HOT-52: Chief Scientist Report

Chief Scientists: D. HEBEL (officially), L. TUPAS (unofficially)

Cruise Dates: February 15-20, 1994
Vessel: R/V Moana Wave
Operator: University of Hawaii
Master: Captain Robert Hayes
Deck Operations: Clary Getzeit
Electronics Technician: Will Hervig

SCIENCE PERSONNEL:

Dale Hebel - UH Scientist, JGOFS
Luis Tupas - UH Scientist, JGOFS
David Pence - UH Technician, JGOFS
Ursula Magaard - UH Technician, JGOFS
Lance Fujieki - UH Technician, JGOFS
John Dore - UH Graduate Student, JGOFS
Jefrey Snyder - UH Technician, WOCE
James Potemra - UH Graduate Student, WOCE
Richard Muller - UH Technician, HOT
Amy Baylor - UH Graduate Student
Christopher Winn - UH Scientist, Carbon Project
Karen Selph - UH Graduate Student, Zooplankton Project
John Constantinou - UH Graduate Student, Zooplankton Project
Hong Bin Liu - UH Graduate Student
Jin Chun Yuan - UH Graduate Student, Trace Metal Project
Stewart Reid - UH Graduate Student
Louise Schlüter - UH Visiting Student

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 maintained without interruption. All samples for ancillary projects were taken. Floating sediment trap and primary production arrays were successfully deployed and recovered, no samples were lost during the in-situ incubation. There were no major equipment failures. The continuous water sampler, water transfer system, and surface water sampler were deployed and recovered without incident.

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

The R/V Moana Wave continues to be the most suitable platform 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.

DAILY REPORT OF ACTIVITIES

February 15, 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 1130. Conducted weight cast, PNF cast and 1000 m CTD cast. All operations and sampling accomplished by 1400. Transit to Station Kaena. Arrive Station Kaena at 1715. Conduct CTD to near bottom, completed at 1915, slowly started transit to Station ALOHA while sampling. Encountered moderate showers and moderate seas during transit, heavy overcast.

February 16, 1994

Arrive at eastern edge of Station ALOHA at 0130. Moderate sea state. Shallow CTD cast for WTS positioning conducted at 0145, accomplished by 0215. Transit to center of station and commenced with sediment trap array deployment at 0530, finished deployment at 0645. Transit to center of station and commenced WOCE deep cast at 0800. PNF cast at 1200. CTD burst sampling commenced at 1400. CTD casts maintained at 3 hour intervals. Sea state moderate to heavy. Passing showers encountered.

February 17, 1994

CTD cast continued at 3 hour intervals. Go-Flo cast conducted at 0100, finished at 0230. Primary production array deployment commenced at 0530, accomplished at 0600. CTD casts continued at 3 our intervals. PNF cast and zooplankton tow conducted at 1200. Retrieval of primary production array commenced at 1830. No samples were lost. CTD casts continued at 3 hour intervals. Zooplankton tow at 0000. Continue CTD casts for experiments.

February 18, 1994

Burst sampling period finished at 2330. CTD casts continue for special projects. Zooplankton tow and PNF cast conducted at noon. CTD worked continues with final deep cast accomplished at 1700. Preparations for continuous water sampler commence, package in water at 1800. Work suspended at 2000 to pump tanks outside circle. Continue CWS test at 2100. Encountered problems with water coming out of sampling pump, problems still persist despite continous pumping.

February 19, 1994

CWS test terminated at 0100. Commenced with zooplankton tow. Underway at 0215. Planned pick-up of sediment trap array aborted due to non-functioning strobe lights. Proceed to Station 3. Arrive Station 3 at 0600. Commence CTD cast 0630. Proceed to sediment traps at 0730. Sediment trap recovery commenced at 1100, accomplished at 1200. PNF cast conducted followed by zooplankton tow. Deploy CWS at 1300 and continue pumping to see if water clears. Stop pumping at 1700 without

clearing water line, retrieve CWS. Surface water sampler deployed and underway at 1800. Return to 158 W and continue transit to Kahuku.

February 20, 1994

Finish transit at 0100 and break off. Proceed to Snug Harbor and arrive at 0800. Commenced off loading, all equipment and personnel cleared from ship at 1230.

ANCILLARY INVESTIGATIONS AND SPECIAL PROJECTS

1. Zooplankton sampling - K. Selph, J. Constantinou
2. Trace metal sampling and analysis - J. Yuan
3. Hydrogen peroxide sampling - D. Pence, L. Tupas
4. Nitrogen measurement - J. Dore
5. DIC sampling - C. Winn
6. Microbial grazing experiments - H. Liu

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. Pigment samples for R. Bidigare
5. Iodine samples for G. Luther