

HOT-108: Chief Scientist Report

Chief Scientist: T. HOULIHAN

HOT-108/HALE ALOHA 6B: Chief Scientist Report

Chief Scientist: T. Houlihan

Vessel: R/V Kaimikai-o-Kanaloa (KOK99-09)

Loading: 4, 11 October 1999

Departure: 13 October 1999

Arrival: 18 October 1999

Chief Scientist: Terrence Houlihan

Master: Captain Robert Hayes

Deck Operations: Dave Gravett

Electronics Technician: Steve Poulos

1. Science Personnel, HOT-108/HALE ALOHA 6B

JGOFS group:

Louis Tupas	UH Scientist
Lance Fujieki	UH Research Associate
Dan Sadler	UH Research Associate
Terrence Houlihan	UH Research Associate
Karin Bjorkman	UH Research Associate
Claudia Benitez-Nelson	UH Scientist

WOCE group:

Fernando Santiago	UH Research Associate
Don Wright	UH Research Associate
Mark Valenciano	UH Research Associate
Craig Nosse	UH Research Associate
Michelle Eich	UH Student

Ancillary projects:

Karen Selph	UH Scientist
Colleen Allen	UH Research Associate
Chuck Stump	UW Scientist

Stag Group:

Steve Poulos	Electronic Technician
Dave Gravett	Marine Technician

2. General Summary

The loading of the ship for the HOT cruise and mooring recovery was conducting in two phases. The earlier loading was scheduled so that representative equipment could be available for viewing by visiting JGOFS Science Steering Committee members as they toured the R/V Kaimikai-o-Kanaloa in conjunction with their meeting in Honolulu. The standard loading day, mainly for WOCE equipment was conducted on 11 October.

A total of 14 scientists participated in the cruise aboard the R/V Kaimikai-o-Kanaloa . All objectives of the planned JGOFS and WOCE programs were accomplished along with the successful recovery of the sixth deployment of the deep ocean mooring HALE ALOHA and the recovery of the seventh deployment of the bottom moored sediment traps. The drifting sediment traps and the floating primary productivity array were deployed and recovered with samples intact with the exception of one 5m light incubation bottle on the in situ incubation array which was lost. An extra 4800m deep cast was added at the end of the 36 hour burst sampling casts for a total of two deep casts.

3. Daily Activities

4 October, Monday

Ship loading day for the majority of the JGOGS component gear. The winch for recovery of the long term moorings was loaded and used in place of the small DSE winch, this required some fairlead set up for the starboard rail work. The back deck drifting array equipment, incubators, HOT lab van, HOT radioisotope van, equipment van, CTD rosette and wet lab were loaded and set up. The reason for the early loading was to allow the JGOFS Scientific Steering Committee to view the K-O-K in a configuration similar to what it would be in as an operating research vessel. The SSC was in town for its annual meeting and the opportunity was made available for the members to tour the ship and associated University Marine Center. The majority, if not all of the members participated in the walk through and many positive comments were heard.

11 October, Monday

Ship loading for the WOCE component gear. Concerns about the security of the sensitive WOCE electronic equipment precluded its loading and setup the previous week. Any remaining JGOFS gear setup was also finalized.

13 October, Wednesday

The ship departed Snug Harbor as scheduled at 0900 and at 0930 the emergency fire and abandon ship drills were held. The themosalinograph was not operating correctly, it seemed to be aspirating air but the engineers were able to fix the problem by 1230. We arrived at Station Kahe at 1135 and the test weight cast to 1000m was started at 1150. The optical sensors, TSRB and PRR, were deployed at 1258 and 1307 respectively. The Station Kahe 1020m CTD cast was started 1:20 after the recovery of the optical casts. The level wind on the CTD winch required some adjustment as cable wrapping was not laying properly. A test Seabird oxygen sensor was not operating correctly so it was replaced with the usual sensor. All planned work was completed by 1540 when we departed for Station Aloha. The winds were less than 29 knots and the swell height was 2-4'.

14 October, Thursday

We arrived at Station Aloha at 0045 and the first net tow was started, the second net tow was recovered at 0150. The drifting sediment traps were deployed in 35 minutes, finishing at 0300, at location 22 44.9' N and 157 59.9' W and with RDF channel 74 broadcasting clearly. A transducer was lowered over the side to listen for the IES in consideration of future recovery operations, the sensor was transmitting as anticipated. The first deep cast, S2C1, was started at 0410 and recovered at 0732. The start of the 36 hour burst sampling CTD cast was begun at 1000. Cast were performed on three hour interval where the majority of the JGOFS biochemical samples were collected. Net tows and optical casts were collected at around noon so as to not interfere with the CTD cast schedule. Water was collected for ancillary work by attaching a pump to a line and deploying over the stern for extended periods so that it also did not interfere with CTD operations. Winds averaged 8-12 knots with 3-4' swell height.

15 October, Friday

CTD casts, net tows, optical casts and pump deployments continuing on schedule. Go-flo cast completed successfully with fluorometric chlchlorophyll and flow cytometry sampled from the cast. The primary productivity array was released at 0612 and at position 22 44.9'N and 158 00.1' W. The array was recovered at 1829 and at position 22 43.26' N and 158 00.03' W. Power was lost momentarily at 2136 but was restored shortly afterwards.

16 October, Saturday

Operations proceeding as scheduled. A second deep cast was completed and we transitted to the location of the moored long term sediment traps. There was an elapsed time of 2:05 from the time of release confirmation to the time the releases were on deck. The drifting sediment trap were located and recovered at 12:16 and at position 22 34.8' N, 158 02.0'W. We proceeded to HALE ALOHA and completed the last calibration CTD cast.

17 October, Sunday

We waited for first light to begin the HALE ALOHA mooring recovery. The release was confirmed at 0635 and hard hats were spotted on the surface at 0723. The recovery was completed in 4:02 for an all time recovery record. After the back deck was secured we set course for Snug Harbor.