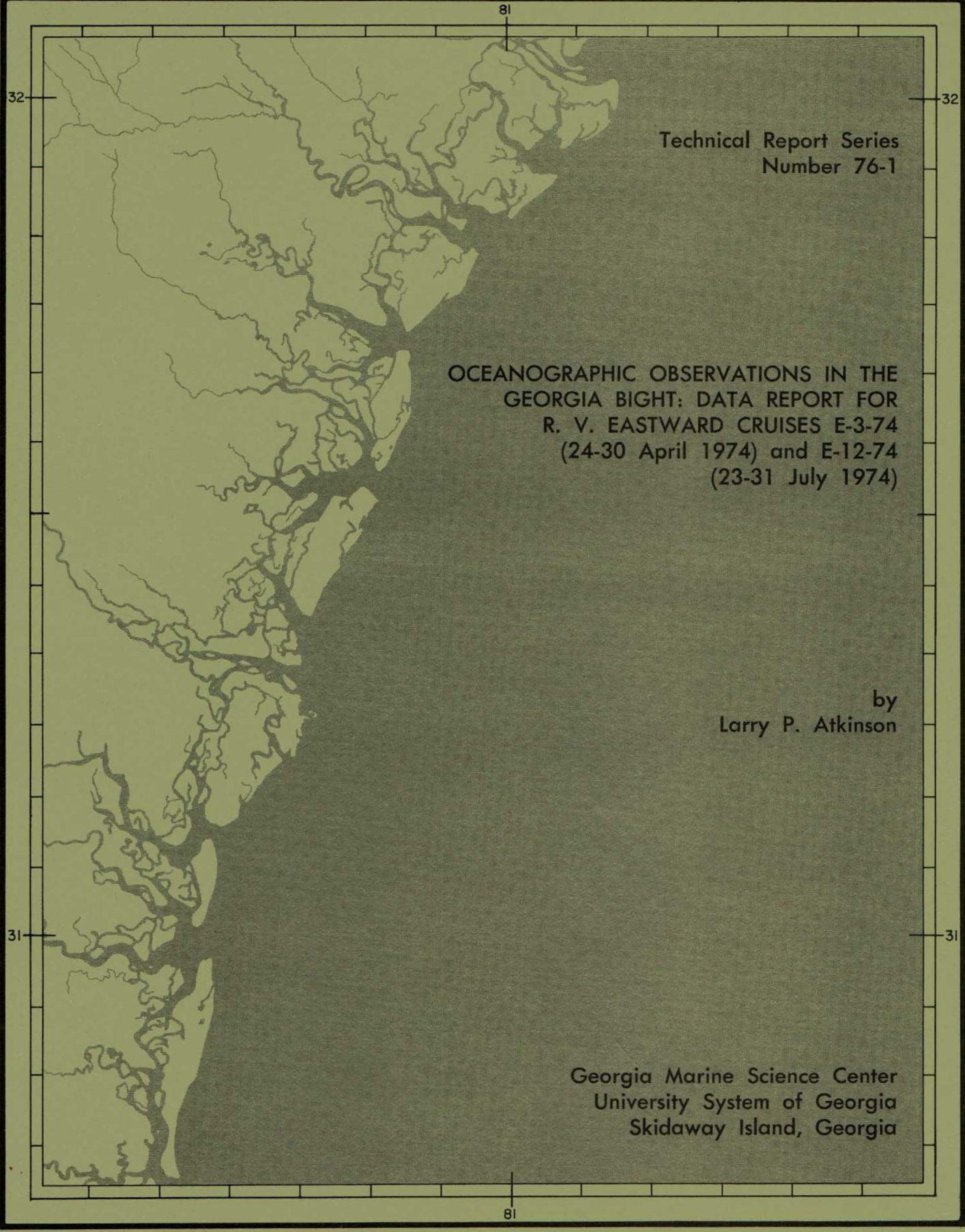




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OCEANOGRAPHIC OBSERVATIONS IN THE
GEORGIA BIGHT: DATA REPORT FOR
R. V. EASTWARD CRUISES E-3-74
(24-30 April 1974) and E-12-74
(23-31 July 1974)

by
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AND

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ABSTRACT

Data from Cruise E-3-74 (24-30 April 1974) and Cruise E-12-74 (23-31 July 1974) of the R. V. EASTWARD in the Georgia Bight are presented. Included are the NODC station printouts with the following data: depth, temperature, salinity, oxygen, phosphate, nitrate, silicate, dissolved organic carbon, weather, ship's position, station time and depth. Biological data include: chlorophyll, carbon-¹⁴ primary productivity, particulate carbon and nitrogen, principal zooplankton species and main benthic macroinvertebrates. Sediment size analysis and mercury analysis are also included.

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Zooplankton	Dr. Lowell Sick
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Benthos	Dr. John Kraeuter
Dissolved Organic Carbon	Dr. Wayne Gardner
Particulate Organic Carbon	
& Particulate Nitrogen	Dr. Ev Haines
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E-3-74

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John Kraeuter	Vicki Wray
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E-12-74

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INTRODUCTION

As part of a study of the biology, chemistry, physics and geology of the Georgia Bight and its waters, a survey of the area was made in April and July 1974, on board the R. V. EASTWARD (Cruises E-3-74 and E-12-74). The stations are shown in Figure 1. All data available from Cruises E-3-74 and E-12-74 are shown in Appendices A and B, respectively.

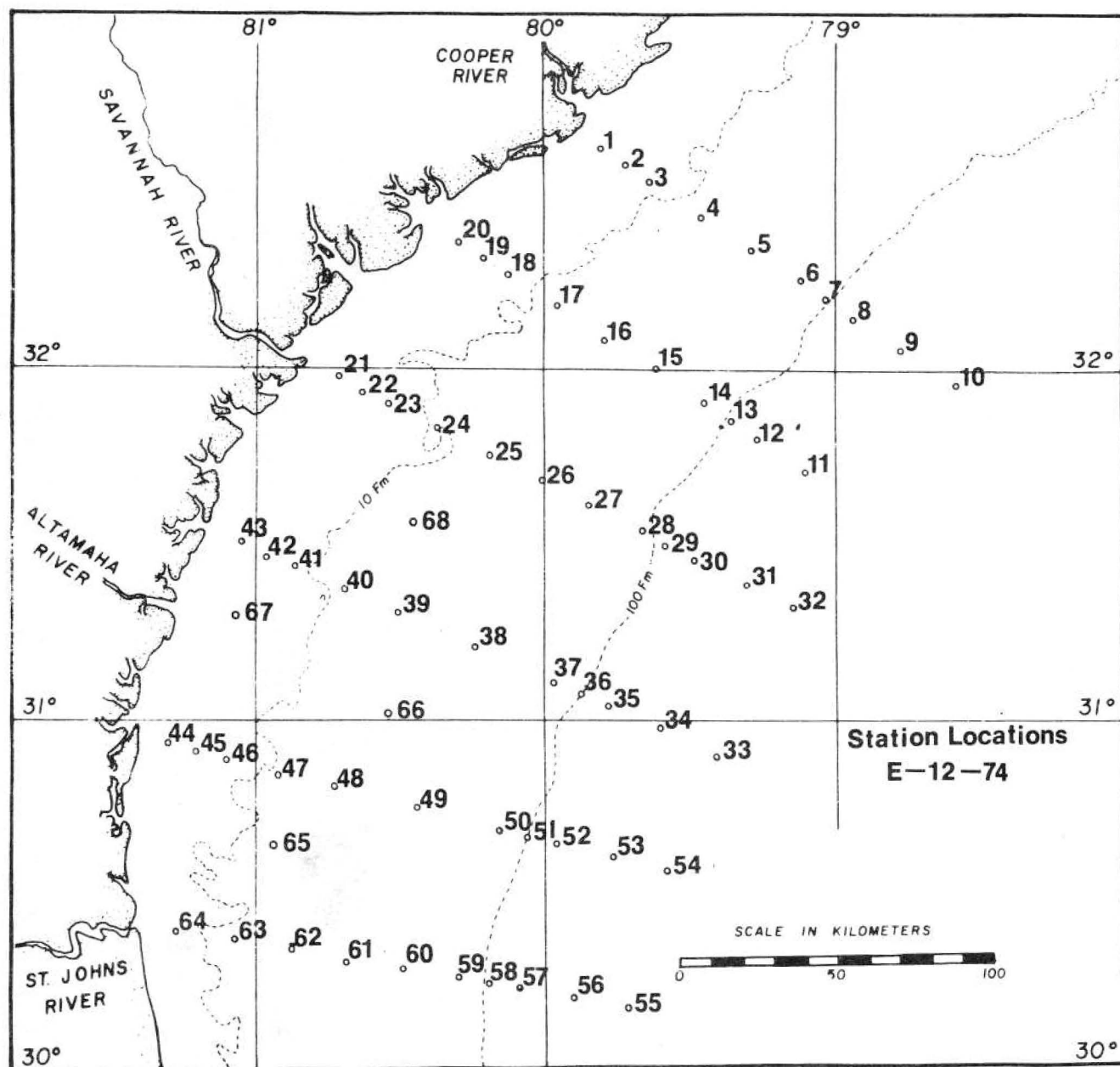


Figure 1

Table 1. Station List.

STATION SUMMARY FOR EASTWARD CRUISE E-3-74

STATION	LATITUDE		LONGITUDE		YR	MN	DAY	HOUR	DEPTH M	CONSEC NUMBER
1	32	37.7N	79	47.6W	74	4	24	21.7	8	1
2	32	25.0N	79	42.7W	74	4	24	23.5	17	2
3	32	32.5N	79	38.2W	74	4	25	.6	20	3
4	32	27.0N	79	28.5W	74	4	25	2.2	20	4
5	32	21.3N	79	18.0W	74	4	25	4.9	32	5
6	32	16.7N	79	9.6W	74	4	25	6.5	46	6
7	32	14.0N	79	4.6W	74	4	25	8.7	80	7
8	32	10.8N	78	58.6W	74	4	25	10.8	180	8
9	32	5.2N	78	49.0W	74	4	25	14.1	326	9
10	32	0.0N	78	38.9W	74	4	25	16.9	394	10
11	31	48.8N	79	7.5W	74	4	25	23.8	550	11
12	31	48.5N	79	18.3W	74	4	26	2.5	182	12
13	31	51.5N	79	22.8W	74	4	26	3.9	92	13
14	31	54.2N	79	28.3W	74	4	26	5.6	60	14
15	31	59.5N	79	37.8W	74	4	26	7.3	39	15
16	32	5.0N	79	47.4W	74	4	26	9.2	25	16
17	32	10.5N	75	57.0W	74	4	26	11.0	15	17
18	32	16.0N	80	7.0W	74	4	26	12.6	17	18
19	32	19.0N	80	11.3W	74	4	26	13.2	15	19
20	32	21.5N	80	16.3W	74	4	26	14.2	14	20
21	31	57.7N	80	43.3W	74	4	26	19.0	17	21
22	31	55.9N	80	38.9W	74	4	26	20.1	17	22
23	31	53.9N	80	33.7W	74	4	26	20.9	15	23
24	31	48.4N	80	23.2W	74	4	26	22.4	21	24
25	31	45.0N	80	12.1W	74	4	27	.2	31	25
26	31	40.5N	80	2.5W	74	4	27	2.4	42	26
27	31	36.7N	79	53.0W	74	4	27	4.2	44	27
28	31	31.9N	79	41.5W	74	4	27	6.1	75	28
29	31	29.5N	79	36.3W	74	4	27	7.8	180	29
30	31	28.4N	79	31.2W	74	4	27	9.6	290	30
31	31	23.5N	79	22.0W	74	4	27	11.4	475	31
32	31	20.0N	79	10.2W	74	4	27	13.9	470	32
33	30	56.0N	79	24.5W	74	4	27	20.4	760	33
34	30	.6N	79	36.0W	74	4	27	23.3	530	34
35	31	5.0N	79	47.0W	74	4	28	2.3	250	35
36	31	5.0N	79	52.9W	74	4	28	4.5	95	36
37	31	7.0N	79	58.8W	74	4	28	6.2	43	37
38	31	12.5N	80	14.5W	74	4	28	8.8	38	38
39	31	18.2N	80	30.0W	74	4	28	11.4	33	39
40	31	23.2N	80	44.2W	74	4	28	13.3	20	40
41	31	25.7N	80	52.3W	74	4	28	14.7	19	41
42	31	27.5N	80	57.0W	74	4	28	15.7	12	42
43	31	29.5N	80	57.0W	74	4	28	16.6	12	43
43	31	12.2N	81	4.5W	74	4	28	19.0	13	44
44	30	55.8N	81	17.0W	74	4	28	21.8	11	45

Table 1. (continued)

STATION SUMMARY FOR EASTWARD CRUISE E-3-74 (CONTD)										
STATION	LATITUDE		LONGITUDE		YR	MN	DAY	HOUR	DEPTH M	CONSEC NUMBER
45	30	55.0N	81	12.9W	74	4	28	22.6	14	46
46	30	53.9N	81	7.0W	74	4	28	23.6	15	47
47	30	51.2N	80	54.5W	74	4	29	1.1	23	48
48	30	49.7N	80	44.2W	74	4	29	2.7	29	49
49	30	46.0N	80	27.5W	74	4	29	5.3	39	50
50	30	42.8N	80	10.4W	74	4	29	7.3	49	51
51	30	42.2N	80	5.5W	74	4	29	8.8	66	52
53	30	14.0N	30	13.0W	74	4	29	13.6	72	53
59	30	15.0N	80	18.7W	74	4	29	15.1	46	54
60	30	16.3N	80	30.0W	74	4	29	16.4	30	55
61	30	18.5N	80	40.4W	74	4	29	17.8	30	56
62	30	20.2N	80	52.0W	74	4	29	19.1	26	57
63	30	22.1N	81	3.9W	74	4	29	20.6	24	58
64	30	24.0N	81	14.9W	74	4	29	22.2	17	59
65	30	42.6N	81	18.0W	74	4	30	1.0	11	60
66	31	3.5N	81	0.0W	74	4	30	4.5	14	61
67	31	41.0N	80	41.0W	74	4	30	11.0	14	62
68	31	59.0N	80	7.5W	74	4	30	19.5	22	63

Table 1. (continued)

STATION SUMMARY FOR EASTWARD CRUISE E-12-74										
STATION	LATITUDE		LONGITUDE		YR	MM	DAY	HOUR	DEPTH M	CONSEC NUMBER
1	32	38.0N	79	47.0W	74	7	23	12.8	12	1
2	32	35.0N	79	42.5W	74	7	23	14.5	15	2
3	32	32.0N	79	38.0W	74	7	23	16.0	20	3
4	32	26.7N	79	27.8W	74	7	23	18.2	19	4
5	32	21.4N	79	17.9W	74	7	23	20.0	36	5
6	32	16.5N	79	9.2W	74	7	23	21.5	52	6
7	32	14.0N	79	4.0W	74	7	23	23.0	70	7
8	32	11.0N	78	58.5W	74	7	24	1.0	200	8
9	32	6.0N	78	48.3W	74	7	24	4.6	400	9
10	32	0.0N	78	38.6W	74	7	24	6.9	390	10
11	31	43.4N	79	8.0W	74	7	24	14.2	552	11
12	31	49.1N	79	17.1W	74	7	24	16.5	205	12
13	31	52.2N	79	23.8W	74	7	24	19.5	88	13
14	31	54.6N	79	27.5W	74	7	24	21.1	65	14
15	32	.3N	79	37.5W	74	7	24	22.7	40	15
16	32	6.0N	79	47.0W	74	7	25	1.1	27	16
17	32	11.5N	79	57.5W	74	7	25	3.0	20	17
18	32	17.3N	80	8.1W	74	7	25	4.7	18	18
19	32	19.3N	80	11.7W	74	7	25	5.6	17	19
20	32	22.1N	80	16.2W	74	7	25	6.9	13	20
21	31	57.0N	80	42.5W	74	7	25	12.1	14	21
22	31	55.0N	80	39.8W	74	7	25	13.9	12	22
23	31	53.0N	80	34.2W	74	7	25	15.2	15	23
24	31	48.5N	80	23.7W	74	7	25	19.7	20	24
25	31	44.2N	80	13.0W	74	7	25	21.5	31	25
26	31	39.6N	80	3.1W	74	7	25	23.1	41	26
27	31	36.0N	79	53.7W	74	7	26	.6	41	27
28	31	31.5N	79	43.0W	74	7	26	3.0	68	28
29	31	29.5N	79	38.5W	74	7	26	4.7	145	29
30	31	28.0N	79	32.5W	74	7	26	7.0	255	30
31	31	25.5N	79	21.0W	74	7	26	9.7	480	31
32	31	19.5N	79	10.5W	74	7	26	12.5	465	32
33	30	54.6N	79	25.5W	74	7	26	20.1	750	33
34	31	.5N	79	35.5W	74	7	26	23.4	555	34
35	31	2.5N	79	48.0W	74	7	27	2.1	285	35
36	31	4.3N	79	53.5W	74	7	27	3.8	145	36
37	31	6.6N	79	59.1W	74	7	27	7.0	45	37
38	31	12.4N	80	15.5W	74	7	27	9.8	37	38
39	31	18.0N	80	30.0W	74	7	27	12.6	32	39
40	31	21.8N	80	41.5W	74	7	27	15.7	20	40
41	31	25.6N	80	52.5W	74	7	27	17.3	17	41
42	31	37.5N	80	57.5W	74	7	27	18.4	15	42
43	31	29.5N	81	3.0W	74	7	27	19.5	13	43
44	30	55.4N	81	17.5W	74	7	28	1.6	9	44
45	30	54.5N	81	13.4W	74	7	28	2.8	13	45

Table 1. (continued)

STATION SUMMARY FOR EASTWARD CRUISE E-12-74 (CONTD)

STATION	LATITUDE	LONGITUDE	YR	MM	DY	HOUR	DEPTH M	CONSEC NUMBER
46	30 53.1N	81 7.0W	74	7	28	4.5	14	46
47	30 50.5N	80 55.0W	74	7	28	6.5	21	47
48	30 48.7N	80 44.5W	74	7	28	9.2	28	48
49	30 45.0N	80 28.0W	74	7	28	11.9	38	49
50	30 41.5N	80 11.0W	74	7	28	14.5	45	50
51	30 40.2N	80 5.5W	74	7	28	16.3	115	51
52	30 39.0N	79 59.5W	74	7	28	18.5	243	52
53	30 38.5N	79 49.0W	74	7	28	22.2	480	53
54	30 25.8N	79 57.0W	74	7	29	1.6	710	54
55	30 11.0N	79 43.5W	74	7	29	8.1	870	55
56	30 13.6N	79 55.0W	74	7	29	12.2	550	56
57	30 12.3N	80 0.0W	74	7	29	14.9	290	57
58	30 14.0N	80 13.0W	74	7	29	16.6	114	58
59	30 15.0N	80 18.6W	74	7	29	18.3	47	59
60	30 16.8N	80 30.0W	74	7	29	20.4	35	60
61	30 18.4N	80 41.2W	74	7	29	22.4	27	61
62	30 20.1N	80 52.3W	74	7	30	.8	25	62
63	30 21.8N	81 4.5W	74	7	30	3.4	21	63
64	30 23.1N	81 15.5W	74	7	30	5.9	11	64
65	30 35.2N	80 52.5W	74	7	30	10.1	25	65
66	31 0.0N	80 28.0W	74	7	30	15.5	30	66
67	31 16.4N	81 7.6W	74	7	30	20.2	10	67
68	31 31.5N	80 28.0W	74	7	31	3.0	22	68

DISPOSITION OF DATA

The hydrographic data (salinity, temperature, nitrate, phosphate, silicate and oxygen) are on file with the National Oceanographic Data Center in Washington, D. C. and at the Skidaway Institute of Oceanography. The biological, geological and chemical data are available from Skidaway Institute of Oceanography.

METHODS

Hydrographic casts were made with teflon-lined Nansen bottles fitted with reversing thermometers. Sampling depths were determined using normal wire out, wire angle and thermometric depth techniques. A bathythermograph cast was made prior to each station to determine bottle spacing. Drift bottles were released at selected stations. They were made from green wine bottles weighted with sand and corked. They each contained a Day-Glo card requesting return of the card. Samples for chlorophyll, carbon-¹⁴ primary productivity, particulate organic carbon and particulate nitrogen were obtained by a separate cast using Niskin bottles. Reported weather observations were taken from the bridge log and represent the deck officer's observations. The other analytical methods were as follows:

Table 2. Analytical Methods

<u>Analysis</u>	<u>Methods</u>
Salinity	Portable High Precision Laboratory Salinometer
Oxygen	Standard Winkler Titration (Strickland and Parsons 1965)
Phosphate	Reduced phosphomolybdate (<i>ibid</i>)
Silica	Reduced silicomolybdate (<i>ibid</i>)
Nitrate	Hydrazine reduction (<i>ibid</i> , 1960)
Dissolved Organic Carbon	Persulfate oxidation/IR analysis (Menzel & Vaccaro, 1964)
Particulate Organic Carbon	High temperature combustion (<i>ibid</i>)
Particulate Nitrogen	Micro-Dumas/Coleman analyzer
Chlorophyll	<i>in vitro</i> fluorimetric (Yentsch & Menzel, 1963)
Primary Productivity	Carbon- ¹⁴ assimilation (Steeman Nielson, 1952)

Methods for the benthic samples are as follows:

Sediments: Sediment samples were taken with a box dredge, and a small subsample was removed, placed in a plastic bag and returned to the laboratory for grain size analysis. All sieve fractions were dried and kept separate after the standard analysis. These fractions were then acidified and reweighed to remove carbonates. Grain size of the samples with large amounts of silts and clays was determined by pipette analysis.

The organic sample was placed in a plastic container and immediately frozen. These samples remained frozen until they were cut into cubes in the laboratory. Four cubes were selected from each sample, dried at 60°C, weighed, ashed at 500°C, weighed and ash free dry weight was determined.

Benthos: Benthic invertebrates were sampled with a modified anchor dredge fitted with a 2m tail encased in stainless 4mm wire. All trawls were for two minutes, and samples were preserved in ethanol. When large amounts of sediment were brought up, the sample was divided into one-third or one-fourth size subsamples and an appropriate amount saved. The remaining subsamples were sorted for larger organisms such as clams, starfish, sand dollars and crabs. These specimens were counted, placed in the sample and their numbers were recorded. All sorting was done in the laboratory. Supplemental data and specimens were obtained from otter trawls.

Mercury: Water samples for mercury analysis were collected from the upper two meters by pumping with a peristaltic pump using polypropylene tubing attached to a 10 meter non-metallic boom. This allowed samples to be collected uncontaminated by the ship. Samples collected in PVC Niskin bottles using the ship's hydro winches were found to be contaminated giving spurious high values. Water samples were collected in Pyrex BOD bottles and acidified with concentrated sulfuric acid to a pH of less than 1.

Prior to analysis samples were further oxidized with nitric acid, potassium permanganate and potassium disulfate. This was followed by reduction of the mercury in the sample to its zero valance state with stannous sulfate. The mercury vapor was then aerated using a peristaltic pump into the mercury analyzer system (Laboratory Data Control). Sample absorption was compared to standards prepared in a similar way. Based on replicate seawater analyses the analytical precision for mercury is $\pm 10\%$ at a concentration of 35 ng/l.

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APPENDICES

APPENDIX A

Cruise E-3-74 Data

RUNOFF AND WEATHER

The observed weather at each station is listed with the hydrographic data. Prior to the cruise the Georgia Bight was influenced by a weak high in the Sargasso Sea but on the 22nd and 23rd of April a cold front associated with a high in the northern U. S. passed through the area. On 24, 25, 26, 27, and 28 April the high moved to a center over Cape Hatteras. The high then recentered over Florida on 30 April while steadily weakening.

River flows from the principal rivers (Altamaha, Savannah, Cooper) are summarized in the following table:

Table 1. River flow data for principal rivers. Average daily flow rates (km^3/day) are shown.

Date	Altamaha	Savannah	Cooper	Total
24 March	.0289	.0264	.0396	.0949
25	.0303	.0269	.0433	.1005
26	.0321	.0272	.0404	.0997
27	.0335	.0272	.0414	.1021
28	.0352	.0274	.0443	.1069
29	.0372	.0279	.0433	.1084
30	.0389	.0279	.0433	.1011
31	.0404	.0279	.0426	.1109
1 April	.0413	.0289	.0350	.1057
2	.0428	.0299	.0321	.1048
3	.0431	.0289	.0281	.1011
4	.0423	.0272	.0203	.0898
5	.0421	.0279	.0220	.0920
6	.0414	.0294	.0260	.0968
7	.0409	.0308	.0308	.1025
8	.0411	.0328	.0259	.0998
9	.0421	.0348	.0323	.1092
10	.0433	.0370	.0333	.1136
11	.0453	.0389	.0305	.1147
12	.0482	.0411	.0300	.1193
13	.0419	.0445	.0290	.1254
14	.0577	.0502	.0167	.1246
15	.0466	.0570	.0247	.1485
16	.0788	.0631	.0285	.1704
17	.0908	.0678	.0295	.1881
18	.0976	.0697	.0195	.1868
19	.0996	.0685	.0311	.1992
20	.0964	.0651	.0314	.1929
21	.0898	.0609	.0427	.1934
22	.0817	.0565	.0408	.1790
23	.0974	.0529	.0242	.1745
24	.0641	.0477	.0128	.1246
25	.0548	.0399	.0180	.1127
26	.0458	.0325	.0134	.0917
27	.0387	.0281	.0210	.0878
28	.0338	.0257	.0330	.0925
29	.0306	.0241	.0256	.0803
30	.0274	.0232	.0252	.0758

HYDROGRAPHIC DATA

The following printout are from a program developed at Skidaway Institute using NODC format data as input.

The headings indicate the following:

1. STATION: A number referring to a geographic position in the sampling grid.
2. CONSECUTIVE STATION: A number based on the chronological order of stations (NODC consecutive number).
3. WEATHER CODE: Weather based on WMO code 4501.
4. CLOUD TYPE: Cloud type based on WMO code 0500.
5. CLOUD AMOUNT: Cloud amount based on WMO code 2700.
6. VISIBILITY CODE: not given.
7. Z: Depth in meters.
8. T: Temperature in degrees Celsius.
9. S: Salinity in ppt.
10. D: Density in sigma-t units.
11. O₂: Oxygen concentration in mL O₂/L.
12. O₂: Oxygen saturation based on UNESCO tables.
13. AOU: O₂-O₂
14. O₂A: Oxygen anomaly based on Richards and Redfield (Deep-Sea Research, 1955, 2:182-199).
15. PO₄: micromoles liter⁻¹.
16. NO₃: micromoles liter⁻¹.
17. SI: micromoles liter⁻¹.
18. N/P: Nitrate phosphate ratio.
19. DOC: Dissolved organic carbon (mg liter⁻¹).

EASTWARD CRUISE 3 STATION 1 24/ IV/74 21.7 GMT CONSECUTIVE STATION 1

LATITUDE = 32 37.7N LONGITUDE = 79 47.6W DEPTH = 8M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 13.9C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1013.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	NO3	SI	N/P	DOC
0	20.05	32.15	22.60	5.43	5.25	-.24	-1.18	.08	.6	3.3	7.5	2.40
12	19.64	33.45	23.70	5.19	5.25	.05	-.70	.42	1.1	1.9	2.6	2.40

EASTWARD CRUISE 3 STATION 2 24/ IV/74 23.5 GMT CONSECUTIVE STATION 2

LATITUDE = 32 25.0N LONGITUDE = 79 42.7W DEPTH = 17M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 19.4C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1014.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	NO3	SI	N/P	DOC
0	19.75	33.13	23.42	5.27	5.24	-.03	-.82	.09	0.0	2.1	0.0	2.04
17	19.47	34.16	24.28	5.12	5.24	.12	-.54	.28	.8	1.9	2.9	2.34

EASTWARD CRUISE 3 STATION 3 25/ IV/74 .6 GMT CONSECUTIVE STATION 3

LATITUDE = 32 32.5N LONGITUDE = 79 38.2W DEPTH = 20M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 19.4C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.53	34.47	24.50	5.21	5.22	.01	-.59	.05	0.0	.8	0.0	1.40
18	19.36	34.85	24.84	5.05	5.23	.18	-.38	.07	.9	.7	12.9	1.16

EASTWARD CRUISE 3 STATION 4 25/ IV/74 2.2 GMT CONSECUTIVE STATION 4

LATITUDE = 32 27.0N LONGITUDE = 79 28.5W DEPTH = 20M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=356-364 DEGR	WAVE DIRECTION	=356-364 DEGR
AIR TEMP	= 17.8C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.62	35.32	25.13					.05	.7	0.0	14.0	1.26

EASTWARD CRUISE 3 STATION 5 25/ IV/74 4.9 GMT CONSECUTIVE STATION 5
 LATITUDE = 32 21.3N LONGITUDE = 79 19.0W DEPTH = 32M

WEATHER DATA

WIND FORCE	= 6	SEA STATE	= 5
WIND DIRECTION	= 356-364 DEGR	WAVE DIRECTION	= 356-364 DEGR
AIR TEMP	= 15.6C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1019.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.72	35.93	25.57	5.65	5.16	-.49	-.86	.04	.8	2.2	20.0	1.04
15	19.67	35.95	25.59	5.10	5.17	.07	-.30	.14	.7	.3	5.0	1.16
30	18.94	36.00	25.82	4.81	5.23	.42	.02	.17	1.3	1.9	7.6	1.16

EASTWARD CRUISE 3 STATION 6 25/ IV/74 6.5 GMT CONSECUTIVE STATION 6
 LATITUDE = 32 16.7N LONGITUDE = 79 9.6W DEPTH = 46M

WEATHER DATA

WIND FORCE	= 6	SEA STATE	= 5
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 15.6C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1019.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	20.05	36.07	25.58	5.59	5.13	-.46	-.80	.05	.7	.8	14.0	1.06
10	20.02	36.06	25.59	5.55	5.13	-.42	-.75	.08	.6	.8	7.5	1.06
25	20.01	36.04	25.57	5.63	5.13	-.50	-.84	.05	.6	1.1	12.0	.76
45	18.62	36.17	26.03	4.37	5.26	.89	1.30	.29	4.1	5.8	14.1	1.06

EASTWARD CRUISE 3 STATION 7 25/ IV/74 8.7 GMT CONSECUTIVE STATION 7

LATITUDE = 32 14.0N LONGITUDE = 79 4.6W DEPTH = 30M

WEATHER DATA

WIND FORCE = 6

WIND DIRECTION = 16- 24 DEGR

AIR TEMP = 15.00

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1018.6 MB

SEA STATE = 5

WAVE DIRECTION = 16- 24 DEGR

CLOUD TYPE = 8

CLOUD AMOUNT = 3

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	P04	NO3	SI	N/P	DOC
0	20.90	36.25	25.49	5.30	5.04	-.26	-.52	.05	.9	1.9	18.0	.84
25	20.87	36.25	25.50	5.41	5.04	-.37	-.63	.15	.4	1.6	2.7	.80
50	18.51	36.19	26.07	4.43	5.27	.84	1.07	.28	4.7	3.7	16.8	.70
75	18.17	36.21	26.17	3.97	5.30	1.33	1.12	.45	6.9	4.5	15.3	.88

EASTWARD CRUISE 3 STATION 8 25/ IV/74 10.8 GMT CONSECUTIVE STATION 8
 LATITUDE = 32 10.8N LONGITUDE = 73 58.6W DEPTH = 180M

WEATHER DATA

WIND FORCE	= 6	SEA STATE	= 5
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 13.9C	CLOUD TYPE	= 5
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1019.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	AOU	02A	PO4	NO3	SI	N/P	DOC
0	21.11	36.27	25.45	5.25	5.02	-1.23	-1.48	.03		1.2		.60
25	21.17	36.27	25.43	5.14	5.02	-1.12	-1.37	.07	.2	1.9	2.9	.66
50	19.02	36.24	25.98	4.15	5.22	1.07	.71	.31	5.4	4.2	17.4	.70
75	17.90	36.23	26.26	3.47	5.33	1.36	1.30	.51	8.7	5.6	17.1	-1.00
100	17.52	36.28	26.39	3.49	5.37	1.88	.89	.55	9.1	5.3	16.5	-1.00
150	14.73	35.96	26.79	3.43	5.68	2.25	.25	.92		7.7		-1.00
180		35.70		3.54				.98	16.5	10.9	16.8	-1.00

EASTWARD CRUISE 3 STATION 9 25/ IV/74 14.1 GMT CONSECUTIVE STATION 9

LATITUDE = 32 5.2N LONGITUDE = 73 49.0W DEPTH = 336M

WEATHER DATA

WIND FORCE = 5

WIND DIRECTION = 16- 24 DEGR

AIR TEMP = 14.4C

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1020.7 MB

SEA STATE = 4

WAVE DIRECTION = 16- 24 DEGR

CLOUD TYPE = 5

CLOUD AMOUNT = 6

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	21.60	36.20	25.26	5.20	4.98	-.22	-.46	.01	.4	1.4	40.0	.96
23	21.61	36.20	25.26	5.17	4.98	-.19	-.43	.04	.4	1.3	10.0	.88
46	21.17	36.23	25.41	4.84	5.02	.18	-.07	.09	1.8	3.3	20.0	.88
69	16.95	36.21	26.48	3.43	5.43	2.00	.73	.62	10.7	6.0	17.3	.54
92	15.38	36.04	26.71	3.58	5.61	2.03	.18	.62	13.3	7.2	21.5	1.00
138	13.43	35.74	26.90	3.52	5.84	2.32	.10	.93	15.7	9.3	16.9	.60
237	7.40	34.99	27.38	3.27	6.70	3.43	.77					.66
326	7.13	34.94	27.38	3.25	6.74	3.49	.79	1.67	25.7	23.9	15.4	.66

EASTWARD CRUISE 3 STATION 10 25/ IV/74 16.9 GMT CONSECUTIVE STATION 10

LATITUDE = 32 0.0N LONGITUDE = 78 38.9W DEPTH = 394M

WEATHER DATA

WIND FORCE	= 5	SEA STATE	= 4
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 15.6C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1021.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	22.17	36.15	25.07	5.18	4.93	-.25	-.47	.03	.7	1.0	23.3	.76
23	22.22	36.17	25.06	5.56	4.93	-.63	-.85					1.10
46	21.74	36.19	25.22	5.16	4.97	-.19	-.42	.05	.9	1.2	18.0	.84
68	18.07	36.22	26.21	3.46	5.31	1.85	1.49	.41	10.0	5.1	24.4	1.00
91	16.27	36.12	26.57	3.38	5.51	2.13	.59	.68	13.1	6.2	19.3	.52
140	13.96	35.81	26.84	3.34	5.78	2.44	.31	.77	14.0	6.8	18.2	.60
190	10.69	35.34	27.12	3.16	6.21	3.05	.52	1.09	17.6	11.2	16.1	.60
290	7.07	34.98	27.42	3.43	6.75	3.32	.70	1.69	27.1	23.7	16.0	.68
390	6.87	34.95	27.43	3.30	6.78	3.48	.85	1.69	27.5	23.8	16.3	.54

EASTWARD CRUISE 3 STATION 11 25/ IV/74 23.8 GMT CONSECUTIVE STATION 11

LATITUDE = 31 48.8N LONGITUDE = 79 7.5W DEPTH = 550M

WEATHER DATA

WIND FORCE	= 5	SEA STATE	= 4
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 17.20	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 4
BAROMETRIC PRESSURE	= 1021.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	NO3	SI	N/P	DOC
0	25.08	36.00	24.09	5.01	4.69	-.32	-.46	.03	.8	1.8	26.7	.68
23	25.06	35.98	24.09	5.02	4.69	-.33	-.47	.01	.9	2.6	90.0	.84
47	24.02	36.03	24.43	5.15	4.78	-.37	-.54	.01	.5	1.5	50.0	.80
71	22.92	36.12	24.83	4.97	4.87	-.10	-.30	.04	.3	1.3	7.5	.76
95	21.20	36.27	25.43	4.58	5.01	.43	.19	.13	.6	2.0	4.6	.54
142	15.92	35.90	26.48	3.42	5.55	2.13	.74	.37	8.8	9.9	23.8	.50
182	11.14	35.36	27.05	3.11	5.15	3.04	.52	1.26	21.7	15.6	17.2	.50
282	8.37	35.02	27.25	3.05	6.55	3.50	.77	1.55		20.0		.54
382		35.05		3.25				1.51	26.0	19.0	17.2	.54
532	7.87	35.00	27.32	3.29	6.62	3.33	.64	1.59	25.3	20.4	15.9	.76

EASTWARD CRUISE 3 STATION 12 26/ IV/74 2.5 GMT CONSECUTIVE STATION 12

LATITUDE = 31 48.5N LONGITUDE = 79 18.3W DEPTH = 182M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 2
WIND DIRECTION	= 16- 24 DEGR	WAVE DIRECTION	= 16- 24 DEGR
AIR TEMP	= 16.10	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1023.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02R	P04	NO3	SI	N/P	DOC
0	23.47	36.03	24.60	5.11	4.82	-.29	-.47	.03	.6	1.4	20.0	.92
24	22.25	36.08	24.99	5.69	4.93	-.76	-.99	.31		1.0		.92
48	21.05	36.26	25.46	5.39	5.03	-.36	-.62	.04	.2	2.0	5.0	.88
72	18.09	36.18	26.18	3.71	5.31	1.60	1.35	.46	8.6	6.0	18.7	.72
96	17.05	36.21	26.45	3.64	5.42	1.78	.59	1.42		4.9		.40
144	15.17	35.81	26.58	3.61	5.64	2.03	.34			6.5		.56
181	14.17	35.84	26.82	3.46	5.75	2.29	.20			6.0		.60

EASTWARD CRUISE 3 STATION 13 26° IV/74 3.9 GMT CONSECUTIVE STATION 13

LATITUDE = 31 51.5N LONGITUDE = 79 22.8W DEPTH = 92M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 16.1C	CLOUD TYPE	= 9
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1023.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	N03	SI	N/P	DOC
0	21.59	36.16	25.24	5.20	4.98	-.22	-.46	.03	.1	2.4	3.3	.84
25	21.02	36.17	25.40	5.27	5.03	-.24	-.51	.01	.4	1.4	40.0	.94
50	19.94	36.16	25.68	4.74	5.13	.39	.07	.16	2.1	3.1	13.1	.66
92	17.17	36.21	26.42	3.70	5.41	1.71	.60	.59	12.6	10.4	21.4	.80

EASTWARD CRUISE 3 STATION 14 26/ IV/74 5.6 GMT CONSECUTIVE STATION 14

LATITUDE = 31 54.2N LONGITUDE = 79 28.3W DEPTH = 60M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 15.10	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	21.08	36.18	25.39	5.64	5.03	-.61	-.38	.04		.9		.82
20	20.89	36.22	25.47	5.38	5.04	-.34	-.60	.03	.4	1.4	13.3	.80
40	20.50	36.16	25.54	5.20	5.08	-.12	-.41	.03	.5	1.8	16.7	.92
60	18.72	36.11	25.97	4.15	5.25	1.10	.71	.35	5.9	5.2	16.9	.72

EASTWARD CRUISE 3 STATION 15 26/ IV/74 7.3 GMT CONSECUTIVE STATION 15

LATITUDE = 31 59.5N LONGITUDE = 79 37.8W DEPTH = 39M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 16.10	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.18	35.93	25.71	5.29	5.21	-.08	-.48	.10	.9	2.5	9.0	.98

EASTWARD CRUISE 3 STATION 16 26/ IV/74 9.2 GMT CONSECUTIVE STATION 16

LATITUDE = 32 5.0N LONGITUDE = 79 47.4W DEPTH = 25M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 17.2C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1022.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.18	35.57	25.43	5.62	5.22	-.40	-.85	.05	.4	.5	8.0	.88

EASTWARD CRUISE 3 STATION 17 26/ IV/74 11.0 GMT CONSECUTIVE STATION 17

LATITUDE = 32 10.5N LONGITUDE = 75 57.0W DEPTH = 15M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 16.7C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.10	35.01	25.03	5.64	5.25	-.39	-.93	.08	.1	1.0	1.3	1.20

EASTWARD CRUISE 3 STATION 18 26/ IV/74 12.6 GMT CONSECUTIVE STATION 18

LATITUDE = 32 16.0N LONGITUDE = 80 7.0W DEPTH = 17M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 19.30	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1024.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	19.30	34.30	24.43	5.57	5.25	-.32	-.96	.05	.1	1.7	2.0	1.20

EASTWARD CRUISE 3 STATION 19 26/ IV/74 13.2 GMT CONSECUTIVE STATION 19

LATITUDE = 32 19.0N LONGITUDE = 80 11.3W DEPTH = 15M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 19.30	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1024.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	19.34	34.17	24.32	5.65	5.25	-.40	-1.06	.05	0.0	1.0	0.0	1.50

EASTWARD CRUISE 3 STATION 20 26/ IV/74 14.2 GMT CONSECUTIVE STATION 20
 LATITUDE = 32 21.5N LONGITUDE = 80 16.3W DEPTH = 14M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 20.6C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1025.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.46	33.46	23.75	5.61	5.26	-0.35	-1.11	.12	4.9	1.1	40.8	1.94

EASTWARD CRUISE 3 STATION 21 26/ IV/74 19.0 GMT CONSECUTIVE STATION 21
 LATITUDE = 31 57.7N LONGITUDE = 80 43.3W DEPTH = 17M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	= 136-144 DEGR	WAVE DIRECTION	= 136-144 DEGR
AIR TEMP	= 18.9C	CLOUD TYPE	= *
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1024.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	19.85			5.61				.11	0.0	4.2	0.0	1.66

EASTWARD CRUISE 3 STATION 22 26/ IV/74 20.1 GMT CONSECUTIVE STATION 22

LATITUDE = 31 55.9N LONGITUDE = 80 38.9W DEPTH = 17M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 18.9C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1024.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PD4	NO3	SI	N/P	DOC
0	20.73	33.38	23.36	5.46	5.14	-.32	-1.02	.12	.2	6.0	1.7	1.36
17	19.51	33.60	23.85	5.39	5.25	-.14	-.88	.13	.9	2.1	6.9	1.60

EASTWARD CRUISE 3 STATION 23 26/ IV/74 20.9 GMT CONSECUTIVE STATION 23

LATITUDE = 31 53.9N LONGITUDE = 80 33.7W DEPTH = 15M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 19.4C	CLOUD TYPE	= *
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PD4	NO3	SI	N/P	DOC
0	20.69	33.79	23.68	5.61	5.13	-.43	-1.12	.13	.9	2.0	6.9	1.30
15	19.48	34.01	24.16	5.48	5.24	-.24	-.92	.10	1.4	1.0	14.0	1.30

EASTWARD CRUISE 3 STATION 24 26/ IV/74 22.4 GMT CONSECUTIVE STATION 24

LATITUDE = 31 48.4N LONGITUDE = 80 23.2W DEPTH = 21M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 20.60	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	ND3	SI	N/P	DOC
0	20.46	35.02	24.68	5.41	5.12	-.29	-.76	.11	.4	2.9	3.6	1.40
21	19.49	35.12	25.01	5.42	5.21	-.21	-.72	.12	0.0	2.9	0.0	1.00

EASTWARD CRUISE 3 STATION 25 27/ IV/74 .2 GMT CONSECUTIVE STATION 25

LATITUDE = 31 45.0N LONGITUDE = 80 12.1W DEPTH = 31M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 20.00	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1022.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	ND3	SI	N/P	DOC
0	20.60	35.79	25.22	5.40	5.08	-.32	-.66	.08	.1	1.6	1.3	.92
27	19.84	35.78	25.42	5.42	5.15	-.27	-.65	.11	.	1.0		1.70

EASTWARD CRUISE 3 STATION 26 27/ IV/74 2.4 GMT CONSECUTIVE STATION 26

LATITUDE = 31 40.5N LONGITUDE = 80 2.5W DEPTH = 42M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 19.5C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	DBA	PO4	NO3	SI	N/P	DOC
0	19.93	35.80	25.41	5.30	5.15	-.15	-.53	.10	.5	2.3	5.0	1.84
40	19.68	35.84	25.51	5.69	5.17	-.52	-.91	.06		1.5		1.08

EASTWARD CRUISE 3 STATION 27 27/ IV/74 4.2 GMT CONSECUTIVE STATION 27

LATITUDE = 31 36.7N LONGITUDE = 79 53.0W DEPTH = 44M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 18.9C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	DBA	PO4	NO3	SI	N/P	DOC
0	21.29	36.23	25.37	5.18	5.01	-.17	-.42	.07		1.3		.84
20	20.64	36.20	25.53	5.11	5.07	-.04	-.32	.08		1.0		.62
44	19.68	36.06	25.68	5.00	5.16	.16	-.19	.13	1.8	3.2	13.8	.84

EASTWARD CRUISE 3 STATION 28 27/ IV/74 6.1 GMT CONSECUTIVE STATION 28

LATITUDE = 31 31.9N LONGITUDE = 79 41.5W DEPTH = 75M

WEATHER DATA

WIND FORCE = 1

WIND DIRECTION = 136-144 DEGR

AIR TEMP = 18.9C

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1022.7 MB

SEA STATE = 1

WAVE DIRECTION = 136-144 DEGR

CLOUD TYPE =

CLOUD AMOUNT = 0

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	21.18	36.19	25.37	5.23	5.02	-.21	-.47	.02	0.0	1.5	0.0	1.00
25	20.59	36.22	25.56	5.32	5.07	-.25	-.53	.12	.1	2.7	.8	1.44
50	18.77	36.14	25.97	4.22	5.25	1.03	.64	.35	5.2	5.0	14.9	1.00
75	18.79	36.14	25.97	4.13	5.24	1.11	.73	.36	6.3	5.3	17.5	.84

EASTWARD CRUISE 3 STATION 29 27/ IV/74 7.8 GMT CONSECUTIVE STATION 29

LATITUDE = 31 29.5N LONGITUDE = 73 36.3W DEPTH = 180M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 19.4C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	22.71	36.13	24.90	4.85	4.88	.03	-.17	.01	0.0	2.1	0.0	.84
23	21.90	36.14	25.14	5.09	4.95	-.14	-.37	.02	0.0	1.7	0.0	1.12
47	20.58	36.26	25.59	5.24	5.07	-.17	-.44	.10		1.8		1.04
70	19.26	36.16	25.86	4.63	5.20	.57	.21	.17		2.5		1.08
117	18.03	36.27	26.26	4.28	5.32	1.04	.49	.46	9.0	6.0	19.6	1.90
168	15.38	36.02	26.69	5.12	5.61	.49	-1.34		13.1	9.1		1.00

EASTWARD CRUISE 3 STATION 30 27/ IV/74 9.6 GMT CONSECUTIVE STATION 30

LATITUDE = 31 28.4N LONGITUDE = 79 31.2W DEPTH = 290M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 19.4C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	NO3	SI	N/P	DOC
0	25.17	35.00	24.07	5.01	4.68	-.33	-.46	.03	.4	1.9	13.3	1.08
23	23.94	35.10	24.51					.02	.4	1.5	20.0	.84
46	22.53	35.07	24.90	4.74	4.90	.16	-.06	.02	.4	2.3	20.0	1.00
69	21.23	35.19	25.36	5.83	5.01	-.82	-1.07	.08		1.7		.96
92	19.64	35.12	25.73	4.58	5.16	.58	.24	.28	4.6	3.8	16.4	.66
139	17.18	35.25	26.45	4.10	5.40	1.30	.13	.58	10.6	6.6	18.3	.88
167	15.78	35.15	26.70	3.90	5.56	1.66	-.13	.66	12.4	5.5	18.3	.62
245	12.45	35.59	26.98	4.06	5.97	1.91	-.45	.45		9.0		.58

EASTWARD CRUISE 3 STATION 31 27/ IV/74 11.4 GMT CONSECUTIVE STATION 31

LATITUDE = 31 23.5N LONGITUDE = 79 22.0W DEPTH = 475M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 21.1C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	N03	SI	N/P	DOC
0	25.82	36.03	23.89	4.90	4.63	-.27	-.33	.02	.4	2.2	20.0	.76
25	25.84	36.05	23.90	4.75	4.63	-.12	-.23	.03	1.4	1.6	46.7	.80
49	25.86	36.03	23.88	4.75	4.63	-.12	-.23	.02	.3	5.0	15.0	.66
74	25.71	36.18	24.04	5.39	4.64	-.75	-.84	.04		1.5		.80
98	24.48	36.33	24.53	4.43	4.73	.30	.19	.09	1.3	3.0	14.4	.50
128	20.76	36.35	25.61	4.16	5.05	.89	.64	.23		2.9		.80
173	17.42	36.22	26.37	3.78	5.38	1.60	.66	.43		5.0		.76
265	13.12	35.63	26.88	2.43	5.88	3.45	1.20	.87	14.4	8.3	16.6	.60
350	9.34	35.20	27.24	3.51	6.40	2.89	.30	1.31	23.1	16.3	17.6	.68
414		35.25		3.29				1.35	22.1	16.4	16.4	.54

EASTWARD CRUISE 3 STATION 32 27/ IV/74 13.9 GMT CONSECUTIVE STATION 32

LATITUDE = 31 20.0N LONGITUDE = 79 10.2W DEPTH = 470M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 24.4C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1025.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	25.76	36.09	23.95	4.87	4.63	-.24	-.34	.03	1.4	3.8	46.7	.68
24	25.75	36.09	23.95	4.97	4.64	-.33	-.44	.03		1.5		.72
48	25.76	36.07	23.94	4.81	4.64	-.17	-.28	.03	.5	2.1	16.7	.76
73	25.83	36.07	23.91	5.61	4.63	-.98	-1.09	.06		1.0		.72
96	24.96	36.44	24.46	4.27	4.69	.42	.34	.08	1.5	1.8	18.8	.84
120	22.56	36.76	25.42	3.72	4.88	1.16	1.05	.23	2.2	2.3	9.6	.76
144	21.03	36.72	25.81	3.56	5.02	1.46	1.27		1.2			.72
193	18.45	36.49	26.32	4.38	5.27	.89	.20		6.2			.60
306	15.39	36.07	26.73	4.21	5.60	1.39	-.47					.36
437	10.59	35.33	27.13	3.24	6.22	2.98	.45					.72

EASTWARD CRUISE 3 STATION 33 27/ IV/74 20.4 GMT CONSECUTIVE STATION 33

LATITUDE = 30 56.0N LONGITUDE = 79 24.5W DEPTH = 760M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 23.3C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1024.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	P04	N03	SI	N/P	DOC
0	26.08	36.05	23.82	4.98	4.61	-.37	-.47	.03		1.8		.80
23	25.74	36.08	23.95	4.89	4.64	-.25	-.36	.01	.4	1.7	40.0	.68
46	25.63	36.09	23.99	4.84	4.65	-.19	-.30	.03	.2	1.8	6.7	.90
71	25.46	36.08	24.04	4.88	4.66	-.22	-.33	.02	.2	1.4	10.0	.76
93	25.55	36.11	24.03	4.78	4.65	-.13	-.24	.03	1.0	1.6	33.3	.66
139	22.94	36.77	25.31	3.81	4.85	1.04	.94	.22	3.8	3.4	17.3	.58
186	20.19	36.68	26.02	3.61	5.09	1.48	2.10	.29	5.7	5.0	19.7	.72
281	17.28	36.29	26.45	3.38	5.39	2.01	.85	.55	12.2	5.2	22.2	.54
379	14.86	35.97	26.77	3.99	5.67	1.68	-.29	.56	10.4	6.3	18.6	.84
477	12.76	35.64	26.95	3.88	5.93	2.05	-.27	.82	13.9	8.4	17.0	.56

EASTWARD CRUISE 3 STATION 34 27/ IV/74 23.3 GMT CONSECUTIVE STATION 34

LATITUDE = 30 .6N LONGITUDE = 79 36.0W DEPTH = 530M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 22.20	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1025.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	26.10	35.99	23.77	4.80	4.61	-.19	-.30	.02	.4	2.7	20.0	.92
25	25.96	36.00	23.83	4.91	4.62	-.29	-.40	.03	1.0	1.7	33.3	.80
50	25.96	35.98	23.81	4.84	4.62	-.22	-.33	.04	.4	2.3	10.0	.96
75	25.96	35.99	23.82	4.95	4.62	-.23	-.34	.04	.1	3.0	2.5	.88
100	24.92			4.71				.04		2.0		.56
147	22.16	36.73	25.51	3.85	4.91	1.06	.93	.20	4.2	2.9	21.0	.80
185	18.45	36.37	26.23	3.41	5.27	1.86	1.47	.56	6.0	4.8	10.7	.60
260	14.33	35.84	26.79	3.27	5.73	2.46	.41		12.6	9.5		.56
345	11.31	35.39	27.04	3.01	6.12	3.11	.62		20.9	9.6		.50
413	8.54	35.06	27.26	3.34	6.52	3.18	.49	1.57	25.1	20.5	16.0	

EASTWARD CRUISE 3 STATION 35 28/ IV/74 2.3 GMT CONSECUTIVE STATION 35

LATITUDE = 31 5.0N LONGITUDE = 79 47.0W DEPTH = 250M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	= 86- 94 DEGR	WAVE DIRECTION	= 86- 94 DEGR
AIR TEMP	= 21.7C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1025.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	25.76	35.95	23.85	4.82	4.64	-.18	-.31	.03	1.1	1.8	36.7	.92
25	25.41	36.11	24.08	4.86	4.66	-.20	-.31	.02	.4	2.7	20.0	.80
50	23.63	36.05	24.57	5.11	4.81	-.30	-.48	.05	1.0	1.7	20.0	.86
75	22.13	36.12	25.05	5.09	4.93	-.16	-.38	.09	.7	2.9	7.8	.80
98	21.36	36.12	25.27	4.84	5.00	.16	-.10	.08	1.3	2.0	16.3	.80
147	16.53	36.11	26.50	3.34	5.48	2.14	.77	.64	11.8	7.0	18.4	.66
174	14.26	35.87	26.83	3.47	5.74	2.27	.18	.83	15.1	13.2	18.2	.65
222	12.34	35.53	26.99	3.23	5.98	2.75	.39	1.08	20.4	13.1	18.9	.50

EASTWARD CRUISE 3 STATION 36 28/ IV/74 4.5 GMT CONSECUTIVE STATION 36

LATITUDE = 31 5.0N LONGITUDE = 79 52.9W DEPTH = 95M

WEATHER DATA

WIND FORCE = 3

SEA STATE = 2

WIND DIRECTION = 86- 94 DEGR

WAVE DIRECTION = 86- 94 DEGR

AIR TEMP = 21.7C

CLOUD TYPE = 8

WEATHER CODE = 1

CLOUD AMOUNT = 2

BAROMETRIC PRESSURE = 1026.1 MB

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	25.07	36.03	24.12	5.00	4.69	-.31	-.44	.08	.2	2.2	2.5	.76
25	22.46	36.14	24.98	5.10	4.91	-.19	-.40	.04	.4	1.7	10.0	1.08
50	20.79	36.16	25.46	4.70	5.05	.35	.07	.17	1.8	3.0	10.6	.88
75	20.27	36.15	25.59	4.46	5.10	.64	.34	.27	3.4	3.5	12.6	.66
95	19.62	36.14	25.75	4.25	5.16	.91	.57	.25	4.0	3.3	16.0	.72

EASTWARD CRUISE 3 STATION 37 28/ IV/74 6.2 GMT CONSECUTIVE STATION 37

LATITUDE = 31 7.0N LONGITUDE = 79 58.8W DEPTH = 43M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 2
WIND DIRECTION	=156-164 DEGR	WAVE DIRECTION	=156-164 DEGR
AIR TEMP	= 21.7C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1025.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2R	PO4	NO3	SI	N/P	DOC
0	22.77	36.13	24.88	5.11	4.88	-.23	-.43	0.00	.2	2.2		.88
20	22.23	36.15	25.05	5.40	4.93	-.47	-.69	.03	0.0	1.3	0.0	2.78
30	21.53	36.17	25.26	5.21	4.99	-.22	-.47	.04	.4	2.1	10.0	1.04
45	20.93	36.17	25.43	4.77	5.04	.27	-.00	.09	1.2	2.6	13.3	.80

EASTWARD CRUISE 3 STATION 38 28/ IV/74 8.8 GMT CONSECUTIVE STATION 38

LATITUDE = 31 12.5N LONGITUDE = 80 14.5W DEPTH = 38M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 2
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 25.1C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1025.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2R	PO4	NO3	SI	N/P	DOC
0	20.77	36.39	25.64	5.23	5.05	-.18	-.43	.11	.3	2.3	2.7	.88
35	20.79	36.42	25.65	5.18	5.05	-.13	-.37	.13		3.3		1.04

EASTWARD CRUISE 3 STATION 39 28/ IV/74 11.4 GMT CONSECUTIVE STATION 39

LATITUDE = 31 18.2N LONGITUDE = 80 30.0W DEPTH = 33M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 20.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1026.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	DBA	PD4	NO3	SI	N/P	DOC
0	20.21	35.72	25.28	5.40	5.12	-.23	-.65	.14	0.0	1.5	0.0	1.12
30	19.93	35.82	25.43	5.27	5.14	-.13	-.50	.12	1.1	1.8	9.2	1.50

EASTWARD CRUISE 3 STATION 40 28/ IV/74 13.3 GMT CONSECUTIVE STATION 40

LATITUDE = 31 23.2N LONGITUDE = 80 44.2W DEPTH = 20M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 21.7C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1027.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	DBA	PD4	NO3	SI	N/P	DOC
0	20.34	34.24	24.11	5.45	5.15	-.30	-.89	.09	.4	3.1	4.4	1.60
20	19.97	35.17	24.92	5.07	5.16	.09	-.38	.13	.5	2.0	3.3	1.28

EASTWARD CRUISE 3 STATION 41 28/ IV/74 14.7 GMT CONSECUTIVE STATION 41

LATITUDE = 31 25.7N LONGITUDE = 80 52.3W DEPTH = 19M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=266-274 DEGR	WAVE DIRECTION	=266-274 DEGR
AIR TEMP	= 23.9C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1028.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	20.34	33.84	23.82	5.54	5.17	-.37	-1.03	.13	.9	2.4	6.9	1.34
18	20.01	34.76	24.60	5.07	5.17	.10	-.43	.15	.4	1.5	2.7	1.66

EASTWARD CRUISE 3 STATION 42 28/ IV/74 15.7 GMT CONSECUTIVE STATION 42

LATITUDE = 31 27.5N LONGITUDE = 80 57.0W DEPTH = 12M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=266-274 DEGR	WAVE DIRECTION	=266-274 DEGR
AIR TEMP	= 24.4C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1028.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	21.11	30.44	21.03	5.45	5.20	-.25	-1.39	.24	.4	17.3	1.7	2.64
12	20.01	34.22	24.19	5.29	5.19	-.10	-.72	.16	.4	1.3	2.5	1.16

EASTWARD CRUISE 3 STATION 43 28/ IV/74 16.6 GMT CONSECUTIVE STATION 43

LATITUDE = 31 29.5N LONGITUDE = 80 57.0W DEPTH = 12M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 1
WIND DIRECTION	=266-274 DEGR	WAVE DIRECTION	=266-274 DEGR
AIR TEMP	= 24.4C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1027.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	21.08	31.85	22.10	5.45	5.16	-.29	-1.22	.26	1.4	6.9	5.4	2.58
11	20.49	33.80	23.74	5.34	5.15	-.19	-.84	.20		4.0		1.64

EASTWARD CRUISE 3 STATION 69 28/ IV/74 19.0 GMT CONSECUTIVE STATION 44

LATITUDE = 31 12.2N LONGITUDE = 81 4.5W DEPTH = 13M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1026.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	21.80	32.63	22.50					.25	.9	9.8	3.6	2.40

EASTWARD CRUISE 3 STATION 44 28/ IV/74 21.8 GMT CONSECUTIVE STATION 45

LATITUDE = 30 55.8N LONGITUDE = 81 17.0W DEPTH = 11M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =176-184 DEGR
AIR TEMP = 22.8C
WEATHER CODE = 0
BAROMETRIC PRESSURE = 1026.4 MB

SEA STATE = 1
WAVE DIRECTION =176-184 DEGR
CLOUD TYPE =
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	22.55	34.58	23.77	5.49	4.94	-.55	-.99	.26	.3	3.9	1.2	2.08
10	21.18	35.19	24.61	5.52	5.05	-.47	-.88	.25	0.0	.8	0.0	2.40

EASTWARD CRUISE 3 STATION 45 28/ IV/74 22.6 GMT CONSECUTIVE STATION 46

LATITUDE = 30 55.0N LONGITUDE = 81 12.9W DEPTH = 14M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =176-184 DEGR
AIR TEMP = 22.2C
WEATHER CODE = 0
BAROMETRIC PRESSURE = 1026.4 MB

SEA STATE = 1
WAVE DIRECTION =176-184 DEGR
CLOUD TYPE =
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	22.44	35.30	24.35					.16	.3	1.9	1.9	2.40
13	21.18	35.39	24.76	5.54	5.04	-.50	-.88	.25	.2	1.8	.8	1.56

EASTWARD CRUISE 3 STATION 46 28/ IV/74 23.6 GMT CONSECUTIVE STATION 47

LATITUDE = 30 53.9N LONGITUDE = 81 7.0W DEPTH = 15M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 23.90	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1026.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	N03	SI	N/P	DOC
0	22.83	35.49	24.38	4.92	4.89	-1.03	-1.32	.17	.2	1.6	1.2	1.80
14	21.07	35.90	25.18	4.88	5.04	.16	-1.15	.22	1.0	0.0	4.5	

EASTWARD CRUISE 3 STATION 47 29/ IV/74 1.1 GMT CONSECUTIVE STATION 48

LATITUDE = 30 51.2N LONGITUDE = 80 54.5W DEPTH = 23M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 23.30	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1027.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	N03	SI	N/P	DOC
0	21.75	36.29	25.29	5.26	4.96	-1.30	-1.51	.14	.4	2.0	2.9	1.26
20	20.82	36.34	25.59	5.17	5.05	-1.12	-1.37	.15	.2	1.8	1.3	1.26

EASTWARD CRUISE 3 STATION 48 29/ IV/74 2.7 GMT CONSECUTIVE STATION 49

LATITUDE = 30 49.7N LONGITUDE = 80 44.2W DEPTH = 29M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 21.10	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1027.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02R	PD4	NO3	SI	N/P	DOC
0	21.33	36.53	25.59	5.22	4.99	-.23	-.42	.13	.4	2.0	3.1	1.16
29	21.03	36.54	25.68	5.23	5.02	-.21	-.42	.16	.5	1.0	3.1	1.22

EASTWARD CRUISE 3 STATION 49 29/ IV/74 5.3 GMT CONSECUTIVE STATION 50

LATITUDE = 30 46.0N LONGITUDE = 80 27.5W DEPTH = 39M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 2
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 21.70	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1026.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02R	PD4	NO3	SI	N/P	DOC
0	21.94	36.39	25.31	5.12	4.94	-.18	-.37	.16	.3		1.9	1.90
39	21.50	36.40	25.44	5.21	4.93	-.23	-.44	.07		1.0		1.36

EASTWARD CRUISE 3 STATION 50 29/ IV/74 7.8 GMT CONSECUTIVE STATION 51

LATITUDE = 30 42.8N LONGITUDE = 80 10.4W DEPTH = 49M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION = 156-164 DEGR
AIR TEMP = 21.7C
WEATHER CODE = 0
BAROMETRIC PRESSURE = 1025.1 MB

SEA STATE = 2
WAVE DIRECTION = 156-164 DEGR
CLOUD TYPE =
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PD4	NO3	SI	N/P	DOC
0	25.64	36.06	23.97	4.87	4.65	-.22	-.34	.05		1.9		4.64
25	25.22	36.06	24.10	4.84	4.68	-.46	-.28	.04		1.2		.92
49	24.94	36.06	24.19	4.98	4.70	-.28	-.41	.06		1.8		.96

EASTWARD CRUISE 3 STATION 51 29/ IV/74 3.8 GMT CONSECUTIVE STATION 52

LATITUDE = 30 42.2N LONGITUDE = 80 5.5W DEPTH = 66M

WEATHER DATA

WIND FORCE = 2
WIND DIRECTION = 156-164 DEGR
AIR TEMP = 21.7C
WEATHER CODE = 0
BAROMETRIC PRESSURE = 1024.4 MB

SEA STATE = 1
WAVE DIRECTION = 156-164 DEGR
CLOUD TYPE =
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PD4	NO3	SI	N/P	DOC
0	25.75	36.00	23.89	4.82	4.64	-.18	-.30	.05	.7	.6	14.0	1.04
25	25.76	36.02	23.90	4.87	4.64	-.23	-.35	.03	.4	1.8	13.3	.84
50	25.26	36.04	24.07	4.79	4.68	-.11	-.24	.03	.2	1.9	6.7	.84
66	24.80	36.06	24.23	4.80	4.71	-.09	-.22	.08	.4	.5	5.0	1.00

EASTWARD CRUISE 3 STATION 58 29/ IV/74 13.6 GMT CONSECUTIVE STATION 53

LATITUDE = 30 14.0N LONGITUDE = 80 13.0W DEPTH = 72M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.10	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1026.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	NO3	SI	N/P	DOC
0	22.98	36.04	24.75	5.36	4.86	-1.50	-1.70	.04	0.0	2.6	0.0	.84
30	17.65	35.88	26.05	3.95	5.37	1.42	1.63	.56	10.4	7.4	13.6	.72
50	16.92	36.06	26.36	3.43	5.44	2.01	1.03	.61	11.8	7.3	19.3	.72
72	16.78	36.01	26.36	3.42	5.45	3.03	1.04	.63	12.3	7.3	13.6	.50

EASTWARD CRUISE 3 STATION 59 29/ IV/74 15.1 GMT CONSECUTIVE STATION 54

LATITUDE = 30 15.0N LONGITUDE = 80 13.7W DEPTH = 46M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.70	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1026.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	P04	NO3	SI	N/P	DOC
0	23.26	36.03	24.66	5.26	4.84	-1.42	-1.61	.05	0.0	0.0	0.0	.84
23	19.96	35.96	25.53	4.50	5.14	.64	.29	.43		2.3		
44	19.57	35.97	25.64	4.21	5.17	.36	.59	.35	6.0	5.0	17.1	.62

EASTWARD CRUISE 3 STATION 60 29/ IV/74 16.4 GMT CONSECUTIVE STATION 55

LATITUDE = 30 16.9N LONGITUDE = 80 30.0W DEPTH = 30M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1026.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	24.08	36.05	24.44	5.17	4.77	-.40	-.56	.05	1.4	.2	28.0	.88
30	23.07	36.06	24.74	5.10	4.86	-.24	-.44	.08	.4	1.5	5.0	

EASTWARD CRUISE 3 STATION 61 29/ IV/74 17.8 GMT CONSECUTIVE STATION 56

LATITUDE = 30 18.5N LONGITUDE = 80 40.4W DEPTH = 30M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=266-274 DEGR	WAVE DIRECTION	=266-274 DEGR
AIR TEMP	= 25.6C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1025.7 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	22.35	36.05	24.79	5.07	4.87	-.20	-.40	.03	.3	3.0	10.0	1.04
30	21.76	36.27	25.27	5.15	4.96	-.19	-.41	.02	0.0	3.6	0.0	.76

EASTWARD CRUISE 3 STATION 62 29/ IV/74 19.1 GMT CONSECUTIVE STATION 57
 LATITUDE = 30 20.2N LONGITUDE = 80 52.0W DEPTH = 26M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	=266-274 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 25.00	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1025.1 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADD	02A	P04	N03	SI	N/P	DOC
0	22.21	36.31	25.17	5.15	4.92	-.23	-.42	.06	0.0	5.3	0.0	1.04
26	21.71	36.31	25.32	5.24	4.97	-.27	-.49	.05	.1	3.8	2.0	.80

EASTWARD CRUISE 3 STATION 63 29/ IV/74 20.6 GMT CONSECUTIVE STATION 58
 LATITUDE = 30 22.1N LONGITUDE = 81 3.9W DEPTH = 24M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 23.90	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1024.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADD	02A	P04	N03	SI	N/P	DOC
0	22.91	36.46	25.09	5.16	4.86	-.30	-.45	.13	0.0	.5	0.0	.96
22	22.20	36.45	25.29	5.22	4.92	-.30	-.47	.13	0.0	.9	0.0	1.26

EASTWARD CRUISE 3 STATION 64 29/ IV/74 22.2 GMT CONSECUTIVE STATION 59

LATITUDE = 30 24.0N LONGITUDE = 81 14.9W DEPTH = 17M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 24.4C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	DBA	PD4	NO3	SI	N/P	DOC
0	23.00	36.47	25.07	5.22	4.85	-.37	-.51	.12	0.0	2.2	0.0	1.04
15	22.10	36.47	25.33	5.28	4.93	-.35	-.53	.13	.1	2.6	.8	1.46

EASTWARD CRUISE 3 STATION 65 30/ IV/74 1.0 GMT CONSECUTIVE STATION 60

LATITUDE = 30 42.6N LONGITUDE = 81 18.0W DEPTH = 11M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 23.9C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	DBA	PD4	NO3	SI	N/P	DOC
0	22.50	36.24	25.04					.22	.1	3.0	.5	1.60

EASTWARD CRUISE 3 STATION 66 30/ IV/74 4.5 GMT CONSECUTIVE STATION 61

LATITUDE = 31 9.5N LONGITUDE = 31 0.0W DEPTH = 14M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	=136-144 DEGR
AIR TEMP	= 21.7C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1023.4 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02R	P04	N03	SI	N/P	DOC
0	21.55	34.84	24.24					.29	1.1	1.9	3.3	

EASTWARD CRUISE 3 STATION 67 30/ IV/74 11.0 GMT CONSECUTIVE STATION 62

LATITUDE = 31 41.0N LONGITUDE = 30 41.0W DEPTH = 14M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 2
WIND DIRECTION	=196-204 DEGR	WAVE DIRECTION	=196-204 DEGR
AIR TEMP	= 21.7C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1020.0 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02R	P04	N03	SI	N/P	DOC
0	21.10	33.93	23.68					.26		1.9		

EASTWARD CRUISE 3 STATION 68 30/ IV/74 18.5 GMT CONSECUTIVE STATION 63

LATITUDE = 31 59.04 LONGITUDE = 80 7.5W DEPTH = 22M

WEATHER DATA

WIND FORCE = 1

SEA STATE = 1

WIND DIRECTION =216-224 DEGR

WAVE DIRECTION =216-224 DEGR

AIR TEMP = 21.10

CLOUD TYPE =

WEATHER CODE = 0

CLOUD AMOUNT = 0

BAROMETRIC PRESSURE = 1019.3 MB

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	02	03	ADU	02A	P04	N03	SI	N/P	DOC
0	21.50	34.18	23.76					.22	1.3	4.0	5.9	

(Provisional)

NATIONAL OCEANOGRAPHIC DATA CENTER
WASHINGTON, D C 20390

CRUISE AND PROJECT NO.	E-3-74
INSTITUTE	Skidaway Institute
NAME OF PLATFORM	R/V EASTWARD

Two drift bottles were released at each of the following stations: 1, 3, 4, 17, 18, 20, 21, 23, 24, 40, 41, 43, 44, 46, 47, 62, 63, 64. Release/recovery information is summarized in the following table:

SURFACE DRIFTER DATA

[illegible]

NODC-EXP-3167/37 (4-65)

CHLOROPHYLL AND CARBON-¹⁴ PRODUCTIVITY DATA*Table 2. Chlorophyll α and C¹⁴ uptake with respect to depth.

<u>Station</u>	<u>Depth</u> <u>(m)</u>	<u>Chlorophyll α</u> <u>(mg/m³)</u>	<u>C¹⁴ uptake</u> <u>mgC/m³/day</u>
1	0	1.278	4.84
	4	1.534	7.31
	10	.900	1.58
4	0	.319	0.76
	5	.460	3.20
	10	.672	2.21
	16	.841	2.52
6	0	.308	1.88
	6	.333	0.98
	12	.413	0
	20	.413	2.64
	40	.796	0.46
15	0	.133	18.54
	6	.787	7.63
	11	1.102	27.60
	18	.105	9.84
	35	.027	2.77
17	0	.282	9.11
	6	.252	3.13
	13	.216	4.82
20	0	.806	11.09
	5	1.622	26.06
	9	1.534	11.06
21	0	.973	18.87
	4	1.150	18.15
	7	1.150	12.43
	13	1.150	1.40
23	0	.459	-
	17	-	-
24	0	.261	-
	21	-	-
25	0	.009	3.18
	4	.010	4.11
	8	.017	1.62
	12	.035	1.94
	25	.014	0.45
	27	-	-
26	0	.596	-
	40	-	-

Table 2. (continued)

<u>Station</u>	<u>Depth</u> <u>(m)</u>	<u>Chlorophyll <i>a</i></u> <u>(mg/m³)</u>	<u>C¹⁴ uptake</u> <u>mgC/m³/day</u>
27	0	.010	3.006
	6	.014	.702
	12	.014	1.170
	20	.011	.954
	40	2.212	4.440
28	0	.180	-
	25	-	-
	50	-	-
	75	-	-
29	0	.560	-
	25	-	-
	50	-	-
	75	-	-
	125	-	-
	180	-	-
30	0	.990	-
	23	-	-
	46	-	-
	69	-	-
	92	-	-
	139	-	-
	167	-	-
	243	-	-
31	0	.056	-
	25	-	-
	49	-	-
	74	-	-
	98	-	-
	128	-	-
32	0	.059	-
	24	-	-
	48	-	-
	73	-	-
	96	-	-
	120	-	-
	144	-	-
	193	-	-
	306	-	-
	437	-	-
38	0	.207	.210
	6	.243	1.702
	11	.198	1.194
	18	.216	3.672
	35	.189	1.65

Table 2. (Continued)

<u>Station</u>	<u>Depth</u> <u>(m)</u>	<u>Chlorophyll α</u> <u>(mg/m³)</u>	<u>C¹⁴ uptake</u> <u>mgC/m³/day</u>
40	0	.702	2.84
	4	1.003	3.89
	8	.639	2.68
	13.5	1.003	12.54
43	0	1.298	3.95
	3	1.416	21.20
	6	1.534	10.52
	10	1.563	8.46
44	0	1.357	10.23
	9	1.98	18.66
50	0	.037	0
	6	.042	.52
	11	.026	0
	18	.063	0
	35	.114	.38
58	0	1.116	9.37
	5	.756	4.92
	10	2.596	17.77
	15	1.888	22.27
	30	.378	0.88
59	0	.944	-
	8	.944	-
	15	.369	-
62	0	.207	3.86
	8	.225	0.20
	15	.243	1.46
64	0	.513	.24
	5	.468	1.03
	16	1.000	1.55

Table 3. Surface chlorophyll a , depth integrated chlorophyll a and C^{14} values.

Station	Surface Chlorophyll mg/m ³	Depth Integrated Chlorophyll a mg/m ²	Depth Integrated C^{14} mgC/m ² /day
1	1.278	12.9	51.0
2	.708		
3	.402		
4	.319	9.3	37.6
5	.457		
6	.308	19.6	53.1
7	.288		
8	.274		
9	.165		
10	.159		
11	.006		
12	.009		
13	.195		
14	.153		
15	.133	12.8	404.8
16	.826		
17	.282	3.2	64.5
18	.460		
19	.767		
20	.806	12.4	167.1
21	.973	14.6	161.4
22	.585		
23	.459	3.9	
24	.261	2.7	
25	.009	.5	49.1
26	.590	11.9	

Table 3. (continued)

Station	Surface Chlorophyll mg/m ³	Depth Integrated Chlorophyll α mg/m ²	Depth Integrated C ¹⁴ mgC/m ² /day
27	.010	22.5	79.2
28	.180	2.2	
29	.560	7.0	
30	.990	11.4	
31	.056	.7	
32	.059	.7	
33	.068		
34	.041		
35	.062		
36	.108		
37	.248		
38	.207	7.3	75.2
39	.207		
40	.702	10.8	64.6
41	.944		
42	1.003		
43	1.298	14.7	123.3
44	1.357	15.0	130.0
45	.944		
46	.688		
47	.457		
48	.457		
49	.083		
50	.037	2.2	6.1
51	.059		
58	1.116	41.3	366.2

Table 3. (continued)

<u>Station</u>	<u>Surface Chlorophyll</u> <u>mg/m³</u>	<u>Depth Integrated Chlorophyll <i>a</i></u> <u>mg/m²</u>	<u>Depth Integrated C¹⁴</u> <u>mgC/m²/day</u>
59	.873	12.1	
60	.096		
61	.112		
62	.207	3.4	22.0
63	.629		
64	.513	10.5	17.4

PARTICULATE ORGANIC CARBON AND PARTICULATE NITROGEN

Table 4. Particulate Organic Carbon (PON) and Nitrogen (PN)

<u>Station</u>	<u>Depth</u> (m)	<u>POC</u> $\mu\text{gC/L}$	<u>PN</u> $\mu\text{gN/L}$	<u>C:N</u> (atomic)
1	0	749	49.8	17.8
2	0	354	-	-
4	0	295	22.4	15.4
4	16	330	-	-
7	0	334	26.3	14.8
10	0	366	21.0	20.3
12	0	209	21.3	11.5
16	0	386	32.4	13.9
17	0	160	18.6	10.0
17	13	230	-	-
19	0	271	26.3	12.0
20	0	294	31.6	10.8
20	9	336	-	-
21	0	312	31.9	11.4
21	13	361	-	-
22	0	300	31.1	11.3
24	0	459	-	-
25	0	209	17.4	14.0
25	40	134	-	-
30	0	244	-	-
38	0	131	7.0	21.8
38	35	134	-	-
40	0	269	16.5	19.0
40	14	257	-	-
42	0	332	-	-
35	0	82	-	-
43	0	447	40	13.0
43	3	460	38	14.1
43	10	363	27	13.4
44	0	534	-	-
44	9	491	43.7	13.1
45	0	389	-	-
47	0	357	37.5	11.1
51	0	540	-	-
58	0	248	31.4	9.2
58	9	333	50.7	7.7
58	15	262	31.4	9.8
60	0	442	-	-
62	0	154	13.2	13.7
62	15	174	-	-
64	0	292	19.6	17.4
64	16	280	-	-

Means $\pm$ 1 s.d. : 327 $\pm$ 141 27.0 $\pm$ 10.7 14.1 $\pm$ 3.5

Table 5. Concentration of Mercury in Continental Shelf Waters (nanograms/liter)

<u>Mercury Concentrations (ng/l)</u>	
Station #	April 1974
1	300
3	260
5	370
7	240
9	200
12	120
14	75
16	160
18	58
20	82
21	43
23	134
25	75
27	56
29	62
31	68
33	105
35	58
27	81
39	75
41	97
43	66
44	120
46	73
48	56
51	84
58	68
60	43
62	47
64	58
Average	110
Minimum	43
Maximum	300

Table 6. Mean grain size, sorting, skewness and kurtosis (Folk and Ward values) for sediments from E-3-74. All values in phi (ϕ) where applicable.

Station #	Mz	I	Sk	Kg
4	0.92	0.82	-0.17	0.94
6	1.47	0.59	-0.06	1.01
8	3.74	0.86	-0.07	0.89
13	2.43	0.35	-0.07	1.21
16	0.92	0.80	-0.13	0.92
19	2.17	0.45	-0.18	1.25
22	1.97	0.63	-0.41	1.34
23	1.33	0.90	-0.84	0.98
26	0.87	1.03	-0.05	0.93
28	0.11	1.15	0.07	1.00
29	3.82	0.91	-0.09	0.99
36	1.19	0.59	-0.23	1.09
37	1.14	0.64	0.04	0.95
40	0.63	0.87	-0.03	1.05
41	0.80	1.04	-0.04	1.21
44	2.59	0.46	-0.01	1.22
48	0.94	1.01	-0.14	1.04
49	1.10	0.74	-0.11	0.99

Table 7. Organic material in continental shelf sediments E-3-74.

Station #	$\bar{x}(\%)$	$S_{\bar{x}} .05$	$\bar{x} \pm S_{\bar{x}} .05$
4	0.30	0.06	0.36 — 0.24
6	0.42	0.04	0.46 — 0.38
8	2.77	0.25	3.02 — 2.51
13	0.93	0.34	1.28 — 0.59
16	0.38	0.08	0.46 — 0.30
19	0.28	0.14	0.42 — 0.14
22	0.41	—	
23	0.30	0.06	0.36 — 0.24
26	0.29	0.10	0.39 — 0.19
28	0.92	0.28	1.20 — 0.64
29	2.42	0.72	3.14 — 1.70
36	0.37	0.06	0.43 — 0.31
37	0.31	0.11	0.42 — 0.20
40	0.39	0.04	0.43 — 0.35
41	0.62	0.07	0.69 — 0.55
44	0.38	0.01	0.39 — 0.37
48	0.44	0.06	0.50 — 0.38
49	0.41	0.04	0.45 — 0.37

SURFACE OBSERVATIONS

The following log was kept to note any surface observations. Realize the log was informally kept and was just an aid in data analysis.

<u>Time - Date</u>	<u>Nearby Station</u>	<u>Observations</u>
1415 24/4/74	cruising to Sta. 1	Scattered Ctenophores
1600 "	" " " "	" " less than at 1415
1715 "	Off Charleston	<i>Stomolophus</i> - med-large
1745 "	Sta. 1	" " "
0800 26/4/74	17-18	<i>Spartina</i> - <i>Chrysaora</i> -like
0845 "	18	<i>Chrysaora</i> & Ctenophores
0915 "	19	" " + heavy plankton
1030 "	20	heavy plankton
1125 "	to 21	large numbers of Ctenophores
1315 "	to 21	" " " " 2 <i>Chrysaora</i>
00 "	to 21	few Ctenophores
1500 "	21	" "
1610 "	22	Ctenophores
1700 "	23	more miserable Ctenophores
1800 "	between 23-24	<i>Trichodesmium</i> off port
0830 28/4/74	between 39-40	few <i>Aurelia</i> large numbers small <i>Chrysaora</i>
0915 "	40	" " " " " "
1030 "	40-41	fewer <i>Chrysaora</i> & <i>Aurelia</i> than above
1045 "	41	" " " " " on 40
1145 "	42-43	<i>Stomolophus</i> med-large many
1230 "	43	" " " "
1430 "	43-44	" " " "
1530 "	43-44	" " " "
1630 "	43-44	No <i>Stomolophus</i>
1730 "	43-44	small numbers of <i>Stomolophus</i>
1900 "	45	<i>Stomolophus</i> galore
2100 "	47	<i>Chrysaora</i> (3", lots - 1/m ³)
1030 30/4/74	Savannah tower	<i>Stomolophus</i>

APPENDIX B

Cruise E-12-74 Data

RUNOFF AND WEATHER

The observed weather at each station is listed with the hydrographic data. A poorly organized stationary front was the dominant weather feature during the cruise. Low pressure areas occasionally developed in the south-east states and in general moved northeast. Winds were light the duration of the cruise.

River flow from the three principal rivers (Altamaha, Savannah, and Cooper) are summarized in the following table:

Table 1. River flow data for principal rivers. Average daily flow rates (km^3/day) are shown.

Date	Altamaha	Savannah	Cooper	Total
23 June 1974	.0176	.0204	.0248	.0628
24	.0166	.0207	.0130	.0503
25	.0165	.0202	.0182	.0549
26	.0168	.0191	.0137	.0496
27	.0171	.0185	.0213	.0569
28	.0163	.0191	.0334	.0688
29	.0147	.0199	.0263	.0609
30	.0134	.0194	.0256	.0584
1 July	.0124	.0195	.0375	.0694
2	.0115	.0194	.0371	.0680
3	.0108	.0187	.0241	.0536
4	.0104	.0187	.0183	.0474
5	.0103	.0194	.0146	.0443
6	.0103	.0202	.0117	.0422
7	.0104	.0211	.0116	.0431
8	.0111	.0219	.0260	.0590
9	.0110	.0214	.0409	.0733
10	.0120	.0208	.0409	.0737
11	.0125	.0205	.0454	.0784
12	.0125	.0215	.0372	.0712
13	.0126	.0231	.0281	.0638
14	.0133	.0242	.0195	.0570
15	.0138	.0244	.0362	.0744
16	.0139	.0228	.0327	.0694
17	.0138	.0203	.0334	.0675
18	.0125	.0186	.0353	.0664
19	.0113	.0186	.0392	.0691
20	.0106	.0192	.0350	.0648
21	.0107	.0198	.0189	.0494
22	.0110	.0204	.0272	.0586
23	.0110	.0206	.0273	.0589
24	.0115	.0195	.0329	.0639
25	.0121	.0187	.0318	.0626
26	.0123	.0186	.0347	.0656
27	.0127	.0193	.0158	.0478
28	.0136	.0197	.0309	.0642
29	.0144	.0199	.0341	.0684
30	.0144	.0202	.0371	.0717
31	.0135	.0195	.0320	.0650

HYDROGRAPHIC DATA

The following printout are from a program developed at Skidaway Institute using NODC format data as input.

The headings indicate the following:

1. STATION: A number referring to a geographic position in the sampling grid.
2. CONSECUTIVE STATION: A number based on the chronological order of stations (NODC consecutive number).
3. WEATHER CODE: Weather based on WMO code 4501.
4. CLOUD TYPE: Cloud type based on WMO code 0400.
5. CLOUD AMOUNT: Cloud amount based on WMO code 2700.
6. VISIBILITY CODE: not given.
7. Z: Depth in meters.
8. T: Temperature in degrees Celsius.
9. S: Salinity in ppt.
10. D: Density in sigma-t units.
11. O₂: Oxygen concentration in mL O₂/L.
12. O₂: Oxygen saturation based on UNESCO tables.
13. AOU: O₂-O₂.
14. O₂A: Oxygen anomaly based on Richards and Redfield (Deep-Sea Research, 1955, 2:182-199).
15. PO₄: micromoles liter⁻¹.
16. NO₃: micromoles liter⁻¹.
17. SI: micromoles liter⁻¹.
18. N/P: Nitrate phosphate ratio.
19. DOC: Dissolved organic carbon (mg liter⁻¹).

EASTWARD CRUISE 12 STATION 1 23/ VII/74 12.8 GMT CONSECUTIVE STATION 1

LATITUDE = 32 38.0N LONGITUDE = 79 47.0W DEPTH = 12M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 25.60	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	27.41	34.92	22.55	4.81	4.54	-.27	-.50	.18	0.0	.9	0.0	1.98
12	27.34	34.10	21.95	4.65	4.57	-.08	-.44	.25	.7	.2	2.8	1.80

EASTWARD CRUISE 12 STATION 2 23/ VII/74 14.5 GMT CONSECUTIVE STATION 2

LATITUDE = 32 35.0N LONGITUDE = 79 42.5W DEPTH = 15M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.80	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1017.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	26.39	34.94	22.89	4.55	4.62	.07	-.19	.22	.5	.1	2.3	1.50
15	26.28	34.98	22.95	4.55	4.62	.07	-.18	.22	.1	1.7	.5	1.46

EASTWARD CRUISE 12 STATION 3 23/ VII/74 16.0 GMT CONSECUTIVE STATION 3

LATITUDE = 32 32.0N LONGITUDE = 79 38.0W DEPTH = 20M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 27.80	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	26.44	34.91	22.85	4.65	4.61	-.04	-.30	.26	.5	.6	1.9	1.56
19	26.37	34.94	22.90	4.50	4.62	.12	-.14	.16	0.0	.9	0.0	1.32

EASTWARD CRUISE 12 STATION 4 23/ VII/74 13.2 GMT CONSECUTIVE STATION 4

LATITUDE = 32 26.7N LONGITUDE = 79 27.8W DEPTH = 19M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	= 4-356 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 28.30	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	27.26	35.13	22.76	4.76	4.54	-.22	-.42	.05	.4	.3	8.0	1.22
13	25.29	35.35	23.54	4.55	4.69	.14	-.08	.14	.4	.7	2.9	1.40

EASTWARD CRUISE 12 STATION 5 23/ VII/74 20.0 GMT CONSECUTIVE STATION 5

LATITUDE = 32 21.4N LONGITUDE = 79 17.3W DEPTH = 36M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	= 36- 44 DEGR	WAVE DIRECTION	= 36- 44 DEGR
AIR TEMP	= 27.2C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PD4	NO3	SI	N/P	DOC
0	27.37	35.20	22.77	4.76	4.53	-.23	-.42	.07	.3	.6	4.3	1.32
15	27.01	35.27	22.94	4.44	4.56	.12	-.07	.04	.5	.4	12.5	1.36
35	22.51	36.12	24.95	3.97	4.90	.93	.72	.15	.9	1.7	6.0	1.08

EASTWARD CRUISE 12 STATION 6 23/ VII/74 21.5 GMT CONSECUTIVE STATION 6

LATITUDE = 32 16.5N LONGITUDE = 79 9.2W DEPTH = 52M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 3
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1015.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2R	PO4	NO3	SI	N/P	DOC
0	27.52	35.49	22.94	4.60	4.52	-.08	-.23	.07	.5	.6	7.1	1.12
20	27.08	35.67	23.22	4.81	4.54	-.27	-.40	.05	.7	.7	14.0	1.12
30	24.23	36.07	24.41	4.81	4.76	-.05	-.20	.09	.8	.9	8.9	1.08
50	21.72	36.17	25.21	4.18	4.97	.79	.55	.27	3.0	1.9	11.1	.84

EASTWARD CRUISE 12 STATION 7 23/ VII/74 23.0 GMT CONSECUTIVE STATION 7

LATITUDE = 32 14.0N LONGITUDE = 79 4.0W DEPTH = 70M

WEATHER DATA

WIND FORCE = 0

SEA STATE = 0

WIND DIRECTION = DEGR

WAVE DIRECTION = DEGR

AIR TEMP = 27.80

CLOUD TYPE = 8

WEATHER CODE = 1

CLOUD AMOUNT = 3

BAROMETRIC PRESSURE = 1016.3 MB

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.58	35.65	23.05	4.75	4.51	-.24	-.36	.06		.7		1.26
25	26.85	35.71	23.33	5.10	4.56	-.54	-.67	.06	0.0	1.1	0.0	1.40
50	21.11	36.22	25.41	4.05	5.02	.97	.72	.28	.5	2.5	1.8	.96
60	20.71	36.26	25.55	3.86	5.06	1.20	.93	.34		3.2		1.00

EASTWARD CRUISE 12 STATION 8 24/ VII/74 1.0 GMT CONSECUTIVE STATION 8

LATITUDE = 32 11.0N LONGITUDE = 78 58.5W DEPTH = 200M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.70	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	DBA	PD4	ND3	SI	N/P	DOC
0	27.45	36.02	23.36	4.70	4.51	-.13	-.26	.03	.4	.9	13.3	1.04
24	26.76	35.89	23.49	4.72	4.56	-.16	-.26	.02	1.1	.5	55.0	.96
49	22.20	36.21	25.10	4.62	4.93	.31	.10	.06	.6	1.7	10.0	5.10
72	20.09	36.22	25.69	3.66	5.12	1.46	1.15	.49	7.7	2.7	15.7	3.36
96	18.96	36.25	26.01	3.44	5.22	1.73	2.32	.52	9.1	7.7	17.5	3.70
146		36.07		3.30				.71		5.6		.58
193	13.79	35.73	26.82	3.30	5.80	2.50	.36	1.16	19.5	8.4	16.8	2.78

EASTWARD CRUISE 12 STATION 9 24/ VII/74 4.6 GMT CONSECUTIVE STATION 9

LATITUDE = 32 6.0N LONGITUDE = 78 48.3W DEPTH = 400M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	=136-144 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.1C	CLOUD TYPE	=
WEATHER CODE	= 0	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.93	35.90	23.05	4.62	4.43	-.14	-.23	0.00		.9		.62
25	27.56	35.90	23.24	4.64	4.50	-.14	-.22	.10	.5	.7	5.0	
50	25.35	36.13	24.11	4.76	4.67	-.09	-.20	.14	.7	1.0	5.0	.66
75	22.22	36.38	25.22	3.97	4.92	.95	.77	.15	3.5	1.8	23.3	.50
100	19.93	36.19	25.71	3.85	5.13	1.23	.96	.57		3.2		.62
148	16.00	36.03	26.56	3.29	5.54	2.25	.70	.93	15.1	6.0	16.2	.54
195	12.23	35.49	26.95	3.10	6.00	2.90	.51	1.42	22.8	10.3	16.1	.58
290	9.46	35.13	27.16	2.98	6.33	3.40	.73	1.77	17.4	14.5	9.8	.76
386	8.99	35.38	27.44	3.03	6.44	3.41	1.14	1.72	24.3	17.2	14.1	.44

EASTWARD CRUISE 12 STATION 10 24/ VII/74 6.8 GMT CONSECUTIVE STATION 10

LATITUDE = 32 0.0N LONGITUDE = 78 38.6W DEPTH = 390M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =136-144 DEGR
AIR TEMP = 26.1C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1015.9 MB

SEA STATE = 2
WAVE DIRECTION =136-144 DEGR
CLOUD TYPE = 5
CLOUD AMOUNT = 3
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	28.16	35.92	22.98	4.81	4.46	-.35	-.44	.02	.6	1.2	30.0	4.40
23	28.04	35.96	23.13	4.76	4.47	-.29	-.36	0.00		1.1		.96
47	25.74	35.19	23.28	4.81	4.66	-.15	-.39					.84
70	23.92	36.43	24.77	4.44	4.77	.33	.22	.04		.9		4.42
94	22.30	36.49	25.29	4.18	4.91	.73	.57	.16	0.0	1.1	0.0	.80
142	18.79	36.47	26.22	3.35	5.23	1.88	1.56	.55	6.2	3.3	11.3	.84
189	16.27	36.07	26.53	3.56	5.51	1.95	.49	.76	12.8	3.9	16.8	.80
279	12.34	35.49	26.93	3.08	5.99	2.91	.53	1.33	20.8	10.0	15.6	.68
370	11.87	35.47	27.00	3.12	6.05	2.93	.50	1.44	15.7	9.9	10.9	.66

EASTWARD CRUISE 12 STATION 11 24/ VII/74 14.2 GMT CONSECUTIVE STATION 11

LATITUDE = 31 43.4N LONGITUDE = 79 8.0W DEPTH = 552M

WEATHER DATA

WIND FORCE = 1
WIND DIRECTION =136-144 DEGR
AIR TEMP = 27.2C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1018.3 MB

SEA STATE = 1
WAVE DIRECTION =136-144 DEGR
CLOUD TYPE = 5
CLOUD AMOUNT = 6
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.44	35.50	22.65	4.59	4.45	-.14	-.27	.01	.3	.9	30.0	1.16
22	28.44	36.08	23.08	4.59	4.43	-.16	-.20	0.00	.4	1.0		1.04
44	27.06	36.20	23.63	4.68	4.53	-.15	-.20	.03	.3	1.2	10.0	1.10
67	25.81	36.30	24.10	4.62	4.63	.01	-.06	.07	.5	1.7	7.1	.96
90	23.67	36.43	24.84	4.76	4.79	.03	-.09	.03	0.0	.8	0.0	.96
134	19.12	36.40	26.08	3.40	5.20	1.80	2.05	.62	9.3	3.4	15.0	.86
180	15.99	36.13	26.64	3.50	5.54	2.04	.35	.61	14.0	5.2	23.0	.68
270	12.06	35.49	26.98	3.10	6.02	2.92	.51	1.06	19.5	9.3	18.4	.96
360	11.02	35.35	27.06	3.28	6.16	2.88	.36	1.32	25.1	12.5	19.0	.68
450	10.56	35.28	27.09	4.12	6.23	2.11	-.46	1.66	16.3	12.7	9.8	1.00

EASTWARD CRUISE 12 STATION 12 24/ VII/74 16.5 GMT CONSECUTIVE STATION 12

LATITUDE = 31 49.1N LONGITUDE = 79 17.1W DEPTH = 205M

WEATHER DATA

WIND FORCE = 1
WIND DIRECTION =136-144 DEGR
AIR TEMP = 28.9C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1018.3 MB

SEA STATE = 1
WAVE DIRECTION =136-144 DEGR
CLOUD TYPE = 5
CLOUD AMOUNT = 6
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.35	35.82	22.92	4.71	4.45	-.26	-.34	.01	.4	1.0	40.0	.96
23	28.05	35.96	23.13	4.66	4.47	-.19	-.26	.01	0.0	.8	0.0	.68
46	25.50	36.23	24.14	4.86	4.65	-.21	-.30	.04	.1	1.0	2.5	.92
69	22.21	36.42	25.26	4.40	4.92	.52	.34	.07	1.0	1.0	14.3	.68
92	21.18	36.42	25.55	3.79	5.01	1.22	1.00	.24	5.1	2.1	21.3	.66
139	17.18	36.14	26.37	3.36	5.41	2.05	1.08	.74	13.2	6.1	17.8	1.50
185	14.88	35.90	26.71	3.36	5.67	2.31	.40	1.02	17.0	7.9	16.7	.66

EASTWARD CRUISE 12 STATION 13 24/ VII/74 19.5 GMT CONSECUTIVE STATION 13

LATITUDE = 31 52.2N LONGITUDE = 79 23.8W DEPTH = 88M

WEATHER DATA

WIND FORCE = 1

WIND DIRECTION = 176-184 DEGR

AIR TEMP = 27.8C

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1017.3 MB

SEA STATE = 1

WAVE DIRECTION = 176-184 DEGR

CLOUD TYPE = 8

CLOUD AMOUNT = 7

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	23.00	35.96	23.14	4.65	4.47	-.18	-.25	.09	.1	.9	1.1	.88
25	27.42	35.96	23.33	4.65	4.51	-.14	-.22	.06	.2	5.4	3.3	.84
50	25.04	36.26	24.31	4.71	4.69	-.02	-.12	.09	.4	1.0	4.4	.76
75	20.92	36.26	25.50	3.78	5.04	1.26	1.00	.43	6.8	4.4	15.8	1.04
88	19.22	36.23	25.92	3.45	5.20	1.75	1.40	.58	9.6	5.9	16.6	1.12

EASTWARD CRUISE 12 STATION 14 24/ VII/74 21.1 GMT CONSECUTIVE STATION 14

LATITUDE = 31 54.6N LONGITUDE = 79 27.5W DEPTH = 65M

WEATHER DATA

WIND FORCE = 1
WIND DIRECTION = 176-184 DEGR
AIR TEMP = 26.7C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1016.6 MB

SEA STATE = 1
WAVE DIRECTION = 176-184 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 7
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	27.63	36.12	23.38	4.60	4.49	-.11	-.16	.05	0.0	.9	0.0	.88
20	26.94	36.12	23.60	4.68	4.54	-.14	-.21	.04	.3	.9	7.5	.96
43	23.55	36.11	24.64	4.60	4.81	.21	.04	.19	1.4	2.4	7.4	1.04
63	21.28	36.24	25.39	3.87	5.01	1.14	.89	.38	5.7	4.4	15.0	.72

EASTWARD CRUISE 12 STATION 15 24/ VII/74 22.7 GMT CONSECUTIVE STATION 15

LATITUDE = 32 .3N LONGITUDE = 79 37.5W DEPTH = 40M

WEATHER DATA

WIND FORCE = 1
WIND DIRECTION = 176-184 DEGR
AIR TEMP = 27.2C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1017.3 MB

SEA STATE = 1
WAVE DIRECTION = 176-184 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 7
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	27.99	36.05	23.21	4.91	4.47	-.44	-.50	.16	.6	.4	3.8	1.26
20	27.08	35.98	23.45	4.76	4.54	-.22	-.31	.09	.7	.9	7.8	1.50
40	22.98	36.13	24.82	4.13	4.86	.73	.54	.33	1.3	3.3	3.9	1.04

EASTWARD CRUISE 12 STATION 16 25/ VII/74 1.1 GMT CONSECUTIVE STATION 16

LATITUDE = 32 6.0N LONGITUDE = 79 47.0W DEPTH = 27M

WEATHER DATA

WIND FORCE = 1
WIND DIRECTION = 176-184 DEGR
AIR TEMP = 27.8C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1017.3 MB

SEA STATE = 1
WAVE DIRECTION = 176-184 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 3
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.03	35.46	23.08	4.75	4.55	-.20	-.36	.20	.4	.7	2.0	1.26
13	26.21	35.25	23.18	4.79	4.62	-.17	-.38	.12	.1	0.0	.8	1.40
16	25.46	35.67	23.73	4.56	4.67	.11	-.06	.14		.8		1.36

EASTWARD CRUISE 12 STATION 17 25/ VII/74 3.0 GMT CONSECUTIVE STATION 17

LATITUDE = 32 11.5N LONGITUDE = 79 57.5W DEPTH = 20M

WEATHER DATA

WIND FORCE = 1
WIND DIRECTION = 216-224 DEGR
AIR TEMP = 27.2C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1017.6 MB

SEA STATE = 1
WAVE DIRECTION = 176-184 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 7
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.17	34.42	22.25	4.71	4.57	-.14	-.45	.10	0.0	1.0	0.0	1.26
18	26.73	35.43	23.15	4.76	4.58	-.18	-.36	.10	.3	.3	3.0	1.36

EASTWARD CRUISE 12 STATION 18 25/ VII/74 4.7 GMT CONSECUTIVE STATION 18

LATITUDE = 32 17.3N LONGITUDE = 80 3.1W DEPTH = 18M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 26.1C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.87	35.11	22.55	4.71	4.50	-.21	-.40	.14	0.0	.3	0.0	1.26
18	27.84	35.14	22.57	4.68	4.50	-.18	-.37	.13	.1	.9	.8	1.36

EASTWARD CRUISE 12 STATION 19 25/ VII/74 5.6 GMT CONSECUTIVE STATION 19

LATITUDE = 32 19.3N LONGITUDE = 80 11.7W DEPTH = 17M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 26.1C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.83	34.99	22.47	4.63	4.51	-.12	-.34	.09	.3	.2	3.3	1.26
17	27.81	34.99	22.47	4.76	4.51	-.25	-.47	.10	0.0	0.0	0.0	1.36

EASTWARD CRUISE 12 STATION 20 25/ VII/74 6.9 GMT CONSECUTIVE STATION 20

LATITUDE = 32 22.1N LONGITUDE = 80 16.2W DEPTH = 13M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1016.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2R	PO4	NO3	SI	N/P	DOC
0	27.91	34.43	22.02	4.40	4.51	.11	-.18	.36	.4	.9	1.1	1.32
13	27.92	34.41	22.01	4.42	4.51	.09	-.20	.42	0.0	.7	0.0	1.54

EASTWARD CRUISE 12 STATION 21 25/ VII/74 12.1 GMT CONSECUTIVE STATION 21

LATITUDE = 31 57.0N LONGITUDE = 80 42.5W DEPTH = 14M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 2
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 27.8C	CLOUD TYPE	= 6
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2R	PO4	NO3	SI	N/P	DOC
0	27.73	33.88	21.67	4.55	4.54	-.01	-.39	.50	.4	1.8	.8	1.12
12	27.96	34.33	21.93	4.21	4.51	.30	-.00	.41	.2	1.3	.5	1.60

EASTWARD CRUISE 12 STATION 22 25/ VII/74 13.9 GMT CONSECUTIVE STATION 22

LATITUDE = 31 55.0N LONGITUDE = 80 39.8W DEPTH = 12M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 27.8C	CLOUD TYPE	= 6
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.61	34.37	22.07	4.61	4.54	-.07	-.38	.44	0.0	.9	0.0	1.40
13	27.90	35.14	22.55	4.26	4.50	.24	.05	.39		.7		1.46

EASTWARD CRUISE 12 STATION 23 25/ VII/74 15.2 GMT CONSECUTIVE STATION 23

LATITUDE = 31 53.0N LONGITUDE = 80 34.2W DEPTH = 15M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 27.8C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.89	35.51	22.84	4.55	4.49	-.06	-.20	.42	.6	.6	1.4	1.12
13	27.91	35.53	22.85	4.45	4.49	.04	-.10	.29	0.0	.7	0.0	1.12

EASTWARD CRUISE 12 STATION 24 25/ VII/74 19.7 GMT CONSECUTIVE STATION 24

LATITUDE = 31 48.5N LONGITUDE = 80 23.7W DEPTH = 20M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=156-164 DEGR	WAVE DIRECTION	=156-164 DEGR
AIR TEMP	= 28.3C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	D2A	PO4	NO3	SI	N/P	DOC
0	28.00	36.25	23.36					.22	.1	.5	.5	.88
20	27.75	36.25	23.44	4.81	4.48	-.33	-.36	.19	.8	.9	4.2	.96

EASTWARD CRUISE 12 STATION 25 25/ VII/74 21.5 GMT CONSECUTIVE STATION 25

LATITUDE = 31 44.2N LONGITUDE = 80 13.0W DEPTH = 31M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 28.3C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	D2A	PO4	NO3	SI	N/P	DOC
0	27.60	36.32	23.54	4.71	4.49	-.22	-.24	.11		.9		.80
31	27.35			4.67				.13	0.0	.9	0.0	1.00

EASTWARD CRUISE 12 STATION 26 25/ VII/74 23.1 GMT CONSECUTIVE STATION 26

LATITUDE = 31 39.6N LONGITUDE = 80 3.1W DEPTH = 41M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 28.9C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	27.11	36.19	23.60	4.77	4.53	-.24	-.30	.18	.3	1.3	1.7	
20	26.52	36.17	23.78	4.67	4.57	-.10	-.17	.09	0.0	1.4	0.0	
38	25.70	36.29	24.13	4.66	4.63	-.03	-.10	.05	.2	.8	4.0	

EASTWARD CRUISE 12 STATION 27 26/ VII/74 .6 GMT CONSECUTIVE STATION 27

LATITUDE = 31 36.0N LONGITUDE = 79 53.7W DEPTH = 41M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 25.6C	CLOUD TYPE	= 8
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	27.00	36.08	23.55	4.89	4.54	-.35	-.42	.03	.8	3.6	26.7	.92
20	26.79	36.07	23.61	4.86	4.56	-.30	-.38	.12	.5	.7	4.2	.84
40	25.68	36.19	24.05	4.76	4.64	-.12	-.21	.05	.4	1.3	8.0	.72

EASTWARD CRUISE 12 STATION 28 26/ VII/74 3.0 GMT CONSECUTIVE STATION 28

LATITUDE = 31 31.5N LONGITUDE = 79 43.0W DEPTH = 68M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 25.60	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1017.3 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.94	35.81	23.04	4.76	4.48	-.28	-.38	.05	.2	1.9	4.0	.92
20	27.76	35.83	23.12	4.88	4.49	-.39	-.48	.03	.7	1.3	23.3	.66
40	23.39	36.27	24.80	4.44	4.82	.38	.23	.21	1.6	1.6	7.6	.54
68	19.67	36.29	25.85	3.40	5.15	1.75	1.44	.67	7.3	4.2	10.9	.80

EASTWARD CRUISE 12 STATION 29 26/ VII/74 4.7 GMT CONSECUTIVE STATION 29

LATITUDE = 31 29.5N LONGITUDE = 79 38.5W DEPTH = 145M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 2
WIND DIRECTION	=156-164 DEGR	WAVE DIRECTION	= COMPUSED
AIR TEMP	= 25.60	CLOUD TYPE	= 5
WEATHER CODE	= 8	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.13	35.80	22.98	4.67	4.46	-.21	-.30	.17	.6	.6	3.5	1.00
25	27.58	36.30	23.54	4.60	4.49	-.11	-.13	.14	.5	1.5	3.6	.92
50	24.38	36.21	24.46	4.81	4.74	-.07	-.20	.21	1.2	1.6	5.7	1.04
75	21.04	36.32	25.51	3.83	5.03	1.20	.95	.38		2.4		.68
100	19.30	36.39	26.02	3.41	5.19	1.78	2.30	.56	5.7	2.5	10.2	.64
140	15.23	35.87	26.61	3.28	5.63	2.35	.62		16.0	3.4		.80

EASTWARD CRUISE 12 STATION 30 26/ VII/74 7.0 GMT CONSECUTIVE STATION 30

LATITUDE = 31 28.0N LONGITUDE = 79 32.5W DEPTH = 255M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 2
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 25.6C	CLOUD TYPE	= 5
WEATHER CODE	= 6	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	28.59	35.69	22.74	4.50	4.43	-.07	-.16	.08	.3	.6	3.8	.96
23	28.54	35.84	22.87	4.81	4.43	-.38	-.45	.04	.2	6.8	5.0	1.00
45	26.16	36.19	23.90	4.62	4.60	-.02	-.10	.12	.2	1.0	1.7	.80
68	24.36	36.94	25.03	4.08	4.72	.64	.63	.09	0.0	1.1	0.0	.88
91	20.98	36.36	25.56	3.76	5.03	1.27	1.03	.25	.2	3.2	.8	.88
136	16.18	36.07	26.55	3.35	5.52	2.17	.66	.93	14.6	5.9	15.7	.62
181	13.11	35.66	26.90	4.14	5.88	1.74	-.52	1.33	14.5	7.4	10.9	.72
227	10.76	35.28	27.06	3.66	6.20	2.54	-.02	1.68	18.7	11.2	11.1	.80

EASTWARD CRUISE 12 STATION 31 26/ VII/74 9.7 GMT CONSECUTIVE STATION 31

LATITUDE = 31 25.5N LONGITUDE = 79 21.0W DEPTH = 480M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 25.60	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1016.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	P04	NO3	SI	N/P	DOC
0	28.65	36.06	23.00	4.56	4.42	-.14	-.18	.15	.2	1.1	1.3	1.00
24	28.24	36.09	23.16	4.71	4.45	-.26	-.31	.02	.6	4.5	30.0	1.26
48	26.59	36.23	23.80	4.68	4.57	-.11	-.17	.04	1.1	1.0	27.5	.92
72	24.92	36.26	24.34	4.63	4.70	.07	-.04	.04	.3	.7	7.5	1.16
96	22.12	36.46	25.31	4.40	4.93	.53	.35	.11		3.8		1.50
145	18.20	36.33	26.26	3.50	5.30	1.80	1.27	.73	9.1	3.4	12.5	.66
190	15.20	35.95	26.68	3.58	5.63	2.05	.22	.88	15.2	5.9	17.3	.68
257	10.54	35.26	27.08	3.28	6.23	2.95	.37	1.55		15.2		.58
355	8.43	34.98	27.22	3.24	6.54	3.30	.54	1.83	30.4	19.4	16.6	.66
407	7.74	34.98	27.32	3.08	6.64	3.56	.85	1.80	30.6	20.9	17.0	.66

EASTWARD CRUISE 12 STATION 32 26/ VII/74 12.5 GMT CONSECUTIVE STATION 32

LATITUDE = 31 19.5N LONGITUDE = 79 10.5W DEPTH = 465M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =196-204 DEGR
AIR TEMP = 27.20
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1017.9 MB

SEA STATE = 2
WAVE DIRECTION =196-204 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	28.56	36.07	23.04	4.52	4.43	-.09	-.14	.01	.2	1.4	20.0	.74
21	28.38	36.05	23.08	4.56	4.44	-.12	-.17	.05	.2	1.0	4.0	.60
43	27.71	36.03	23.29	4.66	4.49	-.17	-.24	.02		.9		.60
65	27.18	36.05	23.48	4.60	4.53	-.07	-.14	0.00	.2	2.6		.56
87	26.40	36.15	23.80	4.55	4.58	.03	-.04					.50
131	23.40	36.71	25.14	3.71	4.81	1.10	1.01	.22	3.8	1.9	17.3	.46
174	19.20	36.51	26.14	3.84	5.19	1.35	1.37	.42	8.6	2.8	20.5	1.38
261	15.81	36.07	26.64	3.47	5.56	2.09	.38	.75	13.4	4.9	17.9	.40
350	12.94	35.62	26.90	2.99	5.91	2.92	.63	1.32	15.3	7.5	11.6	.60
405	9.94			2.78				1.40	21.2	24.5	15.1	.44

EASTWARD CRUISE 12 STATION 33 26/ VII/74 20.1 GMT CONSECUTIVE STATION 33

LATITUDE = 30 54.6N LONGITUDE = 79 25.5W DEPTH = 750M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =196-204 DEGR
AIR TEMP = 29.40
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1016.6 MB

SEA STATE = 2
WAVE DIRECTION =196-204 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.78	35.96	22.88	4.77	4.41	-.36	-.41	.05		1.6		.72
23	28.40	35.95	23.00	4.65	4.44	-.21	-.27	.05	0.0	1.6	0.0	.60
45	27.63	36.11	23.37	4.78	4.49	-.29	-.34	.03	.3	5.1	10.0	1.22
69	26.24	35.99	23.73	5.18	4.60	-.58	-.68	.17	.8	1.0	4.7	1.04
92	26.05	36.11	23.88	4.22	4.61	.39	.30	0.00	.1	1.0		.92
138	23.85	36.48	24.83	5.13	4.78	-.35	-.46	.02		.2		.88
184	21.61	36.74	25.67	3.73	4.96	1.23	1.08	.21	5.0	2.4	23.8	.68
368	15.39	36.05	26.72	3.78	5.60	1.82	-.03	.86	10.7	4.3	12.4	.58
553	10.13	35.18	27.09	2.77	6.29	3.52	.89	1.85	27.1	13.5	14.6	.54
691	7.97	35.00	27.30	3.08	6.61	3.53	.82	1.82	25.9	19.1	14.2	.62

EASTWARD CRUISE 12 STATION 34 26/ VII/74 23.4 GMT CONSECUTIVE STATION 34

LATITUDE = 31 .5N LONGITUDE = 79 35.5W DEPTH = 555M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =216-224 DEGR
AIR TEMP = 26.7C
WEATHER CODE = 2
BAROMETRIC PRESSURE = 1016.3 MB

SEA STATE = 2
WAVE DIRECTION =216-224 DEGR
CLOUD TYPE = 5
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	28.41	35.96	23.01	5.08	4.44	-.64	-.70	.22	1.0	1.4	4.5	.72
23	28.26	36.06	23.13	4.76	4.45	-.31	-.36	.02	.3	2.5	15.0	.88
46	27.12	36.06	23.50	4.71	4.53	-.18	-.25	.02	2.0	1.2	100.0	.92
69	26.84	36.06	23.59	4.66	4.55	-.11	-.19	.02		.9		.80
93	25.92	36.20	23.99	4.47	4.62	.15	.07	.10	.3	1.1	3.0	.68
139	24.51	36.54	24.68	4.13	4.72	.59	.52	.09	0.0	1.1	0.0	.88
186	20.32	36.51	25.85	3.37	5.09	1.72	1.47	.14	7.4	3.3	52.9	.76
366	14.72	35.28	26.27	2.90	5.71	2.81	1.84	.36	25.1	15.6	69.7	.48
456	7.83	34.96	27.30	3.19	6.63	3.44	.71	1.58	25.6	18.1	16.2	1.12
501	7.66	34.96	27.31	3.14	6.66	3.52	.77	1.76	29.6	18.6	16.8	.68

EASTWARD CRUISE 12 STATION 35 27/ VII/74 2.1 GMT CONSECUTIVE STATION 35

LATITUDE = 31 2.5N LONGITUDE = 79 48.0W DEPTH = 285M

WEATHER DATA

WIND FORCE = 3

SEA STATE = 2

WIND DIRECTION =196-204 DEGR

WAVE DIRECTION =196-204 DEGR

AIR TEMP = 26.7C

CLOUD TYPE = 5

WEATHER CODE = 6

CLOUD AMOUNT = 0

BAROMETRIC PRESSURE = 1016.3 MB

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.74	35.96	22.90	4.55	4.42	-.13	-.19	.07	.5	1.7	7.1	1.04
23	28.53	36.10	23.07	4.91	4.43	-.48	-.52	.01		1.0		.72
46	28.05	36.11	23.23	4.77	4.46	-.31	-.35	.03	.4	4.2	13.3	.84
69	27.31	36.13	23.49	5.88	4.52	-1.36	-1.42	.02		.5		.58
93	25.99	36.28	24.02	4.65	4.61	-.04	-.11	.02	0.0	.4	0.0	.96
139	23.12	36.25	24.87	4.81	4.85	.04	-.13	.04	.4	3.8	10.0	.84
186	18.26	36.19	26.14	3.31	5.30	1.99	1.90	.61		5.1		.58
265	9.25	35.08	27.16	3.02	6.42	3.40	.69	2.22	20.3	16.0	9.1	.54

EASTWARD CRUISE 12 STATION 36 27/ VII/74 3.8 GMT CONSECUTIVE STATION 36

LATITUDE = 31 4.8N LONGITUDE = 79 53.5W DEPTH = 145M

WEATHER DATA

WIND FORCE = 3

WIND DIRECTION = 196-204 DEGR

AIR TEMP = 25.60

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1016.6 MB

SEA STATE = 2

WAVE DIRECTION = 196-204 DEGR

CLOUD TYPE = 5

CLOUD AMOUNT = 0

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	29.12	35.63	22.52	4.57	4.40	-.17	-.27	.04	.8	4.7	20.0	.88
24	28.87	36.07	22.94	4.81	4.40	-.41	-.44	.05	.2	1.1	4.0	.68
47	27.85	36.08	23.28	4.76	4.48	-.28	-.34	.01	.1	1.2	10.0	.68
71	25.84	36.24	24.04	4.50	4.62	.12	.05	.06	1.5	1.0	25.0	.80
95	24.43	36.30	24.52	4.97	4.74	-.23	-.35	.01	.4	1.2	40.0	.88
143	17.94	36.16	26.20	3.33	5.33	2.00	1.65	.82	10.3	5.9	12.6	1.22

EASTWARD CRUISE 12 STATION 37 27/ VII/74 7.0 GMT CONSECUTIVE STATION 37

LATITUDE = 31 6.6N LONGITUDE = 79 59.1W DEPTH = 45M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 2
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.88	35.75	22.69	4.61	4.41	-.20	-.28	.16	.3	1.1	1.9	.80
25	28.47	36.09	23.08	4.71	4.43	-.28	-.32	.01	.1	1.0	10.0	1.04
45	27.22	36.17	23.55	4.97	4.52	-.45	-.50	.05	.5	1.5	10.0	1.70

EASTWARD CRUISE 12 STATION 38 27/ VII/74 9.8 GMT CONSECUTIVE STATION 38

LATITUDE = 31 12.4N LONGITUDE = 80 15.5W DEPTH = 37M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 2
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 5
WEATHER CODE	= 1	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.07	36.06	23.52	4.86	4.54	-.32	-.40	.04	.2	1.2	5.0	1.08
25	25.01	36.23	24.29	4.66	4.69	.03	-.07	.05	.4	1.0	8.0	.84
36	24.99			4.71				.05	0.0	1.3	0.0	.84

EASTWARD CRUISE 12 STATION 39 27/ VII/74 12.6 GMT CONSECUTIVE STATION 39

LATITUDE = 31 18.0N LONGITUDE = 80 30.0W DEPTH = 32M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =176-184 DEGR
AIR TEMP = 27.8C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1016.9 MB

SEA STATE = 2
WAVE DIRECTION =176-184 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.33	36.09	23.46	4.57	4.52	-.05	-.12	.08	.1	3.5	1.3	.90
15	27.33	36.07	23.45	4.65	4.52	-.13	-.20	.05	.6	1.6	12.0	.96
30	26.99	36.13	23.60	4.71	4.54	-.17	-.24	.10	.4	2.0	4.0	1.04

EASTWARD CRUISE 12 STATION 40 27/ VII/74 15.7 GMT CONSECUTIVE STATION 40

LATITUDE = 31 21.8N LONGITUDE = 80 41.5W DEPTH = 20M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION =196-204 DEGR
AIR TEMP = 27.8C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1016.9 MB

SEA STATE = 2
WAVE DIRECTION =196-204 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.88	36.00	23.21	4.62	4.48	-.14	-.21	.05	.1	0.0	2.0	1.08
20	27.81	36.01	23.24	4.61	4.48	-.13	-.19	.07	.4	.6	5.7	1.00

EASTWARD CRUISE 12 STATION 41 27/ VII/74 17.3 GMT CONSECUTIVE STATION 41

LATITUDE = 31 25.6N LONGITUDE = 80 52.5W DEPTH = 17M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION = 216-224 DEGR
AIR TEMP = 28.9C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1015.2 MB

SEA STATE = 2
WAVE DIRECTION = 216-224 DEGR
CLOUD TYPE = 1
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.10	36.04	23.17	4.71	4.46	-.25	-.30	.35	.1	0.0	.3	1.40
17	27.94	36.04	23.22	4.78	4.47	-.31	-.37	.41	.8	0.0	2.0	1.08

EASTWARD CRUISE 12 STATION 42 27/ VII/74 18.4 GMT CONSECUTIVE STATION 42

LATITUDE = 31 37.5N LONGITUDE = 80 57.5W DEPTH = 15M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION = 216-224 DEGR
AIR TEMP = 27.8C
WEATHER CODE = 2
BAROMETRIC PRESSURE = 1015.2 MB

SEA STATE = 2
WAVE DIRECTION = 216-224 DEGR
CLOUD TYPE = 9
CLOUD AMOUNT = 0
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.11	35.87	23.04	4.62	4.46	-.16	-.24	.47	.8	1.0	1.7	
15	27.98	35.87	23.08	4.50	4.47	-.03	-.11	.50	.3	1.2	.6	

EASTWARD CRUISE 12 STATION 43 27/ VII/74 19.5 GMT CONSECUTIVE STATION 43

LATITUDE = 31 29.5N LONGITUDE = 81 3.0W DEPTH = 13M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 2
WIND DIRECTION	=156-164 DEGR	WAVE DIRECTION	=156-164 DEGR
AIR TEMP	= 27.8C	CLOUD TYPE	= 5
WEATHER CODE	= 6	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1014.6 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PD4	ND3	SI	N/P	DOC
0	27.94	35.22	22.61	4.57	4.49	-.08	-.25	.59		1.2		1.32
13	27.95	35.24	22.62	4.62	4.49	-.13	-.30	.58	.2	1.2	.3	1.36

EASTWARD CRUISE 12 STATION 44 28/ VII/74 1.6 GMT CONSECUTIVE STATION 44

LATITUDE = 30 55.4N LONGITUDE = 81 17.5W DEPTH = 9M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 2
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1015.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PD4	ND3	SI	N/P	DOC
0	27.37	35.29	22.85	4.29	4.53	.24	.06	.30		4.3		1.32
8	27.35	35.30	22.85	4.50	4.53	.03	-.15	.38	.4	3.9	1.1	1.32

EASTWARD CRUISE 12 STATION 45 28/ VII/74 2.8 GMT CONSECUTIVE STATION 45

LATITUDE = 30 54.5N LONGITUDE = 81 13.4W DEPTH = 13M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 2
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 0
BAROMETRIC PRESSURE	= 1014.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.28	35.49	23.02	4.78	4.53	-.25	-.40	.21	.9	7.0	4.3	1.08
12	27.25	35.51	23.05	4.47	4.54	.07	-.08	.21	.5	7.4	2.4	1.74

EASTWARD CRUISE 12 STATION 46 28/ VII/74 4.5 GMT CONSECUTIVE STATION 46

LATITUDE = 30 53.1N LONGITUDE = 81 7.0W DEPTH = 14M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 2
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 26.1C	CLOUD TYPE	= 6
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1014.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.25	35.63	23.13	4.61	4.53	-.08	-.21	.23		1.7		1.32
14	27.05	35.64	23.21	4.57	4.55	-.02	-.16	.32	.9	2.1	2.8	1.00

EASTWARD CRUISE 12 STATION 47 28/ VII/74 6.5 GMT CONSECUTIVE STATION 47

LATITUDE = 30 50.5N LONGITUDE = 80 55.0W DEPTH = 21M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 3
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 25.6C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1013.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	26.99	35.88	23.41	4.65	4.55	-.10	-.21	.07		4.7		.72
21	25.78	36.11	23.96	4.55	4.63	.08	-.02	.09	.9	1.3	10.0	.68

EASTWARD CRUISE 12 STATION 48 28/ VII/74 9.2 GMT CONSECUTIVE STATION 48

LATITUDE = 30 48.7N LONGITUDE = 80 44.5W DEPTH = 28M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 3
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	= 1012.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	26.84	36.10	23.62	4.62	4.55	-.07	-.14	.05	.2	0.0	4.0	.76
14	26.81	36.12	23.64	4.60	4.55	-.05	-.12	.05		.1		.72
28	24.78	36.09	24.25	4.98	4.71	-.27	-.40	.06		0.0		.80

EASTWARD CRUISE 12 STATION 49 28/ VII/74 11.9 GMT CONSECUTIVE STATION 49

LATITUDE = 30 45.0N LONGITUDE = 80 28.0W DEPTH = 38M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 3
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 26.1C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1013.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.34	35.94	23.34	4.62	4.52	-.10	-.19	.05		2.0		.76
15	27.30	35.94	23.35	4.71	4.52	-.19	-.28	.04	.3	1.7	7.5	.80
38	25.03	36.23	24.29	4.76	4.69	-.07	-.17	.05		.9		.76

EASTWARD CRUISE 12 STATION 50 28/ VII/74 14.5 GMT CONSECUTIVE STATION 50

LATITUDE = 30 41.5N LONGITUDE = 80 11.0W DEPTH = 45M

WEATHER DATA

WIND FORCE	= 4	SEA STATE	= 3
WIND DIRECTION	=246-254 DEGR	WAVE DIRECTION	=246-254 DEGR
AIR TEMP	= 25.0C	CLOUD TYPE	= 5
WEATHER CODE	= 2	CLOUD AMOUNT	= 8
BAROMETRIC PRESSURE	= 1013.5 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.27	35.85	22.97	4.54	4.45	-.09	-.17	.02	.5	2.2	25.0	.68
23	28.10	35.99	23.13	4.66	4.46	-.20	-.26	.17	.1	1.1	.6	.92
45	24.82	36.30	24.40	4.55	4.70	.15	.05	.22	.5	1.3	2.3	.68

EASTWARD CRUISE 12 STATION 51 28/ VII/74 16.3 GMT CONSECUTIVE STATION 51

LATITUDE = 30 40.2N LONGITUDE = 80 5.5W DEPTH = 115M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION =246-254 DEGR
AIR TEMP = 25.00
WEATHER CODE = 2
BAROMETRIC PRESSURE = 1013.5 MB

SEA STATE = 3
WAVE DIRECTION =246-254 DEGR
CLOUD TYPE = 5
CLOUD AMOUNT = 8
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A'	PO4	NO3	SI	N/P	DOC
0	28.29	35.02	22.34	4.57	4.47	-.10	-.30	.02		.5		.84
25	28.32	36.03	23.09	4.60	4.44	-.16	-.21	.05	.5	.8	10.0	.92
50	24.90	36.29	24.37	4.86	4.70	-.16	-.26	.01	0.0	.8	0.0	1.00
75	22.88	36.34	25.01	4.50	4.86	.36	.20	.04		1.3		.92
95	21.87	36.35	25.30	3.92	4.95	1.03	.83	.24	3.8	3.6	15.8	1.00
115	20.95	36.32	25.53	3.76	5.03	1.27	1.03	.31		4.0		.88

EASTWARD CRUISE 12 STATION 52 28/ VII/74 18.5 GMT CONSECUTIVE STATION 52

LATITUDE = 30 39.0N LONGITUDE = 79 59.5W DEPTH = 243M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION =246-254 DEGR
AIR TEMP = 26.7C
WEATHER CODE = 6
BAROMETRIC PRESSURE = 1012.5 MB

SEA STATE = 4
WAVE DIRECTION =216-224 DEGR
CLOUD TYPE = 5
CLOUD AMOUNT = 8
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.62	35.94	22.92	4.51	4.43	-.08	-.14	.01		1.0		.88
23	28.24	36.04	23.12	3.14	4.45	1.31	1.26	.02		.7		1.08
46	25.96	36.29	24.04	4.65	4.61	-.04	-.10	.04		.7		.62
69	24.92	36.39	24.44	4.60	4.69	.09	.01	.08	.2	2.0	2.5	1.22
92	22.17	36.54	25.36	3.91	4.92	1.01	.85	.13		2.9		.88
138	18.63	35.42	25.46	3.03	5.28	2.25	1.74	.55	11.1	4.5	20.2	.76
184	13.73	35.75	26.84	3.49	5.81	2.32	.16	1.22	16.5	8.6	13.5	1.00
224	10.21	35.27	27.15	2.87	6.27	3.40	.83	1.57		15.3		.66

EASTWARD CRUISE 12 STATION 53 28/ VII/74 22.2 GMT CONSECUTIVE STATION 53

LATITUDE = 30 38.5N LONGITUDE = 79 49.0W DEPTH = 480M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION = 316-324 DEGR
AIR TEMP = 26.1C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1011.5 MB

SEA STATE = 3
WAVE DIRECTION = 316-324 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 5
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A'	PO4	NO3	SI	N/P	DOC
0	29.20	35.67	22.52	5.12	4.39	-.73	-.82	0.00		.8		
21	28.23	36.07	23.15	5.24	4.45	-.79	-.84	0.00	.8	.8		1.08
43	25.43	36.24	24.17	5.19	4.66	-.53	-.62	.02	.3	2.0	15.0	.88
64	23.72	36.38	24.79	4.73	4.79	.06	-.06	.03		1.2		.92
86	22.44	36.63	25.35	3.84	4.89	1.05	.92	.22	3.8	.8	17.3	.84
129	18.87	36.52	26.24	3.42	5.23	1.81	1.42	.43		2.8		.62
179	16.31	36.13	26.57	4.04	5.50	1.46	-.07	.87	11.3	5.2	13.0	.58
279	12.21	35.53	26.98	2.89	6.00	3.11	.72	1.37	22.2	12.4	16.2	.72
379	8.79	35.05	27.22	2.94	6.48	3.54	.84	2.07	28.7	16.2	13.9	.76
459	8.38	35.03	27.26	2.94	6.55	3.61	.89	1.57	20.4	17.2	13.0	1.46

EASTWARD CRUISE 12 STATION 54 29/ VII/74 1.6 GMT CONSECUTIVE STATION 54

LATITUDE = 30 25.8N LONGITUDE = 79 57.0W DEPTH = 710M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION =266-274 DEGR
AIR TEMP = 27.2C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1011.9 MB

SEA STATE = 2
WAVE DIRECTION =266-274 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 7
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A'	PO4	NO3	SI	N/P	DOC
0	28.85	35.96	22.86	4.78	4.41	-.37	-.42	.07	.3	.9	4.3	.92
23	28.51	36.08	23.06	4.94	4.43	-.51	-.55	0.00	1.3	1.0		1.26
46	26.93	36.19	23.66	4.88	4.54	-.34	-.40	.03	0.0	1.6	0.0	1.00
69	25.79	36.99	24.62	4.67	4.61	-.06	-.03	.02	.3	1.0	15.0	.96
92	23.55	36.20	24.71	5.06	4.81	-.25	-.41	.06	.8	.9	13.3	.76
139	22.32	36.74	25.47	3.67	4.90	1.23	1.11	.18		3.5		.54
185	18.45	36.50	26.33	3.62	5.27	1.65	.93	.50	10.2	3.5	20.4	.50
375	11.83	35.50	27.03	2.82	6.05	3.23	.81	1.46	23.1	12.0	15.8	2.78
474	9.97	35.23	27.16	2.93	6.31	3.38	.78	1.56		15.1		.76

EASTWARD CRUISE 12 STATION 55 29/ VII/74 8.1 GMT CONSECUTIVE STATION 55

LATITUDE = 30 11.0N LONGITUDE = 79 43.5W DEPTH = 870M

WEATHER DATA

WIND FORCE = 4
WIND DIRECTION = 246-254 DEGR
AIR TEMP = 26.1C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1010.2 MB

SEA STATE = 2
WAVE DIRECTION = 266-274 DEGR
CLOUD TYPE = 6
CLOUD AMOUNT = 4
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.47	36.14	23.12	4.79	4.43	-.36	-.39	.04	.3	.5	7.5	.80
22	27.91	36.08	23.26	4.86	4.47	-.39	-.44	.06	.3	.9	5.0	1.12
44	26.94	36.21	23.67	4.83	4.54	-.29	-.34	.01		1.0		.84
66	25.69	36.41	24.22	4.71	4.63	-.08	-.14	0.00	1.0	.9		.66
89	23.50	36.31	24.80	4.94	4.81	-.13	-.27	.02		1.2		.76
133	20.35	36.71	25.99	3.73	5.08	1.35	1.13	.41	7.3	5.8	17.8	.96
179	16.68	36.27	26.58	3.67	5.46	1.79	.28	.71	12.7	6.2	17.9	.68
268	13.97	35.82	26.85	3.24	5.78	2.54	.40	1.18	17.3	7.3	14.7	.58
358	10.76	35.33	27.10	2.88	6.20	3.32	.78	1.82	24.8	12.2	13.6	.62
448	8.76	35.10	27.26	2.95	6.49	3.54	.88	1.85	26.7	25.5	14.4	.76

EASTWARD CRUISE 12 STATION 56 29/ VII/74 12.2 GMT CONSECUTIVE STATION 56

LATITUDE = 30 13.6N LONGITUDE = 79 55.0W DEPTH = 550M

WEATHER DATA

WIND FORCE = 3
WIND DIRECTION = 316-324 DEGR
AIR TEMP = 26.7C
WEATHER CODE = 1
BAROMETRIC PRESSURE = 1011.5 MB

SEA STATE = 2
WAVE DIRECTION = 316-324 DEGR
CLOUD TYPE = 8
CLOUD AMOUNT = 5
VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.50	35.83	22.88	4.68	4.44	-.24	-.32	0.00	.8	.9		1.00
22	27.76	36.08	23.31	4.97	4.48	-.49	-.54	.03		.7		.96
45	24.91	36.29	24.37	5.12	4.70	-.42	-.52	.04	0.0	1.2	0.0	1.12
67	22.26	36.35	25.19	4.37	4.92	.55	.36	.18	3.4	2.9	18.9	.84
90	19.19	36.24	25.94	3.79	5.20	1.41	1.06	.47	10.6	4.3	22.6	
180	13.74	35.79	26.87	3.50	5.80	2.30	.13	1.05		8.7		.88
270	9.21	35.15	28.00	2.89	6.38	3.49	3.34	1.71		17.5		
360	7.86	35.00	27.32	3.05	6.62	3.57	.88	1.88	21.3	16.8	11.3	
452	7.13	34.97	27.40	3.30	6.74	3.44	.79	1.63	25.4	21.9	15.6	
502	6.84	34.93	27.41	3.40	6.79	3.39	.71	1.93	24.7	21.4	12.8	

EASTWARD CRUISE 12 STATION 57 29/ VII/74 14.9 GMT CONSECUTIVE STATION 57
 LATITUDE = 30 12.3N LONGITUDE = 80 0.0W DEPTH = 290M

WEATHER DATA

WIND FORCE = 3
 WIND DIRECTION = 316-324 DEGR
 AIR TEMP = 26.7C
 WEATHER CODE = 1
 BAROMETRIC PRESSURE = 1012.2 MB

SEA STATE = 1
 WAVE DIRECTION = 316-324 DEGR
 CLOUD TYPE = 8
 CLOUD AMOUNT = 7
 VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.04	35.90	23.08					.15	.1	1.9	.7	1.08
23	25.25	36.08	24.11	5.02	4.68	-.34	-.46	.08	.5	3.5	6.3	1.56
45	22.24	36.38	25.22	4.60	4.92	.32	.14	.13	3.4	1.3	26.2	.96
68	19.54	36.23	25.85	3.76	5.17	1.41	1.08	.49	9.7	3.9	19.8	.84
91	17.00	36.08	26.37	3.58	5.43	1.85	.86	.93	13.4	5.5	14.4	.74
138	12.04	35.51	27.00	3.19	6.02	2.83	.43	1.40	21.4	12.7	15.3	.66
184	9.65	36.14	27.92	2.90	6.32	3.42	2.94	1.68	26.4	15.1	15.7	.74
268	8.08	35.03	27.31	2.98	6.59	3.61	.93	2.21	29.6	18.8	13.4	.66

EASTWARD CRUISE 12 STATION 58 29/ VII/74 16.6 GMT CONSECUTIVE STATION 58

LATITUDE = 30 14.0N LONGITUDE = 80 13.0W DEPTH = 114M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 30.00	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 6
BAROMETRIC PRESSURE	= 1011.5 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.49	35.95	22.97	4.65	4.43	-.22	-.28	.32	1.4		4.4	1.26
22	26.57	36.20	23.79	5.04	4.57	-.47	-.53	.07	.3	2.5	4.3	.96
73	22.86	36.60	25.21	4.05	4.86	.81	.68	.18	3.1	1.9	17.2	.72
98	18.49	36.20	26.09	3.40	5.27	1.87	2.01	.67		6.6		.84
114	17.75	36.15	26.24	3.71	5.35	1.64	1.13	.75	11.9	6.8	15.9	.92

EASTWARD CRUISE 12 STATION 59 29/ VII/74 18.3 GMT CONSECUTIVE STATION 59

LATITUDE = 30 15.0N LONGITUDE = 80 18.6W DEPTH = 47M

WEATHER DATA

WIND FORCE = 2

WIND DIRECTION = 316-324 DEGR

AIR TEMP = 30.00

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1011.2 MB

SEA STATE = 1

WAVE DIRECTION = 316-324 DEGR

CLOUD TYPE = 8

CLOUD AMOUNT = 6

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	28.66			4.67				.14	.8	1.3	5.7	1.36
25	24.10			5.00				.09	.3	2.4	3.3	.88
45	22.12			4.29				.18	2.7	2.4	15.0	.88

EASTWARD CRUISE 12 STATION 60 29/ VII/74 20.4 GMT CONSECUTIVE STATION 60

LATITUDE = 30 16.8N LONGITUDE = 80 30.0W DEPTH = 35M

WEATHER DATA

WIND FORCE	= 3	SEA STATE	= 1
WIND DIRECTION	=316-324 DEGR	WAVE DIRECTION	=316-324 DEGR
AIR TEMP	= 30.0C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 5
BAROMETRIC PRESSURE	= 1010.8 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	28.03	35.97	23.14	4.76	4.47	-.29	-.36	.08	0.0	1.2	0.0	1.22
15	23.61	36.34	24.79	4.71	4.80	.09	-.04	.11	0.0	2.3	0.0	1.32
35	22.93	36.39	25.03	4.13	4.86	.73	.58		3.1	3.3		1.08

EASTWARD CRUISE 12 STATION 61 29/ VII/74 22.4 GMT CONSECUTIVE STATION 61

LATITUDE = 30 18.4N LONGITUDE = 80 41.2W DEPTH = 27M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=316-324 DEGR	WAVE DIRECTION	=316-324 DEGR
AIR TEMP	= 28.9C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1011.2 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.95	35.95	23.15	4.80	4.47	-.33	-.40	.07	.2	1.1	2.9	1.36
12	27.05	35.97	23.46	4.85	4.54	-.31	-.40	.19	.3	7.9	1.6	
27	24.26	36.27	24.55	4.64	4.75	.11	-.01	.19	3.3	5.6	17.4	

EASTWARD CRUISE 12 STATION 62 30/ VII/74 .8 GMT CONSECUTIVE STATION 62

LATITUDE = 30 20.1N LONGITUDE = 80 52.3W DEPTH = 25M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 0
WIND DIRECTION	= 316-324 DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 27.8C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 3
BAROMETRIC PRESSURE	= 1011.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.68	36.04	23.31	4.64	4.49	-.15	-.21	.07	1.0	3.1	14.3	
12	26.84	36.00	23.55	4.76	4.55	-.21	-.29	.09		1.0		
25	23.66	36.28	24.73	5.13	4.80	-.33	-.47	.09	2.7	3.5	30.0	

EASTWARD CRUISE 12 STATION 63 30/ VII/74 3.4 GMT CONSECUTIVE STATION 63

LATITUDE = 30 21.8N LONGITUDE = 81 4.5W DEPTH = 21M

WEATHER DATA

WIND FORCE	= 0	SEA STATE	= 0
WIND DIRECTION	= DEGR	WAVE DIRECTION	= DEGR
AIR TEMP	= 26.7C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1012.5 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.16	36.00	23.45					.19	.6	4.2	3.2	
21	23.69	36.14	24.62	4.47	4.80	.33	.17	.17	.2	.9	1.2	

EASTWARD CRUISE 12 STATION 64 30/ VII/74 5.9 GMT CONSECUTIVE STATION 64

LATITUDE = 30 23.1N LONGITUDE = 81 15.5W DEPTH = 11M

WEATHER DATA

WIND FORCE	= 2	SEA STATE	= 1
WIND DIRECTION	=176-184 DEGR	WAVE DIRECTION	=176-184 DEGR
AIR TEMP	= 26.1C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1011.9 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.36	34.65	22.37	5.05	4.55	-.50	-.77	.30	.4	4.3	1.3	
10	25.42	36.08	24.05	3.97	4.66	.69	.58	.30	.8	5.2	2.7	

EASTWARD CRUISE 12 STATION 65 30/ VII/74 10.1 GMT CONSECUTIVE STATION 65

LATITUDE = 30 35.2N LONGITUDE = 80 52.5W DEPTH = 25M

WEATHER DATA

WIND FORCE	= 1	SEA STATE	= 1
WIND DIRECTION	=216-224 DEGR	WAVE DIRECTION	=216-224 DEGR
AIR TEMP	= 25.6C	CLOUD TYPE	= 8
WEATHER CODE	= 1	CLOUD AMOUNT	= 2
BAROMETRIC PRESSURE	= 1011.5 MB	VISIBILITY CODE	=

OBSERVATIONS

Z	T	S	D	O2	O2'	ADU	O2A	PO4	NO3	SI	N/P	DOC
0	27.04	36.06	23.53	4.54	4.54	-.00	-.08		.8	1.3		
23	24.38	36.20	24.46	4.41	4.74	.33	.20	.19	.4	2.4	2.1	

EASTWARD CRUISE 12 STATION 66 30/ VII/74 15.5 GMT CONSECUTIVE STATION 66

LATITUDE = 31 0.0N LONGITUDE = 80 28.0W DEPTH = 30M

WEATHER DATA

WIND FORCE = 1

WIND DIRECTION = 216-224 DEGR

AIR TEMP = 28.3C

WEATHER CODE = 1

BAROMETRIC PRESSURE = 1013.9 MB

SEA STATE = 1

WAVE DIRECTION = 216-224 DEGR

CLOUD TYPE = 8

CLOUD AMOUNT = 2

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	27.58			4.63				.18	.1	.4	.6	
30	24.83			4.55				.07	1.2	3.3	17.1	

EASTWARD CRUISE 12 STATION 67 30/ VII/74 20.2 GMT CONSECUTIVE STATION 67

LATITUDE = 31 16.4N LONGITUDE = 81 7.6W DEPTH = 10M

WEATHER DATA

WIND FORCE = 2

WIND DIRECTION = 216-224 DEGR

AIR TEMP = 28.9C

WEATHER CODE = 4

BAROMETRIC PRESSURE = 1013.2 MB

SEA STATE = 1

WAVE DIRECTION = 216-224 DEGR

CLOUD TYPE =

CLOUD AMOUNT = 0

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	O2	O2'	AOU	O2A	PO4	NO3	SI	N/P	DOC
0	28.81	34.51	21.78	4.96	4.45	-.51	-.78	.46		5.2		
9	27.95	35.37	22.71	4.32	4.49	.17	.01	.46	.4	4.1	.9	

EASTWARD CRUISE 12 STATION 68 31/ VII/74 3.0 GMT CONSECUTIVE STATION 68

LATITUDE = 31 31.5N LONGITUDE = 80 28.0W DEPTH = 22M

WEATHER DATA

WIND FORCE = 3

SEA STATE = 2

WIND DIRECTION = 156-164 DEGR

WAVE DIRECTION = 156-164 DEGR

AIR TEMP = 27.8C

CLOUD TYPE = 8

WEATHER CODE = 1

CLOUD AMOUNT = 5

BAROMETRIC PRESSURE = 1013.9 MB

VISIBILITY CODE =

OBSERVATIONS

Z	T	S	D	02	02'	ADU	02A	PO4	NO3	SI	N/P	DOC
0	27.69	36.11	23.35					.14	.8	3.1	5.7	
22	26.67	36.14	23.71					.09		1.2		

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WASHINGTON, D. C. 20390

CRUISE AND PROJECT NO.

E-12-74

INSTITUTE

SKIDAWAY INSTITUTE

NAME OF PLATFORM

R/V EASTWARD

NODC-EXP-3167/37 (4-65)

SURFACE DRIFTER DATA

CHLOROPHYLL AND CARBON-¹⁴ PRODUCTIVITY DATATable 2 . Chlorophyll α and C¹⁴ uptake with respect to depth.

<u>Station</u>	<u>Depth</u> <u>(m)</u>	<u>Chlorophyll α</u> <u>(mg/m³)</u>	<u>C¹⁴ uptake</u> <u>(mgC/m³/day)</u>
1	0	2.51	15.83
	3	2.60	3.88
	8	2.57	12.49
4	0	.21	5.61
	6	.33	.90
	13	.47	4.68
6	0	.25	3.32
	8	.29	.26
	15	.36	.71
	25	.55	.28
	49	.76	.15
11	0	.06	.41
	11	.08	.09
	22	.06	.30
	36	.10	.01
	73	.25	.09
15	0	1.5	16.38
	5	.09	1.18
	9	.03	4.73
	15	.05	.29
	30	.14	.10
17	0	.55	21.05
	5	.71	1.11
	15	.74	1.39
20	0	1.32	33.90
	3	.98	2.91
	8	.69	1.27
21	0	1.04	6.88
	4	2.00	36.74
	12	2.31	16.38
25	0	.38	2.82
	6	.55	6.36
	12	.65	17.70
	21	.58	.43
28	0	.03	.26
	8	.09	1.73
	17	.09	1.07
	27	.03	.28
	54	.20	.33

Table 2 . (Continued)

<u>Station</u>	<u>Depth</u> <u>(m)</u>	<u>Chlorophyll α</u> <u>(mg/m³)</u>	<u>C¹⁴ uptake</u> <u>(mgC/m³/day)</u>
33	0	.04	2.93
	11	.36	.08
	21	.05	.17
	35	.01	.01
	71	.15	.20
37	0	.06	.67
	8	.06	.22
	17	.09	.24
	27	.03	.02
40	0	1.39	14.23
	5	1.37	16.34
	10	1.13	.77
	16	1.56	2.63
43	0	3.00	13.19
	5	3.18	50.59
	8	3.00	11.10
44	0	3.63	101.72
	7	2.50	11.46
47	0	.92	2.72
	5	.20	22.88
	10	.26	.62
	16	.31	1.15
51	0	.13	.76
	8	.18	.35
	17	.13	1.04
	27	.14	.05
	54	.44	.57
54	0	.06	.34
	11	.08	.31
	21	.09	.01
	35	.08	.02
	71	.20	0
58	0	.11	.07
	13	.13	.17
	25	.28	1.46
	42	.02	.01
	84	.09	.36

Table 2 . (Continued)

<u>Station</u>	<u>Depth</u> <u>(m)</u>	<u>Chlorophyll α</u> <u>(mg/m³)</u>	<u>C¹⁴ uptake</u> <u>(mgC/m³/day)</u>
60	0	.08	.34
	9	.10	1.93
	18	.44	.52
	30	.61	1.74
64	0	1.81	43.69
	8	5.11	7.09

Table 3. Surface chlorophyll α , depth integrated chlorophyll α and C^{14} values.

Station	Surface Chlorophyll α mg/m ³	Depth Integrated Chlorophyll α mg/m ²	Depth Integrated C^{14} mgC/m ² /day
1	2.51	20.6	70.5
2			
3	.66		
4	.21	4.4	39.1
5	.30		
6	.25	24.7	27.8
7	1.20		
8	.21		
9	.10		
10	.08		
11	.06	9.1	8.9
12	.06		
13	.10		
14	.37		
15	1.5	5.9	73.7
16	.11		
17	.55	10.4	67.9
18	1.38		
19	1.15		
20	1.32	7.6	65.7
21	1.04	23.3	299.7
22	.92		
23	.04		
24	.82		
25	.38	11.9	181.3
26	1.45		
27	.23		
28	.03	5.0	35.5
29	.14		
30	.06		
31			
32	.05		
33	.04	7.5	22.8
34	.06		
35	.08		
36	.06		
37	.06	1.8	6.9
38	.36		
39	.26		
40	1.39	21.2	129.4

Table 3. (continued)

<u>Station</u>	<u>Surface Chlorophyll <i>a</i></u> <u>mg/m³</u>	<u>Depth Integrated Chlorophyll <i>a</i></u> <u>mg/m²</u>	<u>Depth Integrated C¹⁴</u> <u>mgC/m²/day</u>
41			
42	2.61		
43	3.00	24.7	252.0
44	3.63	21.5	396.1
45	1.27		
46	.76		
47	.92	5.7	128.1
48	.34		
49	.22		
50	.10		
51	.13	11.8	24.5
52	.13		
53	.10		
54	.06	7.8	5.7
55			
56	.09		
57	.13		
58	.11	8.9	31.6
59	.09		
60	.08	9.5	34.8
61	37		
62	40.68		
63	1.17		
64	1.81	27.7	203.1

PARTICULATE ORGANIC CARBON (POC) AND PARTICULATE NITROGEN (PN)

Table 4. Particulate Organic Carbon (POC) and Nitrogen (PN)

<u>Station</u>	<u>Depth</u> (m)	<u>POC</u> $\mu\text{gC/L}$	<u>PN</u> $\mu\text{gN/L}$	<u>C:N</u> (atomic)
1	0	310	29	12
1	8	275	27	12
4	0	160	6	29
4	13	110	17	8
6	0	127	11	13
6	25	155	11	16
11	0	86	11	8
11	36	97	6	18
15	0	310	30	12
15	15	-	17	-
17	0	246	33	9
17	15	260	9	34
20	0	370	49	9
20	11	295	-	-
21	0	620	29	25
24	0	-	31	-
25	0	235	18	15
25	21	260	13	24
28	8	105	18	7
33	0	160	7	26
33	35	160	5	38
37	0	50	7	8
37	27	154	10	19
40	0	340	24	16
40	16	225	25	10
43	0	410	50	12
43	8	450	44	12
44	0	600	32	22
47	0	171	22	9
51	0	84	8	12
51	27	21	9	3
54	0	136	14	11
58	0	242	48	6
58	42	790	50	18
60	0	121	7	20
64	0	132	8	20
67	0	45	2	24
Mean $\pm$ 1 s.d.		260 $\pm$ 199	23 $\pm$ 15	15 $\pm$ 7

SURFACE OBSERVATIONS LOG

The following log was kept to note any surface observations. Realize the log was informally kept and was just an aid in data analysis.

<u>Time - Date</u>	<u>Location</u>	<u>Observations</u>
22 July	Beaufort-Charleston	Wilson's Petrel present on/off all day
0700 23 July	To Sta. 1	Many <i>Stomolophus</i>
0810 "	"	Scattered <i>Stomolophus</i>
0835 "	Sta. 1	" "
1000 "	1-2	Few scattered <i>Stomolophus</i>
1023 "	2	" " "
1145 "	2-3	Rare <i>Stomolophus</i>
1240 "	3	Scattered <i>Stomolophus</i>
1300 "	on 3	Many scattered <i>Stomolophus</i>
1645 "	5-6	<i>Trichodesmium</i> streaks
1718 "	6	" saved small sample for B. Dunstan
1830 "	6-7	" " " "
1845 "	7	" " " "
1943 "	7-8	Very heavy <i>Trichodesmium</i>
2025 "	8	Large patches of <i>Trichodesmium</i>
"	9	No <i>Trichodesmium</i>
24 July	11	No "
"	13	No "
1500 "	14-15	Light "
1650 "	14-15	Heavy "
1830 "	15	Heavy "
1940 "	15-16	Very heavy <i>Trichodesmium</i> and green fuzzies and brown streaks, stopped for sample - sargassum near this bloom looks almost dead
2015 "	15-16	Much less <i>Trichodesmium</i> but still present
"	16	Light "
2215 "	17	None
25 July	20	3 small cabbageheads? (Note: these were probably <i>Chrysaora</i>)
0730 "	to 21	<i>Chrysaora</i>
0800 "	21	"
0940 "	22	"
1025 "	22-23	2 " in plankton tow
1130 "	23	Few "
1840 "	to 25	<i>Trichodesmium</i> evident but light
2030 "	27	Light "
2250 "	28	No "
2345 26 July	36	Slight <i>Trichodesmium</i> - note storm disturbance
0845 27 July	39	Few small cabbageheads
"	42	<i>Trichodesmium</i>
"	43	3 <i>Chrysaora</i> in benthic sample
1800 "	43-44	Several <i>Chrysaora</i>
2245 "	45	" "
0220 28 July	47	Many "
2045 "	54	Filmy strands of algae in bucket sample. Helen says this was present on the last sta. also.
1815 29 July	61	<i>Trichodesmium</i> and green fuzzies
2030 "	61-62	Heavy "
2045 "	62	" "

Surface Observations Log (continued)

<u>Time - Date</u>	<u>Location</u>	<u>Observations</u>
2320 29 July	63	<i>Trichodesmium</i> & <i>Chrysaora</i>
0650 30 July	65	<i>Chrysaora</i> , <i>Trichodesmium</i> and junk
1000 "		In <i>Trichodesmium</i> since 0830, some very heavy
1130 "	66	<i>Chrysaora</i> and very heavy <i>Trichodesmium</i>
1630 "	67	" " " " "
0650 Return trip		Off S. C. between Charleston & Winyah Bay
		<i>Stomolophus</i>