

HOT-70: Chief Scientist Report

Chief Scientist: L. TUPAS

Loading: March 22, 1996

Departed: March 25, 1996 at 0830

Returned: March 29, 1996 at 0800

Vessel: R/V Moana Wave

Chief Scientist: Dr. Louie Tupas

Master: Captain Robert Hayes

Deck Operations: Mr. Luigi Pozzi

Electronics Technician: Mr. Steve Poulos

1. SCIENCE PERSONNEL

Dale Hebel - UH, JGOFS

Luis Tupas - UH, JGOFS

Lance Fujieki - UH, JGOFS

Terrence Houlihan - UH, JGOFS

Albert Colman - UH, JGOFS

Jefrey Snyder - UH, WOCE

Deborah Schulman - UH, WOCE

Molly Lucas - UH, WOCE

Fernando Santiago-Mandujano - UH, WOCE

Dave Johnson - UH, WOCE

Daniel Sadler - UH, Carbon Project

John Rooney - UH, Zooplankton Project

Mai Lopez - SIO, OPC/ADCP

Tomoe Uehara - UH, Atmospheric Chemistry

Lisa Campbell - UH, Picoplankton

Dave Jones - Charleston, Picoplankton

2. GENERAL SUMMARY

All objectives of the JGOFS and WOCE programs were accomplished. All planned stations were occupied. 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, upside-down sediment trap and primary production array deployed and recovered successfully. No samples were lost during the in-situ incubation. There were no major equipment failures. The optical plankton counter was towed around Station ALOHA without any problem.

3. R/V MOANA WAVE, OFFICERS AND CREW, TECHNICAL SUPPORT

The R/V Moana Wave continues to maintain the 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 22, 1996; Loading Day

All equipment were moved from either SNUG Harbor labs or UH on this day. All electrical and electronic connections were made for the CTD and the OPC/CWS. All lab equipment were stowed away and secured. All instruments were tested and appeared functioning. No problems were encountered.

March 25, 1996

All hands arrived on ship at 0800. Ship departed at 0830 to get ahead of a Matson vessel arriving in the channel. 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 1100. Conducted weight cast and 1130 m CTD cast. All operations and sampling accomplished by 1500. Started transit to Station ALOHA. Arrived at Station ALOHA at 2230. Upside and floating sediment trap array deployment procedures began at 0030, accomplished at 0130.

March 26, 1996

Sediment trap operations completed at 0030. Ship transited to center of station and commenced WOCE deep cast at 0230. Delay was caused by the sediment traps being in the center of the circle where we wanted to conduct the CTD cast. Cast was completed at 0700. CTD burst sampling commenced at 0900 to accommodate winch schedule. CTD casts maintained at 3 hour intervals. Noon zooplankton tow successful. One night tow was accomplished. Passing showers encountered.

March 27, 1996

CTD casts continued at 3 hour intervals. Go-Flo cast conducted at 0230, cast finished at 0315. Primary production array deployment commenced at 0530. CTD casts continued at 3 hour intervals. Zooplankton tows conducted at noon. Retrieval of primary production array commenced at 1830. No samples were lost. CTD casts continued at 3 hour intervals. One night tow was accomplished. Last 1000 meter cast conducted at 2100 finished at 2330.

March 28, 1996

Transit out of the circle to pump tanks, returned to the center at 0200. Shallow cast at 0300 followed by deep cast conducted at 0600, completed at 1000. Proceeded to location of floating sediment trap array. Arrived at site and commenced recovery at 1130, accomplished at 1200. Proceeded to site of upside-down sediment trap, commenced recovery at 1330, accomplished at 1500. OPC deployed to conduct transects through Station ALOHA and return leg to Honolulu. No problems were encountered during the deployment. The pump system was turned on and no interference with the CTD or OPC was found. The pump, however, stopped operating about 5 minutes after pumping commenced. Attempts to get water flowing through the pump system were unsuccessful. OPC

retrieved at 2100 and proceed to Honolulu. The Continuous Water Sampler Winch had adequate power to retrieve the device while the ship moved at 2 knots. Examination of the submersible pump after retrieval showed that the motor was not turning and oil was leaking out of the end.

March 29, 1996

Arrived at Snug Harbor at 0800. Proceeded with unloading however the majority of the deck and lab equipment remains onboard for the next cruise. Unloading completed at 1100.

ANCILLARY INVESTIGATIONS

1. Zooplankton sampling - J. Rooney
2. DIC sampling - D. Sadler
3. Optical Plankton counts - M. Lopez
4. Phosphorus experiments - A. Colman
5. Picoplankton studies - L. Campbell, D. Jones

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC water samples for C.D. Keeling, SIO-UCSD
2. DIC water samples for P. Quay, UW
3. Microscopy samples for H. Thierstein, ETH-Zurich
4. Surface seawater for E. Laws, UH
5. Deep seawater for J. Gharib/J. Resing, UH
6. Surface and deep seawater for C. Measures, UH
7. Deep seawater for C. Stump, UW