

WeeklyReport

Engineering Weekly Report 2/20/2025 - 2/27/2025

<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
 - New tether order
 - PTO assembly and testing
 - New mooring design (meeting with Andy and Justin)
 - 902106 - Niobicon-Based AUV Docking Development
 - Connector order
 - Meeting with George about data transfer
 - WHOI order
- Danelle Cline
 - Out of Office
 - Vacation 2/21, 2/28-3/7
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Settled on a 3-stage resampling strategy for downsampling MARS raw audio from 256KHz to 24kHz. The ~10% frequency energy shift I see in the 25.6kHz to 24kHz resampling is an outstanding issue that I will need to resolve in due course.
 - Teleconference with Paul McGill on audio downsampling. Useful discussion.
 - Running a set of resampled 24kHz audios through the kaggle google multi-species whale model, and then listening to files to judge the quality of the model predictions.
 - Reviewing slides from the International Symposium on Orcas, which was terrific.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Team meeting. Steve H. ran through his presentation materials for an upcoming meeting.
 - Out of Office
 - Feb 17 - 21, 2025. [International Symposium on Orcas](#). Online/Tarifa Spain UTC/GMT +1 hour
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Edited all the config files for simulator and Carson to hopefully get as close to final as possible
 - Writing example and documentation for API usage in different languages
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 - 300079 - DMO Support - RV Rachel Carson
 - Starting to work on ArcMapNav changes based on feedback from Eve L.
 - 706008 - READI-Net
 - Documenting changes made during Tasmania deployment
 - 902403 - Expedition DB Modern

- Meeting
 - Looking into time series database and workflow tools
 - More documentation of current workflow
- Overhead
 - Working with IS and AWS to reconfigure our AWS account to better manage institute wide usage
 - Tech meeting for SE IE
- Andy Hamilton
- Kent Headley
 - 901221 - Midwater Time Series
 - Working on new AUV behaviors
 - 902204 - Scalable Robotics
 - Wrote OculusPublisher, a message publishing wrapper with ROS and LCM implementations
 - Spent some time trying to build ROS2 from source on M1 mac; unsuccessful so far.
 - 902405 - Precision Control Technologies
 - Reviewing draft of Steve Rock's text on TRN for doc
 - Working on doc software/integration section material
 - Overhead
 - SE Hire process/planning
 - Misc admin
- Rich Henthorn
 - 902306 - SINKER
 - SINKER deployment scheduled for March 10
 - Preparing for SINKER integration testing scheduled for next week
 - Writing ucon motor actuation app for cleaning
 - 902401 - Geo-Sense
 - Discussing recovery options
 - Out of Office
 - Mar 10 - On Carson for SINKER deployment near MARS node
 - Mar 31 - Apr 3: WFH and PTO
- Akshay Hinduja
 - 902101 - LRAUV Technology Development
 - Continue finding bug in Irauv application during sim
 - 902204 - Scalable Robotics
 - Finished front end lcm subscriber for norbit + nav data
 - Wrote container classes for s7k datagram
 - Work on integrating front end with s7k writing
 - Out of Office
 - WFH Feb 27 and Feb 28
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Outline of alkalinity circuit, ordered things for breadboard experiment
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Working on code
 - Overhead
 - Chad's design review
 - Rec com meeting
 - Out of Office
 - Feb 26 - Mar 9: vacation

- Scott Jensen
 - Out of Office
 - Feb 10 - 24 Tasmania Deployment
 - Feb 25 - March 7 vacation
- Brent Jones
 - 901502 - Ocean Soundscape
 - Prelim prep of Wire Walker for Mar deployment
 - 901805 - Coastal Biogeochemical Sensing Program
 - Flying Spray29 in support of Yui experiments
 - Moving noniso nFET from orcad to KiCAD so a different layout can take place
 - Out of Office
 - Dr appointments for injured hand
- Chad Kecz
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 02/10-14 Open Ocean (PST)
 - 02/25-28 (MST)
- Denis Klimov
- Eric Martin
 - Out of Office
 - Vacation 12/23-1/3
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Brief meetings to catch up. Batman will be timeslicing with MSC3 effort in March.
 - Hardware is in fab, Erik handled issues with NexPCB and MBARI pcb spec.
 - 901217 - Chemical Sensors
 - Hit milestone prior to vacation, moved to Tiva 1290 from 123g. Demonstrated compatibility and less bugs running Jess's test vectors.
 - Finishing implementation of serial commands.
 - UW regression suite update for full command coverage.
 - Introduced a new command for starting a profile, worked it with UW.
 - Feedback for MSC3 RevE baseboard. Help with Tiva 1290 RevB production. First production release is planned to use MSC3 RevD baseboard and Tiva 1290 RevB. Aiming for end of March release to UW.
 - Working on git procedure for the team. Clone, branch, merge. Starting Techfest on Thursdays to begin ramping people on Code Composer Studio and MoSoS code base.
 - Irene asking if older v4 phfetsos is open source. Yui confirmed yes. We'll start Alkalinity work with phfetsos v4 on mphox at Scripps.
 - 902004 - Planktivore
 - Weekly meeting. April deployment schedule is very busy.
 - Out of Office
 - Vacation 10 Feb to 18 Feb, Colorado and Texas
- Mike McCann
 - 902101 - LRAUV Technology Development
 - Reprocessed Daphne's data for Sipper data after Quinn fixed a truncated .nc4 file
 - 902403 - Expedition DB Modern
 - Working on replicating the legacy postcruise.asp – adding the data links
 - Planning to abandon the ExpeditionData table and dynamically generate links from REST calls

- Got GitHub Actions to trigger jobs on Pull Requests to upstream – thanks Carlos & Kevin!
 - Seem to be on target with a near complete expd web app replacement in a few weeks
 - Overhead
 - Gave a brown bag presentation on using pre-commit – here's the [tutorial](#) I followed.
- Paul McGill
- Enoch Nicholson
 - 706008 - READI-Net
 - Working on final SCS order configuration & custom quoting.
 - Continuing instrument setup & test fit.
 - 901205 - ESP SURF Center
 - Ordered water bath for heater board calibration.
 - Tested water bath.
 - 902306 - SINKER
 - Assembled battery packs with etechs
 - Mobilized hardware onto the elevator
 - Estimated payload weight
 - Measured elevator buoyancy in the harbor
 - Overhead
 - PDM Project Kickoff
- 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
- Paul Roberts
 - 702108 - Deployable AI
 - Hardware procurement
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR controller fab
 - Housing design review
 - 902004 - Planktivore
 - Weekly meeting
 - Coordinating development of classification models
 - 902111 - Carbon Flux Ecology
 - Battery power packs for suba-isiis deployment
 - 902306 - SINKER
 - autonomy firmware
 - system integration
 - camera acquisition software
 - Dev meeting
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - Test and Debug of Cell/Sat/WiFi comms fallback logic in SatComms ESP mooring
 - 901205 - ESP SURF Center
 - Prototyping water bath based temperature control for 3G cartridge sensor calibration
 - 902304 - Piscivore Cam
 - Researched GStreamer viz a viz Ocelea.
- Carlos Rueda
- Karen Salamy

- 200103 - Core CTD Data - MDUC
 - Entered recent data into EXPD for Ventana CTD O2 flags
- 300057 - Mooring Maintenance
 - Performed weekly checks on the mooring systems
- 902101 - LRAUV Technology Development
 - Began work for Brian to implement a Waypoints Layer for the Map on Dash 5.
- 902403 - Expedition DB Modern
 - Checked in various UX code updates including fixing some bugs with the precruise and updating the Home Page for the new EXPD to be similar to the existing one on Canyon Head.
- Overhead
 - Attended numerous project meetings this week.
 - Helped DMO with precruise privileges.
- Out of Office
 - Vacation March 3-11, 2025 - Holiday Vacation
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - [Fixed frame capture in VARS Annotation](#)
 - Fixed issues with the nightly venus to foggy database refresh.
 - Added support for [skimmer](#), a ROI server for images, to the VARS configuration server, [raziel](#). Added integration and proxy support for skimmer to both the production, <https://m3.shore.mbari.org/>, and testing server, <https://gehenna.shore.mbari.org/>.
 - Updates to docker services to reduce log chatter. It was slowly filling up disk space on several servers.
 - Added a [new endpoint](#) to [annosaurus](#) for very fast querying of large data sets.
 - 902002 - FathomNet
 - Discussion with NOAA about image hosting alternatives to NCEI. (There's much chaos in federal organizations right now, so we may need to pivot on how to host external images).
 - [Working with IS to restructure fathomnet URLs](#) as part of rebranding from OVAI to FathomNet
 - 902403 - Expedition DB Modern
 - Set up scripts ([clean_start.sh](#), [sqlserver_run_ddl.sc](#)) to scrub and rebuild a testing database for development of the new database schema. Working on [migrating](#) the existing production database to the new schema. There are a lot of data integrity issues that need to be addressed with the production database as part of this migration.
 - Overhead
 - Worked with IS to migrate the atlas:/VideoLab share to thalassa:/VideoLab. This share is mounted on ione.mbari.org and used by <https://dsg.mbari.org/>
 - Set up a meeting with the University of South Florida to discuss setting up VARS.
- Alana Sherman
- George Stern
 - 902204 - Scalable Robotics
 - Designed light/laser controller can mounting fixture for mola
 - 902304 - Piscivore Cam
 - Researched Oclea Ambarella offerings and Technique/Resideo company
 - Looked for lenses
 - 902106 - Niobicon-Based AUV Docking Development
 - Met with team and looked through current design
- Justin Tucker
 - 901007 - Benthic Biology & Ecology
 - Continued design of BRS base assembly

- 901405 - Wave-Energy Conversion for Oceanographic Applications
 - 2 point mooring analysis studies
- 902010 - Mesopelagic LRAUV
 - DVL housing assembly and modifications
- Out of Office
 - Expected leave April 1st - 31st
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Removed VN110 from BlueBoat. Helping install InertialSense IMU/RTK sensor
 - 902208 - Mini ROV Operations
 - Troubleshooting clump ground fault in motor.
 - Tuned original clump motor, reassembled
 - Found ground fault in clump tilt motor cable.
 - Ordered spare Wago modules
 - Found other specs of the control van power converter for maintenance
 - 902402 - CSEM
 - Completed vessel project manager
 - Organizing March 17th cruise
 - Connected Dataq for topside real-time current monitoring
 - Out of Office
 - Dec 16th - Jan 10th - Vacation