

Brian Schlining Sorted By Project

500055 - VARS, M3/RS, DSG

- Updates to annosuarus-java-sdk, oni-java-sdk, raziel-java-sdk, and vampire-squid-java-sdk to make them compatible with Java's module system so that they can be used in Mondrian. (Week 2)
- Major new release of Mondrian, an image annotation app. (Week 3)
- Added NOT LIKE query to annosaurus to support gridview. (Week 3)
- Meeting with Kris Walz and Neil Conner to close out the titan to thalassa migration of all MBARI videos. (Week 3)
- Now that the VARS system includes web applications (query, kb editor), the microservices need to be put behind a proxy with an SSL certificate. Created vars-quickstart-public to simplify creating a VARS stack with SSL for non-MBARI labs. This project is based off of vars-quickstart-mbari which is used at MBARI to run VARS on the ships. (Week 3)
- Investigate issues with merging Mini ROV annotations with navigation and CTD (Week 4)
- Added change-password command to the vars-cli (Week 4)
- Adding code to standardize bounding box JSON that's generated by the various tools. (Week 4)
- Various fixes to the oni-java-sdk and annosaurus-java-sdk (Week 4)
- Published first "official" release of the knowledgebase editor for the video lab to use. (Week 4)
- Fixes for Oni. mbari-org/kb#15, mbari-org/kb#16 (Week 5)
- The server, ione.mbari.org which runs the external Deep-sea Guide, is slated for retirement (it runs CentOS). Spun up a new VARS stack, query, and the in-development DSG on ione's replacement, calypso.mbari.org. Changes in this migration include moving the database from the server dione to rhea, updating the embargo SQL, and adding support for calypso to vars-quickstart-mbari. (Week 5)
- Updates to annosaurus, vampire-squid, and oni so that they can run in read-only mode (for deployment to support the external query and Deep-sea Guide. (Week 5)
- Updated the vars-cli with vars anno configure-jdbc and vars expd configure-jdbc commands needed for locally storing database credentials used for some operations such as merging annotation with ship data. (Week 5)
- Ported pythia from java to python (pythia-python) in order to take advantage of ultralytics. Pythia is a web service for running ML inference on images. UI, API (Week 5)
- Updating the build for vars-annotation and integrating auto-generated SDKs to replace bespoke web service clients (Week 5)
- Major updates to the VARS Annotation build. (Week 6)

- Updates to Oni and Vampire-squid to support new features in the VARS Annotation. (Week 6)
- Update to external embargo SQL for public annotation data. (Week 6)
- Updates to service monitoring (prometheus and grafana) (Week 6)
- Updates to Oni to support the KB Editor app (Week 6)
- More fixes to external services running in read-only mode. (Week 6)
- The video lab is working on cleaning up data from VERY old dives (originally annotated in VICKI). There's been a number of tasks to help them out: (Week 7)
 - New features and updates were made in vars-cli, oni-java-sdk, annosaurus-java-sdk, vampire-squid-java-sdk, annosaurus, and VARS Annotation to support their tasks (Week 7)
 - Updates to VARS Annotation for moving annotations to different media. (Week 7)
- Major New release of VARS Annotation (v2.3.1) for Mac/Win (Week 7)
- Upgraded jsharktopoda to latest JavaFX/JDK version and pushed new release for Mac/Win (Week 7)
- A number of VARS Annotation releases were published. This was a major overhaul under-the-hood as well as to the build system. As such, there were a few follow ups to address newly introduced bugs. This also addresses a long-standing issue when moving large numbers of annotations to different dives or media. (Week 8)
- Updates to the vars knowledgebase editor deployed (Week 8)
- Setting up scheduled task to convert 4k/HEVC videos to HD/H264 proxies (to support web viewing of 4k videos across different browsers) (Week 8)
- Added docs for support tasks that are run using vars-cli (Week 8)
- New release of Sharktopoda to address issues on Mac Tahoe (Week 8)
- New maintenance release of jsharkopoda (Week 8)
- Updates to panoptes and nginx configuration to handle 4k framegrabs. The latest framegrabs can weigh in at 40MB. (Week 8)
- Worked with IS to address issues with migration of framegrabs from atlas to thalassa. (Week 8)
- Added new support functions to vars-cli for managing media (Week 8)
- Update to Oni to allow additional taxonomic levels as requested by the video lab. (Week 9)
- Improvements to bulk editing in VARS Annotation (Week 9)
- Updates to the VARS Query. The save results to TSV action was using the first JSON record in the results to build the column headers, but annotations are sparse data and sometimes the first record was missing fields that were present in other records. This could result in columns, like salinity, not being included in the results. (Week 9)
- Started a draft revision of MBARI's public VARS website which is incredibly out of date. (Week 9)
- Updates to the VARS_KB database and Oni to support the new Knowledgebase editor app. Added additional accepted taxa-levels to Oni (Week 10)

- Fixed issues (#295, #296) with Media in the VARS_KB database. (Week 10)
- Added Annotated images pages to the new Deep-sea Guide. Users can toggle between “select” images and random images in the upper-right corner.
<https://gehenna.shore.mbari.org/dsg/#!/annotated/images/concept/Pandalus%20platyceros> (Week 10)
- Added the “Browse Taxonomy” feature to the new Deep-sea Guide:
<https://gehenna.shore.mbari.org/dsg/#!/browsetree/concept/object> (Week 10)
- Beholder is a service for grabbing images from videos on demand. It gets hammered by some apps like vars-gridview. Made improvements to the cache to remove potential performance issues. (Week 10)
- VARS Query now allows users to add a concept hierarchy to each annotation in the search results when they are saved. (#13) (Week 10)
- The recent update to search.mbari.org introduced another issue with framegrabs for the video lab that was addressed (#299). (Week 10)
- Working on adding support to vars-quickstart-public to generate Let’s Encrypt SSL certificates. (Week 10)
- The latest macOS (Tahoe 26.3) introduced changes to Apple’s code signing requirements. Updated builds of vars-annotation, jsharktopoda, and mondrian to the latest requirements. (Week 10)
- Work on the new DSG to add various data plots. (Week 12)
- Ported Charbydis from Helidon to Quarkus and deployed. All VARS services are now either based on Tapir or Quarkus to simplify maintenance. (Week 12)
- Updated Raziel to handle Charybdis’ new health endpoint format. (Week 12)
- Added support for admins to make direct SQL calls easily, without requiring users to install additional tooling, in vars-quickstart-public (VARS orchestration project) (Week 12)
- Wrote a new grafana dashboard to improve performance monitoring of core services. This was needed to ensure moving the carbon flux annotations to the current VARS system was not impacting the video labs. (Week 12)
- Updated pythia to the latest ultralytics version and deployed the video labs latest yolo v26 model. (See Demo UI) (Week 12)
- Updates to the VARS Query (Week 12)
- More change in VARS Annotation to accommodate changes in mac app codesigning. (Week 12)
- New release of VARS Annotation to address some JavaFX version bugs. (Week 13)
- A number of quality-of-life improvements to the in-development DSG
<https://gehenna.shore.mbari.org/dsg>. Also support for on-demand depth and time histograms:
<https://gehenna.shore.mbari.org/dsg/#!/plots/concept/Pandalus%20platyceros/Monterey%20Bay%20Region> (Week 13)
- Added an event bus to VARS to publish CRUD notifications to nats. (Week 13)
- Sleuthing out issue in new kb editor that only occurred in production, not in dev mode. (Week 14)

- Migrate Mini ROV annotations into shore system (Week 14)
- Upgrade the Mini ROV annotation system to the latest and greatest. (Week 14)
- Added MBARI specific regions to our marine-regions service. These are used in the VARS Query and new DSG. Users can just type MBARI in the search box to filter for regions that are most relevant to MBARI research. (Week 14)
- Added a new automated task to adjust the media start time and duration for all real-time media. (Week 19)
- Many, many improvements to the new Deep-sea Guide (in-development): <https://gehenna.shore.mbari.org/dsg/#/> (Week 20)
- Created the VARS Video Browser; a web app for easily viewing videos in a dive. Example: <https://m3.shore.mbari.org/videobrowser/?name=Doc+Ricketts+1234> (Week 20)
- Add improvement to VARS Query allowing downloads to include the major taxa groups in separate columns. (Week 20)
- Automated clean up of references in the VARS Knowledgebase (Week 20)
- Working on MidSEC presentation (Week 21)
- Working on a presentation for MidSEC. (Week 23)
- Updates to vars-quickstart-public in preparation for MidSEC. (Week 23)
- Updates to pythia-python so it can be used behind a shared proxy. (Week 23)
- Updated the VARS stack on the R/V David Packard (Week 23)
- Updated the external embargo SQL for annotations in prep for releasing the new Deep-sea Guide (DSG) externally. Working through the details of migrating the external DSG from ione.mbari.org to calypso.mbari.org. (Week 23)
- Working on MidSEC presentation (Week 24)
- Deployed new Deep-sea Guide internally and externally. (Week 24)
- Work in prep for releasing the new external Deep-sea Guide (Week 24)
- Addressed video labs request for a method to download large image queries from the VARS Query. Due to browser limitations, wrote a command line tool. (Week 24)
- New release of VARS Annotation (v2.4.0). This addresses issues with framecapture on very fast computers, misc bugs, and adds features requested by for at-sea annotation. (Week 24)
- Wrote a python script for Steve Haddock to scrape framegrabs from the VARS server while at sea. (Week 24)
- Worked with Nancy on 2027 Video Annotation DM proposal (Week 24)
- Fixed issues with framecapture on the David Packard prior to Steve's cruise. (Week 24)
- Investigate issues with merging Mini ROV nav/ctd for dives 116-128. (Week 24)
- Updates to the public VARS orchestration project, vars-quickstart-public, in preparation for MidSEC. (Week 24)
- Reworked gehenna.shore.mbari.org's SSL certificate to align with IS's new recommendations. (Week 27)
- Addressed issues when localizing annotations using VARS Annotation and Sharktopoda. (Week 28)

- New releases: (Week 28)
 - <https://github.com/mbari-org/vars-annotation/releases/tag/2.4.1> (Week 28)
 - <https://github.com/mbari-org/vcr4j/releases/tag/5.3.6> (maven central) (Week 28)
 - <https://github.com/mbari-org/commons> (Java maven central, Scala maven central) (Week 28)
- Added symmetric encryption to Raziel to support storage of shared login credentials locally. A user supplies credentials to Raziel, and if valid, Raziel returns an encrypted file that can be saved locally and submitted as login credentials by other apps. Deployed to gehenna and m3. (Week 28)

901221 - Midwater Time Series

901809 - Deep Sea Bioinspiration

- Fixed issues with merging branches from the VARS knowledgebase with WoRMS data in the worms-server (Week 4)
- Investigated some quirks with the FathomNet-NCEI pipeline. (Week 8)
- Fixes to external Oni (kb server) to support FathomNet. (Week 12)
- Preparing archival package of FathomNet data to submit to NCEI for long-term archiving. The package is a CSV dump of a subset of the database, a DDL to recreate a mini-fathomnet, and a script to rebuild a mini-database from the package contents. (Week 19)
- Submitted the first archive package of FathomNet data to NCEI. (Week 20)
- Writing loader to migrate full coverage annotations from VARS to FathomNet (Week 21)
- Reviewed Kevin B's pull request for worms-server. Added a fix for recent changes to the worms data format. (Week 24)
- Follow-up with NCEI regarding FathomNet's archive data submission. (Week 27)

902111 - Carbon Flux Ecology

- The migration code is nearly complete. Did a test run for migrating the annotations from old vars on perseus:VARS_IMAGES database to the new one on venus:M3_ANNOTATIONS. Modified the code to be able to run in batches so it can be run in off hours so as to not impact the video lab. (Week 2)
- Dusting off the Mondrian code to verify that the data migration worked and is compatible with our current tools. Working through changes required by latest JDK and Gradle tools (Week 2)
- Continuing work on migrating annotations from a legacy VARS database to the current system. Verified that the migrated localization (points, lines, polygons) show up in Mondrian. (Week 3)
- Quite a bit of work to finalize the migration of Station M image annotations from a very old VARS database into our current system. (Week 9)

- Updates to vars-legacy-migrator to handle creative naming of Station M deployments. (Week 9)
- Some Station M deployments contain over 12K annotations. Updated annosaurus to improve bulk insert performance into the database to accommodate this. Completed this in v1.4.12 (Week 9)
- Investigating timeouts when doing very large bulk inserts into annosaurus on the production database. (They work fine on our testing database). Switched annosaurus and vampire-squid from random UUIDv4 to the new-ish UUIDv7 for primary keys to reduce index fragmentation. Rebuilt database indices. Made optimizations to annosaurus' bulk inserts (See AnnotationController.scala and ImagedMomentController.scala). (Week 10)
- Running migrations to move legacy image annotations to the new database. (Week 12)
- All Station M deployments have been migrated from the old vars system into the current one. (Week 13)

902403 - Expedition DB Modern

- Met w/ Kevin Gomes to discuss next steps for development. (Week 9)
- Added data migrations between the existing database and the new design for ROV CTD config related tables, video assets and Waypoints. <https://github.com/mbari-org/expd-support> (Week 13)
- Refactoring design to allow external files (web hosted) to be attached to expeditions, dives, people and devices. Also refactoring waypoints into points-of-interest that can be associated with dives or expeditions. <https://github.com/mbari-org/expd-rest-api> (Week 13)
- Added support for publishing notifications for creating/update/delete objects to Nats for notification support. (Week 13)
- A lot of work updating the design of the new database and supporting infrastructure. (Week 14)
 - <https://github.com/mbari-org/expd-rest-api> (Week 14)
 - <https://github.com/mbari-org/expd-support> (Week 14)
 - <https://github.com/mbari-org/expd-quickstart> (Week 14)
- Wrote an abstract for extending this project for one additional year. (Week 14)
- Adding additional migrations and improvements to the REST API. (Week 19)
- Added support for uploading and association arbitrary files to expeditions, dives, and people. (Week 19)
- Added support for creating points-of-interest and associating them to expeditions, dives, and devices. (Week 19)
- Working with Kevin Gomes and IS on moving from Duo to Entra for authentication. (Week 19)
- Get shipdata share access set up for the expd-dev server. (Week 20)
- Work on supporting file uploads, linking to data in EXPD, and archiving into shipdata (Week 20)
- Working on the 2027 project proposal. (Week 23)

- Working on 2027 proposal (Week 24)
- Working with Kevin, Andrew, and Travis on cross-app authentication using Entra. (Week 24)
- Investigating data pipelines for new EXPD. Added data transforms for derived oceanographic data (they were previously in stored procedures). (Week 27)
- Added endpoints to emulate the existing data access servlets on coredata. (Week 27)
- Updated code that migrates the existing database to the new design to match changes in the database schema. (Week 28)
- Investigating the use of SQL Server's columnstore indexes for the data tables that hold many 10s of millions of records (e.g. CTD, Navigation, etc). Running load tests against <https://github.com/mbari-org/expd-rest-api>. (Access to data will be here) (Week 28)
- Added generic parsers for CSV and MBARI's dat format to support data ingest in the REST API. (Week 30)
- Working on ingest and management of raw ship data formats. (Week 30)

902604 - VARS-ML Vector Database

- In order to support data sync, working on adding publishing CRUD notifications to an event bus when annotations are created, updated or deleted. (Week 12)

Out of Office

- April 6 - April 14: Vacation
- May 18 - May 22: Marine Imaging Workshop, Gibraltar
- April 6 - April 24: Vacation
- Jun 13 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
- Feb 13: Vacation
- Jun 11 - Jun 19: Midwater Science and Engineering Community Conference, Sweden.
- Jun 22 - Jun 26: Vacation
- April 6 - April 24: Completed the Camino Portuguese - 260km walk from Porto to Santiago de Compostella
- May 14: Vacation
- May 14, 18: Vacation
- Jul 27 - Aug 6: Vacation
- Jul 13 - 17: Vacation

Overhead

- Helped Astrid Leitner (OSU) address issues with their labs VARS server. (Week 3)
- Helping Lisa Krigsman (NOAA) address issues with video formats for their VARS system (Week 3)

- Meeting w/ Tobias Ferreira (NOC) to discuss annotation strategies for the British Oceanographic Data Centre. (Week 4)
- Updated <https://miw2026.org/> (Week 4)
- Completed materials for annual reviews. (Week 4)
- Updated my github repos to be compliant with various open-source licenses. (Week 4)
- Did a number of updates to the computer perceptron to bring it back up to date as a server for pythia. (Week 5)
- Coordinating with Karen Osborn about a data management / bioinformatics session at MidSEC (Week 5)
- Working on abstract for MidSEC (Week 6)
- Reviewed a number of abstracts for upcoming conferences. (Week 6)
- Discussion with Sebastián Rodríguez Martínez about adding CompAS images to VARS. (Week 6)
- Meeting with Catherine Borremans on lending MBARI expertise (on image management, data management, AI classification, etc) to an EU call to support the Treaty on Biodiversity Beyond National Jurisdiction (BBNJ) (Week 7)
- Joined the Science Committee for the Marine Imaging Workshop 2026 (Week 7)
- Create a doc for using VARS for real-time annotations for SOI (Week 7)
- Created a new VARS orchestration project for DARC so they can use our new web-based query and kb editors. This is based off of vars-quickstart-public, which in-turn is based off of the one we use on our ships: vars-quickstart-mbari (Week 9)
 - Also added varsq backup and varsq restore subcommands to both public projects to create and restore from database snapshots. (Week 9)
 - Integrated pythia-python into the both public projects and added an autofetch of FathomNet's megalodon model if no user provided model is present. Pythia is integrated with various VARS tools to allow ML assisted annotation. (Week 9)
 - Organized a meeting with DARC next week to upgrade their VARS system. (Week 9)
- As a member of the Marine Imaging Workshop's science committee, Brian reviewed submitted abstracts. (Week 9)
- Updated <https://miw2026.org/> with the science committee info. (Week 9)
- Updated the Marine Imaging Workshop 2026 web site. <https://miw2026.org/> (Week 10)
- Worked with DARC to migrate their VARS orchestration code to vars-quickstart-darc (Week 10)
- Transitioned DARC to a new vars orchestration project. Finished updating all the VARS services (DARC was several years out of date). Worked with them through handling the changes in the services. (Week 12)
- Working with Astrid Leitner at OSU to move to the new vars orchestration project. Working through issues getting an SSL cert from their IT department. (Week 12)
- Updates to <https://miw2026.org/>. Don't forget to register for the Marine Imaging Workshop (Week 12)

- Some support for both DARC and OSU's VARS installations (Week 13)
- Updates to vars-cli code that merges piscivore annotations with position and CTD to accommodate recent changes in STOQS (Week 19)
- Working on presentation for MidSEC (Week 20)
- Registered Triton videos in VARS (Week 20)
- Migrated a number of repos documentation from mkdocs to zensical (Thanks Carlos for setting that up!) (Week 20)
- Work with OSU to help with setting up SSL for their VARS installation. (Week 20)
- Registered/archived a Mega Coral Cam data set for Jim Barry's lab to provide a data set for his intern to work on. (Week 23)
- Reviewing submissions to Oceans 2026 (Week 24)
- Finished expense reports for MidSEC. (Week 27)
- Started dialog with Kerry Howell about setting up VARS in her lab. (It was recommended to her by a lab in Galway using VARS) (Week 27)
- Started dialog with Manu Prakash about setting up VARS in his lab. Tentatively scheduled for a visit in August to help set them up. (Week 27)
- Proposals. (Week 27)
- Assist OSU with media registration in their VARS system. (Week 30)