HOT-43: Chief Scientist Report

Chief Scientist: D. HEBEL

HOT 43 Cruise Report
R/V Kila
15-17 Dec. 1992

Personnel List:

Dale Hebel	Chief Scientist	UH

WOCE group:
No representatives

JGOFS group:

John Christian	Graduate Student	UH
Terry Houlihan	Technician	UH
Dave Karl	Principle Investigator	UH
Dan Sadler	Graduate Student	UH

Ancillary projects

Emerson's O2 project:

Chuck Stump	Technician	UW

Dick Young (squid influx study):

John Bower	Graduate Student	UH

Campbell's Picoplankton project:
No representatives

STAG:
No representatives

Itinerary (approximate local time):

Tuesday, 15 Dec.
- 0700 Departed Snug Harbor
- 2030 Arrived ALOHA
- 2100 Commenced hydrocasts

Wednesday, 16 Dec.
- 1700 Completed hydrocasts
- 1730 Departed ALOHA

Thrusday, 17 Dec.
- 0730 Arrived Snug Harbor

Narrative:

HOT 43 was conducted aboard the R/V Kila (Ross Barnes master) with the cruise duration and work schedule similar to HOT 42. However, we did not stop or collect samples at Kahe Pt. during HOT 43 as was done on HOT 42. Nine hydrocasts (less than or equal to 250 m) were completed at station ALOHA with all but two having Niskin bottles attached to the kevlar line. The two hydrocasts without bottles were used to determine if the salinity spiking we observed on HOT 42 with the Seacat CTD profiler was due to the start-stop deployment method resulting from hanging and removing the bottles. During these casts the profiler was lowered and raised without interruption. In addition to the hydrocasts we conducted limited PNF casts and did not deploy the sediment traps or primary productivity arrays.

Although the cruise time frame was very short we were able to collect most of our core water column samples at ALOHA. Of the 7 water bottle casts one was to 50 m for C. Stump's respiration experiment and the remainder were 12 bottle casts to 250 m or less where samples for both UW and UH were collected. Samples collected included DO, DOC, Chl a (f), inorg. nutrients, LLP, NOx, pH, Alk, refrig'd Si, UW DO, UW Oxy/Ar, Keeling & Quay DIC, PPO4, PC, PN, HPLC pigments, bacteria, flow cytometry samples, and salts.

Weather:

The weather was unsettled at station ALOHA with northwest and easterly winds ranging from 10-15 kts with mostly cloudy skies. The sea state ranged from 3-5 deteriorating over the day with the swell ranging from 3-4 m.

Equipment and methods:

All equipment used on HOT 43 was identical to HOT 42. We used our DSE winch with kevlar line and twelve 10 and 12 l General Oceanic Niskin bottles. Bottles were manually attached and removed for each cast over a depth interval of 250 m. At the terminal end of the Kevlar line was an SBE- 19 Seacat internally recording CTD with transmissometer. The Seacat was suspended 9 m below the 250 m mark. Niskin bottles were hung at either 10 m or 5 m increments over the 250 m depth range as recorded on our cast data sheets.

Ancillary programs:

Investigator:	Project:
Steve Emerson (UW)	O2, respiration, and DO

	intercalibration
Charles Keeling (SIO)	CO2 dynamics and inter calibration
Lisa Campbell (UH)	Picoplankton studies
Paul Quay (UW)	Isotopic DIC studies

Students:

John Bower	Squid influx studies

Others:
---
none