WHP Ref. No.: IR1W
Last updated: 27 July 1995

A. Cruise Narrative

A.1 Highlights

A.1.a WOCE designation IR1W
A.1.b EXPOCODE 3175MB95/3
A.1.c Chief Scientist

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A.1.d Ship R/V Malcolm Baldrige
A.1.e Ports of call
Depart Muscat, Oman
Arrive Male, the Maldives
Depart Male, the Maldives
Arrive Mahe, the Seychelles
A.1.f Cruise dates
Depart 31 May 1995
Arrive 20 June 1995
Depart 21 June 1995
Arrive 30 June 1995

A.2 Cruise Summary Information

A.2.a Geographic boundaries
A.2.b Stations occupied

CTD: 31 Stations
Lowered ADCP: 92 stations taken concurrently with the CTD Observations

Niskin Bottle water samples: Except for misfires, shallow stations and stations occupied towards the end of the leg, 24 bottles were tripped at each CTD station.

XBT's: 31 stations

Continous shipboard Acoustic Doppler Current Profiler

Continous thermosalinograph measurements

Continous pCO2 underway measurement

A.2.c Floats and drifters deployed
NONE

A.2.d Moorings deploued or recovered

NONE

A.3 List of Principal Investigators

A.4 Scientific Programme and Methods

Equipment and Operational summary:

The new Sea-Bird CTD performed well throughout the cruise. There was a drift in the conductivity sensor to fresher values durin gthe curse

of the curise (order of .003 to .004 psu). The oxygen sensor failed abut half way through the cruie and was replaced with no additional problems. The rosette also wored flawlessly as did the LADCP after some early battery problems. No difficulties were experienced with the oxygen analysis system.

Operationally, we exceeded the project requirements in the number of stations occupied. We deleted three stations along I1n in the Arabian basin. At the time we were some two days behind schedule becasue of the weather and sea state slowing operations. However, east of the Maldives both moderated and on the flank of the Carlsberg Ridge and across the equator. Equally important to adding stations, was the fact that all stations produced high quality CTD and LADCP data.

A.5 Major Problems and Goals not Achieved

The only significant equipent problem experienced durng the cruise was with the two AUTOSALS (AMC's and AOML's). We began the cruise using the AOML unti. Typically, out of a 24 bottle cast there were 4 or 5 samples that produced salinities that were some .002 to .004 high, as indicated by comparison to the CTD and T-S plots. After many attempts to isolate the problem, checkin gbottle O-rings, valves, etc.; rearranging the order of bottle firing; julti-firing bottles at the same depth: etc., we switched to the AMC unti. However, the problem persisted.

After leaving the maldives, Gregg Thomas noticed that the bath thermometer, which is not connected electricallt to the AUTOSAL, would jump at the same time as moisy AUTOSAL values occured (noisy defiend as an inability to get three stable AUTOSAL values). The jumps implied a bath temperature change that was not possible over the time of the observed noise. The ship's ET and Dave Bitterman checked the grounding of the problems found. The AUTOSAL was then connected to a separate UPS in an attempt to isolte it from other electronics. Unfortunately the problem continues. Suggestions from the laboratory and Guildline did not resolve this intermittent problem before the end of this cruise. We will ship the AOML AUTOSAL to England for mainternance and repairs in the Seychelles to insure a working unti for I8n.

Fortunately, there are sufficient good bottle salinities to perform an accurate (i.e., to within WOCE specifications) calibration of the CTD conductivity sensor. In particular, the drift observed in the CTD salinity values can be corrected.

A.6 Other Incidents of Note

A.7 List of Cruise Participants

Name	Affiliation
Dr. R. Molinari	Chief Scientist AOML/PhOD
Mr. D. Bitterman	AOML/PhOD
Mr. G. Berberian	AOML/OCD
Mr. G. Thomas	AOML/PhOD
Mr. R. Smith	AOML/META
Lt. S. Tosini	AOML/PhOD
Ms. C. Walter	UM/CIMAS
Mr. L. Moore	AOML/OCD
Mr. T. Lantry	AOML/OCD
Mr. X. Chen	AOML/OCD
Dr. L. Ballance	NMFS/SWFC

Mr. R. Pitman	NMFS/SWFC
Mr. M. Force	NMFS/SWFC

AOML	Atlantic Oceanographic and Meteorological Laboratory
PhOD	Physical Oceanography Division
OCD	Ocean chemistry Division
META	Maria Elena Torano Associate Inc. 1000 Brickell Avenue Miami, FL 33131
UM	University of Miami 4600 Rickenbacker Causeway Miami, FL 33149
CIMAS	Cooperative Institue of Marine Atmospheric Science
NMFS	National Marine Fisheries Service
SWFC	Southwest Fisheries Science Center 8604 La Jolla Shores Drive La Jolla California 92307