

Engineering Weekly Report 2/5/2026 - 2/12/2026

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
- Danelle Cline
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Retrained ViTS model for classes with > 100 examples; .89 balanced accuracy
 - Tried retraining ViTS model with DinoV3 but ran into troubles with transformer library support and huggingface model gating is a pain.
 - Repopulated vector database using ViTS model
 - Finished argo workflows for rerunning ViTs and populating with ancillary data from the expedition database for analysis. This will take some time to rerun (classification only), but needed as the last model did not perform well for target species.
 - 901502 - Ocean Soundscape
 - Reprocessed select dates with the realtime processing code [soundpipe](#) for JRyan to review. Blue, fin, and humpback model outputs agree with daily and Matlab processed results. Next step is discussion with stakeholders on outputs.
 - CSUMB student Zoom session
 - Thalassa outage caused some data loss
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - OSM poster review
 - 902111 - Carbon Flux Ecology
 - OSM presentation support
 - Clustered OOD
 - Planktivore support for Voxel51
 - Database cleaning to remove video captured during flooding events and some performance improvements to vector database service VSS to handle batching with less memory
 - Overhead
 - Group meeting to discuss authentication template and AI
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Team meeting
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Working on completion of Poster for Ocean Sciences Meeting. Super job Melissa!
 - Incorporating team input to poster text and figures. Thanks Tom O'Reilly for adding scale bar to poster UAVs image.
 - Tim and Duane to present the poster Thursday at the in-house OSM poster session.

- Enoch to carry physical poster to Edinburgh and present poster live Feb 26.
 - Tim and Duane to present the poster virtually Feb 26.
- Kevin Gomes
- Andy Hamilton
- Kent Headley
- Rich Henthorn
 - 902111 - Carbon Flux Ecology
 - Deployment prep
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - SES documentation
 - Out of Office
 - Feb 21 to 26 - WFH and time off
 - March 2 - SINKER deployment on Carson
 - March 30 to April 2 - WFH and time off
 - Apr 9 to 13 - Durkin Packard Cruise
 - May 18 to 28 - Vacation
 - June 29 to July 6 - Vacation
- Akshay Hinduja
 - Out of Office
 - Feb 9 -March 9 parental leave
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity:
 - Set up lab tests with new TApHI unit. Weird results. Updated connectors, still weird results. There seems to be some high resistance related to the anode that goes away after current is applied for some time but comes back after awhile, accompanied by strange pH results
 - ISUS:
 - OSM poster
 - Overhead
 - Rec com project update
 - Out of Office
 - 2/11/26: out with severe back pain.
- Scott Jensen
 - 901205 - ESP SURF Center
 - Instrument check outs for Brazil deployment
 - Ran instrument cold
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Preparation for onsite visit to DolphonLabs
 - Onsite visit to DolphinLabs

Had a few hiccups but work arounds were found with an overall successful outcome. DolphinLabs saw the benefit of our system and had a chance to get familiar with it.
 - 902106 - Niobicon-Based AUV Docking Development
 - Small amount of time helping with specifying communications EMC cable
 - Overhead
 - Preparations for LARS load pin time response test
 - Out of Office
 - March 23-31 (estimate)

- May 11-24 (vacation)
 - June 29-July 7 (vacation)
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- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Deploy LRAUV Daphne in support of MBTS
 - 901805 - Coastal Biogeochemical Sensing Program
 - Bringing up NanoFET2 Durafet board. Wiring, etc
 - Replace bad OSC on NanoFET2 digital board and now we are cooking with gas
 - 902004 - Planktivore
 - Deploy LRAUV Ahi
 - Overhead
 - Getting Mt Toro Starlink mounts made
- Chad Kechy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300078 - DMO Support - AUV
 - Recovered LRAUV Daphne following MBTS deployment
 - B&T and prep for Ahi prior to MBTS
 - Attended a part of hyperion update
 - 300083 - DMO Support - LRAUV
 - On call for MBTS this week
 - 901513 - Targeted Sampling by AUVs
 - Worked with Yanwu on new mission/behavior changes for plankton terminated yoyos
 - 902101 - LRAUV Technology Development
 - Confirmed sanctuary requirements for mock dock
 - drop weight incidents from 2025 submitted
 - Dash 5 meeting with subs
 - Updated data unpacking scripts for 2026
 - Building TRN for the target for sim testing
 - Ran MMP tests in tank/harbor. Benthos offered latest firmware which has been loaded and is in testing.
 - Reviewing a little of the AUV tutorial for OSM
 - 902304 - Piscivore Cam
 - Met with team to discuss service interval and upgrades this month.
 - 902606 - Low Altitude Survey AUV
 - Team meeting and went over basic SW architecture with Mike. Working on refining system requirements.
 - Overhead
 - Working with WHOI on their under ice testing to be demonstrated under actual ice in Western Lake Erie soon. Tests are in Buzzards bay and an outdoor tank facility in MA. Worked on updating heading command while under ice as well as refinements to default mission.
 - CPR/FA/AED recert this week
 - IP committee attorney search
 - NDA signed with SeaSats for further followup on their ASV. Working on a test drive option out of Moss Landing.
- Denis Klimov
- Eric Martin

- Thom Maughan
 - 300078 - DMO Support - AUV
 - Hyperion meeting
 - Kitting, BOM and placement file for partial assembly - 24v supply
 - Hyperion environmental board design
 - 300083 - DMO Support - LRAUV
 - Batman integration testing on Galene. Finding and fixing issues ranging from cable harness to firmware bugs.
 - Released v0.9.14 and started discharge test
 - 901217 - Chemical Sensors
 - Logic analyzer capture of MMS interface signals and timing.
 - Ordered STM32HU585 processor boards for evaluation as timing generator
 - Photodiode interface opamp selection for high gain transimpedance amp.
 - Setting up a thermal cooling / heating surface for testing MMS Analog board across 0c to 35c for eventual comparison to new MMS2
 - Looked into a minor bug on MSC3 MoSoS v5.1.8
 - 901805 - Coastal Biogeochemical Sensing Program
 - Merged MoSoSv5.2 into the mainline. There are a few issues, notably with serial that will be resolved soon. New development will be on main from now on.
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 - 902004 - Planktivore
 - Poster for OSM26
 - Board Bullets
 - Overhead
 - Working with IS on DeepEdna3 install.
 - Peter installed the 61TB drives on DeepEdna1 and 2 and implemented the storage naming convention. Absorbed the cost of the PCI cards into Planktivore.
 - Out of Office
 - Vacation Feb 16 to 20
 - OSM Feb 19 to 23
- Mike McCann
 - Out of Office
 - 2-5 March: OGC 134th Member Meeting - remote attendance
- Enoch Nicholson
 - 706008 - READI-Net
 - Migrated FIDO design files to MBARI vault
 - 902111 - Carbon Flux Ecology
 - Working on SINKER OSM presentation
 - Overhead
 - MARS bulkhead simulation
 - Out of Office
 - Sick
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Worked on networking issues with navproc-dpkd
 - Planning meeting with Erland for next week's LARs work
 - 901101 - Seafloor Mapping
 - Working on LASS control system refactoring

- 902504 - Scalable Semantic Mapping
 - Tested external control interface on Ventana for Friday's cruise
- 902606 - Low Altitude Survey AUV
 - Project meeting for LAS AUV
- Out of Office
 - Offsite on Tuesday and Friday
 - January 2, 2026 - vacation
 - January 19, 2026 - January 30, 2026 - vacation
 - March 4-5, 2026 - vacation
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - Falkor (too) Cruise preparations
 - Raytrix software support
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - SWIR multispec chassis updates
 - 902004 - Planktivore
 - Ahi 42 deployment support
 - 902603 - Miniature 4K Subsea Optics
 - Finalizing SOW and contracts
 - 902606 - Low Altitude Survey AUV
 - Strobe concept design
 - Out of Office
 - Feb 21 - Feb 27: OSM 2026, Glasgow
 - Feb 28 - Mar 8: Vacation, Scotland
 - Mar 9 - Mar 13: OI 2026, London
 - June 13 - June 20, 2026 MidSEC, Sweden
- Brent Roman
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Group meeting.
 - New PBP release (previous one was in Nov 2025).
 - 901513 - Targeted Sampling by AUVs
 - Tentative plans for patch tracking by mid March.
 - 902101 - LRAUV Technology Development
 - TethysDash: Working on a couple of the ~15 endpoints still to be migrated to Jakarta EE.
 - 902504 - Scalable Semantic Mapping
 - Dial [1.9.94](#).
 - Overhead
 - Issues with recent Thalassa maintenance.
- Karen Salamy
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - The video lab is working on cleaning up data from VERY old dives (originally annotated in VICKI). There's been a number of tasks to help them out:
 - New features and updates were made in [vars-cli](#), [oni-java-sdk](#), [annosaurus-java-sdk](#), [vampire-squid-java-sdk](#), [annosaurus](#), and [VARS Annotation](#) to support their tasks
 - Updates to VARS Annotation for moving annotations to different media.

- Major [New release of VARS Annotation \(v2.3.1\)](#) for Mac/Win
 - Upgraded [jsharktopoda](#) to latest JavaFX/JDK version and pushed new release for Mac/Win
- Overhead
 - Meeting with Catherine Borremans on lending MBARI expertise (on image management, data management, AI classification, etc) to an EU call to support the Treaty on Biodiversity Beyond National Jurisdiction (BBNJ)
 - Joined the Science Committee for the [Marine Imaging Workshop 2026](#)
 - Create a [doc](#) for using VARS for real-time annotations for SOI
- Out of Office
 - April 6 - April 24: Vacation
 - Jun 13 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
- Quinn Shemet
 - 300083 - DMO Support - LRAUV
 - Fixed(?) Ahi Planktivore clock sync issue
 - 902101 - LRAUV Technology Development
 - IEEE AUV abstract submissions
 - BPC2 testing and debug
 - OSM AUV tutorial prep
 - Overhead
 - OR SE/MT candidate review
 - Out of Office
 - Feb 17th - Feb 19th - Vacation
 - Feb 23rd - Feb 28th - OSM, Glasgow
- Alana Sherman
 - 902208 - Mini ROV Operations
 - Helped disconnect AUV van
 - 902401 - Geo-Sense
 - For last week we deployed GeoSense on the elevator on the canyon shelf on Tues/Weds. Conditions were terrible but we got deepsea connect to work and we think despite some issues with the cable we should get good data.
 - Our Hyrdosense proposal to deploy GeoSense near the submarine caldera under Kolumbo, Greece was approved so now we need to work with how to get the mini and geosense there and working.
 - Overhead
 - Finished 13 personnel reviews
 - Reading through all the reviews for the division
 - Completed post doc selection process
- George Stern
 - 701147 - MARS O&M IV
 - Tried to get a solidworks database working only to discover it wasn't the latest. Thankfully the ME just came through and sent us a pack and go version of her latest.
 - 902106 - Niobicon-Based AUV Docking Development
 - Meetings and planning for the buoy cable buy
 - 902204 - Scalable Robotics
 - HSI lights and POE can rewiring; last minute scrambles to get connectors, rewire housings and get everything tested. Potentially discovered bug in luxonis drivers so the USB version of a card works but the POE version doesn't.
 - 902304 - Piscivore Cam
 - Continued work Gen4 camera

- Justin Tucker
 - Overhead
 - High performance PV investigation
 - ANSYS installation on DeepRip2
 - RV DP LARS prepwork
 - Out of Office
 - Fridays through March 2026
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - I created a 2-page manual for the Event Camera, which will be deployed by the Compass lab on Friday on Ventana.
 - 902208 - Mini ROV Operations
 - Frank and I have been outfitting the 10-foot control van with all necessary ROV equipment. After two days of rewiring and system integration, we powered up the vehicle without any issues. While there is still significant work remaining, we are currently ahead of schedule.
 - 902312 - Seafloor Processes
 - I've returned from a successful Antarctic cruise. We completed three CSEM deployments and three BlueROV dives. During each dive, we collected water samples using the Niskin bottle trigger mechanism I designed, which performed reliably.
 - The equipment is currently en route back to MBARI and will then be forwarded to Europe. I've also prepared a comprehensive list of tools for Eliana to purchase, as these will remain at MBARI for future use.