

902101 - LRAUV Technology Development

Week 29

1. Carlos Rueda
 - a. TethysDash: database access modernization on Jdbi/Flyway continues.
 - i. Production instance now on [4.99.87](#).
 - ii. 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).
2. Karen Salamy
 - a. Features
 - i. Implemented two-step verification code flow for adding/editing notification destinations (email/phone), matching TethysDash backend v4.99.85 — Issue #758, PR #767
 - b. Bug Fixes
 - i. Fixed depth chart not refreshing on active deployments and added bidirectional sync between depth chart hover and map scrubber — Issue #772, PR #773
 - ii. Fixed Schedule tab showing raw command text (e.g. load Transport/keepstation.tl) instead of the clean mission name the vehicle reports — Issue #775, PR #776
 - iii. Fixed _vt vehicle-tailored mission files (e.g. profile_station_vt.tl) not matching the vehicle's own telemetry mission name — PR #774
 - iv. Fixed Leaflet zoom crash when navigating between vehicles with a stable MapContainer key — PR #769, PR #771
 - v. Fixed trackline hover circles scaling incorrectly at high zoom levels (converted from geographic metres to pixel-based radius) — PR #770
 - vi. Disabled two compromised GeoServer tile layers (DK3HORRO, 2020 Summer Astrid) and suppressed noisy vehicle-info timeout errors — PR #766
 - c. Maintenance
 - i. Upgraded Node.js from v20 (EOL April 2026) to v22 LTS (active through April 2027) — Issue #746, PR #768
 - d. Deployments
 - i. Tagged v5.2.14 through v5.2.18 for staging; v5.2.14-production pushed to production (dash5.mbari.org)

Week 28

1. Akshay Hinduja
 - a. Setup Iruv gz sim
 - b. Setup plugin for fls multibeam in sim
 - c. Test mission parameters for pitch and depth commands in sim
 - d. Wrote terrain avoidance module to interface over lcm and slate
 - e. Testing
2. Brian Kieft
 - a. TRN is now working in sim! Time to head offshore with it.
3. Carlos Rueda
 - a. [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.)
 - b. TethysDash modernization: Started using Jdbi/Flyway as database access mechanism.
 - c. Updating [documentation](#) of the MBARI TethysDash system.
 - d. TethysDash Intro meeting with Emme.
4. Karen Salamy
 - a. Dash5 Features
 - i. Added GPS surfacing position dots and sticky track tooltip to vehicle map track (Dash4 parity) — Issue #744, PR #745
 - ii. Updated Overview page vehicle widget to match full vehicle page (schedule indicator, payload info) — Issue #732, PR #743
 - iii. Added Watch Bill link to the user account dropdown menu for quick access — Issue #753, PR #754
 - iv. Made ship/TrackDB current position markers larger and more prominent on the map — Issue #755, PR #756
 - v. Added quick-pick confirmation step for deployment start date to prevent accidental future dates from hiding vehicles on the map — Issue #757, PR #759
 - b. Dash5 Bug Fixes
 - i. Fixed back button in mission wizard reverting to Parameters Summary step — Issue #723, PR #739
 - ii. Fixed logset tooltip being clipped in narrow science data sidebar — Issue #718, PR #738
 - iii. Fixed Ctrl+C/V clipboard state corruption in the document editor — Issue #740, PR #742
 - iv. Fixed Ctrl+C on map clobbering selected text in input fields and editable areas — Issue #751, PR #752
 - v. Fixed Schedule tab displaying pending missions in wrong order and hiding a second queued instance of the same mission — Issues #760, #762, PR #761

- vi. Fixed depth chart zoom resetting immediately when moving the mouse after zooming in — Issue #763, PR #764
- c. Dash5 Testing/Maintenance
 - i. Fixed 3 pre-existing failing tests in the lrauv-dash2 test suite — Issue #750
 - ii. Added missing test coverage for v5.2.9 features — Issue #748
- d. Dash5 Deployments
 - i. Tagged v5.2.12 and v5.2.13 for staging deployment (dash5-staging.mbari.org)

Week 27

1. Carlos Rueda
 - a. TethysDash: Addressing issues reported by Monique, one now fixed, the other being investigated.
2. Karen Salamy
 - a. Features
 - i. Added GPS surfacing dots, sticky track tooltip, and pre-waypoint marker on deployment map — Issue #744, PR #745
 - ii. Added planktivore payload indicator and galene LEDs to the vehicle widget — PR #734
 - b. Bug Fixes
 - i. Brought overview VehicleCell to parity with the full vehicle page widget — Issue #732, PR #743
 - ii. Fixed Back button in mission wizard now correctly re-shows Parameters Summary — Issue #723, PR #739
 - iii. Fixed logset tooltip clipping in narrow science sidebar — Issue #718, PR #738
 - iv. Fixed map projected route backtracking and center button stale zoom — PR #737
 - v. Fixed clipboard state preservation between Ctrl+C/V in doc editor — Issue #740, PR #742
 - vi. Fixed Amend Command unit parsing for LRAUV type annotations and trailing semicolons — PR #724
 - vii. Restored modal visibility and document duplication — Issues #728, #729
 - viii. Fixed pre-existing failing tests and added coverage for v5.2.9 features — Issues #748, #750
 - c. Documentation
 - i. Added CHANGELOG.md tracking all v5.2.x staging releases

Week 26

1. Akshay Hinduja
 - a. Work plan for terrain awareness work for proposal

2. Carlos Rueda
 - a. TethysL now [4.9.72](#) with enhancements and fixes and latest LRAUV definitions.
 - b. [Mission documentation](#) updates, including a fix to the tethysl pygments lexer for syntax highlighting.
 - c. TethysDash [4.99.82](#): Important maintenance release, plus API documentation fixes.
 - d. TethysDash [4.99.80](#): With Claude's assistance, reviewed and merged [PR#74](#); thanks Karen Salamy and Claude for the contribution.
3. Karen Salamy
 - a. Features
 - i. Improved Build a Command modal UX for mission variables: #696, PR #700
 - ii. Enhanced science/depth charts w/ time window, logset, & axis controls: PR #703
 - iii. Added Server Health modal with health and subscriber status:PR #704
 - iv. Added recently used missions/ Amend Command to Build a Command: PR #700
 - v. Filtered unit choices by selected mission parameter in Build a Command: PR #708
 - vi. Restricted Server Status menu item to operator/admin roles only
 - b. Bug Fixes
 - i. Removed stale Mission Script Guide link & clarified variable description:PR #706
 - ii. Sorted Deprecated/ missions to the bottom of the mission picker: PR #711
 - iii. Collapsed Deprecated sub-paths into a single group
 - c. Planning/Research
 - i. Reviewed open Dash5 GitHub issues for 2027 effort estimation (for PI request)
 - ii. Reviewed open issues for potential closure
 - d. TethysDash
4. Quinn Shemet
 - a. IEEE AUV docking paper
 - b. Some new software hire onboarding
 - c. 2027 proposal planning

Week 25

1. Akshay Hinduja
 - a. PIC training
2. Enoch Nicholson
 - a. Restarted variable buoyancy (VB) system project
3. Carlos Rueda

- a. 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.
 - b. 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).
- 4. Karen Salamy
 - a. Log Tab Repair & Dash4 Feature Port (Jun 10) — Fixed broken log file links in RealTimeLogs and restored Dash4-era log navigation features (PR #678):
 - i. Replaced individual shore.log/KML/parent links with a unified Data toolbar button
 - ii. Added a Data button alongside the Shore and ESP buttons
 - iii. Fixed KML filename reference to use shore.kml
 - b. Deployment-Scoped Science Data Time Windows (Jun 10) — Added a time window selector to the Science/Vehicle data chart sections (issues #651 and #677):
 - i. Options include Latest Dive and Full Deployment views
 - ii. maxlen parameter omitted for long windows; data is decimated client-side instead
 - iii. Fixed empty state display when no chart data is available for a given window
 - iv. Fixed 404 responses being treated as errors instead of no-data
 - c. Native SMS / Phone Number Support for Notifications (Jun 15) — Added full phone number (SMS) support to the notification destination dialogs (PR #682):
 - i. Notification modal now detects phone numbers and adapts UI and wording accordingly
 - ii. Test-send messaging customized for SMS vs. email destinations
 - iii. Plain-text toggle hidden for phone number destinations
 - iv. Users can now set a default notification destination (email or phone), persisted in localStorage and auto-selected on modal open
 - v. Inline "Make Default" checkbox added; modal close blocked when interacting with checkboxes
 - d. Developer Onboarding Guide (Jun 15) — Added a comprehensive docs/developer-onboarding.md covering monorepo setup, build workflow, the exports→dist pattern, test commands, and key file locations (PR #684).

- e. createUser POST Payload Fix (Jun 16) — Removed an erroneous { data: } wrapper from the createUser POST body that was breaking user registration. Updated tests to assert the correct payload shape (PR #686).
- f. TethysDash API Compatibility Fixes (Jun 17) — Following a TethysDash backend update (v4.99.77), three breaking API changes were identified and patched with same-day PRs:
 - i. Fixed double-slash in default base URLs causing 400 errors across all API calls (PR #687)
 - ii. Removed the noteMatches parameter from GET /events dropped by the backend (PR #688), and fixed the corresponding TypeScript test (PR #690)
 - iii. Removed the path parameter from POST /commands dropped by the API (PR #689), and fixed the TypeScript compile error in the test (PR #691)
- 5. Quinn Shemet
 - a. Deployment followup/diagnosis/data review
 - b. New hire onboarding prep/onboarding
- 6. Emme Wiederhold
 - a. Onboarding

Week 24

- 1. Akshay Hinduja
 - a. Meetings
- 2. Brian Kieft
 - a. Opah deployment. Looking into GF issues with DAT
 - b. Investigating mockdock modem failure
 - c. Lots of work calculating CB/CG on hovering vehicle Tethys
- 3. Karen Salamy
 - a. Science/Vehicle chart time windows — PR #679 (Issues #651, #677)
 - i. Added deployment-scoped time window selector to Science/Vehicle data charts (Latest Dive, 3 Days, 7 Days, Full Deployment)
 - ii. Created new useDeploymentChartData hook and getVariableData API client to fetch data across log session boundaries
 - iii. Fixed infinite loading caused by DateTime.utc() being recomputed on every render, invalidating React Query cache keys on each re-render (memoized with useMemo)
 - iv. Decoupled variable-name lookup from selected time window so 3-day/7-day windows always resolve chart variables even when the vehicle is mid-dive
 - v. Treated TethysDash 404 responses as "no data" instead of errors so missing variables are silently omitted rather than breaking the chart section

- vi. Removed 24-hour window option — too short for typical LRAUV dive cycles (last processed data is often 25–48h old)
 - vii. Omit maxlen cap for windows > 4 days; decimate client-side to 5,000 points to prevent truncation to most-recent data only
 - viii. Added informative empty state messages distinguishing "no data in window" from "data exists but not in this category"
 - ix. Multiple rounds of Copilot review fixes
 - b. Log links / Data toolbar — PR #676
 - i. Added Data toolbar button to RealTimeLogs alongside existing Shore and ESP buttons
 - ii. Fixed broken log directory links (corrected shore.kml filename, URL construction)
 - iii. Added Dash4-style log navigation features
 - c. FullWidthVehicleDiagram / DepthSparkline
 - i. Added Okeanids link button anchored to vehicle SVG coordinate system
 - ii. Unified DepthSparkline and vehicle widget as a single scaling unit
 - iii. Fixed volt/amp threshold text using alarm color incorrectly (now neutral)
 - iv. Fixed sparkline position clamping and gate on vehicle-loaded state
 - v. Fixed recovered vehicle status display and RECOVERED docked-state handling
 - vi. Multiple rounds of Copilot review fixes on PRs #657 and #578
- 4. Quinn Shemet
 - a. Dock testing, homing improvements, MIMO controls testing
 - b. Prep for Emme start
 - c. Started docking paper
- 5. Johann Voigtlander
 - a. Reconfigured hovering AUV thrusters to match MOLAs thruster configuration

Week 23

- 1. Carlos Rueda
 - a. 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.
 - b. 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](#).
 - c. 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.

2. Karen Salamy
 - a. Vehicle Track Visualization (Issue #652)
3. Justin Tucker
 - a. Hovering Module CAD export and extrinsics support
 - b. CG CB measurement support

Week 22

1. Carlos Rueda
 - a. The recently implemented more secure websocket endpoint in the TethysDash backend has been satisfactorily tested/verified in operations during the last several days.
 - b. Dash4 [4.99.21](#).

Week 21

1. Akshay Hinduja
 - a. Meetings
 - b. Setup Irauv-application docker
2. Brian Kieft
 - a. Working on PRs and bug fixes mostly.
 - b. TRN work continues in GZ sim.
3. Karen Salamy
 - a. May 18-20, 2026
 - i. Features
 1. Preserved open accordion tab across vehicle switches — Issue #278, PR #642
 2. Added Dash4 log color syntax highlighting — Issue #640, PR #641
 3. Showed deployment start date below deployment title in toolbar — Issue #217, PR #645
 4. Showed last comms elapsed time in the vehicle log toolbar — Issue #270, PR #646
 - ii. Bug Fixes
 1. Fixed compact log label wrapping to 2 rows instead of truncating — PR #647
 2. Prevented React state-after-unmount warnings in async useEffect hooks — Issue #557, PR #644
 3. Expanded Jest testMatch to discover tests in components/ and lib/ — Issue #560, PR #643
 4. Hidden operator attribution for automatic Default missions in Schedule History — PR #648

- 5. Removed "Vehicle (automatic)" name from Default mission schedule cells — PR #648
 - 6. Fixed blank line in schedule cell when name is empty — PR #648
 - 7. Used isDefaultMission flag instead of label matching to detect Default missions — PR #648
 - iii. Investigation/Research
 - 1. Assessed feasibility of SST and HYCOM ocean model map overlays for the Bermuda LRAUV Pyxis deployment
- 4. **Justin Tucker**
 - a. CG/CB separation measurement test plan
- 5. Johann Voigtlander
 - a. Refurbished LRAUV battery bank

Week 20

- 1. Akshay Hinduja
 - a. Group meeting
- 2. Carlos Rueda
 - a. TethysDash
 - i. [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](#)).
 - ii. [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.
 - iii. Started looking into [improving](#) the websocket endpoint.
- 3. Karen Salamy
 - a. **Production Releases**
 - i. v5.1.22 — released May 7
 - ii. v5.1.25 — released May 12
 - b. **May 5–11**
 - i. PR #583 — Comms Queue badge now only counts un-acknowledged commands
 - ii. PR #589 — Hide parameter summary for non-mission commands
 - iii. PR #590 — Apply comms lookup to mission commands stuck on "pending"
 - iv. PR #591 — Surface MTMSN/MOMSN in Schedule History popup for satellite-acknowledged commands
 - v. PR #593 — Show all command segments highlighted green in Schedule History row

- vi. PR #595 — Demote timed-out directives to "Previous Vehicle Directives" section
- vii. PR #599 — Exclude timeout status from Comms Queue count
- viii. PR #600 — Timeout note takes priority over cell state:2 ACK in determineCommandStatus
- ix. PR #601 — Group same-event-ID timeout notes into one collapsible Logs row
- x. PR #603 — Always show "Previous Vehicle Directives" section when historic items exist
- xi. PR #605 — Timeout note is ground truth for all via types in determineCommandStatus
- xii. PR #607 — Always show timeout pill for commands with explicit scheduled timestamps
- xiii. PR #608 — Timeout note overrides any API status, not just pending
- xiv. PR #610 / #611 — Show "Ended: N/A" for timed-out directives in Schedule History row, popup, and table
- xv. PR #612 — Introduced StopwatchWarningIcon (custom hourglass + exclamation badge) for timeout status in ScheduleCell
- xvi. PR #613 — Exclude historically timed-out commands from Comms Queue count
- xvii. PR #614 — Comms Queue accuracy and timeout icon polish
- xviii. Map & Vehicle Widget
- xix. PR #616 — Fixed polygon perimeter calculation in the Measure Distances & Areas tool (was missing the closing segment)
- xx. PR #617 — Major vehicle widget update to v2.99: CTD toggle, battery threshold indicators, dynamic svg_current bar, camera indicator, docked-state rendering parity with Dash4, and numerous layout fixes
- xxi. PR #618 — Hide "NextComm" label when vehicle is docked (applied to both map views)
- c. May 12-13
 - i. PR #620 — Deployment Plan Editor Fixes & Email Notification UX Resolved several bugs in the deployment plan editor: save error handling, sticky toolbar behavior, font-size clearing with the P key, and surfacing the last-editor name. Also improved the email notification UX flow.
 - ii. PR #623 — Docs Sort by Last-Edited Date Documents in the Docs section now surface the most recently updated entries first, making it easier to find active mission documents.
 - iii. PR #625 — ENS Modal: Extra Notification Email Addresses The Email Notification System modal now surfaces additional subscriber email addresses. Included accessibility improvements,

- dropdown keyboard navigation, and extensive Copilot review iterations.
 - iv. PR #630 — DocViewer Formatting Fix Synced DocViewer rendering extensions with DocEditorTipTap so that bold, italic, bullet lists, and other rich-text formats display correctly when viewing saved documents.
 - v. PR #631 — Auto-Refresh Logs + Relative Timestamps + Last-Updated Indicator Logs now auto-refresh every 30 seconds. Each log entry shows a relative timestamp (e.g. "~2h ago"). A "Last updated X ago" indicator appears in the toolbar. useTick was enhanced with an enabled flag to prevent unnecessary background polling.
 - vi. PR #632 — Compact Log Density Toggle Added a toolbar toggle that switches log entries between a compact (tight, small font) and standard view. Preference is persisted in localStorage across sessions.
4. Johann Voigtlander
 - a. Rebuilt LRAUV battery holder
 - b. Designed and 3D printed DSP&L Camera mount for Tethys AUV

Week 19

1. Akshay Hinduja
 - a. Setup Irauv-app and Irauv-tools for gazebo sim
2. Carlos Rueda
 - a. 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).
 - b. TethysDash [API](#): new OpenAPI spec (completely auto generated) is now almost complete, that is, wrt legacy version; but still with several possible future enhancements.
3. Karen Salamy
 - a. Tuesday, April 22
 - i. Opened / built #563 UI polish work: Email Notifications modal — blue header/table headers, title alignment, then Copilot review follow-ups (items-center on header container, darker close button for contrast).
 - b. Sunday, April 27
 - i. Production: release PR #565 (develop → main, v5.1.13) merged per GitHub history.
 - ii. #567 merged — operator-cancelled missions show “Cancelled” in Schedule; Copilot/review fixes.
 - iii. #566 — backport / review fixes after develop→main.
 - iv. #569 ground work: “Delete from Queue” renamed to “Cancel this Directive”

- c. Monday, April 28
 - i. #564 merged — Email Notifications modal stylization (tracker #563).
 - ii. #563 — deployment lifecycle labels in VehicleHeader / OverviewToolbar; pre-launch wording iteration, tests, epoch fallback guard; revert + docs locking in final pre-launch wording.
 - iii. #569 — Cancel this Directive - feature merged.
 - iv. #571 — invalidate event queries after cancel so UI updates immediately.
- d. Tuesday, April 29
 - i. #572 — Schedule History search/filter row stays visible when search has no matches.
 - ii. #573 — distinguish mission param updates vs vehicle configSet in labeling.
- e. Wednesday, April 30
 - i. #575 — Overview map: stale ResizeObserver + rAF / invalidateSize guards.
 - ii. #576 — Overview map partial render after client-side navigation (offsetWidth poller).
- f. Sunday, May 4
 - i. #581 — preserve newlines in log events.
 - ii. #582 — ESRI tile URL + env interpolation fixes.
 - iii. #583 — Comms Queue count shows only un-acked commands (ties to #474).
- g. Monday, May 5
 - i. #588 — remove stray } in sched timestamp (makeCommand).
 - ii. #589 — hide parameter summary for non-mission commands.
 - iii. #590 — comms lookup for mission rows stuck on pending.
 - iv. #591 — MTMSN / MOMSN in Schedule History popup for sat-ACKed commands.
 - v. #593 — all command segments green on Schedule History row.
 - vi. #595 — timed-out directives demoted to Previous Vehicle Directives.
 - vii. #599 — timeout excluded from Comms Queue count (#598).
- 4. Quinn Shemet
 - a. Fix NAL tracking mode bug, Galene backseat network, Brizo docking arm
 - b. Users' meeting and prep/followup
- 5. Justin Tucker
 - a. Propeller optimization setup

Week 18

- 1. Akshay Hinduja
 - a. Wrote and tested terrain following and awareness module in holoocean sim

- b. Ready to port into gazebo for tuning, need to first setup plugins and example scenarios
- 2. Brian Kieft
 - a. Makai DVL testing for PDO
 - b. Makai DVL debug for navigation error and bottoming incident (vendor sent incorrect rotation)
 - c. Very first DAS deployment went well. Demonstrated L&R with 100m of fiber off the tail along with wide radius turns. Underway recovery went smoothly. Some work needed to avoid porpoising in our default mission.
 - d. Issue found with Tidente sensor on Opah. Vendor sent a custom output with no addendum to the manual. Fixing this output issue and running comparison tests with Bill to compare to our existing pucks.
 - e. Fixed up battery configuration on Ahi, helped close, and tested.
 - f. Testing on Brizo for depth outlier rejection
 - g. Merged in Glider FET code. Now an operational payload currently on Opah.
 - h. Met to discuss dash 5 progress and future steps to encourage user participation
- 3. Carlos Rueda
 - a. TethysAI: Started adding MCP capability to the prototype, and is looking very good.
 - b. 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.
 - c. 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.

Week 17

- 1. Akshay Hinduja
 - a. Write scripts to control holoocean simulator to keep constant altitude using dvl + sonar inputs
- 2. Enoch Nicholson
 - a. Scoped lifting bail FEA approach and set up ANSYS analysis from SolidWorks exports
 - b. Completed first MECHTECH candidate interview
- 3. Carlos Rueda
 - a. Dash4 [4.98.8](#), including fix to regression reported by Monique.
 - b. Looking into expanding the TethysAI prototype a bit, while also incorporating preliminary MCP services in the TehysDash backend.
 - c. Assisted Karen to fix docker compose issues and diagnosing email notification problems related to dash5.

4. Karen Salamy

- a. Fixed the compose.yml for both production and development servers for the Dash5 on tethysdash2. The reboot of the server on April 10th for the LRAUV group (tethysdash2) caused a major dash5-staging error as the compose.yml did not have the “restart: unless stopped” in it. That has now been added and should not occur again.
- b. Performed code reviews and merged the following Dash5 code updates for Zack Lyon (last week was his final week on the project):
 - i. #533 Remove Data Events from Logs by Default
 - ii. #540 Fix Incorrect Vehicle Status Icon / Comms Indicator
 - iii. #547 GH262 — Docs Section Defaults to This Vehicle
 - iv. #532 GH459 — Frequent Mission Parameters
 - v. #552 Argos Battery Indicator
- c. Performed the following LRAUV Dash5 Code merges into the development server: dash5-staging.mbari.org:
 - i. #537 Enhancement — Add Polygons, TILE Layers, and KML Layers to the Add Layers dropdown; search/filter modal matching TrackDB
 - ii. #531 Fix: improve schedule running-status accuracy and matching safety
 - iii. #543 Fix: Overview Map partial render and React warning on refresh
 - iv. #554 Feat: add Center Map On button to TrackDB platform list
 - v. #551 Fix: recovery display + ship TrackDB 7-day window for SPOT trackers
 - vi. #549 Feat: Quick-Access Resources dropdown near PIC section (#545)
 - vii. #528 Fix: show full document name and docType in Docs section (#514)
 - viii. #530 Feat: add schedule history details modal quick view

5. Justin Tucker

- a. Coordinate system exports for Gazebo Sim

Week 16

1. Akshay Hinduja

- a. Been on standby due to other projects, but will resume sim development soon

2. Brian Kieft

- a. Ran radius tests in preparation for DAS testing next week
- b. Fixed plumbing issue and stbd elevator issue on Opah

3. Enoch Nicholson

- a. Set up lifting bail structural analysis framework and completed hand calculations for base vehicle; ready for FEA

4. Carlos Rueda

- a. 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”.
 - b. Dash4 is now [4.98.7](#). (Thanks, Steve, for the suggestion.)
- 5. Quinn Shemet
 - a. Iridium race condition debug
 - b. Docking comms testing

Week 15

- 1. Akshay Hinduja
 - a. Meeting to discuss current standing for TFTA, future requirements of hardware, possible proposal to write
- 2. Brian Kieft
 - a. More TRN!
 - b. Opah deployment today testing smaller prop and PH sensor
- 3. Karen Salamy
 - a. The LRAUV UI has been the bulk of my work this past week. I have been running through Github Issues for the Dash5 and addressing updates for the team. Many of these updates are being reviewed by Zack Lyon. Once they are approved, I am pushing them to the dash5-staging development server for staging prior to adding them to the production server (dash5),. I am hopeful that many of these updates will be on the production server in the near future.
 - b. Last week, I spent time as PIC on the LRAUV deployments.
- 4. Quinn Shemet
 - a. Triton network debug and Iridium weirdness

Week 14

- 1. Akshay Hinduja
 - a. Reading into backseat-helper and preparing insert for terrain avoidance behaviour. To be used with main algorithm running on backseat
- 2. Brian Kieft
 - a. TRN work continues. Added fix to TRN code to ingest useitorloseit value from LRAUV
 - b. RDI validation for Cole's fixes
 - c. PR reviews
 - d. Planning meetings for Durkin deployment

- e. Planning meeting for first DAS deployment. Working with Benthos on chirp options that don't cost money
 - f. Issued LNM for mock dock and DAS
 - g. Sanctuary approval for mock dock
 - h. Trying to find the gear for the mock dock. May have to start fresh.
- 3. Carlos Rueda
 - a. Added more file formats for ingestion in the Tethys RAG prototype using [Dooling](#). Also started adding a provenance mechanism in a way that responses to the user include references to relevant materials.
- 4. Karen Salamy
 - a. DevOps / CI:
 - i. Diagnosed and documented the staging deployment process (yarn version:patch → git tag → GitHub Actions → Docker :staging image → Watchtower auto-update). Confirmed production is now safely isolated.
 - b. Features — In Review (open PRs):
 - i. DocType Display in Docs Section (Issue #514, PR #528)
 - ii. Schedule History Running-Status Accuracy (Issues #516, #488, #523, PR #531)
 - iii. Schedule Event Details Modal (Issue #517, PR #530)
 - c. Bug Fixes — Merged to develop:
 - i. Browser Refresh Session Logout (Issue #515)
 - ii. DocCell Label Truncation (Issue #514)

Week 13

- 1. Akshay Hinduja
 - a. LRAUV group meetings + meetings with Brett to go over Imagenx sonar data and documentation, discussion on how the module might work
 - b. Go through LRAUV app and understand how missions and behaviours work
 - c. Finished setting up basic simulation with dvl and profiling sonar, will be useful to test algorithms before integrating with LRAUV-app
 - d. Prepare setting up nvidia orin nano as backseat computer to test with
- 2. Brian Kieft
 - a. Lots of TRN this week. Debugging issue with ingest of solution.
- 3. Carlos Rueda
 - a. 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.
 - b. SE interviews
- 4. Karen Salamy
 - a. Was PIC for several recent LRAUV missions
 - b. Planning to attend the next MBARI/SAAB discussion for SAAB's development of LRAUVs

- c. Continuing to work on the dash5 issues and updates. I have several fixes that have gone through review on dash5 on my local system and are awaiting review by Jim Jeffers and hopefully pushes to first dash5-staging and then dash5 for official rollout.
- 5. Quinn Shemet
 - a. Waterlinked test data analysis
 - b. Docking tank testing
 - c. AI prototyping and meeting with Carlos and Kevin

Week 12

- 1. Akshay Hinduja
 - a. Ready requirements doc, and organize meeting with LRAUV team to go over terrain following project needs and inputs.
 - b. Brief chat with Piscivore post doc Ciara on data prep for shark behaviour paper, use of tethystales and animation/chart generation to help the project
- 2. Brian Kieft
 - a. Lots of TRN work to get the hardware in loop sim back up and running. Getting closer.
 - b. Logistics for DAS deployment and sanctuary writeup
 - c. Updated DAT firmware on entire fleet
 - d. Worked with Benthos to determine meaning of serial # in datcal files (this took way too long)
 - e. Worked on domestic sim card issue for Brizo cradlepoint. Seems to be hardware.
- 3. Quinn Shemet
 - a. Docking power testing
 - b. Started DVL test data analysis
 - c. On-call

Week 11

- 1. Akshay Hinduja
 - a. LRAUV dev meeting, discuss terrain following and awareness project
 - b. Setup simulator on omega for algo development
 - c. Prepare requirements document for TFTA (terrain following, terrain awareness)
- 2. Brian Kieft
 - a. Lots of TRN work with HIL simulations. Data is finally flowing. Running more tests and looking at data. We'll get offshore eventually...
 - b. Working with Benthos to deal with DAT configuration issues
- 3. Carlos Rueda
 - a. 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.

- b. 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.
 - c. 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.
4. Karen Salamy
- a. Attending the Monday meetings
 - b. I began my Pilot in Training (PIC) refresher course and test. I tried to sign up to be on watch for the Ahi deployment this week but Steve H. and his lab indicated they had it all covered.
 - c. I reached out to Brian K. and Quinn S. this morning to see if they wanted me to take a PIC position for the Triton deployment today.
5. Quinn Shemet
- a. Waterlinked DVL test setup
 - b. BPC2 testing ongoing
 - c. Continuing docking homing data analysis, docking meeting
 - d. On-call, deployment planning

Week 10

1. Karen Salamy
- a. The last two weeks I have set up the [Dash5 production](#) server for the LRAUV team and established the [dash5-staging url link](#) as a development-only server for the software to be thoroughly tested through prior to being deployed to the production server.
 - b. I attended the Friday meeting with the team
 - c. I send out a Slack message to all of the #lrauv-operations group to ensure that all lrauv pilots only use the new Dash5 production server.
 - d. I will be refreshing my lrauv pilot training this week and will take the test asap.
2. Justin Tucker
- a. Carbon test tube bond prep

Week 8

1. Carlos Rueda
 - a. Troubleshooted LRAUV-TethysDash http comms issues, which ended up caused by some apache misconfig of my own making!
 - b. TethysDash [backend modernization](#): 8 more endpoints migrated to Quarkus JAX-RS.
 - c. Saab: Weekly meeting (Terry Ward, Tim Powel). Terry is still working on setting up an Amazon EC2 instance.
 - d. 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).

Week 7

1. Brian Kieft
 - a. Confirmed sanctuary requirements for mock dock
 - b. drop weight incidents from 2025 submitted
 - c. Dash 5 meeting with subs
 - d. Updated data unpacking scripts for 2026
 - e. Building TRN for the target for sim testing
 - f. Ran MMP tests in tank/harbor. Benthos offered latest firmware which has been loaded and is in testing.
 - g. Reviewing a little of the AUV tutorial for OSM
2. Carlos Rueda
 - a. TethysDash: Working on a couple of the ~15 endpoints still to be migrated to Jakarta EE.
3. Quinn Shemet
 - a. IEEE AUV abstract submissions
 - b. BPC2 testing and debug
 - c. OSM AUV tutorial prep

Week 6

1. Karen Salamy
 - a. Waiting on a meeting with Brian K. to discuss exact expectations for my time in 2026 for the LRAUV project.
2. Quinn Shemet
 - a. Docking homing data analysis
 - b. BPC2 testing and debug
 - c. OSM AUV tutorial work
 - d. IEEE AUV abstracts

Week 5

1. Akshay Hinduja
 - a. Attended bi-weekly meetings, brief discussion on terrain following using multibeam sonars
2. Brent Roman
 - a. Configured, tested and reviewed RUT-271 Teltonkia cellular router
3. Carlos Rueda
 - a. 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.
 - b. Exchanges with WHOI regarding their dash configuration.
 - c. Saab wants to resume dash discussions; meeting tomorrow 1/29.
4. Quinn Shemet
 - a. Battery software cleanup and testing
 - b. Docking homing investigation

Week 4

1. Carlos Rueda
 - a. TethysL [4.8.4](#).

Week 3

1. Akshay Hinduja
 - a. Attended kick off meetings, learn more about the years tasks
2. Carlos Rueda
 - a. Group meeting.
 - b. 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.

Week 2

1. Carlos Rueda
 - a. TethysL [4.8.2](#), Dash4 [4.97.1](#), TethysDash [4.99.22](#).
 - b. Submitted [PR in lrauv-application](#) to install tethysl from the linux standalone release instead of the release that requires java on the system.
2. Justin Tucker
 - a. Carbon tube coupon test follow up