HOT-83: Chief Scientist Report

Chief Scientist: L. TUPAS

Loading: May 2, 1997 Chief Scientist: Dr.Louie Tupas
Departed: May 5, 1997 at 0930 Master: Captain Robert Hayes
Returned: May 9, 1997 at 0730 Deck Operations: Mr. Luigi Pozzi
Vessel: R/V Moana Wave Electronics Technician: Mr. Steve Poulos

1. SCIENCE PERSONNEL

Luis Tupas - UH, JGOFS
Dale Hebel - UH, JGOFS
Terrence Houlihan- UH, JGOFS
Karin Bjorkman - UH, JGOFS
Jefrey Snyder - UH, WOCE
Craig Nosse - UH, WOCE
Don Wright - UH, WOCE
Matt Cochran - UH, WOCE
Pat Driscoll - UH, JGOFS
Stephanie Christensen - UH, JGOFS
Mai Lopez - SIO
Stuart Donachie - UH, Post-Doc
Albert Calbet -UH, Post-Doc

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. The pCO2 system was installed and worked using the ships uncontaminated seawater intake system. The optical plankton counter was towed around Station ALOHA, however, there were problems with the CTD. The submersible pump worked continuously during 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

May 2, 1997; Loading Day

All deck and lab 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 submersible pump was tested and installed inside

the V-fin. The flash flurometer was reinstalled for this cruise . All lab equipment were stowed away and secured. All laboratory instruments were tested and appeared functioning. No problems were encountered. The lowered ADCP had arrived but its configuration inside the CTD frame was still unresolved.

May 5, 1997

Most scientists arrived on ship by 0830. Two scientists (Hummon & Rowe) decided not participate on this cruise because the LADCP could not be properly configured. One scientist (Donachie) had to be picked up at the university after he missed the scheduled shuttles. We also had to wait for the arrival of equipment for Stump and Driscoll. Ship departed at 0930 after all scientists and equipment arrived. Fire and emergency drills conducted at 1000 followed by a safety briefing by the first mate and a short science meeting. Arrived at Station Kahe at 1200. Conducted weight cast followed by a light cast using the Profiling Reflectance Refractometer (PRR). A 1000 m CTD cast completed the operations. 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 pCO2 system was connected and operated. Rough sea conditions slowed the transit to Station ALOHA and we arrived at 2330. A net tow was made upon arrival at Station ALOHA.

May 6, 1997

Floating sediment trap array deployment procedures began at 0030 and accomplished at 0230. The new spar buoy had to be reconfigured with additional weight to keep the buoy upright. One sediment trap collar was damaged so only 11 traps were deployed at 150 meters. 3 traps were deployed at 165 meters. After deployment, the ship transited to center of station and commenced the WOCE deep cast at 0330. Cast was completed at 0700. CTD burst sampling commenced at 0830 and maintained at 3 hour intervals. Zooplankton tows at noon successful. PRR cast successful.

May 7, 1997

CTD casts continued at 3 hour intervals. Go-Flo cast conducted at 0130. A mistake was made during the dispensing of the C14 isotope. The bottom four depths had only two light and two dark bottles for incubation. Primary production array deployment commenced at 0500. CTD casts continued at 3 hour intervals. Zooplankton tows conducted at noon. PRR cast at 1230. Retrieval of primary production array commenced at 1900. No samples were lost. CTD casts continued at 3 hour intervals. One night tow was accomplished. Last 1000 meter cast conducted at 2200. Last net tow accomplished at 2230. Transit outside the circle to pump tanks.

May 8, 1997

Returned to center of circle at 0000. Second deep cast started at 0130 and finished at 0500. Started OPC towing at 0500 and completed at 1200. Transit to sediment trap retrieval site. Retrieval started at 0130, completed at 1530. The retrieval of the array was made difficult by the sea and wind conditions. The array drifted under the stern and the down

line had to be retrieved separately to untangle the lines underneath the ship. All sediment traps were retrieved undamaged and the whole array was safely and successfully retrieved. Transit to HALE ALOHA. Cast started at 1800 and completed at 2000. Transit to Honolulu at 2000.

May 9, 1997

Arrived at Snug Harbor at 0730. Proceeded with unloading, completed at 1100.

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC water samples for C.D. Keeling, SIO-UCSD
2. DIC water samplesfor P. Quay, UW
3. Surface seawater for J. Gharib, UH
4. Surface seawater for A. Thomson, UH
5. Surface seawater for S. Vink, UH