

# HOT-134: Chief Scientist Report

Chief Scientist: D. HEBEL

HOT 134 Cruise Report  
R/V Kaimikai O Kanaloa  
14 Jan. - 18 Jan., 2002

## Personnel List

### WOCE group:

|                              |                          |
|------------------------------|--------------------------|
| Fernando Santiago-Mandujano* | Research Associate UH    |
| Mark Valenciano              | Electronic Technician UH |
| Jeremiah Johnson             | Research Associate UH    |
| Noel Larson                  | Research Associate UH    |
| Kent Backman                 | Research Associate UH    |

### JGOFS group:

|                |                       |
|----------------|-----------------------|
| John Dore*     | Scientist UH          |
| Karin Bjorkman | Scientist UH          |
| Tom Gregory    | Research Associate UH |
| Tara Clemente  | Research Associate UH |
| Dale Hebel     | Chief Scientist UH    |
| Lance Fujieki  | Compute Specialist UH |

### Associated projects:

|               |                       |
|---------------|-----------------------|
| Colleen Allen | Research Associate UH |
|---------------|-----------------------|

### STAG:

|              |                                       |
|--------------|---------------------------------------|
| Steve Poulos | Electronic Technician/STAG mgr UH-UMC |
| Dave Gravatt | Deck Technician UH-UMC                |

\*Watch Leader

### Event log (approximate HST):

Monday, 14 Jan.

|      |  |
|------|--|
| 0900 | Departed Snug Harbor                     |
| 0930 | Fire/abandon ship drill, science meeting |
| 1200 | Arrived Kahe Pt. (Sta. 1)                |
| 1205 | Weight cast (1000 m)                     |
| 1300 | PRR/TSRB cast                            |
| 1345 | slc1                                     |
| 1445 | Departed Kahe                            |

Tuesday, 15 Jan.

0000 Arrived Sta. ALOHA (sta. 2)  
0020 Net tow  
0110 Began sediment trap deployment  
0245 Completed trap deployment (22 46.1'N, 157 59.9'W)  
0305 s2c1 (WOCE deep, 4805 db)  
0630 s2c1 on deck  
0810 s2c2 (start 36 hr/3 hr interval CTD casts)  
1000 Net tow  
1105 s2c3 (SeaTech fluorometer failure)  
1235 PRR-600/TSRB cast  
1310 Net tow  
1405 s2c4  
1700 s2c5  
2000 s2c6  
2200 Net tow  
2300 s2c7

Wednesday, 16 Jan.

0030 Net tow  
0200 s2c8  
0500 s2c9  
0625 Primary productivity array deployed (22 45.6' N, 157 59.0' W)  
0800 s2c10  
1000 Net tow (end of net tows)  
1100 s2c11  
1230 PRR-600/TSRB cast  
1400 s2c12  
1700 s2c13  
1825 Retrieved PP array (22 42.4' N, 157 56.7' W)  
2000 s2c14  
2300 s2c15 (second WOCE deep cast, 4805 db)

Thursday, 17 Jan.

0210 Rosette on deck  
0230? Transit sediment trap array  
0910 Retrieved sediment trap array (22 50.7' N, 158 02.2' W)  
0920 Transit HALE ALOHA  
1255 Arrived HALE ALOHA  
1305 s8c1  
1400 Transit station 6 (Kaena)  
1725 Arrived sta. 6  
1730 s6c1  
2020 Transit Snug Harbor

Friday 18 Jan.

0730 Arrived Snug Harbor

Narrative: HOT 134 was conducted aboard the R/V Kaimikai O Kanaloa (KOK), 14 Jan. - 18 Jan., 2002. Captain Robert Hayes was the master of the vessel and Dale Hebel chief scientist. There was a total of 14 participants in the scientific party composed of 5 WOCE, 7 JGOFS, and 2 STAG. We departed Snug on Monday 14 Jan. 2002, occupying stations at Kahe Pt. (sta. 1), Station ALOHA (sta. 2), HALE ALOHA (sta. 8), and Kaena Pt. (sta. 6).

CTD operations were conducted at stations 1, 2, 6, & 8. One ~1000 m CTD cast was conducted at stations 1 & 8. At Station ALOHA, 13 ~1000 m and 2 ~4800 m CTD casts were completed, while one ~2500m CTD cast was completed at Kaena Pt. (sta.6).

Other over-the-side operations included 3 light casts (PRR and TSRB), 6 net tows, floating sediment traps and primary productivity deployments. All arrays were retrieved successfully although the sediment trap spar buoy needed field repairs before deployment.

The underway/continuous thermosalinograph, ADCP, and fluorometer were operable and functioned properly. WOCE met. obs and limited ship met. data were collected. Overall the weather was mostly sunny (although we did experience brief periods of rain), with relatively calm seas and generally light Trade winds until 17 Jan. when the wind and seas picked up substantially. Fortunately, we picked up our sediment trap array at the beginning of this event without problems. All scheduled work was accomplished. Daily activities are listed above under Events Log.

Weather HOT 134: The weather was light-moderate with relatively light winds at the beginning of the cruise increasing at the end. Below is listed the cruise bridge log descriptions with the various values representing 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, swell in feet, barometer in inches of Hg, temp F (dry bulb), and clouds in tenths.

| Day Date     | Wind           | Sea          | Swell        | Barometer   | Temp  | Clouds |
|--------------|----------------|--------------|--------------|-------------|-------|--------|
| Mon 14 Jan.  | 080-340, 12-15 | 080-340, 3   | 140-320, 1-3 | 29.92-30.02 | 72-83 | 1-3    |
| Tues 15 Jan. | 100-120, 12-17 | 100-120, 3-4 | 270-320, 2-8 | 29.99-30.10 | 72-89 | 2-7    |
| Wed 16 Jan.  | 075-095, 18-20 | 075-095, 4   | 310-320, 3-5 | 30.09-30.17 | 72-77 | 1-4    |
| Thur 17 Jan. | 060-090, 18-32 | 060-090, 4-5 | 070-315, 5-8 | 30.13-30.23 | 71-75 | 1-8    |
| Fri 18 Jan.* | 060, 18-22     | 060, 1-3     | 095-320, 1-3 | 30.08-30.11 | 71    | 4-6    |

\*two entries (0200 & 0600 hrs)

#### Equipment and methods:

All standard equipment functioned properly except the SeaTech fluorometer which failed on s2c3. The sediment trap spar buoy

needed field repairs during deployment.

Sub component programs:

Investigator:

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John Dore

Bob Bidigare (UH)

Michael Landry (UH)

Project:

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carbon dynamics/UH

HPLC pigments/UH

zooplankton dynamics/UH

Ancillary programs:

Investigator:

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Charles Keeling (SIO)

Paul Quay (UW)

Abbott/Letelier

Claudia Benitz-Nelson

Karin Bjorkman

Dale Hebel

Project:

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CO2 dynamics and intercalibration/SIO

DIC and 13C/UW

optical measurements/OSU

phosphorus isotopes,Th234/UH

phosphorus dynamics

EOC

Notable events:

1. Interesting mixed layer dynamics
2. Relatively calm seas
3. Fluorometer failure
4. Seapoint fluorometer testing