Brent Jones Sorted By Project

300083 - DMO Support - LRAUV

901112 - Change in MB & CA Current

- Prepped/Deployed/Flew/Recovered Daphne LRAUV in support of monthly MBTS run. Simulated and deployed new dedicated MBTS LRAUV mission. (Week 6)
- lab mtg (Week 8)
- Begin preparation for CPF deployment. They havent been used in over a year so tank tests are in order this week (Week 9)
- Lab meetings have commenced (Week 21)
- Beginning write up of canon sampler (Week 22)
- Recover two spray gliders on paragon (Week 23)
- Prep CANON sampler for Daphne deployment. Help stand watch for LRAUV Brizo. Recover and disassemble two SIO spray gliders (Week 24)
- Reassembled CANON sampler with new top cap. Tested and installed on Daphne. Flew Daphne over the weekend and into the week. Coordinated sampling with the Carson on Tues morning (Week 25)
- Beginning prep on CPF's for upcoming CANON deployment (Week 28)
- Prepped and deployed 2 Sediment Trap equipped CPF's. Recovered both CPF's, one normally, and one emergency recovery with the Blue Robotics ROV. Spent time with logistics for emergency recovery. Also went over CPF code looking for possible reasons why CPF never came to surface. (Week 31)
- Supported CANON activities including LRAUV watch (Week 31)
- Hotwash of CPF performance during CANON. Locating bugs, assessing performance, processing data, etc (Week 33)
- Diagnosing CPF failure during CANON. Is definitely a software issue! (Week 34)
- Flew Daphne in support of mbts run. Collected 15 seawater samples with the SIPPER (Week 36)
- Diagnosing bad battery packs in the CPF during CANON deployment. Also updating energy use models (Week 38)
- Diagnosing CPF battery failures. Tear down 1 instrument for inspection and battery replacement (Week 39)
- Tore down both CPF's for inspection before CANON and battery pack diagnosis (Week 40)
- Working with Del Mar Oceanographic on the purchase of a wire walker (Week 40)
- Daphne was deployed and collected water samples for shipless MBTS run (Week 40)
- Prepped, deployed, recovered, re-deployed CPF's in support of CANON (Week 42)
- Flying two gliders in support of CANON (Week 43)
- Deployed and recovered two sediment trap CPF's for CANON (Week 43)
- Processing data for CANON CPF's (Week 43)
- Diagnosing timing error in one of the CPF's (Week 43)
- Recovered two LRAUV's and post processed CANON SAMPLER samples (Week 43)
- Spending time creating an automated stoqs loader for CPF data. Refactoring CPF code to take scientific data while parked at pressure or on the bottom (Week 44)
- Flying LRAUV's in support of monthly MBTS run (Week 46)
- Refactoring CPF netcdf file generation to properly interface with CF compliant software. Time problems with last CANON deployment are requiring hand editing of data! (Week 46)
- Continuing to refine CPF netcdf file production for loading data into stoqs. (Week 47)
- Flew and recovered two LRAUV's in support of monthly MBTS run. Collected CANON sampler samples on MBTS run. (Week 47)
- Moving CPF data processing to Jupyter notebook (Week 48)

- Helping prep then driving Daphne LRAUV in support of MBTS mission (Week 49)
- Flying and recovered LRAUV daphne in support of monthly MBTS (Week 50)
- Still futzing around with formatting CPF data for ODSS ingestion (Week 50)
- Trying to find a place to manufacture 3 SIPPERS. Our collaborators in SD might be able to do it (Week 51)

901112 - Change in MB & CA Current - lab mtg

901502 - Passive Acoustic Sensing

- Working on getting Sam Urmy's click detection software running in Julia. Sam is leaving so I will be taking over daily processing of Hydrophone. (Week 6)
- team mtg. (Week 8)
- Processing hydrophone data from 0ct 2016 where we have known Sperm whale clicks. Hoping to detect clicks with ML algorithms (Week 13)
- Discovered current hydrophoneclick detector pre-filters out Sperm whale clicks (I think, still need to verify). Now having fun reprocessing a metric #$%load of hydrophone data. (Week 14)
- Still babysitting reprocessing of all hydrophone data for clicks. Had IS setup a gigantic VM. Installed the software and sicked it on the data. Seems to have memory issues a few times a day that requires restarting processing (Week 15)
- Isolated a few sperm whale clicks from the data. Figuring out a way to mine the data for more so I can create a training set for a CNN (Week 15)
- Training a CNN to hopefully detect Sperm Whale clicks. Finished processing 5 years of hydrophone data. Documenting process (Week 16)
- Continuing to go through monthly data looking for sperm clicks in an effort to build a ML training set (Week 17)
- Begin LTSA monthly processing for MAR20 and APR20. Want to see how background noise has changed since the covid lockdown (Week 17)
- Investigating ways to properly record inter-click interval into our analysis. Hopefully dont have to redo complete processing (Week 19)
- Helping forecast size req's as hydrophone data accrues. (Week 19)
- Reprocessing data using inter-click interval. Found more instances of possible sperm clicks (Week 20)
- Documenting software in prep for summer intern (Week 20)
- Tuning Sperm click detector (Week 21)
- Working on a preliminary python processing pipeline for daily sperm click analysis (Week 21)
- Prepping for intern (Week 21)
- Beginning to deal with MARS echosounder clicks that started in 2019. Investigating traditional signal processing tools and a ML detector (Week 22)
- Cleaning up documentation in prep for intern (Week 23)
- Meetings (Week 24)
- Running ML sperm detector on all clicks for a given month. Continuing to tune algorithm (Week 35)
- Spun up virtual Linux machine for parallel processing hydrophone data (Week 35)
- Converting high pass filter in Julia to python. Investigating results (Week 39)
- Setting up collaboration with CalPoly students who will be working with hydrophone data for their class project. (Week 40)
- Uploading odontecete click data to AWS (Week 42)
- Processed hydrophone click data for May2020 - Present (Week 48)

901502 - Passive Acoustic Sensing - team mtg.

901800 - LRAUV Payload & Support

- Assembled electronics (Week 25)
- Initial bench test of payload power and comms to LRAUV. SUCCESS FIRST TIME!!! (Week 33)

901800.98 - Bioacoustic Payload

- Working with Pargett to get the pressure case finished. Parts are starting to flow in (Week 6)
- Started work on top level wiring diagram in preparation for pressure case delivery. (Week 7)
- Continue working on internal wiring schematic (Week 9)
- Begin assembly of pressure case by installing bulkhead connectors. Prepping for pressure testing (Week 9)
- Modifying proposal as requested by MT (Week 16)
- Replaced CPU backplane with Al backplane to better sink heat. Re-assembled. Assembled complete payload and bolted on the front of LRAUV Galene. Fits! (Week 28)
- Finished design on internal bracketry for elex. Sent to printing (Week 34)
- Final assembly of the elex and initial fit to Triton's nose (Week 35)
- First test tank test revealed noise issues. Working on it (Week 36)
- Polishing up documentation (electrical drawings) (Week 36)
- Providing support to noise testing. Procuring different pressure case material possibilities for testing (Week 38)
- Looking at moving payload cpu to inside LRAUV. (Week 50)
- Looking at moving payload cpu to inside LRAUV. Working on ORCAD drawing. Seriously wanna delete ORCAD. (Week 51)

901805 - Coastal Biogeochemical Sensing

- Beginning orders for parts needed to instal pH + DOX sensor on second NPS glider SN34 (Week 6)
- Prepped and deployed Spray glider with pH sensor. Standing 24/7 watch as its deployed. (Week 7)
- Standing 24/7 watch for deployed Spray (Week 9)
- Completed integration of pH and dissolved O2 sensor on Spray 34. This required wiring and some fancy mechanical tricks to pack it all in. (Week 11)
- Piloting Spray29 24/7. Completed line 67 out and back transect and am now flying in the vicinity of the Johnson float (Week 11)
- Recovered deployed Spray glider. Downloaded and processed onboard data (Week 13)
- Reviewing paper manuscript written by Yui. Going to need a few figures (Week 20)
- Working on figures for paper (Week 21)
- Prepping sn29 for deployment (Week 24)
- Prepping Spray 34 for ballasting. Dealt with a wiring issue on the new pH install (Week 25)
- Continued prepping both Sprays for upcoming deployments. Deployed Spray 34. Currently flying pH mission for Yui (Week 28)
- Prepped and deployed Spray 29. Continued flying Sprays 29 and 34 in support of CANON and pH sensor objectives (Week 31)
- Continuing to pilot 2 pH Spray gliders (Week 33)
- Continuing to run two spray gliders offshore. Doing comparative pH dives requiring lots of user intervention (Week 34)
- Changing code to record higher res pH data to CF card (Week 34)
- Running Spray 29 on line 67 (Week 35)
- Recovered Spray 34 and beginning turnaround for next week's deployment (Week 35)
- Prepped spray 34 for deployment. Diagnosing an issue with pH sensor when it is submerged. Flying Spray 29 24/7 (Week 36)
- Flying spray gliders 29 and 34 24/7. There is some suspicion of fluorometer values being 2 blocked so Im tracing the measurement from the sensor, through the hardware, through the satellite, and ultimately to the final product (Week 38)
- Recover two spray gliders and do post deployment calibrations. Collecting seawater to diagnose fluorometer issue (Week 39)
- Bench testing additional logging functions for pH data. Diagnosing Flurometer issue. Swapped in new pH sensor for Spray 34 (Week 40)

- Prepped, deployed, and am flying two sprays in support of CANON (Week 42)
- Flying sprays for pH comparison once CANON completed (Week 43)
- Recovered 2 sprays and doing post processing of data (Week 44)
- Ordering parts for next year. Preparing to install new O2/Opt Y cable which requires a hotdog splice in the shop. (Week 46)
- Begin tear down of Spray 34 hydraulic system. Performed hydraulic pump efficiency testing (Week 47)
- Continued Spray 34 hydraulic pump efficiency testing (Week 48)
- Swapped out Spray 29 Optical + SBE63 Y cable (Week 48)
- Prepping Spray 29 for deployment later this week (Week 49)
- Deployed, flew, recovered Spray 29 in support of Magdalena's vertical current estimator. Very intense flying close to the shelf that required some barnstorming maneuvers. (Week 50)
- Diagnosis pH sensor error during above deployment (Week 50)
- Diagnosis pH sensor error during above deployment. Can not recreate the problem on the bench nor in the test tank. Ditched an anodized aluminum coupler and installed a PEEK coupler in case that was the problem. (Week 51)
- Doing last minute purchases of cables. (Week 51)
- Helped fill ~250 CO_2 standards for use in 2021. (Week 51)

Out of Office

- Vacation - feb 18-21
- Took a ½ day off friday
- Took friday 8/7 off to go backpacking
- 1 day vacation
- Wed - Fri, vacation + holiday

Overhead

- Began Intro to ML class from Duke (online) (Week 11)
- Taking a coursera class on Intro to Machine Learning. Hoping to apply it to hydrophone processing data (Week 13)
- Taking online classes on machine learning (Week 14)
- Continued online learning for ML (Week 15)
- Engineering mtg. Continuing education on ML (Week 17)
- Continuing education online. Engineering meetings. (Week 19)
- Looking at putting plantivore on NPS gliders (Week 20)
- Meetings (Week 20)
- Cont ed (Week 20)
- Meetings (Week 21)
- Continuing ed (Week 21)
- abstracts (Week 21)
- Meetings and continuing education online (Week 22)
- Wire walker proposal for 2021 (Week 22)
- Wire walker proposal, meetings, continuing ed, prepping for intern (Week 23)
- Meetings (Week 24)
- Interfacing with intern so she can begin her project (Week 24)
- Continuing ed (Week 24)
- Meetings (Week 25)
- Intern (Week 25)
- Meetings (Week 28)
- Intern (Week 28)
- Taught the interns how to stand watch for LRAUV's (Week 28)

- Mentoring intern (Week 31)
- Mentoring intern (Week 33)
- meetings (Week 33)
- Intern mentoring (Week 34)
- meetings (Week 34)
- Meetings (Week 35)
- meeting (Week 36)
- meetings (Week 38)
- meetings (Week 39)
- Meetings (Week 40)
- Mentoring Cal Poly students doing a senior project using hydrophone data. (Week 44)
- Mentoring CalPoly seniors (Week 46)
- Meetings (Week 46)
- Meetings (Week 47)
- Mentoring Cal Poly students (Week 47)
- Meetings (Week 49)
- Continued mentoring of Cal Poly senior class project (Week 49)
- Meetings (Week 50)
- Meetings (Week 51)
- Prepping for MBARI shutdown (Week 51)