

Carlos Rueda

Week 30

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office
 - July 13-14: medical leave
 - Sept 8-11: vacation
 - Sept 21-24 (1-2 days) IEEE Oceans Conference.
 - Nov 11-12: vacation
 - Dec 9-10: vacation

Week 29

- 901502 - Ocean Soundscape
 - Our intern, Ariel Raizman, continues making good progress on his project.
 - Group meeting, with external collaborators, and updates.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash: database access modernization on Jdbi/Flyway continues.
 - Production instance now on [4.99.87](#).
 - Staging instance (tethystest) with various additional migrations in development, which are looking good, but still under testing given the many very significant changes to make sure no regressions will occur when deploying into production, in particular when considering upgrades for installations out there (WHOI, Saab).
- 902504 - Scalable Semantic Mapping
- Overhead
 - Proposal related feedback.
- Out of Office
 - July 13-14: medical leave
 - Sept 8-11: vacation
 - Sept 21-24 (1-2 days) IEEE Oceans Conference.
 - Nov 11-12: vacation
 - Dec 9-10: vacation

Week 28

- 901502 - Ocean Soundscape
 - Intern mentoring, discussions, etc.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - [TethysDash](#) / [Dash4](#): Implemented new *verification code step* when adding/editing recipient (phone number or email address) for event notifications. (The verification code is for now not forced by the backend while dash5 can also incorporate the step.)
 - TethysDash modernization: Started using Jdbi/Flyway as database access mechanism.
 - Updating [documentation](#) of the MBARI TethysDash system.
 - TethysDash Intro meeting with Emme.
- 902504 - Scalable Semantic Mapping
- Overhead
 - Upon notice from IOOS about an unresolvable vocabulary, restored the services behind <https://mmisw.org/ont/>. (BTW, some discussions are going on about the future sustainability of these ORR instances, including [ESIP COR](#).)
- Out of Office
 - July 13-14: medical leave
 - Sept 8-11: vacation
 - Sept 21-24 (1-2 days) IEEE Oceans Conference.
 - Nov 11-12: vacation
 - Dec 9-10: vacation

Week 27

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash: Addressing issues reported by Monique, one now fixed, the other being investigated.
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office
 - June 29-30 vacation
 - July 13-14: medical leave

Week 26

- 901502 - Ocean Soundscape

- Group meetings. Intern mentoring. New VM+GPU in place now (thanks IS!).
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysL now [4.9.72](#) with enhancements and fixes and latest LRAUV definitions.
 - [Mission documentation](#) updates, including a fix to the tethysl pygments lexer for syntax highlighting.
 - TethysDash [4.99.82](#): Important maintenance release, plus API documentation fixes.
 - TethysDash [4.99.80](#): With Claude's assistance, reviewed and merged [PR#74](#); thanks Karen Salamy and Claude for the contribution.
- 902504 - Scalable Semantic Mapping
- Overhead
 - Input to proposals
 - Reported a Quarkus [issue](#) and submitted a [PR](#).
- Out of Office
 - June 29-30 vacation

Week 25

- 901502 - Ocean Soundscape
 - Our intern, Ariel Raizman, is making great progress with his project.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - SMS notifications support is now in place, but still considered beta status while we get a better sense of usage and cost, and possibly needing backend / AWS account adjustments.
 - Lots of internal code cleanup/refactoring, plus additional migrations of endpoints from servlets to JAX-RS. The changes have been exercised during actual vehicle operations. Only one regression (exposed in dash5) related with CORS headers in one endpoint was noted and quickly fixed. Other "impacts" on dash5 were due to more strict parameter validation (fixed in dash5 itself).
- 902504 - Scalable Semantic Mapping
 - [Dial: various enhancements](#).
 - 2027 proposal discussions, and planning for rest of 2026.
- Overhead
- Out of Office
 - June 29-30 vacation

Week 24

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office
 - June 29-30 vacation

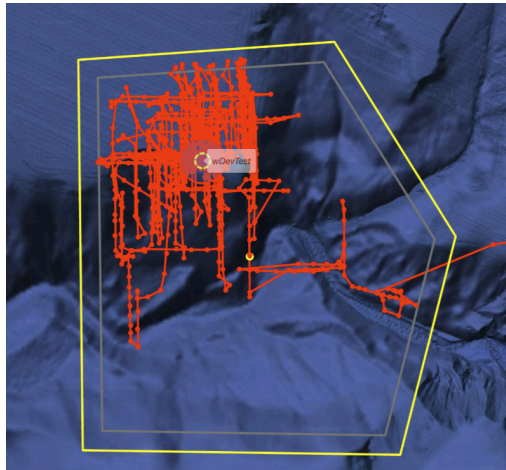
Week 23

- 901502 - Ocean Soundscape
 - Added PBP to <https://deepwiki.com/mbari-org/pbp> (but minimal exploration so far).
 - Group meeting
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash/dash4: Implementing SMS as an option for alert notifications to users. AWS SNS setup as well as code are close to being in good shape for initial testing.
 - Tethys-AI: With Kevin G. and Quinn S., met with AWS GenAI Innovation Center to discuss LRAUV related use cases for a POC system with them. I demoed the [Tethys-AI MCP/RAG prototype](#).
 - TethysDash/unserialize: spending a lot of time trying to diagnose errors that have become more visible for WHOI in recent weeks. The logs show multiple unserialize invocations failing, which are due to incomplete or corrupted data from the vehicle, but it's still unclear where or how this happens. Upon inspecting the so-called email-logs, they also have been happening in our MBARI instance for months (Opah in particular), but apparently unnoticed externally, or not reported.
- 902504 - Scalable Semantic Mapping
 - Dial [2.3.3](#).
- Overhead
- Out of Office
 - June 29-30 vacation

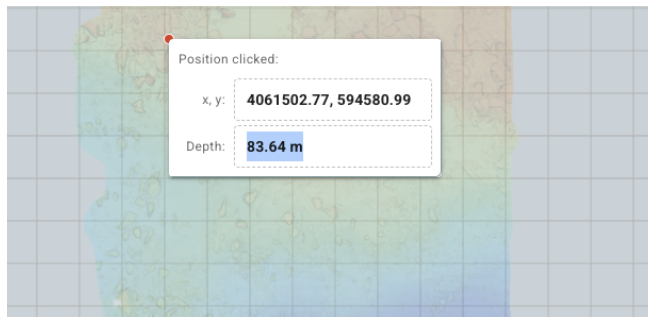
Week 22

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
 - A successful chlorophyll patch tracking experiment has been completed. The program ran autonomously on the wave glider for three full days

without any intervention. We still need to inspect the logs, data, and contextual information for a more detailed assessment. (See also Yanwu's board bullet.)



- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - The recently implemented more secure websocket endpoint in the TethysDash backend has been satisfactorily tested/verified in operations during the last several days.
 - Dash4 [4.99.21](#).
- 902504 - Scalable Semantic Mapping
 - Dial now [2.3.0](#), with ability to report the depth at given positions. This is supported by a bathymetry/topography grid (an [mbgrid](#)/GMT HDF5 [.grd](#) file), whose location is to be indicated in the deployment file. Initially, depth is only reported as part of the map context menu, but it will also be incorporated in other features (measure tool, planning tool, etc.)



- Overhead
- Out of Office
 - ~~May 22: vacation~~
 - June 29-30 vacation

Week 21

- 901502 - Ocean Soundscape

- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office
 - May 19 AM: Drs appt.
 - May 22: vacation
 - June 29-30 vacation

Week 20

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
 - In preparation for an upcoming chl tracking, doing additional code adjustments on top of a very significant refactoring started months ago, so we can run in on the smc-2 target. With John's help, determining a good area for the operations.
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash
 - [4.99.60](#) with enhanced observability for various metrics using [Prometheus](#). Along with that, enabled visualizations using Grafana and other tools, and overhauled the [TethysDash System Ops](#) documentation, including links to various viz pages (for example, [this](#)).
 - [4.99.61](#) with adjustment in resulting `chartData2.json` to fix the occasional issue of malformed floating point values from the LRAUV. Thanks Karen S. for reporting and Paul R. for the feedback re planktivore.
 - Started looking into [improving](#) the websocket endpoint.
- 902504 - Scalable Semantic Mapping
 - Brief discussion with Sebastián to delineate next Dial priorities.
- Overhead
 - Added a [Zensical section](#) to our `docs` meta-documentation. Thanks Kevin B., Brian S. for your initial exercising of this generator in a few sites already!
- Out of Office
 - May 19 AM: Drs appt.
 - May 22: vacation
 - June 29-30 vacation

Week 19

- 901502 - Ocean Soundscape

- Poster abstract submitted to OCEANS 2026
- Clustering pipeline exercised on “olive” datasets; no definitive conclusions yet.
- Meetings
- 901513 - Targeted Sampling by AUVs
 - Possibly looking into a tracking exercise in the near future
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash: Again exercising two modernized endpoints that are still pending to declare as fully completed (some issues manifested a few weeks ago, but probably for unrelated reasons).
 - TethysDash [API](#): new OpenAPI spec (completely auto generated) is now almost complete, that is, wrt legacy version; but still with several possible future enhancements.
- 902504 - Scalable Semantic Mapping
 - Some assistance to Dial users.
- Overhead
 - Attended some abstract presentations.
 - Started modernizing our [docs](#) service by allowing (for now, in an opt-in fashion) the use of [Zensical](#) as documentation generator instead of MkDocs. Initial testing, no documentation yet; stay tuned.
- Out of Office
 - May 8, 22: vacation
 - June 29-30 vacation

Week 18

- 901502 - Ocean Soundscape
 - OCEANS 2026 abstract/coordination with co-authors
 - Looking into exercising the clustering pipeline I recently put together also on various “olive” datasets provided by Franny O. and Jim D.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysAI: Started adding MCP capability to the prototype, and is looking very good.
 - TethysDash [4.99.50](#): Fixed a regression revealed with the WHOI instance upon upgrading to the latest version. The regression was related to the traditional user authentication system. Also coordinated with Karen as that's the system dash5 uses.
 - TethysL now [4.9.4](#), bringing resiliency, in particular for the VS Code extension, when trying to parse C++ sources with errors like a missing `#include`'d header, as recently noted by Yanwu.
- 902504 - Scalable Semantic Mapping

- Dial [2.2.8](#).
- Overhead
- Out of Office
 - May 8, 22: vacation
 - June 29-30 (tentative) - vacation (family reunion in Florida)

Week 17

- 901502 - Ocean Soundscape
 - Group discussion and prepping Oceans 2026 abstracts.
 - A fix to the daily humpback whale detection cronjob.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - Dash4 [4.98.8](#), including fix to regression reported by Monique.
 - Looking into expanding the TethysAI prototype a bit, while also incorporating preliminary MCP services in the TehysDash backend.
 - Assisted Karen to fix docker compose issues and diagnosing email notification problems related to dash5.
- 902504 - Scalable Semantic Mapping
 - New Dial versions [2.2.6](#), [2.2.7](#), with various enhancements, in particular with a significantly improved backend-frontend async notification mechanism.
- Overhead
 - Dependabot alerts/PR merges in a few projects.
- Out of Office
 - May 8, 22: vacation
 - June 29-30 (tentative) - vacation (family reunion in Miami)

Week 16

- 901502 - Ocean Soundscape
 - Experimentation with AVES, UMAP, and clustering toward characterization of humpback whale song units. [Presented results](#) to the team last week, and here's the [code repo](#).
 - Using [sonus](#) to continue the experimentation while taking advantage of GPU.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - On 2026-04-10 afternoon, incoming email handling in TethysDash got broken due to the expiration of the M365 client secret. Thanks again to all of you who helped diagnose and fix the issue, in particular, Andrew M., for setting up a fresh secret. To help prevent this from happening again, TethysDash [4.99.47](#), implements a mechanism to notify admins when the

client secret is nearing expiration. Andrew tells me he will also be implementing “a script that will query applications in M365 for tokens or certs that are expiring and send notifications”.

- Dash4 is now [4.98.7](#). (Thanks, Steve, for the suggestion.)
- 902504 - Scalable Semantic Mapping
 - Dial: Various versions during that last several days, now [2.2.5](#). Enhancements / fixes include: auto sync of markers across multiple frontend instances; file browser adjustments; simplified view (to facilitate use by non-operator users, while still allowing some functions like creating/editing markers); dependabot updates; Quasar upgrade.
- Overhead
 - Internship candidate interviews, selection.
 - Moved to my new OFFICE: A115.
- Out of Office

Week 15

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office
 - April 1-2: Drs. appt, plus vacation

Week 14

- 901502 - Ocean Soundscape
 - Internship candidate interviews
 - Experimenting with [AVES](#) for clustering humpback whale song detections (as given by the NOAA/Google model via [our tool](#)) into *unit types*.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - Added more file formats for ingestion in the Tethys RAG prototype using [Docling](#). Also started adding a provenance mechanism in a way that responses to the user include references to relevant materials.
- 902504 - Scalable Semantic Mapping
 - Dial maintenance release (quasar upgrade for the frontend)
- Overhead
- Out of Office
 - April 1-2: Drs. appt, plus vacation

Week 13

- 901502 - Ocean Soundscape
 - Internship applications review; scheduling interviews.
 - LLM related literature review
 - Group meeting
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - AI prototyping ([LRAUV operations assistant using RAG](#)), and discussion ([slides](#)) with Quinn S. and Kevin G. Next steps include reconnecting with AWS GenAI folks toward a POC.
 - SE interviews
- 902504 - Scalable Semantic Mapping
 - Dial use in recent expeditions:
 - “Dial was fundamental for planning and launching missions”
 - Real-time detections successfully exercised
 - Per some meetings/discussions, added various Dial tasks in Notion.
- Overhead
 - IE group meeting / brown bag
- Out of Office
 - April 1-2: Drs. appt, plus vacation

Week 12

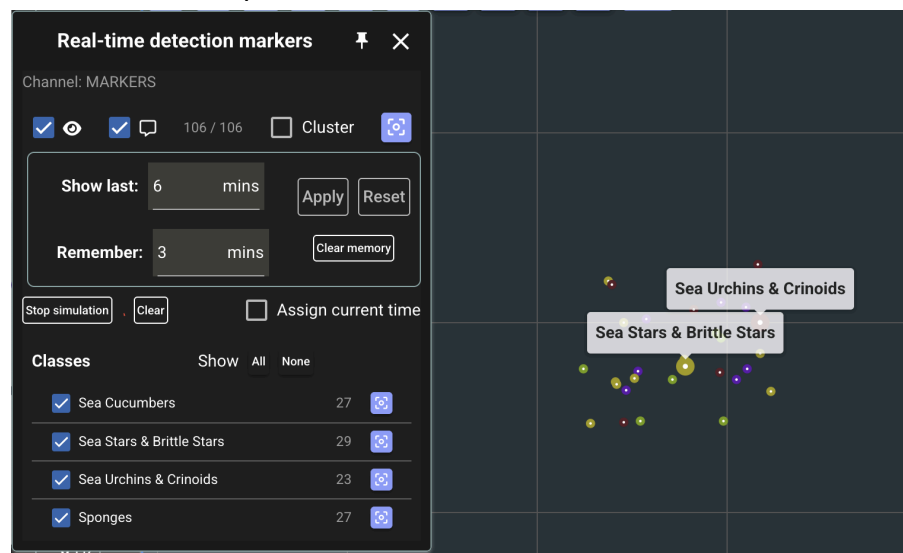
- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office

Week 11

- 901502 - Ocean Soundscape
 - Meetings. Check point with John to talk about possible next tasks for the project.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash backend: The recent LRAUV operations have exposed some unexpected regressions arising from the several significant internal changes done over the last few weeks. Two endpoints in particular will need additional revision. For now, I enabled the previous version of such

endpoints, and all seems stable now. Also, a long standing bug with the resyncing of the LRAUV config and mission clones seems to have been fixed.

- Saab: Some additional meetings with Saab these last couple of weeks. A functional TethyDash instance is now in place on an EC2 instance. We've tested incoming and outgoing email functionality. Also, we tested HTTP connection with a sim running on an MBARI server, and also with an old sim they have on their side. Some of the next steps for them include enabling HTTPS access and setting up and testing Iridium comms (i.e., emailing) with an LRAUV, probably a sim (but not sure if possible) and real vehicles.
- WHOI: A brief exchange with them regarding KML display in dash4, and possible alternatives (e.g, tile layers). It seems they've been using a KML file satisfactorily.
- 902504 - Scalable Semantic Mapping
 - Focused work on [Dial](#) these days, with various versions released and enhancements including the display of real-time geo-located detection markers on the map.



- Overhead
- Out of Office

Week 10

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office

- Feb 24 morning: family business

Week 9

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office
 - Feb 24 morning: family business

Week 8

- 901502 - Ocean Soundscape
 - A certain cronjob failing for the last couple days has revealed a more general issue.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - Troubleshooted LRAUV-TethysDash http comms issues, which ended up caused by some apache misconfig of my own making!
 - TethysDash [backend modernization](#): 8 more endpoints migrated to Quarkus JAX-RS.
 - Saab: Weekly meeting (Terry Ward, Tim Powel). Terry is still working on setting up an Amazon EC2 instance.
 - The recent [tethysdash2](#) OS patch (which seems to have also involved a docker update), triggered the need to update the Watchtower service (used for continuous deployment of several TethysDash related containers).
- 902504 - Scalable Semantic Mapping
 - CoMPAS expedition past Friday went well, including Dial use (I'm told).
 - Meetings; new Dial feature requests.
- Overhead
 - Compensation presentation
- Out of Office
 - Feb 24 morning: family business

Week 7

- 901502 - Ocean Soundscape
 - Group meeting.
 - New PBP release (previous one was in Nov 2025).
- 901513 - Targeted Sampling by AUVs

- Tentative plans for patch tracking by mid March.
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysDash: Working on a couple of the ~15 endpoints still to be migrated to Jakarta EE.
- 902504 - Scalable Semantic Mapping
 - Dial [1.9.94](#).
- Overhead
 - Issues with recent Thalassa maintenance.
- Out of Office

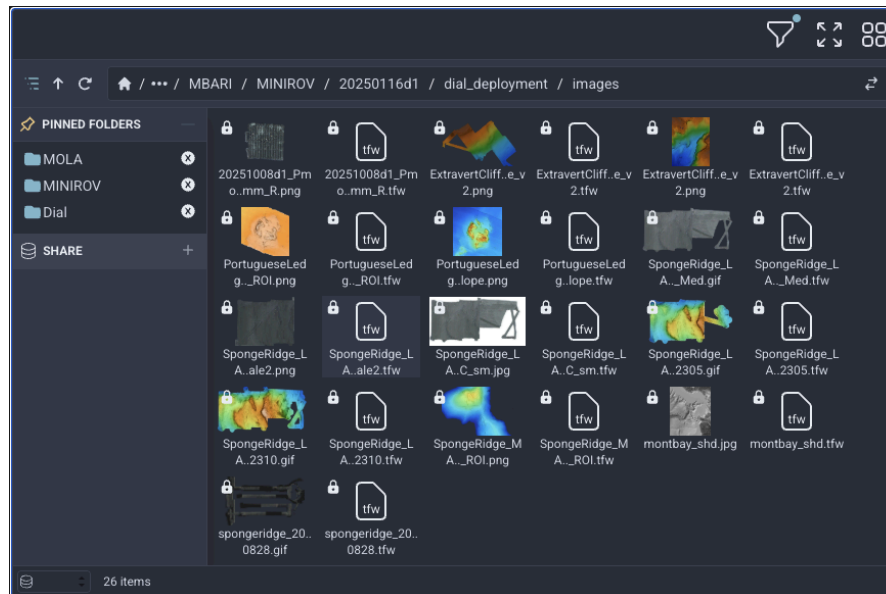
Week 6

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
- 902504 - Scalable Semantic Mapping
- Overhead
- Out of Office

Week 5

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - A significant TethysL [4.9.0](#) release, with enhanced parsing of all relevant C++ LRAUV sources. This already reveals issues in a number of missions, but they are flagged as warnings instead of errors to avoid disrupting current makefiles and build scripts while the missions can be fixed.
 - Exchanges with WHOI regarding their dash configuration.
 - Saab wants to resume dash discussions; meeting tomorrow 1/29.
- 902504 - Scalable Semantic Mapping

- Dial UX: Completed Vuefinder based feature to navigate and interact with the file share.



- Overhead
 - Postdoc applications evaluation.
 - Annual performance review.
 - IE group mtg.
- Out of Office

Week 4

- 901502 - Ocean Soundscape
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysL [4.8.4](#).
- 902504 - Scalable Semantic Mapping
 - Check-in with Sebastián to delineate overall plans and some next tasks.
 - More Dial internal code cleanup/upgrades.
- Overhead
 - Performance review tasks
- Out of Office
 - Jan 16: vacation

Week 3

- 901502 - Ocean Soundscape
 - Migrated [humpback-whale-song-detection](#) to using [uv](#) as project manager (from poetry).

- Completed Google/NOAA humpback whale song detection scores for all our time series. Moving forward with a regular update, put in place a daily cronjob to generate the score product for the previous day.
- PBP:
 - Added a [Release Notes](#) page to the PBP documentation.
 - Migrated type checker from mypy to [ty](#), which already proves its power by uncovering several issues. A future modernization update is to also migrate to [uv](#).
- (From EC note being submitted by JR). The Ocean Soundscape team met with personnel from NOAA Fisheries and the NOAA Office of National Marine Sanctuaries this week. We are supporting their adoption of [open source software](#) co-developed by MBARI and a European colleague. The software processes voluminous passive acoustic monitoring data to compact standard data products, which in turn enable research for scientific and management purposes.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - Group meeting.
 - Dealing with an issue involving the service behind the dash4 TrackDB feature (which allows the display of other assets on the map, besides the LRAUVs). Dash4 settings that determine the time window for display may be involved when such a window is rather large, which may also happen when selecting a long playback time range.
- 902504 - Scalable Semantic Mapping
 - Migrated Dial backend to using [uv](#) as project manager (from poetry).
- Overhead
 - IE group meeting.
- Out of Office
 - Jan 16: vacation

Week 2

- 901502 - Ocean Soundscape
 - Jupyter@gizo now uses a persistent access token.
 - Running Google/NOAA humpback whale song detection model to complete the regular scores for 2025. Also doing some maintenance of the code and providing assistance to run the core scoring logic in the realtime workflow that Danelle is setting up.
- 901513 - Targeted Sampling by AUVs
- 901809 - Deep Sea Bioinspiration
- 902101 - LRAUV Technology Development
 - TethysL [4.8.2](#), Dash4 [4.97.1](#), TethysDash [4.99.22](#).

- Submitted [PR in lrauv-application](#) to install tethysl from the linux standalone release instead of the release that requires java on the system.
- 902504 - Scalable Semantic Mapping
- Overhead
 - Migration of tethysdash2 from CentOS 7 to Ubuntu completed, and all should be in place for when LRAUV operations resume.
 - Updated various entries at <https://docs.mbari.org/internal/se-ie-doc/systems/se-ie-servers/>
- Out of Office
 - Jan 2–5: vacation
 - Jan 16: vacation