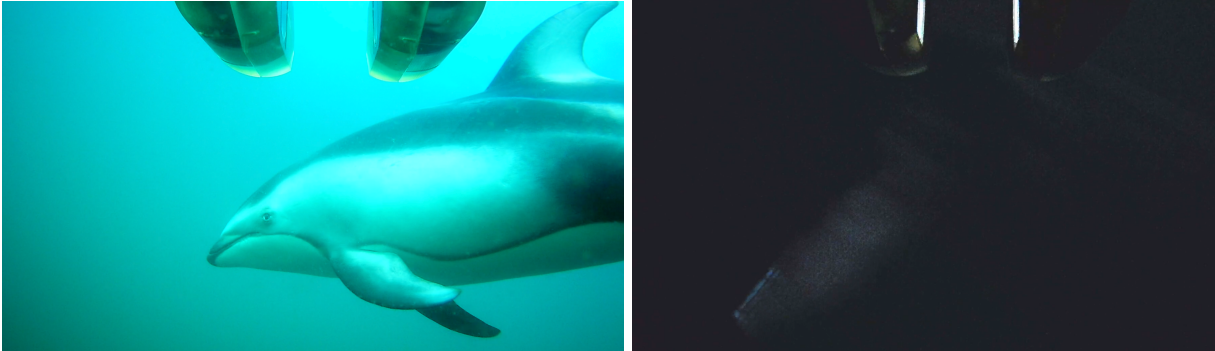


Engineering Weekly Report 4/25/2024 - 5/2/2024

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

Executive Council Notes



Ahi + PlanktivoreV2 + Piscivore + eDNA whiffle balls were deployed last week (22 - 26 Apr) for the Synchro Windfarm Study. Ahi was one of several platforms including R/V Carson and Daphne running the MBTS time series to M2, Seatrac energy harvesting float with passive acoustic monitor, R/V Martin for water sampling and CTD casts, Spray 34 with passive acoustic monitor. Jason Adelaars did a great coming to speed on running a multi platform program using ODSS for planning and situational awareness, LRAUV operations, pre-deployment planning and watchstanding. Piscivore was included for science and to provide the Planktivore team with a peek at the microscope in action. Amazing display of mammals interested in Plankton microscopy on an autonomous underwater vehicle. Big shoutout to Brian Kieft for LRAUV oncall 5 days 24/8 including working with Carlos Rueda and the WHOI team to have their Dash instance supporting vehicle operations and recovery on the 'Poweroff' Friday. [MBARI Team]

Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Rewrote dfg-tool extract and upload scripts – now testing
 - 701165 - OVAI Phase II
 - Pulled together play contexts for FathomVerse
- Francois Cazenave

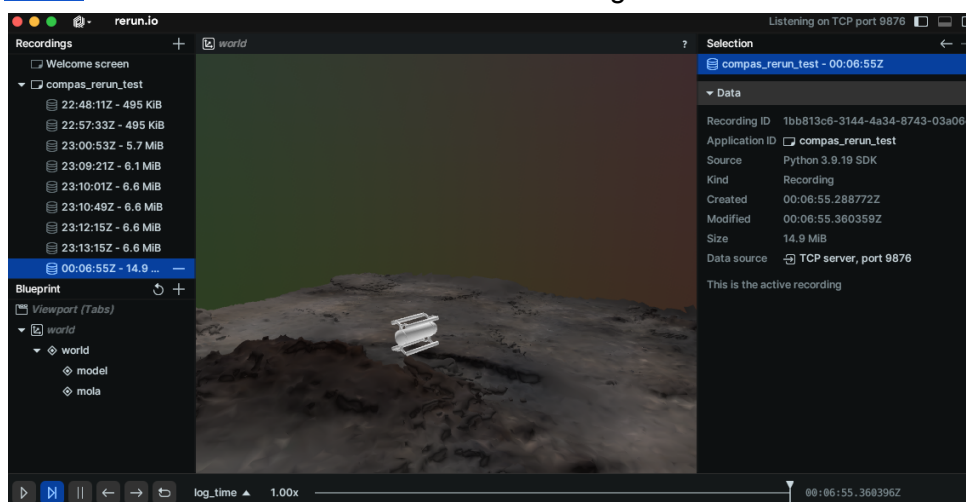
- 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Preparing buoy for deployment
- 902106 - Niobicon-Based AUV Docking Development
 - Assembling power transfer device
 - Planning deployment
- Danelle Cline
 - Out of Office
 - Medical leave March 18-April 22
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Telecon with summer intern 2024 Suzanne Stathatos
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Team meeting
 - Work on 2025 proposal
 - Work on project update presentation materials
 - 902111 - Carbon Flux Ecology
 - AWS discussion
 - Out of Office
 - June 10 - 21, 2024. Vacation UTC-8
 - Sept 17 - 20, 2024. PyTorch Conference, San Francisco
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
- Jon Erickson
 - 901217 - Chemical Sensor Program
 - Re-visiting the APEX-ISUS spectrometer boards. Solids from Jose.
 - 902010 - Mesopelagic LRAUV
 - Finalizing pump specs with Lee. Selecting Hydraulic parts to match.
 - 902101 - LRAUV Technology Development
 - Waiting on assembly to the vehicle for the Rev. B version of the ek-80 gimbal.
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Updating docs and creating top level config projects
 - Working on a new LCM bridge to TimescaleDB
 - Working on replication of bcserver using new API to support current clients
 - 300070 - DMO Support - Ventana
 - Dive log web application development
 - 706008 - READI-Net
 - Getting familiar with code base
 - Met with Nick from BBWS
 - Scoping work to add feature to exercise entire chain to get comfortable with how it all works while we still have Nick's time
 - 902403 - Expedition DB Modern
 - Worked up document of current high level view of workflow and how we might create staging system
 - Meeting
 - Overhead
 - Board related stuff
 - Supervisor related stuff
 - Zoom call with Oracle to get a sense of where their cloud offerings are at.
 - More work with Slack to try to move the migration along
- Andy Hamilton

- Kent Headley
 - 902405 - Precision Control Technologies
 - met with Steve to talk about doc outline, and potential TRN update tasks
 - Overhead
 - hiring: application review, interviews, other issues
 - Out of Office
 - Tue 5/7 (a.m., on line in afternoon)
 - Fri 5/10 after 12 pm (on line in afternoon)
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Integrating image processing tools into SES behavior control
 - Installing controller back into housing
 - Done - Way to go McGill and Hu!
 - Testing SES with installed controller
 - 902401 - Geo-Sense
 - Cable review meeting
 - 902405 - Precision Control Technologies
 - Refining LCM message handling
 - Out of Office
 - May 8 - 10: WFH
 - May 28 - June 5: Vacation
 - July 3 - 11: Vacation and WFH
 - Aug 26 - Sep 11: Vacation
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Ongoing work on MSC3 baseboard and Tiva module schematics, coordinating with Thom
 - Power measurements on Fiberlight
 - Lioncaps and NC Nanofets sent out for assembly (plus more Nanofet circuit boards)
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Jbox and Controller PCBs sent out to PCBway for fab
 - Various small tasks (generate PCB model, code discussion, send Steve some data processing stuff)
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Documenting and helping Paul's efforts to install updated controller, debubble chamber, swap battery from MARS config to standalone config
 - Out of Office
 - May 3-15: Taiwan
- Scott Jensen
 - Out of Office
 - June 17-21 vacation
 - July 18-23 vacation
 - July 24-29 vacation
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Acquired encoder for sipper H2O pump
 - Writing code to have PIC24 process encoder info
 - Updated PIC24 pcb to use encoder
 - 901805 - Coastal Biogeochemical Sensing Program
 - Flying spray 34

- Swap sn29 mid section pcase
- 902004 - Planktivore
 - Deployed Ahi
- 902311 - Power Generation Onboard Wire Walker
 - Finished preliminary project update
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 05/27-06/21 (GMT+1)
 - 07/08-07/12 (HST)
 - 07/16-07/22 (EDT)
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - LiDAR update last week
 - Reviewing layout with group this week
 - Planning FAT and test hardware setup
 - 901217 - Chemical Sensor Program
 - Bench and simulator testing, final bugs polished on sleep features to maximize battery power. Processing data.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Final tests on heave cone last week.
 - 901911 - ROVVR
 - Wrapped up meetings with HMC students last week
 - Setting up new headset to test.
 - 902204 - Scalable Robotics
 - Mola maintenance with George
 - Meeting with LRAUV for hovering mode
 - Looking at Hawaii boats for proposal feasibility and options.
 - Overhead
 - SEE EAD committee.
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Sent BPC2 / Charger change list to Duane Thompson.
 - 901805 - Coastal Biogeochemical Sensing Program
 - PCO adjustment of hours is pending. 901805 hours will be GoBGC and SOCCOM
 - Proposed an alternative to PSoC using FPGA based design for mini-ISUS. Did a prelim layout chip floor plan in Kicad and presented options on Thursday. Worked with Jose on the layout and he was finished by Tuesday and sent the boards out for quote on Wednesday.
 - Jose finished the layout on Tuesday for the MMS Digital 'round board' for mini-ISUS
 - Review of Irene's MSC3 processor module and baseboard designs
 - Reviewed progress on PSoC contractor project, met with contractor, met with Ken and Yui. Based on forward progress with mini-ISUS, terminated further work on PSoC. PO updated for final payment. PSoC task is now done.
 - Working APF serial protocol per UW spec and protocol capture. Goal is m2m protocol implemented by end of May.
 - Setup linux computer for protocol testing.
 - 902004 - Planktivore

- Weekly meeting, deployment plan review for Plankton Proxies and Durkin Lab trap tracking.
 - Ahi was deployed by ASO group on Monday morning and has been performing well after a software update pushed by the LRAUV team. Nitrate has been increasing and it looks like Monique might find the chlorophyll signal for sampling. Ahi is done on Thursday.
- Out of Office
 - June one week. Date is tbd.
 - July or Aug two to three weeks vacation Colorado. Working on intern plan.
- Mike McCann
 - 901101 - Seafloor Mapping
 - Added another cron job to make the nightly generated SeafloorMapping.db readable by others
 - Testing the [good work done by capstone team](#) adding Draco compression to mbgrd2gltf
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Finished reloading monthly LRAUV databases with proper backscatter variables
 - 902101 - LRAUV Technology Development
 - At Fred's request added Seabird O2 data processing for the routine LRAUV loads into STOQS
 - 902403 - Expedition DB Modern
 - Updated [development system setup instructions](#) for the expd-django project
 - Out of Office
 - 22 April: Vacation
 - 24 June - 19 July: Vacation
 - 22 - 25 July: ESIP Federation Summer meeting, Asheville, NC
 - 28 July - 1 August: SIGGRAPH, Denver, CO
- Rob McEwen
- Paul McGill
 - 901700 - Acoustical Ocean Ecology
 - Working on replacing bad connector on MARS Echosounder. Also trying to improve sealing of adapter can, which will require a new plug to be designed and machined.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Set up new antenna on UAV ground station telemetry receiver.
 - 902304 - Piscivore Cam
 - Continuing to troubleshoot software bug in controller software.
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Got SES battery sphere reconfigured for autonomous operation
 - Reinstalled SES controller into its housing.
 - Troubleshooting optical clarity issues with SES camera system.
 - 902401 - Geo-Sense
 - Attended FO cable design review.
 - Ordered and received parts for Deep Sea Connect.
 - 902402 - CSEM
 - Did some reading on signal processing for CSEM to better understand what's important during operation at sea.
- Enoch Nicholson
 - 706008 - READI-Net
 - Modeling Final Sampler
 - Building prototype drive and cylinder assemblies
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Passed part 107 test
 - 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 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
- Paul Roberts
 - Out of Office
 - April 14 through April 20
- Brent Roman
 - Out of Office
 - June 20 - June 31 (gunkholing in the Sacramento Delta)
 - July 1 - Aug 31 (Vacation in Japan)
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - PBP documentation (still WIP) is now publicly available: <https://docs.mbari.org/pbp/>
 - Put together google doc about [running PBP on Windows](#), shared with several NOAA collaborators.
 - Internship project group discussion (with the intern).
 - 902101 - LRAUV Technology Development
 - Dash UI is now [4.64.0](#). As always, thanks Monique for the great feedback.
 - TethysDash backend [4.70.1](#) continues to run flawlessly. Emailed core LRAUV folks to let me know of any issues during the ongoing deployments. When these are completed, I'll merge this significant change into main.
 - 902204 - Scalable Robotics
 - [Rerun](#) evaluation continues. It does look like a great tool for our toolbox.



- 902403 - Expedition DB Modern
 - Group meeting.
- Overhead
 - IE group meeting.
 - FathomVerse presentation (also, installed the game, tried it, and gave it 5 stars ;)
- Out of Office

- June 10–13: vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Still awaiting updates for the ROV CTD O2 flags data.....
 - 300057 - Mooring Maintenance
 - Weekly monitoring and data download checks
 - 901101 - Seafloor Mapping
 - Began working on requested issues for the SMDB UI. With my new computer, however, I have been having some issues with the build today.
 - 902101 - LRAUV Technology Development
 - Held a weekly meeting with Jim Jeffers as we continue to discuss the various Github issues still needed to be addressed for the team. React has not been an easy shift from Vanilla JS.....
 - 902403 - Expedition DB Modern
 - Attended the biweekly EXPD modernization team meeting yesterday afternoon.
 - Overhead
 - React tutorials as time allows.
 - Out of Office
 - I will be out tomorrow morning for a doctor's appointment.
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - [Migration code for postgres is done](#)
 - [Added yolov8](#) support to [Pythia](#)
 - Started work on major updates to the VARS Knowledgebase and User services. They are in a new project named [ONI \(Organism naming infrastructure\)](#).
 - Added [CI/CD to m3-support](#)
 - 701165 - OVAI Phase II
 - Provided a detailed review of OVAI portal interface at <https://portal.tator.io>
 - 902002 - FathomNet
 - New releases of [FathomNet UI](#) with updated legal text and fixes for broken routing links
 - 902304 - Piscivore Cam
 - [Piscivore video imports](#)
 - Overhead
 - Setting up an [archive for images from the Macro Coral Cam](#) for Jim Barry [so he can annotate them](#) in [Mondrian](#).
 - Updated m3-support to [handle registration the Macro Coral Cam image names](#)
 - Responded to an detailed information frequent from NOAA's Deep Sea Coral Research group about VARS
 - Out of Office
 - Apr 11-12 - Vacation
 - May 16-20 - Vacation
 - Jun 10-14 - Setting up video lab at OSU
 - Jul 15-24 - Vacation
 - Sep 5-9 - Vacation
 - Oct 7-10 - 5th Marine Imaging Workshop in Monterey
- Alana Sherman
 - 902208 - Mini ROV Operations
 - The Mini was deployed Tues-Thurs with good results and some fixable issues
 - Worked with DJ to get the tracking going and displayed on 4DNAV
 - 902401 - Geo-Sense

- Prepared slides for cable review
 - Starting on slides for concept design review
 - Still looking for fiber optic connectors
- Overhead
 - Finished and submitted NSF OTIC proposal review
- George Stern
- Johann Voigtlander
 - 902402 - CSEM
 - On RV Alkor in the North Sea. Learning the CSEM system.
 - Out of Office
 - April 16th - May 13th Germany CSEM