

HOT-79: Chief Scientist Report

Chief Scientist: D. Hebel

HOT 79 Cruise Report  
R/V Moana Wave  
6-10 Jan. 1997

Personnel List

HOT 79:

WOCE group:

Jefrey Snyder*	Mar. Electronic Tech.	UH
Craig Nosse	Research Associate	UH
Holly Dail	Volunteer	UH
Shuiming Chen	Graduate Student	UH
Mike Guidry	Graduate Student	UH
Don Wright	Volunteer	UH

JGOFS group:

Dale Hebel	Chief Scientist (co-PI JGOFS)	UH
Pat Driscoll	Research Associate	SIO
Karin Bjorkman	Scientist	UH
Dan Sadler*	Research Associate	UH
Ursula Magaard	Research Associate	UH
Lance Fujieki	Computer Specialist	UH

Ancillary projects

Mai Lopez	Scientist	SIO
Stephanie Chirstensen	Graduate Student	UH
Beth Holmes	Post Doc	UH

STAG

Will Hervig	Electronic Technician	UH-UMC
Dave Gravatt	Deck Technician	UH-UMC

\* Watch Leader

Itinerary (approximate local time):

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Monday, 6 Jan.

0840	Departed Snug Harbor
1110	Arrived Kahe Pt. (Sta. 1)
1120	Weight cast (1000m)
1210	PRR-600 cast
1250	s1c1
1400	Departed Kahe
2150	Arrived Aloha (Sta. 2)
2215	Deployed OPC

Tuesday, 7 Jan.

0110 Recovered OPC  
0140 Plankton net tow  
0330 Completed sediment trap deployment (22 44.93N,157 59.36W)  
0410 Arrived Aloha (center of circle), WOCE deep cast (s2c1)  
0730 CTD on deck  
0910 Began 36 hr "burst sampling" (s2c2)  
1020 Plankton net tow  
1210 s2c3  
1310 PRR-600 cast  
1340 Plankton net tow  
1500 s2c4  
1800 s2c5  
2100 s2c6  
2220 Plankton net tow

Wednesday, 8 Jan.

0000 s2c7  
0100 Plankton net tow  
0150 Go-Flo cast  
0310 s2c8  
0540 Deployed primary productivity array (22 45.7N, 157 58.9W)  
0610 s2c9  
0950 s2c10  
1050 Plankton net tow  
1130 PRR-600 cast  
1205 s2c11  
1315 Plankton net tow  
1500 s2c12  
1800 Retrieved primary productivity array (22 44.7N, 158 06.4W)  
1830 s2c13  
2150 s2c14  
2230 Completed "burst" sampling

Thursday, 9 Jan.

0800 Sediment trap recovery (22 44.3N, 157 57.9W)  
0915 OPC deployed  
1915 OPC recovered  
1930 Departed Sta. ALOHA

Friday, 10 Jan.

0715 Arrived Snug Harbor  
1330 Completed offloading/onloading operations

Narrative:

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HOT 79 was conducted 6-10 Jan. 1997 aboard the R/V Moana Wave with Capt. Hayes as Master. All over-the-side operations were completed and all samples collected with the exception of the second WOCE deep cast which was canceled due wire twisting/kinking problems. Again, the trap array remained within the confines of the station boundary drifting ~ 3 nm from the dropoff to pickup point. The overall drift pattern appears to be circular, first drifting east, then northeast, then west and finally picked up in the southeast quadrant of the circle. Sea conditions were generally good although there was a large swell which caused snap loads on the new CTD wire resulting in two terminations. The OPC was towed both on the initial occupation of Station ALOHA and

after recovery of the floating sediment traps within the Station ALOHA circle until it was necessary to begin the return transit (see above). We arrived Snug Harbor on 10 Jan. and began H79 offloading and H79b (Mooring Cruise) onloading.

Weather:  
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The weather was mostly sunny with winds and seas typical of station ALOHA at this time of year. Below is listed the cruise bridge log descriptions and the various values represent the range for that day. Under wind, sea, and swell there will be two designations, the first is the direction (in degrees), the second for wind is in kts, sea in Beauford force, and swell in feet, barometer in inches of mercury, temp C and clouds in tenths.

Day	Date	Wind	Sea	Swell	Barometer	Temp	Clouds
Mon	6 Jan.	275-310, 10-14	275-310, 2-3	340, 3-5	29.82-29.87	72-74	2-7
Tues	7 Jan.	230-320, 4-20	230-320, 1-4	310-340, 3-8	29.83-29.98	70-75	0-8
Wed	8 Jan.	140-230, 5-18	140-230, 1-3	300, 4-8	29.95-30.04	70-75	0-4
Thur	9 Jan.	020-260, 10-23	020-260, 2-4	300-320, 6-8	29.99-30.09	70-72	2-10
Fri*	10 Jan.	040-060, 12-20	040-060, 3	140-320, 1-8	30.03-30.06	71	3-4

\*Only two entries (0200 & 0600 hrs)

Equipment and methods:  
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In general, all standard equipment used on HOT 79 functioned properly with the exception or comments listed below:

- 1). Removed ~50 lbs of weight from sediment trap spar buoy because it was riding too low in the water.
- 2). PRR-610 logging program was unoperable. Appears to be software problem.
- 3). The brake on the DSE winch did not appear to release properly.
- 4). CTD cable kept twisting and "snap" loads kinked cable twice.
- 5). CWS (OPC) pump did not operate properly.
- 6). Altimeter did not work properly again.
- 7). Inaccurate ship position during some met. obs.

Sub component programs:  
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Investigator:  
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Project:  
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Christopher Winn (UH)  
Bob Bidigare (UH)  
Michael Landry (UH)

DIC, pH, Alk., pCO2  
HPLC pigments  
Zooplankton dynamics

Ancillary programs:

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Investigator:

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Charles Keeling (SIO)

Paul Quay (UW)

Project:

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CO2 dynamics and intercalibration

DIC and 13C

Students:

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Others:

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Mark Huntley/Mai Lopez

Karin Bjorkman

Beth Holmes

Optical plankton counting

Ectoenzyme activities

CH4 studies