

HALE-ALOHA 4A: Chief Scientist Report

Chief Scientist: T. HOULIHAN

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April 27-30, 1998

Moana Wave

The HALE ALOHA mooring cruise for the fourth deployment of our array was augmented by one day to include time for recovery of a deep ocean current meter array that was deployed a year earlier at the Maui sill. This array included current meters for Pierre Flammet and Seacats for Roger Lucas. We also were able to schedule time for a carbonate dissolution array with experiments designed by Paul Troy and Angela Adams. Three CTD's were scheduled and completed, a 1000m cast at the buoy site for calibration of the instruments, a 4627m CTD at the Maui sill and a 4875m CTD at the Maui deep. Included in the CTD package was a Sontek LADCP for logging current meter data throughout the CTD casts. This data was processed on board by Eric Firing and Daryl Slocum. A test cast was done immediately following the CDA deployment and this cast also collected LADCP data.

We departed Snug at 0900 and all members of the science party were required to attend a fire and abandoned ship drill at 0926 followed immediately by a safety meeting in the ship lounge. At 0942 the port main engine was secured due to a coolant problem and was back on line at 1435. We arrived on at the carbonate dissolution array deployment site, 22 08.3'N, 158 11.7'W, at 1825 and began deployment at 1848 over the stern. The array was away at 2033 and at position 22 08.9'N, 158 12.5'W. The 1000m test cast was started at 2051 and completed at 2133 when we departed for the buoy site and deployment.

We arrived on site at 2255 and the buoy was deployed at 2340. During the buoy deployment an anemometer, part of the meteorological package was broken. The anchor was dropped at 0548 and 22 23.92'N, 158 04.19'W. We immediately began a 1000m CTD to collect water for calibration purposes for the instruments. Samples collected include, nutrients, low level nutrients, DO, chl a and samples for Chuck Stump. The cast was completed at 0732. Buoy located at 22 22.7'N, 158 04.4'W.

We transited to the current meter mooring site, the Maui Sill, 22 37.29'N, 156 57.76'W and arrived at the first triangulation position at 1427 and completed the triangulation at 1500. The first near bottom CTD was started at 1525 and completed at 1830 reaching a maximum pressure of 4626db. The weather had deteriorated to the extent the we decided not to attempt to recover the array at night so we changed plans and headed to the Maui deep site for another near bottom CTD.

The Maui deep station, and 22 13.5'N, 156 36.5'W, was manned at 2210. After some initial difficulties with the CTD configuration software the CTD was started at 2332, completed at 025 4/29, and reached a maximum pressure of 4875db. We did not receive confirmation of bottle closure during the cast and this was confirmed upon recovery as no water was

collected. The problem was solved but there was not enough time to attempt another cast so we returned to the Maui sill site for current meter recovery.

The triangulation done previously was used to calculate the position of the current meters and we returned to this site and sent the acoustic command to release. We arrived at the station, 22 37.15'N, 156 57.9'W, at 0555, released the meters at 0620 and the hardhats were spotted on the surface at 0702. At 0719 we had hooked the array and 0739 the array had been recovered.

We now set course for the carbonate dissolution array which had been deployed on the first day and was being tracked by ARGOS satellite. The array was intercepted at 1454 and the floats were hooked at 1506. The recovery was completed at 1705.

The last event for the cruise was to return to the buoy due to the navigation hazard light being covered. The buoy was located at 22 23.7'N, 158 05.1'W and a zodiac was launched. We climbed aboard the buoy to remove the covering from the light and also to assess the damage incurred during deployment.

Cruise Participants:

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|-----|---------------|--------|
| 1. | T. Houlihan | UH |
| 2. | D. Hebel | UH |
| 3. | D. Sadler | UH |
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| 5. | M. Valenciano | UH |
| 6. | D. Wright | UH |
| 7. | C. Stump | UW |
| 8. | S. Poulos | STAG |
| 9. | D. Gravett | STAG |
| 10. | P. Walz | MBARI |
| 11. | D. Slocum | Sontek |
| 12. | R. Lumkin | UH |
| 13. | A. Adams | UH |
| 14. | P. Troy | UH |
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