HOT-65: Chief Scientist Report

Chief Scientist: L. TUPAS

Loading: August 25, 1995
Departed: August 27, 1995 at 0900
Returned: September 1, 1995 at 0730
Vessel: R/V Moana Wave
Operator: University of Hawaii
Chief Scientist: Dr. Louie Tupas
Master: Captain Robert Hayes
Deck Operations: Mr. Luigi Pozzi
Electronics Technician: Mr. Will Hervig

1. SCIENTIFIC OBJECTIVES

The primary objective of the cruise was to maintain the collection of hydrographic and biogeochemical data at the Hawaii Ocean Time-series (HOT) station, also known as Station ALOHA (A Long Term Oligotrophic Habitat Assessment). Free-drifting sediment traps were planned for deployment for approximately 72 hours from the site to measure sedimentation rates of particulate matter. CTD casts at three hour intervals were planned to obtain temperature, salinity, dissolved oxygen, flash fluorescence and beam attenuation profiles. Water samples for analysis of dissolved nutrients, gases, and biomass were to be collected with the CTD casts . Another free-drifting array to conduct a primary production experiment was planned for a 12 hour deployment. Two other stations were planned to be occupied during this cruise; Station Kahe and Station Kaena. An optical plankton counter (OPC) was planned to be towed on the return leg to Snug Harbor. ADCP measurements were to be made during this cruise. Water samples for ancillary investigations were to be collected and experiments were to be conducted as time permitted. A shallow mooring for a JIMAR project will be deployed near Kaena Point.

2. SCIENCE PERSONNEL

Dale Hebel - UH, JGOFS
Luis Tupas - UH, JGOFS
Lance Fujieki - UH, JGOFS
Terrence Houlihan - UH, JGOFS
Karen Casciotti - UH, JGOFS
Jefrey Snyder - UH, WOCE
Craig Nosse - UH, WOCE
Molly Lucas - UH, WOCE
Patrick Goda - UH, WOCE
Daniel Sadler - UH, Carbon Project
Pat Driscoll - UH, Carbon Project
Robert Miller - UH, Zooplankton Project
Mai Lopez - SIO, OPC/ADCP
Lisa Campbell - UH, Picopankton Project
David Jones - Coll. Charleston, Picoplankton Project

Hong Bin Liu - UH, Picoplankton Project

3. GENERAL SUMMARY

All objectives of the JGOFS and WOCE programs were accomplished. All planned stations were occupied. All core samples were taken within the 36 hour CTD burst sampling period. 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 incubation. There were no major equipment failures. The optical plankton counter was towed from Station ALOHA to Honolulu without any problem. The mooring for JIMAR was succesfully deployed. All samples for ancillary investigators were collected. On-board experiments were also conducted

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

The R/V Moana Wave continues to maintain the excellent ship support for our work. Even as the program continues to expand its range of activities, the ship is still able to accommodate our operational demands. 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.

5. DAILY REPORT OF ACTIVITIES

August 25, 1995; Loading Day

All equipment was moved from either SNUG Harbor labs or UH that day. All electrical and electronic connections were made for the CTD and the OPC/v-fin. All lab equipment were stowed away and secured. All instruments were tested and appeared functioning. No problems were encountered. Karen Casciotti was injured when a spar buoy she was lifting dropped on the big toe of her right foot. She was not wearing proper footwear at the time. Initial inspection of the injury showed that her toenail had broken off. First-aid was provided at the Marine Cente operations office by Engr. Bill Clarke and Mr. Clary Getzeit. Mr. Dale Hebel transported Ms. Casciotti to Straub Hospital Emergency section where the injury was treated. An x-ray revealed that the tip of the big toe bone was slightly fractured. Her participation on the cruise was dependent of her condition the following day. Ms. Casciotti indicated to the chief scientist that if it were at all possible, she would like to participate on the cruise.

On August 26, the chief scientist accompanied Ms. Casciotti to Straub Hospital to discuss with the treating physician her condition with regards to participating on the cruise. The treating physician said that as long as she does not walk long distances or lift heavy objects and that the wound is kept clean, she could participate on the cruise. The chief scientist agreed to take Ms. Casciotti on the cruise provided that she work only in the laboratory and follow the instructions of the

physician.

August 27, 1995

All hands arrived on ship at 0830. Ship departed at 0900. Fire and emergency drills conducted at 0935 followed by safety briefing by first mate. Arrived Kahe Point Station at 1130. Conducted weight cast, PNF cast and 1000 m CTD cast. All operations and sampling accomplished by 1500. Transit to JIMAR mooring site near Kaena Point. Arrive at mooring site at 1630. Proceed with mooring operations. First attempt too short. Mooring was lifted and dragged to shallower waters. Operations finished at 1830. Proceeding to Station Kaena. Arrive Station Kaena at 2000. Conduct CTD to near bottom, completed at 2200. Conducted IES ranging and completed at 2400. Started transit to Station ALOHA.

August 28, 1995

Arrive at the center of Station ALOHA at 0515 and commenced sediment trap deployment. Deployment finished at 0745, ship transited to center of station and commenced WOCE deep cast at 0900, completed at 1215. CTD burst sampling commenced at 1430. CTD casts maintained at 3 hour intervals. Passing showers encountered.

August 29, 1995

CTD cast continued at 3 hour intervals. Go-Flo cast conducted at 0130, finished at 0215. Primary production array deployment commenced at 0430. CTD casts continued at 3 hour intervals. Zooplankton tow conducted at 1000. Retrieval of primary production array commenced at 1830. No samples were lost. CTD casts continued at 3 hour intervals.

August 30, 1995

CTD casts continue at 3 hour intervals. Zooplankton tows at early morning and noon. CTD worked continues with final cast accomplished at 2100. Commence with IES ranging at 2300.

August 31, 1995

IES ranging completed at 0200. Transit to sediment trap location. Recovery operations commence at 0800, completed at 0900. Deploy OPC at 1045 and towed across the circle before transiting to Honolulu.

September 1, 1995

V-fin retrievedat 0400. Proceed to Snug Harbor and arrive at 0730. Commenced off loading, all equipment and personnel cleared from ship at 1200.

ANCILLARY INVESTIGATIONS AND SPECIAL PROJECTS

1. Zooplankton sampling - B. Miller
2. DIC sampling - D. Sadler. P. Driscoll
3. Optical Plankton counts - M. Lopez

4. Picoplankton project - L. Campbell, D. Jones, H. Liu
5. Trace Gases - K. Casciotti

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC water samples for C.D. Keeling, SIO-UCSD
2. DIC water samples for P. Quay, UW
3. Fileterd seawater samples for H. Thierstein, Zurich
4. Various waters and filter samples for G. Luther, U.Del
5. Water samples for C. Measures, UH