips](#) Conference. Vancouver, BC.
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Met with Doug C, Mike R and Drew B. to spec terminal server for purchase. Going to purchase 2 and ship one to Vigo and keep one here for development.
 - 706008 - READI-Net
 - Still working through Terraform and Ansible code from contractor to replicate deployment so I can do some development and deploy new changes.
 - 901009 - CANON
 - Added a CTD stations layer for ECOHAB to the ODSS
 - 902403 - Expedition DB Modern
 - Progress meeting and discussions about APIs/ORMs/current processing steps
 - Overhead
 - Proposal related meetings
 - Meeting with John Zicker
 - Group meeting to discuss REST APIs and web frameworks.
 - Out of Office
 - Aug 16: Vacation
 - Sep 16: Vacation
 - Oct 7-11: Vacation
- Andy Hamilton
- Kent Headley

- 902204 - Scalable Robotics
 - Oculus GUI functionally complete; added a number of features and adjusted layout. The quickie rendering method used may not be adequate; effort depends on oculus use roadmap.
 - Consulting with Akshay on Norbit driver he's developing.
- 902405 - Precision Control Technologies
 - Met with Dave and Steve re interpretation of terrain relative nav covariances.
- Overhead
 - Working through Rob's materials
- Out of Office
 - 10/10-17 Vacation
- Rich Henthorn
 - Out of Office
 - Sick leave, WFH Aug 14 - 22
 - Aug 26 - Sep 11: Vacation
- Akshay Hinduja
 - 902204 - Scalable Robotics
 - Working on Norbit WBMS and FLS driver
 - Able to get raw bathymetry data recorded and decoded
 - Current focus on cleaning up architecture to be more modular
 - Aim to get translations to lcm/ros2 in the next week set up
 - Out of Office
 - WFH 9/11/2024
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Tiva module and baseboard are almost done with layout
 - Working on Tiva module version using TM4C129 alternative, as code for ISUS driver is running into RAM issues
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Everyone else worked hard and we are ready for tank tests
 - Set up MATLAB on SPECTRAL to process images
 - Out of Office
 - Sept 4-10: sick
 - Sept 16, 18: planned Carson day
 - Sept 23-Oct 2: IEEE OCEANS / trip to Boston
- Scott Jensen
 - Out of Office
 - September 16-20
 - October 7-9
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Assembling new NanoBeacon and XEOS beacon mounts on CPF
 - 901805 - Coastal Biogeochemical Sensing Program
 - Helping diagnose errors in Spray CF card data
 - 902004 - Planktivore
 - Prep, deploy, and fly ahi
 - Out of Office
 - 1 sick day
- Chad Kechy
 - Out of Office

- Out of office on Fridays
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Worked on hotspot 3 eavesdropping/tracking code for CANON. Couldn't get new cell/sim to work. Chris/Adriana installed a new one from the vendor.
 - 300083 - DMO Support - LRAUV
 - Supporting MBTS run with Daphne
 - 901009 - CANON
 - Working with Yanwu on mission testing and MMP validation
 - 902101 - LRAUV Technology Development
 - MMP testing and canon preparation. Running Pontus/Brizo for testing.
 - DQ2322 - Denmark Windfarm
 - Reached out to FCCO again in Denmark for data and they are fixing their API.
 - Overhead
 - Helped out WHOI on their recent deployment with some navigation issues surrounding the windfarm.
 - Rescheduled Oshen visit/training/testing for October due to shipping issues. Wrote collaborator agreement.
- Denis Klimov
 - 901809 - Deep Sea Bioinspiration
 - Discussions, scheduling, and assignments for Marine Imaging Workshop
 - 902004 - Planktivore
 - Figuring out balancing of the battery pack for the Planktivore benthic deployment; and mechanical components for closing the pressure can
 - 902101 - LRAUV Technology Development
 - Updating assembly procedure and documentation for PAR sensor.
 - 902401 - Geo-Sense
 - Working on low-battery disconnect, and ordering test optical cables for the DAS system
- Eric Martin
 - 901101 - Seafloor Mapping
 - Proposal response
 - Paper lit review.
 - 901911 - ROVVR
 - Startup of new HMC Clinic, lab setup test.
 - 902204 - Scalable Robotics
 - Proposal Responses
 - MiniROV Arctic Testing
 - Out of Office
 - Vacation last week.
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Reviewing hardware notes on backplane in prep for meeting with Duane and Erik.
 - 901009 - CANON
 - Attended the CANON planning meeting. CANON starts next week.
 - 901217 - Chemical Sensors
 - Conditionally compiled the code to fit in the Tiva TM4c123g code space. Did a bit of buffer shuffling to keep under the 32K limit. Meet with Yui and Ken regarding options.
 - Designed and laid out a rapid proto TM4C1290 based processor module. If all goes well, the assembled boards should be at MBARI around Sep 17.

- MSC3 RevA board checkout is complete after getting to the bottom of RTS (PD7) problem. Special GPIO that required an unlock procedure.
 - Chris B and Jim M helped build a number of sniffer cables and the Saleae proved invaluable (thanks Kent for the tip on use with rs232).
 - Clocked the first 256 samples from the MMS_Digital (spec board), a big step to the ISUS driver milestone. wahoo!
- 902004 - Planktivore
 - Received phase 2 feedback. Meetings with DMO on 2025 capacity.
 - Weekly meeting. Planning CANON, EcoHAB and Barry Lab deployments
 - Denis is working the battery for Barry Lab deployment.
 - Ahi was deployed to sniff diatoms for early EcoHAB. Thanks to Chris, Varsha and Cole for the prep and especially Paul for making it happen.
 - DeepRip suffered a problem that turned out to be the primary SSD for the OS. Many thanks to Andrew McCann for the Parted Magic USB stick. Clonezilla didnt work for us, but DDrescue did. Paul moved the primary boot SSD to slots not underneath the GPU. Thinking that temperature may have been a factor. DeepRip should be back online Thursday.
- Out of Office
 - Oct/Nov two to three weeks vacation Colorado.
- Mike McCann
 - 902403 - Expedition DB Modern
 - Continuing to work on Postcruise process in expd-django
 - Added Legacy data links column to the [Expeditions view](#)
 - Fixed popEDwithDBqueries_perseus.pl to not not add ROVCTD links to Paragon & Packard
 - Looking at rest-pandas package for replacing the Legacy data links with something smarter
 - Overhead
 - Had to reload aug2024 & sep2024 databases on tethysviz due to flaky hyrax server on elvis
 - Removed deprecated TLSv1 & TLSv1.1 from stoqs.mbari.org per request from Travis
 - Out of Office
 - 25-27 September 2024: Web3D Conference
 - 30 September - 3 October 2024: Vacation
- Rob McEwen
- Paul McGill
 - 300070 - DMO Support - Ventana
 - Helping DJ adapt a surplus potentiometer to fix broken joystick
 - 901700 - Acoustical Ocean Ecology
 - Assembled end cap for MARS Echosounder interface can
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Met to discuss response to proposal phase 2
 - 902401 - Geo-Sense
 - Started building battery spheres and ordered required parts
 - Found that penetrators I ordered won't work, looking for alternatives
 - Out of Office
 - Medical appt Mon, sick day Wed
- Enoch Nicholson
 - 706008 - READI-Net
 - FIDO build support
 - Puck gasket quoting
 - 901007 - Benthic Biology & Ecology
 - Tap water experiment discussion & planning
 - 902306 - SINKER

- Submitted frame drawings for fabrication
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- Out of Office
 - April 5-10 Vacation (Available via Slack & Email)
 - April 14-18 IEEE Oceans (Available via Slack & Email)
 - April 19-23 Vacation (Unavailable)
 - September 4-5 Vacation
 - September 19-24 Vacation (Available via Slack & Email)
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - January 16 - January 19, 2024
 - February 22, 2024
 - March 4 - March 8, 2024 - vacation
 - April 24, 2024 - vacation
 - May 20 - May 24, 2024 - vacation
 - June 17 - June 18, 2024 - vacation
 - September 3 - September 9, 2024 - vacation
- Paul Roberts
 - Out of Office
 - Aug. 30 2024 - CES China Peak
- Brent Roman
 - 708165 - NOAA-MERHAB-UW
 - Improving documentation of Elevator calibration
 - 901205 - ESP SURF Center
 - Helping to prepare 3G ESPs for Canon
 - 901913 - Wet Wifi
 - Incorporating MT feedback
- Carlos Rueda
 - 701165 - OVAI P2
 - Very productive CMS UI discussion with the core team. User feedback provided and TODOs gathered toward use in production, some of which could be addressed with my remaining hours.
 - 901502 - Ocean Soundscape
 - Meetings. More contributed PRs.
 - Set up an account (and ran key notebooks) on a VLIZ JupyterLab space as part of preparations for an upcoming workshop.
 - 902204 - Scalable Robotics
 - Catching up with Dial dev (lots of internal changes); ongoing discussions, where I'm emphasizing the need for more focused coordination for Dial purposes.
 - Overhead
 - Meeting with Kevin/Danelle/Karen to provide input to ongoing scoping of UI related work.
 - IE group mtg.
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Updated ROV CTD O2 QC into the EXPD. Rob Sherlock has taken over those duties from Ed Peltzer following his retirement.
 - 300057 - Mooring Maintenance
 - Spend some time monitoring data download failures for the OA2. Downloads were failing during the daytime versus at night - which I would have suspected to be caused by solar panels or

battery issues. Instead, downloads resumed during the night (about 1AM). My current theory is that the system may be used by Stellar Sea Lions who rest during the day and feed at night.

- 902101 - LRAUV Technology Development
 - I continue to work on map updates for the Dash5 UI. I am currently working on vehicle color display changes that the users can quickly adapt for viewing purposes.
- Overhead
 - Met today to discuss my time to support the SINKER UI scoping as well as support for Yui's Coastal BioChemical Sensing UI project in 2025.
- Out of Office
 - US React Summit Conference: November 19-24, 2024, NYC.
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Investigating the feasibility of developing "framework-less" web apps using plain old JavaScript, HTML, CSS and web components. No build step!
 - 902403 - Expedition DB Modern
 - Iterating on improving the [EXPD database design](#).
 - 902404 - 5th Marine Imaging Workshop
 - It's been a very busy week herding cats. A reminder to register for the workshop ASAP if you're planning on attending. <https://miw2024.org/>
 - There's a 5th-marine-imaging-workshop channel in <https://marineimaging.slack.com> for workshop communications.
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 - Out of Office
 - Sep 5-9 - Vacation
 - Oct 7-10 - 5th Marine Imaging Workshop in Monterey
- Alana Sherman
 - 902208 - Mini ROV Operations
 - Trying to confirm days on the Fulmar, we are almost there
 - Found coast guard training for Arctic cruise that works with our fall ship schedule
 - 902401 - Geo-Sense
 - Trying to confirm delivery dates from cable manufacturer
 - Met with Sintela last Thursday and they are on track and answered a few questions.
 - Working on 2025 ship time
 - Reviewed budget and ..well it could be worse
 - 901205 - ESP/Readinet
 - Added protection for one USB port
 - Went over silk screen with scott and james
 - Board should be sent out this week (Yay!!)
 - Out of Office
 - Out helping with school field trip Tuesday.
- George Stern
 - 902204 - Scalable Robotics
 - Designed and built a test box so the lights could be run in the test tank without the controller
 - Build support and final assembly of the lights on mola in preparation for test tank
 - Completed preliminary laser fixturing concept
 - 902304 - Piscivore Cam
 - Talked to Rhonda Software about the quote
 - Reviewed OnSemi Apps' suggestions regarding more available/mature image sensors than the bleeding edge, automotive part we had been targeting

- 706008 - (READI-net)
 - NFC antenna gerber review
- Justin Tucker
 - Overhead
 - Finished up and documented Ricketts lifting assembly analysis and suggestions
 - Working through ProteusDS mooring design training
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Completed wiring and testing WBMS
 - 902208 - Mini ROV Operations
 - Mounted GT hardware
 - Remade laser mount to clock 90 degrees
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 - 902402 - CSEM
 - Purchased GPS dataloggers
 - Out of Office
 - April 16th - May 7th Germany CSEM
 - May 8th - May 12th Vacation