

901101 - Seafloor Mapping

Week 51

1. Eric Martin
 - a. RDI purchase complete
 - b. Scoping for Sled integration complete, reviewed with Dave
 - c. Strobe repair underway
 - d. Circuits review with Chad
2. Justin Tucker
 - a. Print material test for thermal experiment nozzle
 - b. Released thermal spacer drawings for strobe can improvement

Week 50

1. Eric Martin
 - a. End of year DVL Purchase
2. Mike Risi
 - a. Continuing design and prototyping of new LASS stack
 - b. Starting to bring up new Linux computer for LASS control
3. Justin Tucker
 - a. Scope and cost estimates for LASS integration with WHOI's Jason ROV

Week 49

1. Kent Headley
 - a. MB-System TRN maintenance and updates
2. Eric Martin
 - a. NSF Proposal Work
 - b. Lidar is delayed again.

Week 46

1. Kent Headley
 - a. Code and test build system updates for libtrnav and MB-System Sentry builds. These enable the use libproj for coordinate transform, fix build warnings, and add options to build TRN code for ROVs
2. Mike McCann
 - a. Discussions on the way forward for rendering/display issues
3. Mike Risi
 - a. Developed two different prototypes for trigger generation on LASS sled, planning review with LASS team.

4. Justin Tucker
 - a. Complied LASS clearances and CAD for Jason team

Week 45

1. Kent Headley
 - a. Finalizing testing of libproj support for MB-System/libtrnav with Dave C.
2. Eric Martin
 - a. 3DatDepth Call, expecting FAT in December
3. Mike McCann
 - a. Diagnosed some display/rendering issues
 - b. Verified Compilation thumbnail image finding logic
4. Justin Tucker
 - a. Thermal experiment
 - i. Purchased and assembled hoses and fittings
 - ii. Designing heated plume nozzle

Week 44

1. Justin Tucker
 - a. Heated plume experiment cart mount and assembly.

Week 43

1. Kent Headley
 - a. fixed several issues with TRN code to support coordinate transformation via different libraries in MB-System. The change was motivated by the need to use local transverse mercator (LTM) projections for Axial surveys, rather than UTM. Dave determined that UTM introduces errors that are proportional to the distance from the UTM origin. Using LTM reduces these errors significantly by establishing the origin near the survey site.
2. Eric Martin
 - a. Presented energy findings to Gene, feature done.
3. Mike Risi
 - a. Continuing work on new LASS control system
 - b. Developed trigger board prototype firmware for the RP2350
 - c. Continuing to iterate on new trigger board design with Chad
4. Karen Salamy
 - a. Began looking into various update requests from Jenny.

Week 41

1. Mike Risi
 - a. Continuing work on new LASS control system
 - b. Working on test for RP2350 TCP/IP communications
 - c. Prototyped RP2040 interprocessor communications for new trigger board

- d. Working with Chad on prototyping timerblox sections of new trigger board

Week 40

1. Eric Martin
 - a. Strobe debugging, lots of tests and working with vendor

Week 39

1. Mike Risi
 - a. Prototyping LASS control GUI
 - b. Continuing work on new LASS control system

Week 37

1. Eric Martin
 - a. Proposal response
 - b. Paper lit review.

Week 36

1. Kent Headley
 - a. There may be an opportunity to use multibeam data from the LASS cruise for TRN
2. Eric Martin
 - a. Offshore last week went well, a few minor items to improve on.

Week 35

1. Justin Tucker
 - a. LASS integration completed, joined for first expedition day

Week 34

1. Kent Headley
 - a. preparing for cruise
2. Eric Martin
 - a. Prep for offshore taking place next week, no lidar but many changes to test.
 - b. Rebuilt the sensor suite on the sled.
 - c. Troubleshooting strobe triggering, leading to improvements in camera drivers.
3. Mike Risi
 - a. Continuing work on new LASS control system
 - b. Working on LASS tank testing in preparation for next week's cruise
 - c. More testing/fixes of gss-telem-bridge and mbari-effort-repeater for next week

Week 33

1. Kent Headley
 - a. start ROV TRN configuration for possible LASS dives
2. Mike Risi
 - a. Working on LASS control system refactoring
 - b. Finished gss-telem-bridge and tested on Rachel Carson
3. Justin Tucker
 - a. Reassembly of LASS and miscellaneous part completion

Week 32

1. Justin Tucker
 - a. Organize reassembly of LASS brackets
 - b. Design of Norbit bracket adapter

Week 31

1. Justin Tucker
 - a. Lens hood FOV clearance modification

Week 30

1. Kent Headley
 - a. Implemented code to support libproj in addition to gctp for geo coordinate transformation in TRN. libgctp supports lat/lon to UTM, but Dave Caress determined that UTM has an inherent rotational bias that produces offset errors when using TRN at axial; the errors increase with distance from the UTM zone origin. By using libproj, it is possible to use a local arbitrary mercator projection, which may be centered in the survey area, thereby reducing errors. Dave tested this at Axial in June, and it worked well. I've made a general implementation that can be configured at run time. That is now being reviewed.
2. Eric Martin
 - a. Power Can Bringup, minor issues
 - b. Lidar seems to be heading towards a delay in delivery
 - c. Working with Mauro to familiarize with the Norbit FLS
3. Mike Risi
 - a. Testing for rev. D trigger board
 - b. Working on gss-telem-bridge for August 27th cruise
 - c. Started LASS control system refactoring
4. Justin Tucker
 - a. Misc. hardware ordered for LASS integration
 - b. Thermal experiment, continuing to work through ordering and assembling subcomponents. Working through challenges with uniform flow through nozzle array

Week 29

1. Kent Headley
 - a. Attended Qt update code review w/ O'Reilly, Caress
2. Justin Tucker
 - a. LASS plate, design for cable management spindle
 - b. Thermal experiment, Pump to motor coupler and mounting layout

Week 28

1. Mike Risi
 - a. Trigger board firmware finalized
 - b. Trigger board user interface completed and deployed on TCU and Euler
 - c. Meeting with LASS team to scope 2025 development efforts
 - d. Procman GUI testing with Ubuntu 24
2. Karen Salamy
 - a. Working on various requested updates for the SMDB team.
3. Justin Tucker
 - a. Thermal experiment - Continuing to work on setting up the motor and VFD. Worked through the BOM of the rest of the experiment design.

Week 27

1. Karen Salamy
 - a. Sent a PR request for a dash update.
2. Justin Tucker
 - a. LASS sled revised orientation plate and tolerances.
 - b. Thermal experiment - Started on motor/pump and heater design.

Week 26

1. Justin Tucker
 - a. LASS sled orientation brackets released for manufacturing

Week 25

1. Kent Headley
 - a. Dave and Cole arriving for Axial cruise this week
 - b. Sentry team mob 6/19
 - c. On call for Sentry TRN support
 - d. Working on wrapping navigation coordinate transform library to support libproj and/or gctp (current)
2. Mike McCann
 - a. Contributed 2025 proposal text
 - b. Discussed how to model and collect information about platforms that produce data

3. Karen Salamy
 - a. Attended a meeting today with both Jenny and Mike M. This will be our last meeting until August as both Jenny and Mike will be out of town for several weeks.
4. Justin Tucker
 - a. LASS sled orientation plate and brackets being finalized
 - b. Stereo camera lens hood FOV and sensor placement established

Week 24

1. Mike McCann
 - a. Rolled out spreadsheet management of exclude paths to production
 - b. Pulled to production Karen's .css improvements
2. Mike Risi
 - a. Miscellaneous BME280 sensor work WRT the LASS trigger board
3. Karen Salamy
 - a. Added new css updates and fixes for the SMDB UI.

Week 23

1. Eric Martin
 - a. Lidar meeting last week, many things discussed
 - b. Moving sled into High bay for tear down
2. Mike McCann
 - a. Revamped how the [exclude directory list is managed](#), now follows the survey_tally workflow

Week 22

1. Mike McCann
 - a. Changed SMDB's expeditions and compilations pages to use crispy_forms with bootstrap 5
 - b. Rolled out .xlsx -> db -> .csv spreadsheet processing to production and did more testing

Week 21

1. Eric Martin
 - a. Getting the housing built up
 - b. Closing strobes
 - c. Cleaning lab
2. Mike McCann
 - a. Figured out the integration of crispy_forms with django_filter to improve SMDB's missions page
 - b. Moved to production spreadsheet processing for additional Mission details for SMDB

- c. Added new columns and filtering selectors for the additional Mission details in SMDB

Week 20

1. Eric Martin
 - a. Checking on lidar development
 - b. Cleaning up the lab, getting ready for sled disassembly
 - c. Paper review for JOE submission
2. Mike McCann
 - a. Implementing [spreadsheet processing](#) to get QC data into the SeafloorMappingDB
3. Mike Risi
 - a. Working with Chad on bring up of rev-c trigger board stack

Week 19

1. Mike McCann
 - a. Made some changes to mbgrd2gltf's C++ code to open various versions of .grd files
 - b. Tested mbgrd2gltf's draco compression and provided [feedback](#) to the capstone team
2. Mike Risi
 - a. LASS planning meeting
 - b. Completed first cut of GUI for rev-c trigger board
 - c. Working on bridge to bring GSS control system data into LASS
3. Karen Salamy
 - a. I have spent quite a bit of time this week attempting to bring the SMDB local build up on my new laptop which contains the Apple M2 Max chip. This has caused some delays in requested UI edits as well as trouble building and integrating MB System (which does not currently support the new chip).

Week 18

1. Eric Martin
 - a. LiDAR update last week
 - b. Reviewing layout with group this week
 - c. Planning FAT and test hardware setup
2. Mike McCann
 - a. Added another cron job to make the nightly generated SeafloorMapping.db readable by others
 - b. Testing the [good work done by capstone team](#) adding Draco compression to mbgrd2gltf
3. Karen Salamy

- a. Began working on requested issues for the SMDB UI. With my new computer, however, I have been having some issues with the build today.

Week 17

1. Mike Risi
 - a. Continuing GUI changes for rev-c trigger boards
 - b. First cut of trigger board firmware for rev-c is complete, waiting for hardware

Week 16

1. Eric Martin
 - a. Finalized selection of an OAS Sonar
 - b. Passing on data to Dave Caress for review.
 - c. Managing schedules for mechanical mounting and PCB progress
 - d. DJ informed us that our serial port has been downgraded to 38400 bps, so we may have to enter into a testing cycle to determine if our 57600 system will need to be slowed down.

Week 15

1. Eric Martin
 - a. Imaging multibeam selection
2. Mike McCann
 - a. Reloaded database with more relaxed search for Compilations
 - b. Put associated Missions and Compilations in sortable tables in the detail views

Week 14

1. Kent Headley
 - a. added new docker builds with Debian and Ubuntu22 based images
 - b. Sentry: prepared latest integration package, attended telecon
2. Eric Martin
 - a. Obstacle avoidance sonar spec
 - b. Dragonfish order
3. Mike McCann
 - a. Fixing issues so that more Compilation images are found & linked with missions
 - b. Revamped the Mission detail view to show Compilations in a sortable table
4. Mike Risi
 - a. Trigger board rev-c firmware nearing completion
 - b. Working on GUI updates for rev-c firmware and environmental warnings

Week 13

1. Kent Headley
 - a. issued pull request for M3 sonar serial ingest

- b. Meeting w/ Sentry team re Axial ops, posted TRN integration package
- 2. Mike McCann
 - a. Spent too much time on “Too many open files” problem in reading from SeafloorMapping share
 - b. Preparing to execute production load with more relaxed search for Figure*.cmd files

Week 12

- 1. Eric Martin
 - a. 3D@Depth has finished a reevaluation of their production schedule and are pushing back to August from May delivery.
- 2. Mike McCann
 - a. Relaxed the regex in the search for Compilation Figures
 - b. Trying to get around a “Too many open files” problem with the load on MacOS
 - c. Experimenting with a table view inside the mission detail page
 - d. Examining proliferation of competing entries in the project.css file

Week 11

- 1. Mike McCann
 - a. Updated Docker builds for development work on M1/M2 Arm platforms
- 2. Mike Risi
 - a. Working on trigger board revC firmware changes when time permits

Week 10

- 1. Eric Martin
 - a. Strobe Cable ordering
 - b. MBES Spec
 - c. Lidar PM
 - d. Technical Meeting with group
 - e. Getting new team members spun up.

Week 9

- 1. Eric Martin
 - a. 3D at Depth Call showed first signs schedule may be slipping.
 - b. Starting integration work:
 - i. Board mfg plan
 - ii. Cabling changes
 - iii. Imagenex integration
 - c. Trade study of new OAS sonar w/ 902204
- 2. Mike Risi
 - a. Adding configurable IP settings to rev C. trigger board
 - b. Finished integration and test of BME280 for trigger board

Week 7

1. Kent Headley
 - a. Issued pull requests to sync w. Libtrnav, mostly cmake build changes
2. Mike Risi
 - a. Trigger board revC design review
 - b. Working on firmware changes for trigger board revC

Week 6

1. Kent Headley
 - a. Updated TRN intragration package for Sentry:
 - i. Fixed cmake build errors (libtrnav, mframe) due to packaging changes for libpthread, libm in macOS and linux
 - ii. Updated doc
 - iii. Tested on macOS, Ubuntu 22.04
 - iv. Merged updates to trndev branch of MB-System
2. Mike McCann
 - a. Met with Janny & Karen – we have a plan to use form entry in SMDB to collect additional info
 - b. Meeting with capstone Team Draco on Friday
3. Karen Salamy
 - a. Met with the team briefly on next steps.

Week 5

1. Karen Salamy
 - a. Will meet next week for 2024 project kickoff.

Week 4

1. Mike McCann
 - a. Submitted project idea (add Draco compression to MB-System's mbd2gltf) for capstone team

Week 3

1. Kent Headley
 - a. test build MB-System release
2. Eric Martin
 - a. Lab Kickoff Meeting
 - b. Strobes troubleshooting
 - c. Adaptor Review
3. Karen Salamy
 - a. First meeting of the year is currently scheduled for February.

Week 2

1. Mike Risi
 - a. Kickoff meeting for LASS development
2. Karen Salamy
 - a. First meeting is now set for February according to Jenny P.

Week 1

1. Eric Martin
 - a. Met with Mauro last week to drum up some ideas.
 - b. Orders for INS's were put in
 - c. Strobe service inquiries
 - d. Lidar integration check in progress, they keep making it longer.