

Engineering Weekly Report 5/6/2021 - 5/13/2021

Executive Council Notes

- LRAUV Development (Hobson)
 - We wrapped up three weeks of intensive vehicle operations with the recovery of Makai and Daphne on Monday. Two ESP equipped vehicles, Makai and Brizo, collected over one hundred samples along and performed on-board analysis for HAB toxins during the EcoHAB deployment. Daphne and Pontus were deployed as well to perform automated patch tracking and general science surveys around the sampling vehicles.
 - LRAUV Tethys, Pontus and Brizo were deployed at Portuguese Ledge for Dr. Rock to demonstrate how LRAUVs can use the position of nearby vehicles, using acoustic communications and tracking along with Terrain Relative Navigation to refine their position estimates.
 - LRAUV Triton will head offshore next to test the new bio-acoustic payload for Dr. Benoit-Bird
 - LRAUV Galene is being configured for some midwater imaging work for Dr. Katija next week.

Individual Activities

- Francois Cazenave
 - Out of Office
 - Took Thursday off
- Mark Chaffey
 - Out of Office
 - Will be OoF May 1 - 22 and unavailable.
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - All 100 TB or so of data has been uploaded to AWS
 - Upgraded recording computer to Windows 10 (thank you IS) and syncing resumed
 - Working on tutorials notebooks for AWS data sharing
 - Presentation planned for Soquel High School next week
 - 300057 - Mooring Maintenance
 - Attended meeting preparing for the June OASIS3 mooring turn. It looks like the instrument is pulled together now for testing. Started on automated release to version OASIS changes.
 - 902005 - VARS Annotation Assistance
 - Cost reporting for jobs is getting reported [here](#), and met with Carlos and Duane to discuss adding performance metrics to this same page.
 - Finishing up a video batch inference notebook
 - Adding the [dockerized C++ tracker](#) to the AWS Elastic Container Registry (ECR) so it can be executed from SageMaker ScriptProcessor. Once this is complete, all of the processing components will be cloud-enabled, and we can scale up processing if we want to.
 - Added [quick-start documentation](#) for database build.
 - Overhead
 - Our paper was finally reviewed (took a long time due to Covid) “Automated classification of fauna in seabed photographs: the impact of training and validation dataset size, with considerations for the class imbalance,” to be published in the [Progress in Oceanography Journal](#). Responded to feedback along with the other co-authors Jennifer Durden, Henry Ruhl, and William Hosking.

- Duane Edgington
 - 901603 - Video TAG: Visualizing Ocean Change
 - ICLR workshop on weakly-supervised learning techniques
 - 901618 - Pelagic-Benthic Coupling
 - Processed test images of new checkerboard calibration target for Paul M. in preparation for upcoming cruise. Discovered that visual clutter affects Matlab toolbox acceptance of checkerboard image (which can be mitigated by masking off/lightening non-target areas)
 - 902004 - Planktivore
 - Returning to task of creating workflow to pull images into VARS (based on existing Frame Grab workflow)
 - 902005 - VARS Annotation Assistance
 - Working sessions with Danelle and Carlos regarding Vue app for ML training job summary UI
 - Spinning up on Vue, Quasar/Vuetify, JS.
 - Final meeting with CSUMB capstone project team Wed May 12.
 - Overhead
 - Engineering Dept biweekly telecon
 - Weekly group meeting
 - Out of Office
 - Vacation Friday May 14.
- Jon Erickson
 - 300070 - DMO Support Ventana
 - Light Bar.
 - 800139 - EyeRIS
 - Parts are coming in for the LRAUV assembly. The camera case is in pressure test.
 - 901809 - Deep Sea Bioinspiration
 - Remote Laser head re-design. The fiber jackets are too stiff to make the bends inside.
 - 902010 - Mesopelagic LRAUV
 - Scaling up parts.
- Kevin Gomes
 - 901009 - CANON
 - Starting work on normandy replacement with Ubuntu machine
 - 902100 - Telepresence on MBARI Research Vessels
 - Investigating WebEx JavaScript SDK for client web app integration
 - Overhead
 - Hiring
 - Abstracts
 - Out of Office
 - May 12-24: Vacation - multiple graduations
 - June 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Finished and distributed a firmware release (6.2.0b0) and chased around a couple of post-release bugs in the GUI - now running on Mac, Windows, Cygwin and Linux
 - Iterating on the proposal abstract with Andrea and Paul
 - Overhead
 - SRSC
 - Hiring input
 - Engineering meeting
 - Budget

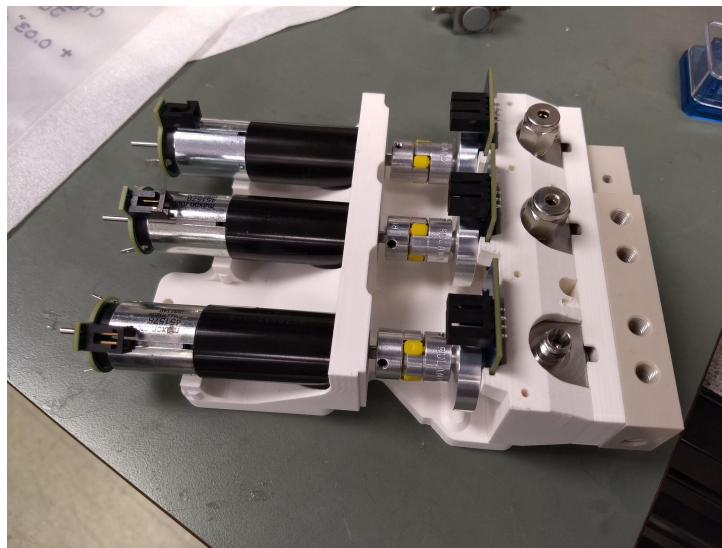
- Misc admin
- Rich Henthorn
 - 800139 - EyeRIS
 - Weekly meeting
 - 901101 - Seafloor Mapping
 - Merge and restore Dorado codebases
 - 901618 - Pelagic-Benthic Coupling
 - Preparing workstation for Station M development and operations
 - Weekly meeting
 - Overhead
 - Engineering meeting
 - Out of Office
 - July 7 - 9, vacation
 - July 26 - Aug 9, mostly vacation, network and phone access
 - Sept 22 - Oct 1, vacation
- Brett Hobson
- Scott Jensen
- Brent Jones
 - 901009 - CANON
 - Processing Wire Walker data. Requesting quotes for stuff we will eventually need
 - 901800.98 - Bioacoustic Payload
 - Calibrated Absolute Orientation Sensor (AOS) and finalized Triton for deployment
 - Deployed Triton for initial BioAc test. Flew her for a little of 24 hours. System worked well for the first time in the real world
 - Processing AOS data from deployment. Trying to decipher what orientation the gimbal was in.
 - Developing plans for the next neployment
 - 901805 - Coastal Biogeochemical Sensing
 - Flying Sprays 29 and 34 in support of Yui's experiments
 - Overhead
 - Engineering meeting
 - COVID testing
- Chad Keycy
 - Out of Office
 - Possibly out 4/26 (right after 2nd Pfizer shot)
 - May 18-24/25 Vacation (staying local)
- Brian Kieft
 - Out of Office
 - May 6 (morning)
 - May 10-12 (tentative PHX)
 - Jul 1-9 (vacation)
 - Aug 5-6 (vacation)
 - Aug 16-31 (Great Lakes LRAUV)
 - October 25-31 (PLOCAN glider school tentative)
- Denis Klimov
- Diana LaScala-Gruenewald
 - 200103 - Core CTD Data - MDUC
 - Got an intro from Rich to the ROV CTD data servlets
 - 500055 - Video Annotation DM
 - Generated first full set of concept distribution maps for DSG
 - This process was slow (~24 h)

- There are a small number of concepts that are still throwing errors that I need to look into
 - There are a number of lingering aesthetic points that may need to be addressed
- Overhead
 - Weekly meeting(s)
 - Spending a little bit of time setting up new computer
- Eric Martin
 - Out of Office
 - Tuesdays until summer break for schools.
- Thom Maughan
 - 901805 - Coastal Biogeochemical Sensing
 - Updating config options and sampling per review comments.
 - Starting to test the MFET build
 - Out of Office
 - Second Moderna vaccine received on 4/30.
 - Vacation 6-11 May (4 days). Complete: flew to Missoula from Monterey, drove back solo. Week of May 17 onsite access with testing.
 - Vacation 31 May - 4 Jun (5 days). Camping in SLO county.
 - Vacation 14-18 Jun (5 days) Camping a night on USS Iowa, then Catalina Emerald Bay with Scouts
- Mike McCann
 - 901009 - CANON
 - Told IS that they may turn off the old kraken machine which they will do next week
 - 901101 - Seafloor Mapping
 - Connected with Jenny & Karen and agreed on names: SeafloorMappingDB & smdb
 - I'm liking about 70% of what [cookiecutter-django](#) gives for a new Django project
 - 901915 - Improving MBARI Data Impact
 - Attended virtual OCG (Ocean Coordination Group)-12 workshop on Data and Metadata: Towards mutual benefit for data users
- Rob McEwen
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Working with Umesh to improve our joint wave prediction code.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Discussing the proposal and how to restart this project.
 - Out of Office
 - Taking today and this coming Monday off as vacation.
- Paul McGill
- Ed Mellinger
- Tom O'Reilly
 - 901112 - Monterey Bay Time Series
 - Testing, learning, and evaluating the McLane imaging flow cytobot (IFCB) Linux software in the lab. Until recently IFCB ran Windows 10, however McLane intends to replace Windows with Linux, and has released a beta version which we are evaluating. The Linux GUI is better organized, more responsive and seems more robust than Windows so far. Based on this evaluation we may run the Linux version when IFCB is deployed on Power Buoy or M1 mooring.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working with team to add Wave Glider 'hotspot' acoustic relay capability. Currently working to add shore-side support, including dispatch of acoustic commands through the LRAUV 'dash' GUI.
- Craig Okuda

- 901007 - Benthic Biology and Ecology
 - Assemble test chamber
- Out of Office
 - Vacation day
 - Sick day
- Overhead
 - Lab clean up
 - Misc planning
- Doug Pargett
 - 708146 - NOPP Saildrone
 - Made a new ESP intake and delivered it to Saildrone.



- 881135 - 3G ESP Cartridge Redesign
 - Lots of cartridge testing.
- 901205 - ESP SURF Center
 - Meetings and interviews
 - Built up the new bulkhead valve block.



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- Added new parts to MV3 for testing
- 901800.98 - Bioacoustic Payload
 - Shaped the new lead gimbal weight and adjusted the mechanism to try and best fit the available swing area. More adjustment is probably needed.
- Overhead
 - Usual meeting
 - Battery safety review meeting
- Ben Raanan
 - Out of Office
 - June 8-22
- Mike Risi
 - 300070 - DMO Support Ventana
 - Misc. navproc support
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Working on mid-water tracking interface for Doc Ricketts
 - 902001.99 - 4K ROV Camera Development
 - Finishing up first cut of navproc interface code for Doc Ricketts
 - Out of Office
 - April 26-30: Ocean Imaging Cruise
 - May 3-7: Vacation
 - September 3-14: Ocean Imaging Cruise
 - Vacation on alternate Fridays
- Brent Roman
 - 708146 - NOPP Saildrone
 - Helped Doug design a new seawater intake
 - Started testing a new SSH tunnel
 - 901205 - ESP SURF Center
 - Built up replacement for ESPshore server based on OpenWRT 19.07
 - 901913 - Demonstrating high-speed communication with a submerged AUV
 - Still squabbling over the loan agreement and arranging to receive equipment
- Carlos Rueda
- Karen Salamy
 - Out of Office
 - I will be receiving my second COVID shot this Friday and may have to take the day off.
- Brian Schlining

- 500055 - Video Annotation DM
 - Installed and configured M3 services, database server, and VARS Applications on new vars-minrov computer
 - Fixed an issue with framegrabs directory names.
 - Working on importing [latest IMES videos](#) into M3. As part of this work creating an application to help suggest timestamps for videos from dives with timecode resets that occurred during the dive. (Timecode resets prevent accurate time calculations.)
- 902002 - Fathomnet Detect and Classify
 - Continued work on data synchronization between VARS and FathomNet
- Overhead
 - Met w/ Rich and Diana to discuss rovctd data servlets
- Out of Office
 - May 6,7 - [Vacation](#)
- Rich Schramm
 - Out of Office
 - 5/12 thru 5/14
 - 6/3 thru 6/7
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Testing cap charger board for new close-up camera, working well
 - Starting to test camera chassis electronics
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Made progress testing the battery can connections, and more of the deep sea connect aspect of the system. Still having two problems with the Sony: gets into a state where it does not turn on display or go into low power mode, and can't see SD cards in windows explorer (or Sony software).
 - Deck cable of my dreams turned to a nightmare as it does not handle the ethernet signals well despite appearing to be suitable to the task. Trying to find new option.
 - Overhead
 - Attended CPF high density battery pack design review and follow up conversations
 - Out of Office