

Kent Headley

Week 52

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office
 - Dec 26-30 (vacation)

Week 51

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Though the OI toolsled cruise was canceled, a lot of progress was made on Terrain Relative Navigation (TRN) for Ventana. The code developed earlier this year was refactored to be more flexible and scalable, and to address a number of bugs exposed during analysis of data from May and October cruises. In addition, new code was developed to use bathymetry from the OI toolsled, which are mounted on a rotating platform. This potentially enables using TRN on vertical surfaces with sufficient maps, e.g. canyon walls, icebergs, etc.
 - Possibly reported earlier: mbtrnpp (TRN with multibeam filtering) is being integrated with the Dorado fast simulator. This was demonstrated recently. mbtrnpp is a TRN extension for MB-System, used with Dorado and WHOI's Sentry vehicle. There is still some integration cleanup pending.
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Interview and committee meeting for AOSE roles
 - Scheduling phone screenings for SEE-SD role
 - Preparing for annual reviews
 - Annual CalChamber harassment management training
- Out of Office
 - Dec 26-30 (vacation)

Week 50

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 49

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Demonstrated TRN sim integration w/ Rich, Rob
- 901101 - Seafloor Mapping
 - Testing TRN updates for OI toolsled
 - Cruise plan in flux due to quarantining
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Working on fast log playback; working with Tritech on SDK support
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Interviews (2) for AOSE (one was an applicant to SEE-DA, so some progress there)
 - Interview for LRAUV tech
 - Code reviews
- Out of Office

Week 48

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Refactoring ROV TRN code for Dec cruise; feature complete, testing/debugging
 - Working w/ Rob, Rich to integrate MB-System TRN beam filtering with Dorado simulator. Got this running for the first time this week. Testing.
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Working with Bastian to use image playback/capture pipeline on Gemini sonar dataset collected by Paul Roberts during a recent Barry cruise.

- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Hiring committees (3)
 - Misc admin
- Out of Office
 - Quarantining this week

Week 47

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office
 - Quarantining this week

Week 46

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Refactoring ROV TRN to allow arbitrary number of TRN instances and multiple bathy sources
 - Updating for ocean imaging toolsled (with multiple bathy inputs)
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Looking at sonar data from Monday piggyback
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Hiring
 - Met w/ Brian and Open Robotics re LRAUV sim troubleshooting
- Out of Office
 - Quarantining this week

Week 45

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle

- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 44

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working with Rob and Rich to integrate TRN into the dorado simulator. Set up a VM with MB-System that Rob can use for testing. Chatted with Rich about TRN process synchronization in the simulator loop.
 - Working on ROV TRN processing for Dec ocean imaging cruise
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Worked with Bastian M to tested the Gemini sonar with image capture driver, and added a configuration file parser to the code, and done some build cleanup as well.
 - Testing/mob on the Carson for cruise 11/8.
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Attended hiring committee meeting (DMO AUV tech); pairing w/ Tanner for SE interview section
 - Working on SE hiring process
 - Working on interview questions
 - New release of engineering labor spreadsheet from latest accounting data
- Out of Office

Week 43

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 42

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping

- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - The earlier Rover acoustic survey produced an accurate location estimate
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 41

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working w/ Rob M to integrate mbtrnpp into Dorado simulation. This week, we're using a test utility I wrote to stand in for mbtrnpp so that the simulator TRN pub/sub components can be tested w/o mbtrnpp installed.
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Adding features and fixing issues for the Gemini sonar driver/utility app. This week, changing the renderer to map sonar image output to cartesian coordinates and optionally convert to grayscale. Bastian M is reviewing images and providing feedback.
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 40

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 39

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping

- 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.
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Worked with Chris W, Paul M, Rich H and Ken S to run a wave glider acoustic survey to locate the Rover using Paul's loop and cross algorithm. Two surveys were run; the first had some problems due to a bug and some configuration issues. After addressing those, the second survey ran as we'd hoped. The results are still pending, but we did produce a location estimate for the Rover recovery.
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Continuing work on Gemini sonar drivers for image distribution
- 901112 - Changes in MB and CA current (HIPPE/DNA)
- Overhead
 - SE hire : committee mostly together, planning initial meeting and refining accumulated job description input
 - JEDI committee meetings, reading
 - Proposal review 2023 resource planning
 - Misc admin
- Out of Office

Week 38

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Completed pub/sub components for simulator, pending integration w/ Rob
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Coordinating w/ DMO and Smith group to fly waveglider loop and cross survey to locate rover during recovery next week; prepping mission
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Have made some progress on understanding image rendering w/ Qt, though currently stuck on Qt threading model
 -
- 901112 - Changes in MB and CA current (HIPPE/DNA)
- Overhead
 - Phase 2 resource balancing
 - DEI meeting
 - Hiring : have met with various stakeholders re job description, still working to pull a committee together (all on vacation), working to organize process
 - EE interview lunch/comments
 - Misc admin
 - Open Robotics Irauv sim meeting
- Out of Office

Week 37

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working with Rob to integrate mbtrnpp filtering/TRN processing with Dorado simulation. I've been developing some new C++ TRN client components for QNX, and working on making them portable to OSX/linux. The integration is progressing, and we are currently working out synchronization design to enable repeatable/deterministic simulation behavior; the two systems are not coupled/synchronized in real time, but must be in discrete time to ensure deterministic results.
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Developing job description and committee
 - EE candidate interview lunch
 - Phase 2 resource balancing updates and meetings
 - SRSC document review
 - JEDI committee
- Out of Office

Week 36

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office

Week 35

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Working in Gemini imaging sonar driver; trying to grab visualization image frames along with raw ping data, which involves Qt and OpenGL - steep learning curve.

- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Resource planning
 - EE interview lunch
 - Misc admin
- Out of Office

Week 34

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Rob and I have made some good progress on Dorado TRN/fastsim integration. The simulator is publishing empty beam data, which is being picked up by a test client. I've made some updates to the test client to fix bugs and add features. Helping Rob with various network and software issues, and MB-System installation as needed so we can test more of the TRN path.
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Working on image capture - climbing Qt learning curve
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - DEI Committee meeting
 - SRSC meeting
 - Hiring (circulating draft job description, forming committee)
 - Misc admin
- Out of Office

Week 33

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Working on prototype application/driver for gemini
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Hiring (job description draft release, hiring committee)
 - 2024 staffing
 - Misc admin
- Out of Office

Week 32

- 300057 - Mooring Maintenance

- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Chatting w/ Rob re TRN integration with Dorado simulation
 - Wrapping up a pull request
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Looked at debug build support for Triton Gemini sonar linux SDK; turns out unsupported, so requested windows SDK as a backup.
- 901112 - Changes in MB and CA current (HIPPO/eDNA)
- Overhead
 - Proposal review
 - Hiring
 - Misc admin
- Out of Office

Week 31

- 300057 - Mooring Maintenance
 - Helping to troubleshoot GPS issues
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Resolved some build issues with SDK examples (thanks to Bastian M for the assist!)
- 901112 - Changes in MB and CA current (HIPPO/eDNA)
- Overhead
 - Proposal review
 - Hiring
 - Misc admin
- Out of Office

Week 30

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPO/eDNA)
- Overhead

- Out of Office
 - July 14-29 (vacation)

Week 29

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office
 - July 14-29 (vacation)

Week 28

- 300057 - Mooring Maintenance
 - Working with Jared to troubleshoot OASIS GPS
 - The metsys has apparently been updated and the new model isn't compatible with the O3 driver. Will look at drivers and work w/ DMO on next steps
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Mostly proposals this week
 - Misc admin
 - DEI, SRSC committee meetings
 - LRAUV Sim telecon
- Out of Office
 - July 14-29 (vacation)

Week 27

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Testing new input modules for ROV TRN
 - Developing design for adapting ROV TRN code for OI toolsled (with dynamic acoustic measurement reference frames)
- 901101 - Seafloor Mapping
 - 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.

- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Building Gemini Sonar SDK examples
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Proposals: Precision Control, DMO support (AUV Linux port), Seafloor Mapping, Ocean Imaging
 - Hiring/Resource planning
 - Working on software contract
 - Troubleshooting OASIS GPS data/instrument issue with Jared
- Out of Office
 - July 14-29 (vacation)

Week 26

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working on TRN code for OI.
- 901101 - Seafloor Mapping
 - 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 accomms 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.
 - Working on histogram support for MB TRN metrics plots
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Proposal planning meetings
 - Working on job description, hiring plan
 - SRSC, DEI committee meetings
- Out of Office
 - July 14-29 (vacation)

Week 25

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs

- Roughed in LCM input modules for messages used by the ROV simulation and Ocean Imaging tool sled. Next step is to refine the processing and get TRN running with the ROV simulator; Rob M is organizing a meeting this week.
- Added Octree utility and other updates and bugfixes to libtrnav
- Working on updates to help with packaging/installing TRN
- 901101 - Seafloor Mapping
 - Worked with Sentry team to resolve build/integration issues related to TRN
 - 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.
 - 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.
 - Various updates and code reviews for MB-system TRN
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Attended LRAUV Simulation team meeting
 - Hiring, budget, proposals
 - SRSC meeting
- Out of Office
 - July 14-29 (tentative, vacation)

Week 24

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - ROV TRN testing
- 901101 - Seafloor Mapping
 - Making and reviewing code updates for Axial/Sentry cruise (departs 3/19)
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Set up repo for Gemini scanning sonar driver/app code
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Submitted SEE budget
 - Hiring
 - Allocation adjustments
 -
- Out of Office
 - July 14-29 (tentative, vacation)

Week 23

- 300057 - Mooring Maintenance

- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working to resolve ROV TRN issues
- 901101 - Seafloor Mapping
 - Generated a feature update and MB-System TRN release for Sentry re upcoming Axial cruise
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Looking at Gemini sonar SDK
 - Meet w/ GT and Bastian
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Working on upcoming hires and staffing
 - 2023 budget prep
 - Shipped Carbon Waveglider materials, working on how to transfer solidworks models
 - DEI committee
- Out of Office
 - July 14-29 (tentative, vacation)

Week 22

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - Working on MB-System build support for ROV TRN
 - Testing geometry calc updates for ROV TRN pipeline
 - Sentry TRN integration telecon and software updates
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - 2023 Budget
 - Carbon Waveglider transfer (documenting, shipping)
 - DEI meeting
 - Misc admin
- Out of Office
 - July 14-29 (tentative, vacation)

Week 21

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working out reference frame issues for TRN inputs; easy to say, very time consuming to do
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series

- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Trying to find protocol documentation for Gemini 720i imaging sonar
 - Looking at ZCM specs/doc
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Working on shipping Carbon Waveglider materials to NOAA/PMEL
- Out of Office
 - July 14-29 (tentative, vacation)

Week 20

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working through ROV TRN cruise data with Steve et al to test software and resolve issues.
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - SRSC: work on challenge text
 - EE Hire: review job description, application
 - Misc admin: resources and more
 - Meeting w Carbon Waveglider team & Paul M re material transfer
- Out of Office
 - July 14-29 (tentative, vacation)
 - Sick leave

Week 19

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Finished initial round of post-cruise updates to ROV TRN middleware
 - Produced some test data for validation
 - Added new logging/playback features to TRN core (pending review)
- 901101 - Seafloor Mapping
 - Working with Dave to plan ROV TRN activities for June Ocean Imaging cruise
 - Planning TRN for Sentry cruise
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Scoping eval of ZCM interprocess communication middleware
 - Scoping driver development for

- 901112 - Changes in MB and CA current (HIPPE/DNA)
- Overhead
 - SRSC committee: working on text board meeting material
 - DEI committee: worked with group on recruitment specialist job description
 - EE Hiring committee: job description review
 - Proposals (getting started)
 - Developing 2023 budget
 - Project resourcing/staffing
 - Carbon Waveglider transfer
 - Misc Admin
- Out of Office
 -

Week 18

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Tested ROV TRN software on dive at Portuguese Ledge with Steve Rock, Mike Risi, Dave Caress and Giancarlo Troni. The primary cruise mission was to test control system software and collect a data set that could be used to continue developing a TRN application for the ROV. Despite marginal weather, the Carson/Ventana crews were able to give us more hours than expected, given the forecast, enabling us to reach our objectives. I was able to run TRN software during the dive; data flow and first long operation with real data went well. TRN results were encouraging and helped to expose some issues that would've been hard to find on shore, and I'm still sifting through data to resolve various TRN pipeline issues; the data set collected should enable this. Mike's control tests were also successful.
- 901101 - Seafloor Mapping
 - See Precision Control
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Ran loop and cross test at station M last week. Acoustic conditions were poor, but conditions posed a good challenge for recovery algorithms, and the mission did produce some data and resulted in a location estimate for the rover.
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Met with Giancarlo re project goals
- 901112 - Changes in MB and CA current (HIPPE/DNA)
- Overhead
 - Setting up meeting with NOAA re material transfer
 - DEI, SRSC committee meetings
 - proposal/budget planning
- Out of Office
 -

Week 17

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - Resolved several issues in rovrn code; on track for cruise next week

- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Worked with Chris W, Alana A and Rich H to run a loop and cross test at Sta. M
 - The acoustic conditions were marginal, with ~20% range return rate
 - The waveglider control algorithm performed reasonably well in terms of automated error recovery, i.e. detecting and responding to lost ranges)
 - The mission didn't complete a full loop and cross cycle, but the error recovery patterns provided adequate spatial coverage to produce a location estimate
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Met with Gian Carlo to discuss progress and next steps
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - SRSC committee meeting
 - DEI committee meeting
 - Carbon waveglider transfer
 - Code review
 - Misc admin
- Out of Office
 - May 2 : Precision Control/Seafloor mapping Ventana TRN test cruise

Week 16

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Ran pre-cruise data plumbing checks with Mike Risi and DJ Osborn
 - Wrote initial implementation of beam transformation
 - Testing and debugging ROV TRN application code
- 901101 - Seafloor Mapping
 - Telecon with Stefano Suman and Justin Fujii re Sentry TRN integration
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
 - Met w/ Gian Carlo re project activities
 - Will scope some work related to writing driver for imaging sonar and evaluating ZCM communications middleware
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - SRSC meeting
 - DEI committee meeting
 - Joined EE hiring committee
 - Misc admin
 - Finding home for OASIS5 hardware
- Out of Office
 - May 2 : Precision Control/Seafloor mapping Ventana TRN test cruise

Week 15

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office
 - Out sick this week
 - Mar 1-3 : ocean imaging TRN test cruise

Week 14

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - 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.
 - Meeting with WHOI about TRN integration on Sentry this Friday
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office
 - Out sick this week
 - Mar 1-3 : ocean imaging TRN test cruise

Week 13

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Met with Rob to talk about integrating TRN with Dorado simulation. Sent some sample code for the MB1 record server API.
- 901101 - Seafloor Mapping
 - Making progress on LCM stream processing for using TRN with ROVs
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)

- Overhead
 - Misc admin
- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise

Week 12

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Wrote an MB1 record server for embedding in the Dorado simulation code. This is part of enabling the integration of MB-System real-time bathymetry filtering and TRN with the Dorado simulation.
 - Updates/maintenance and synchronization between MB-System and libraries libtrnav and mframe
- 901101 - Seafloor Mapping
 - Making progress on software components for using TRN with ROVs for an early May cruise.
 - Wrote some automation scripts for packaging TRN releases for Sentry vehicle integration, and posted a release for WHOI
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPP/eDNA)
 - Still messing around with purchasing a starter kit from ONT - they don't make it easy to give them money ;o)
- Overhead
 - SRSC meeting
 -
- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise

Week 11

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Working with Rob on design and implementation of Dorado code for integrating MB-System real-time pre-processing (mbtrnpp) into the Dorado simulation loop
- 901101 - Seafloor Mapping
 - Working with Mike Risi on TRN integration with ROV platforms
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPP/eDNA)
 - Met with Nate Truelove, who provided a great tutoring on DNA and sequencing technology to provide context for software work.
- Overhead
 - SRSC meeting
 - Carbon Waveglider transfer
- Out of Office

- Mar 1-3 : ocean imaging TRN test cruise

Week 10

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise

Week 9

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - Testing TRN this week Tu-Th w/ Dave, Rich, Rob, Erik & Ops
 - 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.
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
 - Started diagramming software stack for better insight into packaging options. The objective is to simplify the process of making and distributing the eDNA suitcase software payload.
- Overhead
 - Misc admin
- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise

Week 8

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - Preparing for cruise Mar 1-3
 - Installed and tested MB-System/TRN on reasons
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle

- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
- Overhead
 - Review wrap up
 - Met w/ Craig and Paul re Carbon Waveglider transfer to PMEL; we are pulling together a set of items for potential transfer.
- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise

Week 7

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - Preparing TRN software and doing testing for upcoming Ocean Imaging cruise days Mar 1-3
 - 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).
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Made bug fixes and simulator updates based on results from recent SES and rover surveys
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- 901112 - Changes in MB and CA current (HIPPE/eDNA)
 - Met with Nate, Francisco and Tom to discuss project plans and activities
- Overhead
 - Met w/ Craig and Paul re Carbon Waveglider transfer plan
 - Wrapping up review process
 - SRSC presentation review
 - Misc admin
- Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise

Week 6

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - With Chris Wahl and Paul McGill, piloted waveglider acoustic surveys to geolocate benthic rover and SES using an implementation of Paul's loop and cross algorithm that I implemented last year. The missions were both successful, and yielded accurate locations of the assets.
 - Wrote a utility to process loop and cross data to produce a location estimate by minimizing mean squared error using a binary octree search
- 901704 - Benthic Observing System Maintenance

- 902204 - Scalable Marine Robotics Foundations
- Overhead
 - Review wrap up
 - SRSC
 - Misc admin
- Out of Office
 -

Week 5

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
 - Working w Erik T on scheme for dorado config repos
 - Code review for cmake implementation (O'Reilly)
- 901112 - The Monterey Bay Time Series
 - eDNA : Spinning up on docker, conda, Nvidia platform
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Prepping for potential waveglider operation to survey rover using loop and cross algorithm (conditions permitting)
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
 - Review materials out for signature
 - Drafted materials list for Carbon Waveglider transfer package
 - SRSC : outline review, meeting
 - Attended meeting re SMD updates for David Packard (getting a sense for scope of work, timing)
 - Software updates for various computers
 - Office cleanup
- Out of Office
 - Jan 11 (jury duty, tentative)

Week 4

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Jan 11 (jury duty, tentative)

Week 3

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG

- Testing updates to the black magic frame grab server
- Resolved an issue with the 8K Pro setup
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
 - Review meetings and input
 - SRSC meetings, helping Alana with ideas for presentation material
- Out of Office
 - Jan 11 (jury duty, tentative)

Week 2

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
- Out of Office
 - Jan 11 (jury duty, tentative)

Week 1

- 300057 - Mooring Maintenance
- 500055 - VARS, M3/RS, DSG
- 600034 - Precision Control Technologies for ROVs and AUVs
 - Code review for Irauv cooperative navigation that Rich is implementing
- 901101 - Seafloor Mapping
- 901112 - The Monterey Bay Time Series
- 901220 - Midwater Ecology
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
- 901704 - Benthic Observing System Maintenance
- 902204 - Scalable Marine Robotics Foundations
- Overhead
 - Review prep
 - SRSC : reviewing material for board meeting
 - Misc admin
- Out of Office
 - Jan 11 (jury duty, tentative)