

902111 - Carbon Flux Ecology

Week 29

1. Danelle Cline
 - a. Data mining for rare taxa in Planktivore low-mag using vector database VSS populated with Fernanda's labels.
 - b. Maintenance on deployment scripts to support both ansible and manual deployments
2. Karen Salamy
 - a. Features
 - i. Removed the Images tab from Camera Views — the camera panel is now Videos-only mode
 - b. Bug Fixes
 - i. Fixed TypeScript errors in CamerasTab and SinkerSchematic
 - ii. Fixed duplicate useCameraLastCaptureTimes hook calls and import in cameras.tsx
 - iii. Renamed cameraLastCaptureTimes → cameraLastCaptureTime to match hook declaration
 - iv. Fixed undeclared ADCP variable references (adcpLastDataParsed/adcpLastDataTimeRaw → adcpParsedTime/adcpLastDataTime)
 - v. **Note:** Work is on develop branch, not yet tagged for deployment.

Week 28

1. Danelle Cline
 - a. SINKER rsync migration completed; issues with file locking and backlog seem to be resolved
 - b. Advanced Jupyter notebook tutorials with download functionality; Fiftyone sync updates to add better dataset creation per users
 - c. Running VSS on planktivore low-mag to search for rare taxa
 - d. Issues with zmq-aggregator failures need further work. Thanks to Karen for her help with this.
2. Paul Roberts
 - a. SINKER data processing
 - b. SINKER data management
3. Karen Salamy
 - a. Met with SINKER Team yesterday to go over various requests for the SINKER Dash from the team.
 - b. SINKER Dash Bug Fixes / Improvements

- i. Improved Dash Health UI clarity and added SedFlux dual-instrument instrument cards — v1.0.32
 - ii. Fixed logs 404 error and cleaned up console output — v1.0.32
 - iii. Added null guards for sumDurations and calculateBaseTime to prevent duration crashes — v1.0.31
 - iv. Silenced noisy debug/warn logging in InstrumentsTab and useADCPSSSE — v1.0.30
 - v. Network health monitoring, toolbar widgets, camera controls, and API hardening — v1.0.29
- c. SINKER Dash Deployments
 - i. Tagged and deployed v1.0.32

Week 27

1. Danelle Cline
 - a. Successfully migrated SINKER log files using rsync with new service account, closing issue #3 (<https://github.com/mbari-org/deploy-sinker/issues/3>).
 - b. Advanced Jupyter notebook tutorials for the group, including adding download functionality across media and localizations and mount to CFE lab share.
 - c. Redeployed [mantis](#) with new automated SSL certificate renewal.
2. Karen Salamy
 - a. Merged PR #70 — Dash-Health UI clarity, SedFlux dual-instrument cards, logs 404 fix, console cleanup (merged Jun 29)
 - b. Merged PR #72 — Show 0.0% humidity instead of N/A when reading is zero (merged Jun 30)
 - c. Deployment Coordination with Danelle - A bandwidth spike on production (ZMQ stream containers consuming ~10 Mb/s) triggered a coordinated response between Danelle and I that led to several infrastructure improvements:
 - i. Danelle granted group-write access to /opt/deployments/sinker on both servers
 - ii. Azure AD / NextAuth secrets moved from compose.yml into .env; saved to BitWarden SE-IE collection
 - iii. Ansible agreed to only update version lines in .env, never overwrite the file
 - iv. jetson-monitor and sinker-status-logger added to compose.yml (were previously manual containers)
 - v. Logs tab enabled; sinker-status-logs volume mounted on dashboard
 - vi. All 15 services now compose-managed on production
 - vii. Unified compose.yml from git (PR #6) agreed as target state — pending Danelle's merge
 - viii. sinker-backend updated to v0.13.0 on both servers (verified against checklist before deploying)

Week 26

1. Karen Salamy
 - a. SINKER (sinker-dash) - In Progress (PR #57)
 - i. Implemented NetworkTab with real live data, toolbar health widgets, and status-logger improvements
 - ii. Hardened API layer: 503 handling on missing SINKER_API_URL, power draw coercion, Redis default port, isOnline checks
 - iii. Restored camera aliases and power_status integer enum
 - iv. Added filesystem cache, jq fallback, and nc guard for instrument status
 - v. Fixed SSE relative import path and keyboard accessibility on network widget
 - vi. Addressed 10+ rounds of Copilot PR review comments
 - vii. Reviewed the 2027 SINKER Proposal and commented.

Week 25

1. Danelle Cline
 - a. Proposal input for lab and SINKER
 - b. Deployment of [stratagrid](#) to visualize training data
 - c. Working on active learning tutorials to teach lab how to build classifiers
2. Enoch Nicholson
 - a. Tested acoustic release with bucket; confirmed functional and handed remaining mods to the team
3. Karen Salamy
 - a. Working with Andrew McMann on getting MBARI SSO working on the sinkerdev server.
 - b. Other sinkerdev work (not on production yet):
 - i. Wired real data into the Network tab with connectivity scripts and a toolbar health dot
 - ii. App version badge baked into the build via GIT_VERSION and displayed in the nav bar
 - iii. Power status fallback logic using power_draw for lights, camera strobe, and SED status

Week 24

1. Danelle Cline
 - a. Migrating syncing to a new service account
 - b. 200K plankton images stratified samples across depth/time were clustered and loaded for the team to annotate
2. Enoch Nicholson
 - a. Helped come up with a concept for an acoustic released recovery line. Yamir to build.

3. Karen Salamy
 - a. Fixed a silent breakage in the nginx deployment where docker compose pull was replacing the custom MBARI nginx image (compiled with RTMP + fancyindex) with a stock Docker Hub image, causing all routing to fail with no error output. Added pull_policy: build to force Docker Compose to always build nginx from the local Dockerfile on both dev and prod. (deploy-sinker, Jun 4)

Week 23

1. Danelle Cline
 - a. Finished data mining 200K ROIs Planktivore low-mag 2024-2025 archive for model training. Stratified across depth/month/hour to represent diversity and clustered using [SDCAT](#) using high-mag model. Data loaded into mantis and Voxel51 for advanced annotation by lab members. Meeting with lab members next week to discuss data management.
 - b. Fixed some issues with cropping failures
 - c. SINKER storage discussion with IS
2. Multiple rounds of Copilot review fixes on PRs #657 and #578
 - a. Camera System (May 19–23)

Week 21

1. Danelle Cline
 - a. Working on particle detection and classification pipeline for Triton
 - b. Team working on evaluating model performance of classification model on ISIIS mission
 - c. [Fixed issue 16](#)
 - d. Discussed Planktivore High Magnification below-surface data mining with Fred Bahr. All missions, except the CFE lab planktivore mission (awaiting PRobert's time-correction on this) has been preprocessed to parquet.
2. Karen Salamy
 - a. May 19-20, 2026
 - i. Diagnosed sinkerdev outage — all containers were healthy but the site was unreachable due to a Docker network/iptables issue; resolved by bringing the stack fully down and back up
 - ii. Pulled production watchdog fix (commit c438114) — run_stream.py patch now restarts dead camera worker processes (PlanktivoreHM, PlanktivoreLM, Shadowgraph) automatically; sinker-stream now requires ≥6 live Python processes to pass health checks
 - iii. Silenced all browser console logging — commented out console.log calls across 31 frontend source files (components, hooks, API client)

- iv. Fixed recurring Controls & Environs breakage — 9 API proxy route files were constructing the wrong FastAPI URL (appending /api which FastAPI doesn't use); all 9 files corrected
- v. Prevented the bug from recurring — added a shared lib/backendUrl.js utility, a pre-build URL check script (check-backend-urls.sh), and a canonical build.sh that blocks the Docker build if the pattern reappears
- vi. Updated health test suite — rewrote test_sinker_health.py for the new per-camera-container architecture; now passing 59/59. Noted environment difference: sinkerdev uses Redis on port 6380 while production uses 6379 — the test now correctly targets the proper port on the server it runs on.
- vii. Pushed all fixes upstream — rebased and pushed corrected source code to mbari-org/sinker-dash on GitHub and updated mbari/sinker-dashboard:latest on Docker Hub so future deploys and image pulls are clean
- viii. Tagged builds v1.0.9 through v1.0.13 throughout the day as fixes were validated

Week 20

- 1. Danelle Cline
 - a. Registered a few Triton videos on mantis.
 - b. Developing processing pipeline to separate particles from midwater taxa. This will leverage models created for MTS and Biodiversity. Models exported to ONNX format.

Week 19

- 1. Brent Jones
 - a. Deployed and recovered CPF + snocam
- 2. Karen Salamy
 - a. Awaiting team images to add to UI

Week 18

- 1. Brent Jones
 - a. Prepping CPF for deployment

Week 17

- 1. Danelle Cline
 - a. Helping team with SINKER processing pipeline.
- 2. Brent Jones
 - a. Clean up after Packard cruise
- 3. Karen Salamy

- a. Fixed SINKER production build issue regarding Redis: The stock backend logic had a systematic decode bug for power_status; config was not the culprit. What's on disk now is compose + a patched redis_ts.py overlay until Danelle lands the same fix in fastapi-sinker and you deploy a proper image tag instead of (or in addition to) the mount.
- b. Attended SINKER Meeting last Wednesday regarding data and graph presentation within the UI
- c. Will begin focusing more on SINKER now that SMDB work is complete.
- d. Addressed the following PR's:
 - i. PR #55 fix(api): graceful offline handling for ADCP-absent deployment
 - ii. Issue #54 fix: v1.8 API regressions — ADCP-absent deployment...
 - iii. PR #57 fix: Health UI, toolbar camera status, Data page connection state
 - iv. Issue #56 fix: Health dashboard accuracy, toolbar camera status...

Week 16

1. Brent Jones
 - a. Packard cruise
2. Enoch Nicholson
 - a. Supported SINKER deployment off Packard

Week 15

1. Rich Henthorn
 - a. SINKER deployment on MARS during Durkin cruise
2. Enoch Nicholson
 - a. Moved SINKER to the dock and loaded supplies onto the Packard
3. Karen Salamy
 - a. Re-deployment this week. I spent some time updating the SINKER UI to deal with system and instrument sensors/failures/disabled, etc in RT. The next step will be graphing and charting of data to the UI in RT.

Week 14

1. Danelle Cline
 - a. Populated VSS (Vector Search System) with noise-only embeddings for ISIIS, computed scores, loaded into mantis, and exported through Voxel51 community sync service. Fernanda is comparing against classifier scores.
2. Brent Jones
 - a. Prepped Sed Trap Benthos modem and deck box for upcoming cruise
3. Enoch Nicholson
 - a. SINKER packard operations

4. Paul Roberts
 - a. Triton camera maintenance and testing for DP cruise
 - b. SINKER support planning to redeploy on DP cruise
5. Karen Salamy
 - a. Sinker Dashboard (sinker-dash, merged into develop server for testing Mar 25)
 - i. PR #42 — Restored the schematic attribution ? tooltip at the SVG corner (broken by a deprecated react-tooltip pattern)
 - ii. PR #43 — Replaced speculative "System may have been recovered" ADCP message with neutral, factual status text
 - iii. PR #44 — Schematic housings now navigate to the Controls tab on click; fixed warning icon incorrectly appearing on normal status
 - iv. PR #45 — Schematic housings now turn orange when instrument data is stale (ADCP: >4 hours old; Camera housings: PTVR HM/LM, Shadowgraph, SedFlux HM/LM)

Week 13

1. Brent Jones
 - a. Prepping Benthos modem for upcoming cruise
2. Paul Roberts
 - a. SINKER recovery and support
3. Karen Salamy
 - a. Worked on various features and bug fixes for the SINKER Dash
4. Brian Schlining
 - a. All Station M deployments have been migrated from the old vars system into the current one.

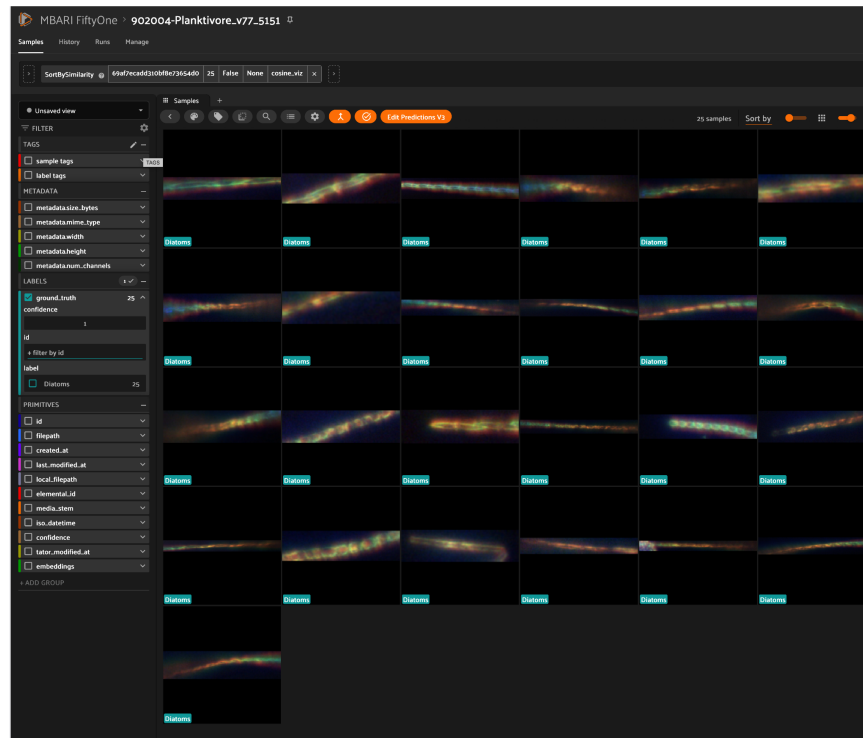
Week 12

1. Enoch Nicholson
 - a. Sinker Packard Recovery/redeploy planning
2. Brian Schlining
 - a. Running migrations to move legacy image annotations to the new database.

Week 11

1. Danelle Cline
 - a. SINKER deployment support, adding new physical machine snowfall to rsync and logged into instrument to confirm ADCP not working. Paul was able to fix remotely.
 - b. Planktivore and ISIIS data is now syncing from Tator to Voxel51 both community and enterprise versions. Over 1 million ROIs successfully captured from video or from raw source, embeddings and similarity index

computed. Laura Chrobak working with Voxel to refine plugins for our use-cases.



2. Rich Henthorn
 - a. Prep, mob, and deploy SINKer
3. Karen Salamy
 - a. Busy week: SINKER was redeployed into the Monterey Bay. I worked with Danelle C. to bring up the SINKER Dash for the team. We are using a new server system (snowfall) instead of thalassa. The system is working but two cameras (PTVR) are offline and the ADCP data is not streaming out of redis well. I will look into this potentially next week when the majority of the team is back from the Oceans Meetings in the UK.

Week 10

1. Danelle Cline
 - a. SINKER deployment support; adding new physical GPU-enabled machine snowfall to workflow, switched MARS IP address, some optimization and cleaning of the ansible deployment scripts.
 - b. Debugging issues with embeddings failures in vector database service VSS. New VM [cortex](#) up and running; more planned for this but working well as proxy gateway for now.
2. Karen Salamy
 - a. Preparing for the next SINKER deployment this week.
3. Brian Schlining

- a. 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 9

1. Danelle Cline
 - a. Deployment of new VM cortex with proxy gateways for various services, including a new Voxel51 sync service
2. Rich Henthorn
 - a. Test cabling and networking for MARS deployment
3. Brian Schlining
 - a. Quite a bit of work to finalize the migration of Station M image annotations from a very old VARS database into our current system.
 - i. Updates to [vars-legacy-migrator](#) to handle creative naming of Station M deployments.
 - ii. 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 8

1. Danelle Cline
 - a. CenCOOS/Planktivore meeting. Issues with authentication support to be bumped to Voxel51. Will revisit after OSM when team is back
 - b. Fernanda will be presenting our work at OSM, Thursday, Feb 26th 3 PM GMT/ 7AM PST ME43A-07: Simultaneous, automated classification of abundant marine snow particles and rare zooplankton from imagery
2. Rich Henthorn
 - a. Prep for upcoming deployment on March 4
 - b. Deployment checklist and rehearsal

Week 7

1. Danelle Cline
 - a. OSM presentation support
 - b. Clustered OOD
 - c. Planktivore support for Voxel51
 - d. Database cleaning to remove video captured during flooding events and some performance improvements to vector database service VSS to handle batching with less memory
2. Rich Henthorn

- a. Deployment prep
- 3. Enoch Nicholson
 - a. Working on SINKER OSM presentation

Week 6

- 1. Danelle Cline
 - a. OOD (Out of Distribution) exploration with Fernanda.
 - b. Voxel51 data preparations for Planktivore use
- 2. Rich Henthorn
 - a. New commands for camera controller to move brush and camera housing around
- 3. Paul Roberts
 - a. SINKER deployment preparations
- 4. Karen Salamy
 - a. Reviewed some of the SINKER dash code this week in anticipation of the upcoming March deployment.

Week 5

- 1. Danelle Cline
 - a. [VSS](#) (Vector Search System) updates to add augmentations supporting Fernanda's work exploring ISIS classification model workflows.
- 2. Rich Henthorn
 - a. Restructuring SINKER motor control software to add some new commands
- 3. Enoch Nicholson
 - a. SINKER deployment preparation

Week 4

- 1. Danelle Cline
 - a. Ongoing work with Voxel51. Working on associating depth missing from ROIs which needs to be loaded.
 - b. Updated planktivore documentation on first iteration of labeling.
- 2. Enoch Nicholson
 - a. Planned fabrication tasks for upcoming SINKER deploymentOverhead
- 3. Paul Roberts
 - a. SINKER March 5 deployment planning

Week 3

- 1. Paul Roberts
 - a. Planning for SINKER March 5 deployment
- 2. Brian Schlining

- a. 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.
- 3. George Stern
 - a. Tested battery #3, may be some manufacturing issues?

Week 2

- 1. Danelle Cline
 - a. Working with L. Chrobrak on Voxel51 enterprise evaluation.
 - b. Loaded planktivore high mag into Voxel51 Enterprise and entire ISIIS video deployment into Voxel51 Community for Colleen to validate.
- 2. Paul Roberts
 - a. Controller PCB design (shared with MWT)
- 3. Brian Schlining
 - a. [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.
 - b. 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