

Engineering Weekly Report 4/20/2023 - 4/27/2023

Executive Council Notes

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Individual Activities

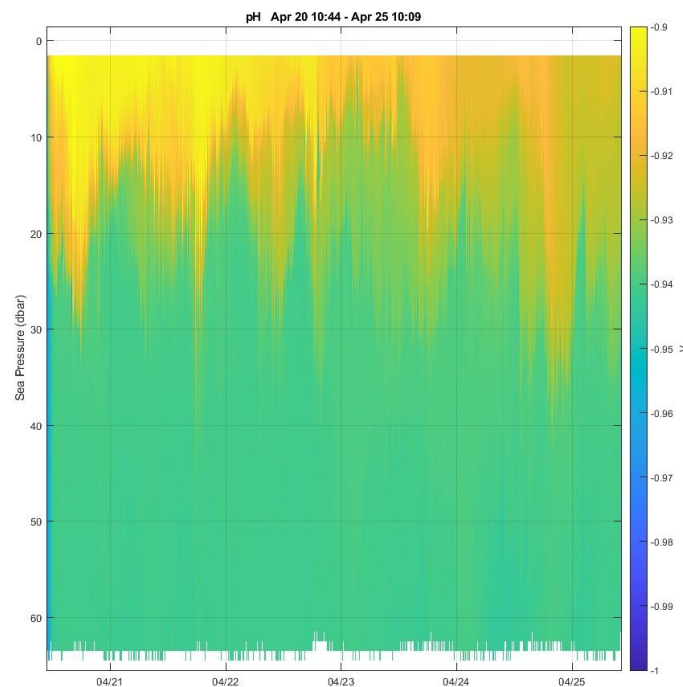
- Michael Anderson
 - 705102 - Open Wave-E Control System
 - 708167.51 - Option 3
 - 901405 - PowerBuoy Development
 - 901910 - Plankton Taxonomic Groups from AUVs
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Overhead
 - Out of Office
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Started scoping DSG overhaul, knowledge base server/client
 - 901809 - Deep Sea Bioinspiration
 - 902002 - FathomNet
 - 902204 - Scalable Robotics
 - Completed Mola and MiniROV stereo camera calibrations
 - Writing up documentation and helper scripts for new camera calibration library
 - Dockerized lcm-websocket-server, wrote CI pipeline for build & push to Docker Hub
 - 902304 - Piscivore Cam
 - DQ2209 - Ocean AI 2
 - Overhead
 - Out of Office
 - Fulmar 2023-04-25
- Francois Cazenave
 - 300059 - DMO Divisional Support - David Packard
 - 300060 - DMO Divisional Support - Paragon
 - 300079 - DMO Divisional Support - Rachel Carson
 - 708167.51 - Option 3
 - 901221 - Midwater Time Series
 - 901405 - PowerBuoy Development
 - 901704.99 - Benthic Observing System Maintenance
 - 902106 - Niobicon-Based AUV Docking Development
 - 902204 - Scalable Robotics
 - 902306 - SINKER
 - Overhead
 - Out of Office
- Danelle Cline
 - 300057 - Mooring Maintenance
 - 500055 - VARS, M3/RS, DSG.
 - 901009 - CANON

- 901103 - Biodiversity and Biooptics of Zooplankton
- 901206 - Coastal Profiling Float
- 901502 - Passive Acoustic Sensing
- 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
- 902204 - Scalable Robotics
- Overhead
 - Summer intern overhead
- Out of Office
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - 901009 - CANON
 - Team meeting April 20
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Continued work with Danelle on active learning tools for midwater images and concepts
 - 901502 - Passive Acoustic Sensing
 - Team meeting April 26
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Team meeting April 26
 - 902004 - Planktivore
 - Overhead
 - Out of Office
 - Vacation Friday April 28
- Jon Erickson
 - 300070 - DMO Divisional Support - Ventana
 - 300078 - DMO Divisional Support - AUV
 - 300079 - DMO Divisional Support - Rachel Carson
 - 300083 - DMO Divisional Support - LRAUV
 - 901217 - Chemical Sensor Program
 - 901405 - PowerBuoy Development
 - 901805 - Coastal Biogeochemical Sensing Program
 - 901809 - Deep Sea Bioinspiration
 - 902004 - Planktivore
 - 902010 - Mesopelagic LRAUV
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Overhead
 - Out of Office
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Continuing work on LCM bridge to other messaging systems to support API access as well as the possibility of a higher bandwidth data logging technology.
 - Starting to dig into changes to log for the new single LCM type.
 - 300057 - Mooring Maintenance
 - 300059 - DMO Divisional Support - David Packard
 - 300062 - DMO Divisional Support - Doc Ricketts
 - 300070 - DMO Divisional Support - Ventana
 - 300079 - DMO Divisional Support - Rachel Carson
 - 706008 - READI-net
 - Meeting with possible contractor for firmware system
 - 901009 - CANON
 - 901221 - Midwater Time Series

- 901915 - Improving MBARI Data Impact
- Overhead
 - Hiring committee stuff
 - Met with Matt/Andrew to discuss proposal work to update EXPDB
- Out of Office
 - Aug 28-Sep 12: Vacation
- Andy Hamilton
 - 705102 - Open Wave-E Control System
 - 708167.51 - Option 3
 - 708178 - Marine E Development NAV
 - 901405 - PowerBuoy Development
 - 902106 - Niobicon-Based AUV Docking Development
 - 902204 - Scalable Robotics
 - 902311 - Wire-Walker Power Generation
 - Overhead
 - Out of Office
- Kent Headley
 - 300057 - Mooring Maintenance
 - Finally found the root cause(s) of sampling issues with the new sonic wind sensor. We weren't able to get samples at 1Hz, and the instrument seems to have a longer start delay. The sampling firmware also had some brittle logic; in combination with the slow data return, it was failing to travel a critical branch. The long startup time was also causing sampling errors.
 - 300078 - DMO Divisional Support - AUV
 - 500055 - VARS, M3/RS, DSG
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - 901101 - Seafloor Mapping
 - Prep for TRN May 10-12 Carson days?
 - 901618 - Pelagic-Benthic Coupling
 - 901704.99 - Benthic Observing System Maintenance
 - 902204 - Scalable Robotics
 - Sprint 7 planning meeting
 - Prep for Sonar driver testing May 10-12 Carson days
 - Get sonar data kindly collected by DJ / the Ventana crew
 - 902302 - DEI
 - Overhead
 - Hiring
 - General support
 - Misc admin
 - Out of Office
 - vacation (4/28 - 5/1)
- Rich Henthorn
 - 300078 - DMO Divisional Support - AUV
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - 705102 - Open Wave-E Control System
 - 708167.51 - Option 3
 - 901405 - PowerBuoy Development
 - Some renaming of the sim_pblog components
 - 901618 - Pelagic-Benthic Coupling
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - SES acoustic modem issues - serial communications from the modem

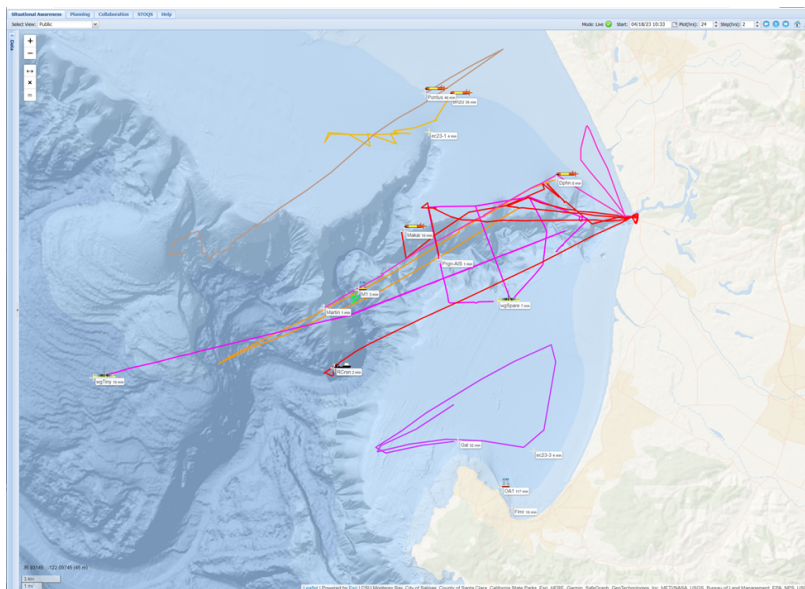
- 902306 - SINKER
 - Assembling dev environment - duplicating env from AyeRIS
 - Tested with AyeRIS code
- Overhead
 - Rec-com activity
- Out of Office
 - Apr 24 - 28: WFH, Wed and Thu vacation, VPN, email, and phone access
 - May 8: SES deployment on MARS node
 - June 1 - 9: Vacation
 - June 29 - July 10: Vacation
 - July 24 - Aug 3: Vacation, WFH
- Brett Hobson
 - 300078 - DMO Divisional Support - AUV
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - 708143 - CA Current HABS
 - 901009 - CANON
 - 901513 - Targeted Sampling by AUVs
 - 901913 - Wet Wifi
 - 902010 - Mesopelagic LRAUV
 - 902101 - LRAUV Technology Development and Fleet Operations
 - 902106 - Niobicon-Based AUV Docking Development
 - 902204 - Scalable Robotics
 - 902304 - Piscivore Cam
 - Overhead
 - Out of Office
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Started assembling new parts for ECV system; will need to modify flowcell spacer
 - Attended Carbon Lab weekly meeting
 - 901904 - Deep-Sea Coral Community Observatory
 - MATLAB model of LED outputs to compare relative intensity factoring in LED output curves, attenuation of water, and QE of detector; 940nm LED will need 100-1000X longer exposure than others, depending on distance to object
 - Watched Paul configure a local user and python environment on laptop Harlequin
 - Watched Paul set up & interface with camera over Vimba Viewer and python (some connections issues, some issues possibly Windows related)
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Helped troubleshoot Benthos modem comm issue (pins loose in internal connector)
 - Overhead
 - Rec comm budget, presentation, meeting
 - Learning python and trying to set up on laptop Mushu
 - Out of Office
 - 4/28/23
- Scott Jensen
 - 706008 - READI-net
 - Transfer mechanical design to ME
 - Defining firmware scope for outside contractor
 - Creating schematics for next electronics revision
 - 708178 - Marine E Development NAV
 - 771131 - Great Lakes PCM/HAB

- Bring up of the TEC controller
- 901205 - ESP SURF Center
- 901405 - PowerBuoy Development
 - Preparing next BSM prototype PCB for release to fabrication
- 901805 - Coastal Biogeochemical Sensing Program
- 902106 - Niobicon-Based AUV Docking Development
- 902311 - Wire-Walker Power Generation
- Overhead
 - E-tech position hiring committee
- Out of Office
 - Vacation May 11-15
 - Vacation June 30-July 5
 - Vacation July 24-28
- Brent Jones
 - 701149 - Improving pCO₂ estimates
 - 708143 - ECOHAB
 - Helped prep and deploy (multiple times) 2ea SIO wire walkers in support of experiment
 - 901112 - Monterey Bay Time Series
 - Prepped and deployed MBARI Wire Walker. Diagnosed problems in the internal inductive modem system that prevented real-time telemetry of data
 - Got 5 days of data including our first of pH profiles



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- 901502 - Passive Acoustic Sensing
- 901700 - Acoustical Ocean Ecology
- 901805 - Coastal Biogeochemical Sensing Program
 - Processing pH data from MBARI Wire Walker
- 902004 - Planktivore
 - Helped deploy and recover planktivore 2x from the paragon
- 902101 - LRAUV Technology Development and Fleet Operations
- 902311 - Wire-Walker Power Generation
- DQ2132 - OAH THOON

- Overhead
- Out of Office
- Chad Key
 - 901101 - Seafloor Mapping
 - 901206 - Coastal Profiling Float
 - 901704.99 - Benthic Observing System Maintenance
 - 901713 - Kelp Forest Array
 - 901700 - Acoustic Ecology
 - Paragon Battery Upgrades
 - Overhead
 - Out of Office
- Brian Kieft
 - 300082 - DMO Divisional Support - Wave Glider
 - 300083 - DMO Divisional Support - LRAUV
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - 708143 - CA Current HABS



- 901009 - CANON
- 901513 - Targeted Sampling by AUVs
- 901913 - Wet Wifi
- 902010 - Mesopelagic LRAUV
- 902101 - LRAUV Technology Development and Fleet Operations
- 902102 - Multi-LRAUV Simulation Environment
- 902204 - Scalable Robotics
- Overhead
- Out of Office
 - 4/27-28
 - 5/1
- Denis Klimov
 - 300083 - DMO Divisional Support - LRAUV
 - 901112 - Monterey Bay Time Series
 - 901809 - Deep Sea Bioinspiration
 - 901903 - BioRAMAN
 - 902004 - Planktivore
 - 902101 - LRAUV Technology Development and Fleet Operations

- 902204 - Scalable Robotics
- Overhead
- Out of Office
- Eric Martin
 - 300059 - DMO Divisional Support - David Packard
 - 300079 - DMO Divisional Support - Rachel Carson
 - 708167.51 - Option 3
 - 901101 - Seafloor Mapping
 - 901206 - Coastal Profiling Float
 - 901405 - PowerBuoy Development
 - 901911 - ROVVR
 - 902012 - Telepresence
 - 902204 - Scalable Robotics
 - Overhead
 - Out of Office
 - Impacted by minimum week for kids, working ½ days M-W, will work this Friday.w
- Thom Maughan
 - 300078 - DMO Divisional Support - AUV
 - 300083 - DMO Divisional Support - LRAUV
 - Installed MCUxpresso then switched to LPCxpresso per NXP support, then after meeting with Erik am back to MCUxpresso.
 - Meetings with Quinn on protocol
 - 901009 - CANON
 - Meeting with Oxford Nanopore
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 - 901713 - Nearshore FOCE
 - 901805 - Coastal Biogeochemical Sensing Program
 - 902004 - Planktivore
 - 38 minute deployment near Wirewalker on Thursday 20th, at 5m depth, Paragon drifting. 700K+ images
 - 39 minute deployment near Wirewalker on Tues 25th, 230k+images, yoyo 4 times at approx. 1m/sec to 70m for half, then steady at depth for the other half.
 - CANON meetings. Science use case is following the vertical migration from 250m. Galene/Chiton will be used as it covers the larger organism size range.
 - Working plans to get on an alternate LRAUV ahead of proposal season to demonstrate use of Planktivore on a science relevant scenario (long shot). This is adding work when resource is stretched thin.
 - Preparing Planktivore v1 to be used by Collen's group off Paragon on May 21,22.
 - Overhead
 - Greg Voogd provided Crane checkout (missed previous trainings due to covid exposure)
 - Out of Office
 - Apr 27-30 Camping Pismo
 - Vacation June 26 - July 12
- Mike McCann
 - 200105 - Core Navigation Data - MDUC
 - 200109 - Core Mooring Data - MDUC
 - 300078 - DMO Divisional Support - AUV
 - 300083 - DMO Divisional Support - LRAUV
 - 500055 - VARS, M3/RS, DSG
 - 901009 - CANON

- 901101 - Seafloor Mapping
- 901221 - Midwater Time Series
- 901910 - Plankton Taxonomic Groups from AUVs
- 901915 - Improving MBARI Data Impact
- Overhead
- Out of Office
- Rob McEwen
 - 300078 - DMO Divisional Support - AUV
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - 901513 - Targeted Sampling by AUVs
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - 902101 - LRAUV Technology Development and Fleet Operations
 - 901405 - Wave Energy Buoy
 - Overhead
 - Out of Office
- Paul McGill
 - 300059 - DMO Divisional Support - David Packard
 - 300070 - DMO Divisional Support - Ventana
 - 300079 - DMO Divisional Support - Rachel Carson
 - 701147 - MARS O&M IV
 - 901618 - Pelagic-Benthic Coupling
 - 901700 - Acoustical Ocean Ecology
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - 901904 - Deep-Sea Coral Community Observatory
 - 902304 - Piscivore Cam
 - Checked condition of PCam v2.0 from its first deployment—it worked! Battery voltages were about where they should be.
 - Reviewed a bunch of video from PCam to look for interesting events.
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Fixed bad connector on Benthos modem. It now works, so I put it back on the SES frame.
 - Retrieved six float blocks from Castroville.
 - Working with Mtechs to get SES configured for May 8 deployment.
 - 902306 - SINKER
 - Trying to make sense of the power budget spreadsheet.
 - Overhead
 - Upgraded the OS on my desktop computer.
 - Interviewed Etech candidate Devin Kasprowicz.
 - Out of Office
- Enoch Nicholson
 - 706008 - READI-net
 - Finished the prototype model for the drive and cylinder. Ordered hardware and fit check components.
 - Began designing the prototype press assembly.
 - 771131 - Great Lakes PCM/HAB
 - On hold awaiting discussion of priorities.
 - 902306 - SINKER
 - Started conceptual design of wiper test aquarium.
 - 901405 - PowerBuoy Development
 - Overhead
 - Out of Office

- Tom O'Reilly
 - 200105 - Core Navigation Data - MDUC
 - 300078 - DMO Divisional Support - AUV
 - 300082 - DMO Divisional Support - Wave Glider
 - 300083 - DMO Divisional Support - LRAUV
 - 808012 - OPC IFCB
 - 901101 - Seafloor Mapping
 - 901112 - Monterey Bay Time Series
 - 901513 - Targeted Sampling by AUVs
 - 901618 - Pelagic-Benthic Coupling
 - 901809 - Deep Sea Bioinspiration
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - 902101 - LRAUV Technology Development and Fleet Operations.
 - Overhead
 - Out of Office
- Mike Risi
 - 200105 - Core Navigation Data - MDUC
 - 300062 - DMO Divisional Support - Doc Ricketts
 - 300070 - DMO Divisional Support - Ventana
 - 300079 - DMO Divisional Support - Rachel Carson
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - 701147 - MARS O&M IV
 - 701147.99 - MARS IV Node Upgrade
 - 901101 - Seafloor Mapping
 - 902204 - Scalable Robotics
 - Overhead
 - Out of Office
 - Out of office on Fridays
- Paul Roberts
 - 701164 - SnoCam+ Research
 - 901221 - Midwater Time Series
 - 901809 - Deep Sea Bioinspiration
 - Field work work on Fulmar
 - 901904.99 - Corral Camera System
 - Setup of AVT Alvium camera and python API examples
 - 902001 - Ventata 4k camera
 - 902004 - Planktivore
 - Supporting deployment efforts and data processing
 - 902111 - Carbon Flux Ecology
 - 902204 - Scalable Robotics
 - Field work on Fulmar
 - 902306 - SINKER
 - Overhead
 - Out of Office
- Brent Roman
 - 708143 - CA Current HABS
 - 708165 - MERHAB19:ESP
 - 708175.50 - SURF task
 - 771131 - Great Lakes PCM/HAB
 - Documented our concerns about SeaTrans battery to GLERL

- 901205 - ESP SURF Center
 - Wrote fireAll script to eventually replace processAll
 - with more flexible sampler parameter overrides
 - Helped Ussler work through post deployment SPR issues
 - Helped Nadia diagnose position sensor error on ESPmv1
 - Added support for “blank” cartridges at Preston’s request
- 901913 - Wet Wifi
 - Dealt with ITAR issue again
 - OceanCom is already offering an improved “gen 2” modem.
- DQ2210 - READI-net
 - Helped Birch interview prospective embedded systems contractor
- Overhead
- Out of Office
 - May 26 - June 6
- Carlos Rueda
 - 300078 - DMO Divisional Support - AUV
 - 300083 - DMO Divisional Support - LRAUV
 - 901009 - CANON
 - 901101 - Seafloor Mapping
 - 901502 - Passive Acoustic Sensing
 - 901513 - Targeted Sampling by AUVs
 - 902101 - LRAUV Technology Development and Fleet Operations
 - 902204 - Scalable Robotics
 - 902302 - DEI
 - Overhead
 - Out of Office
 - Possibly ~2 days working from home next week due to desk upgrades in the office
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - 300057 - Mooring Maintenance
 - Awaiting updates with regard to the CTD download issues from Jared.
 - 901101 - Seafloor Mapping
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working on bugs, issues and UI requests for the project.
 - Ordered various books on React JS on how to build third-party plugins to apply to React-Leaflet.
 - Overhead
 - Preparing for my office move either this week or next week.
 - The move will most likely take a day or two to complete once the office finished.
 - Out of Office
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Started working on the new DSG again. At this point, I’m mostly translating existing code used in the demo at <http://m3.shore.mbari.org/deepseaguide/> from Vue 2 to Vue 3. (Vue 2 reaches its [end of life this year](#))
 - 901221 - Midwater Time Series
 - 901618 - Pelagic-Benthic Coupling
 - Started work on a new image annotation application, [mondrian](#). Jim Barry’s lab has an intern starting in June that can use this application, so Brian is trying to get this done ASAP.

- Made some small changes to annosaurus to better support image annotation applications. These changes have been published in version [0.14.1](#) and [0.14.3](#)
- 902002 - FathomNet
- 902304 - Piscivore Cam
 - Piscivore video staging and video asset manager registration code is ready. Waiting for a network share fix in order to finalize the setup.
- 902306 - SINKER
- 902308 - M3/VARS for the Masses
 - [Testing out changes](#) to remove technical debt from vampire-squid.
- DQ2209 - Ocean AI 2
- Overhead
 - Started gathering info from past Marine Imaging workshops to help organize one in 2024
 - With Bill Kirkwood, toured the Monterey Conference Center as a possible venue for the 2024 Marine Imaging Workshop
- Out of Office
 - Apr 12 - Apr 18 - Out of office
 - May 8 - 16 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - 901809 - Deep Sea Bioinspiration
 - 901904 - Deep-Sea Coral Community Observatory
 - 902204 - Scalable Robotics
 - 902208 - MiniROV Support
 - 902306 - SINKER
 - Overhead
 - Out of Office
- George Stern
 - 902204 - Scalable Robotics
 - 902306 - SINKER
 - 902311 - Wire-Walker Power Generation
 - Overhead
 - Out of Office