

HOT-107: Chief Scientist Report

Chief Scientist: L. TUPAS

Vessel: R/V KaImikai O Kanaloa

Loading: August 10, 1999

Departed: August 11, 1999 at 0900

Returned: August 16, 1999 at 0800

Chief Scientist: Dr. Louie Tupas

Master: Captain Robert Hayes

Deck Operations: Mr. Dave Gravatt

Electronics Technician: Mr. Will Hervig

1. SCIENCE PERSONNEL HOT-106

Luis Tupas - UH, scientist

Dale Hebel UH, scientist

Lance Fujieki - UH, computer specialist

Terry Houlihan UH, research associate

Karin Bjorkman UH, research associate

Dan Sadler - UH, research associate

Ursula Magaard- UH, research associate

Craig Nosse - UH, research associate

Don Wright - UH, research associate

Fernando Santiago-Mandujano - UH, research associate

Mark Valenciano UH, marine technician

Stephanie Christensen UH research associate

Jessica Walter - UH, REU student

Daniel Warren UH, REU student

Claudia Benitez-Nelson UH, scientist

Steve Johnson UH Undergraduate student

Charles Stump UW Research Associate

Roberta Hamme UW Graduate student

2. GENERAL SUMMARY

All objectives of the JGOFS and WOCE programs were accomplished with the exception of the inverted echo sounder which failed to release from its anchor. All planned stations were occupied. Weather and sea conditions were moderate to rough but within limits of safety for deck operations. All core samples were taken and the 36 hour CTD burst sampling period was not interrupted. All samples for ancillary projects were taken. Floating sediment trap array and primary production array deployed and recovered successfully. No samples were lost during the in-situ incubations. ADCP measurements were made throughout the cruise.

3. R/V Ka Imikai O Kanaloa, OFFICERS AND CREW, TECHNICAL SUPPORT

This was the second HOT core cruise on the R/V K-O-K. Most of the problems encountered on the previous HOT cruises were properly addressed. Ship's crew gave excellent support and showed enthusiasm and concern for our work and were very flexible in receiving changes in our operational schedule and logistical support. Technical support during this cruise was excellent. STAG personnel were available

at any time to assist in our work and made things much easier for us.

4. DAILY REPORT OF ACTIVITIES

August 10, 1999; Loading Day

We did a full on-load for this cruise. The ships main deck was configured for HOT equipment. The main lab van and the rope winch were secured inside the submarine hangar. The equipment van and second radiation van were secured on the O-2 deck. All deck and lab equipment were loaded and secured within the ships labs. All electrical and electronic connections were made for the CTD. All other equipment and containers were stowed away and secured. All laboratory instruments were tested and appeared functioning. No problems were encountered.

August 11, 1999

We departed Snug Harbor at 0800. Fire and abandon ship drills were held at around 0930. We arrived at Station Kahe at 1130. Upon arrival the PRR and TSRB were deployed and retrieved. CTD cast started at 1300. Work at Station Kahe was accomplished by 1600 and the ship proceeded to Station ALOHA.

August 12, 1999

Ship arrived at Station ALOHA at 0100. The IES was located and communications were established. The release command was given but the IES remained at the bottom. We monitored the IES and made positions determinations as the ship moved towards and away the IES location. Unfortunately the IES remained in its original position despite the release mechanisms appearing to have functioned. We stated to monitor the IES for the rest of the day. A CTD cast was made at around 0700 and a series of instrument test casts were made afterwards. An in-situ pump was deployed for several hours in the afternoon. The floating sediment traps were deployed at 1600.

August 13, 1999

The first deep cast was made at 0300. The 36-hour burst sampling started at 0900. Work continues according to schedule without any problems. PRR and TSRB casts conducted at noon. Net tows conducted at noon and midnight.

August 14, 1999

Work continues as scheduled. Go-Flo cast at 0200 with some difficulty. Primary production experiment made from Go-Flo cast water. Primary production experiment was deployed without incident at 0500. At noon we did optical and atmospheric measurements as scheduled at Station ALOHA. Net tows successful. Primary production experiment retrieved at 1900 and all samples processed shortly after. CTD casts continue at 3 hour intervals. Last cast started at midnight.

August 15, 1999

Work has been proceeding as scheduled without any problems. Second WOCE deep cast started at 0400 and completed at 0800. We received a telex message from UH about the ARGOS positions. Ship made a final set of positioning runs over the IES location. The IES had not moved since we signaled the release code. Ship proceeded to the trap location and traps retrieved at 1200. Ship then proceeded to HALE ALOHA. Arrived at HALE ALOHA at 1400. Boat operations were cancelled because

the small boat engine was not functioning. CTD cast started at 1700 together with trace metal sampling. Departed HALE ALOHA at 2000.

August 16, 1999

We arrived at Snug Harbor at 0800. Unloading commenced immediately and completed at 1200.

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC water samples for Charles Keeling, SIO-UCSD
2. DIC water samples for Paul Quay, UW
3. Seawater for Ed Laws, UH
4. Phosphorus experiments by Karin Bjorkman, UH
5. Aerosol and ozone measurements for J. Porter, UH
6. Seawater for Ted Walsh, UH
7. N2O samples for Brian Popp, UH