

Brian Kieft Sorted By Project

300082 - DMO Support - Wave Glider

- Assisted testing acomms on waveglider (Week 4)
- Piloting this weekend (Week 9)
- Piloted this weekend (Week 10)
- Preparing script to assist with tracking Yui's glider (Week 10)
- Supporting Spray tracking PIE deployment for Yui (Week 12)
- Met with team to re-architect scripts to meet coincident PH/PCO2 sampling requirements for 2 week Tiny deployment. So far tracking has been solid over the last 72 hours! (Week 12)
- Piloted Tiny over the weekend to support Yui's PCO2 tracking runs (Week 13)
- Piloted Hansen over the weekend to support Astrid's bioacoustic runs (Week 13)
- Piloting Tiny/Hansen (Week 14)
- Working with Yui to support PIE deployment which completed Monday. Tracking of Spray lasted for about 16 days! (Week 14)
- Logs pulled and submitted. (Week 14)
- Recovered WG Tiny after nearly a month at sea. (Week 16)
- Supporting Yui's PIE deployment with Tiny/Hotspot tracking for coincident PCO2 sampling (Week 25)
- Wrapped up piloting for PIE project. Tracking went very well with only one loss over 12 days. (Week 26)
- Prep for upcoming PIE deployment with Spray (Week 44)
- Helping out the the PIE deployment for Yui. (Week 46)
- Recovered Tiny last Friday following wet wifi testing (Week 50)

300083 - DMO Support - LRAUV

- Assisted with daphne MBTS deployment (Week 9)
- Supporting MBTS mission for Daphne (Week 11)
- Piloting pontus for fish tracking deployment (Week 26)
- Daphne demonstration beach launch on Monday (Week 42)
- Working with Tanner for some new component design (Week 42)
- Supporting Pontus deployment off Pt. Sur and in N Monterey Bay (Week 42)
- Discussing plans for boatless deployment for Daphne (Week 44)
- On call for daphne MBTS (Week 50)

600034 - Precision Control Technologies for ROVs and AUVs

706007 - USGS Great Lakes Prey Fish Assessment

- Met with team to discuss summer plans (Week 4)
- Met with team to discuss plans for Lake Superior (Week 6)
- Reviewing requested course and logistics for deployment (Week 11)
- Roughed in the calendar. Flights coming next. (Week 15)
- Working on logistics for August (Week 17)
- Working on logistics/planning (Week 28)
- Packed up container and it shipped today. Flying Sunday. (Week 30)
- Lots of work this month running Triton and Brizo in Lake Superior and Lake Michigan. Triton will be recovered tomorrow and troubleshooting on an issue inside Brizo will commence then as well. So far great results from

Lake Superior and hoping to get Brizo back in the game shortly as both vehicles return to Lake Michigan. (Week 33)

- First beach launch/recovery of an LRAUV was successful. After a tour of the Apostle Islands and West arm of Lake Superior, Triton will be recovered and sent down to Lake Michigan. (Week 33)
- Preparing to wrap up Lake MI deployment next week. (Week 34)
- Dealing with various issues on Stella and running vehicles. (Week 34)
- Met with team today to discuss plans for 2 month deployment in 2023 and review the work done in 2022. (Week 49)
- Met with USGS team to go over last year's experiment and look ahead to this summer. Current plan is July and August operations for 2 months. (Week 50)

708143 - Eco HAB

- Working on basic logistics for May. Van, boats, etc. (Week 14)
- Prep for SB is underway. Lining up boats and meeting with collaborators (Week 15)
- Working with Tanner on fuel gauge integration for primary batteries. (Week 15)
- See LRAUV development (Week 16)
- Van secured (Week 16)
- Crane/Pier access secured (Week 16)
- Boat support secured (Week 16)
- Schedule nearly fixed (Week 16)
- Prepping vehicles for May. Finished troubleshooting network/joystick issues on Brizo. (Week 17)
- Met with Nick (UCSB) to talk about boat support and other logistics (Week 17)
- Working on logistics and vehicle prep (Week 18)
- Testing new mission changes and ESP integrations (Week 18)
- Hooked up ESP test board (Week 18)
- Recovered Brizo and wrapped up EcoHAB SB on Monday. (Week 24)
- Brizo was deployed for 29 days and, along with WG Tiny, represented the first MBARI boat free operation. We employed joystick control to perform L&R ops from Goleta Pier. Brizo seen here making its final approach to the pier for recovery after a month at sea. (Week 24)
- Gathering feedback from team and coming up with improvements for next year. Meeting next month to recap the experiment. (Week 26)

708168 - DHS/LRAUV Under-Ice

- Met with team to discuss Stella bring up, Norness shipwreck mission Jan 20, USCG training Jan 25/26, and March USCG/NOAA oil spill demo. (Week 1)
- Tested grid mission (Week 4)
- Attended USCG LRAUV training sessions over the past 2 days (Week 4)
- Supporting the Norness/Wreck1487 oil spill deployment right now. Returning early due to weather. (Week 4)
- Supported deployment for the Norness oil spill wreck and the noreaster storm chase. (Week 5)
- Troubleshooting issues on Stella bringup with mass and buoyancy servos (Week 7)
- Working on testing oil spill simulation to prepare for demo next month (Week 7)
- Helped troubleshoot Stella mass/buoyancy system (Week 8)
- Worked on testing of onboard environmental simulation for oil spill demo in March (Week 8)
- Testing internal environmental simulator following Mike's fix on Tethys which is currently deployed offshore (Week 9)
- Prepped tethys for deployment and launched yesterday for docking, oil spill sim, and polygon testing (Week 9)
- Buoyancy issue was resolved on Stella today. Mechanical problem. (Week 9)
- Checked RDI upward looking DVL for nav integration (Week 9)
- Troubleshooting buoyancy system on Stella (Week 10)
- Reviewed Polaris DVL data (Week 10)

- Troubleshooting various issues involving the Stella vehicle bringup (Week 11)
- Supporting upcoming Polaris deployment this week to run a simulated oil spill in Buzzard's bay. First is a lab test. (Week 11)
- Met to discuss new components for mapping LRAUV (Week 11)
- LCB troubleshooting on discrete I/O channel yielded parts that weren't stuffed. (Week 12)
- Troubleshooting wetlabs values for sim experiment (Week 12)
- Loaded polaris with latest release to support lab testing (Week 12)
- Transposed oil simulator to Buzzards bay. Pending lab test (Week 12)
- Met with team to plan the rest of the work for March (Week 12)
- Met with team today to go over final details before the end of the month. (Week 13)
- Preparing conops for arctic deployment (Week 13)
- Added capability for ZDA messages to be turned on/off for LRAUV Stella (multibeam mapping vehicle) (Week 13)
- Adding PD6 ingest capability to the ADCP to support mapping vehicle. (Week 13)
- Added ZDA support for NAL9602 component (Week 14)
- Enabled PD6 mode for WHOI ADCP testing (Week 14)
- Supporting a Polaris deployment and prepping Stella for initial B&T and first sea trial. (Week 15)
- Added yo-yo and multi lap functionality into the grid survey mission. (Week 15)
- Supporting current Polaris deployment testing oil mapping (Week 16)
- Added PD6 and water column capability for Stella LRAUV (Week 16)
- Added ZDA on/off/ignore capability for Stella NAL9602 (Week 16)
- Wrote component interface for INS and multibeam (Week 17)
- Made an animation of our "oil" spill (Week 17)
- Met with team to discuss operations in arctic. Ice is not looking great right now but proceeding with flights. (Week 25)
- Assisted with ATT sim card acquisition (Week 25)
- Prepping for Arctic trip. Fixed a couple minor issues on Stella. (Week 26)
- Leaving Friday for Barrow (Week 28)
- Deployed LRAUV Polaris up in the Chukchi Sea for a USCG demo with WHOI. This was a new ocean for LRAUV and the highest latitude yet (>71 deg) (Week 30)
- (Week 30)
- (Week 31)
- (Week 32)
- Troubleshooting Stella GPS issues (Week 34)
- Tagging/loading Polaris and Stella. Assisting in prep for Polaris for Tuesday's salinity intrusion cruise off the cape. (Week 34)
- Met with SW team to discuss plans for DVL development and new behaviors (Week 42)
- Met with team to discuss upcoming tasks for Stella deployment next week (Week 44)
- Supported the first real deployment of Stella. (Week 46)
- Diagnosed and fixed a problem with the DVL (Week 46)
- Assisting in troubleshooting LRAUV Stella. (Week 49)
- Diagnosed and fixed issue with Stella GPS. Added code change in application to prevent this configuration issue from stomping on real GPS fixes in the future. (Week 50)
- Working to get pyxis config up to date. (Week 50)

800139 - EyeRIS (Remote Imaging System)

- Fixed an acomm issue prior to deployment in the mission. Pictures of fishes were finally transferred to shore via Waveglider (Week 1)
- Met with team to discuss testing opportunity involving backseat commanding depth when it detects a region of interest. (Week 5)
- Met to discuss (Week 10)

- Preparing for deployment today. Did soak test and B&T on vehicle. \ (Week 14)
- Integrated joystick control (Week 14)
- Supported Galene deployment this week testing image transfer, front tracking, etc (Week 15)
- Recovered Galene following 4th engineering deployment last week. (Week 16)
- Supported a deployment this week for acomm data transfer and tracking (Week 24)
- Troubleshooting on Galene for network issues to the backseat (Week 46)
- Supported Galene deployment last week. (Week 48)
- Assisted with deployment prep and GF troubleshooting. Supporting current deployment (Week 50)

901009 - CANON

- Assisted with MBTS daphne deployment. Configured new GPCTD and adjusted some checklists for operators. Loaded master on daphne for this run. (Week 1)
- Planning has begun for EcoHAB SB deployment. (Week 13)
- Supporting MBTS run for Daphne this week. Will initiate sampling tomorrow. (Week 15)
- Prepped daphne for deployment (Week 15)
- Prepped Stella 113 for lagrangian drift sediment sample comparison with CPF (Week 16)
- Deployed CPF with the team yesterday (Week 16)
- Did a couple runs for Giancarlo to collect raw AHRS data. Working on reviewing. (Week 34)
- CANON is underway. Lots of support early on to get Makai settled (Week 41)
- Recovered Makai Monday following successful CANON deployment (Week 42)

901513 - Targeted Sampling by Autonomous Underwater Vehicles

- Reviewed L. Erie paper (Week 4)
- Debugging an issue with sending acomm data to multiple modems (Week 9)
- Reviewing issues with chl measurements from last summer (Week 10)
- Working with Yanwu on oil spill breadth mission (Week 11)
- Working with Yanwu on L. Erie paper and chlorophyll scaling factors post sampling. (Week 12)
- Working with Yanwu to test new mapPatch mission. (Week 13)
- Publication review and chl offset characterization (Week 13)
- Working with Yanwu on polygon bounding of LRAUVs. Reviewed mission results. (Week 14)
- Will run oil and polygon testing over the weekend in preparation for Santa Barbara and Barrow deployments. (Week 14)
- Working with Yanwu on his new patch mapping mission. (Week 15)
- Supporting Tethys deployment this week to test the oil patch and figure out how to visualize the data properly. (Week 15)
- Assisted with Tethys deployment testing mapPatch mission last week. (Week 16)
- Debugged issue with acoustic retry first noted in 2021 EcoHAB. Fix is in current release and will be tested this coming week. (Week 16)
- Working with Yanwu on patch mapping mission tests (Week 17)
- Various support for ongoing missions being run offshore (Week 24)
- Met for proposal discussions (Week 28)
- Assisting with host sim issue for Yanwu (Week 33)
- Troubleshooting basic host sim issues with Yanwu (Week 34)
- Working with Yanwu on CANON related missions (Week 41)
- Wrapped up some CANON mission changes with Yanwu (Week 42)
- Working with Yanwu on a passive acoustic monitoring mission and will test next week in coordination with wet wifi testing. (Week 49)
- Worked with Yanwu to bring up simulator. Now working and testing missions (Week 50)

901618 - Pelagic-Benthic Coupling and the Carbon Cycle

- Worked with Denis to establish acommms on the bench for BEDs FQT. (Week 1)
- Merged decoder fix for BEDs (Week 8)

901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach

902009 - AUV User Experience Design

- New PO invoice. Answering some basic questions and getting together a new group of interview candidates from our collaborators. Good feedback was received from the end of last year and the team is busy making changes. (Week 1)
- Light support answering questions on scheduler (Week 4)
- NDA signed for sub. Working through what issues need to be addressed for our prime (Sliced Bread) (Week 5)
- Got NDA signed with our developer at Sumo (Week 6)
- Chased down accounting issue which showed no MBARI payment for last PO. Issue ended up being a bank software issue on their end. (Week 6)
- Implementation architecture decision to be made (Week 9)
- Met with Carlos/Kevin to discuss architecture (Week 10)
- Meeting with team to discuss plans. Onboarding Karen Salamy to the team to support front end development (Week 13)
- Met with team to discuss progress and onboarding Karen (Week 14)
- Got an update on progress from our developers. Will connect our team more closely now. (Week 15)
- Meeting next week with team for status update. (Week 24)
- Usual q&a online (Week 26)
- Met with team to go over progress and holes in the API. I have a couple action items. (Week 41)
- Met with team to discuss progress and am preparing to send out link for alpha testing hopefully next week (Week 42)
- 2 action items for end points surrounding the scheudler (Week 42)
- Met with team in Santa Cruz for final end of year planning (Week 50)
- Rolled out link for alpha testing: <https://mbari.vercel.app/> (Week 50)
- Collecting user feedback. Mission command/control planned for first of year (Week 50)

902010 - Mesopelagic LRAUV

902101 - LRAUV Technology Development and Fleet Operations

- Tested DAT compass wiring fixes (Week 1)
- Automated HE thruster configuration parameters (Week 1)
- Working on HE component final fixes (Week 1)
- Added check for (Week 2)
- Added the water speed on DVL to water current estimator (Week 5)
- Fixed a DAT init issue (Week 5)
- Tethys is deployed on a wet wifi engineering mission as well as portuguese ledge tests. (Week 5)
- Added in water speed for current estimator and ran some tests at sea on tethys (Week 6)
- Assisting in upgrades to Tethys including HE thruster. Diagnosing possible wiring error. (Week 6)
- Updated altitude servo behavior to allow for missing altitudes (Week 7)
- Fixed DAT command mode issue following a fault (Week 7)
- Re-installed thruster HE after fixing a wiring issue on tethys and closed vehicle (Week 7)
- Mission updates for line capture testing this week (Week 7)
- Ran tank docking tests in preparation for deployment this week (Week 7)
- Found issue with Thruster HE interface. Working on a workaround (Week 8)

- Fixed water speed navigation issue (Week 8)
- Fixed issue with navigation when including water speed from RDI DVL (Week 9)
- Fixed Thruster HE fault interface issue with addition of polling for masked faults (Week 9)
- Wrapped up DAT firmware updates on all 7 units (Week 10)
- Added bootloader flashing tools to repo. Assisting Tanner with SOM bringup (Week 10)
- Prepped Pontus for deployment next week (Week 10)
- Supported docking deployments that ended last week and recovered dock last Friday. Very successful experiment. The real dock will be deployed asap. (Week 11)
- Integrated the WHOI joystick operation on vehicle Pontus here. Will test cell soon. Planning to use for video shoot and EcoHAB. (Week 12)
- Tethys deployed last Thursday for docking and patch tracking tests (Week 13)
- Integrated joystick control over cellular for vehicle Pontus. Testing underway and plans to use this feature for EcoHAB in Santa Barbara (May/Jun) (Week 13)
- Performed a successful joystick integration and harbor test on Pontus. (Week 14)
- Setting up backseat computers for work in Santa Barbara (Week 14)
- Working with Tanner to get fuel gauge component operational for use with primary batteries. (Week 14)
- Got up to speed on TethysL and tried writing a new mission. Attempting to install on my host. (Week 15)
- Added joystick control on Makai in prep for EcoHAB (Week 16)
- Troubleshooting network issues on Brizo (Week 16)
- Prepped EZ servo to send in for noise assessment (Week 16)
- Roughed in coulomb counter interface in CBIT to interface to Tanner's user space application interface to the hardware. Testing continues on Melia. (Week 16)
- Ran Tethys Thu-Tue on a mission testing some docking changes as well as patch mapping (Week 17)
- Tested fixes to fast GPS fix mission (Week 17)
- Got Benthos MF replacement quote (Week 18)
- Ran FQT on coulomb counter on vehicle Makai in preparation for EcoHAB (Week 18)
- Tested quick GPS mission fix offshore last week (Week 18)
- Opened Tethys to repair failed ethernet cable on backseat computer in preparation for TRN runs. (Week 18)
- Logged bad batteries on Brizo/Makai (Week 18)
- Deployed Tethys yesterday and recovered today following docking tests. (Week 25)
- Launched Brizo/Tethys for testing Tim's hotbunking missions. (Week 28)
- Launched Triton for bioacoustics testing. (Week 28)
- Trying to fix CPLD issue on spare mobo (Week 33)
- Passed along repo info and gave permissions to Elicia for DAT development. (Week 33)
- Grabbing raw AHRS data for Giancarlo (Week 33)
- Updated CPLD programming repo and tested on test mobo (Week 34)
- Diagnosed clock issue on spare mobo (Week 34)
- Working on bioacc tasks and system diagram (Week 41)
- Arm actuator integration with new smaller controller. (Week 41)
- Fixing bug with ESPComponent and writing data after critical failure (Week 42)
- TRN ingest work (Week 42)
- Handed off an MF DAT to Elecia for MMP mode integration. Progress is looking good with basic binary command/response flowing. (Week 46)
- There may be a minor budget overage on the MMP integration task. Working on scoping. I'm inclined to spend a little more and implement the full headers at this point. Will seek \$\$ (Week 46)
- Working with Tanner on integrating the new lights component. (Week 46)
- Prepping for wet wifi testing alongside waveglider for this weekend. (Week 49)
- Dropped a fresh MF modem off with sub Elecia for further development on the Benthos driver. (Week 50)
- Need to work with her/Benthos to see if we can implement a datagram response to a range request. (Week 50)

902102 - Multi-LRAUV Simulation Environment

- Built ignition/application and ran my first sim. Very cool! (Week 25)
- Met with team today to discuss transition plan and progress. (Week 25)
- Walked through sim setup via Ben's documentation and got it running. (Week 26)
- Team meeting yesterday for Q3/Q4 transition planning (Week 28)
- Lots of work to attempt to build the sim. So far we're having issues. (Week 41)
- Lots of work on getting a build running. Currently working through issues on the container build from source. Hoping to have instructions posted to users by the end of the week. (Week 42)
- Lots of work trying to get the system built/installed. Almost there but still some hurdles. (Week 44)
- Met with team to discuss plan for easy rollout (e.g. simple script that handles everything). Working on optimizing uptake. (Week 44)
- Finally got the sim running on two machines here. Will test with Yanwu next. (Week 46)
- Trying to get Yanwu up and running (Week 48)
- Lots of work bringing up the lab/local machine to recent changes but they're all working now. (Week 50)
- 140% over on labor currently. (Week 50)

902106 - Niobicon-Based AUV Docking Development

- Wrote a tank test mission for use with the real dock in the tank (Week 4)
- Tank tested with actual dock in preparation for deployment (Week 5)
- Ran docking and charge tests in the tank (Week 6)
- Preparing for deployment next week. Had to open vehicle due to a leaking connector. (Week 6)
- Met with team to discuss deployment (Week 7)
- Worked on the Tethys docking deployment. (Week 8)
- Fixed dockingServo mode change issue that was ignoring initial commanded value (Week 9)
- Continued docking tests with Tethys. Replaced dropweight Monday following (Week 10)
- Updated LNM (Week 10)
- Testing simulated oil spill for Buzzard's Bay demo later this month (Week 10)
- Testing polygon geofencing for EcoHAB (Week 10)
- Testing low power Hawaii transit mode (Week 10)
- Lots of preparation underway for the full mooring deployment tomorrow! (Week 12)
- Supporting docking deployment (see images at top) (Week 13)
- Added remote discrete set/clr capabilities through the acoustic interface to automatically power lights/camera on dock when approaching (Week 13)
- Deploying again today for further docking tests and ROV footage on Thursday. (Week 14)
- Supported Tethys deployment for further docking tests and some dock troubleshooting. (Week 15)
- Investigating DAT configuration with Benthos. (Week 15)
- Serviced topside dock equipment yesterday (Week 16)
- Added short final lockout to line capture behavior. (Week 16)
- Queried Benthos on the short final azimuth noise issue when elevation angle steepens. (Week 16)
- Deployment last week to test new docking arm (Week 24)
- Fixed compass serial port issue on dock (Week 25)
- Integrating new docking actuator and stepper controller. Awaiting cable. (Week 33)
- Integrating stepper motor actuator for docking arm (Week 34)
- Working on integrating new stepper controller with new actuator (Week 42)
- Working with Rob on data analysis for docking (Week 44)
- Also component/behavior questions (Week 44)
- Integrating docking arm actuator. Base class changes have been completed. Now working on component integration (Week 44)
- Met with Francois on Tue to dial in physical limits (Week 44)

- Lots of work with Michael and Rob to adjust docking algorithms in sim the past two weeks. Both now have source code access and have been contributing to the current release. (Week 46)
- More interaction with AllMotion on their stepper. (Week 46)
- Integrated the new docking arm stepper controller (Week 46)
- Deployed Tethys from the beach for docking tests today. (Week 46)
- Lots of docking work with Tethys (Week 48)
- My work focused mostly on docking. Completed 109 docking runs to test various configurations that we previously simulated. (Week 49)
- Additionally work to improve the vertical control during docking or straight and level flight was accomplished. (Week 49)
- Wrapped up docking deployment and added 8 new issues to JIRA that were discovered during testing. Docking success improved significantly this fall. (Week 50)

Out of Office

- 3/14-18 (AZ - MST)
- 3/10 (kids passports/half day)
- 3/14-17 (AZ - MST)
- 05/15 - 06/04 (EcoHAB PDT)
- 07/02 - 07/09 (HST - vacation)
- 07/13 - 07/22 (AKDT)
- 08/01 - 09/03 (EDT)
- 09/13 - 09/30 (GMT+2 - vacation)
- 04/15 (PDT)
- 09/12 - 09/28 (GMT+2 - vacation)
- 07/02 - 07/12 (HST - vacation)
- 07/15 - 07/26 (AKDT)
- 07/15 - 07/20 (AKDT)
- 07/15 - 07/21 (AKDT) WHOI
- 07/31 - 08/11 (EDT) USGS
- 08/28 - 08/31 (EDT) USGS
- 08/19 - appointments
- 08/28 - 09/01 (EDT) USGS
- 10/24 - 10/28 (PDT)
- 11/21 - 11/25 (MST)
- 12/28-30 (PST)
- 12/19 - 12/28 (PST)
- 12/29-01/03 (MST)

Overhead

- CPR/FA/AED course online (Week 5)
- Met with high school student per request to discuss STEM career opportunities (Week 5)
- Lots of wet wifi testing with coordinated location of waveglider over Tethys to transfer live streaming video (Week 6)
- Added some text to the BioSWAT DQ (Week 12)
- Supporting Yui's Spray/tracking deployment (Week 13)
- Gender IDEA workshop (Week 13)
- Supporting Hotspot work around the LRAUV dock for Ivan (Week 14)
- Worked with Matt on LRAUV air ship quote (Week 18)
- Assisted with DOEST work (Week 24)
- Started writing UX proposal (Week 26)

- Proposals (Week 28)
- Various hiring committee tasks (Week 41)
- Met with USGS/WHOI team to go over plans for potential funding of under ice ops in Lake MI. (Week 42)
- Wrapping up various expense reporting from May-Sep (Week 42)
- Lots of travel expense report overhead (Week 44)
- More travel receipts :((Week 46)
- Interviews for two candidates. One in person for 2 days and the other via zoom. (Week 49)
- Met to discuss candidates for embedded position (Week 49)
- Interviews (Week 50)
- Ran wet wifi testing with Tethys/Tiny. While signal strengths were observed, no video was transferred. (Week 50)