

Engineering Weekly Report 5/20/2021 - 5/27/2021

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
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Assembled generator on PTO and started testing.
 - 902106 - Niobicon-Based AUV Docking Development
 - Testing dock and capture device in test tank.
- Mark Chaffey
 - Out of Office
 - Will be OoF May 1 - 22 and unavailable.
- Danelle Cline
- Duane Edgington
 - 901602 - Data TAG
 - Read 2022 Abstracts. Attended abstract presentations. Feedback provided.
 - 901603 - Video TAG: Visualizing Ocean Change
 - Read 2022 Abstracts. Attended abstract presentations. Feedback provided.
 - 902005 - VARS Annotation Assistance
 - Continued work on AWS Cloudwatch and SageMaker API / SDK -- gathering metrics from SageMaker training job runs.
 - Overhead
 - Group meeting May 24.
 - Dept zoom meeting / seminar May 26.
 - Out of Office
 - Friday May 28: Vacation.
 - Monday May 31: Holiday
 - May 25-27: Embedded Vision Conference (virtual).
- Jon Erickson
- Kevin Gomes
 - 901502 - Passive Acoustic Sensing

- Deployed 'Visual Browsing' website to Amazon S3 with web hosting and created a CloudFront distribution to test performance of the website in many parts of the world. CloudFront increases speed dramatically, but only after an initial read which primes the cache (that is cleared after 24 hours). Does not really fit this use case so will continue to host at MBARI (for now).
 - 901602 - Data TAG
 - Abstract review
 - Overhead
 - Abstract slides and presentation
 - More dealings with the Navy to decide the fate of the engine parts
 - Out of Office
 - June 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Abstract prep
 - SW Testing
 - Overhead
 - SRSC activities
 - Met w Yui re LabView and other options for replacing existing lab automation
 - Misc admin
 - AUV code base review
- Rich Henthorn
 - 901101 - Seafloor Mapping
 - Dorado code merge
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Command and logging updates
 - Testing updates on hardware
 - 901618 - Pelagic-Benthic Coupling
 - Weekly meeting
 - Station M workstation prep
 - Overhead
 - Division 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
 - 901205 - ESP SURF Center
 - Continued preparation for Yellowstone deployments
 1. Received Isolated USB adapter and tested
 2. Sent pumps to collaborators for battery test
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Build up of battery pack with new batteries
 - Conned power converter for integration onto ram
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Completed integrated drive and delivered to LRAUV team for testing
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Continued data processing from Wire Walker deployment

- 901800.98 - Bioacoustic Payload
 - Cleaning up mechanical installation
 - Continuing to digest AOS sensor data from initial field trial
 - Initial field deployment!!!!
- 901805 - Coastal Biogeochemical Sensing
 - Flying Spray29 in support of Yui's experiment
 - Redesigning flow cell for SBE GDF pH sensor
- Out of Office
 - Last Friday and ½ day tues
- Chad Keycy
 - Out of Office
 - Possibly out 4/26 (right after 2nd Pfizer shot)
 - May 18-24/25 Vacation (staying local)
- Brian Kieft
 - 708168 - DHS Y7
 - Meeting with team to prepare for upcoming deployment
 - 901800.98 - Bioacoustic Payload
 - Reviewed last deployment with team
 - Integrated new motor controller component for hopefully more quiet operation
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working on docking mission for live DOEST demo in the tank
 - Testing power transfer today
 - Out of Office
 - Jun 8-11 (vacation)
 - Jul 1-9 (vacation)
 - ~~Aug 5-6 (vacation)~~
 - Aug 1-11 (Great Lakes LRAUV)
 - Sep WHOI?
 - October 25-31 (PLOCAN glider school tentative)
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - 708167 - WEC Dynamics and Control
 - Developed sample LCM realtime parsing code example for Dale
 - Very Close on decoding the radar data packets
 - 901101 - Seafloor Mapping
 - Meeting with Jon Marcus at Norbit Multibeam
 - 901206 - Coastal Profiling Float
 - Troubleshooting bug in BT Console
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - IFCB software test planning
 - 901700 - Acoustical Ocean Ecology
 - Consult to Chad regarding scoping for battery sizing for a moored bioacoustics package.
 - 901911 - ROVVR
 - Presented abstract on Monday to MT
 - 902100 - Telepresence on MBARI Research Vessels
 - Supporting Katija expedition on the Rachel Carson
 - Haddock expedition setup.
 - 368000 - DMO AUV

- Dorado mapping day on Friday
 - Responding to new request to support PNW expedition in July.
- Overhead
 - Attending a 3-day course on Test Driven Development for Embedded applications.
- Out of Office
 - Tuesdays until summer break for schools.
- Thom Maughan
 - 300070 - DMO Support Ventana
 - Touched bases with DJ.
 - Startup curve on Xojo.
 - 901805 - Coastal Biogeochemical Sensing
 - Paul C did a great job packaging and mounting boards and test setup into the 'dev box'. In progress is a similar, the 'QA box'. This will be a big help going thru the run of 40 MpHOx boards and latest batch of MFET. Automated board checkout routine is in the latest firmware release with a consolidated (and stored) QA report for provenance tracking.
 - Testing of build variants for MFET and MpHOx was more efficient with the 'dev box', bugs found and fixed.
 - Serial instrument simulator parts are all in. Request EE-Tech to build three for Aanderaa Optode, Aanderaa Conductivity and Seabird SBE37 MicroCat simulators.
 - Firmware for MFET and MpHOX dev / testing is at 'release candidate' state.
 - 902004 - Planktivore
 - Processed action items from kickoff meeting.
 - Working on setup for remote office.
 - Out of Office
 - Second Moderna vaccine received on 4/30.
 - Vacation 3 - 4 Jun (2 days). Camping at Refugio. Shortened from 5 days to 2 days
 - Vacation 14-18 Jun (5 days) Camping a night on USS Iowa, then Catalina Emerald Bay with Scouts
- Mike McCann
 - 901101 - Seafloor Mapping
 - Implemented model classes (database schema) - still working on many-to-many relationships
 - Testing Django's Admin interface for adding/editing model instances
 - Beginning to write loader script which will walk titan's SeafloorMapping share
 - 901111 - AUV Infrastructure Support
 - Processed Dorado Gulper survey 2021.139.00
 - Updated DAllanB (Mapper 1) vehicle's Iridium beacon IMEI number
 - Out of Office
 - Vacation: 1-18 June 2021
- Rob McEwen
 - Out of Office
 - Taking today and this coming Monday off as vacation.
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Did calculations and generated figure for Rover paper
 - Compiling an inventory of laser serial numbers and current locations
 - Working with Kent H. on Loop and Cross algorithm
 - 901700 - Acoustical Ocean Ecology
 - Assembled and tested latest revision of Faraday shield for MBT Mini sonar
 - Obtained and configured Vicor Micro boards for MARS Echosounder
 - 901803 - Carbon Wave Glider Development

- Met with Andrea F. and worked on project abstract for Monday's presentation
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Working with Adriana S. on configuration of wireless access points.
 - Building test rig for cold-room test of targeting laser
 - Overhead
 - Contacted WHOI about Lithium battery design policies in place there
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Test chamber valve and pump system
 - 901220 - Midwater Ecology
 - New battery design
 - Out of Office
 - Vacation day
 - Sick day
- Doug Pargett
 - 881135 - 3G ESP Cartridge Redesign
 - More testing of cartridges to narrow down the leak path.
 - FEA of the model to try some new options
 - 901205 - ESP SURF Center
 - Prep MV2 for initial leak testing
 - Overhead
 - meeting
- Ben Raanan
 - Out of Office
 - June 8-22
- Mike Risi
 - 200105 - Core Nav - MDUC
 - Preparing backup machine for deployment
 - Setup sim machine for testing, integrated new serial ports
 - 300070 - DMO Support Ventana
 - Working Doug and DJ on changes to navproc in Carson racks
 - Out of Office
 - April 26-30: Ocean Imaging Cruise
 - May 3-7: Vacation
 - June 4-11: Vacation
 - September 3-14: Ocean Imaging Cruise
 - Vacation on alternate Fridays
- Brent Roman
- Carlos Rueda
 - 708168 - DHS Y7
 - WHOI assistance
 - 901502 - Passive Acoustic Sensing
 - Met with John.
 - 902005 - VARS Annotation Assistance
 - With Duane and Danelle, advancing the VAA Vue project to display performance metrics retrieved via AWS SageMaker and CloudWatch APIs.
 - 902101 - LRAUV Technology Development and Fleet Operations

- TethysDash system now [4.5.1](#).
 - TethysL: advancing LSP server and VSCode extension.
- Overhead
 - Attended most of the abstract presentations.
 - IE meeting.
 - ESI Semantic Tech meeting.
- Out of Office
 - Jun 3-4: vacation
- Karen Salamy
 - 901101 - Seafloor Mapping
 - Began brief conversations with Jenny and Mike about the project this week.
 - Overhead
 - Worked with Rich, Danelle and Jared F. on the next Oasis M1 deployment scheduled for June 14th. Most of the system is up and running in the DMO bird cage setup. We expect the termserver to the actual radio for on-the-dock testing to happen very soon.
 - Worked with some Mathworks license toolbox transfers for Kent H.
 - Had to go into MBARI for one day this past week to help bring up the NavDORISS laptop. There were some issues with logging in for several users.
 - Out of Office
 - May 28 - June 1 - Vacation
 - Doctor's appointments June 2nd & 3rd. Will be out for part of those days.
- Brian Schlining
 - 500055 - Video Annotation DM
 - With the shutdown of bintray, the old version of VARS no longer builds as many 3rd party dependencies are just gone. Brian is working through that.
 - Brian is dealing with information/help requests for the older VARS system from HURL and Seattle Pacific University
 - 902002 - Fathomnet Detect and Classify
 - [Dumped all point annotations from the VARS_IMAGES database into CSV](#) and wrote a script to fetch and organize the related images for an upcoming intern project.
 - Fleshing out image set management in FathomNet.
 - Working on adding the display of altConcept (e.g. parts of an organism) in fathoment.
 - Reviewing code from Kevin Barnard for cropping and then registering letterboxed images in VARS.
 - 902005 - VARS Annotation Assistance
 - [Reorganized](#) CSUMB Capstone student's project, a simple standalone video annotation editor, and packaged it up as an [application](#).
 - Updated build of Cthulhu and published a [new release](#) for the video lab to test. Cthuhlu is still failing to play videos on Ubuntu. Brian is working on setting up alternate Linux distros for testing.
 - Overhead
 - Attended CSUMB Capstone presentations from computer science students.
 - Out of Office
 - May 27-June 1 - Vacation
- Rich Schramm
 - 300057 - Mooring Maintenance
 - M1 Turn support.
 - 300062 - DMO Support Doc Ricketts
 - Begin work on new Xojo Dataprobe for Western Flyer
 - Overhead
 - Continue handoff meetings and documentation.

- Camlog expd data loads restored
- Out of Office
 - 6/3 thru 6/7
 - 7/1 - forever
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Tested close up camera with battery and ran in “deploy” -mode for two several hour intervals
 - 901809 - Deep Sea Bioinspiration
 - Help review Kakani’s talk
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Tested new deck cable
 - Order new metal shell parts
 - Overhead
 - Abstract presentations
 - Strategic roadmap steering committee meeting