

# Engineering Weekly Report 3/5/2026 - 3/12/2026

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

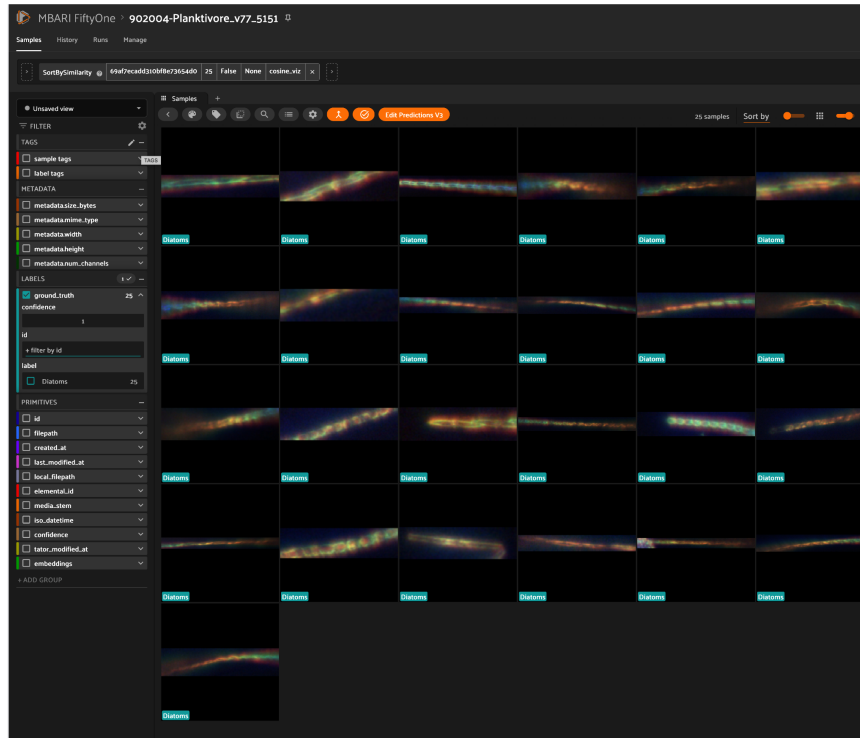
## Executive Council Notes

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## Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
  - 901405 - Wave-Energy Conversion for Oceanographic Applications
    - Tether assembly
    - Buoy re design
    - Mooring design
  - 902106 - Niobicon-Based AUV Docking Development
    - Project management
  - 902204 - Scalable Robotics
    - Subsastian sled design
- Danelle Cline
  - 901502 - Ocean Soundscape
    - Mentoring CSUMB student Gabriel. He is making good progress.
  - 902111 - Carbon Flux Ecology
    - SINKER deployment support, adding new physical machine snowfall to rsync and logged into instrument to confirm ADCP not working. Paul was able to fix remotely.
    - Planktivore and ISIIS data is now syncing from Tator to Voxel51 both community and enterprise versions. Over 1 million ROIs successfully captured from video or from raw source, embeddings and similarity index computed. Laura Chrobak working with Voxel to

refine plugins for our use-cases.



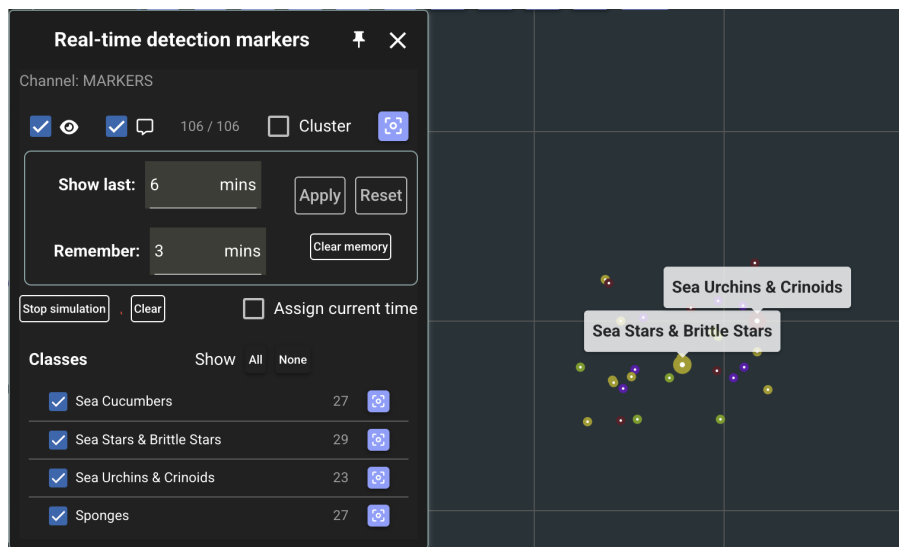
- Out of Office
  - Vacation: 3-12,3-13
- Duane Edgington
  - 901502 - Ocean Soundscape
    - Team meeting
    - Exploring Perch 2.0-hoplite bioacoustics foundation model
  - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
    - Team meeting
  - Overhead
    - Agentic AI on-line course work
  - Out of Office
    - Medical Thurs March 19 2026
- Kevin Gomes
- Andy Hamilton
- Kent Headley
  - 701147 - MARS O&M
    - Last week, tested prototype fan control with Ethernet IO module hardware; was able to verify that protocol works.
    - Fan control still pending final logic design/implementation, but can demonstrate basic functionality. It's not certain that it will be needed, so deferring completion.
  - 901101 - Seafloor Mapping
    - Worked with Tom O to address build MB-System build issue (libproj v9.8 introduced a variable name that collides with termios baud macro B0)
    - Added updates to MB-System trndev to address build issues with LCM v1.5.2 and fix a couple of parsing bugs.
    - Have a large PR pending
  - 902204 - Scalable Robotics
    - set up map processing tools for this week's sponge ridge expedition
    - providing remote support for Norbit sonar processing
  - Overhead

- misc admin
- Rich Henthorn
  - 300078 - DMO Support - AUV
    - Adapt TRN for serial LCM traffic
    - Still working through issues discovered in simulation
  - 902111 - Carbon Flux Ecology
    - Prep, mob, and deploy SINKer
  - 902305 - Event Detection Using the Sedimentation Event Sensor
    - Reviewing new event detection algorithm
  - 902401 - Geo-Sense
    - Castroville warehouse trip for Ti housing
  - Out of Office
    - March 10 - Afternoon only
    - March 12 - WFH
    - March 23 to 24 - WFH
    - March 25 to 28 - Vacation
    - Apr 9 to 13 - Durkin Packard Cruise
    - May 18 to 28 - Vacation
    - June 29 to July 6 - Vacation
- Akshay Hinduja
  - 901809 - Deep Sea Bioinspiration
    - Meeting with CVision, get upto speed on current status
  - 902101 - LRAUV Technology Development
    - LRAUV dev meeting, discuss terrain following and awareness project
    - Setup simulator on omega for algo development
    - Prepare requirements document for TFTA (terrain following, terrain awareness)
  - 902204 - Scalable Robotics
    - Support sur ridge cruise from shore
    - Wrote log splicing script to merge dive logs missing raw channels with norbit binaries broadcasted to lcm
    - Added lcmlogging functionality to sen\_norbit as a flag
- Brett Hobson
- Irene Hu
  - 901805 - Coastal Biogeochemical Sensing Program
    - Alkalinity:
      - Floating anode titrations, not as good as expected but did finally get double inflection point curves (required too-high current and distance didn't seem to make much difference, some weird behavior)
      - Behavior from TApHl anode seems to resemble NC. Probed anode on two alkalinity isfet chips and can't get connection to pad. Resistance to itself varies, the one used in solution seems to have grown a layer. Will talk to Lionix.
  - 901904 - Deep-Sea Coral-Sponge Community Observatory
    - Parts for chassis modification for longer house: iterations on fan holder and motor driver mounts
  - 902305 - Event Detection Using the Sedimentation Event Sensor
    - Sent our incorrectly received oxygen logger back to Pyroscience
  - Overhead
    - Rec com weekly meeting
- Scott Jensen
  - Out of Office

- March 23-31 (estimate)
  - May 11-24 (vacation)
  - June 29-July 7 (vacation)
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- Brent Jones
- Chad Keczy
  - Out of Office
    - Out of office on Fridays
- Brian Kieft
  - 300078 - DMO Support - AUV
    - Hyperion meetings
  - 300082 - DMO Support - Wave Glider
    - Piloting this weekend
  - 300083 - DMO Support - LRAUV
    - Supporting LRAUV deployments this week
  - 901513 - Targeted Sampling by AUVs
    - Supporting krill deployment now
  - 902101 - LRAUV Technology Development
    - Lots of TRN work with HIL simulations. Data is finally flowing. Running more tests and looking at data. We'll get offshore eventually...
    - Working with Benthos to deal with DAT configuration issues
  - 902106 - Niobicon-Based AUV Docking Development
    - Standing by on Mandy for mock dock deployment.
  - 902607 - Autonomous Surface Vessel Replacement
    - Discussed rental/lease options with Seasats. Planning a deployment down in SD now. Production is behind.
  - Overhead
    - Working the WHOI deployment in Lake Erie. Reconfigured Stella for shallow water ops with mud in the nose. Fixing issue with DVL.
  - Out of Office
    - 03/19 (PDT)
- Denis Klimov
- Eric Martin
  - 902504 - Scalable Semantic Mapping
    - Out at sea on the Pack 3/10-3/17
    - Packing for the arctic
  - 902606 - Low Altitude Survey AUV
    - Call last week with Kraken. They can start testing in a couple week..
- Thom Maughan
  - 300078 - DMO Support - AUV
    - Hyperion power supply partial build to test GaN FET 24v buck converter. Initially there were issues, but after swapping the controller the converter was working. 30v input was running ~96% efficient at 180W! Characterizing efficiency in 10v steps to 60v, one of the FETs blew when the input was at 60v and it took out the pads on the board. The design as is will work for development.
    - Working on an design update which will have automated assembly
  - 300083 - DMO Support - LRAUV
    - Battery testing is in progress, charge / discharge. No bugs or odd behavior. Calibrating capacity as measured by the electronic load vs what is reported by the sticks.

- Galene is intended for high current (5 to 6amp) payloads and testing at 6amps has a 2v drop in the wiring harness. Varsha is out so I'm working to get Galene to the EE-Techs for wiring upgrade pending finding the right schematic.
- 901217 - Chemical Sensors
  - Supporting the lab. There have been two units that have had what appears to be a sleep problem that happens once in the 4 day cycle. Not sure if it's hardware / silicon errata related. Rerunning the K0 cal on the board that failed to try and reproduce. I've added an error log entry in the event HIB fails to sleep in the next release.
- 901805 - Coastal Biogeochemical Sensing Program
  - Setting up for testing MoSoS v5.2 on nanoFET after merging Jim's latest update.
  - Providing support for mini-ISUS. Luke is experiencing a spurious byte on wakeup with his setup. Jess has a test setup that does not reproduce the problem with the protocol analyzer. Likely culprit is floating TX signal when sleeping for more than a few minutes.
- 902004 - Planktivore
  - Talked with Kobun on his proposal to gather eDNA on Planktivore. It's easy to add the eDNA 'sponge' as it would be zip tied to the optical extensions.
  - Denis is making good progress on final assembly of Planktivore V2 'B'
- Out of Office
  - One week vacation planned in Apr / May, not sure yet
- Mike McCann
  - 200109 - Core Mooring Data - MDUC
    - Put some finishing touches on the Admin in mooring-ssds for editing ssds\_metadata
    - Implemented the REST API for the SSDS\_Metadata tables in mooring-ssds
    - Configuring [mooring-ssds.shore.mbari.org](http://mooring-ssds.shore.mbari.org) with MBARI SSO
  - Overhead
    - Gave presentation at Metadata Standards Forum about X3D Geospatial and 3D Tiles
  - Out of Office
    - 19 June - 17 July: Vacation
- Enoch Nicholson
  - 706008 - READI-Net
    - Vacuum Sensor modifications
  - 901007 - Benthic Biology & Ecology
    - Pump redesign for hydraulic and dosing system
  - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
    - Flight planning
    - Intern review
    - Installing polarizer
  - Out of Office
    - Sick
- Tom O'Reilly
- Mike Risi
  - 300062 - DMO Support - Doc Ricketts
    - Working on pan and tilts with Quinn
  - 901101 - Seafloor Mapping
    - Working on LASS control system refactoring
  - 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
  - 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
    - Meetings. Check point with John to talk about possible next tasks for the project.
  - 902101 - LRAUV Technology Development
    - TethysDash backend: The recent LRAUV operations have exposed some unexpected regressions arising from the several significant internal changes done over the last few weeks. Two endpoints in particular will need additional revision. For now, I enabled the previous version of such endpoints, and all seems stable now. Also, a long standing bug with the resyncing of the LRAUV config and mission clones seems to have been fixed.
    - Saab: Some additional meetings with Saab these last couple of weeks. A functional TethyDash instance is now in place on an EC2 instance. We've tested incoming and outgoing email functionality. Also, we tested HTTP connection with a sim running on an MBARI server, and also with an old sim they have on their side. Some of the next steps for them include enabling HTTPS access and setting up and testing Iridium comms (i.e., emailing) with an LRAUV, probably a sim (but not sure if possible) and real vehicles.
    - WHOI: A brief exchange with them regarding KML display in dash4, and possible alternatives (e.g, tile layers). It seems they've been using a KML file satisfactorily.
  - 902504 - Scalable Semantic Mapping
    - Focused work on [Dial](#) these days, with various versions released and enhancements including the display of real-time geo-located detection markers on the map.



- Karen Salamy
  - 200103 - Core CTD Data - MDUC
    - Trying to help Rob figure out why new CTD O2 plots are displaying "jittery" than the same data a few months ago.
  - 300057 - Mooring Maintenance
    - M1, OA1, and OA2 mooring data downloads were failing most of yesterday. M1 downloads failed from 5AM - 5PM but eventually caught up. Adriana S. stated that the

Starlink Tunnel did not go down yesterday and that the issue was most likely related to the Viper Radios. I believe Brett J and Doug C. may take a trip up to Mr. Toro tomorrow to inspect them and possibly improve the radio's connections/signals.

- 901101 - Seafloor Mapping
  - This week I took on some final major updates for the SMDB Dash for the team. Jenny P. indicated that various updates were needed and that I might be able to wrap up my time on the project for a while if these were completed. Needing to focus on other projects (SINKER and LRAUV), this was a logical step to complete now.
- 902101 - LRAUV Technology Development
  - Attending the Monday meetings
  - I began my Pilot in Training (PIC) refresher course and test. I tried to sign up to be on watch for the Ahi deployment this week but Steve H. and his lab indicated they had it all covered.
  - I reached out to Brian K. and Quinn S. this morning to see if they wanted me to take a PIC position for the Triton deployment today.
- 902111 - Carbon Flux Ecology
  - Busy week: SINKER was redeployed into the Monterey Bay. I worked with Danelle C. to bring up the SINKER Dash for the team. We are using a new server system (snowfall) instead of thalassa. The system is working but two cameras (PTVR) are offline and the ADCP data is not streaming out of redis well. I will look into this potentially next week when the majority of the team is back from the Oceans Meetings in the UK.
- Out of Office
  - Vacation: Mar 20 - 24, 2026.
  - On-campus 3 days/week ( **T, W, TH**). New OFFICE - G106.
- Brian Schlining
  - Out of Office
    - April 6 - April 24: Vacation
    - Jun 13 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
- Quinn Shemet
  - 300062 - DMO Support - Doc Ricketts
    - Pan/tilt preset process skeleton
  - 300083 - DMO Support - LRAUV
    - Ahi deployment support
  - 902101 - LRAUV Technology Development
    - Waterlinked DVL test setup
    - BPC2 testing ongoing
    - Continuing docking homing data analysis, docking meeting
    - On-call, deployment planning
  - Overhead
    - SE/MT resume review and interview prep
    - ASV replacement discussion and followup
- Alana Sherman
  - 902208 - Mini ROV Operations
    - Helped get the mob and dock testing done, the Mini is not out to sea with GT and his lab
  - 902401 - Geo-Sense
    - Plans for our expedition on the R/V Gaia Blu are now going full throttle.
    - So many details to figure out with containers, beacons, elevator configuration, and shipping Li batteries
    - Had first meeting with the Italian team and the Gaia Blu bridge and lots to discuss and follow up on

- Followed up with Drew Lucas from Scripps, and we learned a great deal about deploying cables off beaches, and I think there is an opportunity for future collaborations
  - Overhead
    - The usual mix of space, safety, personnel, project, and long term planning
- George Stern
  - 300078 - DMO Support - AUV
    - Wired up power to the the new electronic gauge Aaron installed on the pressure chamber
  - 902106 - Niobicon-Based AUV Docking Development
    - Began planning mods to the subsea can and LRAUV to try to optimize coms without changing rod geometry
  - 902204 - Scalable Robotics
    - Last week: finished schematics and reviewed Jose's layout for a trigger isolation card for the PoE camera and a switching matrix card for the PoE Can's raspberry pi, ordered some parts
    - No ground faults apparent but installed kapton isolation washers in two lights to further increase resistance
  - 902304 - Piscivore Cam
    - Continued working Gen4 camera design
- Justin Tucker
  - 901405 - Wave-Energy Conversion for Oceanographic Applications
    - Pressure relief valve design
    - Endcap design
  - 902606 - Low Altitude Survey AUV
    - Kinematic path energy estimation
  - Overhead
    - Claude solidworks integration
  - Out of Office
    - Fridays through March 2026
- Johann Voigtlander
  - 902208 - Mini ROV Operations
    - Deploying minirov from David Packard