

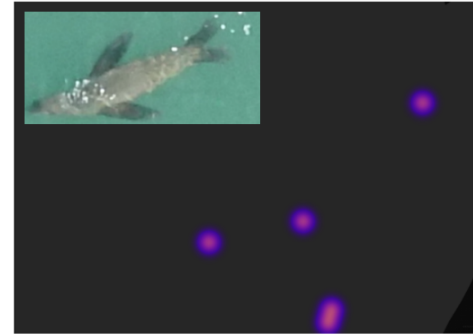
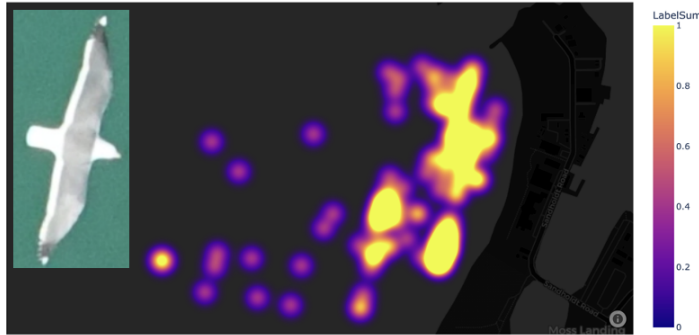
Engineering Weekly Report 6/1/2023 - 6/8/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Implemented Python client for Sharktopoda 2 video player, to support VARS GridView integration
 - 902204 - Scalable Robotics
 - Prepared DOEST presentation
 - Supported fixes to RTAB-Map
 - DQ2209 - Ocean AI 2
 - FathomNet backend development, frontend support
 - Supported QSCP development; planned MVP experiments
 - Out of Office
 - CVPR (Vancouver) June 17-25
 - Vacation June 30-July 9
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Monitoring buoy
 - Designing buoy tower extension and ordering materials
 - 902106 - Niobicon-Based AUV Docking Development
 - Mooring preparations
 - Assembling new latch mechanism
 - Ordering new release for anchor
 - Out of Office
 - 1 sick due to sick child
- Danelle Cline
 - 500055 - VARS, M3/RS, DSG.
 - Weekly meeting
 - Exploring track cluster similarity to accelerate ML proposal corrections
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Prepared verified and unverified data sets for summer intern
 - Export data to CIFAR format for Duane Vision Transformer training
 - 901502 - Passive Acoustic Sensing
 - Preparing for running select days in AWS of pypam netCDF generation
 - Fixed disabled cron check on recording computer that was not emailing during recording outages; Symantec flagging recording traffic as possible threat.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Weekly meeting
 - Sanity check: generated heat map display of distribution of detections in annotated drone missions so far.



- - Overhead
 - Summer intern Tarun Sharma started this week
 - Out of Office
 - Generative AI Immersion Days, June 13-15, San Francisco
 - Duane Edgington
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Continued work with Danelle on clustering and active learning tools for midwater images and concepts
 - Welcome intern Tarun Sharma June 5 - Aug 11, who will be working on semi-supervised learning applied to midwater video (learning classes using few labels).
 - Running Vision Transformer for Small-Size Datasets for training against midwater images. Successfully trained against CIFAR-100 as a test run on AWS SageMaker Studio. Uploaded trained model to [huggingface](https://huggingface.co)
 - Running colab and AWS sagemaker studio for 901103 work.
 - IS upgraded gpu box OLIVIA to Ubuntu 22.04 LTS with cuda drivers from [Lambda Stack](https://aws.amazon.com/lambda/stack/).
 - 901502 - Passive Acoustic Sensing
 - Team meeting June 7.
 - Out of Office
 - [CVPR 2023](https://cvpr2023.mlr.press/) June 14 - 22.
 - Jon Erickson
 - Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - More work on LCM Bridge application
 - Traced all code for item status to see if we lose any information with single LCM type
 - Out of Office
 - Jun 9,12: Vacation
 - Aug 28-Sep 12: Vacation
 - Andy Hamilton
 - Kent Headley
 - 300057 - Mooring Maintenance
 - Investigated system init issue; believe that compact flash card may have some bad media.
 - 901101 - Seafloor Mapping
 - Preparing for mapping AUV test cruise 6/20
 - Syncing codebases
 - Troubleshooting Win7 test setup issues
 - 902204 - Scalable Robotics
 - Met w/ Bastian, whose last day at MBARI was Wed

- Investigating gemini sonar image issues w/ Bastian: images change dimension in different range regimes. Trittech indicates it's range compression. This may interfere w/ the ability to use the images in the way Bastian intended.
- Overhead
 - Hiring: recommendation pending
- Out of Office
 - 6/20 Rachel Carson
- Rich Henthorn
 - Out of Office
 - June 1 - 9: Vacation: available on email, Zoom, Slack, VPN, MDT timezone
 - June 29 - July 7: Vacation/WFH: available on email, Zoom, Slack, VPN, PDT timezone
 - July 24 - 27: Vacation: available on email, Slack, EDT timezone
 - July 31 - Aug 4: WFH: available on email, Zoom, Slack, VPN, PDT timezone
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Continued testing of HIB solution for buffer shutdown: incorrect pH voltages traced to software
 - HIB pin does not go low when power is arbitrarily cut, despite implications in docu. On further probing and googling, it never has and probably never will. Working w/ Thom + consulted Scott, Alana, etc to brainstorm alternate solutions
 - EC parts sent to MTechs to fix.
 - 901904 - Deep-Sea Coral Community Observatory
 - Working on continuous / streaming mode to help with setup and focus before taking pictures with all LEDs
 - Signals are not behaving as expected, with arbitrary pauses that slow down refresh rate; exchanging emails with AlliedVision support team
 - Draft Python code to toggle between streaming mode and 8-shot mode
 - Overhead
 - Rec com meeting
 - Out of Office
 - 6/7/23: "emergency plumbing issues" (gross)
 - Vacation in June TBD
- Scott Jensen
 - Out of Office
 - Vacation June 30-July 5
 - Vacation July 24-28
- Brent Jones
- Chad Keczy
 - 901101 - Seafloor Mapping
 - Final review of the revB boards for the LASS Power can
 - Helped Eric setup LASS sled for DOEST
 - Paragon Battery Upgrades
 - The Victron parts have arrived and I have begun testing/interfacing (Bluetooth) them
 - Other parts still arriving
 - Overhead
 - Helped set up an alternative beverage table for the DOEST reception
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office

- 05/15 (PDT)
 - 06/09-14 (PDT)
 - 06/19 - 06/29 (EDT)
 - 07/03 - 07/07 (TBD)
 - 07/17 - 07/28 tentative (TBD)
 - 08/03 - 08/07 (EDT)
 - 08/16/ - 08/19 (EDT) alternate
 - 09/26 - 10/04 (EDT)
- Denis Klimov
 - Out of Office
 - 6/12/2023-6/15/2023
 - 7/3/2023-7/6/2023
 - 7/11/2023-7/14/2023
- Eric Martin
 - 300079 - DMO Divisional Support - Rachel Carson
 - Discussing need for 2024 with the dorado team.
 - 901101 - Seafloor Mapping
 - 3D at depth project managment, Critical review will be in july
 - 901206 - Coastal Profiling Float
 - More tank tests are progressively addressing bugs.
 - 901911 - ROVVR
 - Onboarding Shovan our new intern
 - 902012 - Telepresence
 - Supporting setup for telepresence next monday
 - 902204 - Scalable Robotics
 - At ICRA with Giancarlo last week
 - DOEST Demo was a success.
 - Overhead
 - ICRA 2023 in London last week
 - Out of Office
 - ICRA was last week, and on vacation 6/8-6/15
- Thom Maughan
 - 300083 - DMO Divisional Support - LRAUV
 - Created chip support library for lpc11exx. This solved the hard fault when accessing some peripherals.
 - Backplane board bringup is done. Thanks to Brett H for the fast response on a dev battery cage. Making progress on battery status code.
 - Erik provided an overview of planned battery manager operation, very helpful
 - 901009 - CANON
 - eDNA lunchbox battery debug for doest, not needed but we have a task on the list to provide a proper charging circuit with safety review sometime this year. Plan to leverage Planktivore design.
 - eDNA server requirements gathering
 - 901805 - Coastal Biogeochemical Sensing Program
 - Troubleshooting Labview serial comm to MFET bug after a run of several days.
 - Discussions on nanoFET software/hardware with Irene. Release 4.1.7 which addresses a mux bug.
 - 902004 - Planktivore

- Prep, test and deploy Planktivore v2 on temporary mooring. Aaron did a great job on the design and fabrication of the mooring - well done!
 - Mooring recovery planned for Friday
 - Overhead
 - Cleanup. Moved the towbody to the Waveglider shed, microscope is stored in office.
 - Out of Office
 - Vacation June 26 - July 12
- Mike McCann
 - 300078 - DMO Divisional Support - AUV
 - Planning to migrate the tethysviz STOQS server to a new VM that uses PostgreSQL 15
 - 901009 - CANON
 - Transition to new stoqs.shore.mbari.org complete with DNS changes wednesday morning
 - With IS help opened firewall so that stoqs.mbari.org can see the new kraken server
 - Fixing brizo's bad dead reckoned position data from the May 2023 CANON campaign
 - 901101 - Seafloor Mapping
 - Dave merged the capstone teams mbgrd2gltf contribution to MB-System
 - Overhead
 - Sent Jupyter Notebook that combines multiple MARS DAS files with xarray to Aaron Micallef
 - Out of Office
 - 26-30 June: Vacation
 - 7-11 August: SIGGRAPH in LA
- Rob McEwen
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Able now to specify ocean currents directly in Simulation.cfg.
 - Simulating docking events with ocean current.
 - Working on adding an auxiliary waypoint to lineCaptureHoming.xml for missed-dock events.
- Paul McGill
- Enoch Nicholson
 - 706008 - READI-net
 - Completed DOEST prototype build.
 - 771131 - Great Lakes PCM/HAB
 - Test mounted pump and phase separator.
 - Added connector to hatch.
 - Cleaned and reassembled SEATRAC for shipping.
 - 902306 - SINKER
 - Ordered aquarium hardware.
 - Submitted frame drawings.
 - Continued frame design.
- Tom O'Reilly
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Assessed operations sites in north bay, for access to upwelling shadow. Seymour Center and New Brighton State Beach especially promising
 - Obtained Santa Cruz County Parks research permit, permission granted to fly from Bonny Doon Beach and Davenport landing
- Mike Risi
 - Out of Office
 - Out of office on Fridays
 - May 30 - June 6
- Paul Roberts
 - Out of Office

- June 6 - June13
 - June 26 - July 4 (tentative)
- Brent Roman
 - Out of Office
 - May 26 - June 6
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - Implemented handling of partial days in our [pypam-based-processing](#) software. Cloud based testing ongoing (thanks, Danelle!).
 - Provided well-received input to a [PyPAM PR](#).
 - 901513 - Targeted Sampling by AUVs
 - Group meeting to delineate status and next steps; good prospects but also challenges ahead.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TethysL is now [2.9.2](#), especially toward further facilitating [migrations from xml](#).
 - Assisting Karen with issues related with the Google Elevation API.
 - 902204 - Scalable Robotics
 - Group meeting.
 - Overhead
 - Attended some DOEST presentations (I found Steve H.'s really fascinating)
 - ESIP: Fixed [issue with the AllegroGraph container](#) in the COR system. (COR has been running "impressively stable" for 15 months. Just now the AG container required a restart.)
 - IE meeting - cybersecurity discussion
 - Out of Office
 - June 5: vacation (important family related business)
 - June 9: vacation
 - July 4–17 or Mid August (still tentative): vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Updated EXPD values for Ed P.
 - 300057 - Mooring Maintenance
 - Working with Jared to prepare for the upcoming M1 deployment Jun 23, 2023
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working with Jim J. and Carlos R. to edits some important team requests for the dash5.
 - Overhead
 - Finishing up final office move transition
 - Helped Matt S. with precruise distribution list "reply-to" issue.
 - Out of Office
 - VACATION: May 30, June 19-23, 2023
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - 901618 - Pelagic-Benthic Coupling
 - Begun work on adding additional features requested by Jim Barry's lab to [Mondrian](#)
 - 902308 - M3/VARS for the Masses
 - Working on removing technical debt from MBARI's video asset manager, [vampire-squid](#) and improving documentation. (It's been in use for about 7 years). Updates include the heavy lift from Scala 2 to 3 and from [javax.persistence](#) to [jakarta.persistence](#) packages. Started work adding API docs using [Tapir](#).
 - Overhead
 - Introduced and reviewed the new image annotation app, Mondrian, with Jim Barry's lab. Their intern will start using it soon.

- Setting up a permanent image repository for the Coral Observatory and registering the images in VARS so they can be analyzed/annotated.
- Out of Office
 - Jun 16 - 20 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 706008 - READI-net
 - Making parts in Orcad for Scott's sampler control board
 - Refreshing my Orcad skills
 - 902312 - Seafloor Processes
 - Working with Mandy to start thinking about permitting issues with the sanctuary for CSEM and DAS applications
 - Overhead
 - Working on MiniROV hire
 - Out of Office
 - Missed a couple days with sick kids
- George Stern