

Engineering Weekly Report 9/3/2020 - 9/10/2020

Executive Council Notes

- 901800 LRAUV (Hobson)
 - LRAUV Tethys and Pontus were recovered after eight days at sea for a development cruise. Ninety different missions were run during the week and over the holiday weekend. The tests included obstacle avoidance sonar testing, multi-vehicle tracking for TRN and inter-vehicle communications, including the ability for one vehicle to modify the mission of another while underwater.

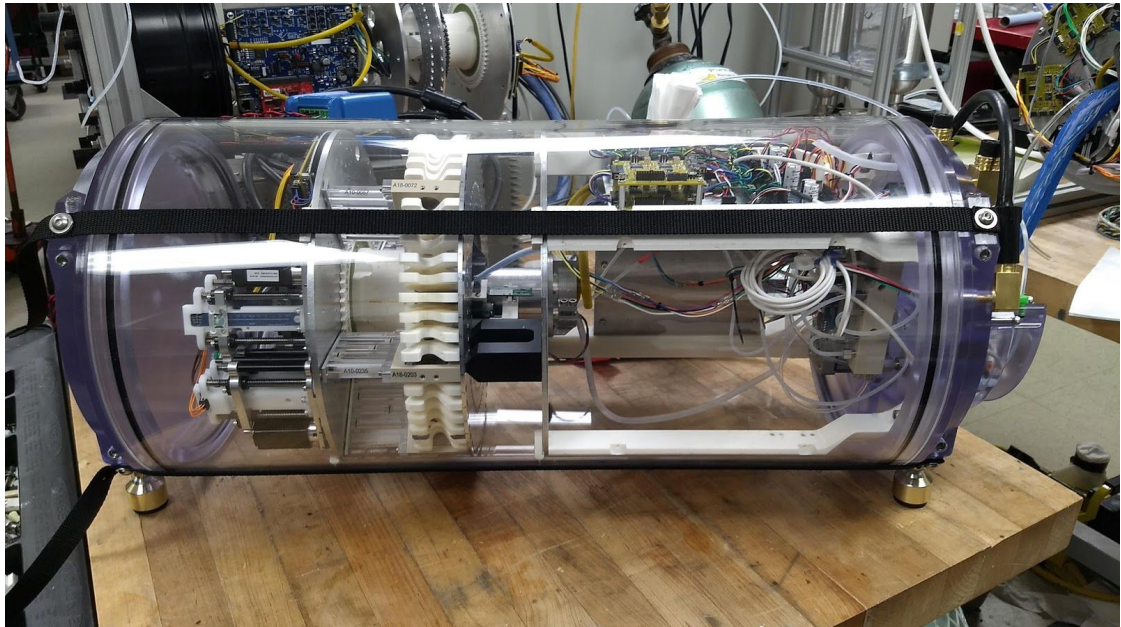
Individual Activities

- Francois Cazenave
- Mark Chaffey
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - Restarted shoutcast stream which stopped after running fairly robustly for some time. There were no errors in the log file so it remains a mystery.
 - Fixed email notification on recording machine which was failing due to secondary authentication checks.
 - 902002 - Fathomnet Detect and Classify
 - Started compiling notes about improvements and nice-to-have features
 - 902005 - VARS Annotation Assistance
 - Instrumented [wandb](#) logging in new object detection code in preparation for training in SageMaker. This will be a more efficient model (smaller/faster).
 - Added data registry for FathomNet and Cal Poly data collections
 - Created merged repo for taxa common to MARS BOEM sites with data filtering, merging, and correct VOC formatted outputs
 - Sleuthed out why some data was missing in our Cal Poly data set.
 - Metaflow/Cortex evaluation - looking like Cortex is a better fit (supports auto scaling, batch modes, easier to debug).
 - Beginnings of [OpenVINO](#) docker image for model optimization
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Continuing exploration of FewShot learning -- tracking, self-supervised learning
 - 902005 - VARS Annotation Assistance
 - Exploring Metaflow, Cortex tools with Danelle
 - Overhead
 - Sept 9 seminar NOAA: Sunburst Sensors: Oceanographic Instrumentation from Montana to Mauritius
 - Sept MBARI biweekly seminar
 - Sept 10 group meeting
 - Out of Office
 - Sept 11. Vacation
- Jon Erickson
- Kevin Gomes
 - 300057 - Mooring Maint

- Mt. Toro came back online so checking all the SSDS data pipelines and tidying up metadata
- 901915 - Improving MBARI Data Impa
 - Data catalog work
- Overhead
 - Working on authentication research to try and close in on decision
 - Some proposal/budget work
 - Other overhead
- Andy Hamilton
- Kent Headley
 - 901101 - Ocean Imaging
 - Been helping with TRN at Axial. We had two Sentry dives before some vehicle issues and weather delayed ops Sun-Tue. Meanwhile, Dave did a lot of testing and analysis of the recent TRN data, and has come up with some modifications that look promising. The changes mostly consist of adjusting parameters that decide when to reset the TRN algorithm.
 - It's likely we'll have another Sentry dive Wed, and we'll be able to test the new settings.
 - I'm working with Rich, Rob and Steve to implement another change that enables us to specify the TRN algorithm search space during a reset, a complement to a change Dave already implemented to specify the center of the search space. I've also been adding/adjusting metrics and plotting code that generate performance plots.
 - Interesting weather note: the folks on the ship reported haze/smoke smell from all the fires
 - 901803 - Carbon Wave Glider Development
 - Participated in (part of) a telecon with PMEL to discuss their testing and analysis of different gas analyzers and measurement methods and processing algorithms
 - Unfortunate that Andrea is leaving; wish her success and hope to be able to keep the instrument project and collaboration going
 - Overhead
 - misc admin, proposal process (wrapping up phase 2 resource balancing)
 - Helped Brett H with MB-System; set up test server to work out the technical issues, may help set up more permanent installation
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - TRN on the LRAUV picked up where we left off in Q1
 - App builds and runs on target with updated lrauv-lcmtypes
 - Need tests to ensure message data is read correctly
 - 901618 - Pelagic-Benthic Coupling
 - The trap seems clogged beyond the ability of the instrument to correct
 - Plan is to use the Ventana to clear it
 - 901800 - LRAUV Payload & Support
 - Multibeam obstacle avoidance test runs
 - Out of Office
 - Sept 23 - 29 Vacation, MDT timezone, spotty email-only
 - Oct 27 to Nov 5: WF cruise to Sta. M
- Brett Hobson
- Scott Jensen
 - 901205 - ESP SURF Center
 - Traveled to move our recovery gear and then decommission ESP instrument and package everything to be shipped back to MBARI.
 - 901405 - PowerBuoy Development
 - An unstable operating point has been discovered, need to figure out the source.
 - 901805 - Coastal Biogeochemical Sensing

- Defined and of MFET/MCAP development with transition to distributable version
- Out of Office
 - Current schedule is Sunday-Tuesday
 - Because of work related travel I will not be on site due to MBARI's policy which will be a minimum of September 17.
- Brent Jones
- Chad Kech
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Used Tiny for acommms testing on Tethys/Pontus. Thanks to Chris and the team for the very fast turnaround after significant glider/wing damage during the Station M deployment
 - 600034 - Control Tech - Rock
 - See below. TRN runs at Portuguesse Ledge.
 - 901800 - LRAUV Payload & Support
 - Large engineering deployment for Tethys/Pontus that ran 8/31 until we recovered yesterday. Testing included new behaviors for current estimation, new components for altitude, the backseat sonar computer, an obstacle avoidance test, multi-vehicle TRN testing, a shark bite, and many bug fixes.
 - Overhead
 - Pre interview with Madison on STEM project
- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - Reviewing new lasers in A284, and working on new laser targets
 - 901800 - LRAUV Payload & Support
 - Working of cable entry to Biolum test chamber
 - 901809 - Deep Sea Bioinspiration
 - Editing fiber inserts report
 - 901903 - Bio Raman
 - Working on drawings for sample chamber brackets, ordering material, and fasteners
- Eric Martin
 - 901101 - Ocean Imaging
 - Installing lidar system this week, aiming for tank testing soon.
 - 901206 - Coastal Profiling Float
 - Prepping for tank testing.
 - 901911 - ROVVR
 - Preparing to kickoff our Olin student team with Kakani.
 - DQ1942 - Buoy Power Generation
 - Hunting down login issues on the radar system.
 - 901200 - Telepresence
 - Finished policy doc with Kakani
 - Training for Paull Cruise
 - Implementing new audio guideline from MT
 - Out of Office
 - Tuesdays until 2:30PM
- Thom Maughan
 - Overhead
 - John Daly, Patrick Winston
 - Out of Office
 - Working remote with regular access to MBARI Tues,Wed,Thurs

- Mike McCann
 - 901111 - AUV Infrastructure Supprt
 - Looking at writing processing for the PAR sensor on CTD2 on Dorado
 - Looking at writing processing for the new eco puck (FLBBCD2K) instrument on Dorado
 - 901800 - LRAUV Payload & Support
 - Checking that https://tethysviz.shore.mbari.org/stoqs_lrauv_sep2020 continues to update
 - 901221 - Midwater Time Series
 - Continuing with the auv-python project as this is likely where the PAR and FLBBCD2K processing will be implemented
 - Out of Office
 - Vacation days 8 September 2020 and 14 September 2020
- Rob McEwen
- Paul McGill
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901803 - Carbon Wave Glider Development
 - Prepare docs for PMEL
 - Redesign main manifold
 - Overhead
 - Mt Toro trip to replace failed UPS
 - Out of Office
 - Vacation day
- Doug Pargett
 - 901205 - ESP SURF Center
 - I rebuilt all the cartridge seals on the toroid ring of the MV-1 G3ESP.
 - DQ1904 - NOPP Saildrone
 - Test assembled the FlowerPot housing with the Koa instrument.



- Requested a part from the shop to lock the subconn connectors in position.

- Ben Raanan
- Mike Risi
 - Out of Office
 - February 19-22: Ocean Imaging Cruise
 - March 9-12: Vacation

- May 26-29: Vacation
 - June 29 - July 1: Vacation
 - September 7 - September 11: Vacation
 - September 30 - October 2: Vacation
 - October 12-17: Ocean Imaging Cruise
- Brent Roman
 - 901205 - ESP SURF Center
 - Helped test and calibrate ESPkoa and ESPmv1
 - Working with NOAA to gain reaccess to their ESPs after networking “upgrades” on their end
 - Investigating intermittent carousel encoder failures on mv1
 - Out of Office
 - At MBARI Tuesdays after 2PM
- Carlos Rueda
 - 901800 - LRAUV Payload & Support
 - Dash: Approaching our v4.0 target!. Focusing on the new [Mission](#) tab, Dash is now [3.9.970](#). This tab and the also new Command tab are already pretty functional but still in "pre-release" form. Some operators have been kindly asked to test and provide feedback. Working now on a smart waypoint editor to greatly facilitate mission preparation before submission. Related open tracker entries: td#59, td#61, dash#23, dash#45
- Karen Salamy
 - 704109 - NavDORISS
 - Worked onsite yesterday to complete and test the final NavDORISS Target Image. I need to re-format the USB drive and install the Target Image first. I have a few questions into Eric Martin on the proper procedure to do this.
 - 901200 - Telepresence
 - Finished edits to a test version of the Precruise web form that allows users to select “telepresence” options for their cruises. This link was sent to the following: Mike Kelly, Eric Martin, Teresa Cardoza and Mandy Allen to test through and let me know if further edits.
 - Overhead
 - Teresa was encountering various issues propagating the Precruise to the EXPD. I spent some time on it and was able to it operational again last Friday.
 - I received an email from Lonny L. today stating that he is having issues adding Dives to the EXPD. I will look into that soon.
 - Currently installing MBSys8 onto the new data server cored8 for Rich.
 - At Rich S.’s request, I added the R/V Kilo Moana to the Postcruise Web Form. Dives on ships of opportunity involve miniROV dives and their data.
 - Mike M. and Joe G. are currently working on a new EXPD that will run Strawberry Perl. I have been asked to test the Precruise Web Form on the new cloned test server. While I have not had much time to spend on it yet, I noticed that the Postcruise displays quite well while there are major issues in the display of the Precruise web form. I will look into this after I determine what is wrong with the current Precruise Add Dives for Lonny (issue #2 above).
 - Out of Office
 - Will be working on MBARI campus ONLY on Tuesdays until further notice.
- Brian Schlising
 - 500055 - Video Annotation DM
 - For the tape-to-video conversion, I’m continuing work and discussions on locating and dealing with timecode resets.
 - Completed migration of supporting apps from Seaspray to other VMs
 - 901221 - Midwater Time Series
 - Helping Rob build queries for mining VARS data

- 902002 - Fathomnet Detect and Classify
 - Continue to work on figuring out security for web interface and API endpoints
- Overhead
 - Working with Pat to sort out issues with Docker that occurred during the most recent IS patch updates to the Linux systems/
- Out of Office
 - I took Tuesday (9/8) off.
- Rich Schramm
 - 200103 - Core CTD Data -MDUC
 - More ROVCTD QC and data reprocessing work with Ed.
 - 200105 - Core Nav - MDUC
 - Navproc discussions with M.Risi. re ROVVR project impact.
 - 300057 - Mooring Maint
 - Managing the Oasis restart now that Mt Toro is back on line.
 - Overhead
 - Continue Centos transition work on coredata8- currently minirov processing script issues with Karen and mbsystem etc
 - Chasing problems with atlas mounts and permissions on coredata
 - Out of Office
 - Aug-10 -21 Vacation
- Alana Sherman
 - 901809 - Deep Sea Bioinspiration
 - Revisited code for DeepPIV4 fixed the following:
 - Update rate of camera data
 - Changed zoom speed and added zoom reset
 - Tried to fix initialize issue with labjack
 - Debugged issue with Iris
 - 901904.99 - Coral Camera System
 - Reviewed comments from design review
 - Investigating strobe options
 - Working on system schematics