HOT-103: Chief Scientist Report

Chief Scientist: L. TUPAS

Loading: March 12, 1999 Chief Scientist: Dr. Louie Tupas
Departed: March 15, 1999 at 0900 Master: Captain Robert Hayes
Returned: March 19, 1999 at 0830 Deck Operations: Mr. Dave Gravatt
Vessel: R/V Moana Wave Electronics Technician: Mr. Will Hervig

1. SCIENCE PERSONNEL

Luis Tupas - UH, JGOFS
Dale Hebel UH JGOFS
Karin Bjorkman - UH, JGOFS
Lance Fujieki - UH, JGOFS
Terry Houlihan UH JGOFS
Scott Nunnery - UH, JGOFS
Dan Sadler - UH, JGOFS
Craig Nosse - UH, WOCE
Don Wright - UH, WOCE
Fernando Santiago Mandujano - UH, WOCE
Mark Valenciano UH, WOCE
Albert Calbet - UH, Post-doc
John DeVilbiss HPU undergraduate
Kamea Hadar high school volunteer
Angela Adams UH Graduate Student

2. GENERAL SUMMARY

All objectives of the JGOFS and WOCE programs were accomplished. 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 MOANA WAVE, OFFICERS AND CREW, TECHNICAL SUPPORT

The R/V Moana Wave continues to provide excellent ship support for our work. The officers and crew were most helpful and accommodating. They showed enthusiasm and concern for our work and were very flexible in receiving changes in our operational schedule. 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

March 12, 1999; Loading Day

The ship was used for HOT-102 the prior month and there were no other users afterwards. The ships main deck was already reconfigured for HOT

equipment. All deck and lab equipment were still in place from the previous cruise. All electrical and electronic connections were made for the CTD. All lab equipment were stowed away and secured. All laboratory instruments were tested and appeared functioning. No problems were encountered.

March 15, 1999

We departed from Snug Harbor at 0900 as scheduled without any problems. Fire and emergency drills conducted at 0930 followed by a safety briefing by the first mate and a short science meeting. Arrived at Station Kahe at 1200 and conducted the weight cast to 1000 m and the PRR/TSRB casts. A CTD cast to1000 meters was made. Aerosol and ozone measurements were made. All samples were taken and we departed for Station ALOHA at 1530. Seas and weather rough.

March 16, 1999

After a really rough transit we arrived at Station ALOHA circle shortly after 0000 and commenced work with a net tow and then deployed the floating sediment traps. The deep cast started at 0300. The 3-hour burst sampling started at 0900. CTD casts at 3-hour intervals were conducted without interruption. Seas still rough. Conducted optical casts and atmospheric measurements near during SeaWIFs overpass.

March 17, 1999

Work continues according to schedule without any problems. Go-Flo cast at 0300. Primary production experiment made from CTD and Go-Flo cast water. Primary production experiment was deployed without incident. EOC spikes were performed. At noon we did optical and atmospheric measurements as scheduled at Station ALOHA. Net tows so far successful and grazing experiments are underway. Primary production experiment retrieved at 1900 and all samples processed shortly after. The primary production spar buoy broke in half but we were able to retrieve both the upper half with the VHF transmitter. It was also difficult retrieving the lower half and the samples but we were able to do it. CTD casts continue at 3 hour intervals. Last cast ended at midnight.

March 18, 1999

We have been receiving ARGOS positions for the sediment trap array. They have almost 30 miles. Work has been proceeding as scheduled without any problems. Second WOCE deep cast completed at 0700. After last cast, ship proceeded sediment traps. Traps retrieved at 1000 and ship proceeded to HALE ALOHA. Arrived at HALE ALOHA at 1500. Conducted CTD cast, optical cast and trace metal sampling. We remained at station for the WOCE test of the new CTD hardware and software. We departed HALE ALOHA at 1900.

March 19, 1999

We arrived at Snug Harbor at 0830. Unloading commenced immediately and completed at 1200.

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC water samples for C.D. Keeling, SIO-UCSD
2. DIC water samples for P. Quay, UW
3. Seawater for E. Laws, UH
4. Phosphorus experiments by Karin Bjorkman, UH
5. Aerosol and ozone measurements for J. Porter, UH
6. Calcite measurement by Angela Adams
7. N2O samples for B. Popp, UHon feeding/UH