

Carlos Rueda Sorted By Project

300083 - DMO Support - LRAUV

- Assistance to Erik re the Dash “synchronization” operation to reflect updates in the config and mission repositories. (Week 11)
- Started work on a deployment overview feature for the Dash as proposed by Erik. Initial prototype at <https://oceanids.mbari.org/dash3yz/#/-/;Reports> (Week 22)
- Enhancements to deployments overview page, including a permalink feature (example). (Week 23)
- Some TethysDash work (see below) charged here (thanks Erik). (Week 51)

708158 - DHS Y6

- Setting up automated TethysDash docker image build on Docker Hub. (Week 5)
- Continued setting up the tethysdash2 VM. Besides migrating to CentOS 7, a key goal is to also enable the dockerized version of TethysDash for our production server (as we are doing with external installations!). As part of this, testing relevant configuration settings to use the Atlas share from the docker container. (Week 5)
- Email with WHOI to clarify aspects related with TethysDash/LRAUV communication at the application level. (Week 6)
- Per email with Ryan re issues with Argos emails (which we recently also noticed and addressed), will prepare release with updated instructions (esp re configuration changes). (Week 8)
- Prepared and released dockerized TethysDash system 3.9.73. Successfully installed by WHOI, although discussions continue as they get to exercise the system. (Week 9)
- General revision to address configurability of the external Pusher service for async notifications to the UI clients. Released dockerized TethysDash system 3.9.76. Already tested at WHOI. Good progress in general. Thanks WHOI for the feedback. (Week 10)
- TethysDash related assistance to WHOI, including a workaround (with IS’ help) so their cell connection status check is performed against the actual server on their side. (Proper fix pending, probably involving the LRAUV side depending on input from the LRAUV team.) (Week 11)
- Assistance to WHOI. New TethysDash docker release 3.9.77 already installed. Temporary, now unneeded workaround with CNAME removed (thanks Pat). (Week 12)
- Occasional interaction with WHOI over Slack. Provided info about Postgres database size. (Week 13)

901009 - CANON

- MXM meeting with Kevin and Tom O. about status and next steps. (Week 5)
- MXM java client library (for Tom’s Neptus adapter): additions and more documentation. The library is automatically generated and released using Travis-CI. Now, toward moving forward in a more streamlined way, looking again into automating the generation of the client model and query classes based on the GraphQL schema from the MXM endpoint. This proved not very productive in my first exploration a while ago but one option now looks a bit promising. (Week 5)
- MXM development, including expanded operations to the MXM provider API on top of TethysDash to start testing actual submission of missions. (Week 6)
- MXM development especially regarding interaction and data synchronization with external providers. Looking into somehow enabling Typescript as the lack of types is becoming painful. (Week 7)
- MXM development, with additions to TethysDash as MXM provider. Although TethysDash has limited support for reporting mission status, this is a good opportunity to also revise that aspect for some future improvement in the TethysDash data model itself. (Week 8)

- MXM development, with various adjustments done to the TSAUV Front tracking implementation to reflect MXM provider interface changes. (Week 9)
- MXM: A few lib upgrades to address vulnerabilities reported by github and snyk. (Week 15)
- MXM: Actually I enabled snyk.io vulnerability monitoring for <https://github.com/mbari-org/mxm> this week. (Snyk has proved useful for me in other js and scala projects, sometimes giving more detailed diagnostics compared to Github. The snyk CLI is also handy.) (Week 16)
- Resuming work on MXM (Week 19)
- Resuming work on MXM. (Week 20)
- Preparing again for updates and work on MXM. (Week 23)
- MXM: doing adjustments due to some regressions; Upgrading packages. (Week 25)
- MXM: code reorganization to separate server and webapp components; new docker image 0.8.2. Determining next steps, possibly continuing with Postgraphile as GraphQL-enabler, but also revisiting Prisma and looking at other options. Enabling Typescript, initially on the server side, to hopefully make development more manageable. (Week 28)
- MXM development (Week 30)
- Monitoring and responding to inquiries during ongoing CANON experiment (Week 30)
- Continued monitoring experiment activities on a regular basis (also see LRAUV bullet). (Week 31)
- MXM: updates to some libraries to address security alerts. (Week 34)
- Some MXM work (Week 35)
- Met with Tom O. regarding Neptus adapter for MXM. (Week 40)
- MXM: some assistance to Tom regarding his Netpus adapter. (Week 42)
- Planning to resume working on MXM. (Week 44)
- MXM work and assistance to Tom regarding access from his Neptus adapter to the MXM service via HTTP and GraphQL queries. (Week 47)
- MXM: With Tom, looking into perhaps starting to incorporate OGC SensorThings or SPS sooner than later in the design and implementation of MXM interfaces/protocols. (Week 49)
- MXM: reviewing OGC SensorThings. (Week 50)
- MXM work (Week 51)

901101 - Ocean Imaging

- Looking into resuming work on dockerizing MB-System. (Week 14)
- Resuming some work on MB-system dockerization (syncing with upstream, checking other docker related activities there). (Week 16)
- Advancing MB-system dockerization. Doing GUI testing on both linux and macos, and soon on windows 10 (thanks Pat for the VM). Putting together a general doc with links and some notes. (Week 17)
- MB-System dockerization is pretty advanced now, with good testing not only on MacOS but also on a Centos7 vm, including an exercise during a Slack session with Dave, where we ran a GUI program and verified read/write access to a Titan share. Updated the user-oriented instructions and improved the launcher script so it's easier to use. Looking forward to some more testing by more users, hopefully including on an Ubuntu host as well.

Thanks Pat for assistance with VMs and Brian S. for the quick feedback.

(BTW, attention on the Windows 10 target has been postponed, in part because it's of lower priority and also because of difficulties that prevented us -including IS- from setting up Docker Desktop on a vm for that purpose. A proper Windows computer could be considered later.) (Week 18)

- Dave's starting to do some tests related with the dockerized MB-System. (Week 21)
- Rebuilt/published docker image 5.7.6beta37 upon the proper release notification, and updated and tested the instance on mbscentos7. Also updated the general status at github. (Week 22)
- Thanks Dave for the testing and finding a nice solution for the OpenGL issues on Mac. Also for the email indicating the image is "a fully viable way to process data locally with MB-System." (Week 22)
- Some edits for clarification in the docker user instructions. (Thanks Giancarlo for the feedback.) (Week 25)
- Replied to Dave's email regarding questions about automated builds at Docker Hub. (Week 42)

901502 - Passive Acoustic Sensing

- Group meeting. Some paper reading. (Week 7)
- Looking into the segmentation file provided by John, with the idea of possibly “correlating” this information with the clustering exercises already performed, and maybe even somehow assisting some new clustering variation. (Week 9)
- Regular meeting (Danelle’s presentation on PCEN). (Week 11)
- Applying VQ and HMM on labelled data on the 4.5hr recording file provided by John. (Week 11)
- Along with various code adjustments (incl improved command-line interface using Rust), completed a first pass of HMM based classification on the 4.5-hour whale song unit recording provided and labelled by John: <https://github.com/ecoz2/ecoz2-whale/tree/master/exerc01>. The accuracy on test data (not training data) is now 75.7%, a significant increase wrt to a previous exercise (57.3%) involving a different set of recordings and preliminary labelling. (Week 12)
- Ran HMM training/evaluation sessions with several parameter variations. (Week 14)
- Similarly as with a set of whale song unit files and labelling of a few months ago, I also ran a clustering-based classification on the more recent 4.5 recording and John’s labelling. (Week 14)
- Exploring possible tools/services to facilitate model tuning, including wandb (thanks Danelle for the references), comet.ml / mlflow, dvc (this one promising but not yet as useful after some investigation, including an actual exercise and putting together a repo at dagshub.com).
Moving forward, writing a python wrapper for the software to facilitate use of those various tools. (Week 14)
- Advanced cffi-based python wrapper (with a callback added to C code) and with that, ran an initial HMM training exercise with wandb involving a metric (sum of log of probabilities). (Week 15)
- Group meeting. Presented recent HMM exercise on 4.5hr whale song unit data. (Week 16)
- Speeding up some of the whale song unit analyses via multi-threading. (Week 17)
- Meeting (Week 18)
- Some catching up regarding improved compute performance, see overhead/personal bullet. (Week 18)
- More parameter tuning in HMM training. Interesting new insights in that some parameters can actually be given smaller values to improve performance while avoiding overfitting. (Week 20)
- With John, performing labelling analysis based on HMM classification results. (Week 21)
- ECOZ2 executable binaries for Linux and MacOS now automatically built and released on Github. (See overhead item). (Week 21)
- More experimentation with classification. Wrote python scripts to help visualize the results along with the original wav data (spectrogram). (Week 22)
- Meetings (Week 25)
- Meeting (Week 26)
- Meetings (Week 28)
- Reviewing some LPC theory and adding plots based on LPC spectral envelope along with regular the spectrograms in classification results. Planning to run exercises with LPC prediction order 20 according to typical rule of thumb based on sampling frequency. (Week 32)
- Submitted abstract to ASA (thanks John!). (Week 33)
- Putting together a technical report about the various VQ/HMM experimentation exercises. (Week 33)
- Meeting. Resuming work on technical report. (Week 34)
- Group meeting (Week 39)
- Met with John to catch up with status and start preparing ASA poster. (Week 42)
- Preparing for a next round of classification exercises and also for the ASA poster. (Week 43)
- More HMM, Naive Bayes, and Markov classification exercises. Generating and reviewing scatter plots of classification rank vs. sequence length. Reviewing literature, resuming writing of technical report, and preparing ASA poster. (Week 44)
- More literature review, classification and comparisons with a nice external tool I just recently found. Some ASA poster preparation. (Week 45)
- More experiments, ASA poster preparation, and advancing technical report. (Week 47)
- Finalizing ASA poster. Many thanks John for the productive discussions. (Week 49)

- ASA Poster presented today 12/9. Chat session with good comments/ideas, and a few requests for “links to the poster.” (Week 50)
- Group meeting (Week 51)

901513 - Targeted Sampling by AUVs

- Reviewing status of front tracking code regarding python3 vs python2 toward decision making moving forward, especially wrt execution on-board the wave glider, which has traditionally required python2 (but this version reached EOL past Jan 1, 2020). (Week 47)
- Some code cleanup to wrap up the year. (Week 51)

901602 - Data TAG: Addrss Eng Chng

- Abstracts review. (Week 25)
- Proposal review. (Week 29)
- Proposal reviews and feedback (Week 31)

901800 - LRAUV Payload & Support

- TethysDash/Dash3: New buttons to send command/mission to alternative address destination (other than the usual SBD Iridium address). This required both backend and frontend changes. (Week 5)
- Some monitoring of the recent Daphne deployment. Very glad to see the mbts_sci2 mission in action and performing well. Thanks Brent and Brian for putting it to work. Would be great to reflect the recent changes in the TethysL version. (Riley Rettig, our summer intern last year, helped write the first version of this mission in TethysL.) (Week 6)
- TethysDash: For Argos email handling, per Brian’s request, now target vehicle can be determined based solely on the platform number when no Argo program is provided in the received email. (Week 7)
- Dash3: Improved handling of webapp page load when backend server is not available. (Week 7)
- Reviewed TethysDash and LRAUV code regarding TCP communication wrt to emails via Iridium (when TCP is available, the comms are initiated by the vehicle). Added some related text to <https://docs.mbari.org/tethysdash/#lrauv-tethysdash-communication>. (Week 8)
- Couple of additions for Dash3, now 3.9.74. (Week 9)
- More additions to Dash3 (auto-refresh also in the Data tab and other internal adjustments and lots of code cleanup), Now 3.9.76. (Week 10)
- TethysDash backend: Improved git request handing (via re-attempts) that deals with the occasional issues (still happening!) when connecting to Bitbucket to fetch all updates for the config and mission repositories. TethysDash backend is now 3.4.8. (Week 10)
- TethysDash REST API: Besides ISO 8601, also Unix time is now accepted for date-time parameters in relevant request operations. (Thanks Steve for the suggestion.) (Week 10)
- Some discussion triggered by recent Erik’s email regarding possible ways to overhaul the document handling in TethysDash. (Week 10)
- Dash3 now v.3.9.77 with initial integration of Steve’s status widget. We’ve been discussing possible next steps. Thanks Steve! (Week 11)
- New TethysDash docker release 3.9.77 incorporating recent backend and frontend changes. Tested on our staging server tethysdocker as well as on tethysdash2 (the one being prepared as the production server as part of the migration to CenOS7). (Week 12)
- Completing a major upgrade of the underlying web framework in Dash3. This involves non-trivial changes due to several incompatibilities. This task was planned for much later in the year. However, given the current circumstances, I decided it was a good task to address now. Pre-releases available for testing at <https://oceanids.mbari.org/dash3yz/>. More details here. (Week 13)
- Downgraded Pusher plan to the free “Sandbox” given current circumstances. (Week 13)
- LRAUV: Per Ben’s request, fixed a compiler warning in ESPComponent, exposed with the use of more recent gcc versions wrt the one currently used on tethyscode. (Week 16)

- After deeming the pre-release testing satisfactory, went ahead and completed the 3.9.8 release of Dash3. Not much different in the external user interface, but this is a significant release due to major changes in the underlying web framework, Quasar. (Week 17)
- Built, tested and published mbari/tethysdash:3.9.8 docker image. Already deployed at <http://tethysdash2.shore.mbari.org/> as part of preparations for tethysdash vm migration. (Week 17)
- Automated LRAUV docker image build at Docker Hub enabled for the lrauv-application repo directly. Will be exercised next time a git tag with the usual YYYY-MM-DD pattern is pushed. (Week 18)
- Some exchange with Brett about TethysL work for 2021, including time allocation for Mike Godin so we can ensure correct translation and execution semantics. (Week 18)
- Dash3: General dependency upgrade (this time triggered by a broken dependency). Enabled CI builds at bitbucket. Initial integration of Erik's cell phone coverage map and planning on allowing leaflet layers from configuration in general. (Week 19)
- LRAUV Sim: As possible workaround to Docker Hub issue, adjusted rule for the automated build triggered by tag push but to no avail yet (pushes to master are handled just fine). Also had to re-assign ssh keys to all repos under lrauv-application as the previous one stopped working unexpectedly at Docker Hub for some reason. (Week 19)
- Various enhancements in TethysDash configuration and better handling in Dash3 for edge cases where the backend is not properly configured. New docker image 3.9.82. (Week 20)
- Starting new handling of documents (one of the pending modernization aspects wrt the traditional TethysDash UI) including API support from backend. Along with this, considering possible database schema changes. (Week 25)
- Dash3: First phase of an overhauled document handling implementation is almost complete. The new Dash3 version is v3.9.87. Along with various general UX improvements, this should also fix some of the issues with the traditional UI, and provide a much better basis for other possible enhancements: <https://bitbucket.org/mbari/lrauv-dash/issues/62> (Week 26)
- Quick fix to issue in document saving and other improvements in Dash3 (now 3.9.89). (Week 28)
- A productive reattempt at an LSP implementation as preparation to enable this protocol for TethysL, hopefully next year. With some better resources out there, put together a repo with complete simple exercise https://github.com/carueda/hello_lsp (Week 28)
- Restarted broken service that relays LRAUV GPS positions to the trackingDB/ODSS. (Week 28)
- TethysDash backend now directly "pushes" LRAUV GPS fix positions to the tracking DB/ODSS. This replaces the external "microservice" (in place on pismo for a couple of years) as a way to make this functionality more robust and reliable. (Week 29)
- TethysDash and Dash3's overhauled document handling now has the ability to directly attach vehicles to documents: <https://docs.mbari.org/tethysdash/dash/changes/>. (Week 29)
- Reimplementing the "Config" tab in Dash3 to replace the corresponding one in traditional TethysDash UI. After this, I plan to start addressing the "Mission" tab where work on MXM will be leveraged regarding editing of mission parameters. (Week 29)
- TethysDash: Various other adjustments in API for event data and vehicle configuration requests. (3.6.6) Diagnosing strange issue regarding password reset email that is sent out but never delivered (thanks Katie for reporting and help). Other addresses work just fine. Added copy of such emails in the "Sent" folder, which also confirms the emails are being dispatched. (Week 30)
- Dash3: Completed reimplementation of Config tab with improved UX features. Besides the display of the recently added 2020 CANON vector features via tile layers, there's now also an experimental option to select them via the source KML files directly (ODSS Atlas share enabled on the VM for this purpose). Various other adjustments (3.9.941). (Week 30)
- Put together a specific documentation page about how Dash3 visualizes waypoints. (Week 30)
- LRAUV: Have spent some time reviewing (routinely used) mission files that are not conformant to the schemas in an attempt to diagnose some of the concrete issues and possible measures for fixing. Most immediate motivation is the successful parsing of waypoint information for visualization in the dash, but also for the processing that Steve uses in his status widget (as well as preparation for future TethysL work). Submitted PR

for this purpose, including some text to the CONTRIBUTING.md file to encourage mission authors to strive for compliance with consideration for some aspects. (Week 30)

- Lots of work on Dash3/TethysDash as CANON progressed, with some fixes and various significant additions and improvements, see <https://docs.mbari.org/tethysdash/dash/changes/> and related new/updated pages. Also, more review and PR related with mission validation. (Week 31)
- Some (opportunistic) look at a couple of missions that fail schema validation. (Week 32)
- Per Ben, checking with Brent R and Chris P about missed ESP samples during CANON. (Week 32)
- Some additional functionality in the waypoint popup in Dash3 while doing some code cleanup. (Week 32)
- Re-set up test environments on tethyscode and bafflehead with LRAUV/ESP simulators while preparing for TETHYS-612 (a complete fresh 2-sample ESP exercise here). Reproducing and addressing the issues. Thanks Ben and Brent for your input. (Week 33)
- Regular LRAUV meetings resumed. (Week 33)
- Working on second part of adjustments to address TETHYS-612. (Week 34)
- Advancing 'Command' tab re-implementation in Dash3, one of the pending items toward usability improvements in version 4. (Week 35)
- Dash: new Command tab interface implementation completed and enabled. Should be fully functional already but, as a next step of course, testing by operators is needed.
Starting to look into the Mission tab, where some pieces from the Command tab implementation as well as from the MXM frontend will be leveraged. (Week 36)
- Dash: Approaching our v4.0 target!. Focusing on the new Mission tab, Dash is now 3.9.970. This tab and the also new Command tab are already pretty functional but still in "pre-release" form. Some operators have been kindly asked to test and provide feedback. Working now on a smart waypoint editor to greatly facilitate mission preparation before submission.
Related open tracker entries: td#59, td#61, dash#23, dash#45 (Week 37)
- Dash is now 3.9.981 with various adjustments and enhancements especially in the "smart waypoint editor" (distance/depth information, direct waypoint dragging on the map, etc.).
Mission and Map Markers documentation pages updated. Have gotten very good reactions from a few users already especially in terms of suggestions (most of them already addressed), but not yet in terms of actual testing, which needless to say is critical moving forward with the full enabling of the new Command and Mission tab implementations. (Week 38)
- Will soon be preparing a new docker release with the latest and greatest to WHOI, even with the ongoing transition features. Their own testing will be most welcome as well. (Week 38)
- TethysDash docker image 3.9.982 released and announced to WHOI. Various adjustments applied while preparing and testing the release. (Week 39)
- Continuing with code cleanup and adjustments, both backend and Dash frontend, especially as the recent enhancements are exercised in real operations (today, for example, with some fixes in the Docs handling). (Week 39)
- Upgraded the OpenAPI spec (to v3.0.1) for the TethysDash API as well as the underlying SwaggerUI tool that powers <https://docs.mbari.org/tethysdash/apidocs/>. (Week 39)
- TethysDash backend: Upon some close inspection of this legacy handling, adjusted some logging related with "emaillogs," which is the typical major "culprit" when we get those occasional alerts from the system about less the 85% space becoming available on the machine. With just avoiding the thousands of repeated, almost-uninformative lines, we are now going to save more than 100Mb of unnecessary log stuff per year, as measured by grepping for the mentioned lines in what's currently captured for 2020. (Week 39)
- Satisfactory non-simulated testing with Pontus and ESP of recent adjustments in ESPComponent for TETHYS-612. Thanks Brian for your assistance and Brent R. for checking the resulting logs. Hopefully, relevant PRs will be merged soon. (Week 40)
- Assistance during WHOI's vehicle deployment related to issues involving SBD receipt email handling, a bug I inadvertently introduced back in July but only noted today even though it was also there in our own MBARI instance with nobody complaining since then. I fixed the issue, updated our instance, made a hotfix release for WHOI, which was applied and apparently all seems to be working great there as well. (Week 40)

- Doing further adjustments in various code repos for a proper version 4 release of the Dash UI (user/admin webapp; dash itself; tethysdash-docker...) (Week 40)
- Dash version 4 officially released! Now, 4.0.1. (Week 41)
- TethysDash: Upgrading Tomcat to latest 8.5 version from version 7, which is fast approaching EOL, March'21. This requires revision/adjustment of some config files related with URL encoding and directory listing. Good preliminary testing (both regular and dockerized). (Week 41)
- Some minor config adjustments in preparation for CANON. (Week 41)
- Reviewing general documentation and applying several updates already. (Week 41)
- Dash4: further UI adjustments; code cleanup; quasar/app smoothly upgraded to 2.0.0. (Week 41)
- WHOI has already upgraded to TethysDash 4.0.1. (Week 41)
- Dash4, now 4.1.4, with various adjustments, now including Steve's ESP status widget. Also some fixes as operators provide feedback during ongoing CANON. (Week 42)
- TethysDash backend (both regular and dockerized) now running on Tomcat 8.5.58. (Week 42)
- Doing some preparations for a proper WebSocket server in TethysDash and corresponding connection from Dash4 clients. Good preliminary results. General idea is to lessen, and even eventually remove, dependency on the external service for asynchronous notifications. (Week 42)
- WHOI Dash upgraded to 4.1.1. (Week 42)
- TethysDash: Some more experimentation toward a proper websocket server. (Week 43)
- Email exchanges triggered by IS re Tethysdash dependencies and mechanisms to prepare for Disaster Recovery. This will need coordination with the LRAUV team especially in terms of the use of the LRAUV Atlas share from tethysdash2 and other tethys* machines. (Week 44)
- TethysDash backend: Implemented solution in the backend to handle improper URL encoding of commands caused by browsers. (Week 45)
- Did config adjustments for proper handling of incoming SBD emails, something not previously tested in the lab as part of the ongoing migration to tethysdash2. (Week 45)
- Documentation updates. (Week 45)
- Replying to IS's inquiries about Disaster Recovery procedures for LRAUV vehicles, and along the way involving LRAUV experts in the discussion so everyone is on the same page toward determining specific actions moving forward. (Week 49)
- Dash is now 4.2.1. Already installed by WHOI as well. Incorporating some fixes and adjustments for a next version. (Week 50)
- Captured "proposal" by operators in issue tracker and will wait until consensus before any further action. (Week 50)
- TethysDash backend: making more progress on setting up a proper websocket server. (Week 50)
- A number of Dash adjustments specially during WHOI vehicle deployment. As part of this, implemented preliminary version of the async notifications using our own websocket endpoint (only for cell connection ping results at this point) so WHOI wouldn't hit the Pusher limit. Thanks much to Ryan Govostes for setting up a websocket proxy on his nginx server. Good testing! (Week 51)
- Motivated by this I decided to make more progress and I'm close to having a complete system (both backend and frontend) using this new websocket endpoint. (Week 51)

902009 - AUV UI

- Assistance to UCSC collaborators setting up dockerized TethysDash. (Week 11)
- Via slack, Leila introduced Jasmine Otto to me. Jasmine is "interested in prototyping different UIs for the LRAUV operations." (Week 17)
- Replies to and some coordination to address minor requests from UCSC. (Week 18)
- Assistance to UCSC regarding adjustments needed for TethysDash to be able to access vehicle config and mission repositories. (Week 20)
- Team meeting. (Week 21)
- Group meeting (general update from the students). (Week 25)

- Some replies to Leila. (Week 32)
- Work session with Jasmine, mainly focused on the Dash playback feature but also with aspects related with simulator and user accounts. (Week 33)
- Brief exchange to ask Leyla and team for any feedback regarding latest Dash enhancements. (Week 38)
- Exchange with Jasmine Otto related to her great feedback to recent Dash improvements, her work, and some questions re TethysDash API. (Week 39)
- Reviewing brainstorming presentation; some email exchanges. (Week 47)
- Meeting (Week 49)

Out of Office

- Feb 21, Mar 11-12, Apr 9: vacation
- Feb 25: Sick
- Feb 21, Mar 11-12, Apr 9: Vacation
- Mar 11-12, Apr 9: Vacation
- Mar 12, Apr 9: Vacation
- April 9: vacation
- A few hours spent on kids school related activities.
- April 17: vacation
- May 1: vacation
- May 15: vacation
- May 29: vacation
- Jun 8-10: vacation
- Jun 19: vacation
- Jul 14-15, 22: ESIP Summer Mtg (virtual, and not whole days)
- Jul 14-15, 22: ESIP Summer Mtg (virtual). With Lewis McGibbney (JPL) I'm presenting the ESIP Community Ontology Repository, besides attending other sessions.
- Sep 4: vacation
- Oct 22-23: vacation
- Oct 15-16: vacation (I had previously entered Oct 22-23 by mistake)
- Oct 15-16: vacation
- Nov 4: VueConf Toronto (virtual)
- Nov 11: vacation
- Nov 12-13: Scale by the Bay (virtual)
- Dec 9: ASA Conference (virtual)
- Nov 25: vacation
- Dec 8: [OGC member mtg](#) (tentative)
- Dec 9: [ASA Conference](#)
- Dec 21-31: vacation

Overhead

- Upgraded the vocabulary repository system for the X-DOMES project (hosted at TAMU-CC). (Week 5)
- Annual Mandatory Hazard Communication Presentation and quiz. (Week 5)
- Reformatted and added items to SE IE skill matrix. (Week 5)
- Annual perf evaluation. (Week 5)
- Put together and shared some notes about CI/CD. (Week 6)
- SE IE Group meeting. Presented the MXM setup for continuous deployment using Watchtower. (Week 6)
- Advancing CentOS migration for 'tethysdash' and looking into time frame for 'oceanids' as well. (Week 6)
- ESIP asking me about possible time frame for one more AWS instance migration for the COR. (Week 6)

- More testing in preparation for migration of TethysDash production system to CentOS 7 + Docker. Putting notes about this including a preliminary plan for cutover in this document (shared with Pat and some LRAUV folks). (Week 7)
- More preparations for TethysDash migration to Centos7 and Docker. Document updated. (Thanks Pat for your input.) (Week 8)
- SE IE Group meeting; Attendance to ER presentations. (Week 9)
- Brown bag: Kafka (IE meeting) (Week 10)
- ESIP COR: Good progress on preparations for migration of the COR and the sweetontology.org support to a new Amazon instance. Now deciding with the ESIP Lab director on cutover date to proceed with final database transfer and tests. (Week 10)
- Brown bag: ES / CQRS. Put together some notes. (Week 11)
- Completed migration of the ESIP COR system to a new Amazon instance. (Week 11)
- Remote work session with ESIP SemTech lead related with assistance in Scala programming and use of semantic libraries toward enhancements to the set of SWEET ontologies. (Week 12)
- Migrating the MMI ORR services to a different VM at TAMU-CC as part of a general migration from CentOS 6 also taking place there. The MMI ORR will be upgraded to the latest version of the software as well as run in a containerized way like all other ORR instances out there. (Week 13)
- SE IE slack and Engineering zoom meetings. (Week 13)
- As planned, migration of the MMI ORR to a different machine is progressing today April 1st in coordination with the TAMUCC IT team and Stanford. (Week 14)
- Also, a separate urgent task arose to update the docker yum repository pointer (as well as docker itself) on the xdomes machine. I have taken care of this already, reviewed OK by the TAMUCC IT team. (Week 14)
- CentOS6 EOL: Advancing 'oceanids' (notes) and 'tethysdash' (notes) migrations.
Thanks Pat, Joe, Adriana for your assistance.
As part of this: (Week 15)
 - New TethysDash docker image released and being used on tethysdash2 (accessible via oceanids2, e.g., <https://oceanids2.mbari.org/dash3/>). (Week 15)
 - Now proxying tethyscode directly to expose LRAUV mission XML schemas: <http://oceanids2.mbari.org/tethys/Xml/> (Week 15)
- SE IE and Engineering meetings. (Week 15)
- Looked into issue of a program on pismo under my account being unexpectedly killed, multiple times. (Turned out to be a more general Atlas connectivity issue.) (Week 15)
- CentOS 6 EOL: oceanids migration completion ready to proceed. Emailed key LRAUV folks for any comments/concerns and to proceed hopefully very soon. After this I'll focus on the preparations for the tethysdash migration (pretty advanced already). (Week 16)
- SE IE and Engineering meetings. (Week 16)
- CentOS6 EOL: oceanids vm migration completed today 4/22. Many thanks to Joe and Pat for their assistance as well as to some LRAUV operators for their patience and feedback while finalizing some adjustments. (The old vm will be accessible at oceanids6 for some time.)
Next up is the migration of the tethysdash vm (significantly more complex but progressing). (Week 17)
- IE & Engineering meetings. (Week 17)
- Provided some input to Earthcube's office coordinator re description of the X-DOMES project (they are working on an updated website). (Week 17)
- Engineering zoom mtg. (Week 18)
- (plus personal interest): Lots of learning regarding compute performance. By using OpenMP for multi-threading I immediately got a 4-5x speed-up in a program for linear predictive coding (on my macbook) with minimal adjustments to the C code (which was already highly performant but originally designed for a single core). Also exploring a bit <https://github.com/flame/blis> (which supports parallelism via either OpenMP or pthreads). (Week 18)
- ESIP Semantic Technologies mtg. (Week 18)
- Assistance to a collaborator with some adjustments to the ORR semantic portal toward enabling pyLODE as one ontology viewer. (Week 18)

- CentOS6 EOL: (Week 19)
 - okeanids6: New okeanids tested with and fixed for SSL connection from vehicle. (Thanks Joe for the SSL fix). Old okeanids/6 ready to be shut down. Email sent to people having accounts there, with May 29 as shutdown date. (Week 19)
 - tethyssim: Moving all TethysDash related stuff in tethyssim to tethystest (formerly named tethysdocker). Heads-up email sent to all people with an account on tethyssim. (Week 19)
 - tethysdash: doing one more revision toward plan for coordination and cutover actions. (Week 19)
- IE mtg (Week 19)
- tscfg: Responded to issue report and discovered and reported an issue in Lightbend Config. (Week 19)
- (plus personal interest) More general exploration/learning on compute performance techniques and tools; learning about Apache Arrow and Rust's ndarray package (among other things). (Week 19)
- IE & Eng meetings (Week 20)
- Some input to the server inventory document. (Week 20)
- The NOAA OTT Proposal, led by TAMUCC, submitted to extend and expand the SensorML editor and the registry, will not be funded this year but will be considered for next fiscal year. (Week 20)
- Some more input to the server inventory document. (Week 21)
- AWS discussion; IE meeting; Eng meeting. (Week 21)
- More Rust learning while enhancing implementation of machine learning techniques applied to whale song units. Also the executable binaries for Linux and MacOS are now built and released using Github Actions (here is the release workflow file for Rust, and for C). (Week 21)
- As announced a couple weeks back, old okeanids will be shut down this Friday. (Week 22)
- Got invitation from <https://www.mdpi.com/journal/remotesensing> to be Guest Editor of a special issue on Big Data Analytics and Visualization for Oceanography. (Week 23)
- ESIP: Some ORR software enhancements and some coordination with NERC (UK) and SensorML folks regarding issue of broken definition links. Also, toward motivating potential contributors (and thus continue transferring this development to ESIP), put together a quick prototype based on Vue/Quasar as a possible new basis for an overhauled semantic portal. This has been very well received as expressed in slack channel and during last COR telecon. (Week 23)
- IE mtg (Week 25)
- Continued dealing with crashes in my macbook. Among several measures, it seems like disabling SEP is helping make my computer behave normally again. We will see how this goes for 1-2 more days to determine next steps. Thanks Doug for all the help. (Week 26)
- ESIP Semantic Tech meeting. Did a fix to issue involving resolution of SWEET ontology terms. (Week 26)
- CentOS6 EOL: Advancing migration of TethysDash stuff from tethyssim to tethystest, with the goal of shutting down tethyssim after that. (Week 28)
- Some input to Data TAG abstract feedback. (Week 28)
- ESIP: Got complimentary speaker registration for the Summer meeting (July 14-24) (Week 28)
- ESIP COR monthly telecon. (Week 28)
- Attended part of Tom's design review re his work on new GUIs for MB-System. (Week 28)
- Attended ACM TechTalk: "Apache Arrow and the Future of Data Frames" (Week 28)
- Attended two of the Quasar.Conf online conference presentations. (Week 28)
- Feedback to various project proposals (phase 1). (Week 29)
- CentOS6 EOL: Completed migration of TethysDash stuff from tethyssim to tethystest. Now under testing. Tethyssim to be shut down by July 30. Updated the SE Maintained Servers doc. (Week 29)
- ESIP COR: helped troubleshoot unexpected issues with the amazon instance (solved by now and apparently due to lack of enough CPU power). (Week 29)
- Satisfactory use of tethystest for all things TethysDash previously done on tethyssim (which as planned will be shutdown on July 30 -- reminder email sent to all people with accounts there). (Week 30)
- ESIP Summer meeting (Week 31)
- As planned, tethyssim has been shut down. (All TethysDash stuff moved from there has been working OK on tethystest for several weeks already.) (Week 32)

- Leveling off time allocation to provide feedback for ongoing phase proposal reviews. Thanks Danelle, Brett, John, Ben for your replies. (Week 32)
- Attended a couple of the intern presentations. (Week 33)
- ESIP: Discussions related to an issue to display some ontologies with the pyLODE tool (most likely not an issue in the COR repository itself). (Week 33)
- Provided input for NSF annual report related to the X-DOMES project. (Week 34)
- ESIP: As suspected, diagnosed and reported issue with pyLODE tool. (Week 34)
- Created ORR release and updated the instances under our control (ESIP, X-DOMES, MMI). (Week 34)
- Some more Rust learning, in this case with basic socket programming while putting together an ESP Client program (similar to Brent's Ruby version), which is also turning out pretty useful to inspect interactions for LRAUV's ESPComponent development purposes. (Week 34)
- IE and Eng meetings (Week 35)
- ESIP: minor COR maintenance; discussion with collaborator. (Week 35)
- Daphne watchstanding shift. (Week 36)
- Monthly ESIP COR meeting. (Week 36)
- Starting to review a significant contribution (PR) to my tscfg tool. (Week 36)
- Final report of the EarthCube X-DOMES project has been submitted to NSF. (Week 38)
- IE meeting (user authentication/authorization discussion; firebase-based demo) (Week 38)
- IE: put together a simple Vue/Quasar app that demonstrates user authentication using Firebase. Instructions, screenshots and more details here. App deployed here. (Week 39)
- Reported to IS what looks like a Mimecast bug: Under the On Hold folder, Mimecast claims that "images are not being displayed" but they are. (Week 39)
- ESIP Semantic Technologies meeting. (Week 39)
- Resuming work on final steps for migration of the tethysdash VM due to CentOS 6 EOL. Sent an email to key LRAUV folks to plan for the necessary coordination and participation. (Week 40)
- XDOMES: provided input for the upcoming Project Outcomes Report to NSF. (Week 40)
- Some work toward completing migration of the tethysdash VM due to CentOS 6 EOL. (Week 41)
- ESIP COR meeting. With SemTech lead (JPL), reviewed various github tickets. (Week 41)
- IE meeting. Software licensing discussion. (Week 42)
- docs.mbari: adjusted TethysDash and TethysL webhooks so they now use HTTPS access. (Week 42)
- CentOS6 EOL: Migration of TethysDash production server pretty much completed and under testing. LRAUV team asked to perform verifications. (Week 43)
- CentOS6 EOL: Migration of TethysDash production server still to undergo verifications by the LRAUV team (little feedback so far). All looks OK from my side but ideally at least one or two OKs from others would be great to declare completion of this task. All services on the previous tethysdash VM have been disabled (apache, tomcat, cronjobs). Reminder email sent to LRAUV team to help with verifications. (Week 44)
- CentOS6 EOL: With reference to other past emails regarding the long unmaintained kelp.mbari.org server (which is behind <http://aosn.mbari.org/>), emailed LRAUV team again, in this case indicating that unless I'm told otherwise, no action will be taken wrt to CentOS6 EOL on that machine. Mike Godin forwarded the email to J. Bellingham. (Week 44)
- ESIP COR monthly meeting. (Week 45)
- VueConf workshop today Nov 4; conference talks Nov 5-6. (Week 45)
- Moving the webhook environment for documentation generation I have had under my account to docsadm on docs.mbari.org as part of next steps toward a more general setup. (Week 47)
- Attended Scale by the Bay, Thr-Fri past week. (Week 47)
- CentOS6 EOL: All good for declaring a successful transition to tethysdash2. IS notified. (Week 47)
- Moved "odss2dash" service from normandy to tethysdash2. (Week 49)
- Some email exchanges, and configuration adjustments are being done upon the shutdown of some machines due to CentOS6 EOL. Nothing critical. (Week 49)
- IE mtg. (Week 50)
- ASA Conference (Week 50)

- Implemented option to indicate “mkdocs” subdirectory in our docs.mbari system, already exercised with that meta-documentation repository, which now also includes the code behind this service. (Week 51)