

HOT-34: Chief Scientist Report

Chief Scientist: F. BINGHAM

Cruise report for HOT-34

R/V Wecoma

February 12-17, 1992

Frederick Bingham, Chief Scientist

Scientific Crew:

Stephen Barker
Frederick Bingham
Chris Carillo
Jim Christian
Ken Constantine
Reka Domokos
John Dore
Dale Hebel
Terry Houlihan
Elaine Kotler
Jean Pietraszek
Marc Rosen
Chuck Stump (representing Steve Emerson)
Flo Thomas (representing Marlin Atkinson)

Itinerary (local time):

Wednesday, Feb. 12

1015 Depart Snug Harbor
1250 Arrive Kahe Point

Thursday, Feb. 13

0250 Arrive Station ALOHA
0500 Deploy sediment trap
0700 Begin CTD operations

Friday, Feb. 14

0600 Deploy Primary Productivity array
1900 Recover Primary Productivity array

Saturday, Feb. 15

0700 Finish CTD burst sampling
0800 Commence two deep casts for Marlin Atkinson

Sunday, Feb. 16

0000 Commence yo-yo cast
0700 Recover sediment traps, begin transit to station 3
1100 Arrive station 3
1330 Finish station 3, begin transit to station 4

2240 Arrive station 4

Monday, February 17

0000 Finish station 4, begin transit to station 5

0130 Arrive station 5

0215 Finish station 5, begin transit to Snug Harbor

0945 Arrive Snug Harbor

Cruise Brief:

Ship loading was made much easier than previous HOT cruises by use of a university van which has a larger capacity than the truck which is normally used.

Last minute problems with broken CTD connectors caused a slightly late departure. We departed Snug Harbor at 1015 and arrived Kahe Point at 1250. No problems were encountered at the Kahe Point station.

Sediment traps were deployed successfully at the southeast edge of station ALOHA. However, a potentially dangerous situation developed as the spar buoy was being released into the water in rolling seas. It is recommended for the future that tag lines be kept on the spar buoy as it is being lowered into the water to prevent it from swinging excessively. Other than that, deck operations were generally safe, smooth and successful.

The primary productivity array was deployed and recovered on Feb. 14. On recovery it was discovered that three incubation bottles were lost along with the radioisotopes they contained.

CTD operations commenced after arriving at the center of station ALOHA. At 1500 on 13 Feb., on the first 1000 meter cast at ALOHA, an electronics problem was discovered immediately upon putting the CTD in the water. The CTD was brought back on deck. Diagnosis and repair of the problem continued until approximately 2300. The problem was traced to a bad conductor in the winch cable. A spare conductor was used in place of the bad one which seemed to solve the problem.

At some point during the cruise, the CTD data from station 2 cast 1, the WOCE deep cast, were accidentally deleted from the computer. We were unable to subsequently recover the data from video tape. Fortunately, CTD data to the bottom were collected on two later casts.

Because of heavy rains on Thursday night and Friday, a tarp was deployed over the rosette as it was being sampled. However the tarp did not function well. Some cross-pieces which would have improved the tarp's performance were missing. In addition, the design was not tested prior to the beginning of the cruise. Some parts of the assembly were not able to hold up under stress and broke soon after deployment.

Following the burst sampling, two deep casts were made for the benefit of Marlin Atkinson who is testing the Morita Oxygen sensor. Following these deep casts a yo-yo cast was made to sample intrusive features in the intermediate water. The CTD was lowered to 400 meters

and then raised and lowered 8 times between 400 and 700 meters.

Casts to 1000 meters were made at stations 3 and 4 and a cast to within 100 meters of the bottom was made at station 5.

ADCP data was collected during the cruise. However data collection was not started until Feb. 13 at 0541. Also, GPS navigation was not recorded within the ADCP data stream.

XBT's were deployed at regular intervals on the transit between stations 3 and 4 and between stations 4 and 5.

A number of technical problems with the WOCE equipment occurred during the cruise. None of these except the above- mentioned CTD conductor problems had a major impact on the ability to gather data.

Ancillary Programs:

Dave Keeling	CO2
Marlin Atkinson	Morita Oxygen sensor
Steve Emerson	Gas Ratios
Paul Quay	delta C14
Lisa Cambell	phytoplankton taxonomy

Student Samples:

Jim Christian
Sean Kennan (yo-yo)
John Dore