

Engineering Weekly Report 3/26/2026 - 4/2/2026

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

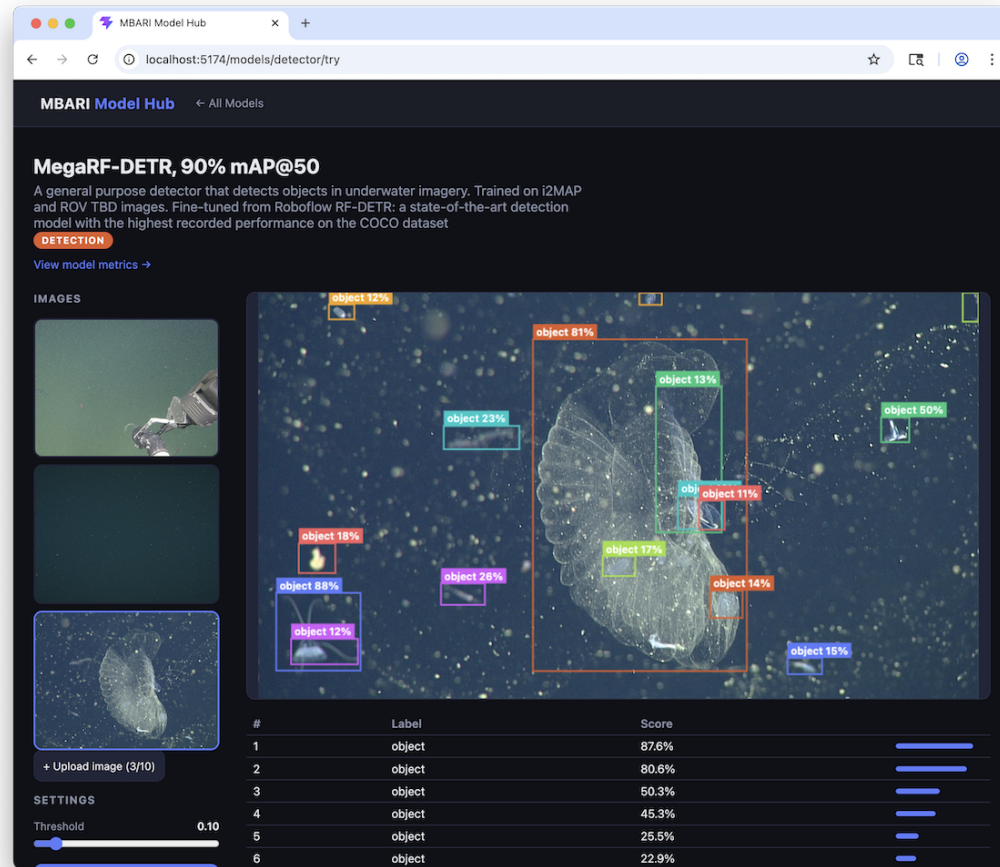
Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - OOO Apr 2, 2026
 - Working remotely May 11, 2026 – May 14, 2026
 - MIW May 18, 2026 – May 22, 2026
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Buoy plate design
 - Buoy foam modifications
 - Battery housing design
 - 902504 - Scalable Semantic Mapping
 - Finished design of Subastian plate
 - DQ2445 - NOWRDC Uncrewed Systems
 - Attended workshop
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Setup AWS bucket for intelligent tiering storage for Tator mantis instance storage
 - Transcoded 2019/2018 Doc Rickett dives with 1 second keyframes; started video load which will take a while
 - 901221 - Midwater Time Series
 - Setup Tator project config in preparation for running workflows outlined in week 6
 - 901502 - Ocean Soundscape
 - Setup Tator project config in preparation for loading training spectrograms
 - Meetings to discuss realtime data use for whale monitoring(pacific coast) and interactive sound exhibits(international)
 - Moving AWS upload to near-realtime cron instead of nightly cron
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Summer intern review and interviews
 - Tested revised threshold on ML pipeline which reduced false detections ~30%. Issues with running RF-DETR now need attention. perhaps misalignment with repo version.
 - Team meeting
 - 902111 - Carbon Flux Ecology
 - Populated VSS (Vector Search System) with noise-only embeddings for ISIIS, computed scores, loaded into mantis, and exported through Voxel51 community sync service. Fernanda is comparing against classifier scores.

- Overhead
 - Working on a modelhub that captures current models, metrics, and supports interactive demos.



- Out of Office
 - April 1-2, Vacation
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Team meeting
 - Continuing investigation of [perch2](#) - [hoplite](#) for agile modeling of orca / dolphin calls.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Team meeting
 - Overhead
 - Summer intern application screening and finalist zoom interviews.
- Kevin Gomes
- Andy Hamilton
- Kent Headley
 - 901101 - Seafloor Mapping
 - submitted pull request with a refactor of an LCM front end for TRN, along with bug fixes and some cleanup of TRN client initialization.
 - Reviewing Tom O's notes on the graphical update, and learning about the new architectural components, e.g. VTK and underlying graphics standards/implementations WebGPU, Metal, Vulkan, etc.
 - trying out some of the MB-System graphical tools using MiniROV scalable robotics (SR) sonar data. This will help refine the SR processing pipeline, as well as help me understand the MB-System graphical tools better.
 - 901221 - Midwater Time Series

- pending test date for updates to layered control macro feature
 - 902204 - Scalable Robotics
 - fixed a bug in the oculus simulator: message protocol version not initialized before connecting, causing failure to send messages to Oculus Viewpoint and SDK sonar viewer app.
 - Ported the SDK sonar app to ubuntu 24; was thinking it might be a good base for an update, but it turns out to be somewhat buggy and lacks a lot of features that are in the Oculus Viewpoint software.
 - Out of Office
 - Apr 20-24 (personal travel, available by phone/online)
- Rich Henthorn
 - Out of Office
 - Apr 9 to 14 - Durkin Packard Cruise
 - May 18 to 28 - Vacation
 - June 29 to July 6 - Vacation
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Bug fixes on TritonCAM
 - Added new information logging for frames processed per camera to get understanding of how the cameras worked and basic settings after each run
 - New Irauv-backseat-helper branch for sending INFO and FAULT syslogs to improve logging on dash to understand if systems are working properly at comms events
 - Modifications to triton-detection to send frame counts to backseat helper.
 - Troubleshooting camera connection issues with Paul
 - 902101 - LRAUV Technology Development
 - Reading into backseat-helper and preparing insert for terrain avoidance behaviour. To be used with main algorithm running on backseat
 - 902204 - Scalable Robotics
 - Test SBN with Sponge Ridge data from Packard Cruise. Works well, even with a small dataset not optimal for SBN purposes.
 - Test SBN on Portuguese Ledge data from Packard cruise, need to first prepare reference database tuned to general survey area.
 - Setup plan for April Carson cruise for SBN test run
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity:
 - Ran several more experiments to look into apparent “self titration” of system where it continues to titrate after current stops. Seems to continue for around 15 minutes
 - Trying to investigate the weird precipitate on anode, no results
 - Next flowcell with better spacing control outsourced to Joe, wrote design requirements document
 - Yui has emailed Lionix about the chips; ongoing conversation
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Chassis wiring for longer housing is finally finished, need to test
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Battery sphere conversion for standalone mode
 - Changed batteries for modem. TT's modem somehow drained its batteries again, needs investigation

- Helping Crissy with O2 sensors
- Scott Jensen
 - Out of Office
 - March 23-April 2
 - May 11-24 (vacation)
 - June 29-July 7 (vacation)
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- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Diving into Oasis download software to better understand how viper radio data transfers work
 - Finished building switched power supply for Toro vipers. Ready to head up the mountain
 - 902004 - Planktivore
 - Deployed Ahi
 - Debugging data download script
 - 902111 - Carbon Flux Ecology
 - Prepped Sed Trap Benthos modem and deck box for upcoming cruise
 - Out of Office
 - 1 day vacation
- Chad Keycy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Piloting this week
 - 300083 - DMO Support - LRAUV
 - Supported Ahi deployment this week
 - 901513 - Targeted Sampling by AUVs
 - Supported deployment last week
 - 902101 - LRAUV Technology Development
 - TRN work continues. Added fix to TRN code to ingest useitorloseit value from LRAUV
 - RDI validation for Cole's fixes
 - PR reviews
 - Planning meetings for Durkin deployment
 - Planning meeting for first DAS deployment. Working with Benthos on chirp options that don't cost money
 - Issued LNM for mock dock and DAS
 - Sanctuary approval for mock dock
 - Trying to find the gear for the mock dock. May have to start fresh.
 - 902607 - Autonomous Surface Vessel Replacement
 - Met with Data Xplorer team today to review ops in HMB
 - DQ2445 - NOWRDC Uncrewed Systems
 - Attended workshop
 - Overhead
 - Hiring committee for SE
 - Out of Office
 - TBD 4/6
- Denis Klimov
- Eric Martin
- Thom Maughan

- 300078 - DMO Support - AUV
 - Hyperion power supply design update. Fab at JLCPCB. Parts ordering, etc.
 - Partial build of first board
- 300083 - DMO Support - LRAUV
 - Jim M upgraded the wires, retired. There was some confusion on what was done in the schematic, errors were found, corrected. Varsha is making sure the schematics are correct. Battery testing will resume and we plan to be in the test tank in 2 weeks.
- 901217 - Chemical Sensors
 - In progress on MMS v2 Analog and Digital board design. Prototyped
 - Presented to the science group in Chem Sensors on the inner workings of the ISUS sensor.
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- 902004 - Planktivore
 - One of the DeepRip2 guest users was running a high cpu compute job that caused alerts on the UPS and had spooled the fans up loud. Trying to figure out if the fan noise is normal...
 - Planktivore build is pending work by Denis
- Overhead
 - Helped Guillaume Liniger get setup on deepedna 3 for a neural net / monte carlo simulation job. Matlab install. Many thanks to Doug and Daniel for the guidance on Mac Windows App for shared screen on Ubuntu and Matlab install support
- Out of Office
 - April 6th, appointment. Depending on length, will make up the time on off friday
 - A week vacation in second half of April (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
 - Working with IS to tune dods.mbari.org/data for better load balancing
 - Making decent progress on using the REST API from mooring-ssds.shore.mbari.org
 - Working on the ds_to_netcdf.py management command to replace a key Perl script
 - 901101 - Seafloor Mapping
 - Met with capstone students – planning for an MBARI tour next month
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Instrumenting auv-python with `--update_ssds_provenance` to use mooring-ssds
 - Overhead
 - Dealing with impact of shares moving from atlas to thalassa
 - Out of Office
 - 19 April: Serving as a judge for a CSUMB hackathon
 - 19 June - 10 July: Vacation
 - 18-24 July: SIGGRAPH in LA
- Enoch Nicholson
 - 706008 - READI-Net
 - Packard Deployment of FIDO
 - Supporting Bozeman FIDO deployment
 - 901007 - Benthic Biology & Ecology
 - Beginning instrument prep ahead of April deployment
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Packard Flight attempt
 - 902111 - Carbon Flux Ecology

- SINKER packard operations
- Overhead
 - Reviewing and interviewing Interns
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Working on issue with stale TCP inputs
 - Working on documentation for process configurations
 - Changes to accommodate Qt 6
 - 901101 - Seafloor Mapping
 - Working with Chad to test TCU chassis changes
 - Working on LASS configuration for April deployment
 - 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
- Paul Roberts
 - 901513 - Targeted Sampling by AUVs
 - Data review of Dec 2025 deployment
 - Planning for upcoming demonstrations with Triton
 - 901809 - Deep Sea Bioinspiration
 - Triton camera troubleshooting
 - Deployment planning and coordination for Deployable AI
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Planning for April 8 testing
 - 902004 - Planktivore
 - Planning for MidSEC conference
 - Abstract planning
 - 902111 - Carbon Flux Ecology
 - Triton camera maintenance and testing for DP cruise
 - SINKER support planning to redeploy on DP cruise
 - 902204 - Scalable Robotics
 - Fiber testing, revealed dirty ferrule inside housing, cleaning gained 4 dB
 - Optical loss testing, with clean fiber total loss through mux and lancer is < 2 dB
 - 902603 - Miniature 4K Subsea Optics
 - Nearly finished with SOW and contract coordination
 - Overhead
 - Ideas workshop writeup for Sensors
 - Out of Office
 - June 13 - June 20, 2026 MidSEC, Sweeden
- Brent Roman
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Internship candidate interviews
 - Experimenting with [AVES](#) for clustering humpback whale song detections (as given by the NOAA/Google model via [our tool](#)) into *unit types*.
 - 902101 - LRAUV Technology Development

- Added more file formats for ingestion in the Tethys RAG prototype using [Dooling](#). Also started adding a provenance mechanism in a way that responses to the user include references to relevant materials.
- 902504 - Scalable Semantic Mapping
 - Dial maintenance release (quasar upgrade for the frontend)
- Out of Office
 - April 1-2: Drs. appt, plus vacation
- Karen Salmay
 - 200103 - Core CTD Data - MDUC
 - Recently received ROV CTD O2 QC requests from Rob and began on them today.
 - 300057 - Mooring Maintenance
 - Worked with Kevin Gomes to make sure the oasis shares move from Titan to Thalassa went smoothly. So far so good.
 - Worked with Brent Jones on determining issues with the vipr radios occasionally failing for M1.
 - 901101 - Seafloor Mapping
 - Pushed all recent updates and testing from smdb-dev (development server) into the Production server. All updates are now live on production.
 - Bug Fixes — Merged into Development (smdb-dev) and Production (smdb) servers
 - Map Tooltip Fix (PR #296, merged Mar 27)
 - Dates were showing as "Invalid Date" for non-standard slug formats — now uses start_date directly from GeoJSON feature properties with slug-parsing as a fallback
 - route_file showing as "null" when not present in the database — fixed null handling
 - Also addressed Copilot review suggestions: improved slug-parsing fallback logic and added escapeHtml() to prevent XSS from DB-backed fields in tooltip HTML
 - 902101 - LRAUV Technology Development
 - DevOps / CI:
 - Diagnosed and documented the staging deployment process (yarn version:patch → git tag → GitHub Actions → Docker :staging image → Watchtower auto-update). Confirmed production is now safely isolated.
 - Features — In Review (open PRs):
 - DocType Display in Docs Section (Issue #514, PR #528)
 - Schedule History Running-Status Accuracy (Issues #516, #488, #523, PR #531)
 - Schedule Event Details Modal (Issue #517, PR #530)
 - Bug Fixes — Merged to develop:
 - Browser Refresh Session Logout (Issue #515)
 - DocCell Label Truncation (Issue #514)
 - 902111 - Carbon Flux Ecology
 - Sinker Dashboard (sinker-dash, merged into develop server for testing Mar 25)
 - PR #42 — Restored the schematic attribution ? tooltip at the SVG corner (broken by a deprecated react-tooltip pattern)
 - PR #43 — Replaced speculative "System may have been recovered" ADCP message with neutral, factual status text
 - PR #44 — Schematic housings now navigate to the Controls tab on click; fixed warning icon incorrectly appearing on normal status

- PR #45 — Schematic housings now turn orange when instrument data is stale (ADCP: >4 hours old; Camera housings: PTVR HM/LM, Shadowgraph, SedFlux HM/LM)
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Sleuthing [out issue in new kb editor](#) that only occurred in production, not in dev mode.
 - [Migrate Mini ROV annotations](#) into shore system
 - [Upgrade the Mini ROV annotation system](#) to the latest and greatest.
 - Added MBARI specific regions to our marine-regions service. These are used in the [VARS Query](#) and [new DSG](#). Users can just type **MBARI** in the search box to filter for regions that are most relevant to MBARI research.
 - 902403 - Expedition DB Modern
 - A lot of work updating the design of the new database and supporting infrastructure.
 - <https://github.com/mbari-org/expd-rest-api>
 - <https://github.com/mbari-org/expd-support>
 - <https://github.com/mbari-org/expd-quickstart>
 - Wrote an abstract for extending this project for one additional year.
 - Out of Office
 - April 6 - April 24: Vacation
 - Jun 11 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
 - Jun 22 - Jun 26: Vacation
- Quinn Shemet
- Alana Sherman
- George Stern
 - 902106 - Niobicon-Based AUV Docking Development
 - Troubleshoot networking issues on Pontus backseat
 - More subsea housing mods
 - Finally ran first networking tests to the LRAUV; tests between the subsea bottle and vehicle were only surprising because speeds were 30-40Mbit/s at the feedend of the rod, however bottle to buoy was slower than previous tests with intermittent drops outs. Bottle electronics were pulled for some additional mods and started troubleshooting
 - Desk tests with chokes indicate 30% derating is marginally sufficient for Wurth, ordered new parts with 50% and a bit better performance.
 - 902204 - Scalable Robotics
 - Wrote driver to test switchmatrix card and completed card level testing
 - Designed fixture for switchmatrix card
 - Installed trigger isolation card in OAK1500M (front)
 - 902304 - Piscivore Cam
 - Swapped bulkheads on Gen 3 camera and rebuilt
 - Last time buy for Oclea hardware
 - Worked with DMO on Makai to install a network switch and avoid keeping a backseat on.
- Justin Tucker
 - Out of Office
 - OOO 3/27-4/3
- Johann Voigtlander
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Studying for Part 107 examination
 - 902204 - Scalable Robotics

- Removed front and rear cameras from MiniROV for George
- 902208 - Mini ROV Operations
 - Ordered new 8-pin heading bulkheads for heading sensor
 - Inventoried and organized fiber cables
 - 3D printed a new tilt motor mount, cut new tilt motor tracks to tension the belt.
 - 3D modelled a new “Foam pack adapter”, the front panel which holds the heading and CTD sensor. It is now much more rigid and modular.
 - Had to do some maintenance on the Prusa XL printer to print this part
 - Got VARS data transferred for Brian
 - Working with Justin on the new heading sensor housings
 - Took apart the dead Sonardyne beacon. Got a quote for a new battery for it.
- 902312 - Seafloor Processes
 - Project update on CSEM
 - Palletized CSEM shipment for Italy