HOT-73: Chief Scientist Report

Chief Scientist: L. TUPAS

Loading: June 21, 1996
Departed: June 24, 1996 at 0830
Returned: June 28, 1996 at 0800
Vessel: R/V Moana Wave
Chief Scientist: Dr. Louie Tupas
Master: Captain John Stahl
Deck Operations: Mr. Dave Gravett
Electronics Technician: Mr. Will Hervig

1. SCIENCE PERSONNEL

Dale Hebel - UH, JGOFS
Luis Tupas - UH, JGOFS
Lance Fujieki - UH, JGOFS
Terrence Houlihan - UH, JGOFS
Albert Colman - UH, JGOFS
Angie Thomson - UH, JGOFS
Jefrey Snyder - UH, WOCE
Craig Nosse - UH, WOCE
Molly Lucas - UH, WOCE
Kristi West - UH, WOCE
Erik Svensson - UH, WOCE
Pat Driscoll - UH, Carbon Project
Karen Selph - UH, Zooplankton Project
Mai Lopez - SIO, OPC
Rachel Shakelford - UH, REU

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 and primary production array deployed and recovered successfully. No samples were lost during the in-situ incubations. ADCP measurements were made throughout the cruise, however there were dropouts in the GPS feed to the ADCP. STAG has been informed of the problem. The pCO2 system was installed and worked using the ships uncontaminated seawater intake system. The optical plankton counter was towed around Station ALOHA, however, the submersible pump was not operable because of a problem with the control box and the CTD ran out of power halfway through the tow.

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

June 21, 1996; Loading Day

Most of the deck and some lab equipment remained on the ship from the previous HOT cruise. All other 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. The new pump controller was available but was not tested. All lab equipment were stowed away and secured. All laboratory instruments were tested and appeared functioning. No problems were encountered.

June 24, 1996

All hands arrived on ship by 0830. Ship departed at 0900 as scheduled. 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 followed by a light cast using the newly acquired Profiling Reflectance Refractometer. A 1000 m CTD cast completed the operations. The 12 kHz precision depth recorder failed during this cast but the problem was immediately fixed. Started transit to Station ALOHA at 1600 following a depth contour of about 500 meters for ADCP bottom tracking. Uncontaminated seawater system was run and the pCO_2 system was connected and operated. Rough sea conditions slowed the transit to Station ALOHA and we arrived at 2230. Floating sediment trap array deployment procedures began at 0030, accomplished at 0130 on June 25.

June 25, 1996

Sediment trap operations completed at 0130. A zooplankton net tow was conducted immediately after. Ship transited to center of station and commenced WOCE deep cast at 0230. Cast was completed at 0700. CTD burst sampling commenced at 0800 and maintained at 3 hour intervals. Noon zooplankton tows successful. Noon PRR cast was successful. One night tow was accomplished.

June 26, 1996

CTD casts continued at 3 hour intervals. Go-Flo cast conducted at 0100. Primary production array deployment commenced at 0530. CTD casts continued at 3 hour intervals. Zooplankton tows conducted at noon. PRR cast at 1330. 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 2300.

June 27, 1996

Transit to Station 3 at 0030. Arrived at site at 0430 and commenced with deep cast at 0500. The 12 kHz PDR had intermittent failures during

the cast. STAG has been informed of the problem. After CTD cast accomplished (0900) proceeded to site of floating sediment trap, commenced recovery at 1100, accomplished at 1200. OPC deployed to conduct transects through Station ALOHA. Submersible pump was tested but pump controller was not providing any power. Attempts to get water flowing through the pump system were unsuccessful. OPC temporarily retrieved at 1700 to detach a tangled fishing line. OPC was retrieved at 2015 and the ship transited to Snug Harbor.

June 28, 1996

Arrived at Snug Harbor at 0730. Proceeded with unloading however the majority of the deck and lab equipment remains onboard for the transect cruise. Unloading completed at 1100.

ANCILLARY INVESTIGATIONS

1. Zooplankton sampling - K. Selph
2. DIC sampling/pCO2 - P. Driscoll
3. Optical Plankton Counts - M. Lopez
4. Phosphorus experiments - A. Colman
5. REU Project - R. Shackelford

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. Surface seawater for C. Measures, UH
6. Seawater sample for B. Monger, UH