

HOT-32: Chief Scientist Report

Chief Scientist: C. WINN

Personnel list:

Chris Winn - Chief Scientist
Jean Pietrazek
Dale Hebel
Dan Sadler
Elaine Kotler
Florence Thomas
Terrence Houlihan
Ken Constantine
Ilse Hamann
Jim Christian
Louis Tupas
Richard Muller
Sheryl McCarthy
Hongbin Liu

Itinerary (local time):

Wednesday, Dec. 4

1030 left Snug Harbor
1300 arrive Kahe Pt.

Thursday, Dec. 5

0400 arrive Station ALOHA
deploy sediment traps commence CTD operations

Friday, Dec. 6

1800 suspend CTD operations

Saturday, Dec. 7

0600 commence CTD operations
0200 recover traps
0400 begin transect

Sunday, Dec. 8

2300 complete Station 5 transit to Snug Harbor

Cruise Brief

We left Snug Harbor at 10:30 after an approximately 40 minute delay to complete the hydrowire termination and to complete securing loose gear. The weight test, the light cast and the 100m cast at Kahe point were completed without incident. Because we had few experienced crew on HOT-32, Dale Hebel briefed the entire science party on proper water sampling procedures, especially for oxygen and nutrients, at Kahe Point. Although this caused a delay of approximately 15 minutes in completing the sampling of the rosette at Kahe Point, the exercise proved useful, and we had few sampling problems on subsequent casts.

Upon arriving at Station ALOHA the sediment traps were deployed on the southeast edge of Station ALOHA, and CTD operations we commenced after transiting to the center of the Station. The in situ primary production array was deployed and recovered without problems. CTD

operations were suspended because of moderately rough weather at 1800 on Friday the 6th. CTD burst sampling on HOT-32 was therefore restricted to approximately 30 hours. The sediment traps were recovered 72 hours after deployment. The sediment trap array drifted only a few miles on this cruise.

CTD stations 3, 4 and 5 were occupied on 158°W at 23° 25'N, 21° 57.8'N, and 21° 46.6'N as on HOT-31. XBT's were dropped at regular intervals during the transit from Station 3 to Station 5. Water samples were drawn for nutrients, chlorophyll and salinity at each of these stations. In addition, the flash fluorometer and the transmissometer was deployed on each of these casts.

The ship proceeded along the 300m isobath from Station 5 to Kahena Point, to provide for calibration of the ADCP. Between Kahena Point and Snug Harbor the ship moved several miles offshore to pump the bilges. We arrived at Snug Harbor at approximately 0730.

Problems on HOT-32

CTD operations were somewhat disorganized on this cruise. For the most part this appeared to be due to Jef Snyder not being present on this trip. There was quite a bit of confusion about which configuration file to use for individual casts. It would probably be useful to have a set of written CTD operating instructions in case core personnel are unable to participate in a particular cruise.

We had the choice of using the stern A-frame or the non-articulated crane for deploying the CTD on HOT-32. Because the stern deployment had not been tried by our group, and because the A-frame provided only 6 inches of clearance on each side of the CTD, I decided not to use the A-frame and had it removed from the ship. The starboard deployment using the crane is not optimum, and the long whip between the crane and the CTD provides the opportunity of the CTD to swing through a wide arc. Unfortunately, the CTD collided with the side of the ship several times during HOT-32. Although I never observed this, the rosette sustained damage from several impacts. Most of this damage was apparently done on the Friday 0300 to 1500 watch. CTD operations were cancelled at 1800 on this day. The CTD also hit the ship on the final cast of the cruise (station 5), although the weather was quite calm at this time. A better system for deploying the CTD from the Wecoma needs to be developed for HOT-33.

In addition to the CTD deployment situation, there were some other equipment problems on HOT-32. The top of the GOFs spar buoy was lost on this cruise during transit from station 2 to 3. Apparently, the top section of the spar was not adequately tied down. Both of the WOCE surface water sampling buckets were also lost on this cruise. Both of these were broken when they collided with the side of the ship during water sampling. The Wecoma's level wind also malfunctioned several times. This problem was discovered quickly and no damage was done to the wire or our gear. The CTD tarp was not set up on HOT-32. We attached the tarp to the equipment van and left it on the deck in case we needed to sample the rosette in the rain. It would be nice to get the tarp set up on HOT-32. The happy hookers available from the ship were completely inadequate during this cruise. Frequently, only

one of these was operable, and only one tag could be attached to the rosette at a time. This often delayed the recovery of the CTD and probably contributed to the rosette damage.

Ancillary Programs

Dave Keeling	CO2
Paul Quay	delta 14C
Marlin Atkinson	oxygen sensor
Lisa Campbell	phytoplankton taxonomy

Student samples:

Jim Christian