

Engineering Weekly Report 5/7/2026 - 5/14/2026

<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2026/>

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Working remotely May 11, 2026 – May 14, 2026
 - MIW May 18, 2026 – May 22, 2026
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Francois Cazenave
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Megadetector exported to ONNX format and running on the [modelhub](#).
 - Help ticket issued to migrate data to on-site object storage. Waiting for Neil to return to test.
 - 901221 - Midwater Time Series
 - Retrained classification model to better remove many mucous strings in the latest i2MAP dive. Model exported to ONNX format and running on the [modelhub](#).
 - Reprocessed latest dive using kubernetes through the 3-stage RF-DETR, DINO + Boosttrack pipeline. Exported to Voxel51 for review.
 - Proposal discussion.
 - 901502 - Ocean Soundscape
 - CSUMB student project complete. AWS Athena database with 99% coverage of soundscape metadata to provide basis for sql queries.
 - Working on testing Perch2 model with Humpback groundtruth data.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Added two new classes to the classification model and retrained. Improved performance 5%. Models exported to ONNX format.
 - 902111 - Carbon Flux Ecology
 - Registered a few Triton videos on mantis.
 - Developing processing pipeline to separate particles from midwater taxa. This will leverage models created for MTS and Biodiversity. Models exported to ONNX format.
 - Overhead
 - Attended some abstract presentations
 - Out of Office
 - September 21-24 Oceans Conference, Monterey
 - May 27-28, AI DevSummit, San Francisco
- Duane Edgington
 - 901502 - Ocean Soundscape

- Processed one month of PAM data through OrcAI model mining for orca and dolphin vocalizations. To correlate with sightings posted on [California Killer Whale Project](#)
- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Released github repo with UAVS RF-DETR inference CoLab notebook and sample data files to UCSC project intern Sage
- Out of Office
 - May 12 Medical appt.
 - May 13 Medical appt. AM
 - 21-24 September: IEEE Oceans Conference
- Kevin Gomes
 - Out of Office
 - May 13-14: Vacation
 - May 26-28: Vacation
 - Sep 21-24: Oceans conference
- Andy Hamilton
- Kent Headley
 - 300078 - DMO Support - AUV
 - Last week, Erik and Tad ran some tests at sea using the updated Dorado layered control stack: a new Box behavior and a mission using the real-time clock start/end conditions. There were a couple of minor issues (now resolved), and the missions were otherwise successful. This body of code is aimed at enabling longer multi-day I2MAP missions that require the vehicle to transit to a site, loiter, then start a mission at a specified time of day. Now that the updates have been exercised successfully in isolation, the next step is to combine them in a scaled down version of a production mission.
 - 901101 - Seafloor Mapping
 - In a meeting with Tom and Dave last week, Tom presented some details of the MB-System Qt/VTK implementation
 - 902204 - Scalable Robotics
 - Reviewing
 - Overhead
 - Hyperion update meeting
 - Prep for budgets, proposal review
 - Ocean Soundscape demo for DOEST with John Ryan
 - Out of Office
 - n/a
- Rich Henthorn
 - 300078 - DMO Support - AUV
 - More TRN on LRAUV for Precision Control
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Canbus comms for new battery
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Spinning up the spare stack
 - Looking into software design update
 - 902401 - Geo-Sense
 - Clock drift data
 - Out of Office
 - May 18 to 28 - Vacation
 - June 29 to July 6 - Vacation
 - July 16 to 24 - Caress LASS cruise
 - August 10 - 13 - Vacation

- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - TritonCAM improvements and backseat computer back up creation
 - Intern meeting
 - Deployable AI meeting
 - Dev meeting
 - 902101 - LRAUV Technology Development
 - Group meeting
 - 902204 - Scalable Robotics
 - Spring meetings
 - Made improvements to mbari_deploy_mbes pipeline mainly to point_cloud_accumulator. Fixes and allows more consistent submap sizing based on spatial distance rather than temporal. Also makes distance between submaps more accurate, leading to 20x space savings from avoiding subamps with 99% overlap being written continuously.
 - Found bug in registration transformation composition in mbes_localization. Bug was masked by another bug in DR pertubance modes, and was only caught during last cruise. Took a while to find, but fix is in progress, but will require a lot of tuning later.
 - Overhead
 - ML advisory group meeting
 - Out of Office
 - Jun 1, 2026 - Jun 6, 2026 Vacation
- Brett Hobson
- Irene Hu
 - 901101 - Seafloor Mapping
 - Design review for ORP board and subsequent modifications to board
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity
 - Brent is now designing the flow cell for floating anode (taking over from Joe). Handed over materials.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Carson cruise on Monday. System worked well enough but various comms issues involving back light and motor, possibly a ground loop
 - Overhead
 - Rec com preparations for budget meeting
- Scott Jensen
 - Out of Office
 - May 11-24 (vacation)
 - June 26-July 7 (vacation)
 - July 15 - 21 (vacation)
- Brent Jones
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
- Denis Klimov
- Eric Martin
- Thom Maughan
 - Out of Office
 - A week vacation in May (TBD)

- Ten days mid-June (dates tbd) for Norway Planktivore collaboration with Tidal and imaging workshop in Sweden.
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Trying to resolve permission problems for thalassa shares from mooring-ssds
 - Worked on dynamic current mooring deployment data plots comparing legacy with new
 - 901101 - Seafloor Mapping
 - Tested and approved for merging the [Pull Request](#) from the capstone team for mbmesh
 - Had first meeting with the summer semester capstone team
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Fielding responses from allhands announcement of new LRAUV deployment plot pages
 - Out of Office
 - 15 May: Giving keynote speech at CSUMB SCD Capstone festival
 - 19 June - 10 July: Vacation
 - 18-24 July: SIGGRAPH in LA
 - 21-24 September: Oceans Conference
- Enoch Nicholson
 - 706008 - READI-Net
 - Completed shipping prep including nitrogen leak checks and leak-rate calculations confirming systems OK to ship
 - Terminated pumps and reprogrammed pump controllers; verified operation before shipment
 - Investigated logs from Brazil deployment
 - 901007 - Benthic Biology & Ecology
 - Verified all injection pumps held pressure after rebuild
 - Diagnosed leak in hydraulic pump barb fitting and rebuilt; assembled remaining two hydraulic pumps
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Completed three Matrice test flights off the Paragon searching for velella. Captured lessons learned on Paragon hatch covers and non-slip mats
 - Rebuilt spare CW prop assembly from damaged units and ordered replacement parts
 - Overhead
 - Modeled BW dive jar and prepared for next prototype round
 - Sent intern mentoring agreement
 - Completed Project Management Training
 - Captured SCUBA EyeRIS component weights for buoyancy calculations
 - Final LPS Letter
 - Abstract Presentations
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - January 2, 2026 - vacation
 - January 19, 2026 - January 30, 2026 - vacation
 - March 4-5, 2026 - vacation
 - March 16, 2026 - vacation
 - March 30, 2026 - vacation
 - May 18, 2026 - vacation
- Paul Roberts
 - Out of Office

- June 13 - June 20, 2026 MidSEC, Sweeden
- Brent Roman
 - 708184 - ESP Monitoring PNW
 - ESPeddie deployed off La Push
 - ESPfriday deployed in a remote lab (fed samples from field by technician)
 - 901205 - ESP SURF Center
 - Moved NFS mounts to thalassa
 - Patched old bug in Ruby garbage collector
 - 902204 - Scalable Robotics
 - Working with series 4 devkit
 - Nothing works as described :-(
 - 902304 - Piscivore Cam
 - Finally received RockChip RV1126B dev board
 - Took only a couple hours to get the camera working!
- Carlos Rueda
 - 901513 - Targeted Sampling by AUVs
 - In preparation for an upcoming chl tracking, doing additional code adjustments on top of a very significant refactoring started months ago, so we can run in on the smc-2 target. With John's help, determining a good area for the operations.
 - 902101 - LRAUV Technology Development
 - TethysDash
 - [4.99.60](#) with enhanced observability for various metrics using [Prometheus](#). Along with that, enabled visualizations using Grafana and other tools, and overhauled the [TethysDash System Ops](#) documentation, including links to various viz pages (for example, [this](#)).
 - [4.99.61](#) with adjustment in resulting `chartData2.json` to fix the occasional issue of malformed floating point values from the LRAUV. Thanks Karen S. for reporting and Paul R. for the feedback re planktivore.
 - Started looking into [improving](#) the websocket endpoint.
 - 902504 - Scalable Semantic Mapping
 - Brief discussion with Sebastián to delineate next Dial priorities.
 - Overhead
 - Added a [Zensical section](#) to our `docs` meta-documentation. Thanks Kevin B., Brian S. for your initial exercising of this generator in a few sites already!
 - Out of Office
 - May 19 AM: Drs appt.
 - May 22: vacation
 - June 29-30 vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Set up filesystem and scripts on coredata8 for upcoming M1 Mooring Deployment turn in June.
 - 902101 - LRAUV Technology Development
 - **Production Releases**
 - v5.1.22 — released May 7
 - v5.1.25 — released May 12
 - **May 5–11**
 - PR #583 — Comms Queue badge now only counts un-acknowledged commands
 - PR #589 — Hide parameter summary for non-mission commands

- PR #590 — Apply comms lookup to mission commands stuck on "pending"
- PR #591 — Surface MTMSN/MOMSN in Schedule History popup for satellite-acknowledged commands
- PR #593 — Show all command segments highlighted green in Schedule History row
- PR #595 — Demote timed-out directives to "Previous Vehicle Directives" section
- PR #599 — Exclude timeout status from Comms Queue count
- PR #600 — Timeout note takes priority over cell state:2 ACK in determineCommandStatus
- PR #601 — Group same-event-ID timeout notes into one collapsible Logs row
- PR #603 — Always show "Previous Vehicle Directives" section when historic items exist
- PR #605 — Timeout note is ground truth for all via types in determineCommandStatus
- PR #607 — Always show timeout pill for commands with explicit scheduled timestamps
- PR #608 — Timeout note overrides any API status, not just pending
- PR #610 / #611 — Show "Ended: N/A" for timed-out directives in Schedule History row, popup, and table
- PR #612 — Introduced StopwatchWarningIcon (custom hourglass + exclamation badge) for timeout status in ScheduleCell
- PR #613 — Exclude historically timed-out commands from Comms Queue count
- PR #614 — Comms Queue accuracy and timeout icon polish
- Map & Vehicle Widget
- PR #616 — Fixed polygon perimeter calculation in the Measure Distances & Areas tool (was missing the closing segment)
- PR #617 — Major vehicle widget update to v2.99: CTD toggle, battery threshold indicators, dynamic svg_current bar, camera indicator, docked-state rendering parity with Dash4, and numerous layout fixes
- PR #618 — Hide "NextComm" label when vehicle is docked (applied to both map views)

■ May 12-13

- PR #620 — Deployment Plan Editor Fixes & Email Notification UX Resolved several bugs in the deployment plan editor: save error handling, sticky toolbar behavior, font-size clearing with the P key, and surfacing the last-editor name. Also improved the email notification UX flow.
- PR #623 — Docs Sort by Last-Edited Date Documents in the Docs section now surface the most recently updated entries first, making it easier to find active mission documents.
- PR #625 — ENS Modal: Extra Notification Email Addresses The Email Notification System modal now surfaces additional subscriber email addresses. Included accessibility improvements, dropdown keyboard navigation, and extensive Copilot review iterations.
- PR #630 — DocViewer Formatting Fix Synced DocViewer rendering extensions with DocEditorTipTap so that bold, italic, bullet lists, and other rich-text formats display correctly when viewing saved documents.
- PR #631 — Auto-Refresh Logs + Relative Timestamps + Last-Updated Indicator Logs now auto-refresh every 30 seconds. Each log entry shows a relative timestamp (e.g. "~2h ago"). A "Last updated X ago" indicator appears in the

toolbar. useTick was enhanced with an enabled flag to prevent unnecessary background polling.

- PR #632 — Compact Log Density Toggle Added a toolbar toggle that switches log entries between a compact (tight, small font) and standard view. Preference is persisted in localStorage across sessions.

- Out of Office

- On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.

- Brian Schlining

- 500055 - VARS, M3/RS, DSG

- Many, many improvements to the [new Deep-sea Guide](https://gehenna.shore.mbari.org/dsg/#/) (in-development):
<https://gehenna.shore.mbari.org/dsg/#/>
- Created the [VARS Video Browser](https://m3.shore.mbari.org/videobrowser/?name=Doc+Ricketts+1234); a web app for easily viewing videos in a dive.
Example: <https://m3.shore.mbari.org/videobrowser/?name=Doc+Ricketts+1234>
- [Add improvement](#) to VARS Query allowing downloads to include the major taxa groups in separate columns.
- [Automated clean up of references](#) in the VARS Knowledgebase

- 901809 - Deep Sea Bioinspiration

- [Submitted the first archive package of FathomNet data to NCEI](#).

- 902403 - Expedition DB Modern

- Get [shipdata share access](#) set up for the [expd-dev server](#).
- Work on supporting file uploads, linking to data in EXPD, and archiving into shipdata

- Overhead

- Working on presentation for [MidSEC](#)
- Registered Triton videos in VARS
- Migrated a [number of repos documentation](#) from mkdocs to zensical (Thanks Carlos for setting that up!)
- Work with OSU to help with setting up SSL for their VARS installation.

- Out of Office

- May 14, 18: Vacation
- Jun 11 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
- Jun 22 - Jun 26: Vacation

- Quinn Shemet

- Out of Office

- Jun 26 - Jul 5: Vacation

- Alana Sherman

- George Stern

- Justin Tucker

- 300078 - DMO Support - AUV

- Continued work on Capture head design review

- 901405 - Wave-Energy Conversion for Oceanographic Applications

- Continued work on subsea housing electronics layout

- 902204 - Scalable Robotics

- Heading sensor housings being machined

- 902208 - Mini ROV Operations

- Heading sensor housings being machined

- 902606 - Low Altitude Survey AUV

- Continued work on SUBOFF CFD benchmarking

- Overhead

- Collection bucket eDNA sample holder design

- Out of Office

- Tentative 6/1-6/12
- Johann Voigtlander
 - 902208 - Mini ROV Operations
 - Started moving from 10' van to 20'
 - 3D designed and printed reinforced parts that broke (Swing arm mount, foam pack adapter)
 - 3D printed CCW miniROV propeller out of resin
 - 902101 - LRAUV Tech Dev & Fleet Ops
 - Rebuilt LRAUV battery holder
 - Designed and 3D printed DSP&L Camera mount for Tethys AUV