

Chief Scientist: L. Tupas

Loading: October, 1996

Departed: October 28, 1996 at 0930

Returned: Nov.1, 1996 at 0630

Vessel: R/V Moana Wave

Chief Scientist: Dr. Louie Tupas

Master: Captain John Stahl

Deck Operations: Mr. Dave Graavat

Electronics Tech: Ms. Sharon Stahl

1. SCIENCE PERSONNEL

Luis Tupas - UH, JGOFS

Lance Fujieki - UH, JGOFS

Terrence Houlihan - UH, JGOFS

Dan Sadler - UH, JGOFS

Jefrey Snyder - UH, WOCE

Craig Nosse - UH, WOCE

Molly Lucas - UH, WOCE

Fernando Santiago-Mandujano - UH, WOCE

Patrick Driscoll - UH, Carbon Project

Stephanie Christensen - UH, Zooplankton/Pigment Project

Mai Lopez - SIO, OPC

Stuart Donachie - UH, Postdoc

John Dunne- UW, Graduate Student

2. GENERAL SUMMARY

All objectives of the JGOFS and WOCE programs were accomplished. All planned stations were occupied. The inverted echo sounder was successfully retrieved and a new one was moored. All core samples were taken and the 36 hour CTD burst sampling period was not interrupted. A second deep cast was made at Station ALOHA. All net tows were accomplished. All samples for ancillary projects were taken. Floating sediment trap array and primary production array deployed and recovered successfully. One light sample and three dark samples were lost during the in-situ incubations. ADCP measurements were made throughout the cruise. The pCO₂ system worked using the ship's uncontaminated seawater intake system. The optical plankton counter was towed around Station ALOHA with the submersible pump continuously functioning. Water samples from the pump were taken for salinity, fluorometric chlorophyll a, low-level nitrogen and phosphorus, dissolved organic carbon and dissolved oxygen.

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

October 25, 1996; Loading Day

All deck and lab 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 laboratory instruments and computers were tested and appeared functioning. No problems were encountered.

October 28, 1996

All hands arrived on ship by 0800. Ship was scheduled to depart at 0900 but departed at 0930 because of the late arrival of a chemical needed by one of the scientists. Fire and emergency drills conducted at 1000 followed by a safety briefing by the chief 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. A 1000 m CTD cast completed the operations. Started transit to Station ALOHA at 1500 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. Arrived at Station ALOHA at 2400.

October 29, 1996

Sediment trap operations commenced at 0045 and accomplished at 0130. A zooplankton net tow was conducted at 0145. Ship transited around center of station and commenced IES ranging. Release signal given at 0400 and surfaced at 0600. IES picked up at 0615. WOCE deep cast at 0800 and completed at 1200. CTD burst sampling commenced at 1400 and maintained at 3 hour intervals. Noon zooplankton tows successful. Noon PRR cast was successful. One night tow was accomplished.

October 30, 1996

CTD casts continued at 3 hour intervals. Go-Flo cast conducted at 0130. Primary production array deployment commenced at 0430. CTD casts continued at 3 hour intervals. Zooplankton tows conducted at noon. PRR cast at 1330. Retrieval of primary production array commenced at 1830. Some samples were lost. CTD casts continued at 3 hour intervals. One night tow was accomplished. Last 1000 meter cast conducted at 2300.

October 31, 1996

Transit outside the circle to pump holding tanks and dump trash. Return to center to deploy new IES at 0300. Second deep cast started at 0400 and finished at 0800. Transit to retrieve sediment traps. Recovery operations commenced at 0900, finished at 1000. Transit to northeast corner to commence OPC tow. Equipment problems delayed OPC operations until 1330. Submersible pump was functioning and samples were taken. OPC retrieved at 2030. Transit to Snug Harbor at 0900.

November 1, 1996

Arrived at Snug Harbor at 0700. Proceeded immediately with unloading.

All equipment were taken off. Unloading completed at 1000.

ANCILLARY INVESTIGATIONS

1. Ectoenzymes - S. Donachie
2. Water column and trap thorium - J. Dunne

SAMPLES TAKEN FOR OTHER INVESTIGATORS

1. DIC water samples for C.D. Keeling, SIO-UCSD
2. DIC water samples for P. Quay, UW
3. Surface seawater for E. Laws, UH
4. Surface seawater for C. Measures, UH
5. Surface seawater for T. Walsh, UH