HOT-56: Chief Scientist Report

Chief Scientist: L. TUPAS

Loading: August 27, 1994
Departed: August 28, 1994 at 0900
Returned: September 2, 1994 at 0730
Vessel: R/V Moana Wave
Operator: University of Hawaii
Chief Scientist: Dr. Louie Tupas
Master: Captain Robert Hayes
Deck Operations: Mr. Dave Gravett
Electronics Technician: Mr. Ken Shultis

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. The HOT station, also known as Station ALOHA (A Long Term Oligotrophic Habitat Assessment) is defined as a circle with a 6 nautical mile radius centered at 22o45'N, 158oW. 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. Three other stations were planned to be occupied during this cruise; Kahe Point Station (21o20.6'N, 158o16.4'W), Kaena Point Station (21o50.76'N, 158o21.84'W), and Station 3 (23o25'N, 158oW). Other research objectives such as the collection of water samples for ancillary investigations and experiments were to be conducted as time permitted.

2. SCIENCE PERSONNEL

Eric Firing - UH WOCE
Jefrey Snyder - UH, WOCE
Fernando Santiago-Mandujano - UH, WOCE
Wilfried Braje - UH, WOCE
Luis Tupas - UH, JGOFS
Dale Hebel - UH, JGOFS
Terrence Houlihan - UH, JGOFS
David Pence - UH, JGOFS
Lance Fujieki - UH, JGOFS
Daniel Sadler - UH, Carbon Project
Karen Selph - UH, Zooplankton Project
Mikel Latasa - UH, Pigment Project
Renate Scharek - UH, Postdoc

3. GENERAL SUMMARY

All objectives of the JGOFS and WOCE programs were accomplished. Stations Kahe, Kaena, ALOHA and Station 3 were occupied. All core samples were taken within the 36 hour CTD burst sampling period. All samples for ancillary projects were taken. The floating sediment trap and primary production experiment was conducted. Zooplankton net tows were conducted. All planned activities were conducted successfully. A lowered ADCP instrument was planned for testing but did not arrive. Eric Firing still joined the cruise.

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. The assistance in preparing the bow frame sensors was most commendable. The officers and crew were most helpful and constantly concerned about the success of our work. 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 27, 1994; 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 light sensors. All lab equipment were stowed away and secured. All instruments were tested and appeared functioning. Sediment trap tubes were made that day.

August 28, 1994

All hands arrived on ship at 0830. Ship departed at 0900. Fire and emergency drills conducted at 0945 followed by safety briefing by first mate. Arrived Kahe Point Station at 1200. Conducted weight cast, PNF cast and 1000 m CTD cast. Malfunction in first cast, second cast conducted after repair and accomplished at 1500. Arrive Station Kaena at 1800. Conduct CTD to near bottom, completed at 2030, slowly started transit to Station ALOHA while sampling.

August 29, 1994

Arrive at the center of Station ALOHA at 0230. Sediment trap deployment at 0245, accomplished at 0500. After deployment ship transit to center. Commence with deep cast at 0545. Start 36 hour burst sampling at 1030. PNF cast at noon. CTD casts continue at 3 hour intervals.

August 30, 1994

CTD casts continue at 3 hour intervals throughout the day. Net tow conducted at 0030. Go-Flo cast conducted at 0100 and primary production array successfully deployed at 0500. CTD casts continued at 3 hour intervals. PNF cast and zooplankton tow also conducted at noon. Primary production array successfully recovered in the evening.

August 31, 1994

Burst sampling continued at 3 hour intervals. Zooplankton net tows accomplished at different time intervals. More CTD casts after burst sampling period though out the day.

September 1, 1994

CTD cast conducted at 3 hour intervals. Last cast completed at 0400. Proceeding to sediment trap location. Sediment trap recovery at 0630, finished at 0730. Proceeded to Station 3. CTD cast at 1300, completed at 1400. Start ADCP transect down 158 West.

March 12, 1994

Continue steaming to Honolulu. Arrive Snug Harbor at 0730. Commence unloading. Completed at 1200.

ANCILLARY INVESTIGATIONS AND SPECIAL PROJECTS

1. Sediment traps, net tows and diatom sampling - R. Scharek
2. Pigment experiments - M. Latasa
3. DIC sampling - D. Sadler
4. Zooplankton net tows - K. Selph

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC samples for C.D. Keeling, SIO-UCSD
2. DIC samples for P. Quay, UW
3. Silica samples for H. Thierstein, Zurich
4. Iodine samples for G. Luther