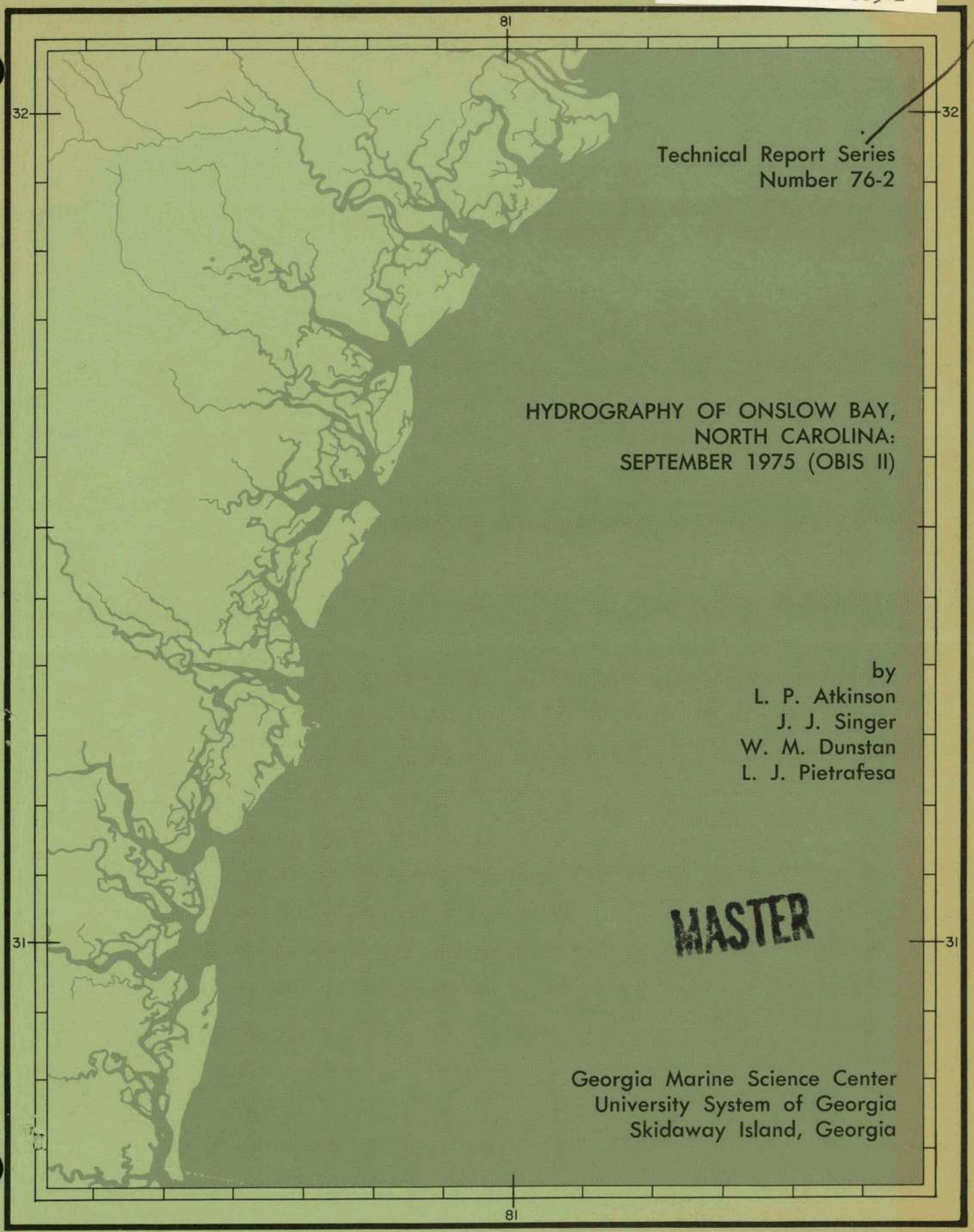
Appendix to SRO-889-2



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HYDROGRAPHY OF ONSLOW BAY, NORTH CAROLINA: SEPTEMBER 1975 (OBIS II)

by
L. P. Atkinson
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Georgia Marine Science Center
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Skidaway Island, Georgia

DISCLAIMER

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INTRODUCTION

This report contains data and a preliminary analysis of data obtained from cruise two (OBIS II) of the Onslow Bay Intrusion Study. Data were collected from the R/V EASTWARD on 3-14 September 1975, with one in port period on 12 September 1975. This cruise was preceded by one preliminary cruise into the area aboard the R/V ADVANCE II on 6-7 August 1975 (OBIS I).

This study was sponsored by the Energy Research and Development Administration as part of an effort to better understand the biological, chemical and physical processes influencing the South Atlantic Bight.

OBIS I

The primary objective of OBIS I was to deploy ENDECO current meters and General Oceanics thermographs at depths of 10 and 22 m along the 28 m isobath in the northeastern and southwestern sectors of Onslow Bay (Figure 2). The responsibility for meter deployment, recovery and data analysis was that of North Carolina State University. Our interest was to obtain temperature and chemical data to correlate with the data recorded by the instruments being deployed and to get a better feel for the area under study as we prepared for OBIS II.

During OBIS I, fourteen stations were sampled for temperature and depth. Nine of these were also sampled for salinity, dissolved oxygen, phosphate, silicate and nitrate.

A more comprehensive report of the findings of OBIS I will be related in a future report discussing the three ADVANCE II meter servicing cruises (OBIS I, III, and IV). Significantly, however, it is noted that OBIS I data reveal some evidence of an intrusion into the study area.

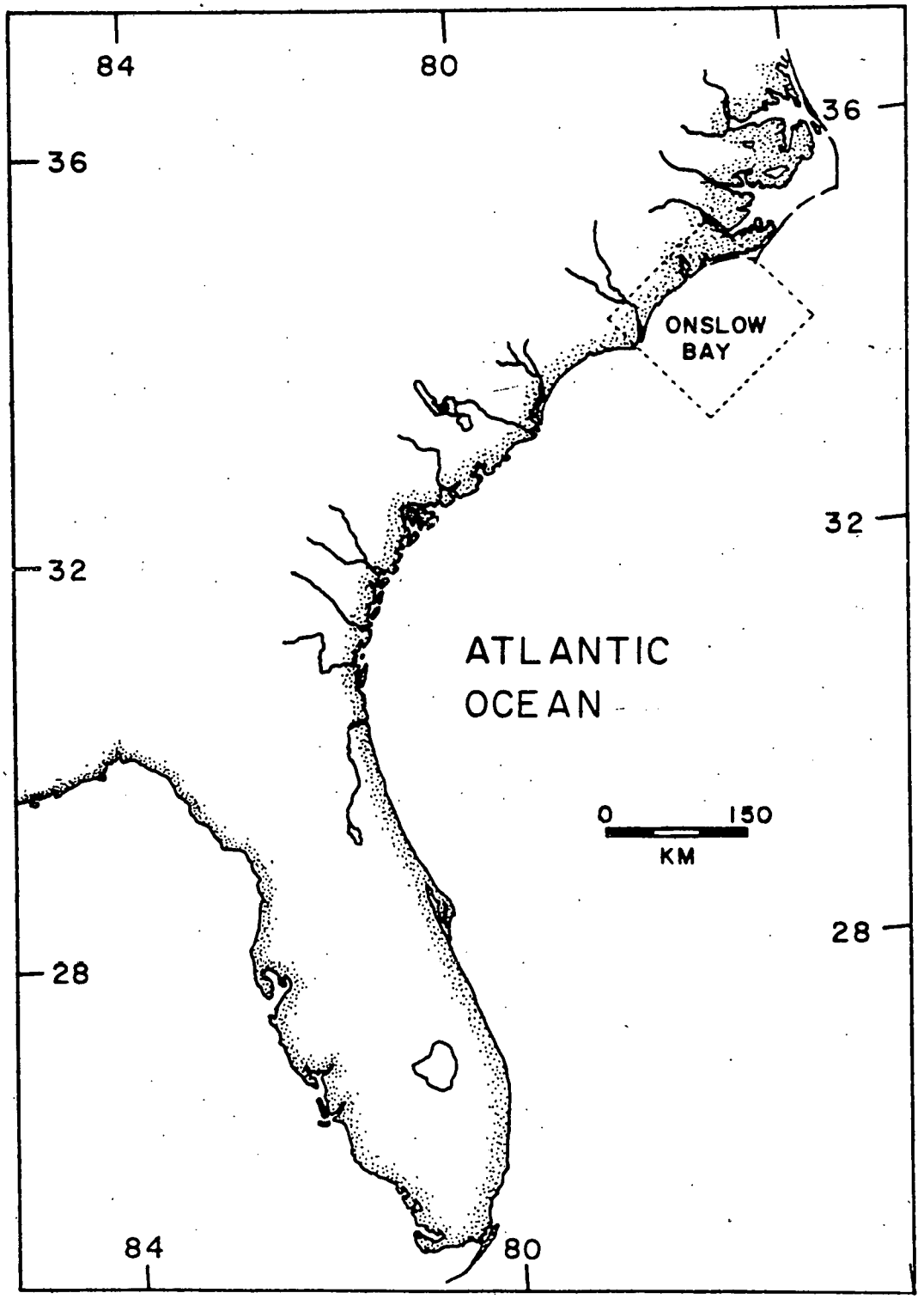


Figure 1. The study area

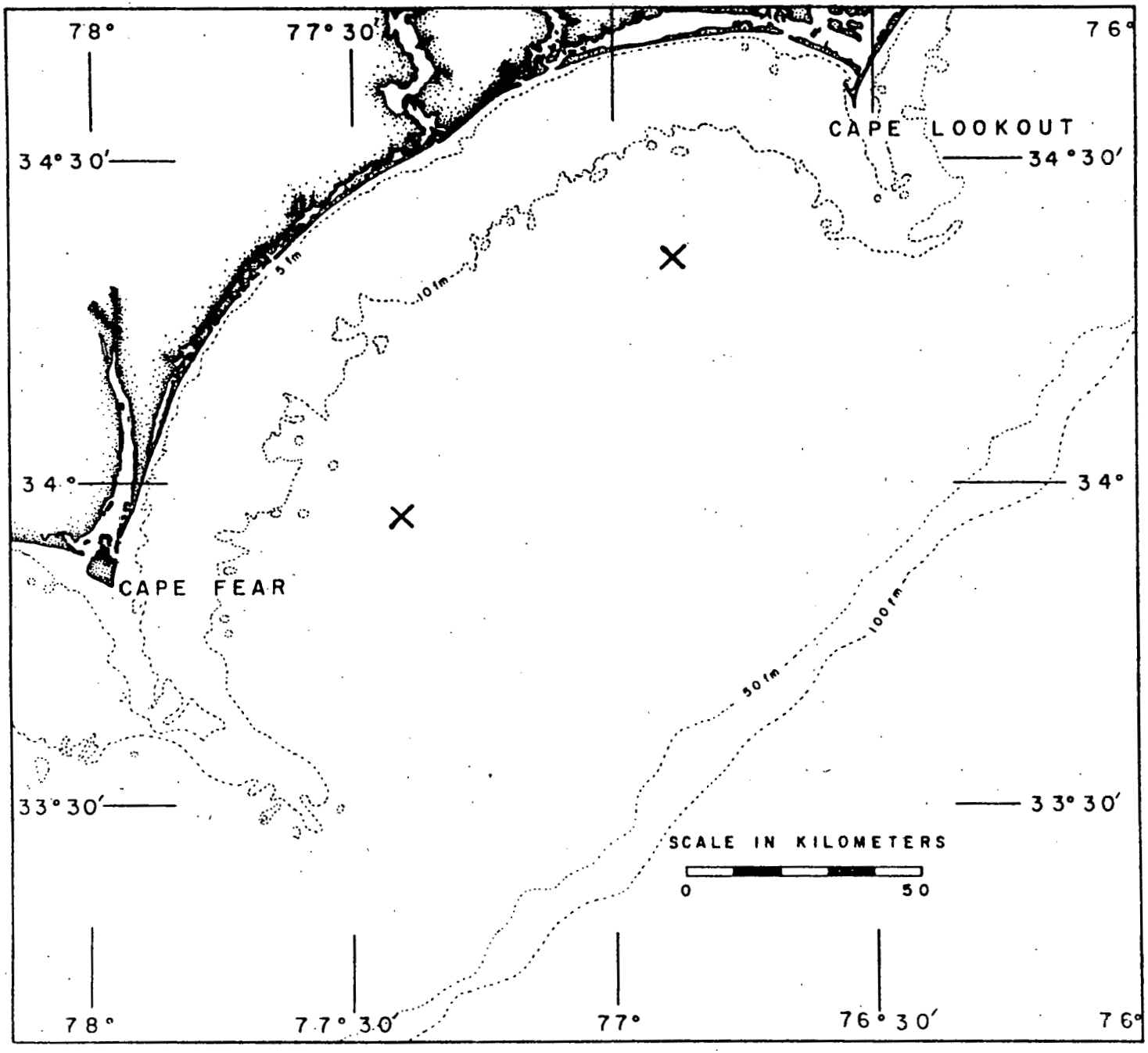


Figure 2. Current meter moorings (OBIS I)

OBIS II

The objective of OBIS II was to provide chemical and biological data to be correlated with the water mass movements as indicated by the current meter and thermograph arrays deployed during OBIS I. There will, however, be no attempt to make such correlation in this report. Only the chemical and some biological data collected during OBIS II will be presented here with some preliminary analysis. These data form the first part of our effort to determine the effect of Gulf Stream motions on the advective flux of nutrients into the southeast continental shelf waters.

METHODS

A base grid made up of eight onshore/offshore transects was developed to provide a sampling system that could be altered as necessary to meet various observational requirements (Figure 3). The grid scale was based on previous observational experience on Onslow Bay. Each station in the grid was assigned a permanent station number. Each sampling grid was made up of various parts of the base grid depending on the previously observed temperature structure. The first grid was XBT's to initially determine the temperature structure before any bottle casts were taken. Then, grids alternated as biological or hydrographic.

Biogrids

A biological grid primarily looked at the time change at particular locations that would be induced by the movements of fronts and the varying light conditions. It was composed of five stations along one onshore/offshore transect selected for intensive sampling. Beginning with the center station the cruise track went back and forth from end station, to center station to opposite end station three times and then back to the center station, generally sampling at three hour intervals. This resulted

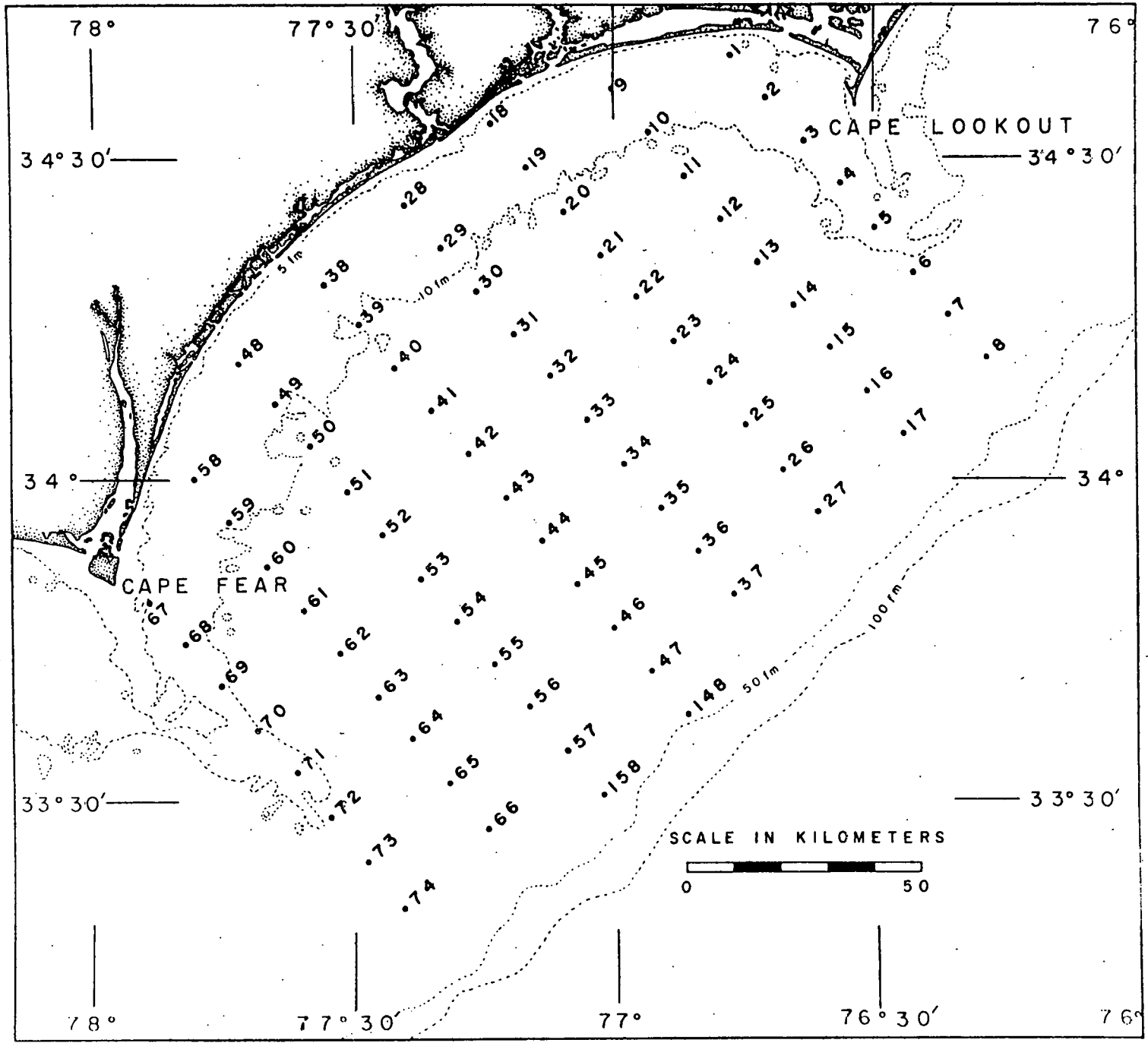


Figure 3. Base grid for Onslow Bay

in the center station being sampled five times in 24 hours. At the two remaining stations, XBT's were taken each time they were passed while enroute to a sampling station.

Typically at the center and two outer stations, a CSTD profile, a Niskin bottle cast, and a zooplankton net haul were made. The sampling depths were determined by analysis of the TS profile, and if a thermocline was present, samples were taken at the surface just below the thermocline and at the bottom. If no thermocline was present just surface and bottom samples were taken. Water samples were taken for the analysis of salinity, temperature, nitrate, phosphate, silicate, oxygen, chlorophyll, particle size, phytoplankton cells, zooplankton, dissolved organic nitrogen and particulate carbon.

Hydrogrids

A hydrographic grid sampled a larger area to get a quick look at the distribution of properties in the Bay following the 24 hour biological sampling period. This hydrogrid was usually 48 hours in duration. Along a hydrographic grid track, bottle casts generally alternated with XBT casts every other station. However, on occasion XBT onshore/offshore transects alternated with the typical hydrogrid transects based on our judgment of the scale of phenomenon present, weather and schedule. Typically a CSTD cast was made followed by a Niskin bottle cast to depths based on the results of the CSTD cast. Water samples were once again taken for analysis of salinity, temperature, nitrate, phosphate, silicate, oxygen and chlorophyll and occasionally for *in vivo* chlorophyll, particle size, enrichment experiments or phytoplankton cell analysis.

Salinity was determined conductometrically, using a Hytech laboratory salinometer. Dissolved oxygen was analyzed at sea by the Winkler method. The apparent oxygen utilization (AOU) was computed using the International Oceanographic Tables (1973).

Temperature was determined by deep sea reversing thermometers and expendable bathythermographs (XBT's). The XBT traces are on file at Skidaway and an effort is being made to digitize this information.

After collection,the nutrient samples were immediately frozen in polyethylene bottles and stored in the dark until thawed and analyzed ashore. Colorimetric determinations of nutrient concentrations were made with a Bausch and Lomb Spectronic 88 Spectrophotometer with a sample sipper. Silicate concentration was determined by the method of Mullin and Riley (1955) as modified by Strickland and Parsons (1965), and phosphate concentrations were determined by the method of Murphy and Riley (1962). Nitrate was determined by a modification of the cadmium column reduction technique (Gardner, personal communication).[1]

The hydrographic data (T, S, nutrients, oxygen) are submitted to NODC and are stored there and on our computer system. The data printouts are in Appendex II. The data are available from NODC.

RESULTS

In conjunction with the discussion which follows, a summary of wind data are presented in Table 1 for the study period (3-14 September 1975). From this, note that the winds were generally westerly (force 3) through

---

[1]Skidaway Institute of Oceanography, University System of Georgia, Savannah, Georgia.

TABLE 1

SUMMARY OF WIND DATA

Time (GMT)	Force	Direction
Sept 4 1200	4	270
5 0000	3	250
1200	3	70
6 0000	3	90
1200	1	220
7 0000	3	220
1200	2	320
8 0000	3	140
1200	0	---
9 0000	2	220
1200	3	320
10 0000	1	90
1200	4	40
11 0000	4	90
1200	3	140
12 0000	4	140
1200	-	---
13 0000	5	220
1200	5	20
14 0000	6	40

9 September with two brief (<24 hours) easterly interruptions and essentially easterly (force 4-5) throughout the remainder of the study period with one brief westerly interruption. Also note the intensification of easterly winds at the end of the study period. These observations may prove useful when linked to the current meter records compiled by North Carolina State University. However, at this time we only point out these facts as possibly having some influence on the observations to be reported below.

Horizontal Temperature Distribution

Figure 4 relates the cruise tracts for XBT Grid I and Hydro Grids I, II and III (see Appendix I for the actual summary of the events which influenced these courses and those of the Biogrids). From these, and the subsequent XBT and reversing thermometer data, the surface and bottom temperature plots of Figures 5 and 6 are derived. Particularly note that very little structure is revealed by the surface contours for these four cruise tracts. However, the bottom countours reveal rather elaborate structuring.

Figure 6(a) taken from the initial XBT run on 3 and 4 September, suggests the entrapment of relatively colder waters in the central part of Onslow Bay. The colder waters are expected this time of year in conjunction with intrusions onto the shelf which was the objective of our study. This observation resulted in Biogrid I (page 28) being taken over the next 24 hours through the central portion of Onslow Bay, the results of which will be presented later along with those of the other two Biogrids.

Figure 6(b) is a plot of the bottom temperatures as contoured from temperatures taken over the next 44 hours of 5, 6 and 7 September (Hydrogrid I). It once again reveals colder waters trapped near the coast and

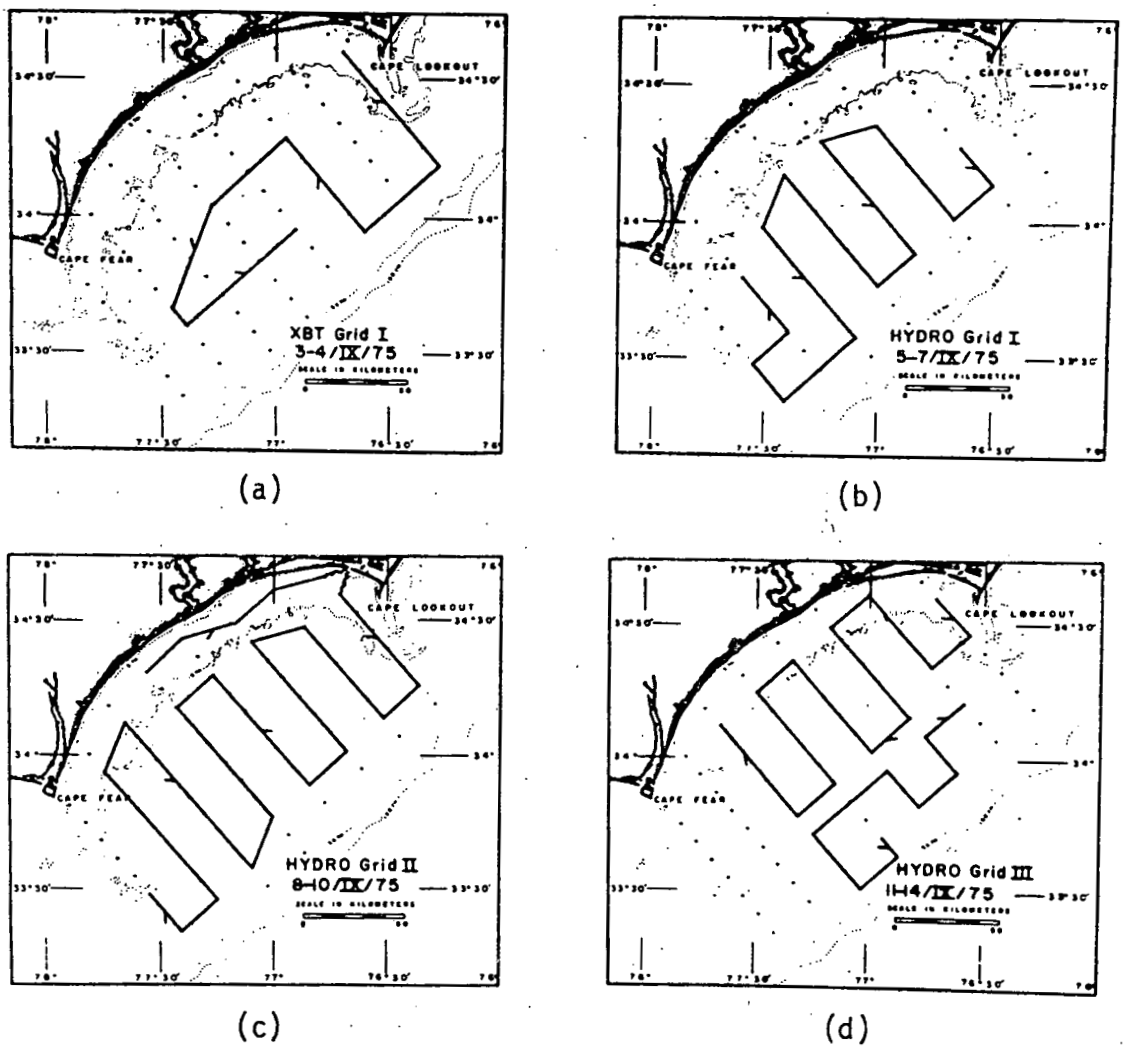


Figure 4. XBT and Hydro grid cruise tracts

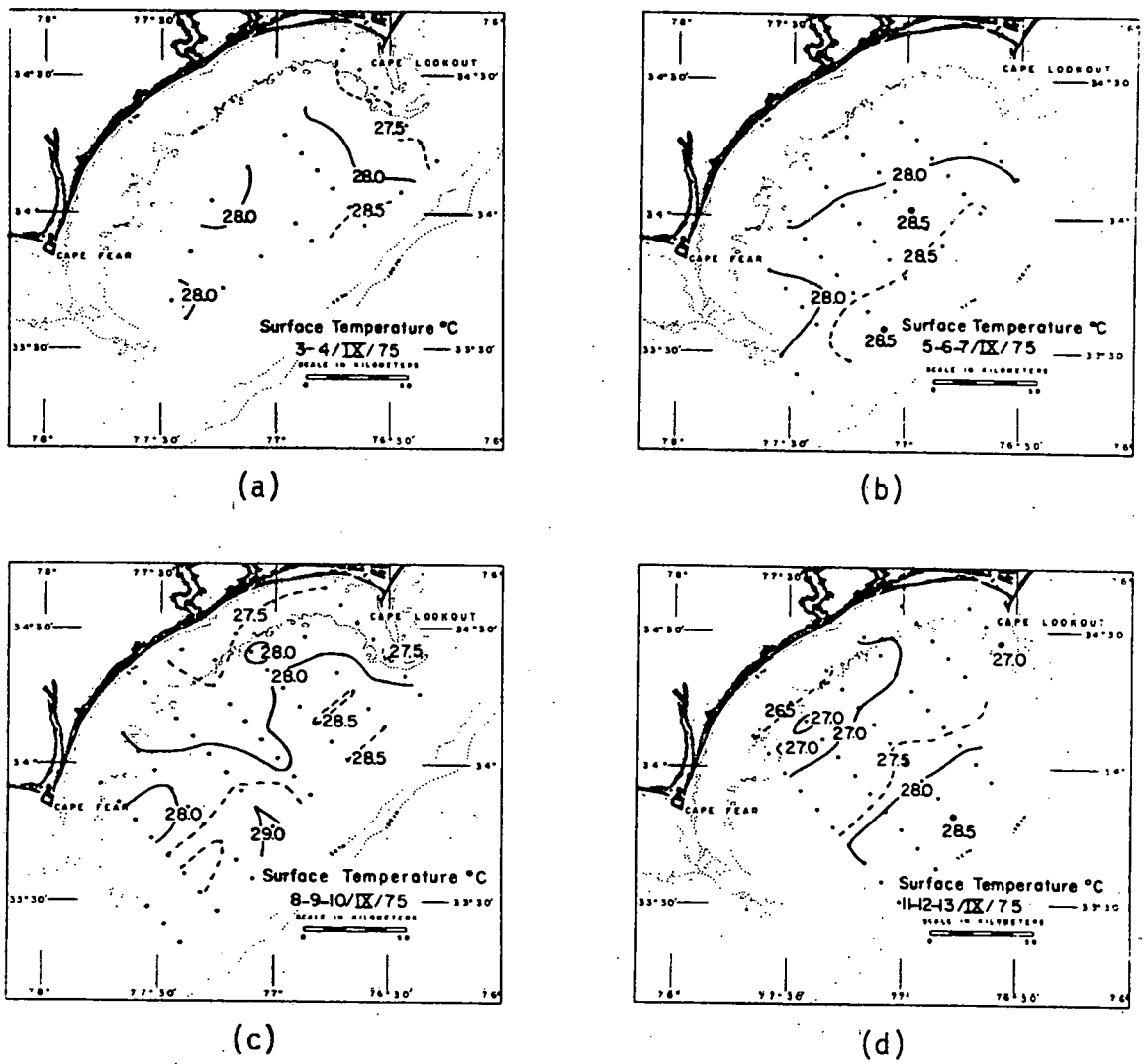


Figure 5. Surface temperatures (XBT Grid I and Hydro grids I, II, III) . . . . . .

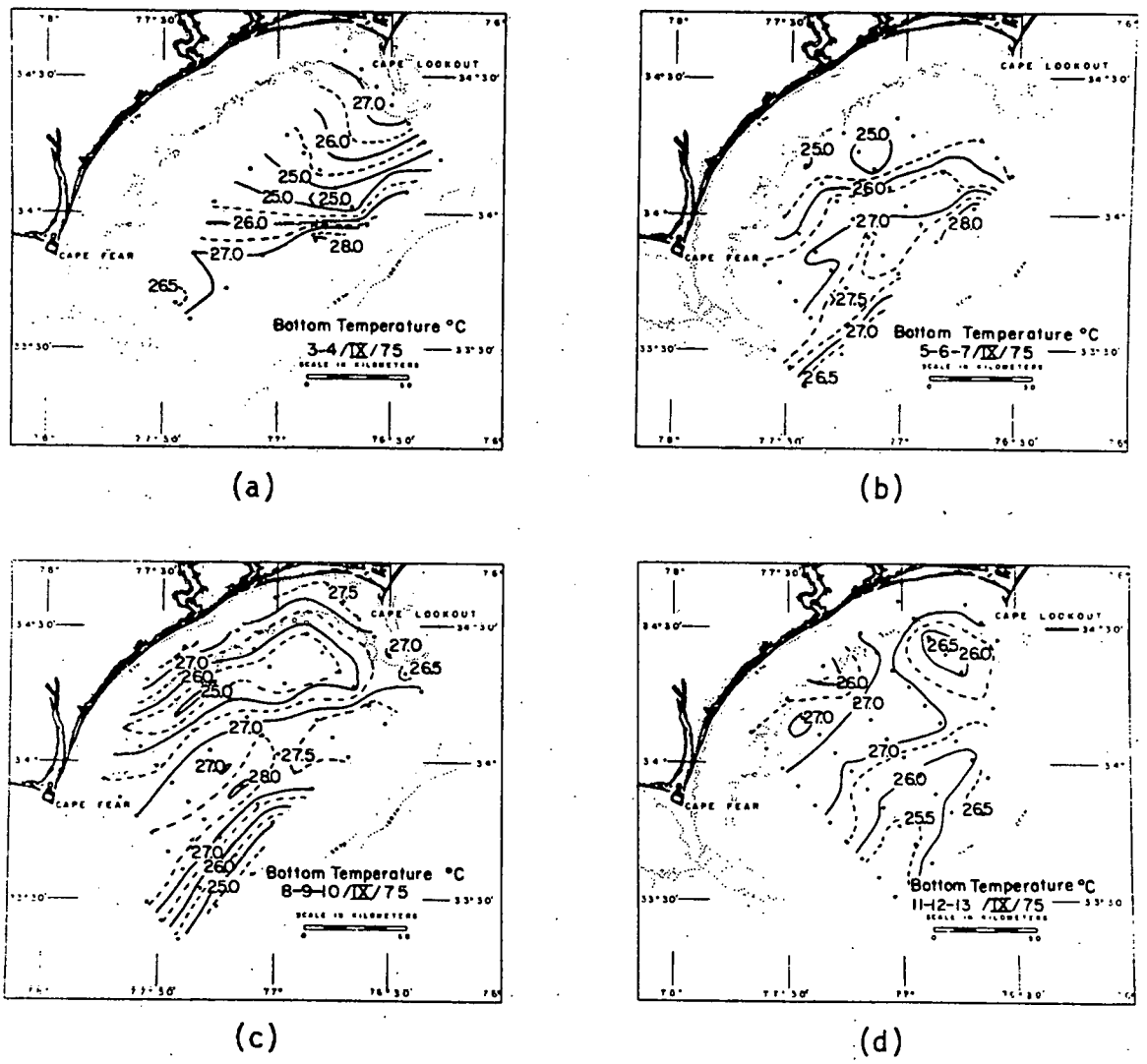


Figure 6. Bottom temperatures (XBT Grid I and Hydro grids I, II, III)

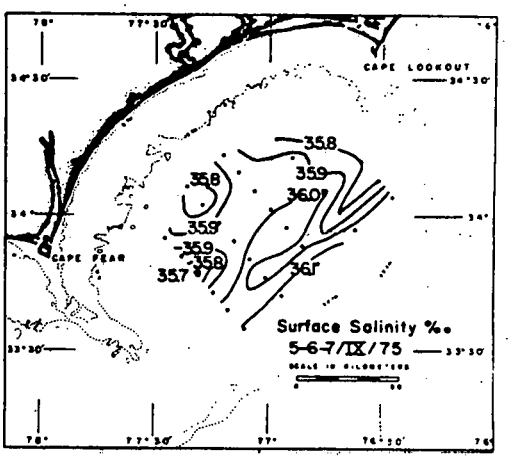
hints at a new intrusion being initiated at the southern offshore extent of the grid. As a result of these observations, a second Biogrid was taken somewhat shoreward and along a transect further to the SW of the original Biogrid.

Figure 6(c) perhaps gives the best composite picture of bottom temperature structuring. This figure was derived from Hydrogrid II made over a 53 hour period encompassing 8, 9 and 10 September. It reveals not only the entrapment of some colder bottom waters near shore, but also the apparent beginning of a second intrusion into this region from the south. Subsequently Biogrid III was made to the north of the apparent intrusion in anticipation of a northerly movement of these colder waters.

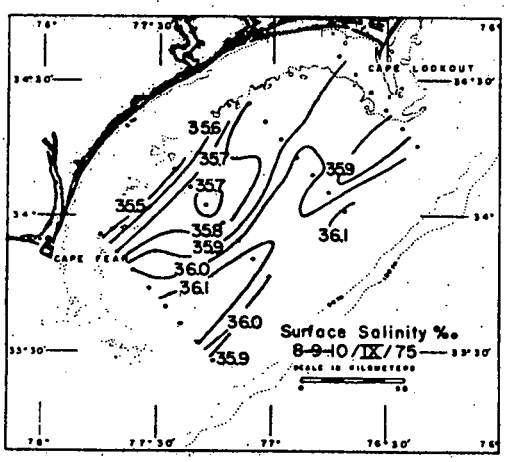
Figure 6(d) derived from plots of Hydrogrid III and part of an XBT run encompassing some 61 hours over 11, 12 and 13 September, reveals remnants of the trapped waters nearshore and confirms a northly movement of the new intrusion, first detected in Hydrogrid I. Strong easterly winds on the 12th and 13th enhanced vertical mixing and conceivably destroyed the vertical structure of the nearshore core. Unfortunately, upon completion of Hydrogrid III there was no time left for a subsequent Biogrid.

Horizontal Salinity Distribution

The horizontal surface salinity countours of Figure 7 reveal a typical coastal surface distribution. It is influenced by such parameters as rainfall, runoff, evaporation, upwelling, downwelling, and the prevailing surface currents (*i. e.*, the flow of coastal waters south from north of Cape Lookout). These plots like the corresponding surface temperature records of Figure 5 (page 11) reveal little with respect to the intrusion of waters onto the shelf.



(a)



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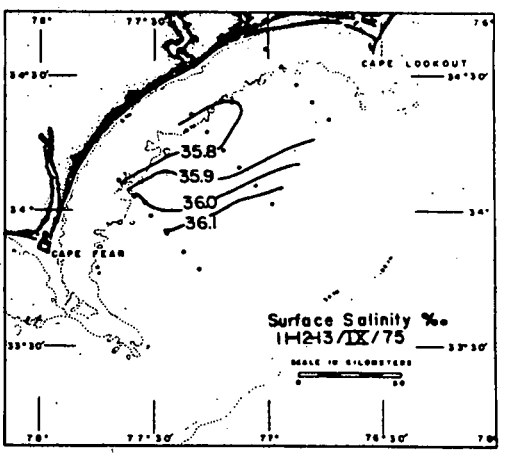
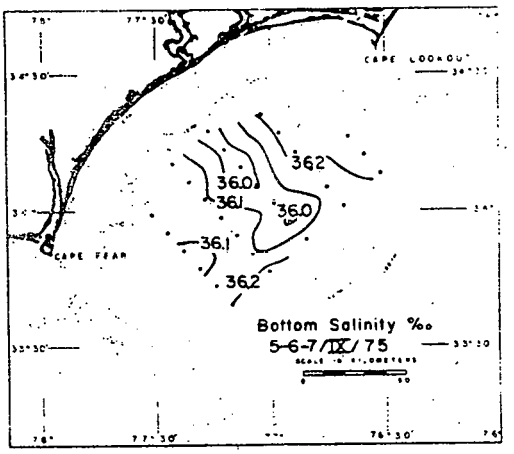
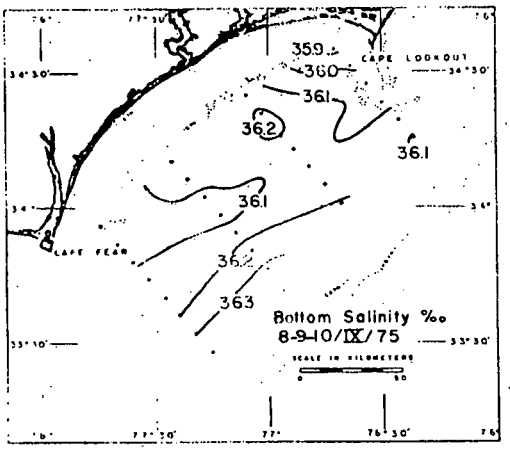


(c)

Figure 7. Surface salinities
(Hydro grids I, II, III)



(a)



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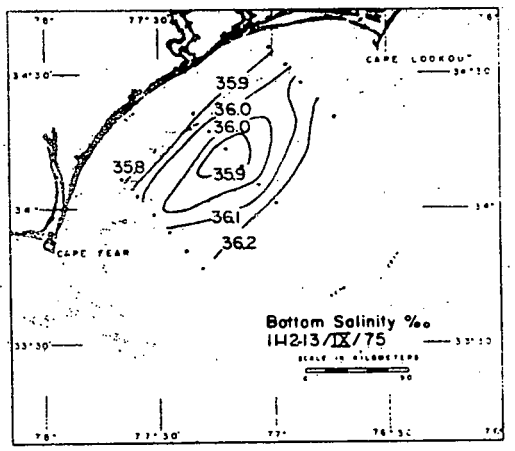


(c)

Figure 8. Bottom salinities
(Hydro grids I, II, III)

In contrast, much of the bottom salinity distributions of Figure 8 can be related to the bottom temperature distributions of Figure 6. Note that in Figure 8(a) the higher bottom salinities correlate well with the colder bottom waters of Figure 6(b) (page 12). The occurrence of higher salinities in conjunction with colder waters for this time of year is as expected for waters intruding onto the shelf.

The same higher salinity-lower temperature relationship is also noted in a comparison of bottom salinities for Figure 8(b) with the corresponding bottom temperatures of Figure 6(c). Here, one not only sees this correlation for the trapped nearshore waters, but also this same relationship corresponding to a newer intrusion which has not yet penetrated far into Onslow Bay. Similar trends are noted for Figures 8 (c) and 6(d).

Vertical Distribution (Temperature, Salinity and Sigma-t)

In addition to the horizontal plots of temperature and salinity discussed above, vertical profiles of these same parameters and sigma-t were made corresponding to each Hydro and Biogrid. The Hydrogrids permitted a relatively complete coverage of the Bay with respect to the overall vertical structure along the onshore/offshore transects and provide a three dimensional view when examined as a composite and/or in conjunction with the horizontal plots. In addition, each Biogrid provides a relatively intense study of the change in vertical structure over 24 hours along a portion of one onshore/offshore transect. A similar time lapse view of the change in vertical structure of the entire Bay, but over a much longer period, may be achieved by comparing corresponding profiles for each of the three Hydrogrids. Note, however, that there will not be salinity and sigma-t profiles corresponding to all of the temperature

profiles because some of the transects in the Hydrogrids were made from XBT tracings only and no water samples were taken. Furthermore, because of the alternation of XBT's and sampling stations along a hydro transect, on occasion there will not be an end station for these parameters to compare with the corresponding temperature plot.

Hydrogrids

The vertical transects of temperature, salinity and sigma-t for stations 30-36 of Hydrogrid I (Figures 9, 10 and 11) reveal the colder, more saline and higher density waters trapped at the nearshore stations. Here, the temperature and sigma-t plots are particularly striking and serve as strong evidence of intruded waters. Similarly, the transects for stations 51-57 reveal these same trapped waters at the nearshore stations. However, they also show some evidence of the beginning of a new intrusion into the region. This is particularly evident in the corresponding temperature and salinity plots. It is recalled that the horizontal temperature contours corresponding to this hydrogrid hinted at the onset of a new intrusion onto the shelf in this region (Figure 6(b); page 12). These vertical contours further substantiate that initial conclusion.

Note the plots corresponding to stations 40-46 in Figures 12, 13, and 14 of Hydrogrid II, and the temperature plots of Figure 12 for stations 49-57. These figures clearly define the two intrusions and give some feel for the movement of these bodies onto the shelf, particularly when compared to the corresponding figures of Hydrogrid I. Such comparison also allows for a feeling of the movement of these bodies along the shelf when one considers all of the transects in the Bay. Here, the trapped waters appear to be moving shoreward and perhaps northerly in advance of the new intrusion.

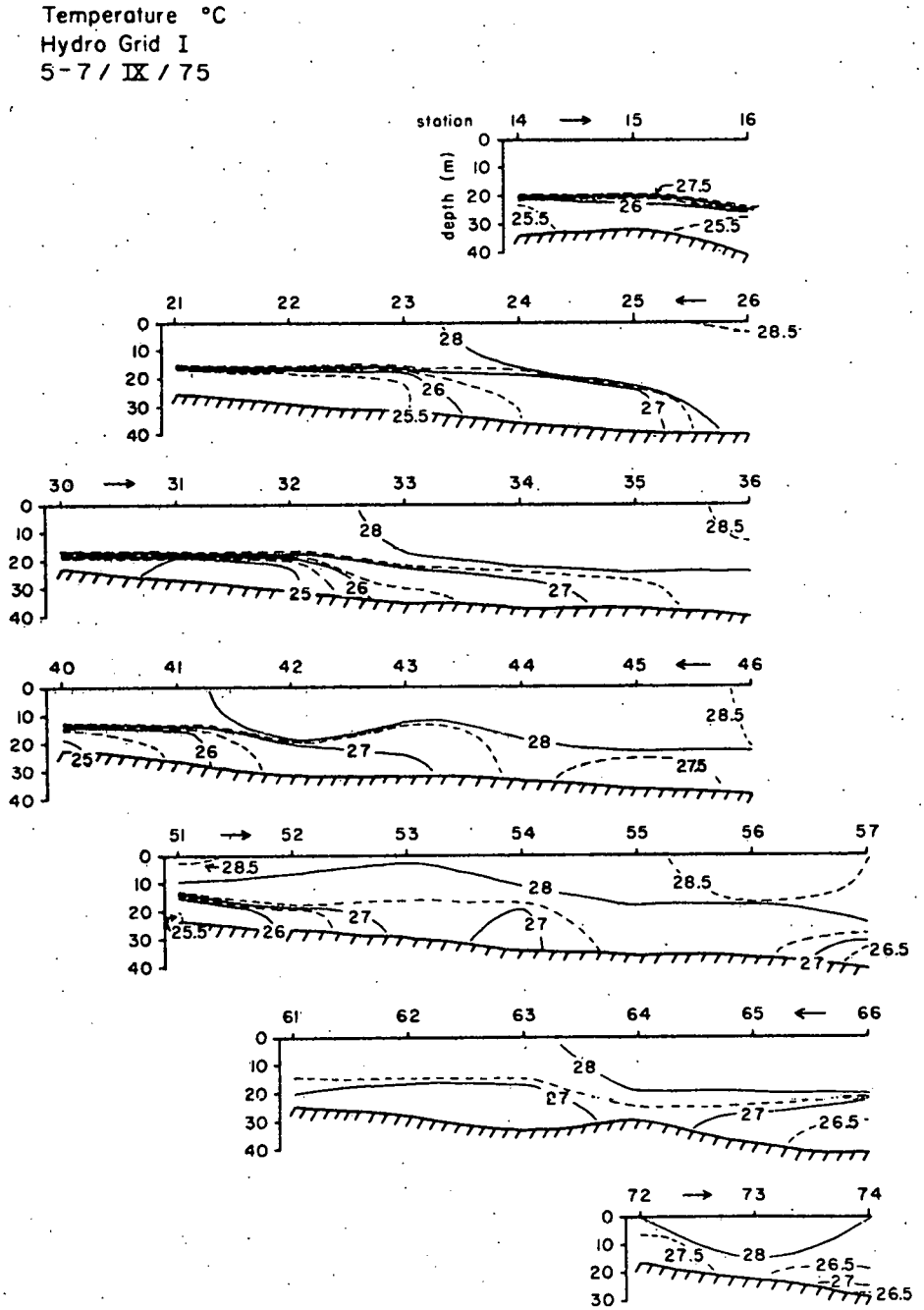


Figure 9. Vertical distribution of temperature (Hydro grid I)

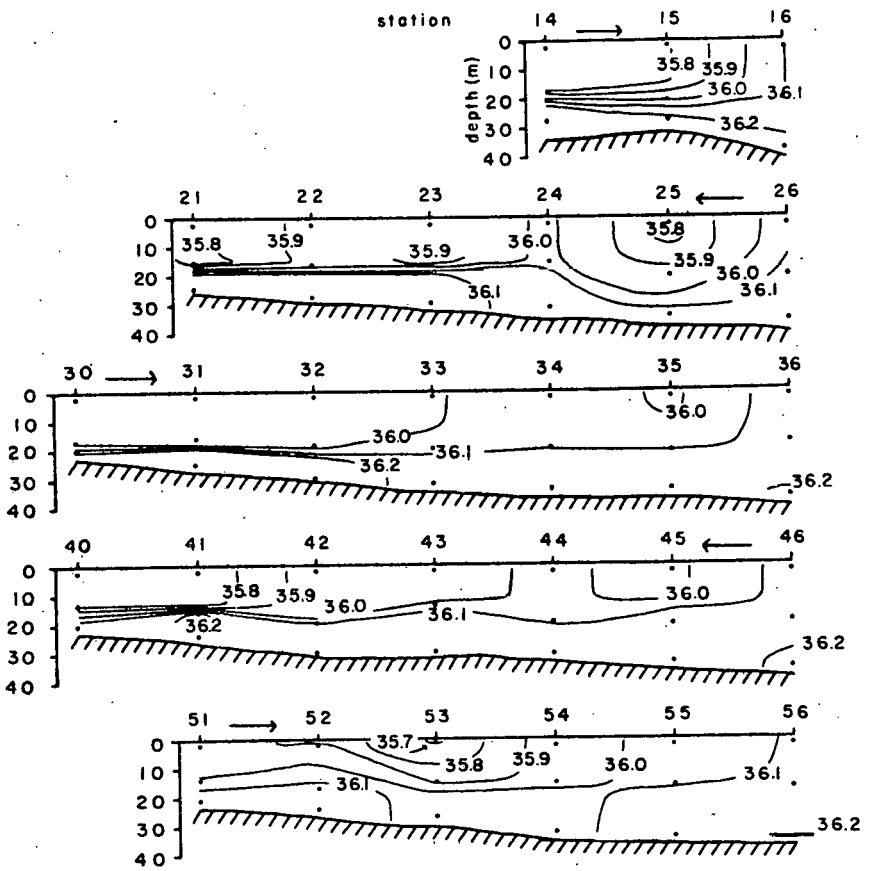


Figure 10. Vertical distribution of salinity (Hydro grid I)

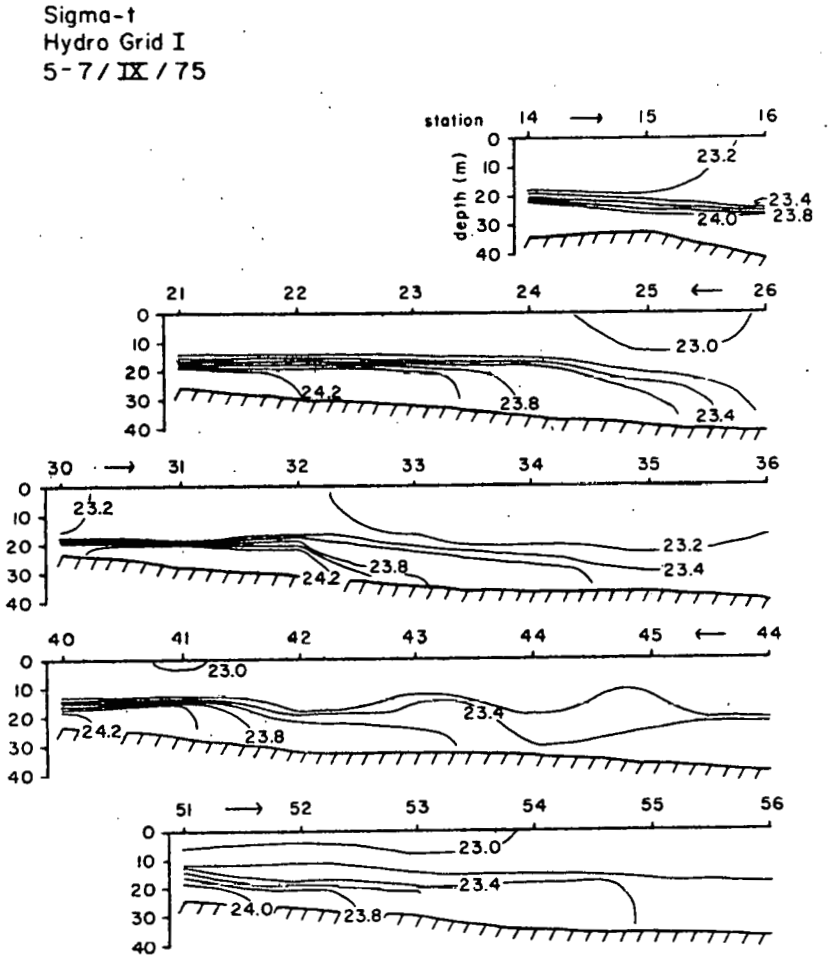


Figure 11. Vertical distribution of sigma-t (Hydro grid I)

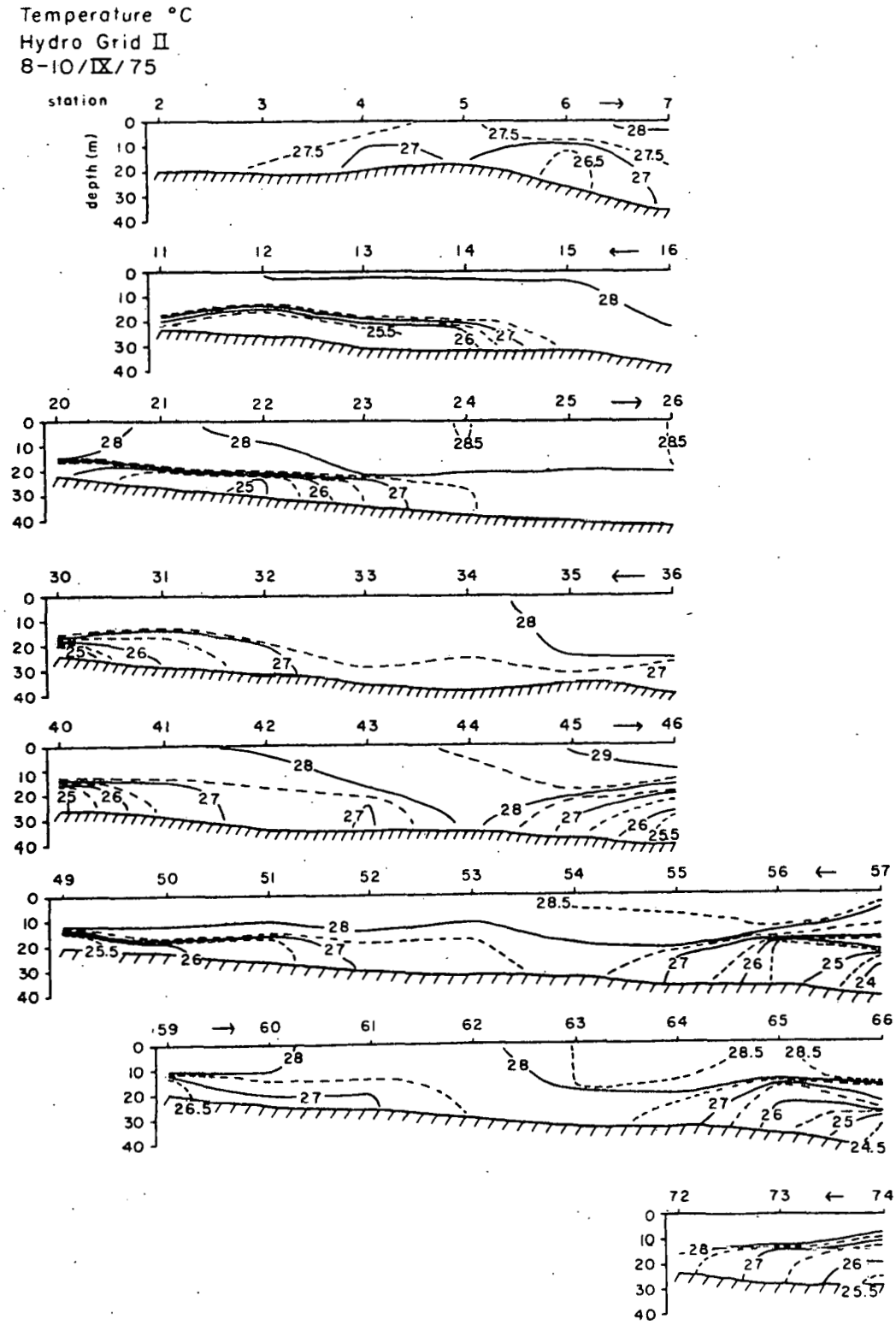


Figure 12. Vertical distribution of temperature (Hydro grid II)

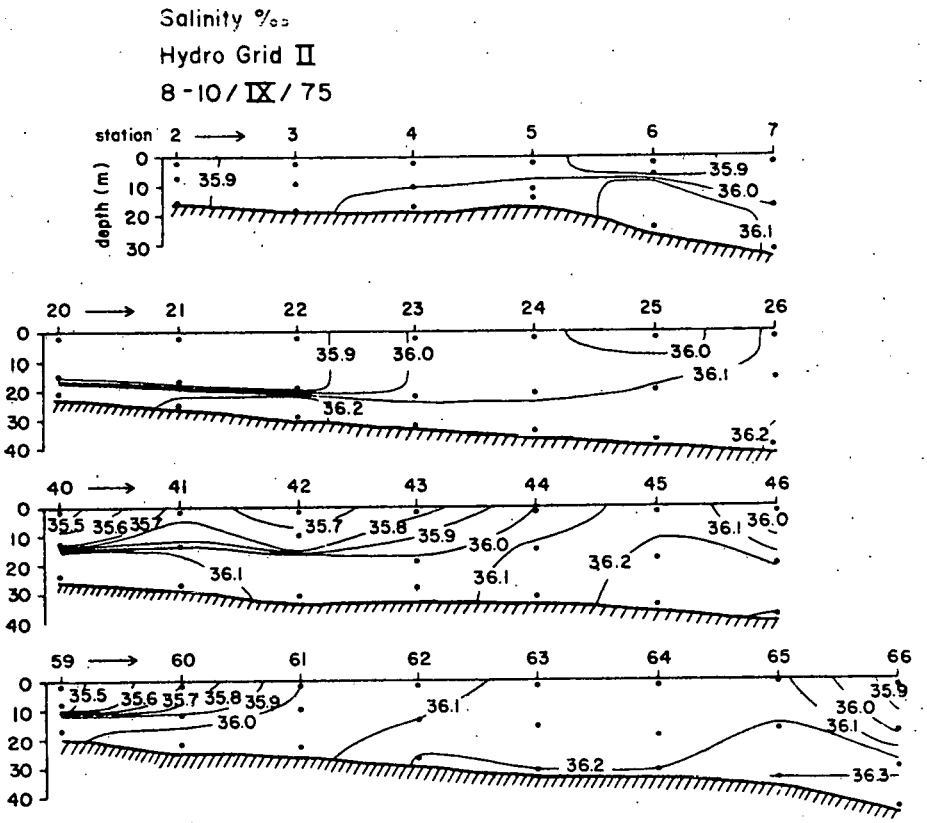


Figure 13. Vertical distribution of salinity (Hydro grid II)

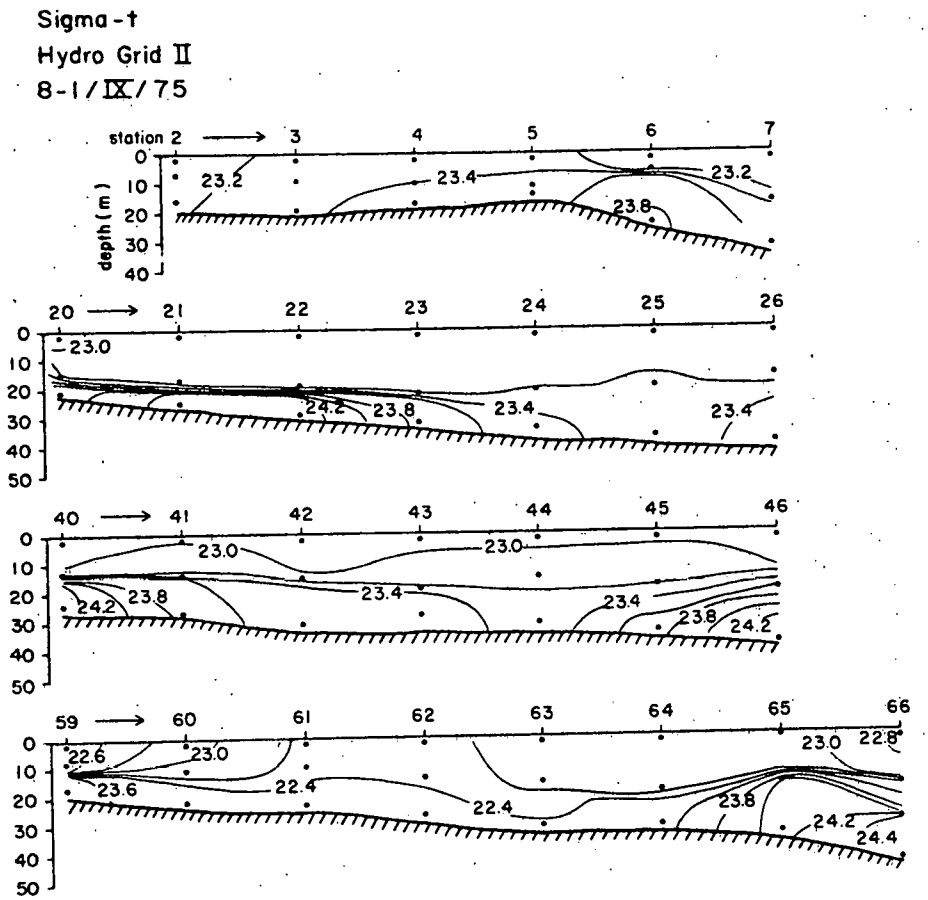


Figure 14. Vertical distribution of sigma-t (Hydro grid II)

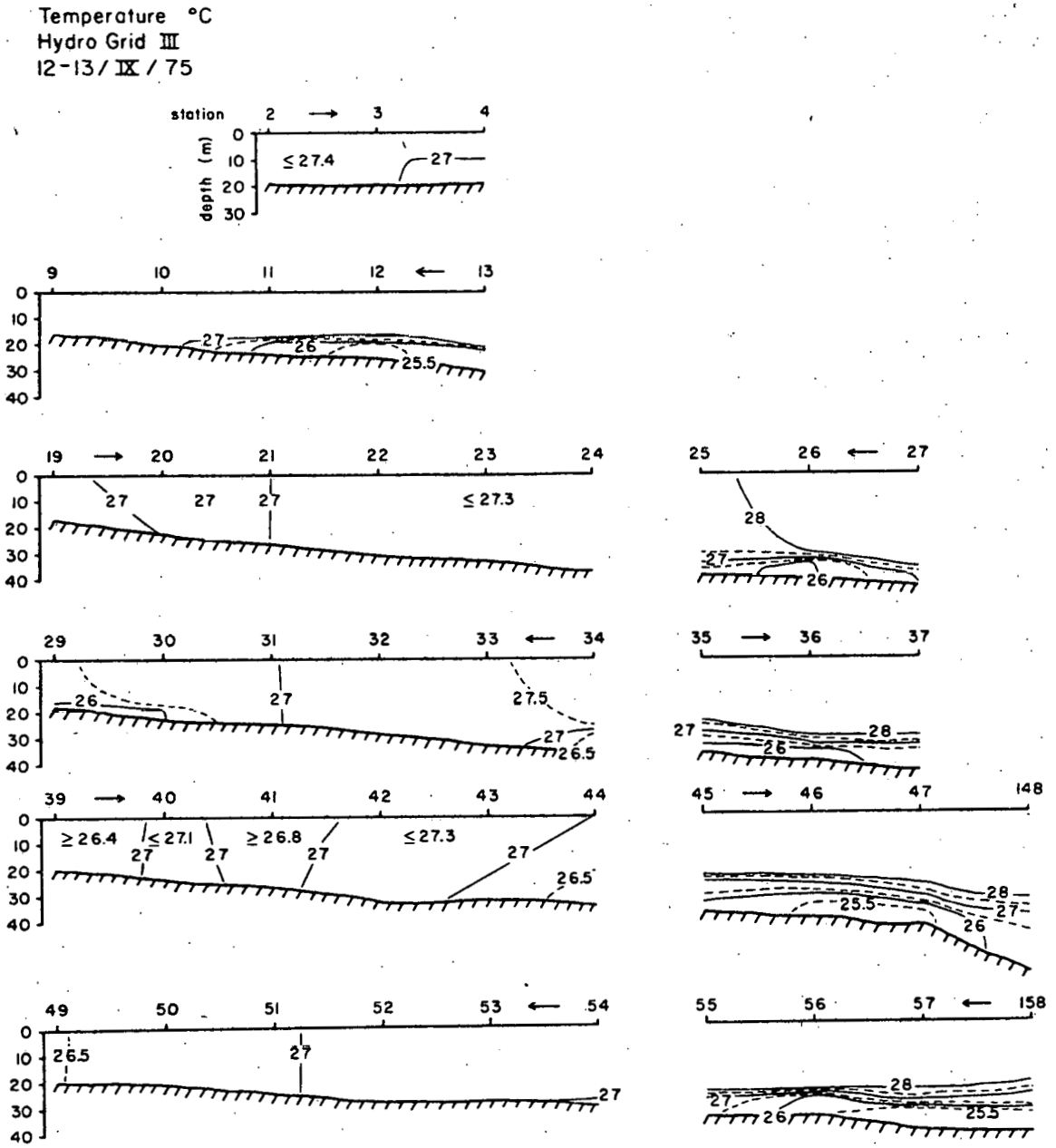


Figure 15. Vertical distribution of temperature (Hydro grid III)

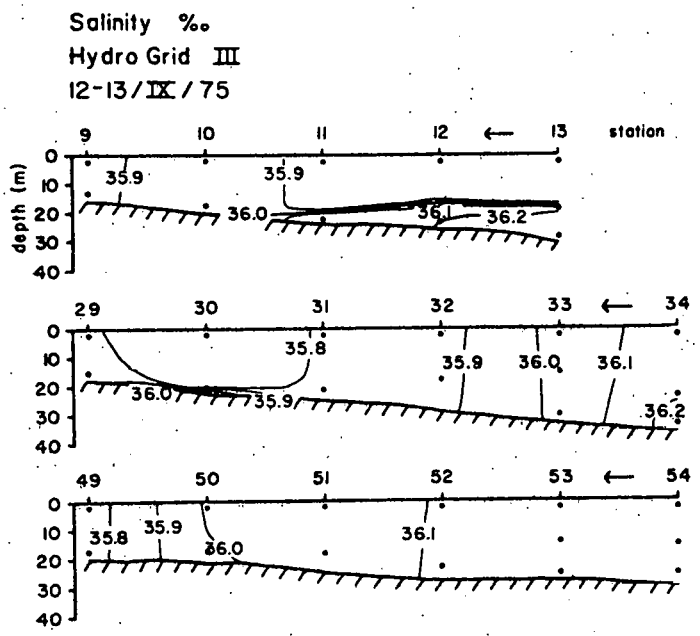


Figure 16. Vertical distribution of salinity (Hydro grid III)

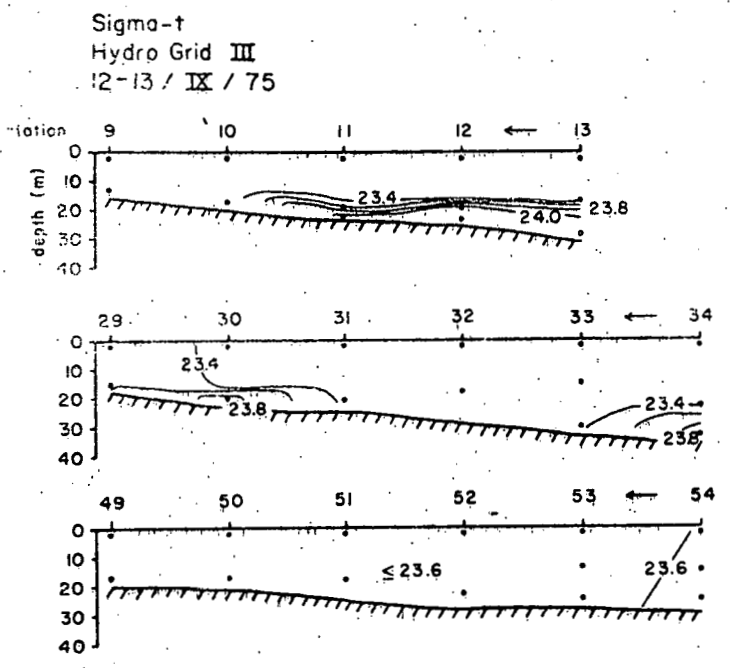


Figure 17. Vertical distribution of sigma-t (Hydro grid III)

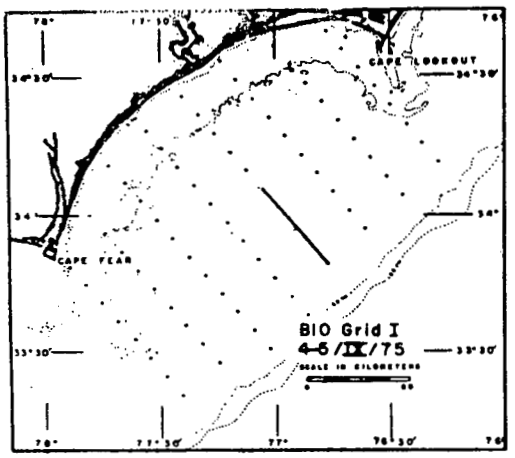
Hydrogrid III was taken in two parts. The offshore section was made from XBT's only, and the inshore section from XBT's and hydro stations. As a consequence, there are no corresponding salinity and sigma-t profilings for the offshore stations shown in Figures 16 and 17. However, the temperature sections of Figure 15 reveal that the new intrusion has moved onto the shelf and that the older intrusion has either moved too far shoreward for much of the sampling grid to detect, has become mixed, has moved northward where there is still some evidence of the old intrusion in the temperature, salinity and sigma-t profilings, or some combination of the three. Obviously, current meter records will prove useful in ascertaining what actually occurred. Precluding failures, such records will be provided by our colleagues from North Carolina State University.

Biogrids

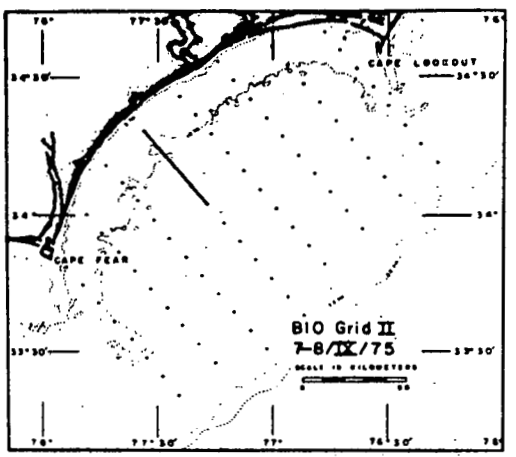
The tracts for the three Biogrids made in this study are shown in Figure 18. These correspond to regions of particular interest as ascertained from the Hydrogrids. In theory, samples would be taken in some combination offshore of the intrusion core, inshore of the core or in the core itself. From the plots of these data (Figure 19 thru 27), it is noted that this was usually achieved.

Since the samplings along one Biogrid are a continuous repetition of the same five stations, this permits some view of the onshore/offshore movement of the intrusion cores over a 24 hour period. Particularly note the temperature and sigma-t plots of these figures (the salinity plots do not so clearly define the intrusion cores).

From Figures 19 and 21 of the Biogrid I, it is obvious that the offshore wall of the intrusion core is moving shoreward or that a core of continually decreasing offshore width with respect to the sampling tract is moving along the shelf. An examination of Figures 22 and 24 of Biogrid



(a)



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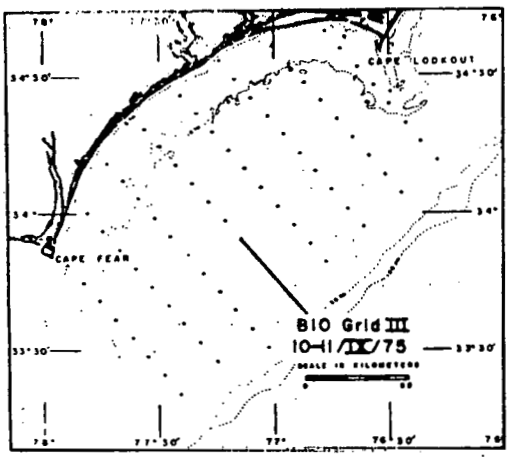


(c)

Figure 18. Bio grid cruise tracts

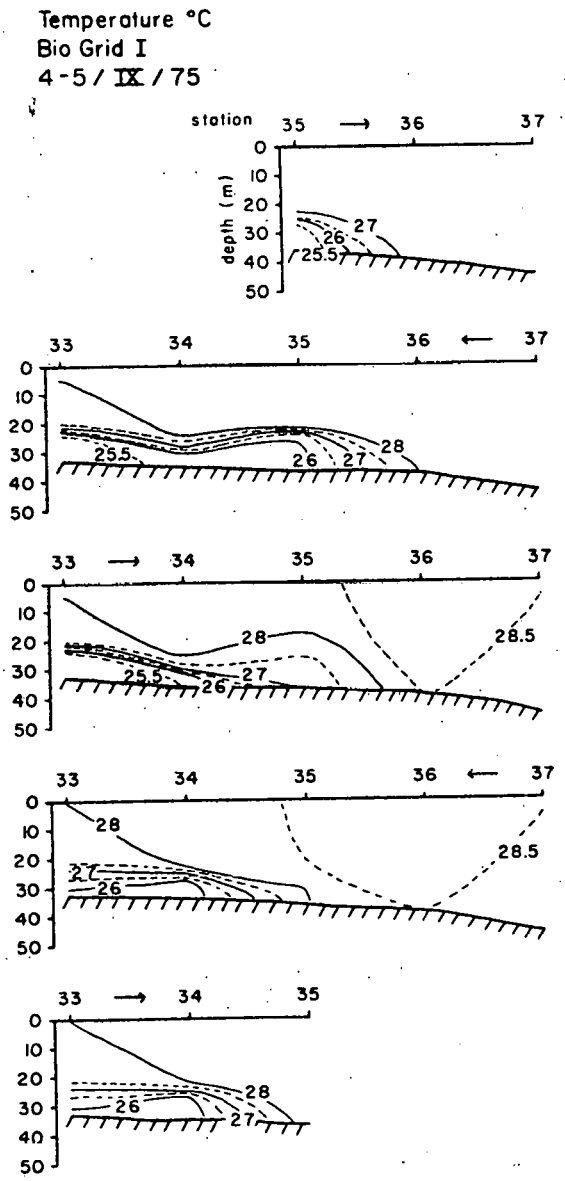


Figure 19. Vertical distribution of temperature (Bio grid I)

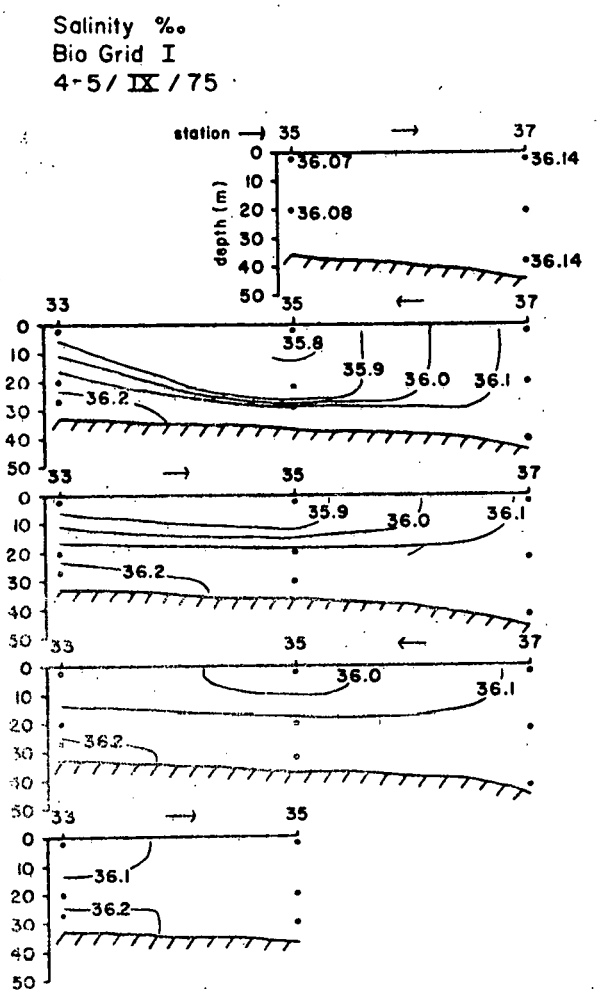


Figure 20. Vertical distribution of salinity (Bio grid I)

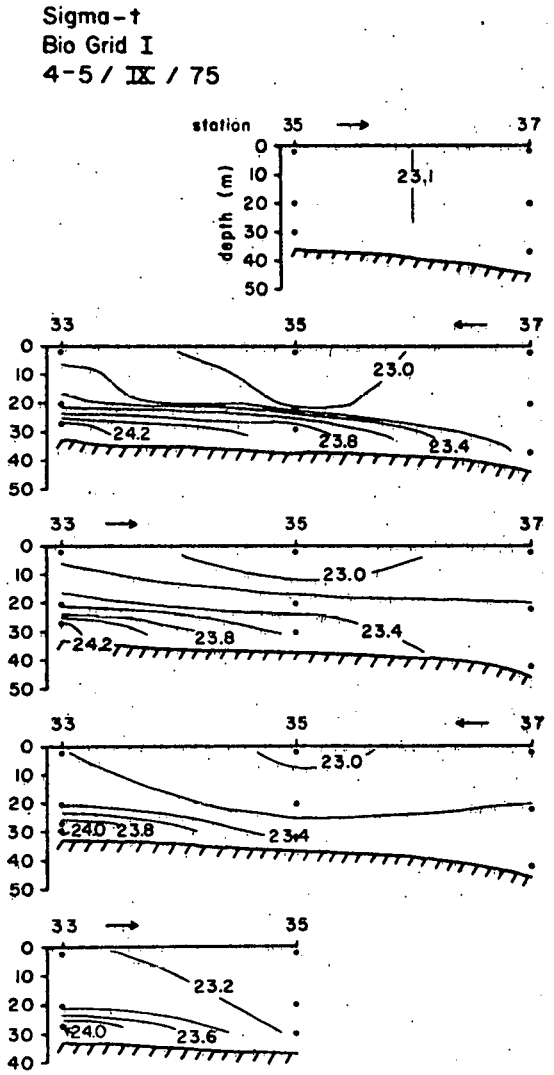


Figure 21. Vertical distribution of sigma-t (Bio grid I)

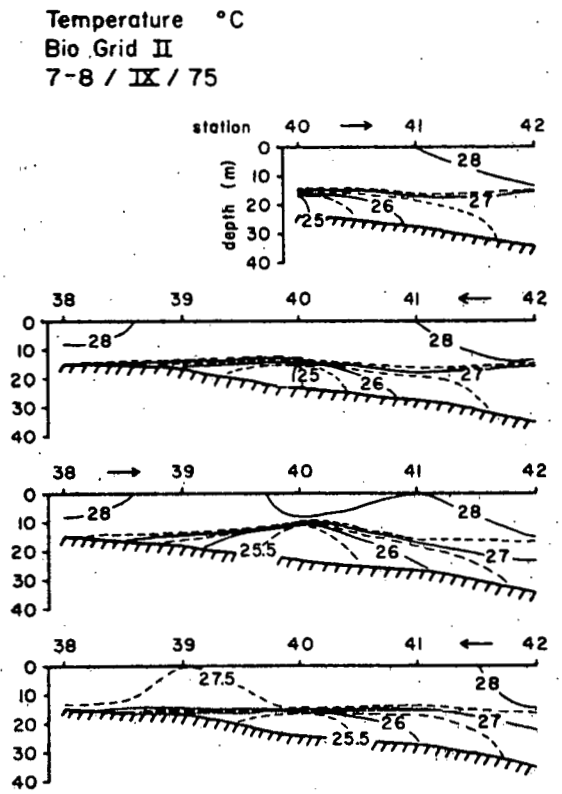


Figure 22. Vertical distribution of temperature (Bio grid II)

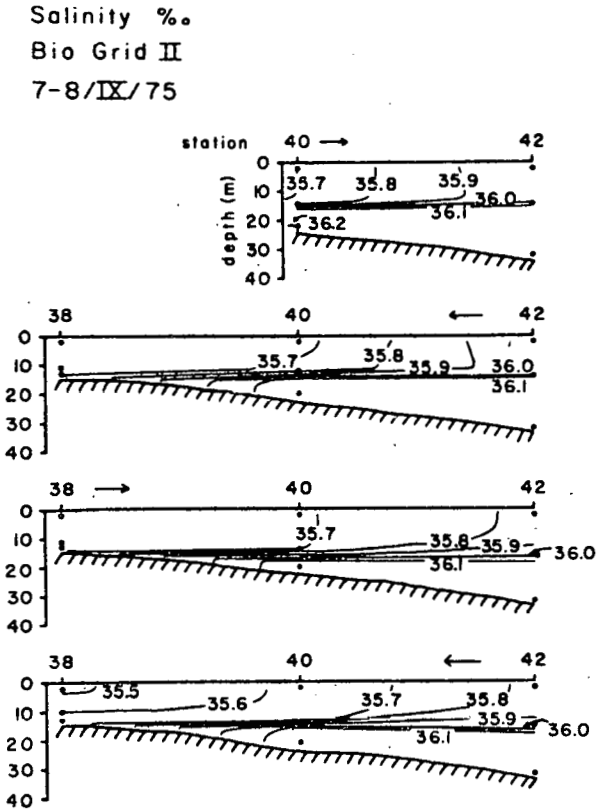


Figure 23. Vertical distribution of salinity (Bio grid II)

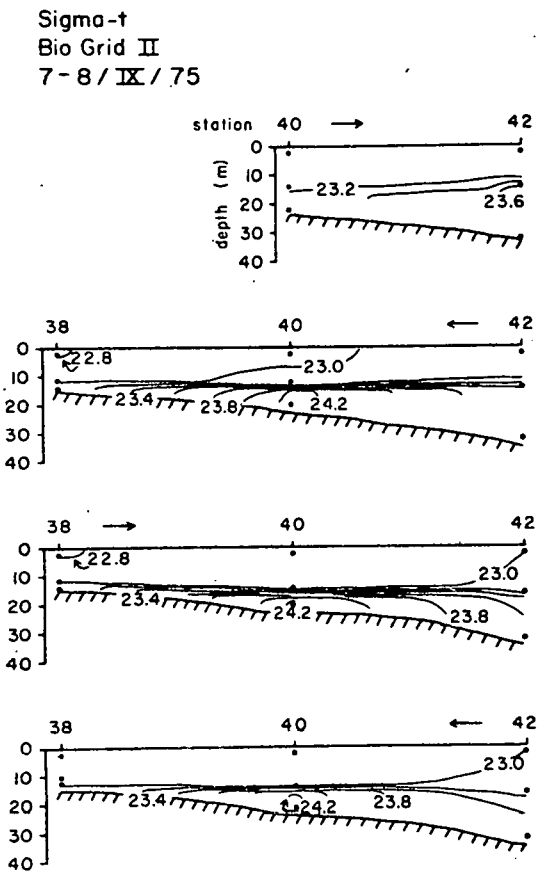


Figure 24. Vertical distribution of sigma-t (Bio grid II)

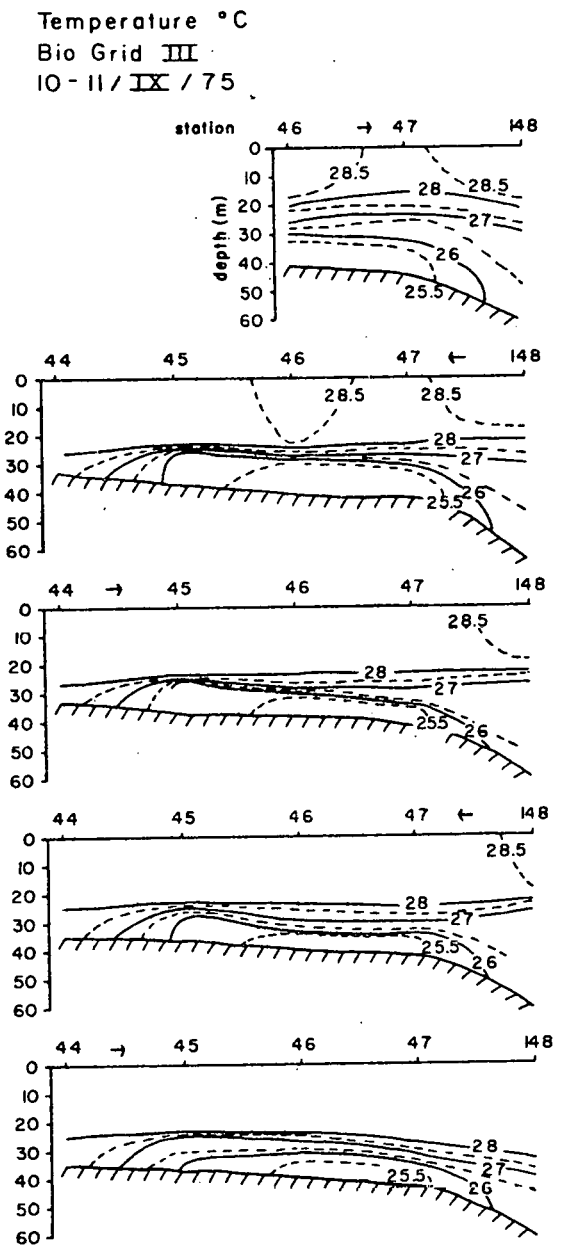


Figure 25. Vertical distribution of temperature (Bio grid III)

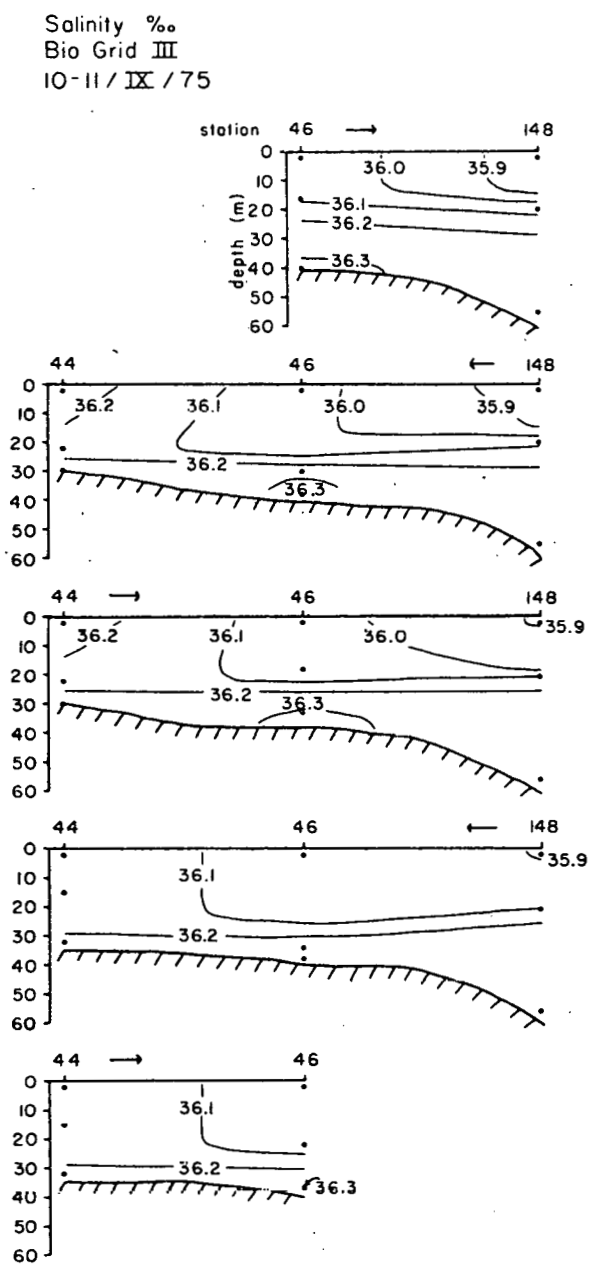


Figure 26. Vertical distribution of salinity (Bio grid III)

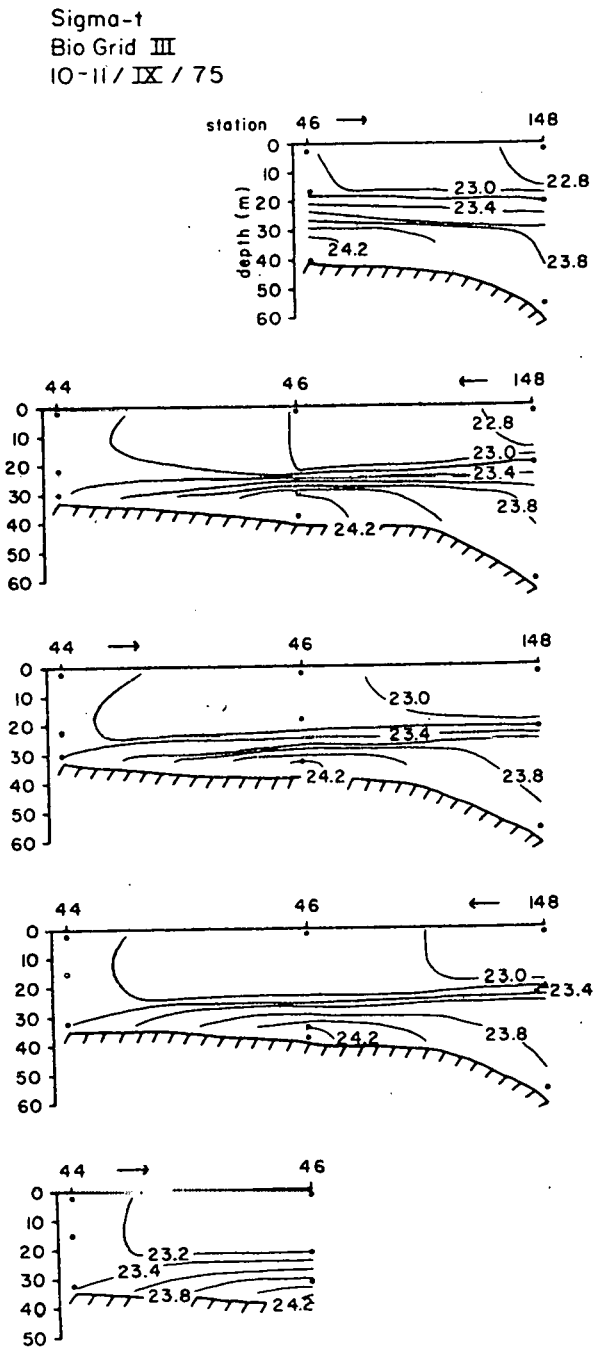


Figure 27. Vertical distribution of sigma-t (Bio grid III)

II, which was taken in an adjacent sampling tract and on the same intrusion core, reveals that the outer wall is apparently moving shoreward while the inner wall is fairly stationary.

Figures 25, 26 and 27 of Biogrid III were made through the new intrusion. They essentially reveal no onshore movement along the sampling tract over this period of time.

T-S Plot

A T-S plot of the temperature and salinity values obtained from the Bio and Hydrogrids of this study is related in Figure 28. This plot is characteristic of slope waters in this region for this time of year (Stefansson, Atkinson and Bumpus, 1971) and supports the view that such waters have in fact intruded onto the shelf.

Nutrients and Chlorophyll

Nutrient concentrations (nitrate, phosphate and silicate) in the intruded waters were quite low often duplicating the blank value. Furthermore, little distinction could be made between the intruded waters and the surrounding waters of Onslow Bay based solely upon these analyses. This is not surprising in view of the temperature involved, the lowest recordings being only 24.3^{o}C. These data are reported in Appendix II.

From the reported data the following trends are noted: nitrate concentrations were typically less than 0.5μmole; phosphate concentrations were generally less than 0.10μmole with a maximum observed concentration of 0.17μmole; and silicate concentrations were generally less than 3.5μmole with a maximum observed concentration of 13.4μmole. This latter concentration, however, found near the surface and offshore, is of questionable origin. In addition, it is noted that higher nitrate, phosphate and silicate concentrations than reported here would have been expected of a colder

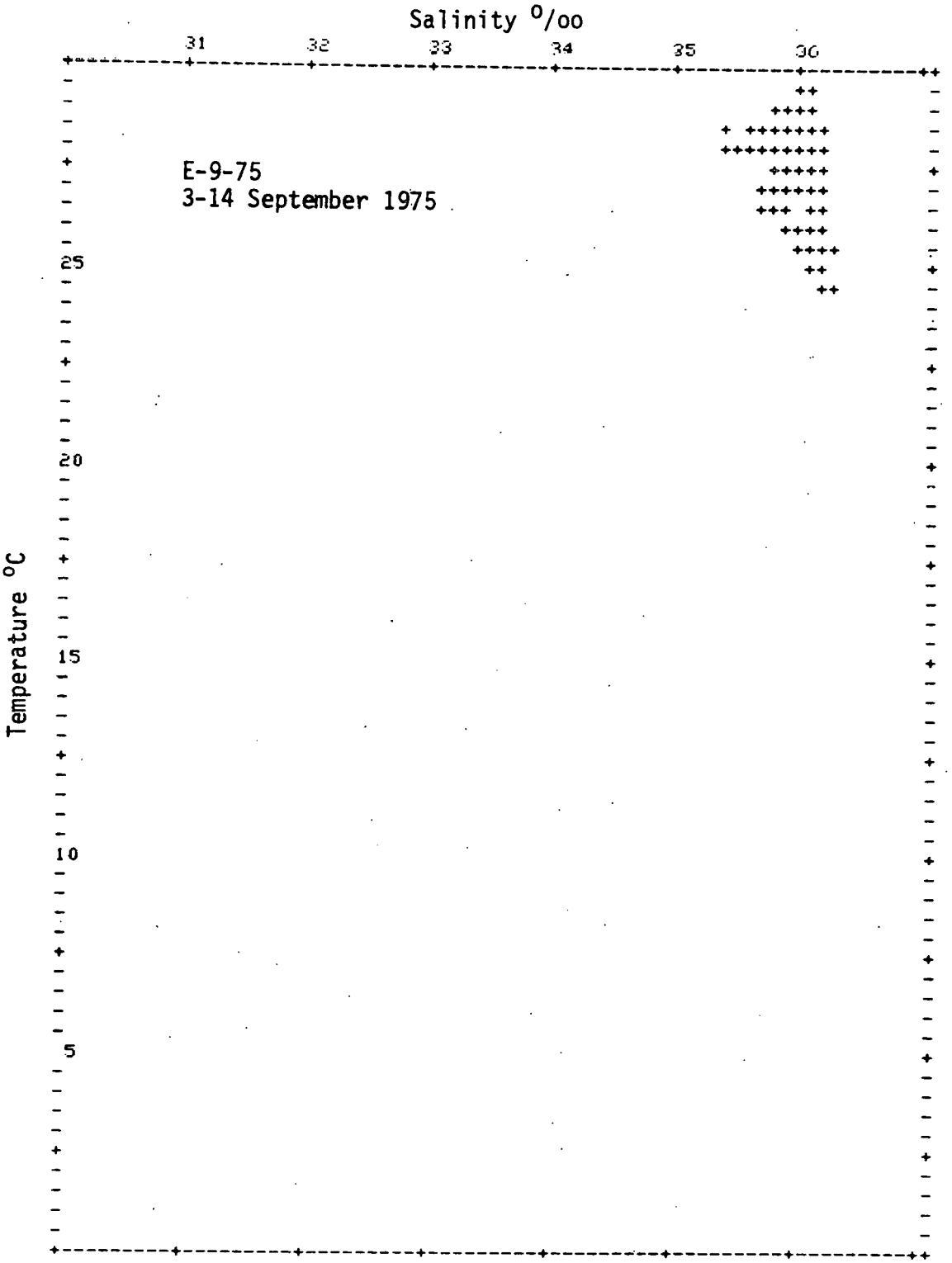
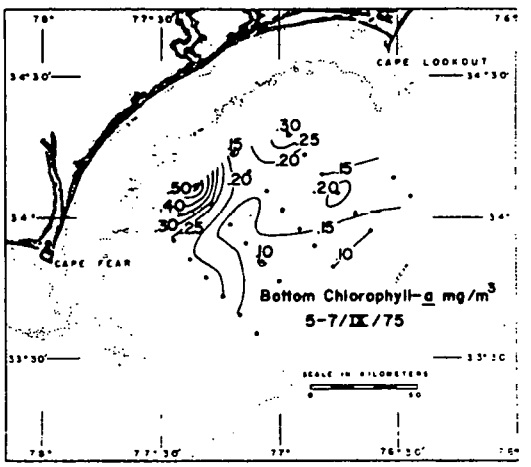


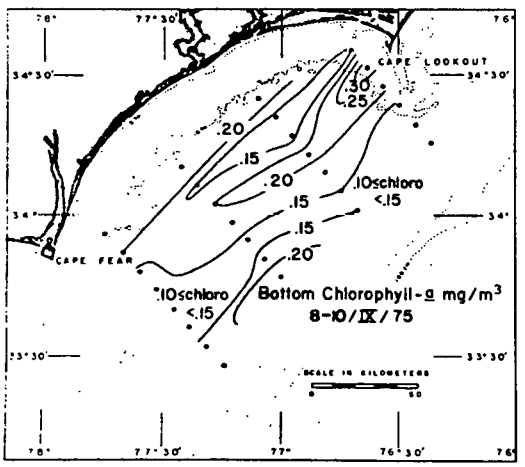
Figure 28. T-S plot (OBIS II)

intrusion with temperatures on the order of 19 to 21°C.

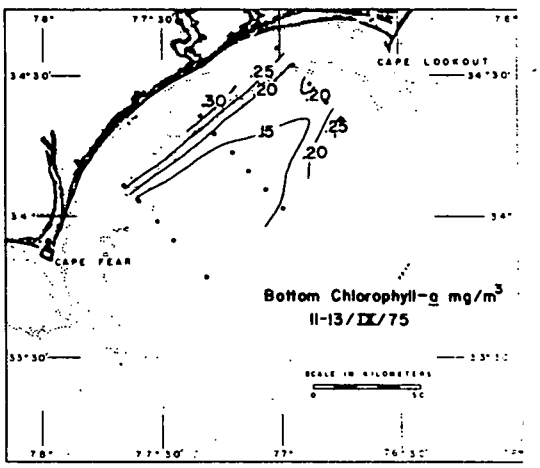
In spite of these low nutrient concentrations, chlorophyll-*a* data corresponding to the Bio and Hydrogrids further support the view that intrusions were observed over this study period (Figures 29 thru 36). The horizontal contours of Figure 29(a) and the vertical contours of Figures 31 and 35 particularly well define the trapped intrusion core, suggesting that significant amounts of nutrients were at one time available to support phytoplankton growth.



(a)

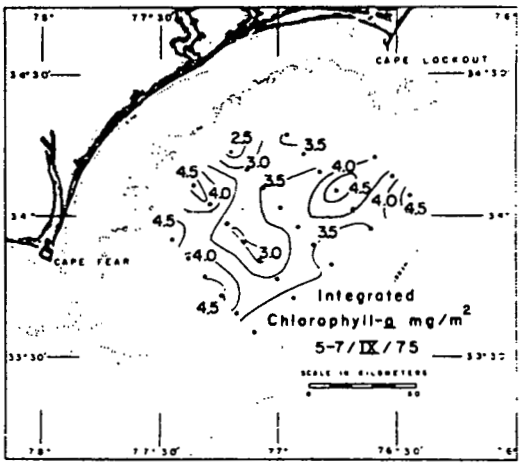


(b)

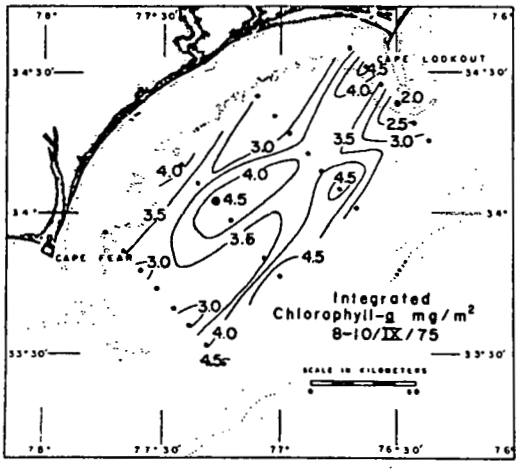


(c)

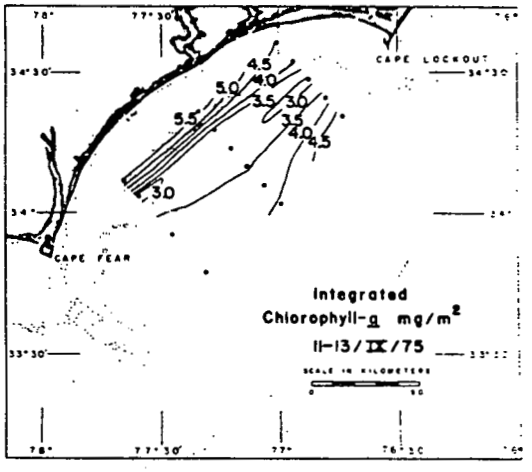
Figure 29. Bottom Chlorophyll a
(Hydro grids I, II, III)



(a)



(b)



(c)

Figure 30. Integrated Chlorophyll a (Hydro grids I, II, III)

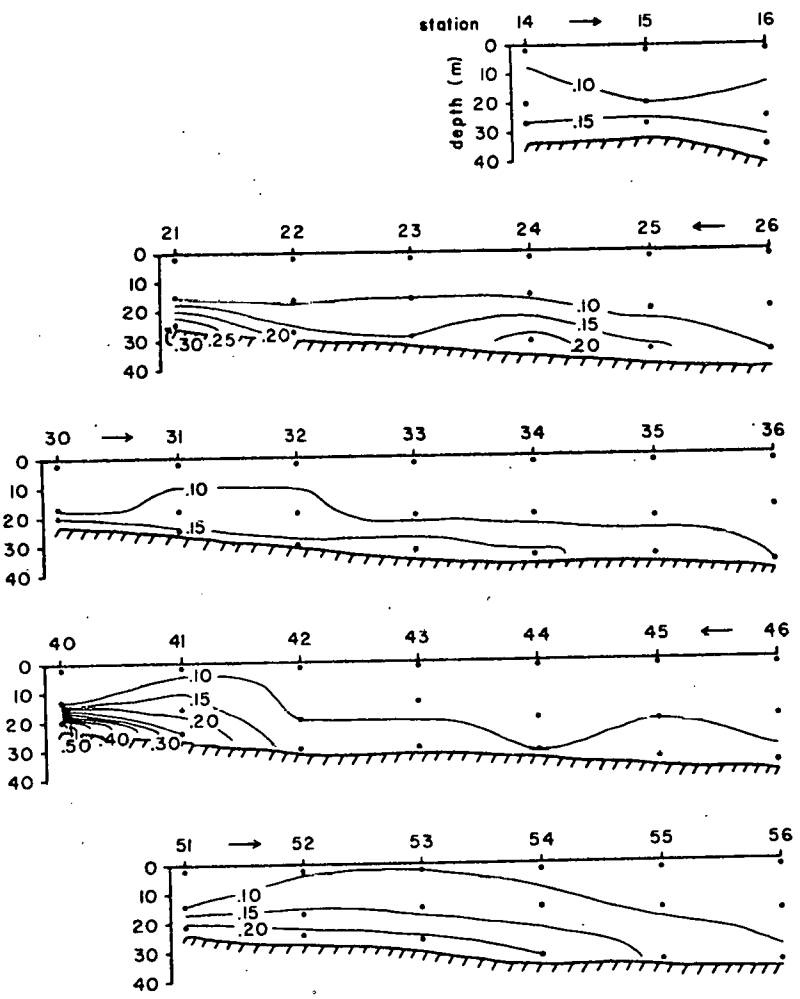


Figure 31. Vertical distribution of Chlorophyll a (Hydro grid I)

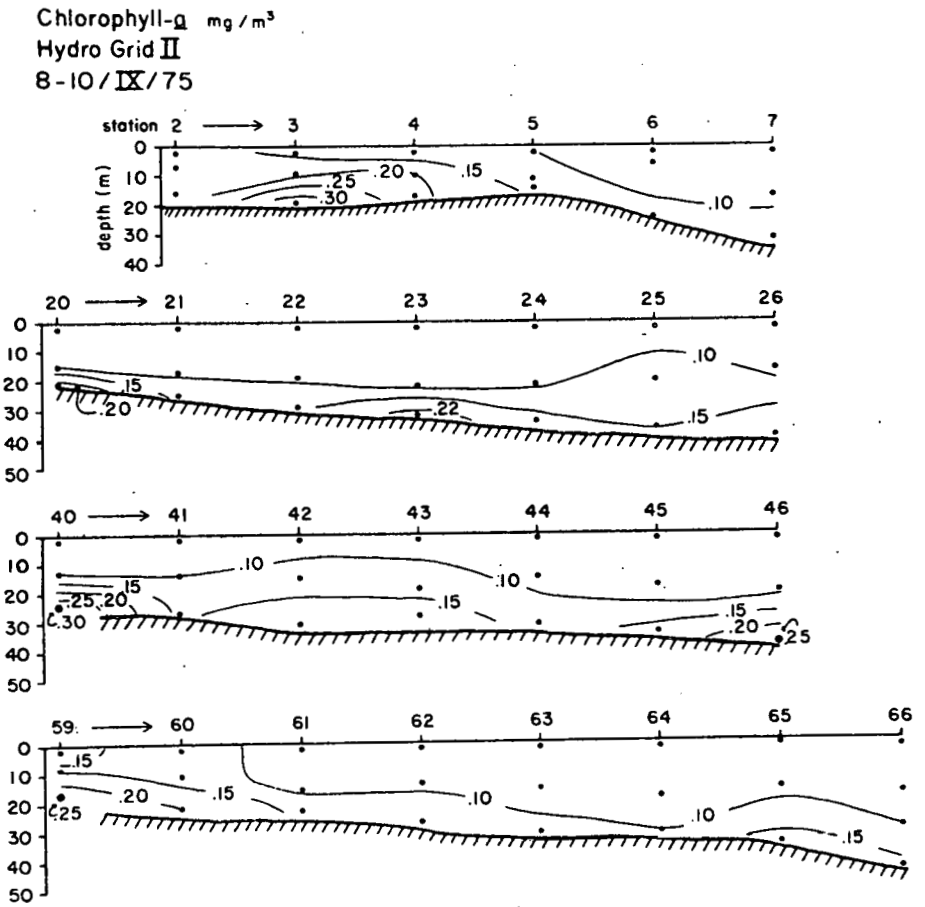


Figure 32. Vertical distribution of Chlorophyll a (Hydro grid II)

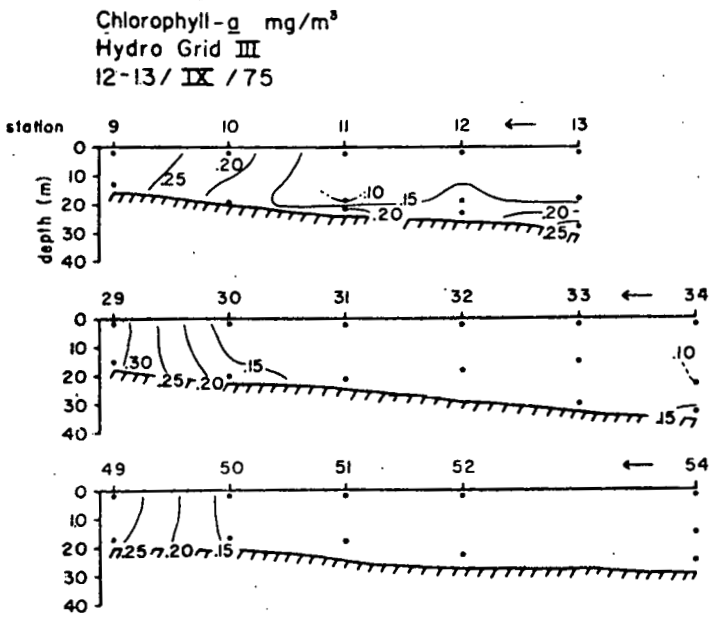


Figure 33. Vertical distribution of chlorophyll a (Hydro grid III)

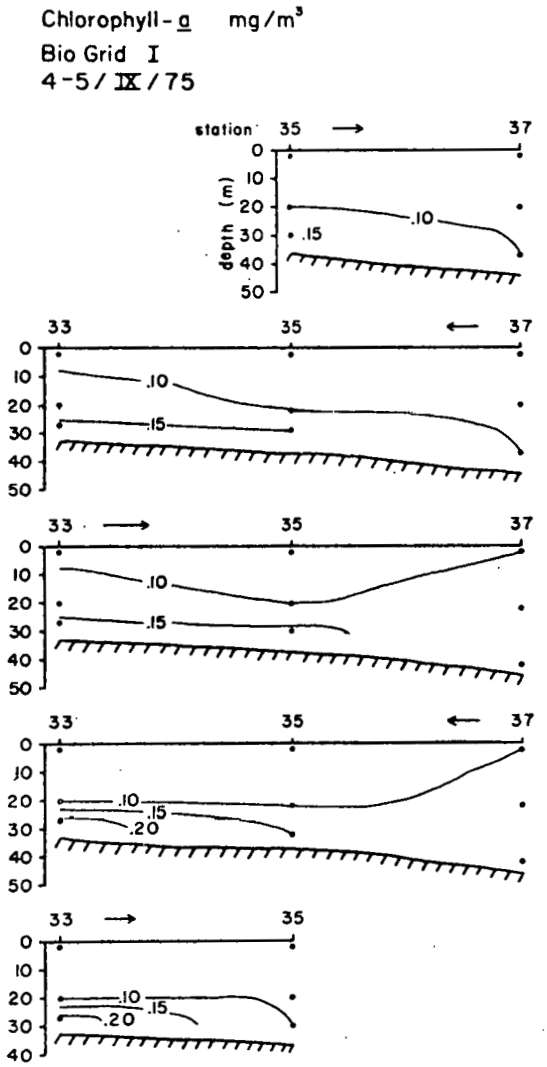


Figure 34. Vertical distribution of chlorophyll a (Bio grid I)

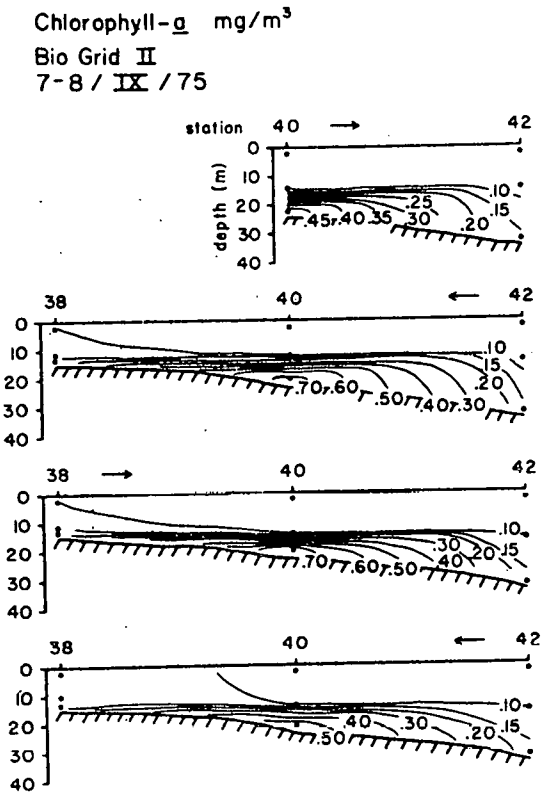


Figure 35. Vertical distribution of chlorophyll a (Bio grid II)

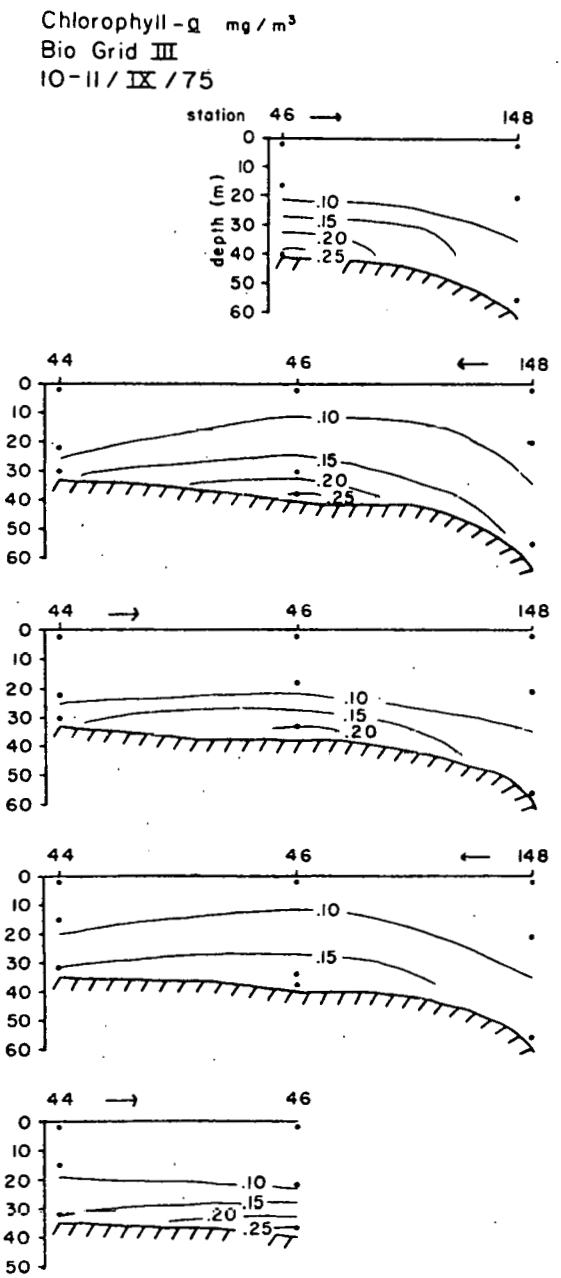


Figure 36. Vertical distribution of chlorophyll a (Bio grid III)

SUMMARY AND CONCLUSIONS

Over the course of OBIS II, 3-14 September, two intrusion cores were observed. One was apparently trapped nearshore over much of the study period, but as time went on, it either dissipated, moved too far shoreward or moved too far laterally along the shelf to be detected by the existing observational grid. The other (later) intrusion was first detected on 5-7 September and was observed to be moving into the Bay from the southeast over the remainder of the study period.

Plots of the horizontal temperature and salinity distribution were suggestive of these phenomenon by means of the higher salinity-lower temperature relationship. However, the real confirmation rests in the vertical distributions of sigma-t and chlorophyll presented in conjunction with the Bio and Hydrogrids, and the T-S plot which reveals slope waters on the shelf.

The intruded waters were not of low enough temperature to carry high nutrient concentrations onto the shelf for study. However, the general results of this study tend to confirm the view that our basic grid array and methods are compatible with measurement of the processes we initially set out to study. Analyses of these data relative to the current meter data will allow a nearly complete description of the Onslow Bay system during the observational period.

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APPENDICIES

APPENDIX I

Summary of Events

0800 - 3 September — Departed Beaufort, N.C.

0905 - 3 September to 0549 - 4 September — XBT Grid I. Ran an XBT grid over the outer part of the Bay to identify major features of temperature structure in the Bay. Preliminary analysis indicated a mass of colder water on bottom in the center of the Bay isolated by warmer water near bottom offshore. This observation led to the Biogrid I.

0622 - 4 September to 0615 - 5 September — Biogrid I. A time series of samples taken in the center Bay.

0940 - 5 September to 0526 - 7 September — Hydrogrid I. This grid was designed to cover most of the Bay. It was apparent that a large body of cold water was stranded in the center of the Bay and the extent of it should be determined. We also wanted to have a look at any advective processes in the outer shelf area, such as the beginning of an active intrusion. Towards the end of the allotted time only XBT's were taken to save station time.

0830 - 7 September to 0230 - 8 September — Biogrid II. This grid was moved further inshore to more completely cover the stranded cold water as we saw it. The grid may have been moved offshore if the previous Hydrogrid had given any indication of a cold front moving onshore. At this point we felt that the next Hydrogrid may show more action offshore and this may be the

the last mid-shelf Biogrid.

0342 - 8 September to 0745 - 8 September — A series of XBT stations were made cruising towards Beaufort to disembark Dr. Paffenhofer. These stations make up part of the next Hydrogrid.

0830 - 8 September to 1301 - 10 September — Hydrogrid II. Based on observed distributions in Hydrogrid I this grid was enlarged to cover most of the Bay. Additional stations were added offshore at the southern sections to investigate a suspected intrusion in the area. To take additional stations and stay on a 48h Hydrogrid schedule we made the onshore/offshore sections alternating XBT or CSTD-Niskin stations.

1825 - 10 September to 1620 - 11 September — Biogrid III. The Biogrid was moved from the center of the Bay to the southeast to look at what appeared to be a moving cold front. It was decided than when we were again in the area of the stranded cold water in the central Bay we would make additional biological samples to add to the time series in that area.

1112 - 11 September to 0454 - 12 September — The schedule called for arrival in Beaufort at 1000 to change personnel. We decided to make a series of XBT stations on a track northward on the outer shelf that would compliment stations to be taken on the inner shelf after we left Beaufort. There was some concern that the

beautiful weather was leaving us and if a north wind took up we may not get this far offshore again.

1000 - 12 September — Arrive Beaufort to change personnel.

1300 - 12 September — Depart Beaufort.

1423 - 12 September to 0011 - 14 September — Hydrogrid III. This grid was established the same as the previous grid to get a look at the entire Bay. XBT data from the previous XBT series was considered part of this grid. Increasing winds from the northeast forced us to stay nearshore. Luckily we had the offshore XBT or CSTD-Niskin. By the time we reached the south end of the Bay northerly winds were too strong to allow work offshore. Since part of this phase was to recover the two current meter arrays we decided to move in the lee of Cape Lookout to see what the wind would do. It soon became apparent from forecasts that the wind would be blowing hard for several days so on the morning of 14 September we went out to see if we could find the northeast mooring. We did find it and then went into Beaufort and disembarked at 1100.

APPENDIX II

Station Locations and Data

(OBIS II)

STATION SUMMARY FOR EASTWARD CRUISE E-9-75

STATION	LATITUDE	LONGITUDE	YR	MN	DY	HOUR	DEPTH M	CONSEC NUMBER
35	33 57.7N	76 53.9W	75	9	4	10.3	36	1
37	33 49.5N	76 46.0W	75	9	4	13.5	44	2
35	33 58.0N	76 54.0W	75	9	4	16.3	37	3
33	34 5.5N	77 2.7W	75	9	4	19.0	33	4
35	33 57.6N	76 54.4W	75	9	4	22.0	37	5
37	33 49.5N	76 46.0W	75	9	5	1.6	46	6
35	33 57.5N	76 54.5W	75	9	5	4.0	37	7
33	34 4.5N	77 2.7W	75	9	5	7.0	33	8
35	33 57.3N	76 54.2W	75	9	5	10.2	37	9
14	34 16.3N	76 39.2W	75	9	5	13.6	34	10
15	34 12.0N	76 35.0W	75	9	5	14.7	32	11
16	34 8.0N	76 30.8W	75	9	5	0.0	41	12
26	34 .7N	76 40.7W	75	9	5	17.4	41	13
25	34 4.5N	76 44.9W	75	9	5	18.5	39	14
24	34 9.4N	76 49.1W	75	9	5	19.6	36	15
23	34 12.9N	76 53.3W	75	9	5	21.0	32	16
22	34 17.0N	76 57.4W	75	9	5	22.2	30	17
21	34 21.2N	77 16.2W	75	9	5	0.0	26	18
30	34 17.5N	77 16.2W	75	9	6	1.3	23	19
31	34 13.4N	77 12.0W	75	9	6	2.4	27	20
32	34 9.5N	77 7.5W	75	9	6	3.5	31	21
33	34 5.4N	77 3.2W	75	9	6	4.2	35	22
34	34 1.4N	76 59.0W	75	9	6	5.5	37	23
35	33 57.4N	76 54.9W	75	9	6	6.5	37	24
36	33 53.2N	76 50.4W	75	9	6	8.5	40	25
46	33 45.9N	77 .5W	75	9	6	10.5	39	26
45	33 50.0N	77 4.4W	75	9	6	11.7	37	27
44	33 54.0N	77 8.5W	75	9	6	12.7	34	28
43	33 58.2N	77 12.8W	75	9	6	13.8	32	29
42	34 2.1N	77 17.0W	75	9	6	14.9	32	30
41	34 6.5N	77 21.5W	75	9	6	15.9	27	31
40	34 10.2N	77 25.4W	75	9	6	16.9	23	32
51	33 58.7N	77 30.9W	75	9	6	18.9	24	33
52	33 54.6N	77 26.6W	75	9	6	20.8	27	34
53	33 50.6N	77 22.5W	75	9	6	22.2	30	35
54	33 46.5N	77 18.2W	75	9	6	23.3	35	36
55	33 42.8N	77 14.2W	75	9	7	.5	36	37
56	33 38.6N	77 10.0W	75	9	7	1.7	37	38
40	34 10.5N	77 25.5W	75	9	7	12.5	24	39
42	34 2.3N	77 16.8W	75	9	7	14.3	34	40
40	34 10.6N	77 25.5W	75	9	7	17.3	23	41
38	34 18.4N	77 33.2W	75	9	7	19.3	15	42
40	34 10.5N	77 25.3W	75	9	7	22.3	23	43
42	34 2.5N	77 16.7W	75	9	8	1.4	34	44
40	34 10.6N	77 25.2W	75	9	8	4.4	24	45

STATION SUMMARY FOR EASTWARD CRUISE E-9-75 (CONTD)

STATION	LATITUDE	LONGITUDE	YR	MN	DY	HOUR	DEPTH M	CONSEC NUMBER
38	34 18.4N	77 33.1W	75	9	8	6.5	15	46
2	34 35.8N	76 42.7W	75	9	8	13.5	19	47
3	34 31.8N	76 38.5W	75	9	8	14.5	21	48
4	34 27.8N	76 34.5W	75	9	8	15.5	19	49
5	34 24.0N	76 30.1W	75	9	8	16.5	17	50
6	34 19.5N	76 25.5W	75	9	8	17.7	27	51
7	34 15.4N	76 21.5W	75	9	8	19.0	35	52
20	34 25.1N	77 6.0W	75	9	9	.8	23	53
21	34 21.3N	77 2.0W	75	9	9	1.9	27	54
22	34 17.1N	76 57.8W	75	9	9	3.0	31	55
23	34 13.0N	76 53.2W	75	9	9	4.1	34	56
24	34 9.0N	76 49.0W	75	9	9	5.4	37	57
25	34 5.1N	76 45.0W	75	9	9	6.5	40	58
26	34 .8N	76 40.7W	75	9	9	7.8	42	59
40	34 10.4N	77 25.5W	75	9	9	14.5	26	60
41	34 6.5N	77 21.3W	75	9	9	15.6	29	61
42	34 2.2N	77 17.0W	75	9	9	17.2	34	62
43	33 58.3N	77 12.7W	75	9	9	18.4	33	63
44	33 54.0N	77 8.7W	75	9	9	19.4	34	64
45	33 50.2N	77 4.6W	75	9	9	20.4	37	65
46	33 46.0N	77 .3W	75	9	9	21.5	40	66
59	33 56.0N	77 44.5W	75	9	10	6.0	20	67
60	33 52.0N	77 40.0W	75	9	10	7.1	25	68
61	33 47.9N	77 36.0W	75	9	10	8.2	26	69
62	33 43.7N	77 31.9W	75	9	10	9.3	30	70
63	33 39.6N	77 27.6W	75	9	10	10.5	34	71
64	33 35.0N	77 23.5W	75	9	10	11.8	34	72
65	33 31.5N	77 19.5W	75	9	10	13.0	37	73
66	33 27.5N	77 15.0W	75	9	10	14.3	46	74
46	33 46.1N	77 .2W	75	9	10	22.2	41	75
148	33 38.0N	76 51.5W	75	9	11	.6	61	76
46	33 46.0N	77 .3W	75	9	11	2.0	41	77
44	33 54.2N	77 8.5W	75	9	11	5.0	33	78
46	33 46.2N	77 .2W	75	9	11	8.6	38	79
148	33 38.0N	76 51.8W	75	9	11	11.4	61	80
46	33 46.0N	77 .2W	75	9	11	11.4	40	81
44	33 54.2N	77 8.5W	75	9	11	17.5	35	82
46	33 46.1N	77 .2W	75	9	11	20.3	40	83
13	34 20.0N	76 43.5W	75	9	12	21.8	31	84
12	34 24.1N	76 48.0W	75	9	12	23.5	26	85
11	34 28.0N	76 47.8W	75	9	13	.4	24	86
10	34 32.0N	76 56.3W	75	9	13	1.6	20	87
9	34 36.0N	77 .1W	75	9	13	3.7	16	88
34	34 1.0N	76 59.0W	75	9	13	9.9	36	89
33	34 5.2N	77 3.6W	75	9	13	11.1	33	90

STATION SUMMARY FOR EASTWARD CRUISE E-9-75 (CONTD)

STATION	LATITUDE	LONGITUDE	YR	MN	DY	HOUR	DEPTH M	CONSEC NUMBER
32	34 9.5N	77 7.8W	75	9	13	12.3	29	91
31	34 13.3N	77 12.0W	75	9	13	13.4	25	92
30	34 17.4N	77 16.4W	75	9	13	14.5	23	93
29	34 20.5N	77 20.3W	75	9	13	15.5	18	94
54	33 46.5N	77 18.6W	75	9	13	22.5	30	95
53	33 50.5N	77 22.8W	75	9	13	23.7	28	96
52	33 54.6N	77 27.3W	75	9	14	.9	28	97
51	33 58.6N	77 31.2W	75	9	14	2.0	25	98
50	34 2.6N	77 35.3W	75	9	14	3.0	21	99
49	34 7.0N	77 39.2W	75	9	14	4.1	20	100

Data Sheet Symbols

Z = Depth (m)

T = Temperature (^{o}C)

S = Salinity (o/oo)

D = Sigma-t (g/cm^3)

SVA = Specific Volume Anomaly

O2 = Dissolved Oxygen (ml/l)

O2' = Oxygen Saturation (International Tables) (ml/l)

AOU = Apparent Oxygen Utilization (O2'-O2) (ml/l)

O2A = Oxygen Anomaly (Richards and Redfield, 1955)

PO4 = Phosphates (μmole)

NO3 = Nitrates (μmole)

SI = Silicates (μmole)

N/P = Nitrate/Phosphate Ratio

EASTWARD CRUISE 9 STATION 35 4/ IX/75 10.3 GMT CONSECUTIVE STATION 1

LAT. = 33 57.7N LONG. = 76 53.9W DEPTH = 36M DIST LAST STA = 0.0KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 266-274 DEGR	WAVE DIRECTION	= 266-274 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
0	28.47	36.07	23.07	480	4.91	5.18	.27	-.52	.01	.4	3.7	40.0
20	28.46	36.08	23.08	480	4.77	5.19	.42	-.38	.09	.7	1.7	7.8
22	28.14											
30	25.98				4.85				.04	.5	2.8	12.5

EASTWARD CRUISE 9 STATION 37 4/ IX/75 13.5 GMT CONSECUTIVE STATION 2

LAT. = 33 49.5N LONG. = 76 46.0W DEPTH = 44M DIST LAST STA = 19.5KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 266-274 DEGR	WAVE DIRECTION	= 266-274 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
0	28.43	36.14	23.13	474	4.83	5.19	.36	-.43	.12	.2	1.7	1.7
20	28.44	36.14	23.13	475	4.94	5.19	.25	-.54	.04	.2	3.4	5.0
37	28.43	36.14	23.13	476	4.78	5.19	.41	-.38	.04	.3	3.1	7.5

EASTWARD CRUISE 9 STATION 35 4/ IX/75 16.3 GMT CONSECUTIVE STATION 3

LAT. = 33 58.0N LONG. = 76 54.0W DEPTH = 37M DIST LAST STA = 20.0KM

WEATHER DATA

WIND FORCE = 3	SEA STATE =
WIND DIRECTION = 266-274 DEGR	WAVE DIRECTION = 266-274 DEGR
AIR TEMP = 31.0C	CLOUD TYPE = 8
WEATHER CODE = 1	CLOUD AMOUNT = 2
BAROMETRIC PRESSURE = 1017.6 MB	VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
0	28.40	35.80	22.89	497	4.81	5.19	.38	-.45	.03	.4	2.2	13.3
20	28.33	35.87	22.96	492								
22	28.02	35.85	23.05	483	4.80	5.24	.44	-.41	.11	.2	1.0	1.8
26	26.01	35.87	23.71	420								
29	25.96	36.14	23.93	399	5.58	5.47	-.11	-1.05	.13	.3	1.6	2.3

EASTWARD CRUISE 9 STATION 33 4/ IX/75 19.0 GMT CONSECUTIVE STATION 4

LAT. = 34 5.5N LONG. = 77 2.7W DEPTH = 33M DIST LAST STA = 19.3KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 4	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1015.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
0	28.02	35.90	23.09	478	4.88	5.24	.36	-.49	.04	.2	2.6	5.0
20	27.47	36.15	23.45	445	4.87	5.30	.43	-.42	.05	.1	1.9	2.0
27	25.18	36.24	24.24	370	4.98	5.57	.59	-.40	.08	.2	2.3	2.5
31	25.11	36.25	24.27	367								

EASTWARD CRUISE 9 STATION 35 4/ IX/75 22.0 GMT CONSECUTIVE STATION 5

LAT. = 33 57.6N LONG. = 76 54.4W DEPTH = 37M DIST LAST STA = 19.4KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 246-254 DEGR	WAVE DIRECTION	= 246-254 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 4	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1014.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
0		35.86			4.91				.05	.2	3.1	4.0
9	28.34	35.81	22.91	496								
20	27.94	36.15	23.30	459	5.00	5.24	.24	-.57	.04	.2	2.9	5.0
30	27.18	36.17	23.56	435	4.81	5.33	.52	-.34	.06	.3	3.3	5.0

EASTWARD CRUISE 9 STATION 37 5/ IX/75 1.6 GMT CONSECUTIVE STATION 6

LAT. = 33 49.5N LONG. = 76 46.0W DEPTH = 46M DIST LAST STA = 19.8KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 246-254 DEGR	WAVE DIRECTION	= 246-254 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 4	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	23.55	36.12	23.08	479	4.75	5.18	.43	-.36	0.00	.1	3.1	
15	23.55	36.11	23.07	481								
19	23.18	36.11	23.19	470								
22	23.12	36.15	23.24	465	5.03	5.22	.19	-.61	0.00	.2	2.8	
42	23.10	36.18	23.27	463	4.78	5.22	.44	-.36	.05	.2	2.7	4.0

EASTWARD CRUISE 9 STATION 35 5/ IX/75 4.0 GMT CONSECUTIVE STATION 7

LAT. = 33 57.5N LONG. = 76 54.5W DEPTH = 37M DIST LAST STA = 19.8KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 246-254 DEGR	WAVE DIRECTION	= 246-254 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 4	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.55	35.96	22.96	491	4.81	5.18	.37	-.44	.07	.2	1.1	2.9
20	28.50	36.12	23.09	479	4.21	5.18	.97	.18	.02	.2	1.7	10.0
22	28.26	36.12	23.17	472								
32	27.98	36.17	23.30	460	4.71	5.24	.53	-.28	.01	.7	2.7	70.0

EASTWARD CRUISE 9 STATION 33 5/ IX/75 7.0 GMT CONSECUTIVE STATION 8

LAT. = 34 4.5N LONG. = 77 2.7W DEPTH = 33M DIST LAST STA = 18.1KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 286-294 DEGR	WAVE DIRECTION	= 286-294 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 4	CLOUD AMOUNT	=
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.00	36.06	23.21	467	5.00	5.24	.24	-.59	0.00	.2	2.5	
20	27.85	36.13	23.31	458	4.84	5.25	.41	-.41	.07	.2	2.1	2.9
27	25.90	36.22	24.01	392	4.71	5.48	.77	-.17	.07	.2	2.6	2.9

EASTWARD CRUISE 9 STATION 35 5/ IX/75 10.2 GMT CONSECUTIVE STATION 9

LAT. = 33 57.3N LONG. = 76 54.2W DEPTH = 37M DIST LAST STA = 18.7KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.42	36.17	23.16	472	4.71	5.19	.48	-.31	.05	.2	.8	4.0
20	28.44	36.16	23.14	474	4.65	5.19	.54	-.25	.05	.6	1.5	12.0
30	28.42	36.17	23.15	473	4.63	5.19	.56	-.23	.10	.6	1.6	6.0

EASTWARD CRUISE 9 STATION 14 5/ IX/75 13.6 GMT CONSECUTIVE STATION 10

LAT. = 34 16.3N LONG. = 76 39.2W DEPTH = 34M DIST LAST STA = 42.1KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	=
WEATHER CODE	= 4	CLOUD AMOUNT	=
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.78	35.79	23.08	479	4.66	5.26	.60	-.27	.02		1.8	
17	27.76	35.79	23.09	479								
20	27.01	36.06	23.53	437	4.70	5.35	.65	-.24	.05		2.7	
22	25.53	36.21	24.11	382								
27	25.47	36.25	24.16	377	4.65	5.53	.88	-.09	.05		3.4	
33	25.47	36.28	24.19	376								

EASTWARD CRUISE 9 STATION 15 5/ IX/75 14.7 GMT CONSECUTIVE STATION 11

LAT. = 34 12.0N LONG. = 76 35.0W DEPTH = 32M DIST LAST STA = 10.2KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.92	35.78	23.03	484	4.69	5.25	.56	-.31	.09		.8	
18	27.96	35.93	23.13	475								
20	27.75	36.01	23.26	463	4.70	5.27	.57	-.28	.09		.9	
26	25.98	36.23	23.99	393								
27	25.63	36.25	24.11	382	4.45	5.51	1.06	.11	.12		1.7	

EASTWARD CRUISE 9 STATION 16 5/ IX/75 16.8 GMT CONSECUTIVE STATION 12

LAT. = 34 8.0N LONG. = 76 30.8W DEPTH = 41M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.96	36.10	23.26	462	4.64	5.24	.60	-.22	.14		1.3	
24	27.77	36.11	23.33	456								
25	26.99	36.18	23.63	428	4.75	5.35	.60	-.27	.08		1.6	
27	25.62	36.18	24.06	387								
35	25.30	36.21	24.18	376	4.60	5.55	.95	-.03	.06		1.7	

EASTWARD CRUISE 9 STATION 26 5/ IX/75 17.4 GMT CONSECUTIVE STATION 13

LAT. = 34 .7N LONG. = 76 40.7W DEPTH = 41M DIST LAST STA = 20.3KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.58	36.06	23.02	485	4.74	5.17	.43	-.36	.01		2.6	
20	28.46	36.16	23.14	474	4.66	5.18	.52	-.26	.04		2.1	
35	28.44	36.16	23.14	475	4.73	5.19	.46	-.33	.02		2.8	

EASTWARD CRUISE 9 STATION 25 5/ IX/75 18.5 GMT CONSECUTIVE STATION 14

LAT. = 34 4.5N LONG. = 76 44.9W DEPTH = 39M DIST LAST STA = 9.5KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.42	35.80	22.88	498	4.70	5.19	.49	-.34	.04		1.3	
20	28.15	35.93	23.07	481	4.68	5.22	.54	-.29	.04		2.6	
26	26.70	35.97	23.56	435								
34	26.57	36.15	23.74	418	4.78	5.40	.62	-.28	.05		3.4	

EASTWARD CRUISE 9 STATION 24 5 IX/75 19.6 GMT CONSECUTIVE STATION 15

LAT. = 34 9.4N LONG. = 76 49.1W DEPTH = 36M DIST LAST STA = 11.1KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1017.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.28	36.02	23.09	478	4.74	5.21	.47	-.35	.04		2.6	
15	28.04	36.02	23.17	471	4.75	5.23	.48	-.34	.04		1.7	
19	26.88	36.15	23.64	427								
31	26.51	36.15	23.76	416	4.89	5.41	.52	-.39	.06		4.1	

EASTWARD CRUISE 9 STATION 23 5/ IX/75 21.0 GMT CONSECUTIVE STATION 16

LAT. = 34 12.9N LONG. = 76 53.3W DEPTH = 32M DIST LAST STA = 9.1KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.88	35.90	23.13	475	4.92	5.25	.33	-.52	.04		1.7	
15	27.65	35.89	23.20	468								
16	27.58	35.90	23.23	466	4.79	5.29	.50	-.37	.04		1.9	
21	25.54	36.23	24.12	381								
29	25.46	36.25	24.16	377	4.56	5.53	.97	.00	.08		2.7	

EASTWARD CRUISE 9 STATION 22 5/ IX/75 22.2 GMT CONSECUTIVE STATION 17

LAT. = 34 17.0N LONG. = 76 57.4W DEPTH = 30M DIST LAST STA = 9.9KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.94	35.93	23.13	475	4.60	5.24	.64	-.20	.04		2.6	
14	27.86	35.93	23.16	472								
16	27.79	35.92	23.18	470	4.76	5.26	.50	-.35	.04		2.5	
19	25.37	36.21	24.16	377								
27	25.30	36.23	24.20	373	4.77	5.55	.78	-.20	.05		2.5	

EASTWARD CRUISE 9 STATION 21 5/ IX/75 23.2 GMT CONSECUTIVE STATION 18

LAT. = 34 21.2N LONG. = 77 16.2W DEPTH = 26M DIST LAST STA = 29.8KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.74	35.80	23.10	477	4.74	5.27	.53	-.35	.01		1.6	
14	27.63	35.78	23.12	476								
15	27.59	35.74	23.11	477	4.74	5.29	.55	-.34	.04		1.6	
19	25.18	36.21	24.22	371								
24	25.12	36.22	24.25	369	5.21	5.58	.37	-.63	.09		1.6	

EASTWARD CRUISE 9 STATION 30 6/ IX/75 1.3 GMT CONSECUTIVE STATION 19

LAT. = 34 17.5N LONG. = 77 16.2W DEPTH = 23M DIST LAST STA = 6.9KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.82	35.94	23.18	470	4.72	5.26	.54	-.31	.04	.2	1.8	5.0
15	27.80	35.93	23.18	470								
17	27.42	35.95	23.32	457	4.79	5.30	.51	-.36	.03	.4	2.7	13.3
20	25.42	36.20	24.14	379	5.89	5.54	-.35	-1.33	.06	.2	1.3	3.3
22	25.38	36.20	24.15	378								

EASTWARD CRUISE 9 STATION 31 6/ IX/75 2.4 GMT CONSECUTIVE STATION 20

LAT. = 34 13.4N LONG. = 77 12.0W DEPTH = 27M DIST LAST STA = 10.0KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.62	35.96	23.26	462	4.70	5.28	.58	-.28	.04	.4	2.1	10.0
16	27.62	35.96	23.26	463								
18	27.46	35.99	23.34	455	4.84	5.30	.46	-.41	.04	.3	6.9	7.5
19	24.84	36.21	24.32	362								
25	24.82	36.21	24.33	361	4.82	5.61	.79	-.23	.07	.7	4.0	10.0

EASTWARD CRUISE 9 STATION 32 6/ IX/75 3.5 GMT CONSECUTIVE STATION 21

LAT. = 34 9.5N LONG. = 77 7.5W DEPTH = 31M DIST LAST STA = 10.0KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2F	PO4	NO3	SI	N/P
2	27.53	35.92	23.26	462	4.75	5.29	.54	-.33	.04	.3	2.5	7.5
16	27.52	35.91	23.26	463								
19	25.88	35.95	23.81	410	4.72	5.48	.76	-.21	.02	.3	1.9	15.0
23	24.87	36.22	24.32	362								
30	24.80	36.23	24.35	359	4.70	5.61	.91	-.10	.06	.6	1.6	10.0

EASTWARD CRUISE 9 STATION 33 6/ IX/75 4.2 GMT CONSECUTIVE STATION 22

LAT. = 34 5.4N LONG. = 77 3.2W DEPTH = 35M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.32	35.99	23.05	482	4.70	5.20	.50	-.31	.04	.2	2.7	5.0
20	28.00	36.08	23.23	466	4.72	5.24	.52	-.30	.04	.2	2.7	5.0
24	26.64	36.12	23.70	421								
32	26.46	36.18	23.80	412	4.73	5.41	.68	-.22	.11	.8	1.6	7.3

EASTWARD CRUISE 9 STATION 34 6/ IX/75 5.5 GMT CONSECUTIVE STATION 23

LAT. = 34 1.4N LONG. = 76 59.0W DEPTH = 37M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 176-184 DEGR	WAVE DIRECTION	= 176-184 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 4	CLOUD AMOUNT	=
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.50	36.07	23.06	481	4.63	5.18	.55	-.24	.04	.2	2.8	5.0
20	28.35	36.10	23.13	475	4.62	5.20	.58	-.22	.04	.2	2.6	5.0
29	26.77	36.14	23.67	424								
34	26.67	36.15	23.71	421	4.81	5.39	.58	-.32	.06	.4	2.6	6.7

EASTWARD CRUISE 9 STATION 35 6/ IX/75 6.6 GMT CONSECUTIVE STATION 24

LAT. = 33 57.4N LONG. = 76 54.9W DEPTH = 37M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 196-204 DEGR	WAVE DIRECTION	= 196-204 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 4	CLOUD AMOUNT	=
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.28	35.98	23.06	481	4.67	5.21	.54	-.28	.07	.2	1.3	2.9
18	28.32	36.02	23.08	480								
21	28.29	36.10	23.15	473	4.69	5.20	.51	-.29	.07	.2	1.1	2.9
29	27.36											
34	27.24	36.10	23.49	442	4.65	5.32	.67	-.19	.08	.5	1.5	6.3

EASTWARD CRUISE 9 STATION 36 6/ IX/75 8.5 GMT CONSECUTIVE STATION 25

LAT. = 33 53.2N LONG. = 76 50.4W DEPTH = 40M DIST LAST STA = 10.4KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 176-184 DEGR	WAVE DIRECTION	= 176-184 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	=
WEATHER CODE	= 4	CLOUD AMOUNT	=
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.62	36.16	23.08	479	4.69	5.17	.48	-.30	.05	.2	3.0	4.0
12	28.66	36.14	23.05	483								
18	28.23	36.18	23.21	468	4.65	5.20	.55	-.24	.04	.2	3.1	5.0
34	27.97	36.20	23.33	457								
37		36.20			4.72				.04	.2	5.9	5.0

EASTWARD CRUISE 9 STATION 46 6/ IX/75 10.5 GMT CONSECUTIVE STATION 26

LAT. = 33 45.9N LONG. = 77 .5W DEPTH = 39M DIST LAST STA = 20.6KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1015.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.56	36.14	23.09	478	4.66	5.17	.51	-.27	.04	.2	4.0	5.0
20	28.58	36.14	23.08	480	4.63	5.17	.54	-.24	.04	.4	4.4	10.0
21	28.56	36.16	23.10	478								
23	27.72	36.19	23.40	450								
36	27.64	36.23	23.46	445	4.70	5.28	.58	-.25	.04	.5	0.0	12.5

EASTWARD CRUISE 9 STATION 45 6/ IX/75 11.7 GMT CONSECUTIVE STATION 27

LAT. = 33 50.0N LONG. = 77 4.4W DEPTH = 37M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.21	35.98	23.08	479	4.63	5.21	.58	-.24	.02	.2	3.6	10.0
21	28.06	36.17	23.28	461	4.73	5.23	.50	-.31	.01	.2	2.9	20.0
22	28.05	36.17	23.28	461								
29	27.14	36.11	23.53	438								
34	27.06	36.11	23.56	435	4.58	5.34	.76	-.11	.05	.2	7.0	4.0

EASTWARD CRUISE 9 STATION 44 6/ IX/75 12.7 GMT CONSECUTIVE STATION 28

LAT. = 33 54.0N LONG. = 77 8.5W DEPTH = 34M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.04	36.01	23.16	472	4.65	5.23	.58	-.25	.04	.2	2.7	5.0
19	28.04											
20	27.98	36.02	23.19	470	4.71	5.24	.53	-.30	.03	.3	2.9	10.0
22	27.72	36.13	23.36	453								
31	27.66	36.16	23.40	450	4.68	5.27	.59	-.24	.03	.4	2.8	13.3

EASTWARD CRUISE 9 STATION 43 6/ IX/75 13.8 GMT CONSECUTIVE STATION 29

LAT. = 33 58.2N LONG. = 77 12.8W DEPTH = 32M DIST LAST STA = 10.2KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.25	35.98	23.07	480	4.62	5.21	.59	-.23	.05	.2	1.6	4.0
12	28.26	35.98	23.07	481								
14	27.51	36.04	23.36	453	4.73	5.29	.56	-.29	.04	.4	2.9	10.0
17	27.39	36.12	23.46	444								
30	26.78	36.16	23.68	423	4.77	5.38	.61	-.28	.08	.4	2.7	5.0

EASTWARD CRUISE 9 STATION 42 6/ IX/75 14.9 GMT CONSECUTIVE STATION 30

LAT. = 34 2.1N LONG. = 77 17.0W DEPTH = 32M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.31	35.96	23.04	483	4.63	5.20	.57	-.25	.05	.6	1.2	12.0
18	28.28	35.97	23.05	483								
20	27.07	36.11	23.55	435	4.87	5.34	.47	-.40	.04	.5	1.7	12.5
21	26.95	36.11	23.59	431								
30	26.79	36.12	23.65	426	4.72	5.37	.65	-.24	.09	.5	1.4	5.6

EASTWARD CRUISE 9 STATION 41 6/ IX/75 15.9 GMT CONSECUTIVE STATION 31

LAT. = 34 6.5N LONG. = 77 21.5W DEPTH = 27M DIST LAST STA = 10.7KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.89	35.72	22.99	488	4.66	5.25	.59	-.28	.01	.2	1.8	20.0
13	27.71	35.75	23.07	481								
16	25.74	36.20	24.04	388	4.59	5.50	.91	-.04	.08	.3	.9	3.8
24	25.69	36.19	24.05	388	4.58	5.51	.93	-.03	.09	.2	1.0	2.2

EASTWARD CRUISE 9 STATION 40 6/ IX/75 16.9 GMT CONSECUTIVE STATION 32

LAT. = 34 10.2N LONG. = 77 25.4W DEPTH = 23M DIST LAST STA = 9.1KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 31.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.86	35.77	23.04	483	4.71	5.25	.54	-.33	.04	.1	1.1	2.5
13	27.58	35.80	23.15	473	4.73	5.29	.56	-.33	.08	.2	.8	2.5
18	25.03	36.08	24.17	376								
20	24.97	36.16	24.25	368	4.93	5.59	.66	-.35	.12	.2	0.0	1.7

EASTWARD CRUISE 9 STATION 51 6/ IX/75 18.9 GMT CONSECUTIVE STATION 33

LAT. = 33 58.7N LONG. = 77 30.9W DEPTH = 24M DIST LAST STA = 22.9KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 31.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1015.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.56	35.93	22.93	494	4.86	5.18	.32	-.49	.07		1.1	
12	27.85	35.98	23.20	468								
14	26.79	36.02	23.57	433	4.73	5.38	.65	-.26	.08		1.4	
19	25.56	36.18	24.08	385								
21	25.48	36.18	24.11	382	4.70	5.53	.83	-.14	.12		1.6	

EASTWARD CRUISE 9 STATION 52 6/ IX/75 20.8 GMT CONSECUTIVE STATION 34

LAT. = 33 54.6N LONG. = 77 26.6W DEPTH = 27M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 196-204 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.41	35.88	22.94	493	4.70	5.19	.49	-.33	.06		1.1	
5	27.98											
17	27.74	36.13	23.35	454	4.90	5.27	.37	-.47	.03		4.4	
21	26.17	36.12	23.85	407								
24	26.10	36.13	23.87	405	4.86	5.46	.60	-.34	.12		1.8	

EASTWARD CRUISE 9 STATION 53 6/ IX/75 22.2 GMT CONSECUTIVE STATION 35

LAT. = 33 50.6N LONG. = 77 22.5W DEPTH = 30M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 196-204 DEGR	WAVE DIRECTION	= 196-204 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.43	35.68	22.79	507	4.61	5.19	.58	-.27	.08		1.6	
11	27.92											
15	27.61	35.88	23.20	468	4.72	5.28	.56	-.31	.08		1.6	
21	27.24	36.08	23.47	443								
27	27.19	36.08	23.49	441	4.70	5.33	.63	-.24	.09		1.7	

EASTWARD CRUISE 9 STATION 54 6/ IX/75 23.3 GMT CONSECUTIVE STATION 36

LAT. = 33 46.5N LONG. = 77 18.2W DEPTH = 35M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 4
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P
2	28.27	35.96	23.05	482	4.79	5.21	.42	-.40	.08		1.4	
8	28.05	35.97	23.13	475								
15	27.37	35.97	23.15	473	4.82	5.24	.42	-.42	.08		1.6	
21	26.89	36.04	23.56	434								
32	26.83	36.06	23.59	432	4.90	5.37	.47	-.43	.04		5.1	

EASTWARD CRUISE 9 STATION 55 7/ IX/75 .5 GMT CONSECUTIVE STATION 37

LAT. = 33 42.8N LONG. = 77 14.2W DEPTH = 36M DIST LAST STA = 9.2KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.46	36.03	23.04	483	4.70	5.19	.49	-.32	.01		6.0	
16	28.35	36.03	23.07	481	4.19	5.20	1.01	.20	0.00		5.5	
20	27.89	36.18	23.34	455								
34	27.83	36.18	23.36	454	4.93	5.26	.33	-.49	.02		2.8	

EASTWARD CRUISE 9 STATION 56 7/ IX/75 1.7 GMT CONSECUTIVE STATION 38

LAT. = 33 38.6N LONG. = 77 10.0W DEPTH = 37M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.61	36.11	23.05	482	4.70	5.17	.47	-.31	.08		1.3	
17	28.63	36.16	23.08	480	4.71	5.17	.46	-.32	0.00		1.9	
20	27.91	36.19	23.34	455								
35	27.86	36.20	23.36	454	4.75	5.25	.50	-.31	.01		2.7	

EASTWARD CRUISE 9 STATION 40 7/ IX/75 12.5 GMT CONSECUTIVE STATION 39

LAT. = 34 10.5N LONG. = 77 25.5W DEPTH = 24M DIST LAST STA = 63.7KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 316-324 DEGR	WAVE DIRECTION	= 316-324 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.61	35.70	23.07	480	4.80	5.28	.48	-.41	.08	.2	.8	2.5
14	27.59	35.74	23.11	477	4.85	5.29	.44	-.45	.04	.2	1.1	5.0
17	24.94	36.18	24.27	366								
22	24.89	36.20	24.30	364	4.70	5.60	.90	-.11	.17	.2	.6	1.2

EASTWARD CRUISE 9 STATION 42 7/ IX/75 14.3 GMT CONSECUTIVE STATION 40

LAT. = 34 2.3N LONG. = 77 16.8W DEPTH = 34M DIST LAST STA = 20.2KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.18	35.99	23.10	477	4.70	5.22	.52	-.31	.08	.1	1.5	1.3
10	28.13	35.97	23.10	478								
14	27.07	35.96	23.44	445	4.65	5.34	.69	-.20	.01	.1		10.0
15	26.86	36.13	23.63	427								
32	26.69	36.15	23.70	421	4.67	5.39	.72	-.18	.04	.2		5.0

EASTWARD CRUISE 9 STATION 40 7/ IX/75 17.3 GMT CONSECUTIVE STATION 41

LAT. = 34 10.6N LONG. = 77 25.5W DEPTH = 23M DIST LAST STA = 20.4KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 66- 74 DEGR	WAVE DIRECTION	= 66- 74 DEGR
AIR TEMP	= 31.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.87	35.67	22.96	491	4.54	5.25	.71	-.17	.01	.4		40.0
12	27.75	35.72	23.04	484	4.73	5.27	.54	-.35	.04	.1		2.5
13	27.74	35.74	23.06	482								
15	25.00	36.19	24.26	367								
20	24.97	36.19	24.27	367	4.71	5.59	.88	-.13	.05	.3		6.0

EASTWARD CRUISE 9 STATION 38 7/ IX/75 19.3 GMT CONSECUTIVE STATION 42

LAT. = 34 18.4N LONG. = 77 33.2W DEPTH = 15M DIST LAST STA = 18.7KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 31.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1017.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.27	35.62	22.79	507	4.90	5.21	.31	-.56	.02	.3	6.1	15.0
7	28.19	35.65	22.84	502								
11	27.76	35.62	22.96	491	5.05	5.27	.22	-.68	.04	.2	2.5	5.0
13	27.74	35.69	23.02	486	4.95	5.27	.32	-.57	.02	.5	1.2	25.0

EASTWARD CRUISE 9 STATION 40 7/ IX/75 22.3 GMT CONSECUTIVE STATION 43

LAT. = 34 10.5N LONG. = 77 25.3W DEPTH = 23M DIST LAST STA = 19.0KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1018.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.07	35.69	22.91	496	4.71	5.23	.52	-.35	.10	.2	.8	2.0
14	27.87	35.70	22.98	489	4.75	5.25	.50	-.38	.09	.2	1.7	2.2
18	25.12	36.12	24.17	376								
20	25.08	36.18	24.23	370	4.88	5.58	.70	-.30	.05	.4	0.0	8.0

EASTWARD CRUISE 9 STATION 42 8/ IX/75 1.4 GMT CONSECUTIVE STATION 44

LAT. = 34 2.5N LONG. = 77 16.7W DEPTH = 34M DIST LAST STA = 19.8KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1018.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	C2A	PO4	NO3	SI	N/P
2	28.09	35.92	23.00	487	4.80	5.23	.43	-.42	.02	.2	2.5	10.0
15	28.02	35.93	23.11	477								
16	27.95	35.91	23.12	476	4.66	5.24	.58	-.26	.04	0.0	5.4	
19	27.10	36.12	23.55	435								
32	26.69	36.14	23.70	421	5.10	5.39	.29	-.61	.11	.2	1.9	1.8

EASTWARD CRUISE 9 STATION 40 8/ IX/75 4.4 GMT CONSECUTIVE STATION 45

LAT. = 34 10.6N LONG. = 77 25.2W DEPTH = 24M DIST LAST STA = 19.9KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	DEA	PO4	NO3	SI	N/P
2	27.93	35.62	22.90	497	4.44	5.25	.81	-.08	.01	.2	1.1	20.0
14	27.79	35.67	22.99	488	4.65	5.26	.61	-.27	.04	.2	1.1	5.0
16	25.18	36.17	24.19	374								
21	25.09	36.19	24.23	370	4.85	5.58	.73	-.27	.07	.4	.7	5.7

EASTWARD CRUISE 9 STATION 38 8/ IX/75 6.5 GMT CONSECUTIVE STATION 46

LAT. = 34 18.4N LONG. = 77 33.1W DEPTH = 15M DIST LAST STA = 18.9KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 1	CLOUD AMOUNT	= 4
BAROMETRIC PRESSURE	= 1019.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.89	35.48	22.81	505	4.85	5.25	.40	-.50	.04	.2	1.0	5.0
6	27.95											
10	27.97	35.60	22.88	499	4.85	5.24	.39	-.49	.03	.5	2.1	16.7
11	27.97	35.62	22.89	498								
13	27.69	35.64	23.00	487	5.00	5.27	.27	-.62	.04	.3	1.6	7.5
15	27.41											

EASTWARD CRUISE 9 STATION 2 8/ IX/75 13.5 GMT CONSECUTIVE STATION 47

LAT. = 34 35.8N LONG. = 76 42.7W DEPTH = 19M DIST LAST STA = 83.5KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.76	35.86	23.14	474	4.68	5.27	.59	-.28	.08	.2		2.5
7	27.73	35.87	23.16	472	4.72	5.27	.55	-.32	.08	.2		2.5
16	27.69	35.87	23.17	471	4.39	5.27	.88	.02	.06	.2	4.6	3.3

EASTWARD CRUISE 9 STATION 3 8/ IX/75 14.5 GMT CONSECUTIVE STATION 48

LAT. = 34 31.8N LONG. = 76 38.5W DEPTH = 21M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.71	35.97	23.24	464	4.75	5.27	.52	-.33	.04		.7	
9	27.65	35.97	23.26	462	4.85	5.28	.43	-.43	.04		1.5	
19	27.46	35.98	23.33	456	5.05	5.30	.25	-.62	.06		1.2	

EASTWARD CRUISE 9 STATION 4 8/ IX/75 15.5 GMT CONSECUTIVE STATION 49

LAT. = 34 27.8N LONG. = 76 34.5W DEPTH = 19M DIST LAST STA = 9.6KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 4	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	C2A	PO4	NO3	SI	N/P
2	27.62	35.95	23.25	463	5.37	5.28	-.09	-.95	.03		1.2	
6	27.52	35.94	23.28	460								
10	26.99	35.99	23.49	441	5.15	5.35	.20	-.69	.05		1.3	
13	26.99	36.03	23.52	438								
17	26.89	36.04	23.56	434	5.12	5.36	.24	-.65	.07		3.8	

EASTWARD CRUISE 9 STATION 5 8/ IX/75 16.5 GMT CONSECUTIVE STATION 50

LAT. = 34 24.0N LONG. = 76 30.1W DEPTH = 17M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 4	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.41	35.93	23.31	457	4.28	5.30	1.02	.15	.03		2.2	
5	27.37	35.94	23.33	456								
8	27.09	36.01	23.47	442								
11	27.03	36.01	23.49	441	4.91	5.35	.44	-.45	.04		1.5	
14	27.03	36.01	23.49	441	5.21	5.35	.14	-.75	.02		2.8	

EASTWARD CRUISE 9 STATION 6 8/ IX/75 17.7 GMT CONSECUTIVE STATION 51

LAT. = 34 19.5N LONG. = 76 25.5W DEPTH = 27M DIST LAST STA = 10.9KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 176-184 DEGR	WAVE DIRECTION	= 176-184 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 7
WEATHER CODE	= 4	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.94	35.83	23.06	481	4.86	5.24	.38	-.47	.01		1.5	
6	27.82	35.82	23.09	479	4.98	5.26	.28	-.59	.05		6.3	
9	26.77	36.15	23.68	422								
24	26.31	36.18	23.85	407	4.85	5.43	.58	-.34	.04		3.3	

EASTWARD CRUISE 9 STATION 7 8/ IX/75 19.0 GMT CONSECUTIVE STATION 52

LAT. = 34 15.4N LONG. = 76 21.5W DEPTH = 35M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 176-184 DEGR	WAVE DIRECTION	= 176-184 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 6
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P
2	28.07	35.97	23.12	476	4.86	5.23	.37	-.46	.05		6.3	
17	27.79	35.98	23.22	467	4.75	5.26	.51	-.34	.06		1.7	
19	27.18	36.08	23.49	441								
32	27.12	36.09	23.52	439	4.73	5.34	.61	-.27	.06		1.6	

EASTWARD CRUISE 9 STATION 20 9/ IX/75 .8 GMT CONSECUTIVE STATION 53

LAT. = 34 25.1N LONG. = 77 6.0W DEPTH = 23M DIST LAST STA = 70.4KM

WEATHER DATA

WIND FORCE = .2	SEA STATE =
WIND DIRECTION = 216-224 DEGR	WAVE DIRECTION = 216-224 DEGR
AIR TEMP = 26.0C	CLOUD TYPE = 5
WEATHER CODE = 2	CLOUD AMOUNT = 8
BAROMETRIC PRESSURE = 1022.0 MB	VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.10	35.80	22.98	489	4.80	5.23	.43	-.43	.06	.1	1.4	1.7
14	28.06	35.87	23.05	483								
15	28.00	35.87	23.07	481	4.78	5.24	.46	-.39	.05	.2	1.6	4.0
18	26.17	36.14	23.86	406								
21	26.15	36.16	23.88	404	5.30	5.45	.15	-.73	.08	.1	.4	1.3

EASTWARD CRUISE 9 STATION 21 9/ IX/75 1.9 GMT CONSECUTIVE STATION 54

LAT. = 34 21.3N LONG. = 77 2.0W DEPTH = 27M DIST LAST STA = 9.3KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.96	35.88	23.09	478	4.73	5.24	.51	-.34	.04	0.0	2.2	
17	27.83	35.88	23.13	475	4.89	5.26	.37	-.49	.05	0.0	7.7	
18	27.82	35.89	23.14	474								
20	25.10	36.19	24.23	370								
25	25.05	36.21	24.26	368	4.90	5.58	.68	-.32	.08	0.0	3.2	

EASTWARD CRUISE 9 STATION 22 9/ IX/75 3.0 GMT CONSECUTIVE STATION 55

LAT. = 34 17.1N LONG. = 76 57.8W DEPTH = 31M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 286-294 DEGR	WAVE DIRECTION	= 286-294 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1022.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.06	35.86	23.04	483	4.70	5.23	.53	-.32	0.00	0.0	2.3	
19	27.85	35.87	23.12	476	4.77	5.25	.48	-.37	.02	0.0	1.9	
20	27.83	35.88	23.13	475								
22	25.03	36.21	24.27	367								
29	24.97	36.22	24.29	365	4.63	5.59	.96	-.04	.05	0.0	2.8	

EASTWARD CRUISE 9 STATION 23 9/ IX/75 4.1 GMT CONSECUTIVE STATION 56

LAT. = 34 13.0N LONG. = 76 53.2W DEPTH = 34M DIST LAST STA = 10.4KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 286-294 DEGR	WAVE DIRECTION	= 286-294 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1022.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.43	36.01	23.03	484	4.68	5.19	.51	-.30	.02	0.0	3.7	
20	28.12	36.01	23.14	474								
22	27.99	36.01	23.18	471	4.80	5.24	.44	-.39	.02	0.0	1.6	
25	26.60	36.12	23.71	420								
32	26.52	36.14	23.75	417	4.77	5.41	.64	-.27	.06	0.0	3.2	

EASTWARD CRUISE 9 STATION 24 9/ IX/75 5.4 GMT CONSECUTIVE STATION 57

LAT. = 34 9.0N LONG. = 76 49.0W DEPTH = 37M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 8	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.51	36.03	23.02	485	4.69	5.18	.49	-.31	.03	.1	2.7	3.3
20	28.23	36.08	23.15	473								
21	27.80	36.08	23.29	460	4.75	5.26	.51	-.33	.01	0.0	2.8	
34	27.47	36.15	23.45	445	4.80	5.30	.50	-.35	.04	.4	1.7	10.0

EASTWARD CRUISE 9 STATION 25 9/ IX/75 6.5 GMT CONSECUTIVE STATION 58

LAT. = 34 5.1N LONG. = 76 45.0W DEPTH = 40M DIST LAST STA = 9.5KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 176-184 DEGR	WAVE DIRECTION	= 176-184 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.20	35.91	23.03	484	4.71	5.22	.51	-.33	.04	0.0	1.6	
20	28.00	36.12	23.26	463	4.82	5.24	.42	-.40	.01	.1	2.6	10.0
37	27.85	36.13	23.31	459	4.65	5.25	.60	-.22	.03	.1	2.7	3.3

EASTWARD CRUISE 9 STATION 26 9/ IX/75 7.8 GMT CONSECUTIVE STATION 59

LAT. = 34 .8N LONG. = 76 40.7W DEPTH = 42M DIST LAST STA = 10.3KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 176-184 DEGR	WAVE DIRECTION	= 176-184 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1021.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.51	36.12	23.09	478	4.76	5.18	.42	-.37	.02	.2	3.5	10.0
16	28.52	36.12	23.09	479	4.86	5.18	.32	-.47	.02	.1	3.0	5.0
18	28.50	36.11	23.09	479								
23	27.75	36.19	23.39	451								
39	27.57	36.21	23.47	444	4.82	5.28	.46	-.37	.02	.2	3.0	10.0

EASTWARD CRUISE 9 STATION 40 9/ IX/75 14.5 GMT CONSECUTIVE STATION 60

LAT. = 34 10.4N LONG. = 77 25.5W DEPTH = 26M DIST LAST STA = 71.0KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 316-324 DEGR	WAVE DIRECTION	= 316-324 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.67	35.45	22.86	500	4.85	5.28	.43	-.49	.03		1.2	
13	27.71	35.69	23.03	485	4.80	5.27	.47	-.42	.05		.4	
16	24.95	36.15	24.25	368								
24	24.88	36.17	24.28	366	4.85	5.61	.76	-.27	.05		.3	

EASTWARD CRUISE 9 STATION 41 9/ IX/75 15.6 GMT CONSECUTIVE STATION 61

LAT. = 34 6.5N LONG. = 77 21.3W DEPTH = 29M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 316-324 DEGR	WAVE DIRECTION	= 316-324 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.92	35.73	22.99	488	5.01	5.25	.24	-.63	.04	.2	1.2	5.0
12	27.91	35.91	23.13	475								
14	27.17	36.02	23.45	445	4.83	5.33	.50	-.38	.07	.4	1.6	5.7
15	26.73	36.09	23.65	425								
27	26.60	36.13	23.72	419	4.73	5.40	.67	-.24	.05	.5	2.2	10.0

EASTWARD CRUISE 9 STATION 42 9/ IX/75 17.2 GMT CONSECUTIVE STATION 62

LAT. = 34 2.2N LONG. = 77 17.0W DEPTH = 34M DIST LAST STA = 10.3KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 316-324 DEGR	WAVE DIRECTION	= 316-324 DEGR
AIR TEMP	= 29.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.07	35.66	22.89	498	4.92	5.23	.31	-.56	.04	.2	1.6	5.0
15	27.88	35.75	23.02	486	4.80	5.25	.45	-.42	.04	.7	2.7	17.5
18	27.34	36.08	23.44	446								
31	27.27	36.08	23.47	443	4.60	5.32	.72	-.15	.06	.5	3.3	8.3

EASTWARD CRUISE 9 STATION 43 9/ IX/75 18.4 GMT CONSECUTIVE STATION 63

LAT. = 33 58.3N LONG. = 77 12.7W DEPTH = 33M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 356- 4 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.15	35.74	22.92	495	4.84	5.22	.38	-.47	.03	.2	3.8	6.7
18	27.99	36.01	23.18	470								
19	27.90	36.04	23.23	466	4.95	5.25	.30	-.53	.04	.2	2.5	5.0
23	27.01	36.04	23.52	438								
28	26.95	36.05	23.55	436	4.68	5.36	.68	-.21	.05	1.4	2.0	28.0

EASTWARD CRUISE 9 STATION 44 9/ IX/75 19.4 GMT CONSECUTIVE STATION 64

LAT. = 33 54.0N LONG. = 77 8.7W DEPTH = 34M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1021.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.67	36.00	22.95	492	4.81	5.16	.35	-.44	.03	.2	1.9	6.7
15	28.15	36.12	23.21	467	4.81	5.22	.41	-.40	.03	.4		13.3
31	28.13	36.15	23.24	465	4.81	5.22	.41	-.39	.01	.7	3.4	70.0

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EASTWARD CRUISE 9 STATION 45 9/ IX/75 20.4 GMT CONSECUTIVE STATION 65

LAT. = 33 50.2N LONG. = 77 4.6W DEPTH = 37M DIST LAST STA = 9.5KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 31.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 4
BAROMETRIC PRESSURE	= 1021.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	29.02	36.17	22.96	491	4.80	5.12	.32	-.43	.02	.1		5.0
18	28.47	36.22	23.18	470	4.95	5.18	.23	-.54	.03	1.5		50.0
33	26.76	36.24	23.75	417								
34	26.74	36.25	23.76	416	5.10	5.38	.28	-.60	.03	.2	2.7	6.7

EASTWARD CRUISE 9 STATION 46 9/ IX/75 21.5 GMT CONSECUTIVE STATION 66

LAT. = 33 46.0N LONG. = 77 .3W DEPTH = 40M DIST LAST STA = 10.2KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 4
BAROMETRIC PRESSURE	= 1020.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P
2	29.11	36.02	22.81	505	5.01	5.11	.10	-.66	.01	.1	2.2	10.0
10	28.97	36.00	22.85	502								
20	26.98	36.18	23.63	428	5.15	5.35	.20	-.67	.01	.3	4.0	30.0
31	25.15	36.30	24.30	364								
38	25.10	36.32	24.33	362	5.06	5.58	.52	-.47	.05	1.5	3.4	30.0

EASTWARD CRUISE 9 STATION 59 10/ IX/75 6.0 GMT CONSECUTIVE STATION 67

LAT. = 33 56.0N LONG. = 77 44.5W DEPTH = 20M DIST LAST STA = 70.5KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.27	35.45	22.67	519	5.09	5.21	.12	-.77	.04		2.2	
8	28.28	35.46	22.67	519	4.91	5.21	.30	-.59	.02		2.3	
10	28.27	35.46	22.67	519								
12	26.57	35.93	23.58	432								
17	26.42	35.99	23.67	424	5.12	5.42	.30	-.63	.09		8.3	

EASTWARD CRUISE 9 STATION 60 10/ IX/75 7.1 GMT CONSECUTIVE STATION 68

LAT. = 33 52.0N LONG. = 77 40.0W DEPTH = 25M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 1	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1021.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.06	35.70	22.92	495	5.00	5.23	.23	-.63	.02		2.6	
11	28.05	35.86	23.05	483	4.91	5.23	.32	-.52	.03		2.7	
12	28.04	35.96	23.12	476								
16	27.25	36.00	23.41	448								
22	27.03	36.04	23.51	439	4.74	5.35	.61	-.28	.10			

EASTWARD CRUISE 9 STATION 61 10/ IX/75   8.2 GMT CONSECUTIVE STATION 69

LAT. = 33 47.9N LONG. = 77 36.0W DEPTH = 26M DIST LAST STA =   9.8KM

WEATHER DATA

WIND FORCE	= 0	SEA STATE	=
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1021.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.79	36.00	23.24	464	4.82	5.26	.44	-.40	.02		2.5	
10	27.80	36.04	23.26	462	4.85	5.26	.41	-.43	.02		2.7	
12	27.78	36.00	23.24	464								
16	27.07	36.01	23.48	442								
23	26.96	36.06	23.55	435	4.91	5.36	.45	-.44	.05		3.0	

EASTWARD CRUISE 9 STATION 62 10/ IX/75 9.3 GMT CONSECUTIVE STATION 70

LAT. = 33 43.7N LONG. = 77 31.9W DEPTH = 30M DIST LAST STA = 10.0KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1021.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.79	36.04	23.27	461	4.95	5.26	.31	-.53	.02		3.0	
11	27.79	36.02	23.25	463								
14	27.71	36.13	23.36	453	5.20	5.27	.07	-.76	.02		3.0	
27	27.52	36.21	23.48	442	4.80	5.29	.49	-.34	.04		4.8	

EASTWARD CRUISE 9 STATION 63 10/ IX/75 10.5 GMT CONSECUTIVE STATION 71

LAT. = 33 39.6N LONG. = 77 27.6W DEPTH = 34M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 2	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1021.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P
2	28.53	36.14	23.10	477	4.67	5.18	.51	-.28	.03		3.2	
16	28.53	36.16	23.11	477	4.58	5.18	.60	-.18	.04		3.1	
18	28.49	36.12	23.10	478								
21	27.80	36.15	23.35	454								
31	27.68	36.20	23.42	448	4.73	5.27	.54	-.28	.04		3.4	

EASTWARD CRUISE 9 STATION 64 10/ IX/75 11.8 GMT CONSECUTIVE STATION 72

LAT. = 33 35.0N LONG. = 77 23.5W DEPTH = 34M DIST LAST STA = 10.6KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.49	36.11	23.09	478	4.86	5.18	.32	-.47	.02		1.9	
19	28.44	36.14	23.13	475	4.70	5.19	.49	-.30	.03		2.8	
21	28.41	36.14	23.14	474								
24	27.48	36.19	23.48	442								
31	27.36	36.20	23.53	438	4.95	5.31	.36	-.49	.02		3.5	

EASTWARD CRUISE 9 STATION 65 10/ IX/75 13.0 GMT CONSECUTIVE STATION 73

LAT. = 33 31.5N LONG. = 77 19.5W DEPTH = 37M DIST LAST STA = 9.0KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 31.0C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1021.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.45	36.12	23.11	476	4.84	5.19	.35	-.44	.03		13.4	
13	28.15											
17	26.90				4.90				.03		4.2	
19	26.15											
34	25.74	36.30	24.12	381	4.67	5.50	.83	-.11	.04		3.4	

EASTWARD CRUISE 9 STATION 66 10/ IX/75 14.3 GMT CONSECUTIVE STATION 74

LAT. = 33 27.5N LONG. = 77 15.0W DEPTH = 46M DIST LAST STA = 10.2KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1022.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.89	35.85	22.76	510	4.63	5.14	.51	-.29	.03		1.3	
16	28.81	35.92	22.84	503								
18	27.31	35.98	23.38	451	4.95	5.32	.37	-.51	.04		1.3	
28	26.42	36.20	23.83	409								
30	24.94	36.29	24.35	359	4.65	5.60	.95	-.05	.01		3.9	
34	24.39	36.30	24.53	342								
44	24.26	36.31	24.57	339	4.44	5.68	1.24	.19	.13		1.9	

EASTWARD CRUISE 9 STATION 46 10/ IX/75 22.3 GMT CONSECUTIVE STATION 75

LAT. = 33 46.1N LONG. = 77 .2W DEPTH = 41M DIST LAST STA = 41.4KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1020.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.66	36.08	23.01	486	4.66	5.16	.50	-.28	0.00	.2	2.8	
16	28.57	36.08	23.04	484	4.75	5.17	.42	-.37	0.00	.7	1.9	
23	27.26	36.19	23.55	435								
33	25.21	36.28	24.26	368								
40	25.07	36.32	24.34	361	4.54	5.58	1.04	.05	.04	1.5	4.3	37.5

EASTWARD CRUISE 9 STATION 148 11/ IX/75 .6 GMT CONSECUTIVE STATION 76

LAT. = 33 38.0N LONG. = 76 51.5W DEPTH = 61M DIST LAST STA = 20.1KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 5
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1021.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.93	35.85	22.75	511	4.65	5.14	.49	-.31	.01	.2	2.8	20.0
15	28.89	35.91	22.80	507								
20	28.08	36.07	23.19	470	4.78	5.23	.45	-.37	.01	.1	2.8	10.0
32	26.74	36.24	23.76	416								
55	26.48	36.26	23.85	408	4.64	5.41	.77	-.13	.04	.2	1.1	5.0

EASTWARD CRUISE 9 STATION 46 11/ IX/75 2.0 GMT CONSECUTIVE STATION 77

LAT. = 33 46.0N LONG. = 77 .3W DEPTH = 41M DIST LAST STA = 20.1KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 5
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1021.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.60	36.03	22.99	488	4.75	5.17	.42	-.37	.01	.2	2.2	20.0
22	28.52	36.01	23.00	488								
30	25.49	36.25	24.16	377	4.75	5.53	.78	-.19	.05	.2	2.8	4.0
33	25.22	36.30	24.28	366								
38	25.10	36.30	24.31	363	4.51	5.58	1.07	.08	.07	.7	3.7	10.0

EASTWARD CRUISE 9 STATION 44 11/ IX/75 5.0 GMT CONSECUTIVE STATION 78

LAT. = 33 54.2N LONG. = 77 8.5W DEPTH = 33M DIST LAST STA = 19.8KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 5
WEATHER CODE	= 1	CLOUD AMOUNT	= 4
BAROMETRIC PRESSURE	= 1021.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.23	36.25	23.28	460	4.80	5.21	.41	-.38	.02	.1	2.8	5.0
22	28.21	36.18	23.23	466	4.74	5.21	.47	-.32	.01	.2	2.3	20.0
26	27.86	36.20	23.36	454								
30	27.84	36.22	23.39	451	4.83	5.25	.42	-.39	.03	.2	2.8	6.7

EASTWARD CRUISE 9 STATION 46 11/ IX/75 8.6 GMT CONSECUTIVE STATION 79

LAT. = 33 46.2N LONG. = 77 .2W DEPTH = 38M DIST LAST STA = 19.6KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 106-114 DEGR	WAVE DIRECTION	= 106-114 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1020.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	ADU	O2A	PO4	NO3	SI	N/P
2	28.47	36.04	23.04	483	4.69	5.18	.49	-.31	.04	.3	3.1	7.5
18	28.46	36.04	23.05	483	4.57	5.19	.62	-.18	.01	.4	3.5	40.0
20	28.46	36.03	23.04	484								
26	27.39	36.19	23.51	439								
33	25.37	36.32	24.25	369	4.49	5.54	1.05	.09	.04	.5	2.8	12.5
35	25.19											

EASTWARD CRUISE 9 STATION 148 11/ IX/75 11.4 GMT CONSECUTIVE STATION 80

LAT. = 33 38.0N LONG. = 76 51.8W DEPTH = 61M DIST LAST STA = 20.0KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 106-114 DEGR	WAVE DIRECTION	= 106-114 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1020.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.60	35.89	22.89	498	4.52	5.17	.65	-.16	.02	.6	2.8	30.0
18	28.53	35.98	22.98	490								
21	28.19	36.11	23.19	470	4.61	5.22	.61	-.20	.11	.5	2.7	4.5
26	27.01	36.21	23.65	426								
56	26.48	36.25	23.85	408	5.40	5.41	.01	-.89	.03	.7	2.7	23.3

EASTWARD CRUISE 9 STATION 46 11/ IX/75 11.4 GMT CONSECUTIVE STATION 81

LAT. = 33 46.0N LONG. = 77 .2W DEPTH = 40M DIST LAST STA = 19.7KM

WEATHER DATA

WIND FORCE	= 3	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1021.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.39	36.04	23.07	480	5.50	5.19	-.31	-1.11	.02	.2	2.7	10.0
22	28.36	36.03	23.07	481								
31	26.62											
34	25.51	36.26	24.16	378	5.47	5.53	.06	-.91	.04	0.0	3.0	
36	25.22	36.27	24.25	369								
38	25.21	36.29	24.27	367	4.89	5.56	.67	-.31	.09	.4	1.8	4.4

EASTWARD CRUISE 9 STATION 44 11/ IX/75 17.5 GMT CONSECUTIVE STATION 82

LAT. = 33 54.2N LONG. = 77 8.5W DEPTH = 35M DIST LAST STA = 19.9KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1020.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	28.19	36.18	23.24	464	5.44	5.21	-.23	-1.02	.02	0.0	3.8	
15	28.19	36.18	23.24	465	5.52	5.21	-.31	-1.10	.02	.2	2.8	10.0
23	28.16	36.17	23.24	465								
27	27.94	36.18	23.32	457								
32	27.85	36.23	23.39	451	5.49	5.25	-.24	-1.05	.04	.7	2.5	17.5

EASTWARD CRUISE 9 STATION 46 11/ IX/75 20.3 GMT CONSECUTIVE STATION 83

LAT. = 33 46.1N LONG. = 77 .2W DEPTH = 401 DIST LAST STA = 19.7KM

WEATHER DATA

WIND FORCE	= 4	SEA STATE	=
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 28.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1019.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	28.44	36.04	23.05	482	5.44	5.19	-.25	-1.05	.01	.2	3.4	20.0
20	28.38	36.04	23.07	481								
22	27.96	36.06	23.23	466	5.83	5.24	-.59	-1.41	.04	.2	3.8	5.0
37	25.38	36.30	24.23	371	5.45	5.54	.09	-.87	.05	.5	4.3	10.0

EASTWARD CRUISE 9 STATION 13 12/ IX/75 21.8 GMT CONSECUTIVE STATION 84

LAT. = 34 20.0N LONG. = 76 43.5W DEPTH = 31M DIST LAST STA = 67.9KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1011.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.27	35.81	23.26	462	5.26	5.32	.06	-.84	.03		1.4	
17	27.26	35.84	23.29	460								
18	27.24	36.16	23.54	436	5.41	5.32	-.09	-.94	.04		1.2	
22	25.97	36.23	23.99	393								
28	25.90	36.29	24.06	387	5.21	5.48	.27	-.66	.05		1.9	

EASTWARD CRUISE 9 STATION 12 12/ IX/75 23.5 GMT CONSECUTIVE STATION 85

LAT. = 34 24.1N LONG. = 76 48.0W DEPTH = 26M DIST LAST STA = 10.3KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1011.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.19	35.86	23.33	455	5.29	5.33	.04	-.86	.01		2.2	
16	27.19	35.85	23.32	457								
19	25.44	36.18	24.12	381	4.97	5.54	.57	-.41	.07		3.6	
23	25.33	36.20	24.17	376	5.22	5.55	.33	-.65	.07		4.3	

EASTWARD CRUISE 9 STATION 11 13/ IX/75 .4 GMT CONSECUTIVE STATION 86

LAT. = 34 28.0N LONG. = 76 47.8W DEPTH = 24M DIST LAST STA = 7.2KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 27.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1011.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.26	35.89	23.33	455	5.38	5.32	-.06	-.95	.02		1.9	
15	27.24	35.89	23.33	456								
19	26.59	35.89	23.54	436	5.37	5.40	.03	-.90	.04		1.6	
22	25.70	36.18	24.04	389	5.82	5.50	-.32	-1.27	.06		1.6	

EASTWARD CRUISE 9 STATION 10 13/ IX/75 1.6 GMT CONSECUTIVE STATION 87

LAT. = 34 32.0N LONG. = 76 56.3W DEPTH = 20M DIST LAST STA = 15.0KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1012.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.28	35.92	23.34	455	5.48	5.32	-.16	-1.05	.02		2.3	
17	27.29	35.93	23.35	454	5.75	5.32	-.43	-1.32	.03		1.3	

EASTWARD CRUISE 9 STATION 9 13/ IX/75 3.7 GMT CONSECUTIVE STATION 88

LAT. = 34 36.0N LONG. = 77 .1W DEPTH = 16M DIST LAST STA = 9.4KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 216-224 DEGR	WAVE DIRECTION	= 216-224 DEGR
AIR TEMP	= 26.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1012.5 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.36	35.89	23.29	459	5.45	5.31	-.14	-1.03	.06		1.6	
13	27.36	35.89	23.29	460	5.28	5.31	.03	-.86	.07		1.9	

EASTWARD CRUISE 9 STATION 34 13/ IX/75 9.9 GMT CONSECUTIVE STATION 89

LAT. = 34 1.0N LONG. = 76 59.0W DEPTH = 36M DIST LAST STA = 64.9KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1013.5 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.84	36.16	23.34	455	5.00	5.25	.25	-.57	.03	.4	3.1	13.3
23	27.81	36.17	23.36	454	5.35	5.26	-.09	-.91	.01	.2	2.8	20.0
31	26.35	36.24	23.88	404								
33	26.26	36.25	23.92	400	4.99	5.44	.45	-.46	.04	.6	3.8	15.0

EASTWARD CRUISE 9 STATION 33 13/ IX/75 11.1 GMT CONSECUTIVE STATION 90

LAT. = 34 5.2N LONG. = 77 3.6W DEPTH = 33M DIST LAST STA = 10.5KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1013.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.40	36.03	23.39	450	5.00	5.30	.30	-.56	.04	.3	3.7	7.5
15	27.42	36.03	23.38	451	5.08	5.30	.22	-.64	.04	.2	3.1	5.0
30	27.40	36.02	23.38	452	4.88	5.31	.43	-.44	.04	.6	4.0	15.0

EASTWARD CRUISE 9 STATION 32 13/ IX/75 12.3 GMT CONSECUTIVE STATION 91

LAT. = 34 9.5N LONG. = 77 7.8W DEPTH = 29M DIST LAST STA = 10.2KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 24.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1014.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	27.20	35.86	23.32	456	5.15	5.33	.18	-.72	.04	0.0	3.8	
18	27.22	35.88	23.33	456	4.89	5.33	.44	-.46	.05	.1	3.2	2.0

EASTWARD CRUISE 9 STATION 31 13/ IX/75 13.4 GMT CONSECUTIVE STATION 92

LAT. = 34 13.3N LONG. = 77 12.0W DEPTH = 25M DIST LAST STA = 9.5KM

WEATHER DATA

WIND FORCE	= 5	SEA STATE	=
WIND DIRECTION	= 356- 4 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 23.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	26.98	35.81	23.36	453	4.95	5.35	.40	-.51	.05	.2	4.2	4.0
21	26.98	35.82	23.36	453	4.87	5.35	.48	-.43	.04	0.0	3.9	

EASTWARD CRUISE 9 STATION 30 13/ IX/75 14.5 GMT CONSECUTIVE STATION 93

LAT. = 34 17.4N LONG. = 77 16.4W DEPTH = 23M DIST LAST STA = 10.2KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 21.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	26.77	35.71	23.35	454	4.83	5.38	.55	-.40	.05	.5	3.3	10.0
16	26.78	35.74	23.37	452								
19	25.99											
20	25.98	36.07	23.87	405	4.58	5.47	.89	-.06	.09	.4	3.1	4.4

EASTWARD KRUISE 9 STATION 29 13/ IX/75 15.5 GMT CONSECUTIVE STATION 94

LAT. = 34 20.5N LONG. = 77 20.3W DEPTH = 18M DIST LAST STA = 8.3KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 18.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1018.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	26.42	35.81	23.53	436	5.15	5.42	.27	-.69	.04		.7	
13	26.41	35.80	23.53	437								
15	26.33	35.85	23.59	431	5.12	5.43	.31	-.65	.04		.9	
17	25.69											

EASTWARD CRUISE 9 STATION 54 13/ IX/75 22.5 GMT CONSECUTIVE STATION 95

LAT. = 33 46.5N LONG. = 77 18.6W DEPTH = 30M DIST LAST STA = 63.1KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 19.0C	CLOUD TYPE	=
WEATHER CODE	=	CLOUD AMOUNT	=
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.02	36.17	23.61	429	4.98	5.35	.37	-.50	.03		3.8	
15	27.03	36.16	23.60	430	4.97	5.35	.38	-.50	.03		2.9	
25	27.03	36.16	23.60	431	4.89	5.35	.46	-.42	.04		3.9	
30	26.77	36.19	23.71	420								

EASTWARD CRUISE 9 STATION 53 13/ IX/75 23.7 GMT CONSECUTIVE STATION 96

LAT. = 33 50.5N LONG. = 77 22.8W DEPTH = 28M DIST LAST STA = 9.8KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 19.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.34	36.17	23.51	438	4.94	5.31	.37	-.48	.04		2.8	
14	27.37	36.17	23.50	440	4.86	5.31	.45	-.40	.05		3.6	
25	27.38	36.18	23.50	440	4.99	5.31	.32	-.53	.03		2.9	

EASTWARD CRUISE 9 STATION 52 14/ IX/75 .9 GMT CONSECUTIVE STATION 97

LAT. = 33 54.6N LONG. = 77 27.3W DEPTH = 28M DIST LAST STA = 10.3KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 21.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1018.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	27.49	36.11	23.42	447	4.97	5.29	.32	-.52	.08		3.7	
23	27.48	36.13	23.43	447	4.97	5.30	.33	-.52	.03		3.2	
27	27.48	36.12	23.43	447								

EASTWARD CRUISE 9 STATION 51 14/ IX/75 2.0 GMT CONSECUTIVE STATION 98

LAT. = 33 58.6N LONG. = 77 31.2W DEPTH = 25M DIST LAST STA = 9.5KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 21.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1019.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2/	AOU	O2A	PO4	NO3	SI	N/P
2	26.86	36.02	23.55	434	4.77	5.37	.60	-.30	.04		5.4	
18	26.86	36.02	23.55	435	4.86	5.37	.51	-.39	.04		4.8	
23	26.86	36.02	23.55	435								

EASTWARD CRUISE 9 STATION 50 14/ IX/75 3.0 GMT CONSECUTIVE STATION 99

LAT. = 34 2.6N LONG. = 77 35.3W DEPTH = 21M DIST LAST STA = 9.7KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 21.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1019.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	26.81	36.01	23.56	434	5.25	5.37	.12	-.78	.04		4.7	
17	26.83	35.99	23.54	436	4.93	5.37	.44	-.46	.05		3.9	

EASTWARD CRUISE 9 STATION 49 14/ IX/75 4.1 GMT CONSECUTIVE STATION100

LAT. = 34 7.0N LONG. = 77 39.2W DEPTH = 20M DIST LAST STA = 10.1KM

WEATHER DATA

WIND FORCE	= 6	SEA STATE	=
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 21.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1019.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	SVA	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P
2	26.46	35.75	23.48	441	4.62	5.42	.80	-.16	.12	.4	4.6	3.3
17	26.48	35.76	23.48	442	4.73	5.41	.68	-.27	.10	.6	6.3	6.0