

Engineering Weekly Report 9/22/2022 - 9/29/2022

Executive Council Notes

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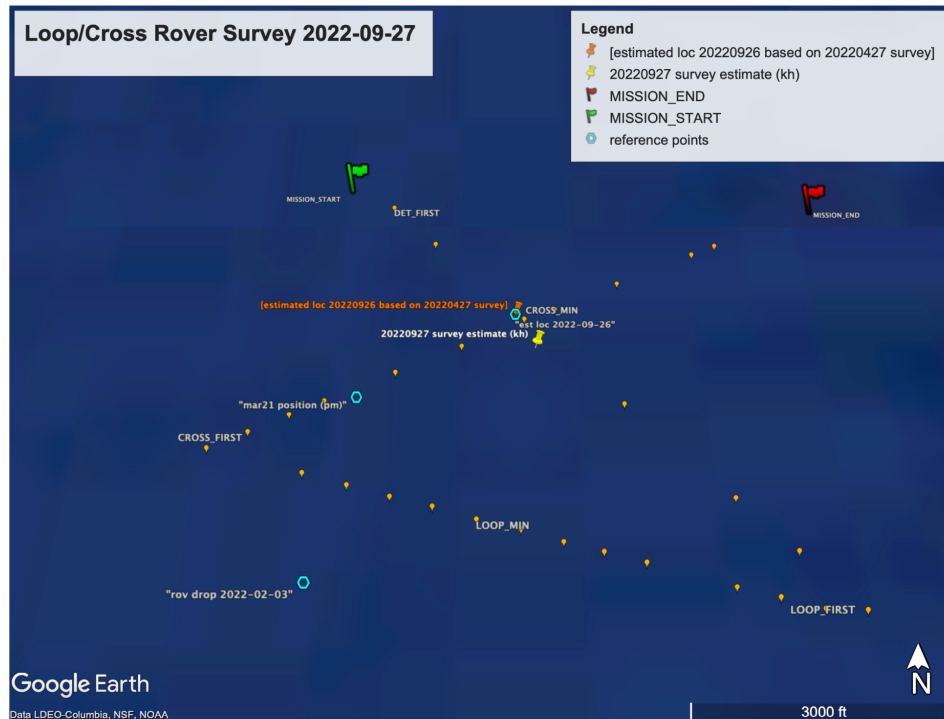
Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation Oct 8 - 23
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Monitoring buoy
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing battery pack and buoy housing.
 - Out of Office
 - Out sick on Thursday and Monday
- Danelle Cline
 - 901502 - Soundscape Research and Education
 - Finished demo Colab jupyter notebook on running blue D ResNet classifier to kick-start efforts with with Stanford student, Kanoe Makalii Aiu, who will be working with Will Oestrich and Danelle on improvements to the blue D call ML workflow.
 - Meeting with Kanoe to do walk through
 - Potential upcoming opportunity to present work
<https://www.frontiersin.org/research-topics/45485/deep-learning-for-marine-science>
 - 901915 - Improving the Impact of MBARI's Data
 - Meeting to discuss M1 mooring data and page migration
 - 902005 - VARS Annotation Assistance
 - MIW22 Presentation finished and dry-run with team (thanks, Kevin, Brian, and Lonny for the good feedback and shared materials!)
 - Moved all docker repositories from private to public ECR for use; finally figured out how to run automated github action docker releases. One small step for womankind.
 - Fixed [issue 3](#) in strongsort pipeline
 - Exploring demo notebook using FathomNet data with deepsea-ai pip module
 - Overhead
 - Code.org video is complete & some social media activity to follow
 - Out of Office
 - Marine Imaging workshop 2022 (MIW22) 3 - 7 Oct 2022 CEST Brest, France (GMT+2)
 - Vacation 9/28 - 9/29, 10/10-11
- Duane Edgington
 - Out of Office
 - Vacation (international) Sept 12 - Oct 1 2022

- Marine Imaging workshop Oct 3 - 7 2022 CEST Brest, France (GMT+2)
 - Vacation (international) Oct 9 - 19 2022
 - Vacation October 21-23 2022 (Southern California)
- Jon Erickson
 - 800139 - EyeRIS (Remote Imaging System)
 - The 1500m pressure case tube is an inch too short for the interior cabling necessary. New tube to the shop! All the other parts are Q.C.'d and ok.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Take a look at the top level UW assembly. Waiting on Scott for the flat ribbon dimensions & lugs for the power leads.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Waiting on the pH sensor pressure case parts from the shop queue.
 - 901809 - Deep Sea Bioinspiration
 - Multicam: Trying to finish the pressure case prints to get in the shop queue.
 - 902004 - Planktivore
 - Flow SIM results for the "flashlights" produced good results. Starting the drafting for all the parts, (19 parts).
 - 902010 - Mesopelagic LRAUV
 - Re-work on the titanium end domes is done. Re-work on the Ti end rings is waiting on Ray's return.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - In the process of Rev'ing the battery bulkheads. Shipping damage is tearing them apart.
- Kevin Gomes
 - 300057 - Mooring Maintenance
 - A small bit of work around power outage that caused a computer to go down in the cupola
 - 300058 - DMO Support - Western Flyer
 - More documentation in preparation for WF decommission
 - 901009 - CANON
 - Starting upgrade of ODSS on Rachel Carson
 - Liquid Robotics somehow broke my connection to WGMS so they want me to move to a new data system. It's basically a whole new stack so I am starting over from scratch. Will be a better system, I think, so hopefully will be worth it.
 - Getting close to deploying new waveglider data extraction on new VM wg-portal.shore.mbari.org.
 - 901915 - Improving the Impact of MBARI's Data
 - Met with group to get help on web page migration
 - Will hold a meeting to work on how we want to approach M1 data pages
 - Met to discuss M1 data and mooring data page. Mike to work on this.
 - 902012 - Telepresence on MBARI Research Vessels
 - Created a new Slack workspace, but for a very odd reason, they rejected our non-profit application ... hmmm.
 - Overhead
 - Group meeting
 - Out of Office
 - 10/3-10/6: Vacation
- Andy Hamilton
- Kent Headley
 - 901101 - Seafloor Mapping
 - Dave C mentioned that Hannah Piecuch at WHOI is writing an article for the National Deep Submergence Facility (NDSF) newsletter about our work integrating the MBARI/Stanford Terrain

Relative Navigation (TRN) with AUV Sentry (operated by NDSF). Dave is coordinating with Raul N at MBARI.

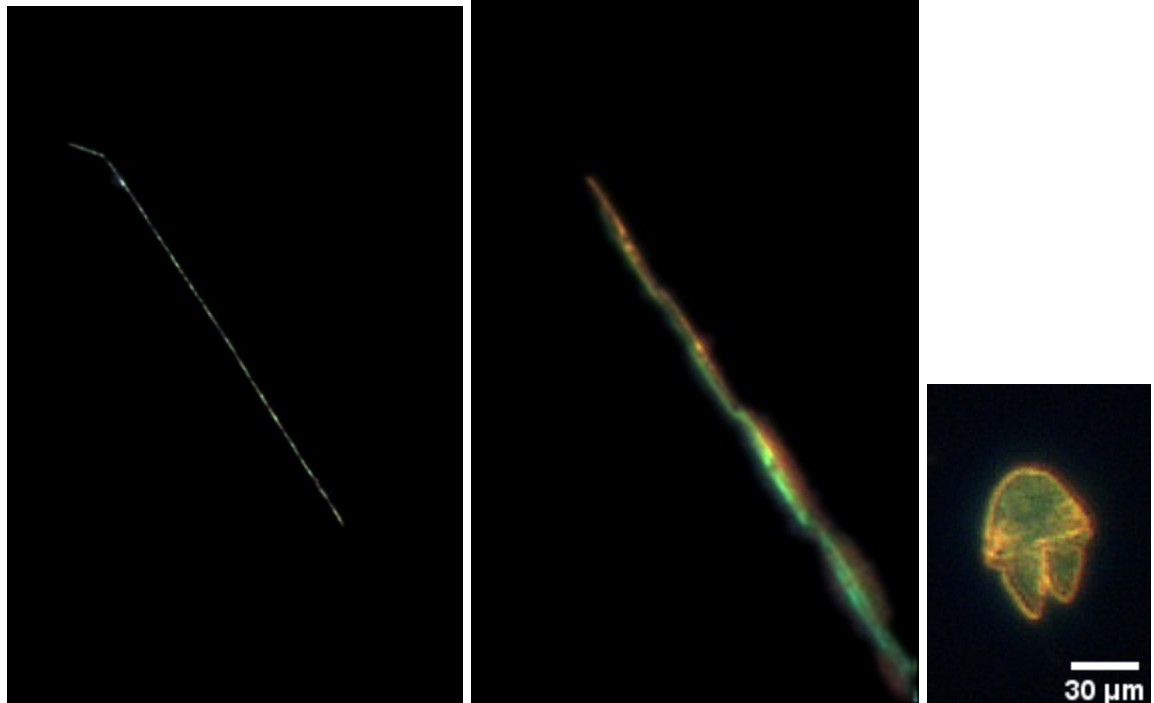
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Worked with Chris W, Paul M, Rich H and Ken S to run a wave glider acoustic survey to locate the Rover using Paul's loop and cross algorithm. Two surveys were run; the first had some problems due to a bug and some configuration issues. After addressing those, the second survey ran as we'd hoped. The results are still pending, but we did produce a location estimate for the Rover recovery.



- 902204 - Scalable Marine Robotics Foundations
 - Continuing work on Gemini sonar drivers for image distribution
- Overhead
 - SE hire : committee mostly together, planning initial meeting and refining accumulated job description input
 - JEDI committee meetings, reading
 - Proposal review 2023 resource planning
 - Misc admin
- Rich Henthorn
 - Out of Office
 - Sep 28 - Oct 6, Sta.M Cruise (final scheduled cruise of the Western Flyer)
- Brett Hobson
- Scott Jensen
 - 901205 - SURF Center
 - Diagnosed MV1 Failure and repaired faults
 - Found issue with hostgate board and implement fix
 - Assembled cylinder on next copy of sampler
 - RFID tag was working but now failed. Still trying to figure out the issue
 - 901805 - Coastal Biogeochemical Sensing Program
 - Working on voltage tolerances of nphox ISFET tester
 - 902106 - Niobicon-Based AUV Docking Development
 - Worked with battery cabling and leveling
 - Reviewed drawings before submission

- DQ2113 - Tidal Turbine
 - Reviewed drawings of electronics mounting on new endcap
 - Rearrangement request for a flat flex circuit
- Out of Office
 - On travel 9/18-21
- Brent Jones
 - 901805 - Coastal Biogeochemical Sensing Program
 - Flying Spray 29 in support of Yui's experiments
 - 902004 - Planktivore
 - Deployed Spray+Planktivore 2x. Determined Spray is not actually flying. Analysis on flight data and scheming for the future
 - Overhead
 - Wired up an I2C internal vac sensor for telemetry housing
 - Out of Office
 - 2 days sick leave (non covid)
- Chad Keczy
- Brian Kieft
 - Out of Office
 - 07/31 - 08/11 (EDT) USGS
 - 08/19 - appointments
 - 08/28 - 09/01 (EDT) USGS
 - 09/12 - 09/28 (GMT+2 - vacation)
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Turning my attention to software and electrical tasks for the Ventana re-integration effort
 - 901206 - Coastal Profiling Float Transition to Science Applications
 - Testing wake on sleep.
 - 902204 - Scalable Marine Robotics Foundations
 - Finalizing the shipping details on the Boxfish, including export controls
 - Scheduling Training for Boxfish
 - GIM Sprint review
 - Testing the Ouster Lidars
- Thom Maughan
 - 901009 - CANON
 - Battery backup circuit design
 - Xavier NX rtc parts ordering
 - 901805 - Coastal Biogeochemical Sensing Program
 - Continuing to run microsd card stress test.
 - Talked with Taylor about Martz lab experience with microsd cards. Found out they are using industrial 2GB cards. Ordered some for test.
 - Working on merge of Irene's code.
 - Preparing release for next two pump deployment to Palmyra.
 - 902004 - Planktivore
 - Boards and stencil have arrived for boost converter, boost.
 - Camera controller design update in progress
 - Prep and deployment of Spray 34 + Planktivore on Thurs 9/22. Pressure test and dive to 70m for 20min. Yoyo to 200m was scrubbed. Thanks to Jared and Emily for the Paragon support and Brent on shore commanding and analyzing Spray data.

- Prep and deployment of Spray 34 + Planktivore on Mon 9/26. Pressure test and flight test yoyo to 200m. Thanks to Jared, Joe Warren for Paragon support and Brent on shore.
- Brent analyzed flight data and found we are a profiling float instead of a glider. Syntactic foam shape is coarse and needs refinement to lower the drag.
- Plankton images were great and Paul's web tool makes access easy.. Many thanks to Colleen for verifying that we are seeing pseudo-nitzschia chains in both the high magnification and low mag microscopes! Looks like Akashiwo in the high mag.



- Overhead
 - Proposal discussion with Andy and Paul
 - Planktivore day in the life filming
 - Primary lithium storage quest
 - Out of Office
 - A week in October, exact date tbd
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Cleaned up SSDS processing files to get SWR aggregation working again (Kevin helped too)
 - 901221 - Midwater Time Series
 - Added navigation_mWaterSpeed and tailcone_propRpm variables to stoqs_all_i2map
 - Fine tuning netCDF metadata (variable comments) produced by the auv-python software
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Peter helped by adding 100 GB to kraken's root to support batch processing there
 - Submitted IS help ticket to upgrade Hyrax on elvis
 - 901915 - Improving the Impact of MBARI's Data
 - Begun editing of the M1 data page
 - Out of Office
 - Sick day taken on Monday following vaccine booster shots over the weekend
- Rob McEwen
- Paul McGill
 - Out of Office
 - Out on sick leave until Mon, Oct 3.
- Tom O'Reilly
- Doug Pargett

- Out of Office
 - August vacation
- Mike Risi
 - Out of Office
 - May 5 - vacation
 - May 9-10 - vacation
 - June 2-8 - OI cruise
 - June 10-14 - vacation
 - June 20-22 - vacation
 - July 19-20 - vacation
 - August 8-9 - out of office
 - Out of office most Fridays
- Paul Roberts
 - Out of Office
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- Brent Roman
 - Out of Office
 - Sept 6 through roughly Sept 16
- Carlos Rueda
 - 901009 - CANON
 - MXM: went ahead with migration of the UI implementation to Vue3/Quasar2 (from Vue2/Quasar1), Pinia (from Vuex), Typescript (from JS) and newer Apollo mechanisms. Worth this extra effort sooner than later. (So, with the also new backend reimplementation I ended up with a funny overall setup: The “subatomic” [Quarkus](#) on the backend, [Quasar](#) on the frontend!) Deployment updated at <http://mxm.shore.mbari.org/>.
 - MXM: putting together the MXM Provider API with an OpenAPI specification (greatly facilitated by Quarkus tooling as well): <http://mxm.shore.mbari.org/mxm-provider-api/q/swagger-ui/>
 - 901502 - Soundscape Research and Education
 - Fixed a potential issue (for less technical visitors) of incorrect data access URL construction in the [Humpback Whale Pacific Sound notebook](#). Also reviewed the other notebooks, which look fine. Thanks John for the heads-up.
 - Thanks Danelle for making the workflow for capturing notebooks for the [Pacific Sound site](#) more streamlined.
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Thanks Tom for the update regarding the need to run ServerExec via sudo on the SMC-2.
 - 901915 - Improving the Impact of MBARI's Data
 - Migrated all my assigned web pages. (BTW, editing in Wordpress felt rather straightforward initially, but there are some little shortcomings; not critical, but a bit time consuming.)
 - 902005 - VARS Annotation Assistance
 - Going through some of the pointers provided by Lonny and Danelle. Quite a learning curve.
 - 902009 - AUV User Experience Design
 - Tried to organize a group meeting but folks have been busy these days and well, better wait until LRAUV experts are able to join given the likely additions that would be needed at the vehicle level.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Applied a workaround in Pontus prior to its (just finished) deployment given that it was to use an old version of the LRAUV software (git tag 2002-06-07), that is, not reflecting the new passwords recently put in place across the whole fleet. This also exposed a long-standing (~10year) bug in TethysDash, which I have already fixed.
 - Dash system [4.21.0](#).

- Overhead
 - DEI AC – meeting; exchanges.
 - MBARI docs engine: fixed a bug that prevented the doc generation from working when the user indicated the optional document directory setting with value equal to the default location.
- Out of Office
 - Oct 10–12 (tentative as some travel plans may change), Nov 11–14, 23–30, Dec 8–9: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Spent a little time checking the M1 data downloads after encountering problems last week.
 - 901101 - Seafloor Mapping
 - Continued with the SMDDB sidebar working to populate it based on map views and user settings. Spoke with Mike M. on using Django and python to filter out requests from the backend code to do this.
 - 901915 - Improving the Impact of MBARI's Data
 - Spent some time looking at the new MBARI webpage and began edits to the Seafloor Mapping page.
 - Attended a meeting via ZOOM on the M1 web page update for the new institute web page.
 - 902009 - AUV UI
 - Need to spend some more time on this later this week.
 - Overhead
 - Helped Sara Arguilla with updating MBARI web links on the precruise. With the new MBARI web page coming on line, most of the links on the precruise were old and needed to be updated.
 - Out of Office
 - Personal Day: October 20.
- Brian Schlining
 - 902002 - FathomNet
 - New publication is out: Katija, K., Orenstein, E., Schlining, B, Lundsten, L, Barnard, K., Sainz, G., Boulais, O. Cromwell, M., Butler, E., Woodward, B. and Bell, K.C. FathomNet: A global image database for enabling artificial intelligence in the ocean. 2022. Scientific Reports **12**, 15914. <https://doi.org/10.1038/s41598-022-19939-2>
 - 902005 - VARS Annotation Assistance
 - Created [presentation](#) for the Marine Imaging Workshop.
 - Set up a [public VARS server](#) for interactive sessions at the Marine Imaging Workshop. Working on materials for the interactive session. Also created Windows builds of [VARS Annotation](#) and [jsharktopoda](#) so that researchers can try out VARS during the session. During the setup, Brian has been [tracking issues to resolve](#) as part of next year's "VARS for the masses" project.
 - Out of Office
 - 10/3 - 10/7 - [Marine Imaging workshop](#), Brest, France
- Alana Sherman
 - Out of Office
 - Out for dentist appt