

901101 - Seafloor Mapping

Week 52

1. Eric Martin
 - a. LASS Integration on Ventana went very well. Sadly the ship was damaged and we lost our days last week.

Week 51

1. Eric Martin
 - a. Cruise canceled Monday/Tuesday
 - b. Successful integration of the LASS on Ventana

Week 49

1. Kent Headley
 - a. Testing TRN updates for OI toolsled
 - b. Cruise plan in flux due to quarantining
2. Eric Martin
 - a. Successful final integrations and dock tests of the LASS sled on Ventana.

Week 48

1. Eric Martin
 - a. Mounting new sonar
 - b. Working with larry bird on sled fit
 - c. Troubleshooting PPS issues

Week 46

1. Eric Martin
 - a. Bench testing refactored power can, working through wiring and power issues.
2. Tom O'Reilly
 - a. Implemented prototype 'grid viewer' C++ application to visualize sonar bathymetry data in any of many sonar formats supported by MB-System. This prototype demonstrates how many existing MB-System 'C' functions can be integrated with a more modern graphical user interface environment.

Week 42

1. Eric Martin
 - a. Checkin with 3D at Depth last week, they have been approved to start work on a new design.
 - b. Meeting with DJ regarding power input for the sled. Will require a connector conversion.
 - c. Designing Cables for the Reson system wiring.

Week 41

1. Karen Salamy
 - a. Continue to put a bit of time into the SMDB sidebar. I have had some issues with writing python data filters for the sidebar but plan to meet with Mike M. this week to discuss how to get my ideas for the sidebar working.

Week 39

1. Kent Headley
 - a. Dave C mentioned that Hannah Piecuch at WHOI is writing an article for the National Deep Submergence Facility (NDSF) newsletter about our work integrating the MBARI/Stanford Terrain Relative Navigation (TRN) with AUV Sentry (operated by NDSF). Dave is coordinating with Raul N at MBARI.
2. Eric Martin
 - a. Turning my attention to software and electrical tasks for the Ventana re-integration effort
3. Karen Salamy
 - a. Continued with the SMDB sidebar working to populate it based on map views and user settings. Spoke with Mike M. on using Django and python to filter out requests from the backend code to do this.

Week 38

1. Eric Martin
 - a. Returned Wednesday from the Arctic Expedition, it was very successful.
 - b. Catching up on sled conversion efforts with Chad.
2. Mike McCann
 - a. Met with Karen to discuss the filtering of responses in SMDB's backend

Week 37

1. Karen Salamy
 - a. Continue to work on the new SMDB sidebar. I have had some success combining code from two other sidebar examples given the requests by the science team. I will need to go over with Mike on how I can generally access the mission data information from the GUI for it to be effective.

Week 35

1. Mike McCann
 - a. Deployed Karen's improvements for track line display on Google base map
2. Karen Salamy
 - a. Deployed improved SMDB tracks as viewed on the Google Hybrid Basemap Layer.
 - b. Circling back to try and set up a working SMDB sidebar for the project page.

Week 34

1. Mike McCann
 - a. Merged changes to improve basemaps and filtered table & map data views in smdb

Week 33

1. Mike McCann
 - a. Upgraded to Django 4
 - b. Added maps of the Missions to the Compilation, Expedition, and Mission data views
 - c. Provided more controls for pagination in these views

Week 32

1. Eric Martin
 - a. Arctic expedition meeting last thursday, much to learn.
 - b. Meeting Monday on winfrog/sonardyne setup on the Araon
 - c. Working with Chad on the modifications to the LASS

Week 30

1. Carlos Rueda
 - a. [Succeeded](#) in running the MB-System Docker on a Windows 11 laptop, including use of the graphical utilities. Dave notified the German users about this.

Week 29

1. Karen Salamy
 - a. Continued building the SMDB UI for the team.

Week 28

1. Carlos Rueda
 - a. Getting a loaner with a more recent Windows version to continue trying to run GUI programs in the dockerized MBsystem.
2. Karen Salamy
 - a. This week I had to chase down why the ESRI Vector Map Layers are not displaying on the SMDB. Selenium tests indicate that it is related to an esri-leaflet-vector code update. The issue is listed here: <https://github.com/Esri/esri-leaflet-vector/issues/134>
 - b. To allow the map to be viewed by users until a fix can be applied by the code engineer(s), I have reverted from Vector Layers to older, deprecated BaseMapLayers.
 - c. I have a request out to Mike M. (currently on vacation) to perform a merge when possible or allow me to merge code while he is away.

Week 27

1. Kent Headley
 - a. The seafloor mapping cruise with Sentry ended July 1; During its successful series of science dives, Sentry flew two full science missions using assistance from MBARI's Terrain Relative Navigation software. It's a significant milestone in TRN development and its transition from Precision Control engineering research to scientific application; kudos to Rock, Caress, Henthorn, McEwen and the WHOI Sentry Team (Sean Kelly, Stefano Suman, Joe Garcia, Tim Joyce, Zac Berkowitz) for this success.
2. Rich Henthorn
 - a. Dorado code Linux port
3. Karen Salamy
 - a. Added both masked and unmasked High Resolution GMRT Basemaps to the SMDB. My updates are awaiting a merge from Mike McCann when he returns.

Week 26

1. Kent Headley
 - a. Providing TRN support for Dave C at Axial. Apart from a weather day or so, Sentry has made a number of surveys that include TRN testing. Today, Sentry is using TRN to help remap a survey where Sentry nav had drifted substantially. The mission is on-going, and the survey lines are designed to bring Sentry in acomm range to check nav drift and TRN status. The first check (after ~6h) is good; TRN has so far been able to help correct for ~150m drift in navigation.
 - b. Working on histogram support for MB TRN metrics plots
2. Rich Henthorn
 - a. Meeting to discuss Dorado QNX porting task for 2023
 - b. ROV w/TRN simulation meeting
3. Eric Martin

- a. Ordering new multibeam
4. Karen Salamy
 - a. The new link for the SMDB is now active on the Canyon head and the site is [here](#).
 - b. Spent a lot of time this week fixing HTML viewing issues of the SMDB site for Jenny and editing text with updated information. I was also able to set up the GMRT Masked and Unmasked basemaps (~30m res) for the SMDB site as well. As Mike is on vacation, some of these changes will have to await his return to be properly merged into the master code set.

Week 25

1. Kent Headley
 - a. Worked with Sentry team to resolve build/integration issues related to TRN
 - b. The first Sentry Dive at Axial ran Monday with mbtrnpp collecting TRN data, initial results are encouraging. In addition to nice maps, returned with TRN converging consistently for much of the 19h mission.
 - c. Second Sentry Dive started early Wed a.m.; Sentry will be accepting and logging TRN position offset estimates, but not yet using it for navigation.
 - d. Various updates and code reviews for MB-system TRN
2. Mike McCann
 - a. Gave Jenny feedback via GitHub Issues for use in the 2023 proposal
 - b. [Implementing Selenium testing](#) – having frustrations making it work in Github Actions
3. Carlos Rueda
 - a. Per exchange with Dave, will be testing the dockerized MB-System on a Windows loaner and report back (a German user has reported issues on that target).

Week 24

1. Kent Headley
 - a. Making and reviewing code updates for Axial/Sentry cruise (departs 3/19)
2. Eric Martin
 - a. Cruise was cancelled, demobilized and discussing other options.
 - b. 3D@Depth is near completion on their contract to generate a feasibility study of a generation 2 wide-swath lidar, and gave a concept review to MBARI engineers on Tuesday morning. Feedback was good, and the next steps will be to produce a final proposal that we can consider inserting into the 2023 internal proposal cycle.
3. Mike McCann
 - a. Started on writing UI functionality testing using Selenium
 - b. Examining Jenny's suggestions for identifying failed missions
4. Karen Salamy
 - a. Fixed some merge bugs in my code so that it now works with Mike's production env on smdb.shore.mbari.org. Mike was then able to merge many of my recent changes into the master code. I am spending a little time testing those changes to make sure that they work the way they are intended.

Week 23

1. Kent Headley
 - a. Generated a feature update and MB-System TRN release for Sentry re upcoming Axial cruise
2. Karen Salamy
 - a. Adjusting some code to work with Mike M's updateMap() method. The addition of the Leaflet-Geoman geometry menu tool does not currently work with it.

Week 22

1. Kent Headley
 - a. Working on MB-System build support for ROV TRN
 - b. Testing geometry calc updates for ROV TRN pipeline
 - c. Sentry TRN integration telecon and software updates
2. Mike McCann
 - a. Fixing the Continuous Integration that broke with a couple of underlying module updates
 - b. Evaluating Jenny & Karen's pull requests
3. Karen Salamy
 - a. Worked a lot on the SMDB Dash UI the last few weeks. I have submitted several pull requests to update the master branch with changes.
 - b. Still having some issues with determining the active layer ID with groupedLayers in Leaflet.
 - c. Mike has been out sick the last week but I hope he will be able to test and integrate the changes this week.

Week 21

1. Eric Martin
 - a. Cruise prep
 - b. Meeting with Paul Devine at Teledyne Reson, working on a quote plan for a new T50 system for the sled.
2. Karen Salamy
 - a. Dealt with some very frustrating issues merging and checking in code to VS Code this past week. I was able to submit a pull request for my UI changes to Mike M. earlier this week and hope the updates will be included in the next merge.

Week 19

1. Kent Headley
 - a. Working with Dave to plan ROV TRN activities for June Ocean Imaging cruise
 - b. Planning TRN for Sentry cruise
2. Rich Henthorn
 - a. Proposal items

Week 18

1. Kent Headley
 - a. See Precision Control
2. Rich Henthorn
 - a. Some assistance to ROV TRN
3. Mike McCann
 - a. Working with Karen on trying to get her front end improvements merged in
4. Carlos Rueda
 - a. Brief chat with Doug C. re MB-system docker container issues on (m1) macOS Monterey.
5. Karen Salamy
 - a. Ran into some issues trying to move my code updates into the main repo for SMDB this week. I have been working with Mike to try and determine what the issue on my local development system not working correctly. Today, I decided to completely rebuild the system from scratch. I am still having a few issues but hope to get it all up and running this week.

Week 17

1. Kent Headley
 - a. Resolved several issues in rovrn code; on track for cruise next week
2. Eric Martin
 - a. Camera testing last week. Prepping for tank tests.
 - b. Moving the lab downstairs.
3. Mike McCann
 - a. Met with Jenny & Karen to discuss next priorities
4. Mike Risi
 - a. Final preparation for ROV TRN testing on Monday
5. Karen Salamy
 - a. I have been focusing quite a bit lately on updates and enhancements to the SMDB Dash. I met yesterday with both Jenny and Mike M. to discuss my current progress and to get information on focusing on issues that they both would like to see with SMDB Dash once completed. Overall it was a very helpful meeting for my design and inclusion purposes.

Week 16

1. Kent Headley
 - a. Telecon with Stefano Suman and Justin Fujii re Sentry TRN integration
2. Rich Henthorn
 - a. Delta T integration
3. Karen Salamy
 - a. Shifting my attention to a good Leaflet Sidebar for the SMDB Dash. I am currently working to create and extend a new leaflet-proSidebar for use with the Dash. I am hoping to have a good working option this week.

Week 15

1. Rich Henthorn
 - a. QNX-Linux porting
2. Eric Martin
 - a. Prepping for camera tests
 - b. Monthly check in with 3d at depth, setting a date for a concept review in june.
3. Mike Risi
 - a. Worked on trn-dvl-logger for TRN Replay
 - b. Working on ROV TRN testing and configuration
4. Karen Salamy
 - a. Spent most of this week working on various UI updates for the SMDB Dash.

Week 14

1. Kent Headley
 - a. Made some progress on integrating TRN with Ventana. Now producing and publishing records, from LCM input streams and leak tests are looking good, but some work remains to make record content completely valid.
 - b. Meeting with WHOI about TRN integration on Sentry this Friday
2. Rich Henthorn
 - a. Building dorado-auv-linux code on an Ubuntu target
3. Eric Martin
 - a. Closing in on multibeam selection, the recent reports from Winghead have proven limiting.
4. Mike McCann

- a. Set up cron job to reload the database each Sunday morning

Week 13

1. Kent Headley
 - a. Making progress on LCM stream processing for using TRN with ROVs
2. Rich Henthorn
 - a. Dorado QNX-to-Linux
3. Eric Martin
 - a. Sled was used last week in a presentation to visiting military group.
 - b. Getting ready for tank tests next week.
4. Mike Risi
 - a. Working on interface to Ventana GSS control system for ROV TRN
5. Karen Salamy
 - a. Spent a lot of time updating and adding functionality to the SMDB Dash UI this past week. I was able to add leaflet measure, scale, mouse position, zoom, layer toggling of various maps including Google and ESRI options. Currently working to show tooltips (layer properties) in a more human readable format for users (putting on my regex hat after not using it for a while!).

Week 12

1. Kent Headley
 - a. Making progress on software components for using TRN with ROVs for an early May cruise.
 - b. Wrote some automation scripts for packaging TRN releases for Sentry vehicle integration, and posted a release for WHOI
2. Mike McCann
 - a. Deployed better filter and table display for Missions, Expeditions, and Compilations to smdb
3. Karen Salamy
 - a. Continued updating the new SMDB Dash UI.

Week 11

1. Kent Headley
 - a. Working with Mike Risi on TRN integration with ROV platforms
2. Eric Martin
 - a. Expedition planning meeting tuesday
3. Mike McCann
 - a. Reloaded database in order to capture recent Octopus Garden Missions
4. Karen Salamy
 - a. This week I have put in a lot of time on the SMDB Dash UI updates. I looked over various uses of the Vue/Quasar apps similar to Carlos' Dash UI. Mike and I discussed shifting but, based on time, decided to continue with the Bootstrap with leaflet path that we initially started with. I hope to create an SMDB test dash using Vue and Quasar in my non-project time instead.

Week 10

1. Rich Henthorn
 - a. Dorado vehicles Mapper1 and Mapper2 are now mostly operational with TRN
 - b. The vehicles can now employ an MB-system-derived app with embedded TRN communicating with a Reson T-50 Multibeam sonar to provide position offsets to the navigation process
 - c. Attempting to build old auv-linux code for Dorado Linux port
2. Mike McCann
 - a. Tested, merged, and deployed Karen's UI improvements to <https://smdb.shore.mbari.org>

3. Mike Risi
 - a. Working on plan to integrate ROV nav/bathymetry data into TRN
 - b. Waiting on Ventana to come back online to test sonar integration
4. Karen Salamy
 - a. Continue to update SMDB Dash UI using Bootstrap with Leaflet. I am working through listed requests and issues on the Github SMDB web site.

Week 9

1. Kent Headley
 - a. Testing TRN this week Tu-Th w/ Dave, Rich, Rob, Erik & Ops
 - b. The main objective is to install TRN on both mapper vehicles w/ newly unified code bases, and validate TRN performance on both vehicles. There are a few new minor features, but we want to ensure that TRN and MB-System multibeam filtering are working correctly. DMO is also launching the I2Map vehicle concurrently w/ the mapping ops.
2. Rich Henthorn
 - a. Modified Dorado TRN interfaces to address some issues
 - b. Enabling MB-system TRN component to insert navigation offsets to Dorado nav
3. Carlos Rueda
 - a. Per IS' inquiry, checking with Dave about any need to still keep the VM that was used to test the initial dockerization of the MBSystem.
4. Karen Salamy
 - a. Spent a lot of time looking into how to upgrade the current SMDB UI similar to the Dash UI developed by Carlos. Many of the aspects of the Dash UI followed closely to what the scientists would like to see.
 - b. Looking into Vue, Vue2-leaflet and Quasar as some possible directions to integrate into the SMDB Dash UI especially for Dash map leaflet controls and displays (dropdown requests between expeditions, etc) and map views.

Week 8

1. Kent Headley
 - a. Preparing for cruise Mar 1-3
 - b. Installed and tested MB-System/TRN on reasons
2. Eric Martin
 - a. Continuing the multi beam hunt met with Teledyne's Paul Devine
3. Mike McCann
 - a. Replaced incorrect web mercator based track length with haversine calculation
 - b. Compared nav track length calculations – using the more precise mb8[8-9].inf metadata
4. Mike Risi
 - a. Looking into DeltaT integration on Ventana for May ROV TRN
5. Karen Salamy
 - a. Still addressing the project "issues" list checking into higher resolution maps for Jenny P.

Week 7

1. Kent Headley
 - a. Preparing TRN software and doing testing for upcoming Ocean Imaging cruise days Mar 1-3
 - b. Erik has been making a number of software fixes and platform configuration improvements on the Dorado vehicles. I've addressed an issue in the TRN sonar protocol and added some features, and we're in the process of bringing everything up to date and make sure that it all works (hopefully better than ever).
2. Mike McCann
 - a. Switched from traefik to nginx and now able to serve files from titan's SeafloorMapping share

- b. Continuing work/discussions about Compilations
- 3. Karen Salamy
 - a. Continue to address project SMDB web issues brought forward by team members. I am currently implementing some of these requests into my own local development server.
 - b. Looking to see if there is a way to add GMRT (high resolution 100m grid) bathymetry maps to the SMDB basemap for further ZOOM capabilities.
 - c. I have had to wait to test many of my changes on the actual server due to Titan being down for various upgrade reasons.

Week 6

- 1. Mike McCann
 - a. Loaded <https://smdb.shore.mbari.org/> with Compilations to give us something to discuss
 - b. Working on [Issue 76](#) and getting frustrated with traefik, might go with just nginx
- 2. Karen Salamy
 - a. Continued to work on various issues and requests for the SMDB dashboard. I hope to push my updates out to the group soon.

Week 5

- 1. Kent Headley
 - a. Working w Erik T on scheme for dorado config repos
 - b. Code review for cmake implementation (O'Reilly)
- 2. Eric Martin
 - a. Cruise in February has been swapped on request from the Aquarium, now deploying June 2-7
 - b. Strobes have been serviced.
 - c. Coordinating with Larry Bird for information transition.
- 3. Mike McCann
 - a. Modifying the schema to store Compilation records
 - b. Updating the load script to find and store interesting compilation information
- 4. Karen Salamy
 - a. Spent a bit of time this week meeting with Jenny P. and Mike M. I will be focusing on various web page related issues and requests by Jenny.

Week 4

- 1. Eric Martin
 - a. Technical kickoff meeting with 3DatDepth last week, follow on last Friday by a software tour.
 - b. Coordinating speed tests with Dominic at 3DatDepth
 - c. Sled Change set for Monday the 14th
 - d. Strobes submitted to shop for service.
- 2. Mike McCann
 - a. Handling a request from ITD to compute distances surveyed over time
 - b. Got mbgrd2gltf to build with cmake in container and will integrate with Tom's work on cmake

Week 3

- 1. Eric Martin
 - a. Technical kickoff on tuesday for 3d@depth subcontract
 - b.
- 2. Mike McCann
 - a. More work on to lookup timestamps for Compilations by using .grd file creation times
 - b. Struggling with building MB-System container so I can work on building mbgrd2gltf

3. Carlos Rueda
 - a. Quick [revisit](#) to the MBSystem dockerization upon a question from Mike.
4. Karen Salamy
 - a. The majority of my time this week has been looking into various SMDB (Ocean Imaging) issues listed under the project's Github page.

Week 2

1. Eric Martin
 - a. 3DatDepth scoping effort
 - i. Initial meeting
 - ii. SOW review
 - iii. Wishlist generation
 - b. New Multibeam Sonar
 - i. Reviewing past selections, soliciting new quotes
 - ii. General search for new systems
 - c. Cruise Prep, at sea Feb 17-24 Octopus Garden
2. Mike McCann
 - a. Reloaded database with log messages detailing Compilation/Mission associations

Week 1

1. Mike McCann
 - a. Added 'restart: always' to docker .yml to start services following system reboot
 - b. Exploring ways to collect Compilation information from SeafloorMapping directories