

WeeklyReport

Engineering Weekly Report 8/28/2025 - 9/4/2025

<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
 - Monitoring buoy and preparation for CANON
 - 902106 - Niobicon-Based AUV Docking Development
 - Pontus and Brizo deployment
 - New power-transfer device design and assembly
 - Out of Office
 - 1 day Vacation
- Danelle Cline
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Phase 1 response work
 - Team meeting to go over John's analysis of the 1 month of 5 sec resolution google multispecies-whale model scores that I prepared for him
 - Looking at my code to process audios, run the google multispecies-whale model, and process the model output for analysis, to look for improved efficiency/run-time, possible speed-up with GPU (and/or triton inference server), possible speed-up with batching.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Phase 1 response work
 - Returning to building an updated detection model
 - Out of Office
 - Doctor appts.
- Jon Erickson
- Kevin Gomes
 - Out of Office
 - 8/29: Out of the office
 - 92-9/4: Working from home
- Andy Hamilton
- Kent Headley
 - 902405 - Precision Control Technologies
 - Completed draft of TRN documentation, sent for initial review by Rock, Henthorn. Documentation uses mkdocs with the mkdocs-print-site-plugin extension (and others) to produce HTML and PDF output from markdown, with support for embedded LaTeX and Mermaid within markdown sources.
Mkdocs is easy to use, and requires less effort than Pandoc to generate really nice HTML documentation. The documentation systems I tried that use markdown all had some issues,

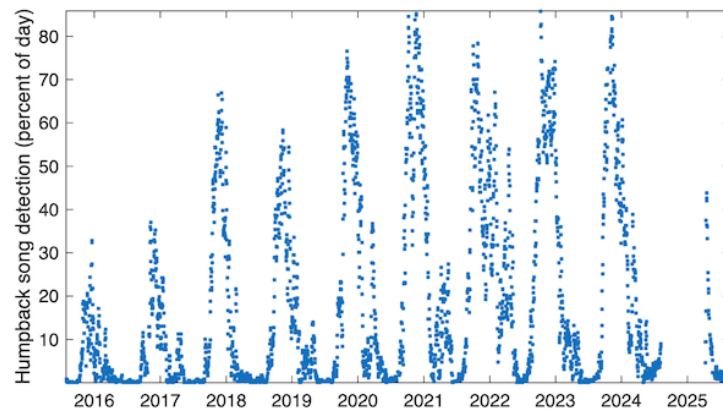
particularly in rendering PDF, which is often down to the rendering under the hood. Renders based on weasyprint and wkhtml didn't seem to support LaTeX well; the mkdocs-print-site plugin, which uses playwright/headless chromium, had good support, and integrated smoothly with mkdoc and other markdown extensions.

- Overhead
 - Taking a look with Brent J at his sipper board, troubleshooting ICSP programming.
 - Attended seminar
 - Hiring
 - Hyperion meeting
 - Misc admin
- Out of Office
 - 10/17-20 vacation
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Updated SES mission with new event trigger parameters
 - Monitoring SES deployment
 - 902401 - Geo-Sense
 - Upgrades to lab Linux workstation
 - Out of Office
 - Sept 2 - 4: WFH with phone, email, network access
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Testing deepPIV data on GaVS pipeline which involved
 - Setting up COLMAP and GLOMAP
 - Setup SAM for foreground masking
 - Setup ProPainter
 - Tested with GaVS sample dataset
 - Testing with DeepPIV data, running through entire pipeline to generate the specific dataset
 - Literature review on other options
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Updated code for alkalinity and fixed some compile errors; trying to debug an mphox rB for testing
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Troubleshooting connector issues
 - Dual-controller comms and coordination seems to be working
 - Out of Office
 - Sept 1 - 5: vacation
- Scott Jensen
 - Out of Office
 - 9/(8-12) Vacation
- Brent Jones
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 07/23
 - 07/28-08/01 (MST)

- 08/25-29 (PDT)
- 9/15-30 (UTC+2)

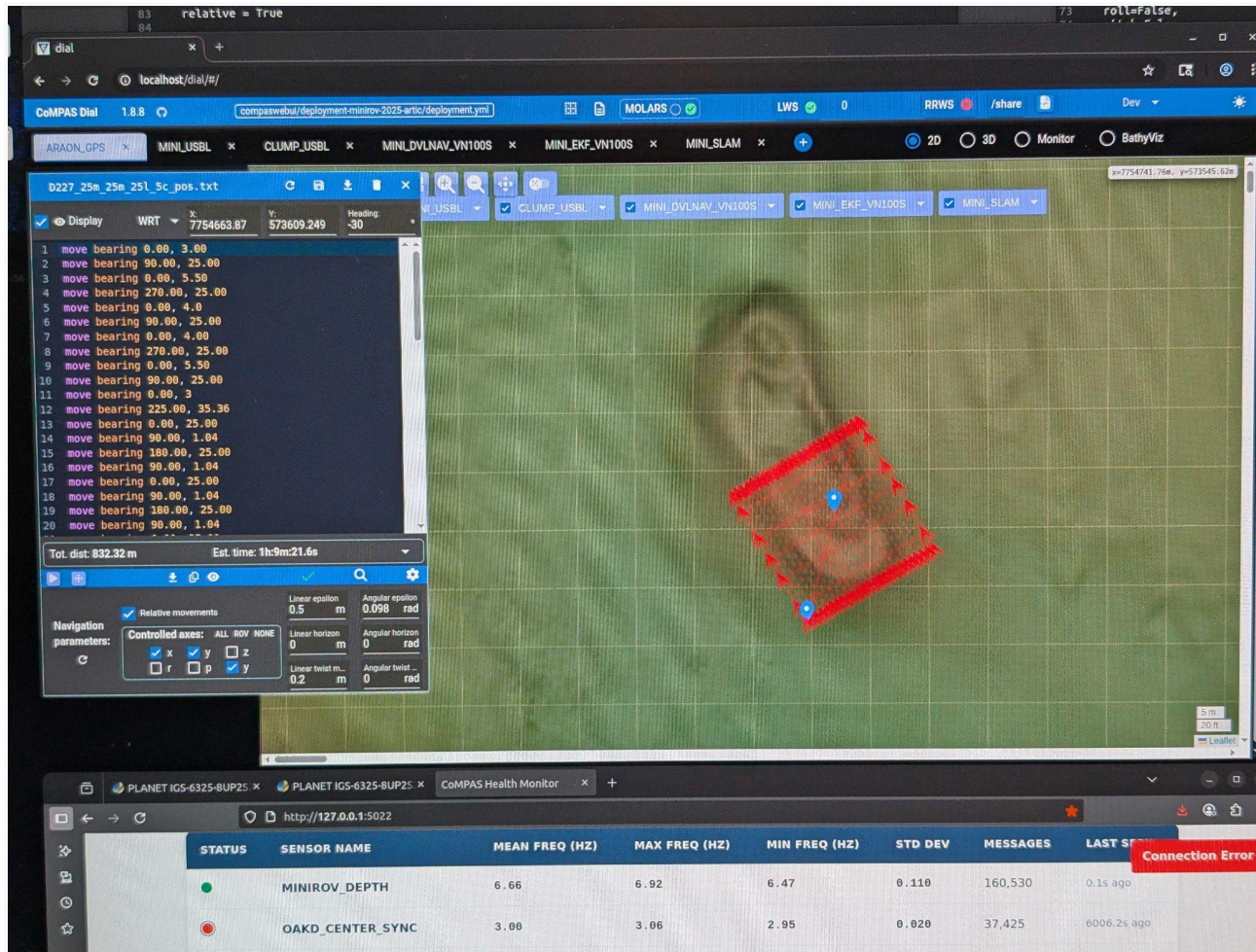
- Denis Klimov
- Eric Martin
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Batman BPC2 battery packs comms connected to LRAUV. Debugged noise issue on rs232 multidrop. Quinn is moving forward with battery driver.
 - Testing fault scenarios, writing handlers.
 - Testing constant current charging. Found an issue with shore power adc, working it.
 - 901217 - Chemical Sensors
 - 2nd Argo float with MSC3 was deployed and is returning good data.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Working with Jim Davis on MoSoS v5.2
 - Supporting Irene's work on alkalinity using MoSoS v5.2 on MpHOX. Finding issues with the rtc / hib backup battery.
 - 902004 - Planktivore
 - Camera controller and strobe boards tested. Denis is working the assembly in his lab.
 - Parts ordering for shadowgraph, bench development setups and spares.
 - Proposal feedback
- Mike McCann
 - Out of Office
 - 18-29 August – Remote work
 - 1-5 September – Vacation
 - 8-13 September – Web3D & Digital Heritage Conference
 - 15-18 September – Vacation
- Paul McGill
 - Out of Office
 - I've been busy sleeping in because I'm retired!
- Enoch Nicholson
 - 706008 - READI-Net
 - Completed FIDO flow sensor calibration testing
 - Potted FIDO pucks
 - Prepared FIDO instrument for dock trial testing
 - Modified FIDO arm encoder hardware
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Completed UAV proposal feedback response
- 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
 - June 16, 2025 - vacation
 - July 2, 2025 - vacation
 - July 29 - August 1st - vacation
- Paul Roberts
 - 901221 - Midwater Time Series
 - 4k recorder chassis

- 4k interface
 - i2MAP modifications
- 901809 - Deep Sea Bioinspiration
 - SOI hardware documentation
 - SOI integration and cruise planning
- 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR camera chassis
 - SWIR backlight chassis
- 902306 - SINKER
 - Zmq monitor app
 - Dev meeting
- Brent Roman
 - Out of Office
 - Visiting family in Anacortes, WA for funeral Sept 3 - 9th
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Humpback song detection scores completed until 2025-08-24. John generated this plot of the complete time series for quick inspection:



- Part of the above score generation was done with the use of GPU on doris. I put together some notes [here](#).
 - Reviewed revisions to paper led by NOAA (Carrie Wall).
- 901809 - Deep Sea Bioinspiration
 - Participated in the last FathomNet Tech Team Meeting, and started exploring [fathom-web-ui](#) with the idea of following similar approaches (javascript!, Vuetify, etc.) for the new development in a to-be-created repo.
- 902101 - LRAUV Technology Development
 - TethysDash [4.98.0](#) with new unserialize invocation mechanism fully in place. Satisfactory testing during the last several days but still considered under verification. I'll be closely monitoring the upcoming vehicle deployments, and then proceed with merging the branch into main.
 - TethysDash modernization: migration to Quarkus is progressing, but not yet ready for prime time. I did some good testing of various functions over the weekend on the production server.
 - TethysL is now [4.4.4](#).
- 902504 - Scalable Semantic Mapping
 - Dial now [1.8.8](#) with enhancements in the ScriptGoal dialog, which Giancarlo has already installed and will be exercising in the Arctic expedition. He says, "Dial is getting very popular up here with scientists seeing some of the capabilities and with good suggestions to keep

improving it. It also has been fundamental for our operations.” He sent this screenshot.



- Out of Office
 - August 26-28: vacation
 - August 29: sick
- Karen Salamy
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - Out of Office
 - Aug 18, 2025 - Aug 21, 2025 - Vacation
 - Sep 3, 2025 - Sep 17, 2025 - Out of Office
- Alana Sherman
 - Out of Office
 - Out of office Friday and Monday
- George Stern
 - 902204 - Scalable Robotics
 - Updated LED board layout for single layer and order
 - Finished Cap board layout and order
 - Integrating SAMD light controller board with Luxonis OAK D
 - 902304 - Piscivore Cam
 - Reviewed some gen3 footage from Aug deployment
 - Fixed focus issue, rebuilt can and prep for canon deployment
- Justin Tucker
 - Out of Office
 - Out 8/29 and 9/3

- Johann Voigtlander
 - Out of Office
 - Dec 16th - Jan 10th - Vacation
 - May 30th - June 5th