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CRUISE REPORT

Ship Name: CONRAD Cruise No: 22-10
Departure: 22 July 1979 from Halifax
Date Port
Arrival: 7 August 1979 at Bermuda
Date Port

Days at Sea: 16 Days Foreign Port: 2
(Count day of departure but (number of days in arrival port
not day of arrival in port) before next leg)

Area of Operation: 40°05.5'N, 62°22.5'W for BOM deployment; between
70°W - 72°W and 39°30'N - 40°30'N in the region of the shelf break;
38°58'N, 72°35'W for bottom mooring recovery.

Program Description: (1) Deployed BOM, on bottom at 40°06.275'N, 62°25.791'W;
0126 (ADT), 24 July (for Tucholke). (2) frontal zone dynamics in the region
of the shelf-break: underway mapping of surface temperature, salinity, and
chlorophyll using the ship's sea water system; and vertical profiling of
temperature, salinity and chlorophyll using CTD and FTD systems. (3)
Recovered bottom mooring deployed on 22-08.

Program supported by what contract: OCE 78-19799 IA 439-5069-5973

Participants: (All L-DGO unless otherwise specified)

<u>Name</u>	<u>Title</u>
Malone, T.	Chief Scientist
Houghton, R.	Senior Scientist
Boardman, D.	Research Technician
Aikman, F.	"
Szelag, J.	"
Szelag, P.	"
Hibbard, C.	"
Haines, W.	"
Mitard, F.	"
Heinemann, K.	"
Jacobs, K.	ET
Dorkins, C.	Research Tech. (NMFS, NOAA)
Biscaye, P. *	Senior Scientist

*Dr. Biscaye joined the scientific party on 4 August to supervise
recovery of bottom mooring deployed on 22-08.

All inquiries regarding cruise should be made to the chief scientist.

Cruise Report

22 - 07 10

T.C. Malone, Chief Scientist

Scientific Program

(1) BOM deployment for Tucholke: After interrogating AMF releases on deck and remaining caps from camera, nephelometer and transmissometer, the BOM was deployed at 40°05.48'N, 62°22.39'W on 23 July at 2130. The BOM reached bottom at 0130, 24 July. Our best estimate of its position is 40°06.3'N, 62°25.8'W.

(2) Our research was conducted from 25 July through 4 August in the shelf-break region south of Rhode Island Sound. Our strategy was to observe the large scale geometry of the shelf-break front and the associated distribution of phytoplankton and to increase our time and space resolution of smaller scale features that might be related to the exchange of properties between shelf and slope water masses and the development and dissipation of phytoplankton blooms. To these ends we completed a large scale map of surface temperature, salinity and chlorophyll and vertical temperature structure over a 5,000 km² area. This was followed by a series of medium (40 km) and small (10-15 km) scale transects. High resolution vertical profiles of temperature, salinity and chlorophyll were obtained at 260 stations over a 10 day period in a region of dynamic interleaving between shelf and slope water masses.

(3) Pierre Biscaye supervised the recovery of a thermister chain with sediment traps deployed on the continental slope. The

instrument package was located and recovered at 38°58'N,
72°35'W on 5 August.

Status of Equipment

No major problems were encountered. Of the ship's facilities we only made use of the sea water, the CTD winch, the hydrowinch, the 12 kc PDR and the deck winches (capstans) on the fantail.