

WeeklyReport

Engineering Weekly Report 10/30/2025 - 11/6/2025

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Oct 27, 2025 - Oct 31, 2025 : UCSB NCEAS Innovation in Digital Assets workshop
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Installed equipment in building G
 - Cleaning up buoy and moved it to building B.
 - 902204 - Scalable Robotics
 - Designed and start assembled mapping drawer for Ventana
- Danelle Cline
- Duane Edgington
 - 901502 - Ocean Soundscape
 - I have tensorflow and tensorflow_hub successfully integrated with cuda on my new Nvidia DGX-Spark system. I used it to run an end to end full workflow for data preparation and analysis and visualization (through Google Kaggle multi-species whale model) of a month of MARS Pacific Soundscape data (02/2018). GPU processing time of 3hr 5 min for one month of full resolution data, analyzed at 5 sec intervals.
 - Team meeting.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Working on running model training for detection (one label) and for detection & classification (20 labels) of RF-detr Pytorch model against verified 901902 labeled dataset. Porting to my nvidia dgx-spark system (instead of CoLab).
 - Team meeting
 - Collaborator meeting.
 - Out of Office
 - November 24 - Nov 26. Vacation
 - Dec 1 - Dec 5 Acoustic Society of America meeting.
 - Dec 8 - Dec 10. Vacation
- Jon Erickson
- Kevin Gomes
- Andy Hamilton
- Kent Headley
 - 300078 - DMO Support - AUV
 - DMO is planning a Paragon trip Friday to continue testing of the layered control updates adding real time mission start/end times, and macro behaviors: repeatable, recallable behavior sets with special end conditions (location, cycles, etc.)

- 902204 - Scalable Robotics
 - spent a little time getting the Oculus SDK sonar viewer to build for macOS/linux, with an eye toward refactoring (at some point) the oculus GUI to use OpenGL rendering used by the SDK viewer. I have a feeling that the OpenGL texture mapping is more efficient/faster than my oculus gui. There were seemingly bugs in the SDK viewer, e.g. sending messages with 0 payload length and non-zero payloads, and also, the SDK viewer uses an older version of Qt and is configured for windows. I currently have it building with Qt 6 and though untested, should still build on windows.
 - Added necessary protocol to oculus sim to work correctly with the oculus SDK viewer (and ViewPoint);
- 902405 - Precision Control Technologies
 - With thanks to Carlos R, the TRN documentation initial release is now hosted on the MBARI doc site:
<https://docs.mbari.org/internal/trn-doc-md/index.html>
 - Thanks to Steve Rock and Rich Henthorn for their major contributions to the TRN documentation
- Overhead
 - hiring: discussion
- Out of Office
 - 10/27 medical (online in afternoon)
- Rich Henthorn
 - Out of Office
 - Mon Oct 20 - Tue Oct 21: Sick leave
 - Fri Oct 24 - Wed Oct 29: Vacation (Fri and Wed) and remote work (Mon and Tue)
 - Mon Nov 10 - SES recovery from Carson
 - Dec 19 - Jan 1: Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Waiting on CVision contract to resume work on OceanShot project for DeepPIV
 - 902101 - LRAUV Technology Development
 - Working on developing a log playback visualizer to replay vehicle dynamics
 - Setup log reader which extracts variable values from nc4 files
 - Using tethysdataviz repo to try plug in visualization in same WebGL app. Animation causes crashes in browser window, will pivot to standalone viewer
 - Setup simple orientation animation viewer using matplotlib, will use as backbone for more intricate animation in 6DOF
 - 902204 - Scalable Robotics
 - Meet with Johann and Michael to migrate ASV framework to single user system
 - Update drivers on ASV to latest versions and test.
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity test set up in lab, produced a titration curve after some troubleshooting
 - Discussed Nanofet v2 w/ Brent and Yui, looked over Brent's design
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Continued work on Python GUI adding comms text log, environmental sensing, various widgets
 - Out of Office
 - Nov 5-6: WFH / vacation

- Scott Jensen
 - Out of Office
 - McCloud Recovery Oct 27-28
- Brent Jones
 - 901502 - Ocean Soundscape
 - Deploy WW. Diagnose telemetry issues
 - 901805 - Coastal Biogeochemical Sensing Program
 - Add isolation to nanoFET2 miniature implementation
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 901513 - Targeted Sampling by AUVs
 - Tested Yanwu's new ROI informed sampling mission between two vehicles with Tiny as a gateway. Worked well!
 - 902101 - LRAUV Technology Development
 - Lots of work last weekend running Ivan's tests for MARL. Tiny, Brizo, and Pontus were out to support that testing as well as docking.
 - Opah did its first dive to full depth (1200m).
 - Currently performing the first science dives and will continue to refine control.
 - Out of Office
 - 07/23
 - 07/28-08/01 (MST)
 - 08/25-29 (PDT)
 - 9/15-30 (UTC+2)
- Denis Klimov
- Eric Martin
 - 300079 - DMO Support - RV Rachel Carson
 - Wrote a 1 pager on status of telepresence live link
 - Testing containers for control
 - 901101 - Seafloor Mapping
 - Following up with 3d at depth, still issues
 - TCU updates
 - New Reson wiring review
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 - 902504 - Scalable Semantic Mapping
 - Prep for a Ventana Day
 - 902505 - 2025 Arctic Expedition
 - Project update this week
 - Out of Office
 - Underwater Intervention 12-2-12/5
- Thom Maughan
 - 300078 - DMO Support - AUV
 - Hyperion MVC2 (aka som carrier) testing
 - Hyperion MVC2 power supply board design, started layout. Erik is optimizing pin assignments on the bus connector and those changes will be folded in.
 - 300083 - DMO Support - LRAUV
 - BatMan adc driver update, working on testing the charging state machine transitions.
 - BatMan meeting. Galene has been identified as the test vehicle. C
 - 902004 - Planktivore

- Review of mechanical design, feedback and review again. Aaron is on the home stretch for submitting the imaging tubes and ends to the shop.
 - Looking at options for Planktivore v3 mods to the camera controller board.
 - Out of Office
 - Vacation 15 Oct to 24 Oct.
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Regenerated [M1 QC'ed hourly](#) and daily netCDF files to include the 202306 deployment
 - Needed to [add FollowSymLinks capability](#) to the opendap/hyrax service
 - Needing to [alter production deployment of elvis-services](#) for better reverse proxy setup
 - 901101 - Seafloor Mapping
 - Meeting to discuss impact of the [project infrastructure update](#) issue
 - [Fixed problem](#) with Pandas interpreting Excel Spreadsheet blank lines as float(NaN)s
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Meeting about planktivore data processing and pipeline products
 - Overhead
 - Workplace violence prevention training
 - [Wrote a sort_lines\(\) function](#) rather than manually hand edit web calendar duplicates
- Paul McGill
 - Out of Office
 - I've been busy sleeping in because I'm retired!
- Enoch Nicholson
 - Out of Office
 - Thursdays at MLML
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Updates for navproc-rdsn and navproc-dpkd
 - 300062 - DMO Support - Doc Ricketts
 - Tested external control interface in harbor dive
 - Working with Drew on remote testing for ROV sea trials
 - Pan and tilt work for ROS remount and KPT swap with spare
 - Working with Drew on Copilot pan and tilt interface
 - 300070 - DMO Support - Ventana
 - Working with Kevin and DJ on 4D Nav heading latency issue
 - 901101 - Seafloor Mapping
 - LASSAUV scoping meeting
 - 902405 - Precision Control Technologies
 - Tested software on the boat during the maintenance week
 - MOB for November 5th midwater tracking cruise
 - Overhead
 - Completed WVPP training
 - 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
 - November 10 - November 14 - vacation

- January 19, 2026 - January 30, 2026 - vacation
- Paul Roberts
 - Out of Office
 - Nov 22 through Nov 30, Scotland
- Brent Roman
 - 901205 - ESP SURF Center
 - Better error reporting for tripped overload breakers
 - Helping to diagnosis I2C bus failure on ESPkoa
 - Evaluating various USB modem LTE Cat1.bis modules from uBlox, SimCOM, and Quectel
 - Discovering lots of poor quality firmware especially in uBlox modems
 - 902304 - Piscivore Cam
 - Readied for another deployment
 - Evaluating effectiveness of video encoding parameters
 - Working with Olclea to determine how to use the CV25 chip for off-line transcoding
- Carlos Rueda
 - 901009 - CANON
 - Patch tracking algorithms and software.
 - 901502 - Ocean Soundscape
 - PBP now 1.8.6 ([PyPI](#); [standalone releases](#)).
 - 901809 - Deep Sea Bioinspiration
 - Met with Kevin B. toward preparing for deployment of the bulk review UI.
 - 902504 - Scalable Semantic Mapping
 - Dial now [1.9.2](#), with various adjustments and fixes, in particular, addressing performance issues while providing improved monitoring and inspection features.
 - Overhead
 - Completed migration of [docs](#) to Ubuntu. Thanks Peter and Kevin G.
 - Added a [What packages are installed?](#) section in the main meta-doc page (which also points to a new [listing of the installed packages](#)). Assisted Kent with his new [TRN doc site](#).
 - The Material for MkDocs team just made the official announcement about [Zensical](#), a new “coherent stack” for static site generation. We’ll keep an eye for eventual migration. Also, we could probably restore the cross-site search for [docs](#) on top of the new system.
 - Out of Office
 - Dec 1–11, 22–30: vacation
 - Jan 2–5: vacation
- Karen Salamy
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Recent JDKS have changed the precision of timestamps depending on which OS you’re running. (microseconds on Mac, nanoseconds on Linux) This has been causing issues with optimistic locking in database transactions. [Working on a fix for Oni](#), the VARS knowledgebase server.
 - Added features to vars-cli for [post-processing output from VARS Query](#).
 - [Addressed issue with ML upload](#) triggered by the increasing variety of video file naming schemes.
 - Addressed [a video lab request](#) to create mezzanine videos for a few i2MAP deployments.
 - Added a tool to [vars-cli](#) to [reorganize videos](#) in the video asset manager, [vampire-squid](#).
 - [Restructured how references are handled](#) in the VARS knowledgebase.

- [Fixed nfs/docker permissions issues with the NGINX docker container](#) on the new master server for M3, m3-u.shore.mbari.org.
- Changed volume mounts for m3-u to use automounts. e.g:


```
--mount
type=bind,source=/mbari/M3,target=/opt/nginx/www/html/videos/M3,bind-propagation=rshared,readonly
```
- Updated the [nginx.conf](#) on m3-u to optimize video file serving. Then addressed a follow up where the improved video handling config was intercepting web calls meant for microservices.
- Some assistance to the video lab for [documenting the new VARS Query](#).
- 902002 - FathomNet
 - Resolved issues in data submissions by Research Institute of Science and Technology (RIST, South Korea).
 - Reviewed Kevin's [pull request](#) that adds new features for reviewers to verify and review submissions to FathomNet
- Overhead
 - Working on travel arrangements for the upcoming PAIDIVER workshop.
- Out of Office
 - Oct 23, 2025 - Out sick
 - Nov 26, 2025 - Dec 3, 2025 - Vacation
 - Dec 15, 2025 - Dec 19, 2025 - PAIDIVER workshop. University of Southampton, UK.
 - Apr 6, 2026 - Apr 24, 2026 - Vacation
 - May 18, 2026 - May 22, 2026 - Marine Imaging Workshop, Gibraltar
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Pulled out the old Dualie near field camera to try to figure out whether an updated model will work mechanically and electrically with the existing chassis
 - 902401 - Geo-Sense
 - Interviews for Seafloor Processes lab hire
 - A flurry of POs for FO connectors, Ethernet connectors, and Sintela rental fees
 - Overhead
 - Board meeting Tuesday
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- George Stern
 - 902204 - Scalable Robotics
 - Continue integrating the OAKD500 strobe board with drivers on mola with higher level software drivers/support
 - The HSI light project continues to be a challenge; one light was fully assembled, tested and working until a power clip slipped off a connector while testing optical performance shorting the cap bank and requiring complete rebuild. The other light had another FET fail; the design has a lot of positive margin against all requirements so failure mode remains unclear. Fixes and root cause were identified for the other FET failure mechanism; margin testing was conducted and no additional failures have been observed after fixes.
 - 902304 - Piscivore Cam
 - Meeting and new camera review
 - 902106 - Niobicon-Based AUV Docking Development
 - meeting
- Justin Tucker
 - Out of Office
 - Out 10/27-11/7

- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Wrapped up code, wiring, and housing for the event camera - ready for testing
 - Installed and enabled Procmann on the blueboat, updated documentation
 - 902208 - Mini ROV Operations
 - Made Hall sensor cable for thruster redesign
 - Set up an electrical testing jig for thruster tests
 - Found the thruster test tank test setup. Looking for a suitable load cell
 - 902402 - CSEM
 - Completed German Antarctic treaty course
 - Out of Office
 - Dec 16th - Jan 10th - Vacation
 - May 30th - June 5th
 - Oct 9-13th