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 slcl
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.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Wind</th>
<th>Sea</th>
<th>Swell</th>
<th>Barometer</th>
<th>Temp</th>
<th>Clouds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tues 15 Jan.</td>
<td>100-120, 12-17</td>
<td>100-120, 3-4</td>
<td>270-320, 2-8</td>
<td>29.99-30.10</td>
<td>72-89</td>
<td>2-7</td>
<td></td>
</tr>
<tr>
<td>Wed 16 Jan.</td>
<td>075-095, 18-20</td>
<td>075-095, 4</td>
<td>310-320, 3-5</td>
<td>30.09-30.17</td>
<td>72-77</td>
<td>1-4</td>
<td></td>
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<tr>
<td>Thur 17 Jan.</td>
<td>060-090, 18-32</td>
<td>060-090, 4-5</td>
<td>070-315, 5-8</td>
<td>30.13-30.23</td>
<td>71-75</td>
<td>1-8</td>
<td></td>
</tr>
<tr>
<td>Fri 18 Jan.*</td>
<td>060, 18-22</td>
<td>060, 1-3</td>
<td>095-320, 1-3</td>
<td>30.08-30.11</td>
<td>71</td>
<td>4-6</td>
<td></td>
</tr>
</tbody>
</table>

*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:                  Project:               
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John Dore               carbon dynamics/UH
Bob Bidigare (UH)      HPLC pigments/UH
Michael Landry (UH)   zooplankton dynamics/UH

Ancillary programs:
Investigator:                  Project:               
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Charles Keeling (SIO)      CO2 dynamics and intercalibration/SIO
Paul Quay (UW)            DIC and 13C/UW
Abbott/Letelier           optical measurements/OSU
Claudia Benitz-Nelson    phosphorus isotopes,Th234/UH
Karin Bjorkman           phosphorus dynamics
Dale Hebel               EOC

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