HOT-138: Chief Scientist Report

Chief Scientist: T. GREGORY

Departed: June 28, 2002 at 1345 (HST)
Returned: June 30 at 1157 (HST)
Vessel: R/V Ka'imikai-o-Kanaloa
Operator: University of Hawaii
Master of the Vessel: Captain Ross Barnes
Chief Scientist: Thomas Gregory
STAG Electronics Technician: Gabe Foreman and Tim McGovern
STAG Deck Operations: Dave Gravatt

1. SCIENTIFIC OBJECTIVES

The objective of this cruise was to continue building a collection of hydrographic and biogeochemical data at the Hawaii Ocean Time-series (HOT) stations. The R/V Ka'imikai-o-Kanaloa had been plagued with engine problems for over a week prior to this cruise. Because of this, we were forced to execute an abbreviated HOT cruise this month. Two stations were to be occupied during the cruise, in the following order:

1) Station 1, referred to as Station Kahe, is located at 21° 20.6' N, 158° 16.4' W and was to be occupied on June 28 for about 3 hours.

2) Station 2: ALOHA (A Long Term Oligotrophic Habitat Assessment) is defined as a circle with a 6 nautical mile radius centered at 22° 45' N, 158° W. This is the main HOT station and was to be occupied for 2 days from June 29 to June 30.

A single CTD cast was to be conducted at Station 1 to collect continuous profiles of various physical and chemical parameters. Water samples were to be collected at discrete depths for biogeochemical measurements.

Upon arrival at Station ALOHA, a full-depth CTD cast was to be conducted followed by CTD casts at 2-hour intervals for 20 hours of continuous and discrete data collection. Plankton net tows were to be conducted near noon and midnight on June 29. The ship was to return to Snug Harbor following the final net tow.

The following instruments were to collect data throughout the cruise: a shipboard ADCP, a thermosalinograph and fluorometer, and an anemometer.

2. SCIENCE PERSONNEL

WOCE Group:

Daniel Fitzgerald	Research Associate	UH
Fernando Santiago-Mandujano	Research Associate	UH

Yves Veillerobe	Undergraduate Student	UH

JGOFS Group:

Thomas Gregory (Chief Scientist)	Research Associate	UH
Karin Björkman	Research Specialist	UH
Anne Gasc	Research Associate	UH
Lance Fujieki (Watch Leader)	Computer Specialist	UH
Paul Morris	Technician	UH
Tara Clemente	Research Associate	UH
Cecilia Sheridan	Graduate Student	UH
Daniel Sadler (Watch Leader)	Research Associate	UH
Matt Church	Graduate Student	UH
Jennifer Brum	Graduate Student	UH
Melinda Simmons	Graduate Student	UH

3. GENERAL SUMMARY

All operations at Stations ALOHA and Kahe were conducted as planned. Eight 1000 m and one 4800 m CTD casts were obtained at Station ALOHA and one 1000 m cast was performed at Station Kahe. Also, one PRR/TSRB cast was performed at Station ALOHA.

C. Sheridan and M. Simmons successfully completed four plankton net tows.

Weather conditions were favorable throughout the cruise.

The ADCP ran without interruption throughout the cruise, as well as the fluorometer, thermosalinograph and the ship's anemometer.

We arrived back at Snug Harbor on June 30 at 1157. A partial off-load took place immediately.

4. R/V KA'IMIKAI-O-KANALOA, OFFICERS AND CREW, TECHNICAL SUPPORT

The R/V Ka'imikai-o-Kanaloa and her crew continue to deliver excellent ship support for our work. The officers and crew were most helpful and accommodating and are to be commended for maintaining high standards. 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.

5. DAILY REPORT OF ACTIVITIES (HST)

June 19, 2002; Loading Day

Equipment loaded on this day. The CTD cable was reterminated, followed

by a test of the CTD system.

June 28, 2002

The ship departed from Snug harbor at 1345. We arrived at Station Kahe at 1622 and immediately conducted a weight cast (400 lb) to 1000 m. A 1000 m CTD cast was begun at 1744 and was recovered at 1824 after which we transited to Station ALOHA.

June 29, 2002

We arrived at Station ALOHA at 0306 and immediately conducted the deep WOCE cast to 4800 m. This cast was recovered at 0657. At 0900 we commenced a series of 1000 m casts at two hour intervals. We conducted nine 1000 m casts this day.

Net tows were conducted at 1006, 1235 and 2200.

The PRR and TSRB were deployed at 1221.

June 30, 2002

A net tow was performed at 0029 after which we began the return trip to Snug Harbor.

We arrived at Snug Harbor at 1157. A partial offload took place immediately.

WEATHER:
Below is the cruise bridge log description for HOT 138. Wind and sea directions are in degrees, wind speed in knots, seas in Beaufort scale, swells in feet, barometer in inches Hg, temp in ?F (dry bulb), clouds in tenths.

Date	Wind	Sea	Swell	Barometer	Temp	Clouds
Fri. 28 June	085-300, 10-27	085-300, 2-5	90-180, 2-6	29.91-29.96	77-84	4
Sat. 29 June	090, 15-24	090, 4-5	095, 6	29.96-30.02	76-84	5
Sun. 30 June	090, 18-20	090, 5	095, 5-6	29.96-29.97	75-80	6

Sub component programs:

Investigator:	Project:
Bob Bidigare	HPLC pigments/UH
Mike Landry	zooplankton dynamics/UH
John Dore	CO2 dynamics/UH

Ancillary programs:

Investigator:	Project:
Charles Keeling	CO2 dynamics and intercalibration/SIO
Paul Quay	DI13C and O isotopes/UW
Mark Abbott/Ricardo Letelier	optical measurements/OSU

Others:

Investigator:	Project:
Karin Björkman	phosphorus cycling/UH
Matt Church	bacterial production/UH