

HOT-112: Chief Scientist Report

Chief Scientist: D. HEBEL

HOT 112 Cruise Report
R/V Kaimikai O Kanaloa
28 Feb.- 3 Mar., 2000

Personnel List

HOT 112:

WOCE group:

Fernando Santiago-Mandujano*	Research Associate	UH
Michele Eich	Research Associate	UH
Mark Valenciano	Electronic Technician	UH
Don Wright	Research Associate	UH

JGOFS group:

Dale Hebel	Chief Scientist (co-PI JGOFS)	UH
Louie Tupas*	Scientist (co-PI JGOFS)	UH
Lance Fujieki	Computer Specialist	UH
Karen Bjorkman	Postdoc	UH
Colleen Allen	Research Associate	UH
Terry Houlihan	Research Associate	UH
Matt Church	Visiting Graduate Student	UH

Associated projects

Tom Gregory	Research Associate	UH
Jeremiah Johnson	Research Associate	UH
Pati Turner	Research Associate	UCSC

STAG

Steve Poulos	Electronic Technician	UH-UMC
Dave Gravatt	Deck Technician	UH-UMC

* Watch Leader

Itinerary (approximate HST):

Monday, 28 Feb.

0900	Departed Snug Harbor
0925	Fire/abandon ship drill, science meeting
1140	Arrived Kahe Pt. (Sta. 1)
1200	Weight cast (1000 m)
1245	PRR/TSRB casts
1315	slc1
1425	Departed Kahe

2355 Arrived Sta. Aloha (Sta. 2)

Tuesday, 29 Feb.

0010 Net tow
0040 Net tow
0130 Began sediment trap deployment
0220 Completed sediment trap deployment (22° 46.15'N, 157° 57.13'W)
0300 s2c1(WOCE deep)
0800 s2c2
1000 Net tow
1100 s2c3 (fluorometer problem - cast aborted)
1130 s2c4
1225 PRR-600/TSRB cast
1300 Net tow
1335 Net tow
1405 s2c5
1505 in situ pump (in)
1620 in situ pump (out)
1700 s2c6
2000 s2c7
2200 Net tow
2235 Net tow
2300 s2c8

Wednesday, 1 Mar.

0020 Ship lost control both main engines
0130 Port main eng. on line
0215 Starboard main eng. on line (A motor only)
0225 s2c9
0320 Go-Flo cast
0500 s2c10
0710 Deployed primary productivity array (22 °N, 158 °W)
0800 s2c11
1000 Net tow
1035 Net tow
1100 s2c12
1200 PRR-600/TSRB cast
1300 Net tow
1400 s2c13
1505 in situ pump (in)
1620 in situ pump (out)
1700 s2c14
1900 Recovered PP array
2000 s2c15
2300 s2c16 (second WOCE deep cast)

Thursday 2, Mar.

0215 CTD on deck
0220 Transit sediment traps strobe
0300 Visual sighting of ST strobe light
0610 Ch. Eng. reported strb SCR repaired
0645 Initiated trap retrieval
0730 Completed sed. trap recovery/transit Honolulu

1730 Arrived Snug Harbor

Friday 3, Mar.

0800 Offloading HOT 112

1100 Completed offloading

Narrative:

HOT 112 was conducted aboard the R/V Kaimikai O Kanaloa (KOK), 28 February to 3 March, 2000. Captain Hayes was the master of the vessel and Dale Hebel chief scientist. There was a total of 16 participants in the scientific party composed of 4 WOCE, 7 JGOFS, 3 ancillary and 2 STAG.

We departed Snug on 1 February occupying stations at Kahe Pt. (sta. 1), and Station ALOHA (sta. 2). All scheduled work was completed and all samples collected with the exception of two net tows due to engine problems. CTD operations were conducted at stations 1&2. One ~1000 m CTD cast was conducted at station 1, with 14 ~1000 m CTD casts at Station ALOHA and 2 near-bottom deep casts (~4750 m). S2c3 was aborted due to a faulty fluorometer, which stopped working for no apparent reason. Other over-the-side operations included 3 light casts, 10 net tows, 2 in situ pumping operations, 1 Go-Flo cast, floating sediment traps and productivity operations. All operations were routine with the exception of additional net tows for C. B. Nelson, a rosette Go-Flo primary productivity experiment comparison, collection of atmospheric particulate material, in situ pump operations and rosette/go-flo primary production comparison.

The underway/continuous thermosalinograph and ADCP were operable and functioned properly. No continuous pCO₂ or fluorometry were measured on HOT 112 as well as limited meteorological instrumentation. Overall the weather was partly cloudy with moderate to rough seas.

The cruise schedule was very similar to HOT 111 with the exception of HOT 112 engine problems, net tow cancellation, s2c3 fluorometer problem; and inclusion of HPLC cast with the final WOCE deep cast on HOT 111. Therefore, for those interested please see HOT 111 Cruise Report for generic daily activity narrative (applicable dates Feb. 1-4, 2000).

Weather

HOT 112:

The weather was variable with partly cloudy skies and moderate-rough seas at the beginning of the cruise and moderate-strong winds decreasing to moderate conditions towards the end. Below is listed the cruise bridge log descriptions and 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, and swell in feet, barometer in inches of Hg, temp øC (dry bulb) and clouds in tenths.

Day Date	Wind	Sea	Swell	Barometer	Temp	Clouds
Mon 28 Feb.	085-125,20-22	085-125,3	90-120,3-4	29.96-30.02	73-81	3
Tues 29 Feb.	085-100,17-18	080-100,3	310,4-5	29.97-30.04	69-79	2-7
Wed 1 Mar.	070-120,15-25	070-120,3-4	110-310,5-10	29.97-30.02	71-80	3-8
Thur 2 Mar.*	100-260,5-22	100-260,1-4	110-310,2-6	29.97-30.05	72-79	4-8

*Three entries (0200, 1000 & 1400 hrs)

Equipment and methods:

All standard equipment functioned properly with the exception of the flash fluorometer.

Sub component programs:

Investigator:

Christopher Winn (UH)
Bob Bidigare (UH)
Michael Landry (UH)

Project:

DIC, pH, Alk., pCO₂/UH
HPLC pigments/UH
zooplankton dynamics/UH

Ancillary programs:

Investigator:

Charles Keeling (SIO)
Paul Quay (UW)
John Porter
Abbott/Letelier
Claudia B.-Nelson
John Zehr

Project:

CO₂ dynamics and intercalibration/SIO
DIC and ¹³C/UW
aerosols/UH
optical measurements/OSU
Natural abundance studies Phosphorus isotopes/UH
Bacterial genome studies/UCSC

Students:

Matt Church

DOC/bacterial dynamics/UH

Others:

JGOFS personnel
Karin Bjorkman

EOC, 1 prod. comparison/UH
phosphorus experiments/UH