

Engineering Weekly Report 3/17/2022 - 3/24/2022

Executive Council Notes

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Individual Activities

- Kevin Barnard
 - 200103 - Core CTD Data - MDUC
 - Investigated impact of clogged O2 sensor on loaded CTD data; no issues
 - 902002 - FathomNet
 - Gave project update 3/21/2022
 - Finished preparing workshop materials for Python API demonstration
 - 902005 - VARS Annotation Assistance
 - Looked into ReID/OSNet training
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Preparations for deployment
 - 902106 - Niobicon-Based AUV Docking Development
 - Finished preparations and loaded the boat
 - Out of Office
 - One day off to take care of sick child
- Danelle Cline
- Duane Edgington
 - 901618 - Pelagic-Benthic Coupling
 - Meeting with Dan Davis on his progress with laser measure and our most recent dive data and calibration
 - 902004 - Planktivore
 - Team meeting March 21. Eric O. and Paul R. have released a copy of RIMS shoreside software running on DeepRip for project use.
 - 902005 - VARS Annotation Assistance
 - Lots of testing and refinement of processing job script and docker image. Testing fix from maintainer for "t5" bug in deepsort-yolov5-tracker
 - Overhead
 - DEI training session March 24.
 - Virtual Nvidia GTC 2022 conference this week; attending selected sessions on Nvidia ML topics.
- Jon Erickson
- Ben Erwin
 - Out of Office
 - Vacation 2/12-2/20
- Kevin Gomes
 - Out of Office
 - Mar 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs

- Wrote an MB1 record server for embedding in the Dorado simulation code. This is part of enabling the integration of MB-System real-time bathymetry filtering and TRN with the Dorado simulation.
 - Updates/maintenance and synchronization between MB-System and libraries libtrnav and mframe
- 901101 - Seafloor Mapping
 - Making progress on software components for using TRN with ROVs for an early May cruise.
 - Wrote some automation scripts for packaging TRN releases for Sentry vehicle integration, and posted a release for WHOI
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
 - Still messing around with purchasing a starter kit from ONT - they don't make it easy to give them money ;o)
- Overhead
 - SRSC meeting
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- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Dorado mbtrnpp simulation component
 - Out of Office
 - March 14 - 25 (this week), vacation & WFH, email & phone OK, MDT timezone
 - July 4 - 18, vacation & WFH, email & phone OK
 - Sep 21 - 30, Sta.M Cruise
- Brett Hobson
- Scott Jensen
 - 300078 - DMO Support - AUV
 - Started setting up the drive motor with the LRAUV thruster drive
 - 901205 - SURF Center
 - Submitted drawings, ordered parts and begin fabricating parts for first build
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Continued progress on getting the spare PCBs assembled
- Brent Jones
 - 901009 - CANON
 - Investigating why CPF lost its bottom fairing on last deployment. Modifying new fairing for installation
 - Beginning prep of Wire Walker for April deployment
 - 901502 - Soundscape Research and Education
 - Porting click detection code to MS Visual Code studio. Seems to be working better
 - 901805 - Coastal Biogeochemical Sensing Program
 - Flying Spray34 in support of tracking exercise with WG
 - Overhead
 - Working on FCC microwave license renewal
 - Out of Office
 - Last week sick leave
- Chad Kacey
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Supporting Spray tracking PIE deployment for Yui

- Met with team to re-architect scripts to meet coincident PH/PCO2 sampling requirements for 2 week Tiny deployment. So far tracking has been solid over the last 72 hours!
- 708168 - DHS/LRAUV Under-Ice
 - LCB troubleshooting on discrete I/O channel yielded parts that weren't stuffed.
 - Troubleshooting wetlabs values for sim experiment
 - Loaded polaris with latest release to support lab testing
 - Transposed oil simulator to Buzzards bay. Pending lab test
 - Met with team to plan the rest of the work for March
- 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Working with Yanwu on L. Erie paper and chlorophyll scaling factors post sampling.
- 902101 - LRAUV Technology Development and Fleet Operations
 - Integrated the WHOI joystick operation on vehicle Pontus here. Will test cell soon. Planning to use for video shoot and EcoHAB.
- 902106 - Niobicon-Based AUV Docking Development
 - Lots of preparation underway for the full mooring deployment tomorrow!
- Overhead
 - Added some text to the BioSWAT DQ
- Out of Office
 - 04/15 (PDT)
 - 05/15 - 06/04 (EcoHAB PDT)
 - 07/02 - 07/09 (HST - vacation)
 - 07/13 - 07/22 (AKDT)
 - 08/01 - 09/03 (EDT)
 - 09/13 - 09/30 (GMT+2 - vacation)
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - Out of Office
 - Vacation Feb 21-25
 - STCW training April 11-15
- Thom Maughan
 - 901009 - CANON
 - Working eDNA tackle box design with Nanuk case. Met with Nate to go over requirements then met with Paul Coenen to give overview and priorities.
 - Xavier NX to Kent.
 - Reading thru basestack release notes.
 - Ordered battery options for new tackle box and spin box as well as a compact freezer for the chemistry.
 - 901713 - Nearshore FOCE
 - Debrief with Chris on results from Octopus garden cruise. Have not had a chance to diagnose the battery voltage measurement discrepancy.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Big push to wrap up development and release v4.x pHFET-SOS for lab testing.
 - Working to understand Seabird SBE37 SI firmware change. Opened a support case with Seabird, waited, escalated to the tech support manager, waiting... Working on a driver that handles both 'old' and 'new'.
 - Purchased parts from Chinese contract manufacturer inventory for a quantity 35 build of mpbox and mcap thru Aliexpress. Most parts were showing 2Q2023 lead times from US distributors.
 - 902004 - Planktivore
 - Weekly meeting...

- We hit a milestone. Using camera GPIO as trigger, fired the strobe and imaged with revised optical path (prism, camera and telecentric lens) in Aquavore. Wahoo.
 - Working with Denis on best way to wire things up for testing and moving the 2 camera / microscope assemblies between Aquavore and Fluum. Denis' test setup design is great, well thought out.
 - Housing went out on the Flyer cruise for pressure test, have not heard results yet.
 - Working on Noot battery pack assembly.
 - Syntactic foam design is complete and Larry is in progress on the fab. He has designed the Spray mount and is expecting to finish by retirement. Congrats to him on 25 years (as of Mar 17). Very much appreciate his work ethic.
 - Paul has revised the optical path, working thru the finer points of a custom prism mount. He's finished the mods for the retaining pins on the strobe ball array.
- Overhead
 - Had an opportunity for growth working thru a 'kerfuffle'
 - Helping Giancarlo with equipment loans of embedded compute and cameras
- Out of Office
 - Mar 28 to Mar 30 Driving to Montana, flying back. (Canceled due to project commits)
 - May 27 - 31 Camping
 - Jul 6 - 13 Camping
- Mike McCann
 - 901101 - Seafloor Mapping
 - Deployed better filter and table display for Missions, Expeditions, and Compilations to smdb
 - 901111 - AUV Infrastructure Support
 - Processed Dorado mission 2022.075.00
 - Fixed lookup from TethsDash/api/events to use GMT time zone for getting Sipper metadata
 - 901602 - Data TAG
 - Wondering about emdb's /var/log/syslog out of memory messages getting to syslog-server
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Reloaded surveys into stoqs_all_dorado that were missing Monique's proxies
 - Overhead
 - Applying the same filter and table functionality to the expd_mapping database
 - Out of Office
 - 28 March - 1 April: Vacation
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Reworking my diagrams to incorporate mbTrnUpd8 and mbtrnpp.
 - Planning to add lastLat/Lon feature to WaypointDepth as discussed with Dave c.
 - Planning to adjust offset code to retain its value when disableTrn is set.
 - 901405 - PowerBuoy
 - Made a version of Matlab radar processing code that works with the Garmin. At this point it only plots the data.
 - Roof data appears mostly circular. The only wave consistently visible is the beach break to the right by the harbor entrance.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Tom O and I were finally able to reflash the transmitter, the embedded radio, and the receiver and get them to bind. So the transmitter will now bind to either B2 or B3.
 - The next step is to zero the servos and connect the linkages.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Planning to look at Tethys data to predict range.
- Paul McGill

- 701145 - Penguin Hotspots
 - Building second sonar payload for Remus AUV.
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Had 1 hr phone call with Dan Davis to answer his questions about our Laser Measure data. He's making some progress analyzing images.
- 901700 - Acoustical Ocean Ecology
 - Spent days rewriting PIC code for AOS (attitude sensor for sonar xducers). Existing code had some serious issues. Not done yet but making slow and steady progress.
- Tom O'Reilly
- Craig Okuda
- Doug Pargett
 - Out of Office
 - Working from home for a while longer.
- Ben Raanan
 - Out of Office
 - 02/23-24
 - 04/4-7
 - 04/13-23
- Mike Risi
- Paul Roberts
 - 800139 - EyeRIS (Remote Imaging System)
 - Testing new revision of strobes for the LRAUV integration and getting ready for field testing
 - Starting fabrication on 1500 m version of the LRAUV AyeRIS payload
 - 902001 - Ventana 4k camera
 - Setup and testing of camera / lens hardware
 - 902004 - Planktivore
 - Working on revision 2 of the steering optics
 - Out of Office
 - 4/2 - 4/9 (spring break san diego)
- Brent Roman
 - 706005 - eDNA Grass Carp Sandusky
 - Tested new reagent tracking code by simulating Kevan's missions
 - Discovered bug where "quick" mode was skipping sampling syringe strokes
 - Updated ESPwaldo to latest ESPlinux
 - 901205 - SURF Center
 - Added feature where SPR stays "on" for 10 minutes after any protocol error for Ussler
 - After numerous position errors, determined that Honu had been reassembled
 - Worked with Ussler to tweak syringe positions for the new build
- Carlos Rueda
 - Out of Office
 - May 16-18: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly M1 mooring and monitoring of data downloads. There was a data issue with the M1 50m Microcat CTD over the weekend. I could not find any locked files and the problem seems to have cleared itself by Sunday. I was in touch with Jared and he was going to look into whether there were any obvious issues from his side.
 - 901101 - Seafloor Mapping
 - Continued updating the new SMDB Dash UI.
 - Out of Office

- April 4-8, Vacation
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Investigating [new crashes](#) in VARS Annotation
 - Merged Kevin B's [pull request](#) into VARS and published [new release 1.1.13](#)
 - 902002 - FathomNet
 - Built a fast WoRMS taxonomic name server for FathomNet. This will also enable some other automations for other projects (e.g. notify video lab when the VARS KB and WoRMS drift apart). <https://github.com/fathomnet/worms-server>
 - Gave part of the project update on Monday
 - Prepping for next week's FathomNet workshop
 - Overhead
 - Fixed an issue with [DARC's](#) data merge of CTD with their video annotations
- Alana Sherman