

901618 - Pelagic-Benthic Coupling

Week 50

1. Rich Henthorn
 - a. Weekly meeting
 - b. Transferred Sta.M data onto new hard drives
 - c. Testing reassembled Rover components
2. Paul McGill
 - a. Alana and I replaced Li batteries in Rover.
 - b. Finished repairs to stbd propulsion motor controller.
 - c. Troubleshoot Rover MF modem. It's dead and replacement is on order.
3. Alana Sherman
 - a. Replaced batteries for Rover
 - b. Trying to troubleshoot a few things

Week 49

1. Rich Henthorn
 - a. Testing Rover components as the vehicle is reassembled in the High Bay
 - b. Addressed issue with the port rack prematurely halting on insertion

Week 48

1. Paul McGill
 - a. Preparing for Jan cruise of unknown data.

Week 46

1. Rich Henthorn
 - a. Testing starboard chamber rack motor trying to repeat deployment errors
 - b. Weekly meeting
2. Paul McGill
 - a. Responding to multiple interview and article requests for Rover
 - b. Working on getting instruments ready for hopefully a Jan 2022 deployment

Week 45

1. Rich Henthorn
 - a. Benthic Rover motor controller investigation
 - b. Benthic Rover fluorometry image issue
 - c. SES image detritus issue
2. Paul McGill
 - a. Continue to troubleshoot Rover and SES faults
3. Alana Sherman
 - a. Testing various components of Rover that had intermittent comms issues.

Week 44

1. Paul McGill
 - a. Troubleshooting failures in Rover and SES.

2. Alana Sherman
 - a. Working with Raul on press material for Rover paper

Week 43

1. Duane Edgington
 - a. Great progress by Dan Davis on calibration. Accurate measurement of “artificial critters” targets in situ. Processed images through Zhang matlab camera calibration to measure focal length during image capture June 11 2021. Met with Paul McGill Oct 25.
2. Rich Henthorn
 - a. SES issues
 - b. Rover issues

Week 42

1. Duane Edgington
 - a. Excellent progress by Dan Davis. Teleconference to go over recent calibration work Oct 19. Plan on-site powwow to review calibration procedure, using LaserMeasure, and path forward.
2. Rich Henthorn
 - a. Sta.M cruise equipment and data unloading
 - b. Lab meeting discussing plans for Sta.M instrumentation
3. Paul McGill
 - a. Dealing with instruments brought back after our truncated Western Flyer cruise.
4. Alana Sherman
 - a. Unpacking from cruise, organizing lab and assessing each system and the work left to be done.

Week 41

1. Duane Edgington
 - a. Dan Davis made excellent progress applying in-water calibration images from June 11 2021 dive to Laser Measure calibration procedure, yielding a LM calibration file. Next step is to apply this calibration to measuring fly-over of checkerboard and animal targets, as well as benthic transect, from that same dive
2. Rich Henthorn
 - a. At Sta.M
 - i. Cruise cut short due to WF engine issues
 - b. Benthic Rover issues
 - i. Propulsion motor controller comms
 - ii. LF and MF modem
 - iii. Oil comp hoses
 - c. SES appears to have functioned well during the deployment
 - i. Awaiting redeployment cruise
 - d. Camera Tripod recoveries and deployments
 - i. Solo camera deployment OK
 - ii. Duo camera returned full load of images
 - e. Transit back to Monterey Bay
 - i. WF returned to Monterey Bay Sunday evening to wait out the storm
3. Paul McGill
 - a. Was on Western Flyer for Smith cruise, but came in early on Monday due to ship engine problems.
 - b. Unloaded ship
 - c. Looked over Laser Measure results sent by Dan Davis and sent him measurements of our test targets.

Week 40

1. Rich Henthorn
 - a. Loading Western Flyer for Sta.M cruise
2. Paul McGill
 - a. Pressure tested Squirty pump
 - b. Finished wiring Squirty pumps and controllers
 - c. Did final edits on Rover paper
 - d. Submitted abstract for Ocean Sciences Meeting
 - e. Loaded Flyer for cruise leaving Wed
3. Alana Sherman
 - a. Spent most of the week prepping for the Flyer cruise to Sta. M. Everything is on the ship and there were less things to search for than I feared.
 - b. Prepped the SOLO camera for deployment. This was not as easy due to a number of small issues and also the obsolete software requires an obsolete operating system so it became a multi-laptop endeavor to full test. I finally got it tested and ready to go.

Week 39

1. Paul McGill
 - a. Pressure tested new Squirty pump with John F., all is good.
 - b. Got pumps wired and tested for deployment next week.
 - c. Packing for Flyer cruise next Wed.
 - d. Met with Teledyne/Benthos reps to discuss Rover and SES modems.

Week 38

1. Rich Henthorn
 - a. Telepresence shore support for Macro Camera deployment

Week 36

1. Rich Henthorn
 - a. Prepping for Sta.M cruise that begins in 4 weeks
2. Paul McGill
 - a. Preparing Macro Cam for next Monday's cruise
3. Alana Sherman
 - a. Getting Macro tripod ready for next weeks deployment

Week 35

1. Paul McGill
 - a. Finished Squirty schematics.
 - b. Responded to reviewer's comments on Rover paper, and found a few more errors.
2. Alana Sherman
 - a. Test the Solo camera tripod which had a mechanical failure of the glass port during the last cruise. After it was tidied up and the batteries replaced I pulled together all the pieces to do a lab test of the system. It was a walk down memory lane but I got it working on the bench. Next step will be to test it on the tripod.

Week 34

1. Duane Edgington

- a. Update to Dan Davis collaborator agreement (new text and terms and conditions) signed by Dan and by Duane. In MT hands.
2. Paul McGill
 - a. Responding to reviewer's comments on Rover paper
 - b. Tested burn-wire boards and sent one to Benthos
 - c. Got optode cable built for Oct Rover turnaround

Week 33

1. Duane Edgington
 - a. Met with Dan Davis. Passed over to him dive image data from 21Jun2021 for laser measure calibration work.
 - b. Working on renewal of collaborator agreement with Dan due Aug 22.
2. Rich Henthorn
 - a. Meetings

Week 32

1. Duane Edgington
 - a. Our June 21 dive data is ready for Dan Davis for his analysis. I have emailed to set up a time to meet with him and pass over the data.
2. Paul McGill
 - a. Took used Rover batteries to e-waste.
 - b. Working with Benthos to get quote for new MF modem.

Week 31

1. Duane Edgington
 - a. Finished work on Jun 21, 2021 dive data. Released to Paul M. for review before we send it to Dan Davis for his analysis.
2. Paul McGill
 - a. Working with Duane E. on Laser Measure images from last deployment.

Week 30

1. Duane Edgington
 - a. Working on analysis and prep of June 21 dive images
2. Paul McGill
 - a. Had Zoom meeting with team at Teledyne Benthos about our needs for Rover modems
 - b. Met with Duane E to review progress on laser measure camera calibration and image analysis

Week 29

1. Duane Edgington
 - a. Continuing work on 21 June 2021 data. Hope to complete by the end of July in preparation for the next cruise.

Week 28

1. Duane Edgington
 - a. Working on data from Laser Measure Field Test 21 June 2021
2. Rich Henthorn
 - a. Weekly meeting

Week 26

1. Duane Edgington
 - a. Plan to work on in-water calibration images and footage taken by Paul McGill during recent cruise.
2. Rich Henthorn
 - a. Proposal input

Week 25

1. Brian Kieft
 - a. Assisted with Rover work at Station M

Week 24

1. Rich Henthorn
 - a. Weekly meeting
 - b. Telepresence training
2. Paul McGill
 - a. Prepared laser target to adjust lasers before next week's cruise.
 - b. Worked with Alana to test Macro Camera in Test Tank.
 - c. Ordered connectors for Squirty stirrers
 - d. Did calculations to try to locate Rover based on sparse data from WG Tiny
3. Alana Sherman
 - a. Prepared close-up camera for its deployment next week off the Rachel Carson. Worked through a couple issues, set camera focus, laser position and ran overnight test. Working on pulling together tools and documentation.

Week 23

1. Rich Henthorn
 - a. Weekly meeting
 - b. Rover manuscript
2. Paul McGill
 - a. Did calculations to figure out where Rover should be so WG Tiny can find it
 - b. Working with Kent H. on algorithm for Loop and Cross code

Week 22

1. Rich Henthorn
 - a. Weekly meeting
 - b. Rover paper manuscript
2. Brian Kieft
 - a. Limited planning for station M ops
3. Paul McGill
 - a. Working on Rover paper
 - b. Helping Alana with wiring of Macro Camera

Week 21

1. Rich Henthorn
 - a. Weekly meeting
 - b. Station M workstation prep
2. Paul McGill
 - a. Did calculations and generated figure for Rover paper

- b. Compiling an inventory of laser serial numbers and current locations
 - c. Working with Kent H. on Loop and Cross algorithm
- 3. Alana Sherman
 - a. Tested close up camera with battery and ran in “deploy” -mode for two several hour intervals

Week 20

- 1. Rich Henthorn
 - a. Creating Station-M workstation for dev and data processing for Rover and SES
 - b. Weekly meeting

Week 19

- 1. Duane Edgington
 - a. 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)
- 2. Rich Henthorn
 - a. Preparing workstation for Station M development and operations
 - b. Weekly meeting
- 3. Alana Sherman
 - a. Testing cap charger board for new close-up camera, working well
 - b. Starting to test camera chassis electronics

Week 18

- 1. Duane Edgington
 - a. Ran new test images of new calibration target through Matlab Computer Vision Toolbox (checkerboard calibration) for Paul McGill. Reported resulting calibration parameters for eval.
 - b. Test dive planned in June.
- 2. Rich Henthorn
 - a. Rover manuscript support
 - b. Proposal support
- 3. Alana Sherman
 - a. Finding Canon cables or alternates for Close up camera

Week 17

- 1. Rich Henthorn
 - a. Weekly meeting
 - b. Paper research

Week 16

- 1. Rich Henthorn
 - a. Weekly meeting

Week 15

- 1. Rich Henthorn
 - a. Weekly meeting
- 2. Brian Schlining
 - a. Provided support for VARS for the lab.

Week 14

1. Rich Henthorn
 - a. Weekly meeting
2. Brian Schlining
 - a. Helped Crissy Huffard sort out Java path issues so she could get VARS running again
3. Alana Sherman
 - a. Weekly meeting

Week 13

1. Duane Edgington
 - a. Waiting for images from Paul McGill
2. Rich Henthorn
 - a. Benthic Rover paper
 - b. Geolocating and communicating with Benthic Rover
 - c. Weekly meeting
3. Brian Kieft
 - a. Geolocated Benthic Rover at Station M
4. Paul McGill
 - a. Worked with Wave Glider team trying to locate Rover at Station M. Cleaned up code for calculating position from acoustic ranges to improve accuracy.
 - b. Met with Kent H. to discuss how to get Loop and Cross code deployed on Wave Glider.
 - c. Created schematic and specifications for sediment trap agitator pump battery.
 - d. Did battery inventory to prepare for next Li battery order.

Week 12

1. Rich Henthorn
 - a. Assisted with WG acommms at Sta.M
2. Brian Kieft
 - a. See above Station M work
3. Paul McGill
 - a. Calculated new estimated positions for Rover and SES so that Wave Glider can talk to them at Station M.
 - b.

Week 11

1. Rich Henthorn
 - a. Weekly meeting
2. Paul McGill
 - a. Processing video from last dive series.
 - b. Worked with Mariah to make a new calibration grid for Laser Measure and ordered a new metal print from Bay Photo.
3. Alana Sherman
 - a. Pulling the parts together for the Smith Macro Camera

Week 10

1. Rich Henthorn
 - a. Mob and deploy LPS Monday, recover Tuesday
 - b. Weekly meeting

2. Paul McGill
 - a. Successfully deployed and recovered Larval Pump Sampler on Mon and Tue Rachel Carson/Ventana cruise.

Week 9

1. Duane Edgington
 - a. Laser measure. Paul McGill is preparing to go out on cruise March 9 with the 3 laser system mounted and take test images with the ROV camera of our checkerboard calibration target. This is a test of a new, improved in-water calibration procedure -- no in air calibration is planned.
2. Rich Henthorn
 - a. Prep for Larval Pump Sampler deployment next Mon and Tue on Carson
 - b. Tested LPS in test tank
3. Alana Sherman
 - a. Finished up macro camera system schematics

Week 8

1. Rich Henthorn
 - a. Tested updated BLISS carousel hardware and motor assembly
 - b. BLISS deployment at MARS planned for March 8 and 9
2. Alana Sherman
 - a. Working on the schematics for Sta. M macro camera

Week 7

1. Rich Henthorn
 - a. Weekly meeting
2. Alana Sherman
 - a. Assembled parts for camera housing
 - b. Began modifying schematic for inclusion of cap charger

Week 6

1. Duane Edgington
 - a. Lots of progress by Dan Davis; plan discussion to map out underwater calibration procedure for next dive opportunity.
2. Rich Henthorn
 - a. Weekly meeting
3. Paul McGill
 - a. Getting quotes for Squirty battery assembly.
4. Alana Sherman
 - a. Gathering pieces for Smith macro camera
 - b. Ordered new bulkheads and cables to interface to Seastrosbes

Week 5

1. Duane Edgington
 - a. Updates to Laser Measure, Laser Calibration from Dan Davis
 - i. Push updates to BitBucket
 - b. Working with Dan, communicating with Paul, on attempts to calibrate in-water images collected from last Station M dive. Trying to determine if we have the data we need to do a calibration, and if not, how to design a process for future dives with the 3 lasers.

2. Rich Henthorn
 - a. Weekly meeting
3. Paul McGill
 - a. Lots of back and forth with Dan Davis to work out issues with Laser Measure. Trying to find images that will let us calculate laser direction vectors.
4. Alana Sherman
 - a. Gathered components and realized we need some new cables and connectors to interface to a different strobe than originally planned. Put in an order for what is needed. Pulling together other components to build up the chassis.

Week 4

1. Rich Henthorn
 - a. Weekly meeting
2. Paul McGill
 - a. Working with Duane E. on Laser Measure, trying to analyze images from last Oct. Still not working but we're knocking down problems.

Week 3

1. Duane Edgington
 - a. Working on Laser Measure tasks
 - b. Meeting with Paul McGill Jan 14 to review status and tasks
2. Rich Henthorn
 - a.

Week 2

1. Rich Henthorn
 - a. Kick-off SES Obs Manager epic w/outline and discussion
 - b. Weekly meeting
2. Paul McGill
 - a. Worked on Squirty pump controller but having problems with Microchip programming tool.
 - b. Did some cleanup of archived Rover data.

Week 1

1. Duane Edgington
 - a. Returning to dive image prep and analysis
2. Rich Henthorn
 - a. Researching issue with ACM data logging
 - b. ACM driver needs to do quality control on received packets before processing
 - c. 2021 kickoff meeting
3. Paul McGill
 - a. Updating Microchip compilers to resurrect Squirty pump controller