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**CTD Observations on the North Brazil Shelf During
A Multidisciplinary Amazon Shelf SEDiment Study, AMASSEDS,
August 1989**

by

Richard Limeburner and Robert C. Beardsley

November 1989

Technical Report

Funding was provided by the National Science Foundation
through Grant Number OCE-88-12917

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Robert C Beardsley

**Robert C. Beardsley, Chairman
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CTD OBSERVATIONS ON THE NORTH BRAZIL SHELF DURING
A MULTIDISCIPLINARY AMAZON SHELF SEDIMENT STUDY, AMASSEDS,
AUGUST 1989

Abstract

CTD and acoustic Doppler current profiler (ADCP) observations were made on the North Brazil shelf adjacent to the mouth of the Amazon River during R/V *Iselin* cruise I8909 August 3-14, 1989 as part of A Multidisciplinary Amazon Shelf SEDiment Study (AMASSEDS). These observations were obtained during a large-scale survey in support of geological and geochemical sampling, an anchored time series station consisting of 26 hourly CTD casts, and one transect which was repeated off the mouth of the Amazon River. The maximum sampling depth at each station was within two meters of the bottom.

The primary objectives of the AMASSEDS hydrographic measurement program were to (a) observe and characterize the temperature, salinity, density, oxygen, fluorescence and light transmission fields and their spatial variability on the north Brazilian shelf directly influenced by the Amazon River discharge, (b) resolve the seaward extent and vertical structure of the surface plume of low salinity Amazon River water during different stages of river discharge, (c) describe the spatial structure of the turbidity and associated suspended sediment distributions across the shelf, (d) characterize the properties of the Amazon shelf water beneath the surface plume and their seasonal variability, and (e) describe the landward penetration of the North Brazil Current (NBC) with respect to water properties and shelf currents. This report represents a summary in graphic and tabular form of the hydrographic observations made during the first AMASSEDS cruise (I8909) on the R/V *Iselin*.

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1. Introduction

A Multidisciplinary Amazon Shelf SEDiment Study (AMASSEDS) is an multi-institutional international program to investigate physical, geological, geochemical and biological processes within the Amazon dispersal system. The primary objective of AMASSEDS is to understand the sedimentary processes on the continental shelf near the mouth of the Amazon River. Previous studies of the Amazon shelf and similar environments suggest that the enormous suspended sediment load carried over the inner shelf in the local water column strongly influences other factors such as seabed morphology and biological productivity, and leads to creation of a subaqueous delta. The physical oceanographic component of AMASSEDS is directed toward understanding circulation and boundary layer processes on the Amazon shelf. The primary objectives are to (a) measure and characterize the flow and mixing processes in the low salinity frontal zone, (b) to estimate the contributions to bottom stress from subtidal motions, tidal flow, and surface waves, and (c) to quantify the cross-shelf advective and dispersive transport mechanisms. The physical oceanographic field work includes: short-term (February – May, 1990) moored measurements of wind, current, temperature, conductivity, and surface waves to determine tidal and low-frequency variability in the shelf flow field, density stratification, and surface and bottom stresses; a series of four hydrographic surveys to map the distributions of temperature, salinity, and turbidity during different stages of river discharge; and short-term high resolution measurements of the small-scale circulation and mixing processes in the frontal zone. Satellite imagery of the sea surface is being collected to describe the synoptic distribution of suspended sediment. Finally, two satellite-tracked drifting buoys are being deployed on each of the four hydrographic surveys. The first survey August, 1989 was completed during falling river discharge; the second survey is planned for February, 1990 during rising river discharge; the third survey is planned for May, 1990 during maximum river discharge, and the fourth and last cruise is planned during November, 1991 during low river discharge. These measurements include hydrographic and current profiling with a CTD and a 600 kHz acoustic Doppler current profiler (ADCP), respectively.

We present here in graphic and tabular form a preliminary analysis of the CTD observations made on the North Brazil shelf on board the R/V *Iselin* during cruise I8909 August 3 – 14, 1989. A total of 86 CTD stations were made on I8909, and the following station summary is intended to provide a brief description of the sequence of CTD sampling during the cruise. Vertical and horizontal sections of water properties

obtained from the regional CTD survey August 3 – 14 are shown in Section 7. Listings of the CTD observations at standard depths for all stations are given in Section 8.

CTD STATION LISTING SUMMARY

Leg 1 — August 3–14, 1989

Stations 1–52 — August 4–10. Initial large-scale survey of the North Brazil shelf consisting of 7 cross-shelf transects to map the initial fields of temperature, salinity, sigma-t, oxygen, fluorescence, and light transmission.

Station 53 — August 10. CTD cast made just after deployment of a pilot mooring to test depth penetration of the anchor into the sediments.

Stations 54–79 — August 11–12. 26 hour time series anchor station consisting of hourly CTD casts.

Stations 81–86 — August 12–13. Repeat of Section C adjacent to the mouth of the Amazon River.

2. Instrumentation and Calibration

A Neil Brown Instrument Systems (NBIS) model MKIII CTD fish was used as the primary profiling instrument during R/V *Iselin* cruise I8909. The instrument provided continuous sampling of temperature, conductivity, pressure, and light transmission. Salinity and density were subsequently derived from the measured variables. The oxygen and fluorescence sensors on the underwater unit did not work properly during the entire cruise. The instrument package consisted of the MKIII CTD underwater unit mounted one meter below a General Oceanics rosette sampler with 12 five-liter Niskin bottles. A Sea Tech 5 cm pathlength transmissometer was mounted near the CTD fish. The fast response thermistor on the CTD fish was disabled and the instrument sampled at a rate of 16 Hz. Lowering speeds were approximately 36 m/min to match the response times of the temperature and conductivity sensors (Giles and McDougall, 1986). The pressure sensor had a full range of 6400 db.

The CTD underwater unit was part of the R/V *Iselin*'s scientific equipment. Water samples were normally collected at each station on the up cast at a depth where the vertical stratification and suspended sediment concentration were minimal. The calibration samples were then processed onboard during the cruise using a Guildline AutoSal salinometer to determine salinity. The individual salinities were converted to *in situ* conductivity and compared to the conductivity output of the instrument. A least-squares fit of the difference between the bottle and instrument conductivity gives

$$C(BOTTLE) - C(CTD) = -0.0000349498 * X - 0.0176786$$

where X is the station number which varied from 1 to 86, and the sum of the squares of the residuals is 0.0121 mmho^2 . This means that the CTD conductivity sensor drift and offset were small during the cruise and that the rms difference between the corrected CTD and bottle conductivity values was $\pm 0.004 \text{ mmho}$.

The Sea Tech transmissometer data is presented as a percent of full scale. The primary light transmission sensor (channel b) functioned intermittently at stations 24 – 29. At station 30 a secondary 5 cm pathlength transmissionmeter was installed on channel b, and the primary sensor was placed on channel a for observation and testing. Stations 24–29 were located in relatively clear water and a linear interpolation was made for all bad light transmission data.

3. Data Processing

The CTD data were recorded at sea with a PC-based data acquisition system written by Howard Saklad of the University of Alaska, Institute of Marine Science. The program acquires the raw CTD data at 16 Hz, displays the data in real time, postcast data averages, and prints lists of data at each station. Normally, only the down profile is processed at sea. During post cruise data processing, the conductivity calibration was first applied to the raw data. Then an exponential recursive filter (Middleton and Foster, 1980) described by Cox was applied to pressure and conductivity to match the amplitude and phase of the platinum temperature sensor. The Cox filter has the form

$$c'(t) = w_0 c'(t - dt) + (1 - w_0) c(t),$$

where $c'(t)$ is the filtered conductivity at time t , $c'(t - dt)$ is the previous filtered conductivity, and $c(t)$ is the original unfiltered conductivity at time t . The filter weight is given by

$$w_0 = e^{-dt/tlag}$$

where $dt = .064$ sec is the sampling period, and $tlag = .235$ sec is the time lag of the platinum temperature sensor. A uniform pressure series of 1 db interval was then created from the filtered data, after spurious data observations (spikes) had been replaced with interpolated data. Salinity was calculated using Lewis (1980) and a value of 42.914 was used to convert to conductivity ratio (Culkin and Smith, 1980).

4. Data Presentation

The hydrographic data collected on cruise I8909 are shown in the form of vertical sections, T/S correlations and horizontal sections in Section 7, and vertical profiles and tabular lists at graduated depths are given in Section 8.

5. Acknowledgments

Cruise I8909 on the R/V *Iselin* was supported by NSF Grant OCE88-12917. Dr. David Demaster was the Chief Scientist on the multidisciplinary cruise. The work was a cooperative effort by R. Limeburner, Y. Yu, R. Johnson, T. Milligan, R. Pope, D. Demaster, S. Hardin, I. Dias, J. Faleiro, J. Neto, H. Vital and D. Muehe. Their assistance is greatly appreciated. Finally, the helpfulness of the officers and crew of the R/V *Iselin* contributed significantly to the success of the cruise.

6. References

Culkin, F. and N. D. Smith (1980) Determination of the concentration of potassium chloride having the same electrical conductivity, at 15°C and infinite frequency, as

standard seawater of salinity 35.000 ppm (chlorinity 19.37394 ppm). *IEEE Journal of Ocean Engineering*, **OE-5**, 22–23.

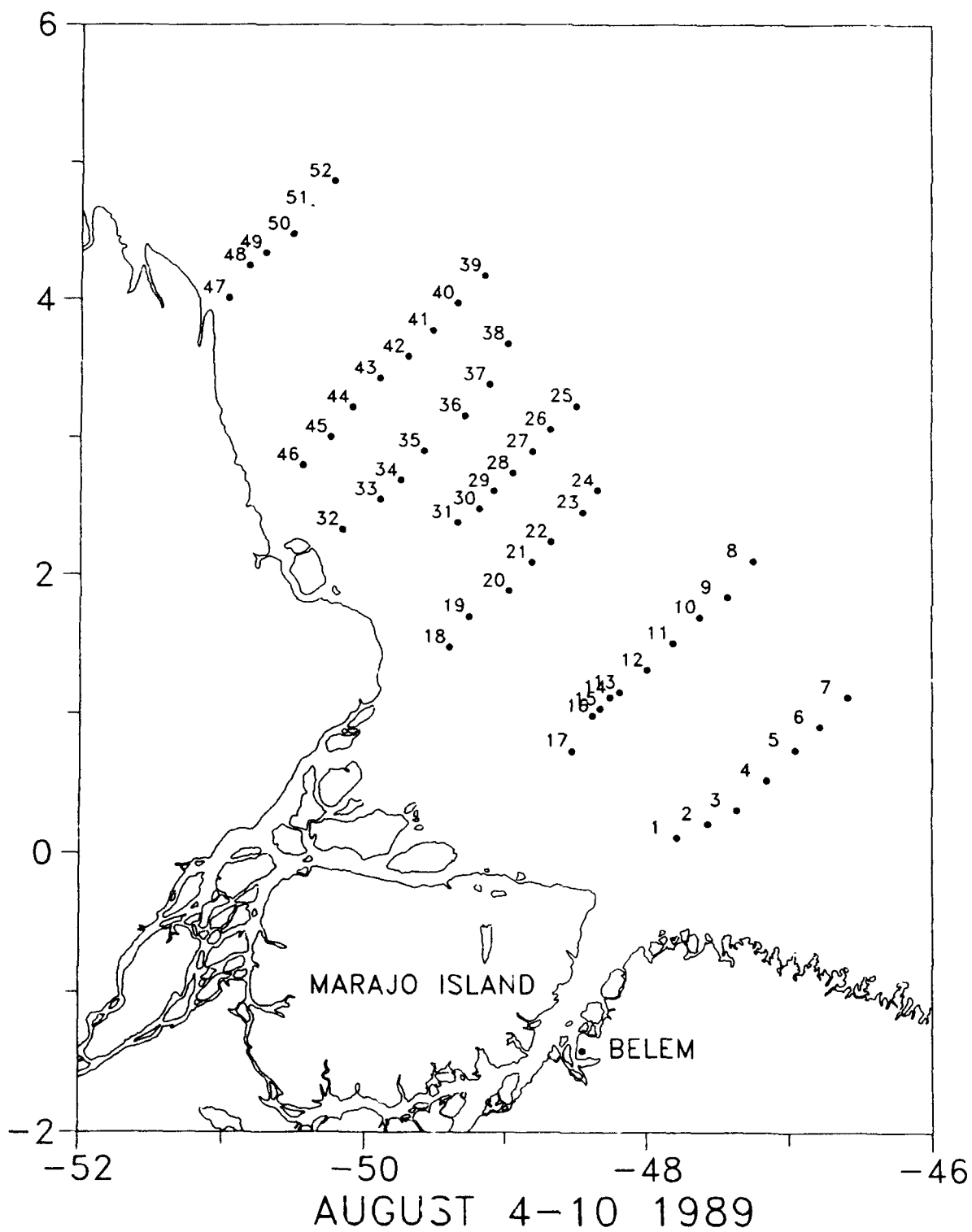
Giles, A. B., and T. J. McDougall (1986) Two methods for the reduction of salinity spiking of CTDs. *Deep-Sea Research*, **33**(9), 1253–1274.

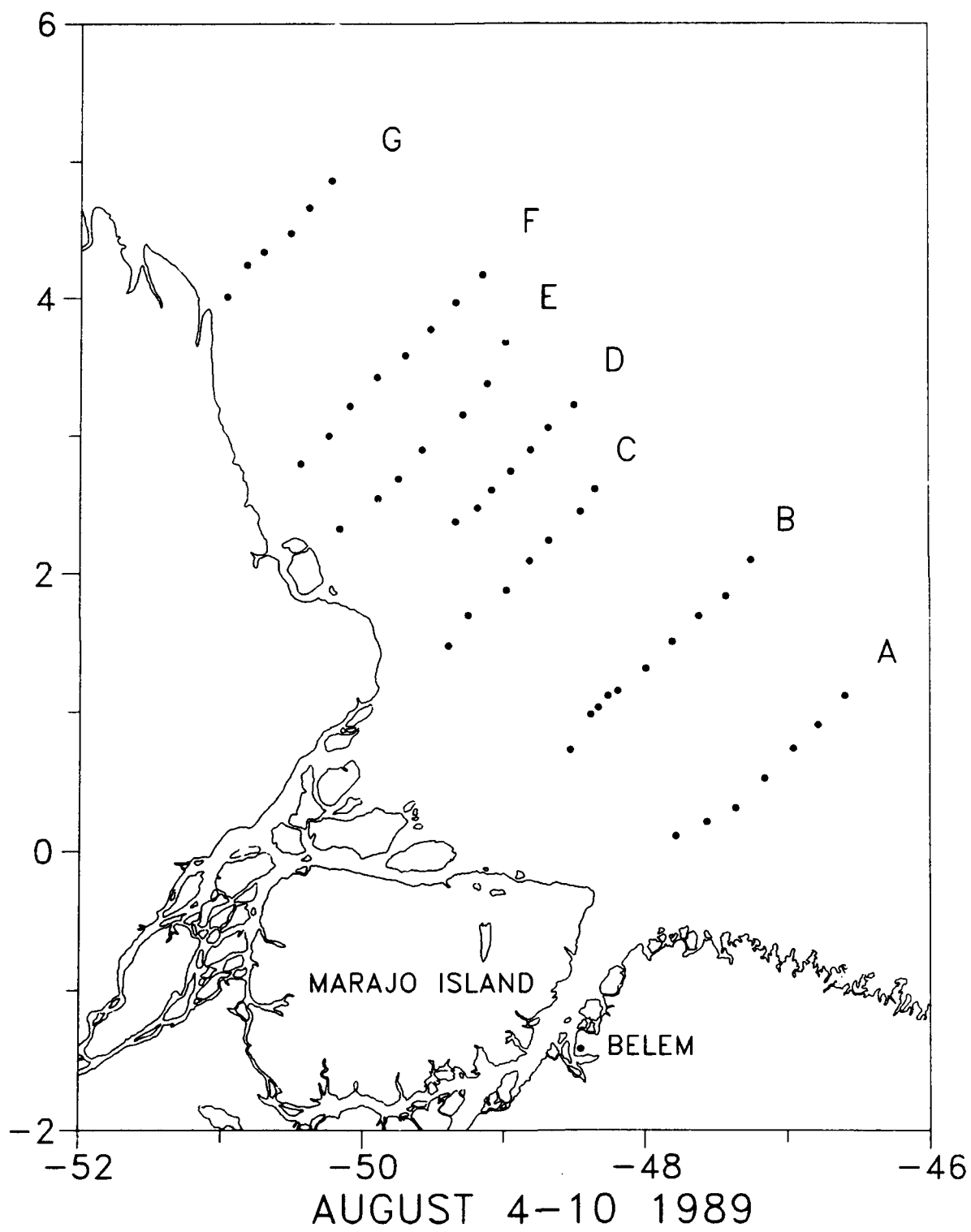
Lewis, L. L. (1980) The Practical Salinity Scale 1978 and its antecedents. *IEEE Journal of Ocean Engineering*, **OE-5**, 3–8.

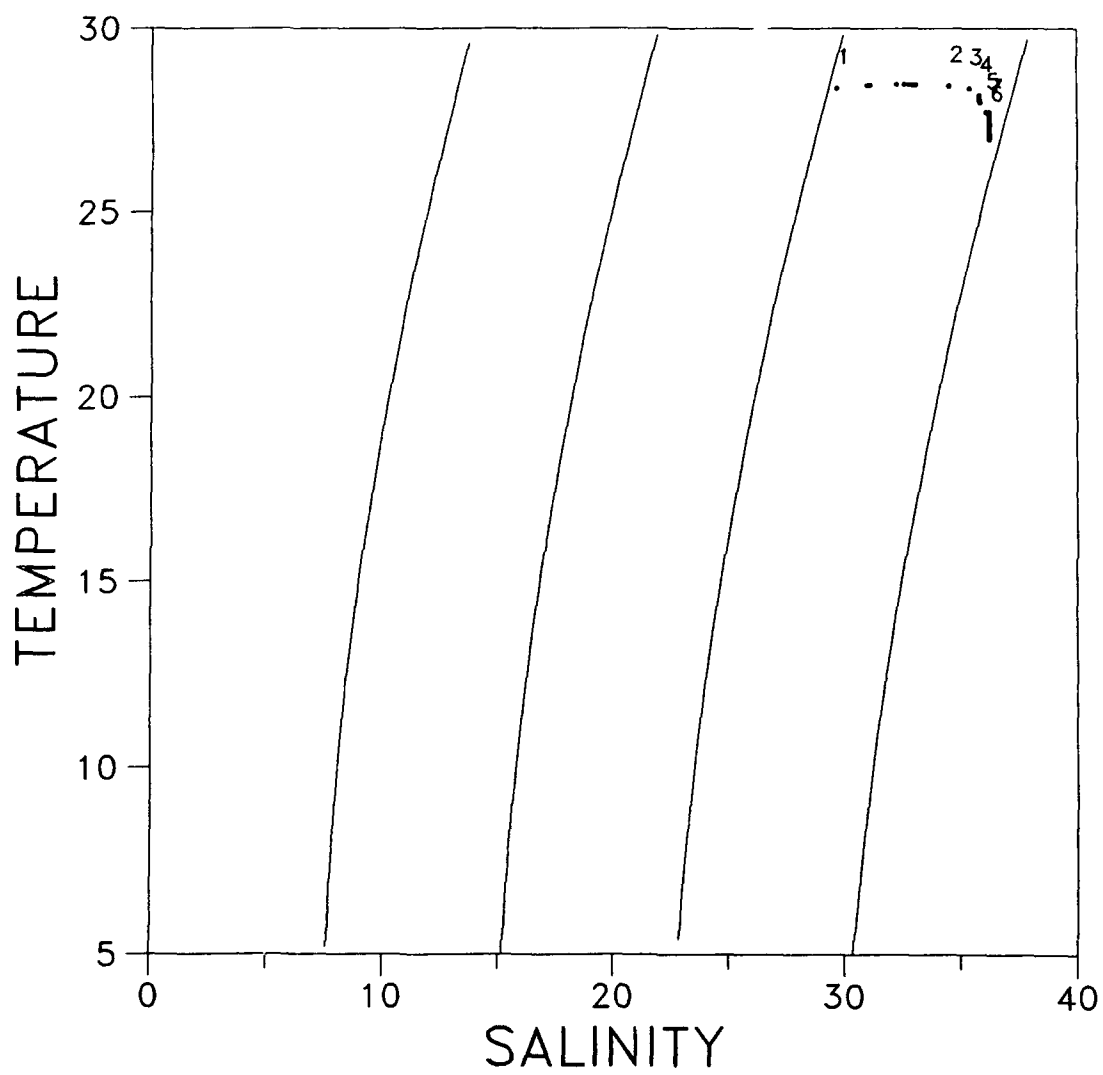
Middleton, J. H., and T. D. Foster (1980) Fine structure measurements in a temperature compensated halocline. *Journal of Geophysical Research*, **85**(C2), 1107–1122.

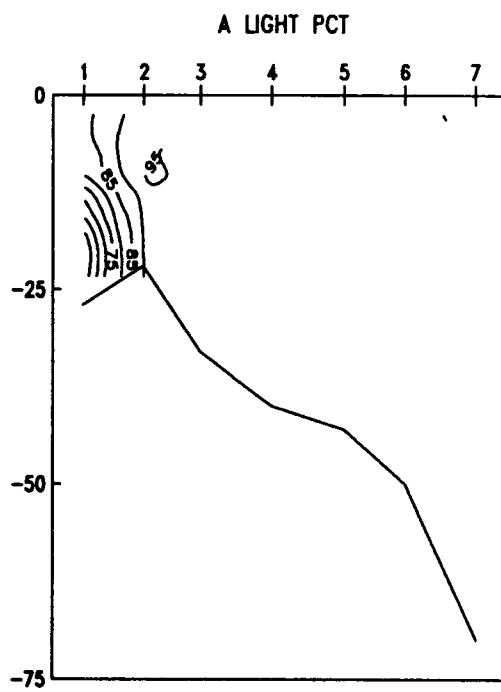
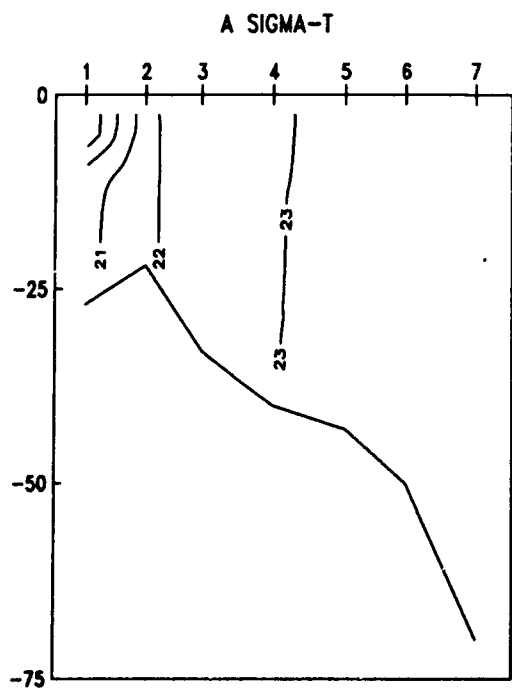
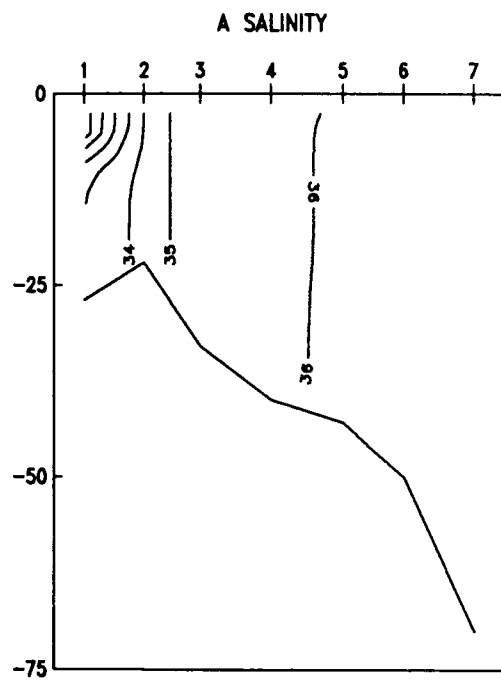
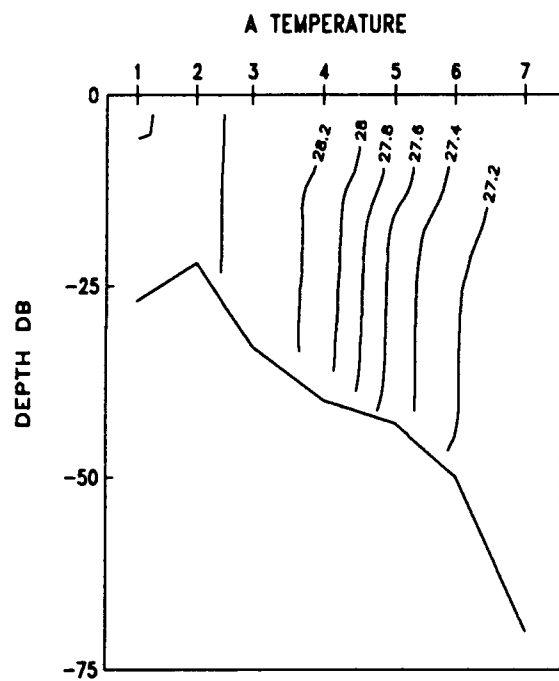
7. Graphic Description of CTD Data

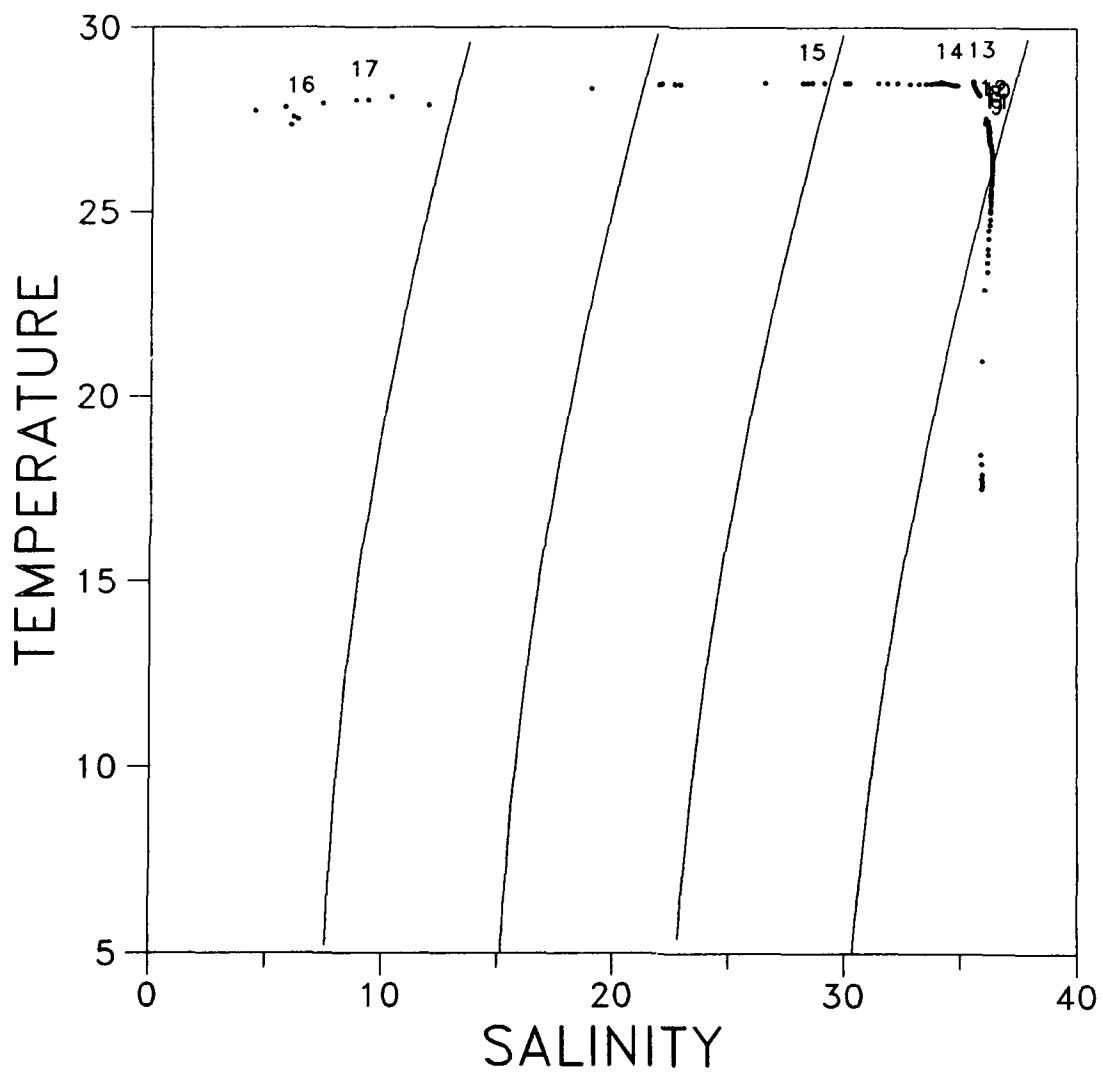
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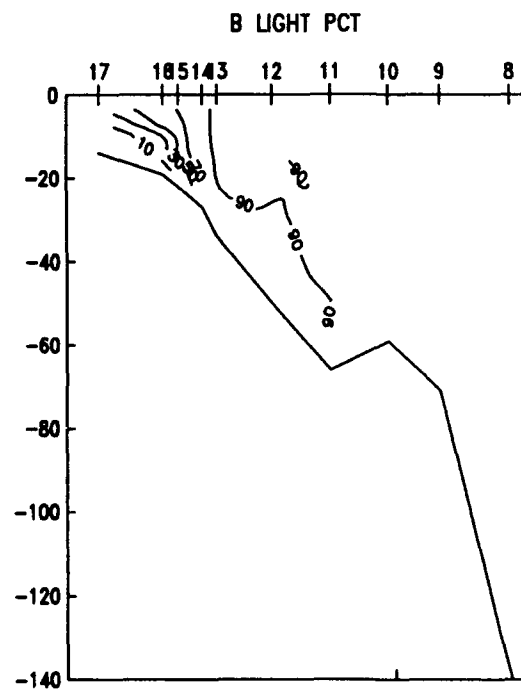
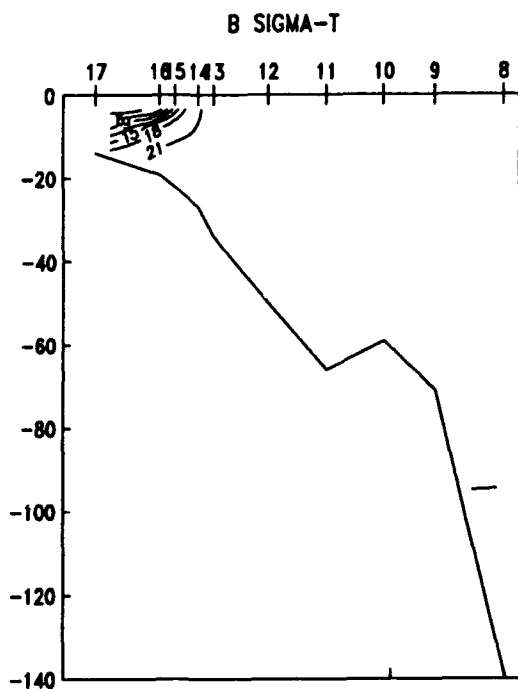
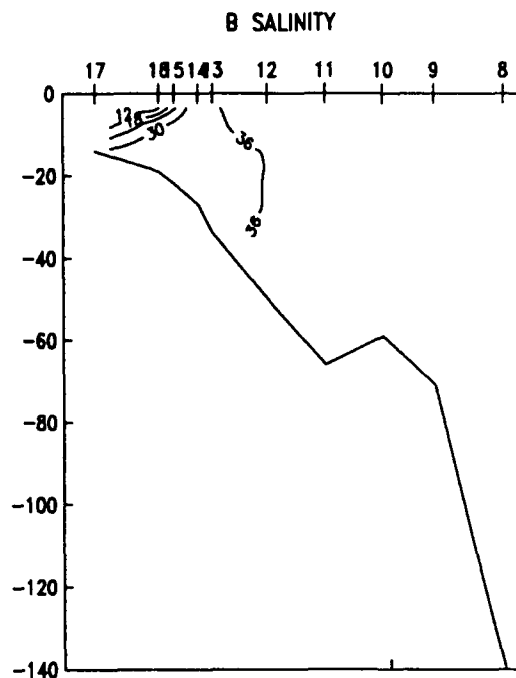
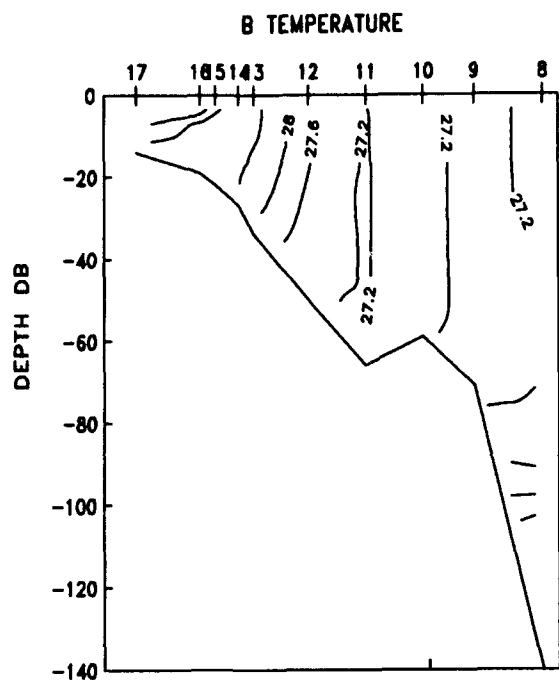


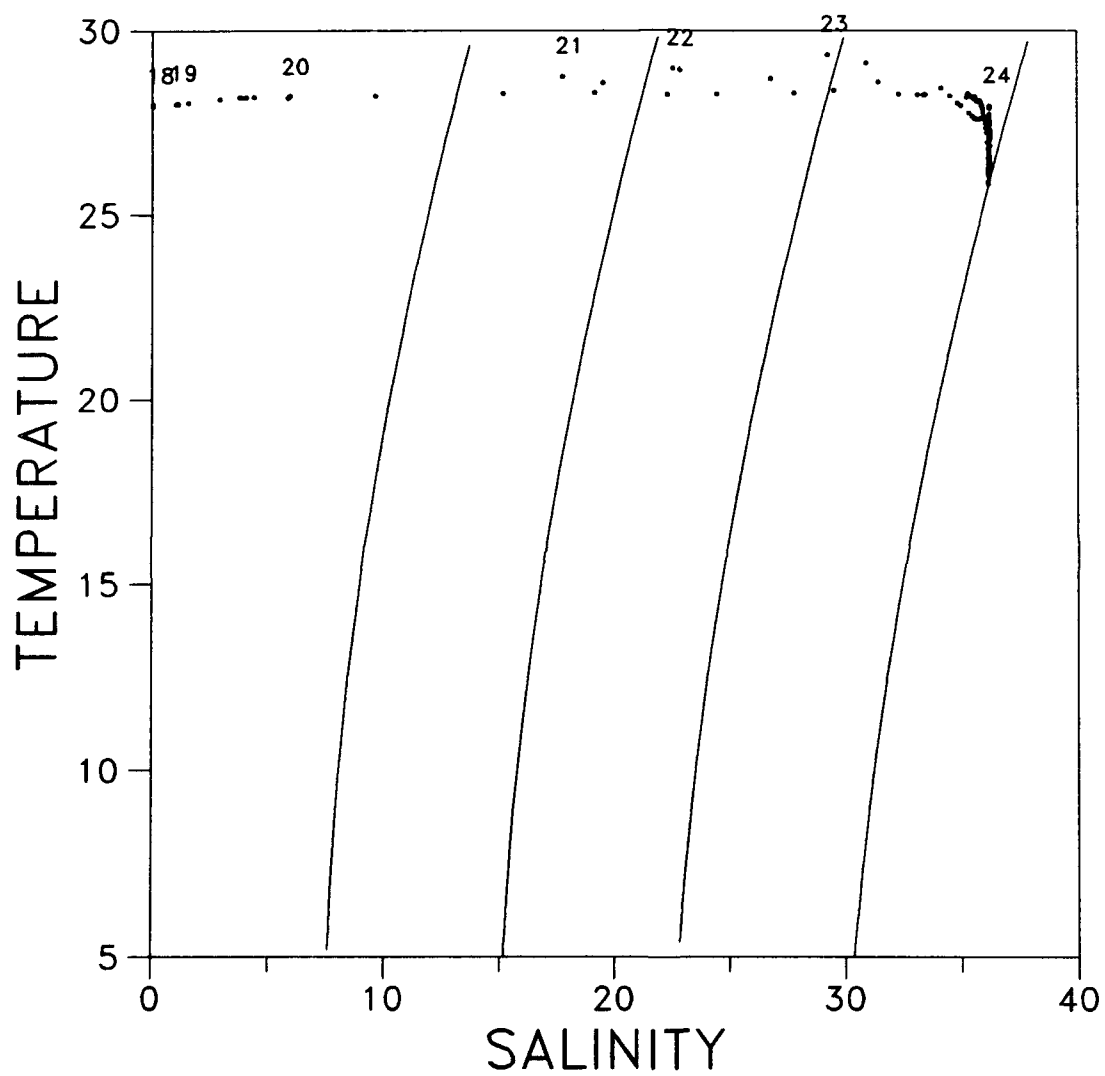


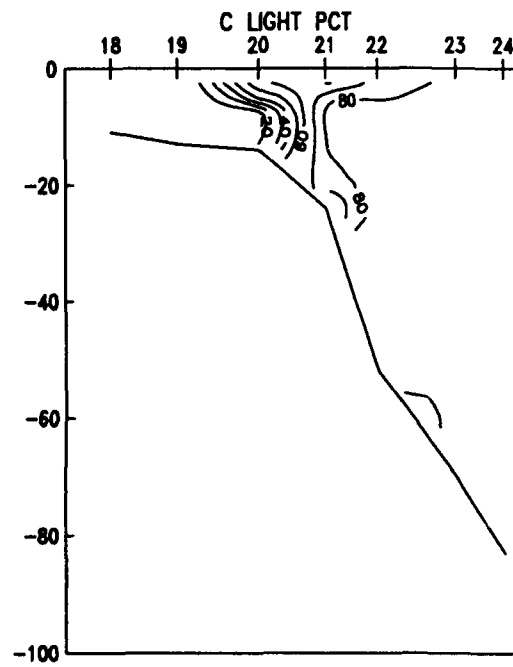
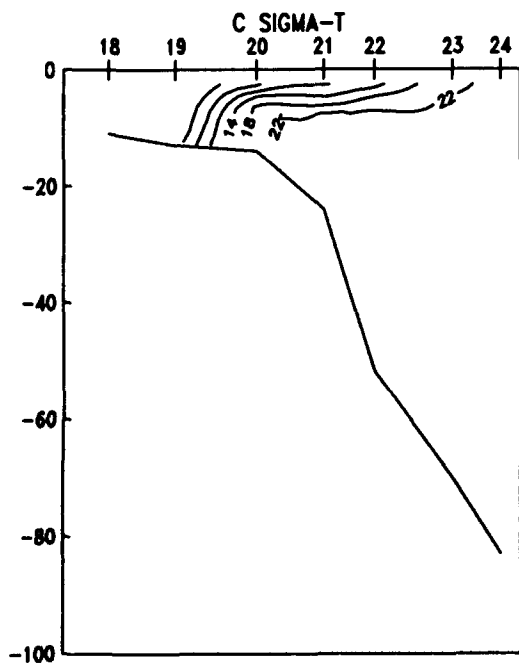
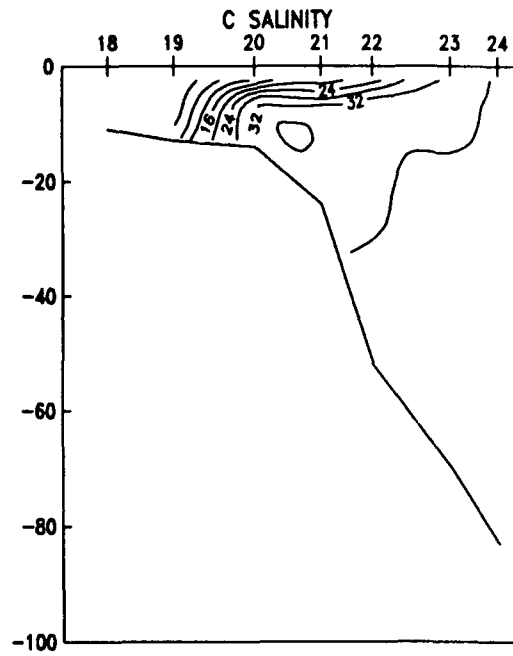
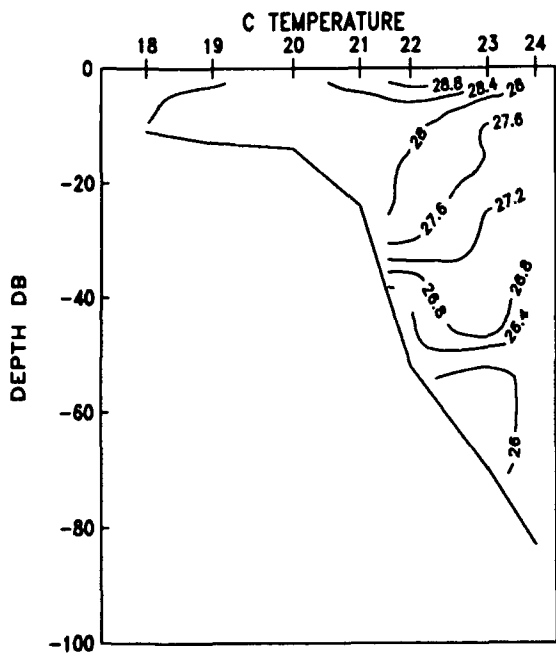


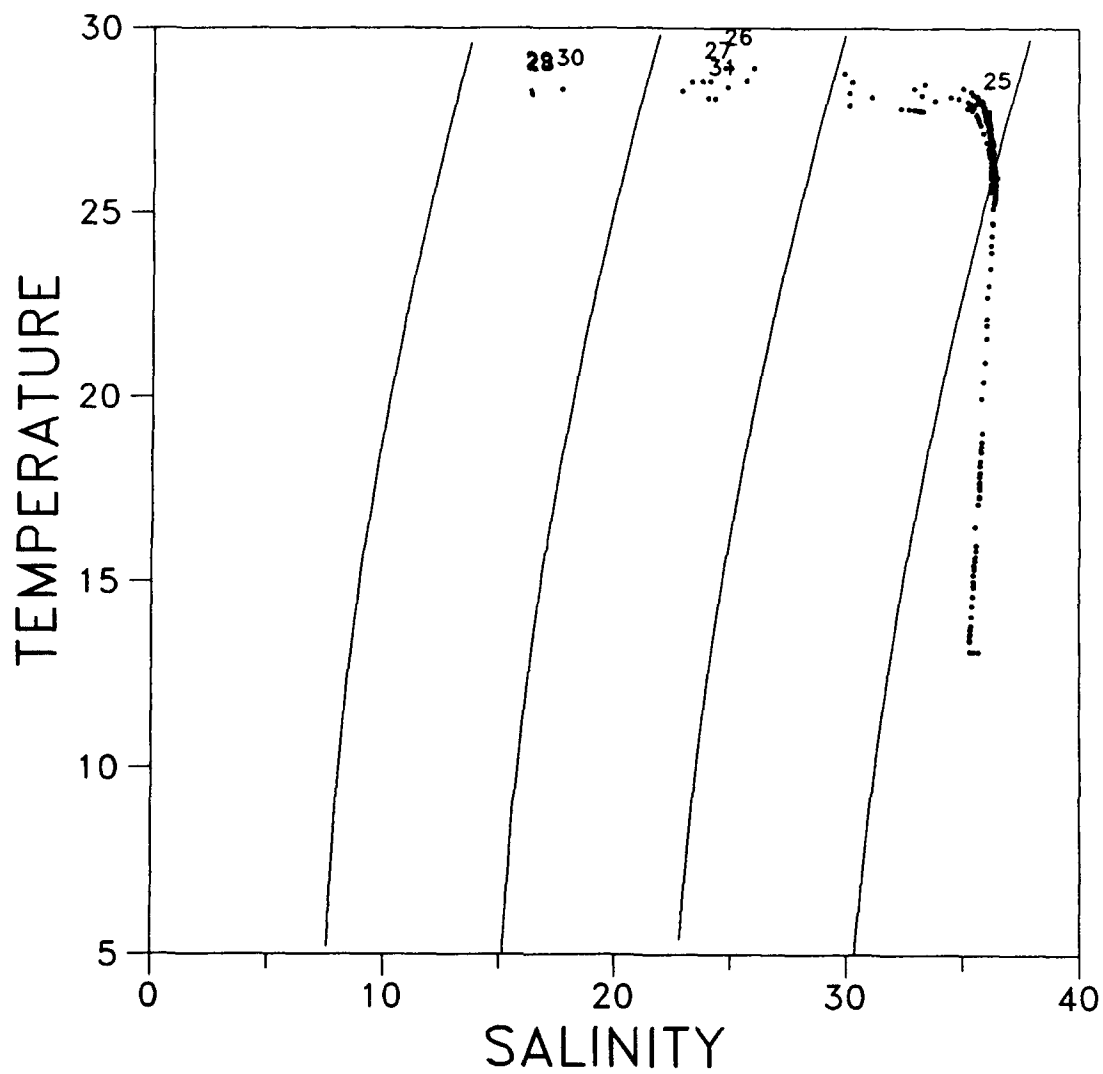


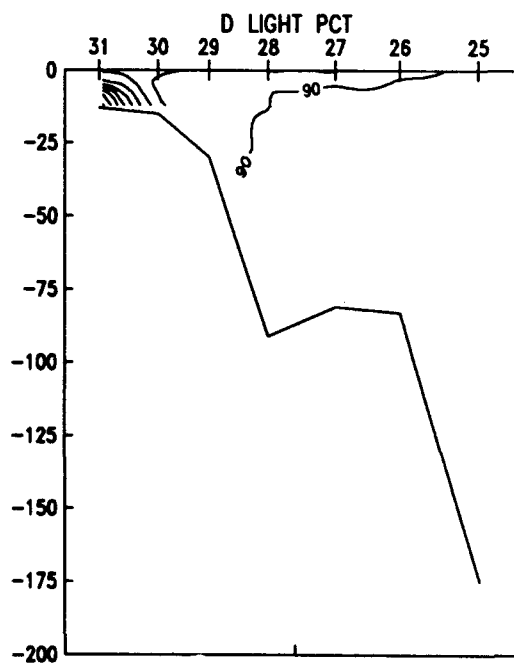
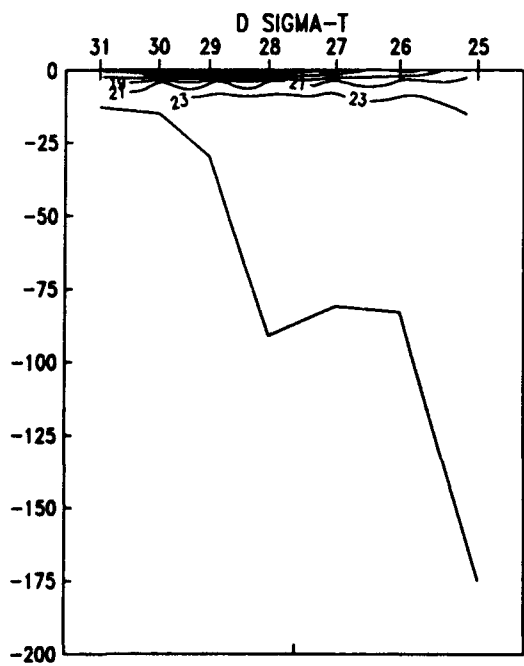
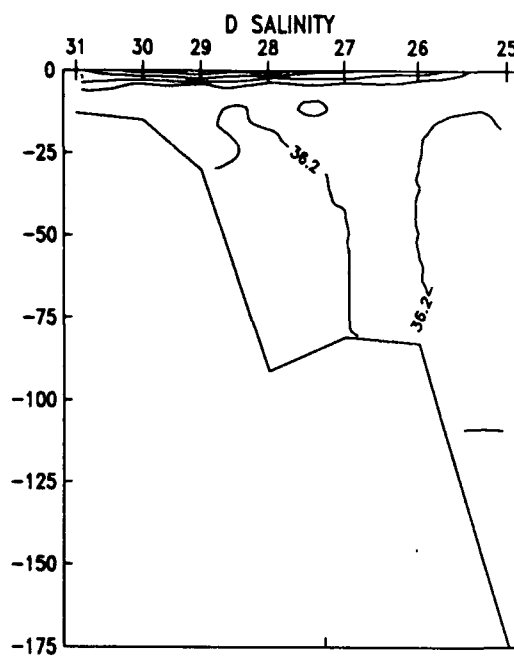
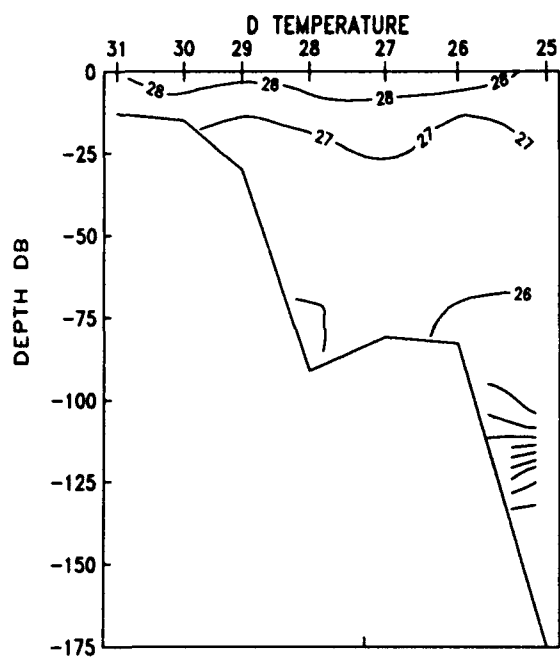


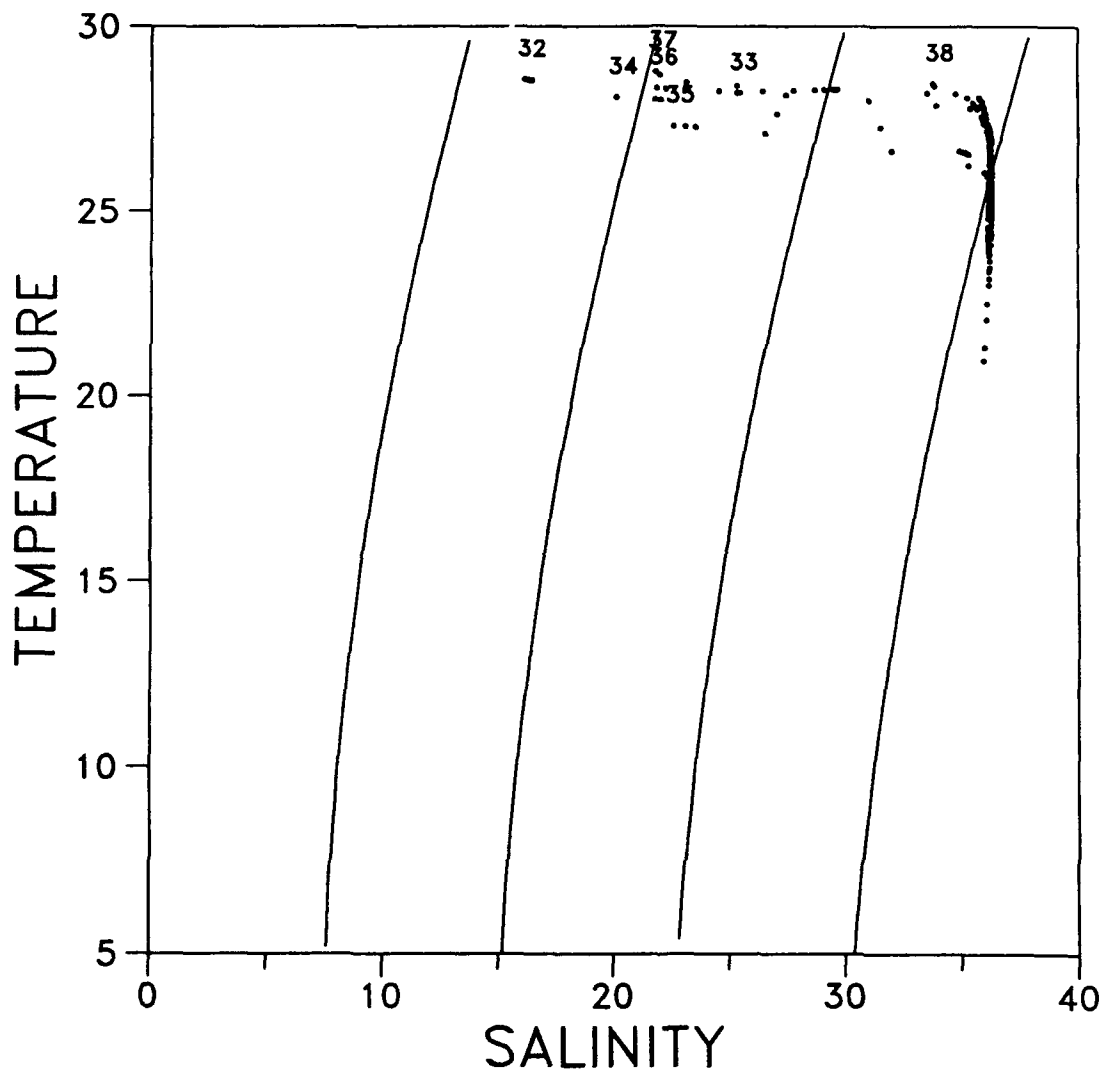


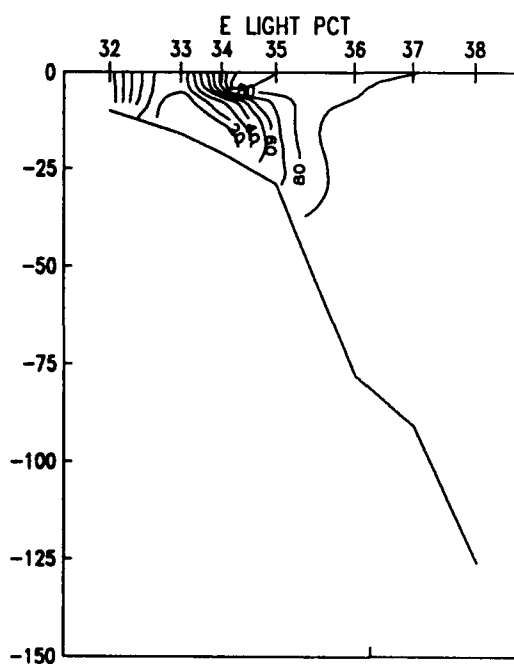
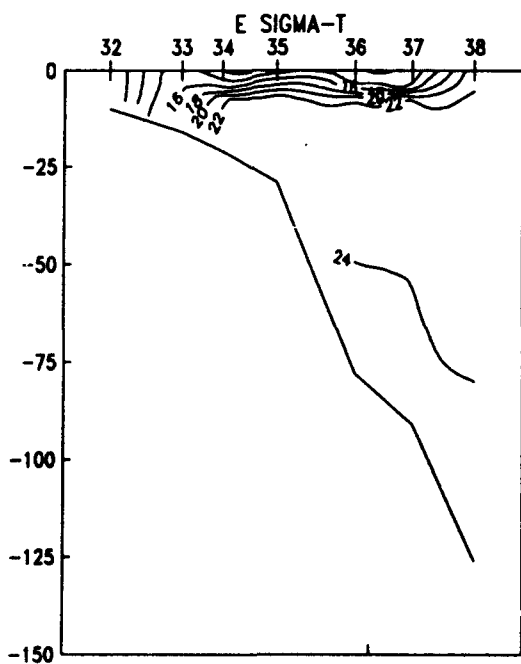
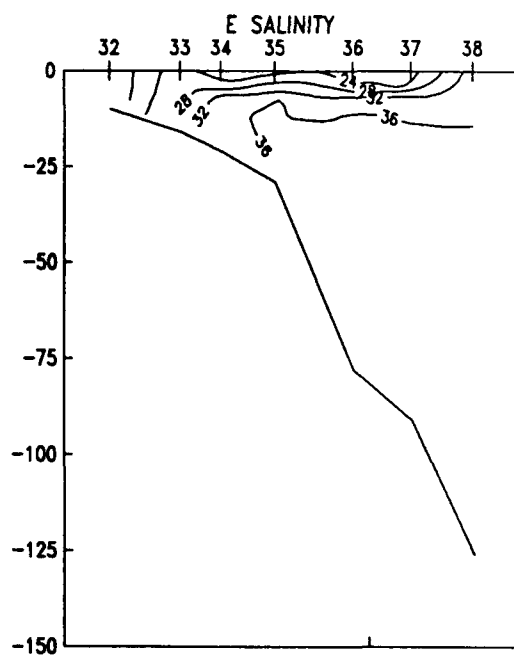
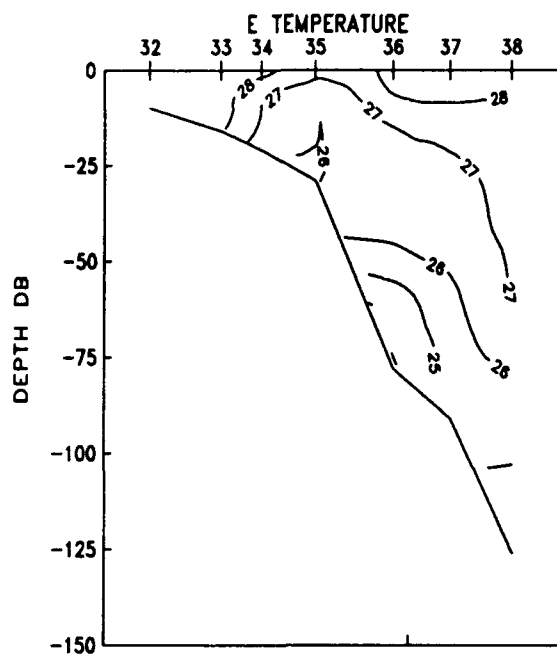


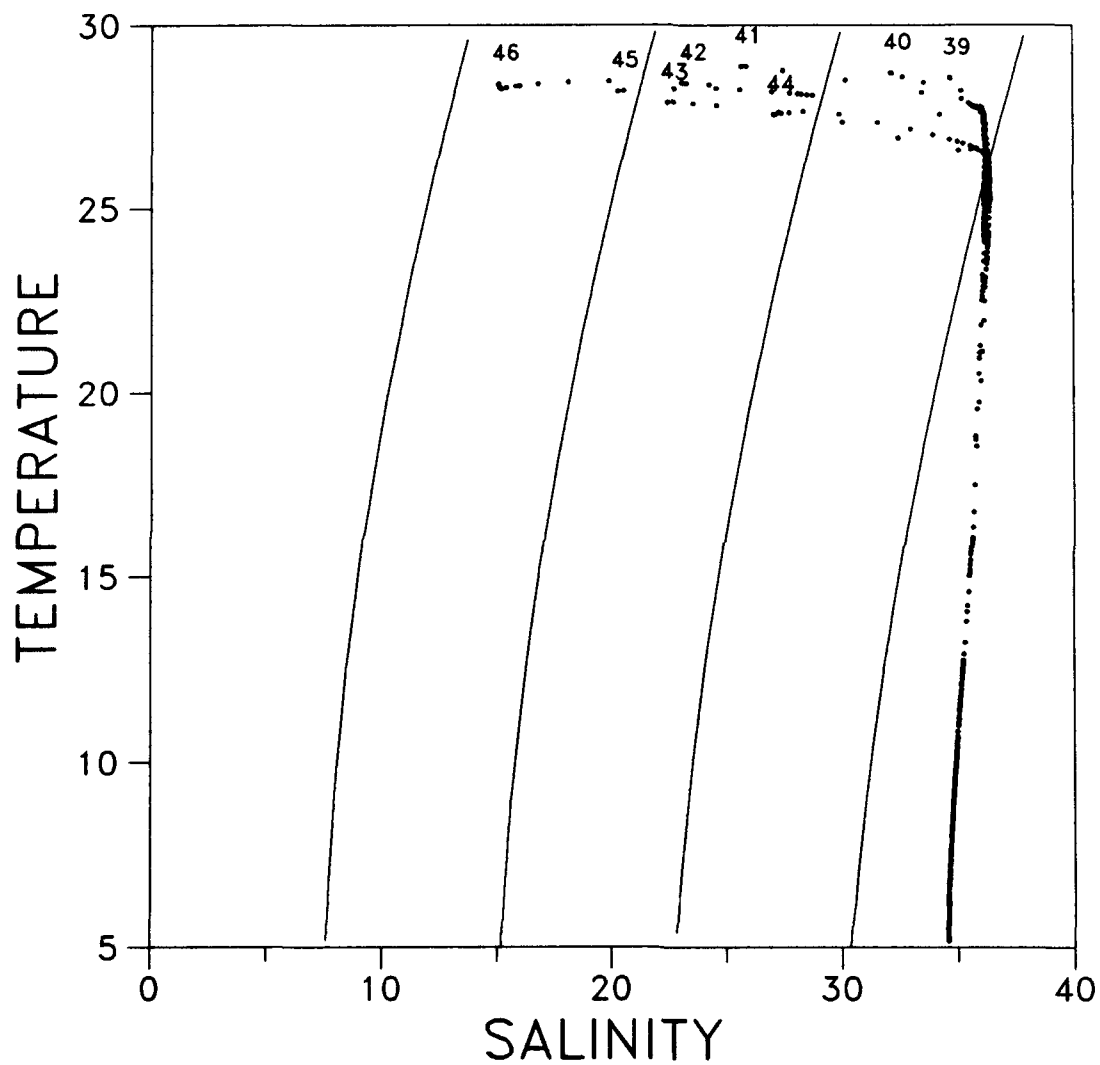


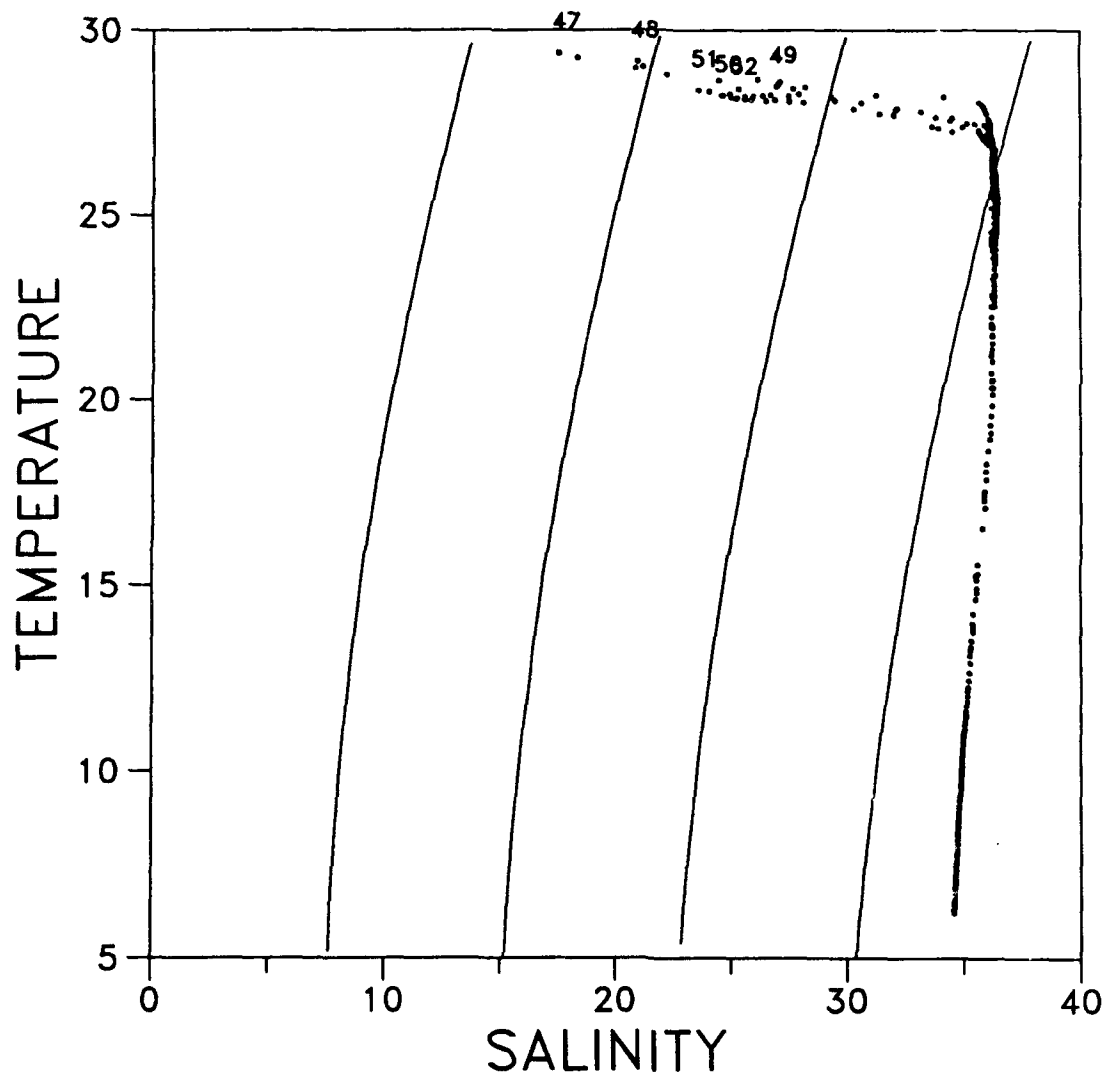


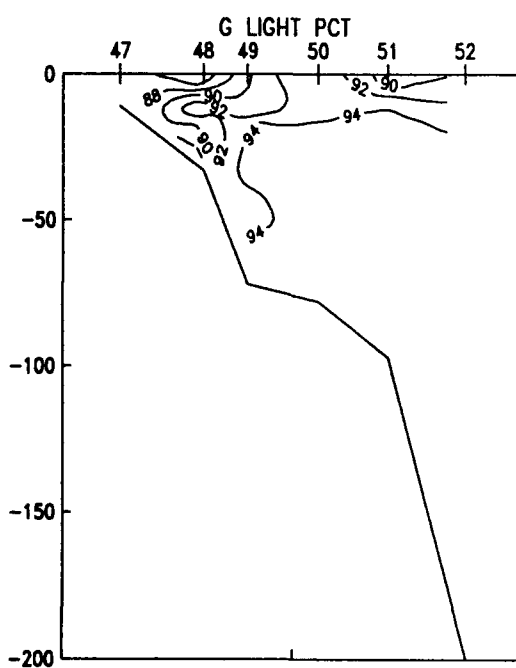
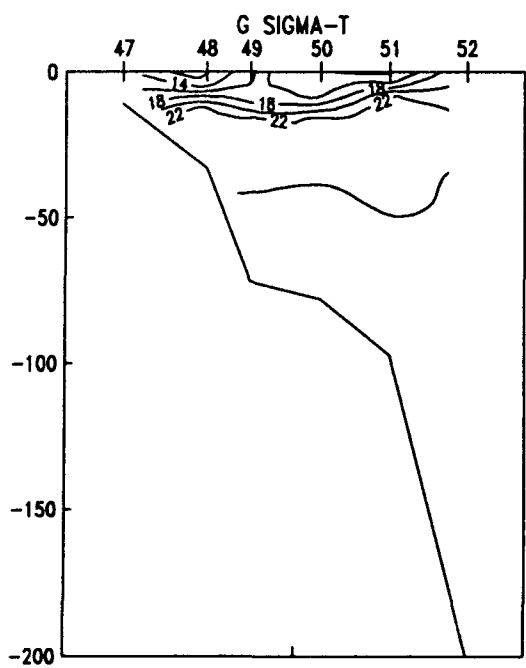
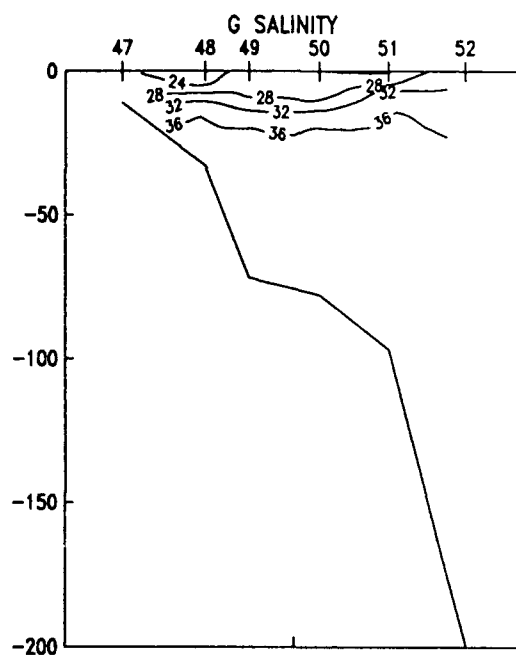
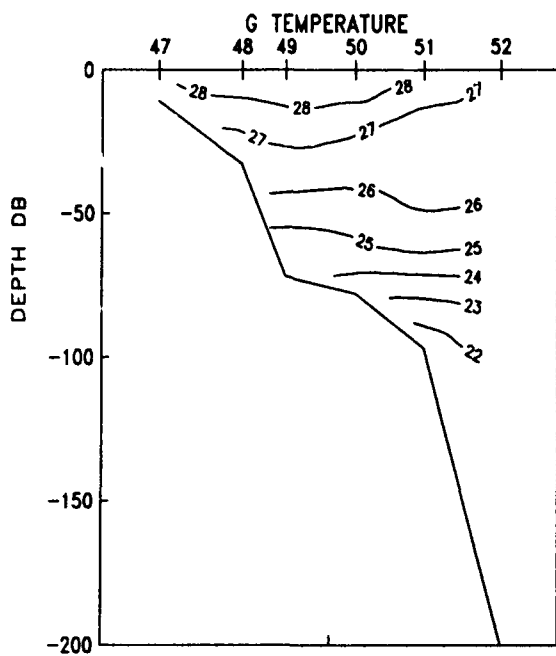


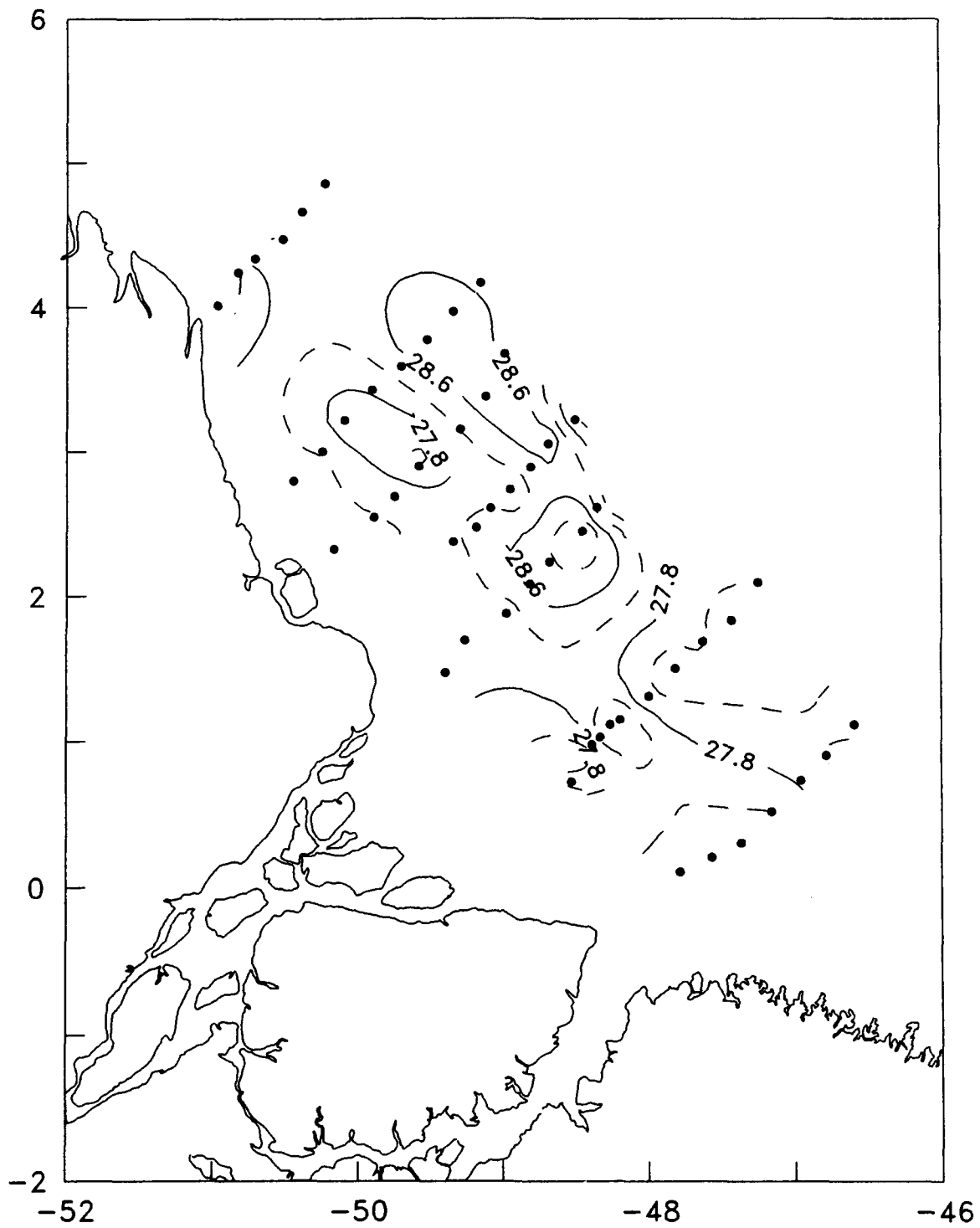




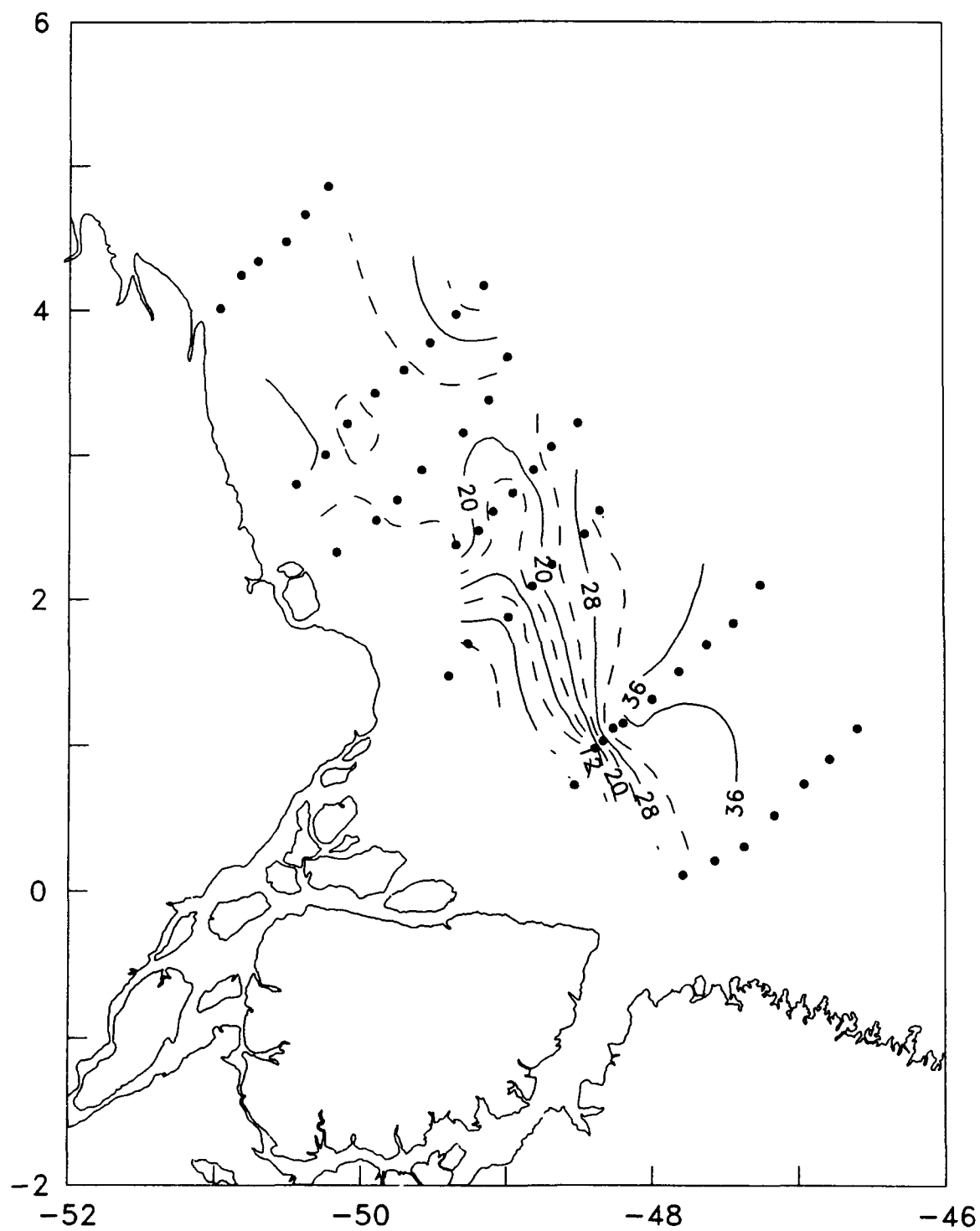




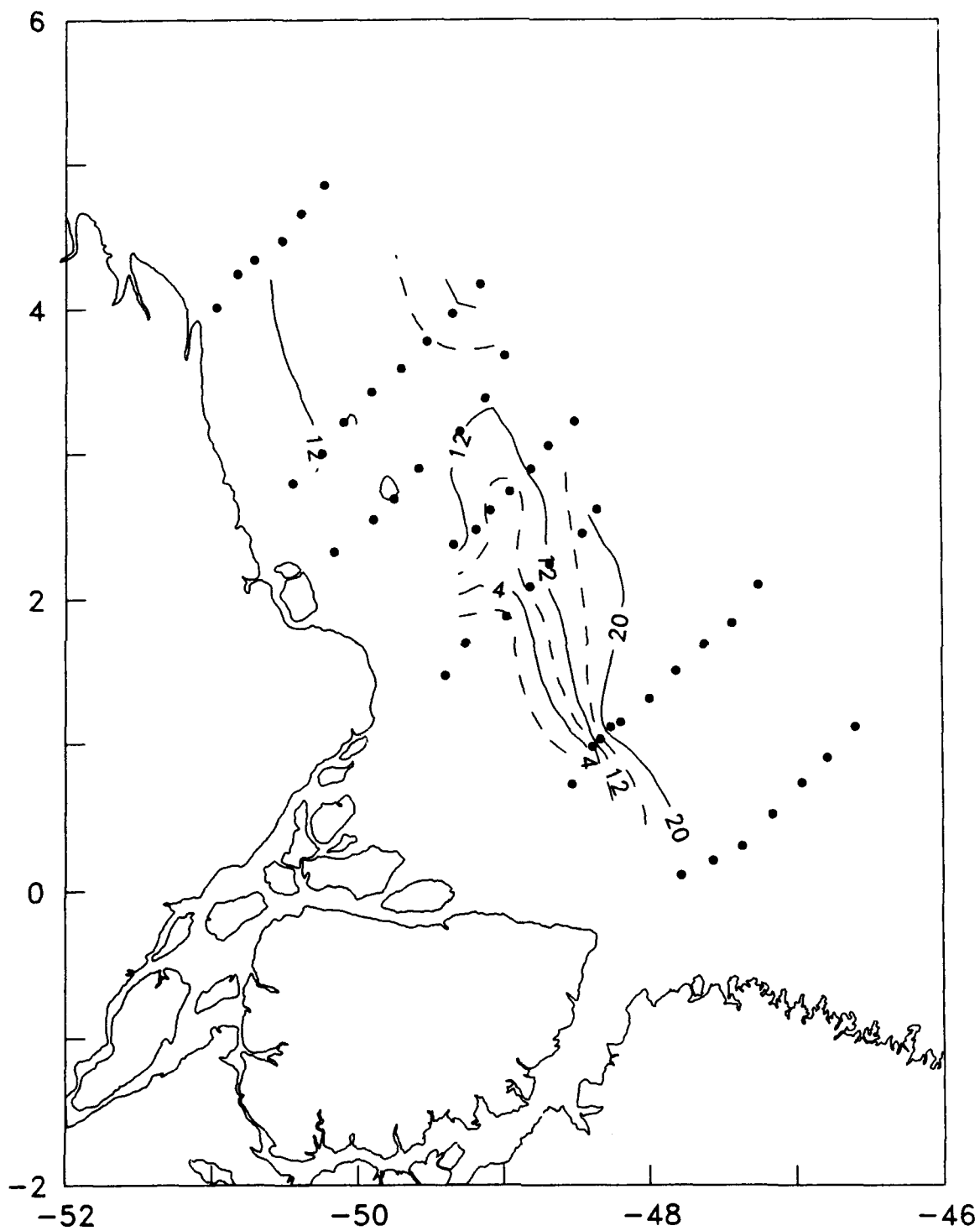




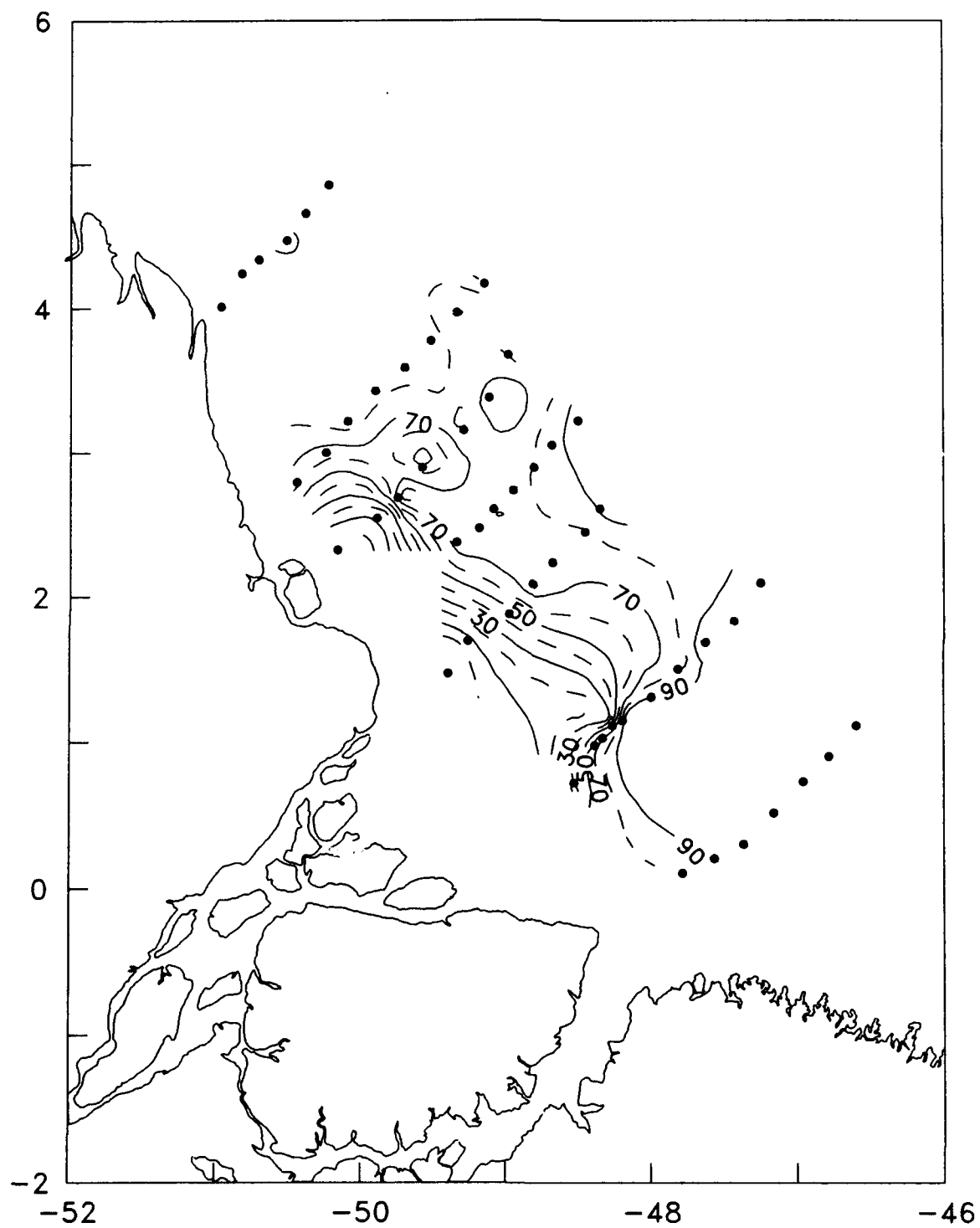
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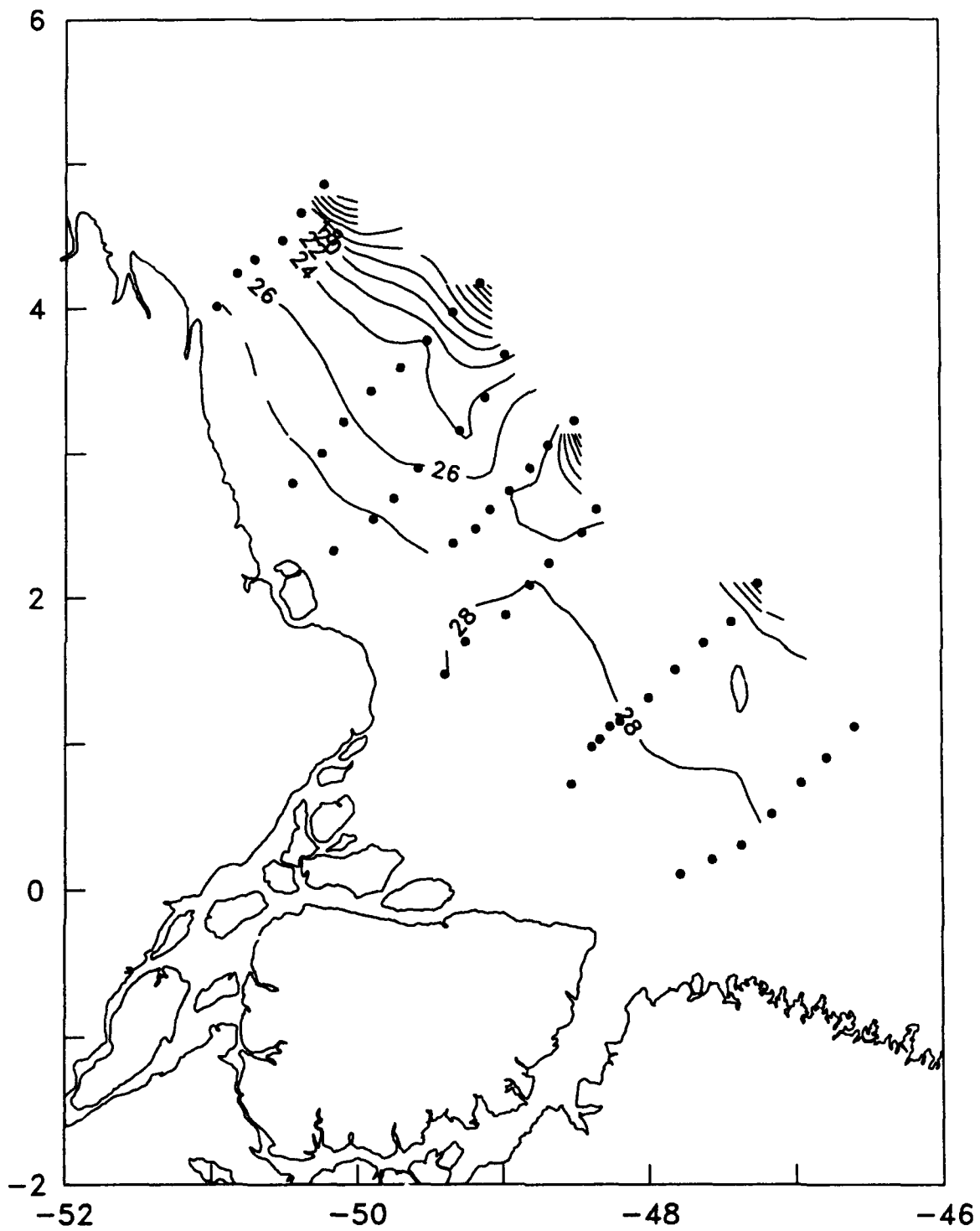
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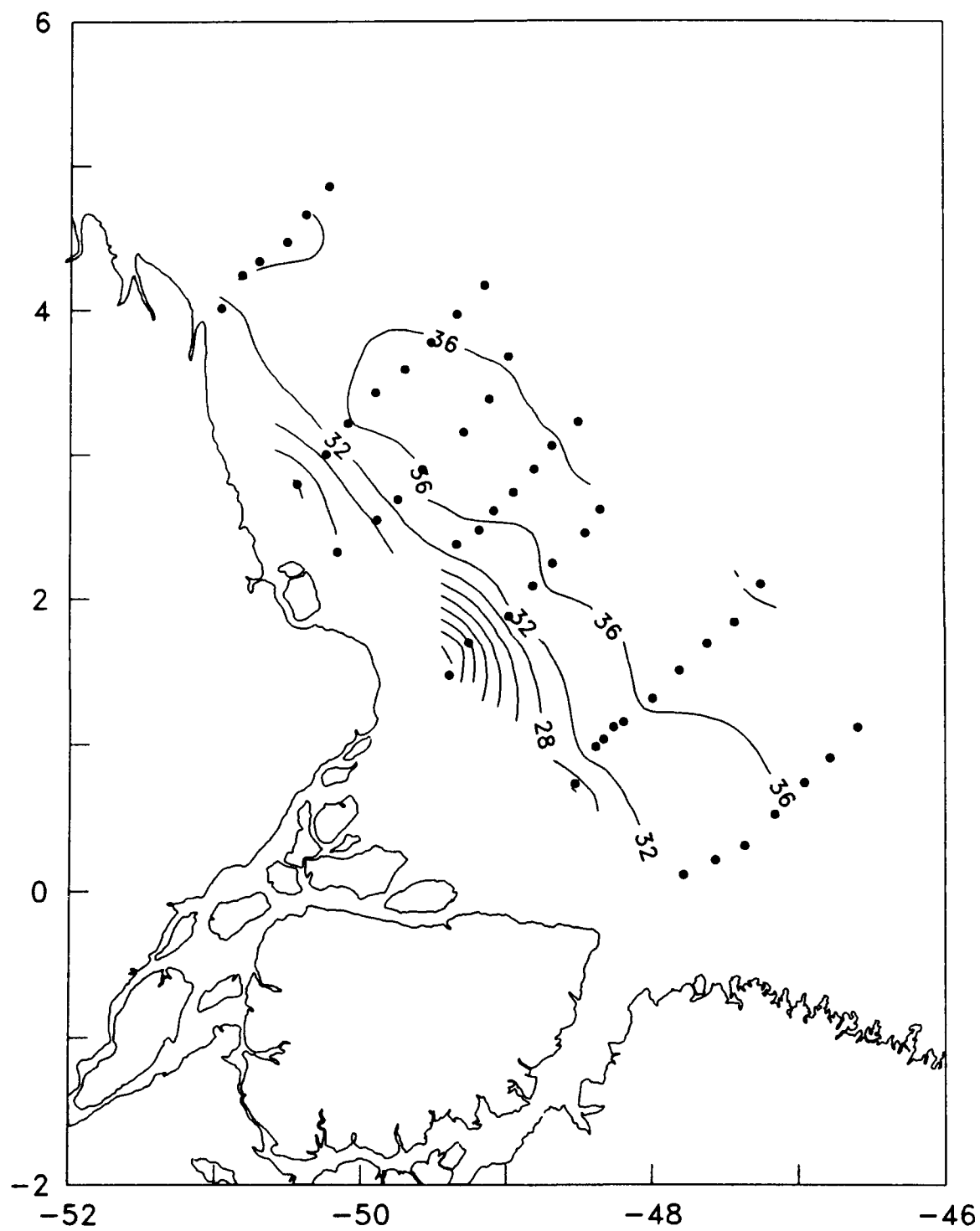
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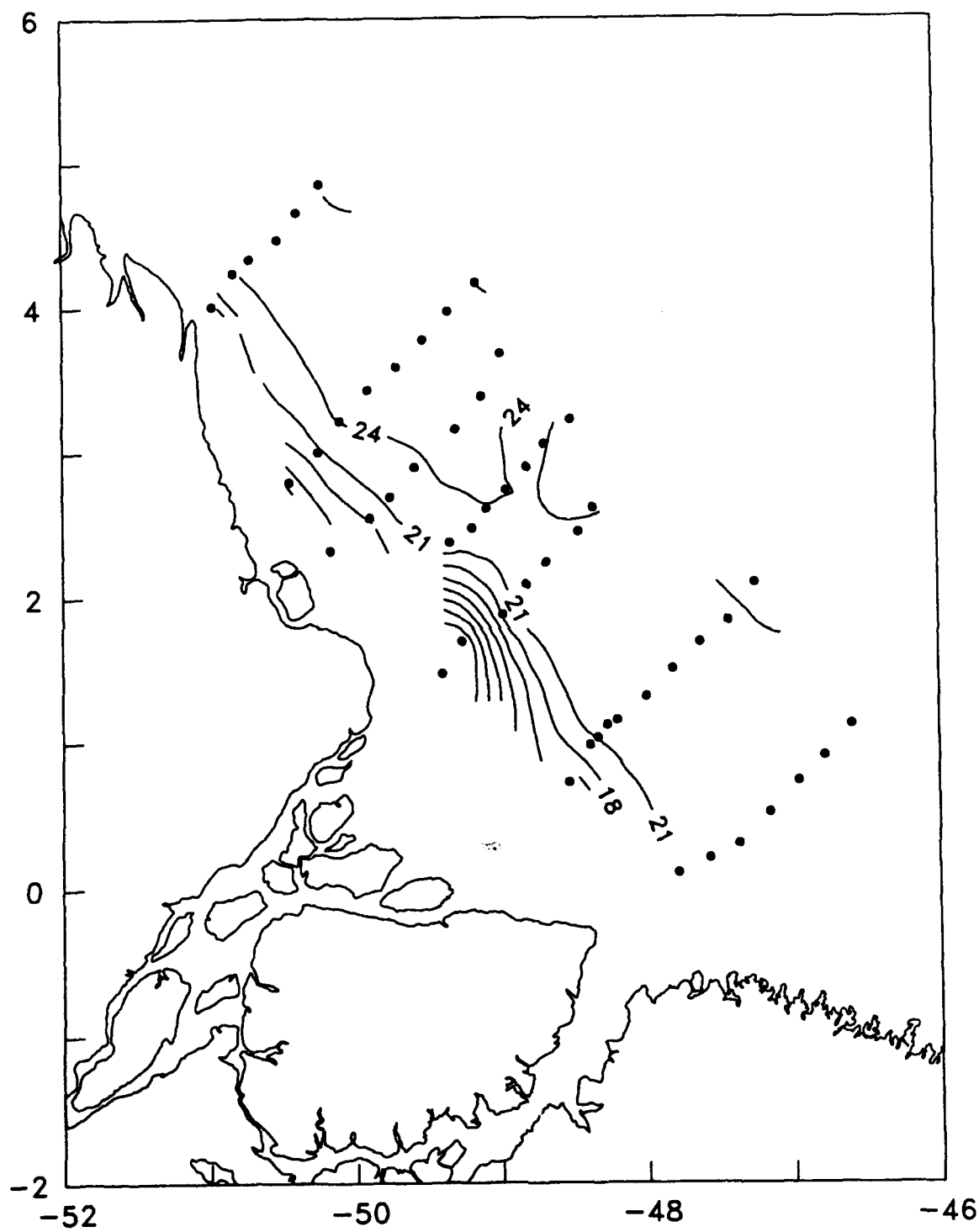
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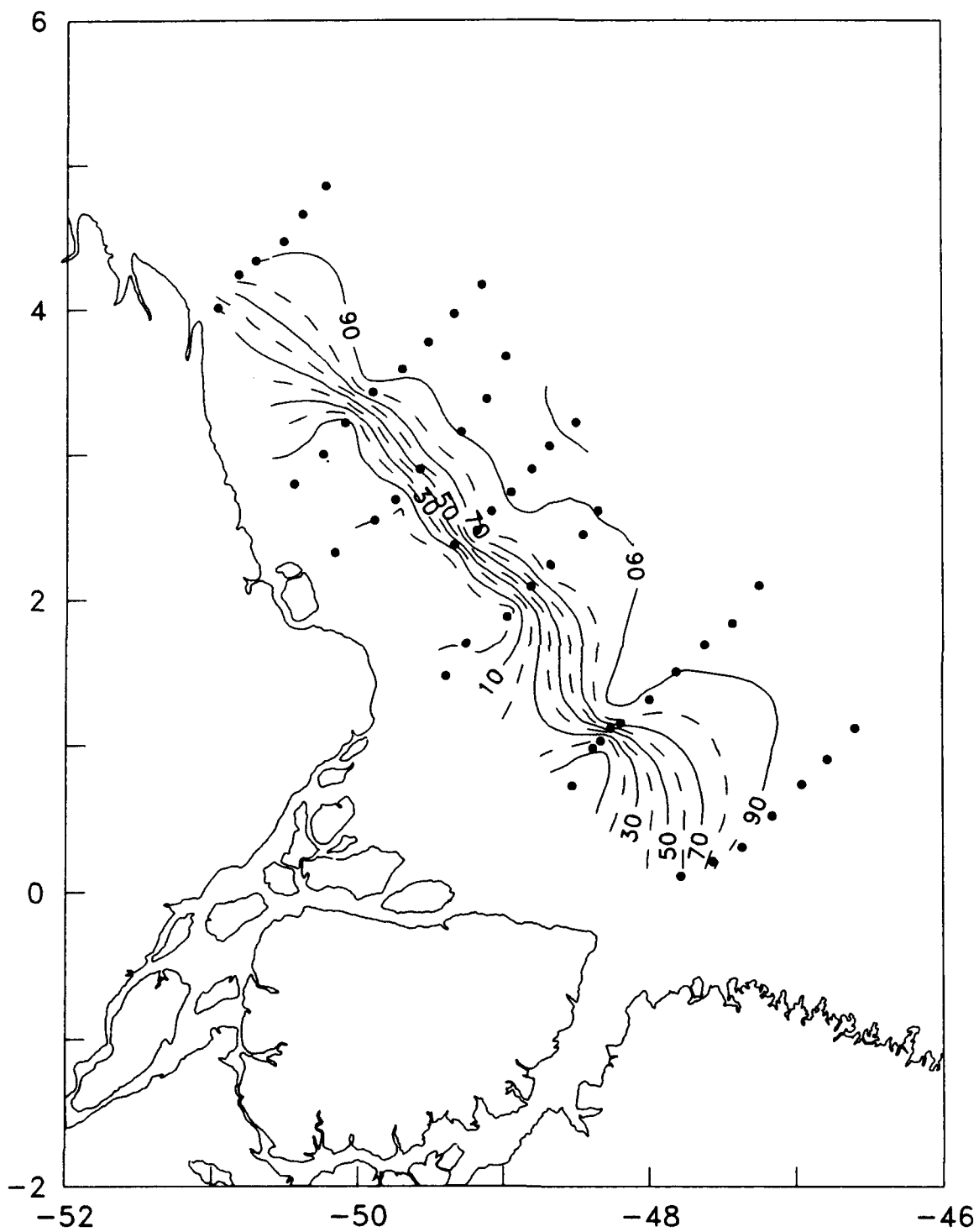
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BOTTOM SALINITY AUG 4-10 1989

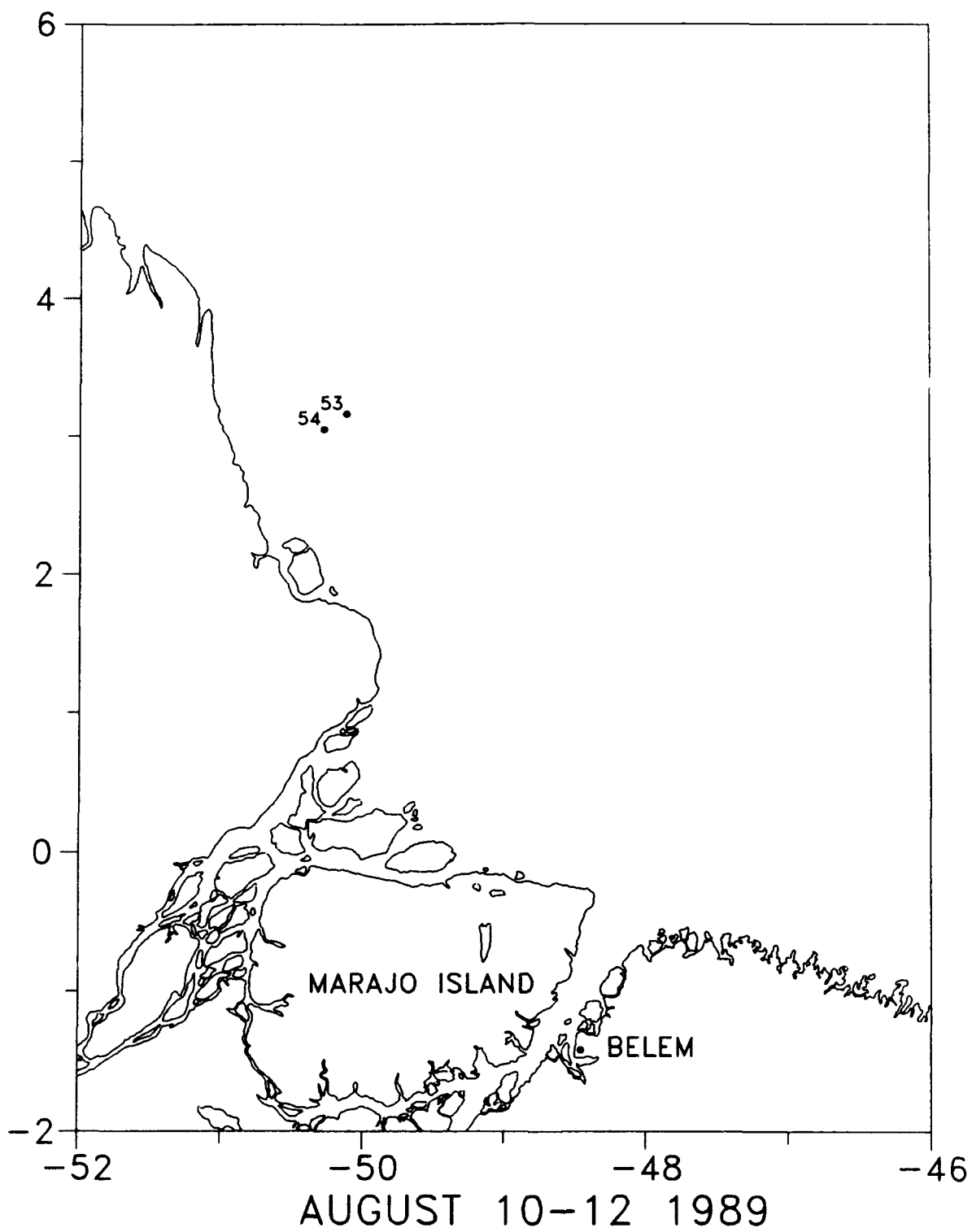


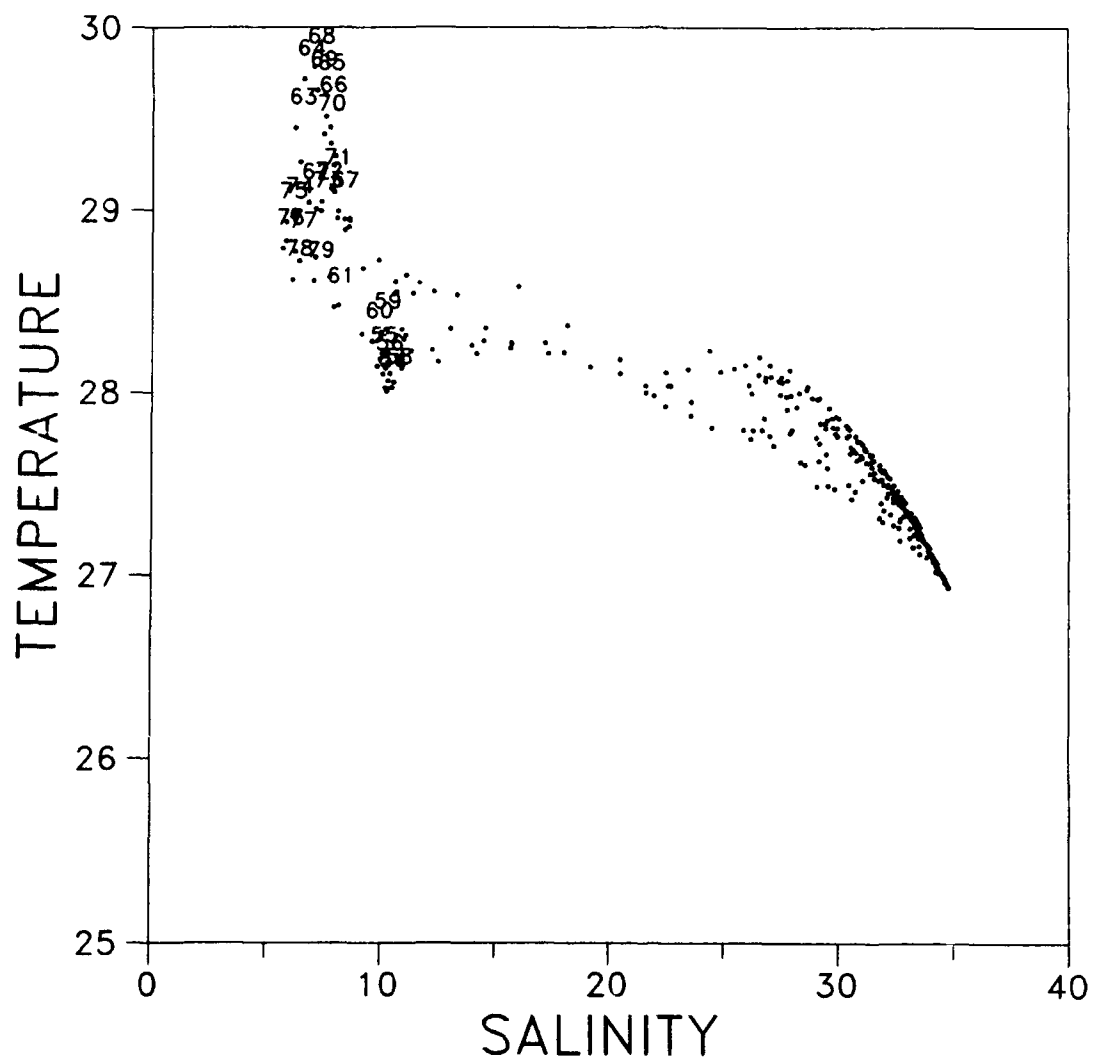
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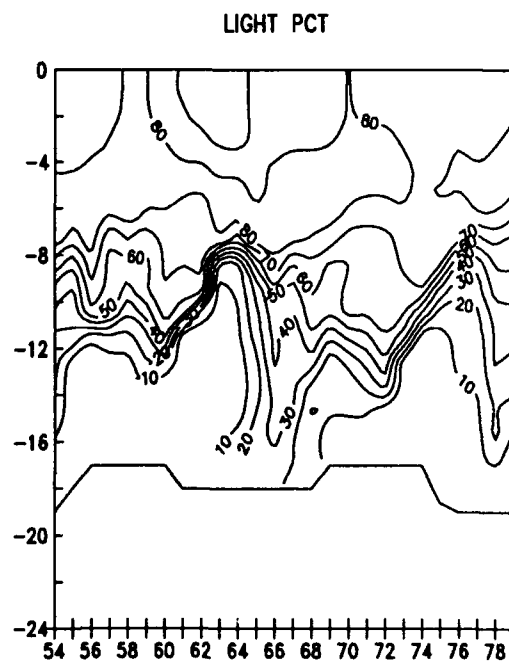
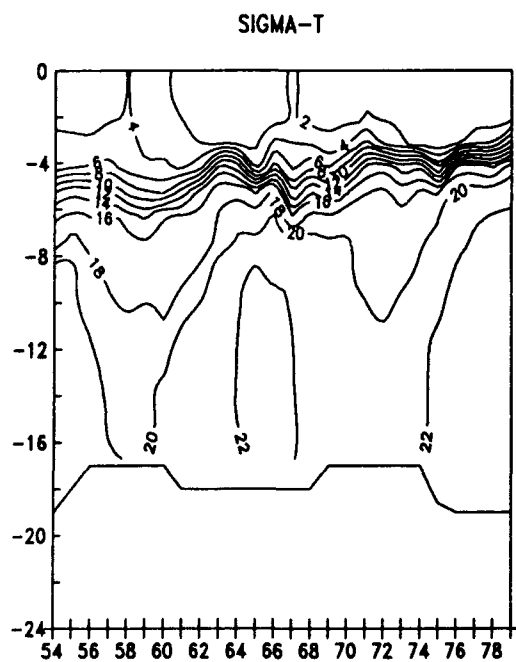
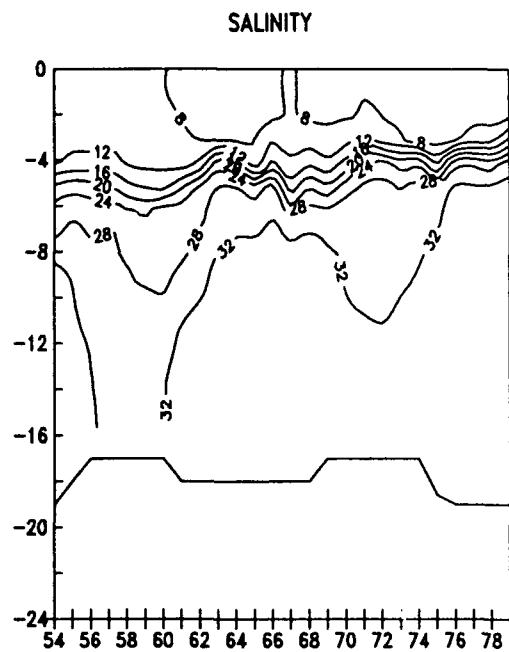
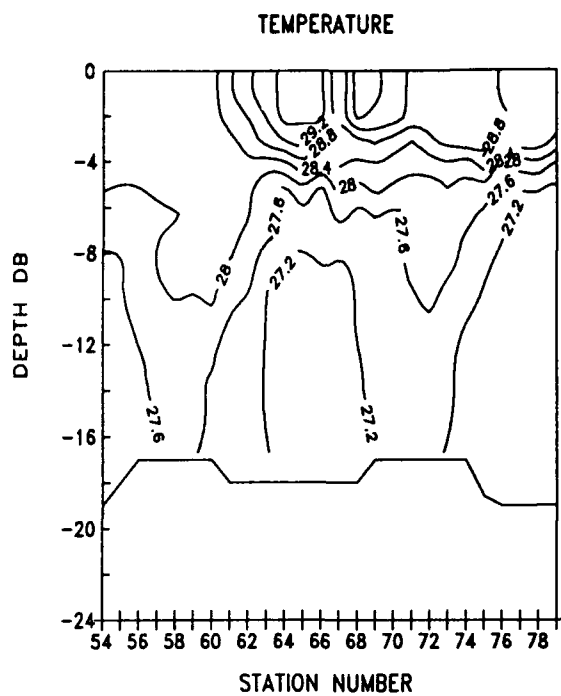


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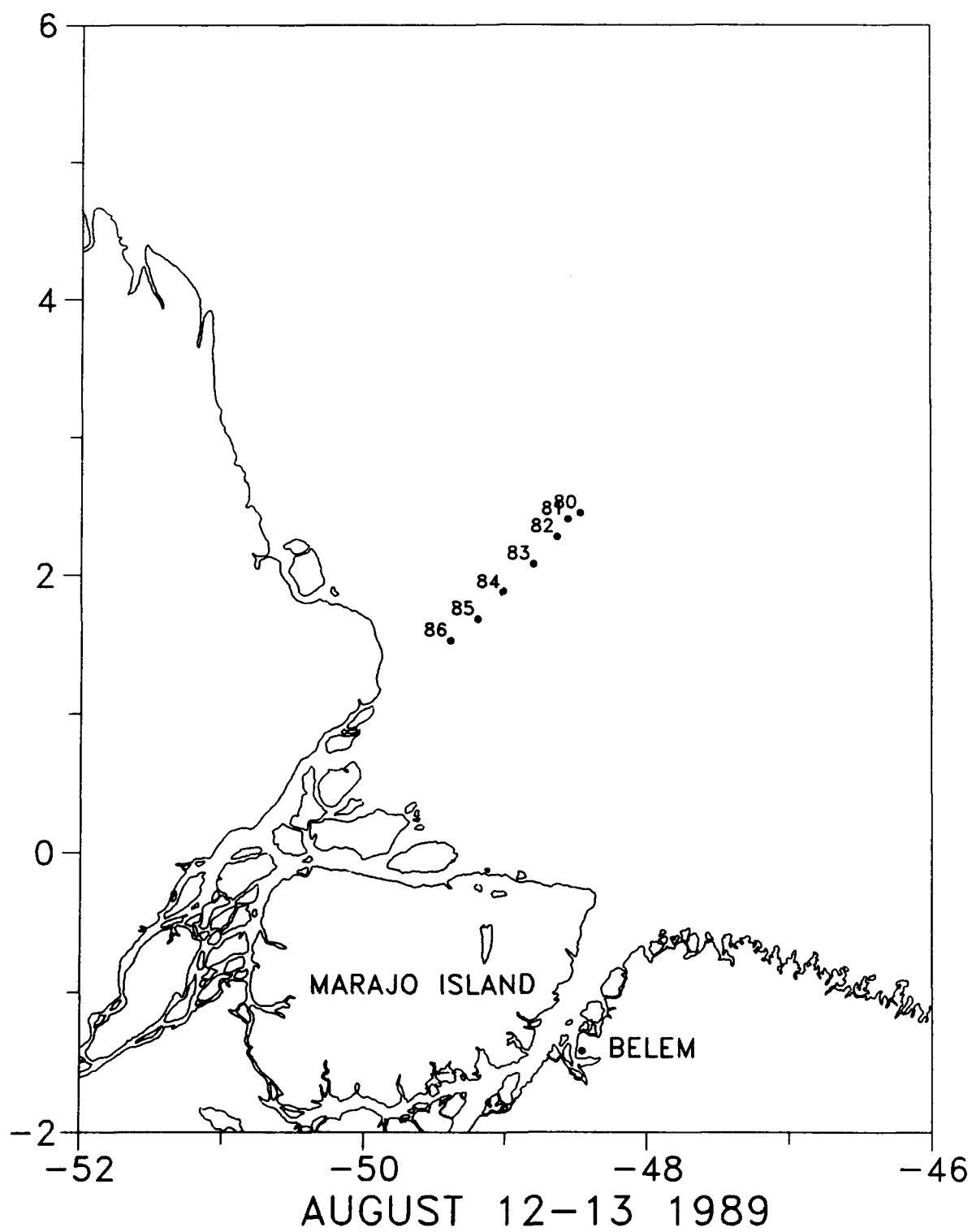
B. Time Series Anchor Station — August 11–12, 1989
Stations 54 to 79

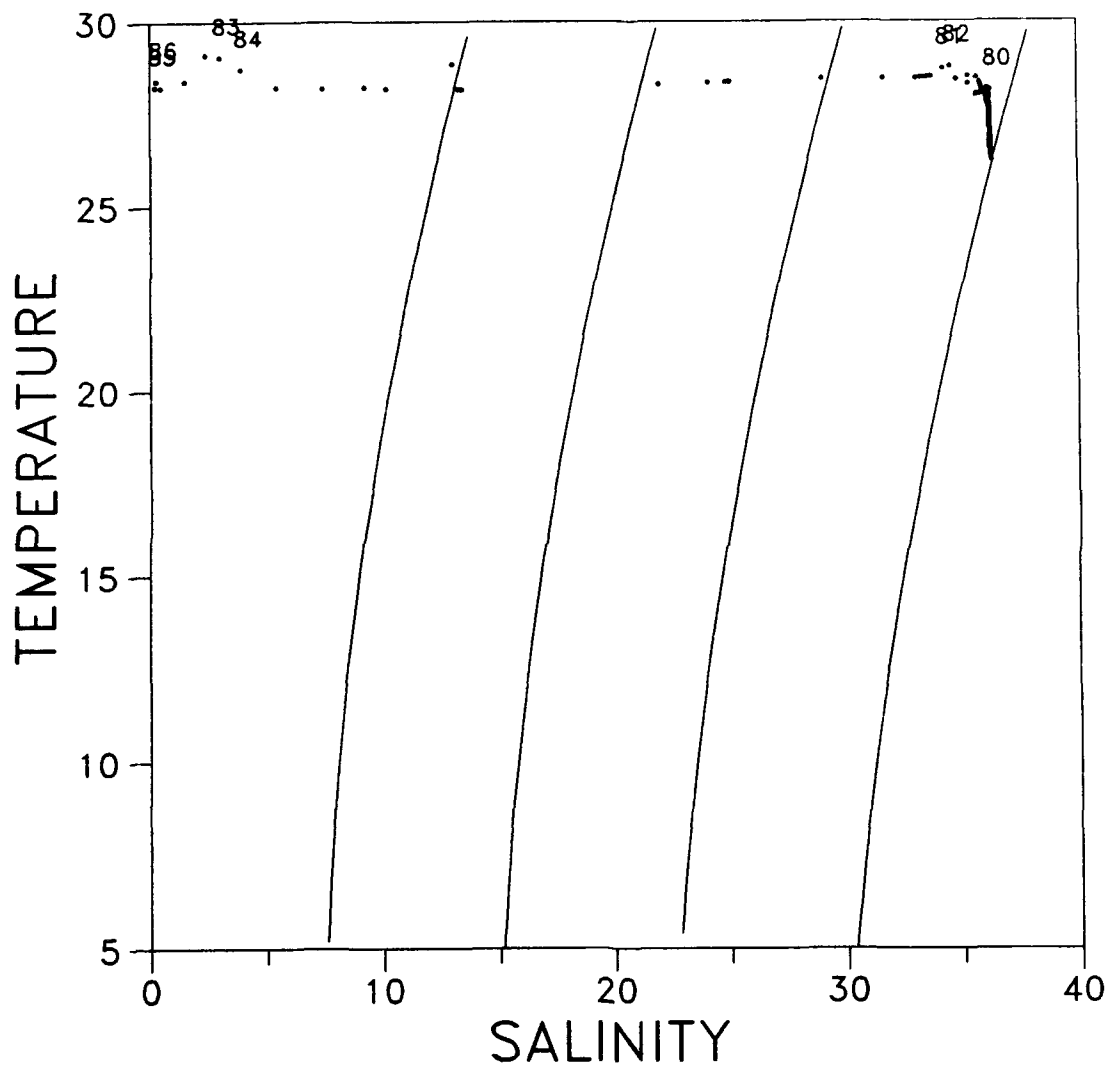


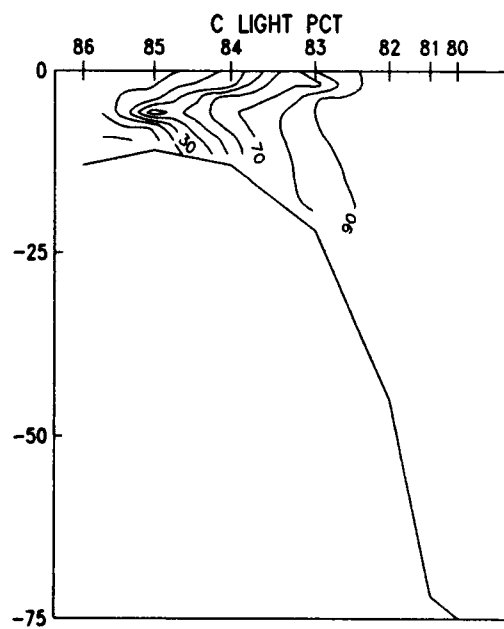
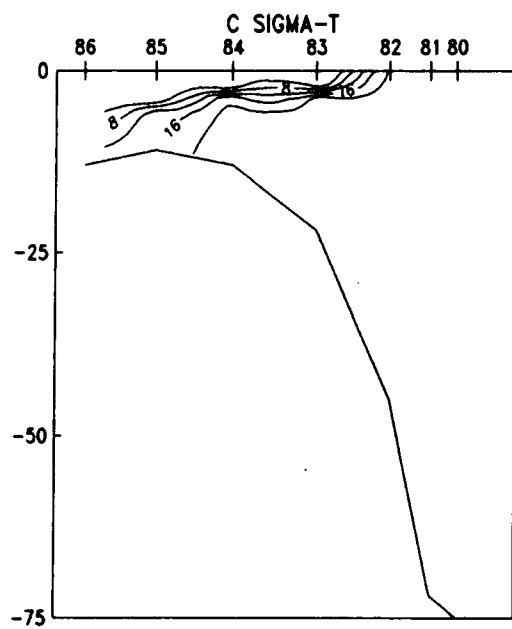
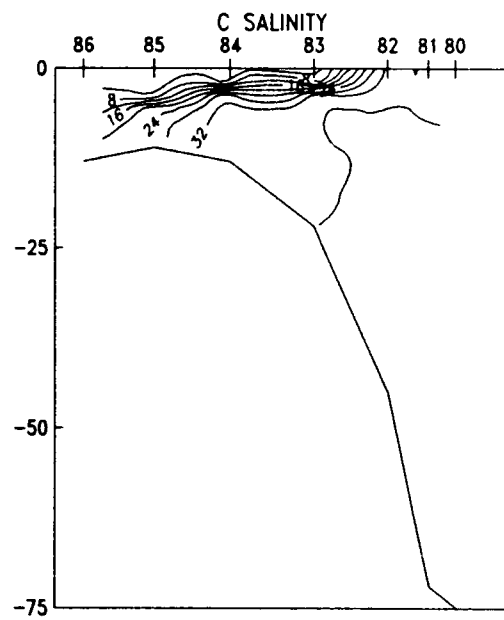
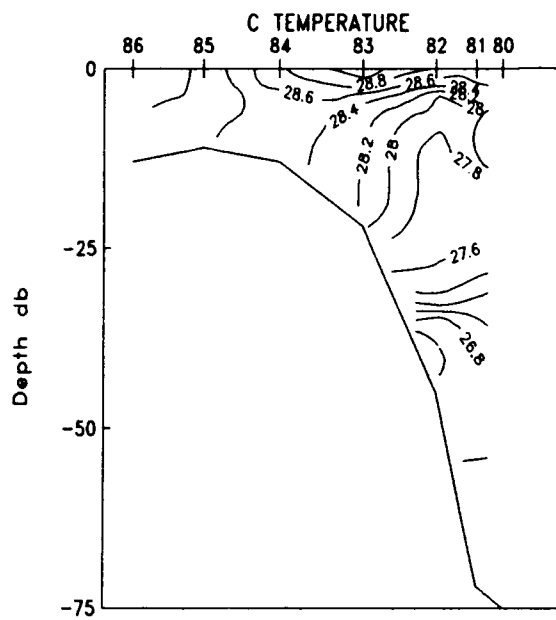




C. Section C — August 12–13, 1989 — Stations 80 to 86



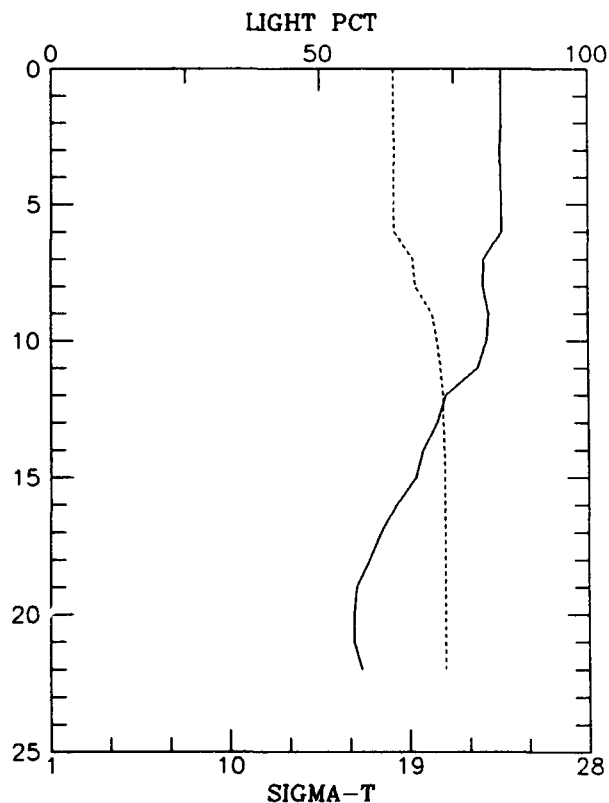
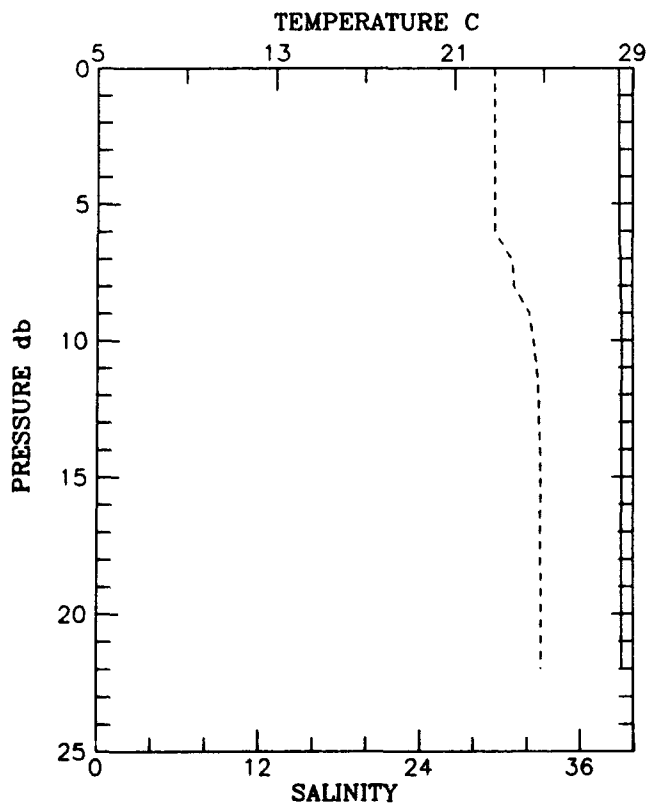




8. Station Listings and Profiles

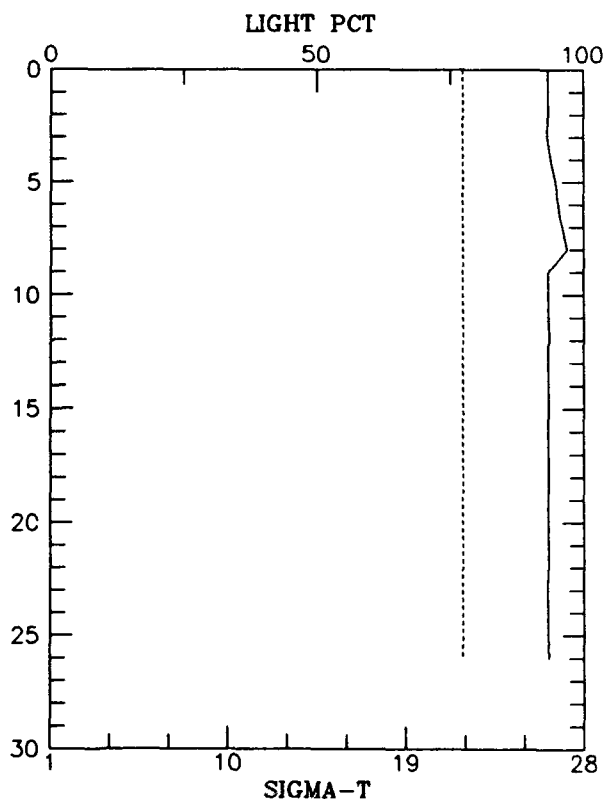
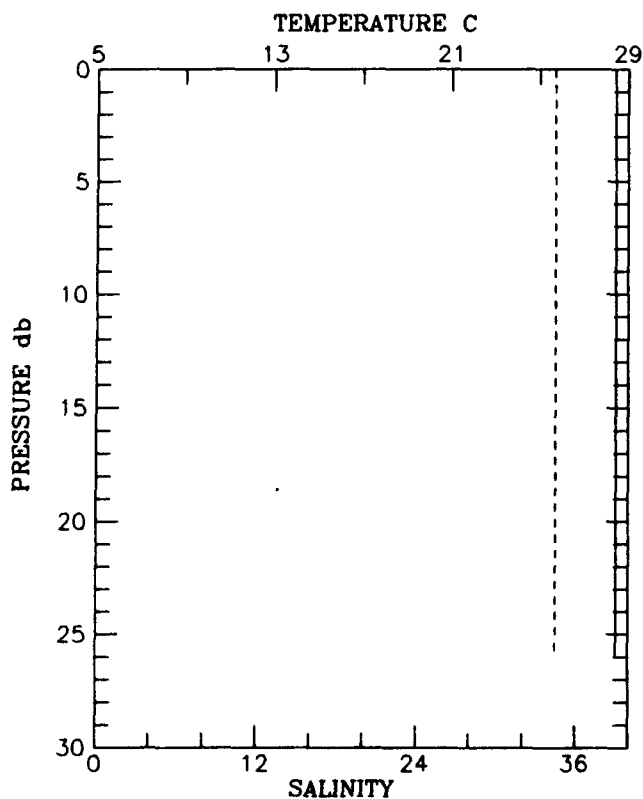
Cruise 18909 Consecutive Station # 1 Depth m:27 Time: 1989-08-04 06:35
 Position: 0° 6.50'W 47° 47.20'W Depth Deck Offset: 0.90 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.381	29.648	18.255	0.0000	0.000	0.0	83.8
2.0		28.381	29.647	18.255	0.0189	0.000	0.0	83.8
4.0	*	28.381	29.648	18.255	0.0378	0.000	0.0	83.7
6.0		28.381	29.646	18.254	0.0566	0.000	0.0	83.8
8.0		28.470	31.105	19.318	0.0741	0.000	0.0	80.5
10.0		28.479	32.563	20.409	0.0896	0.000	0.0	81.0
12.0		28.467	32.921	20.682	0.1040	0.000	0.0	73.4
14.0		28.464	33.014	20.753	0.1182	0.000	0.0	69.2
16.0	*	28.462	33.041	20.773	0.1323	0.000	0.0	64.2
18.0		28.462	33.068	20.794	0.1463	0.000	0.0	59.2
20.0		28.462	33.071	20.796	0.1603	0.000	0.0	56.3
22.0		28.462	33.077	20.801	0.1743	0.000	0.0	57.8



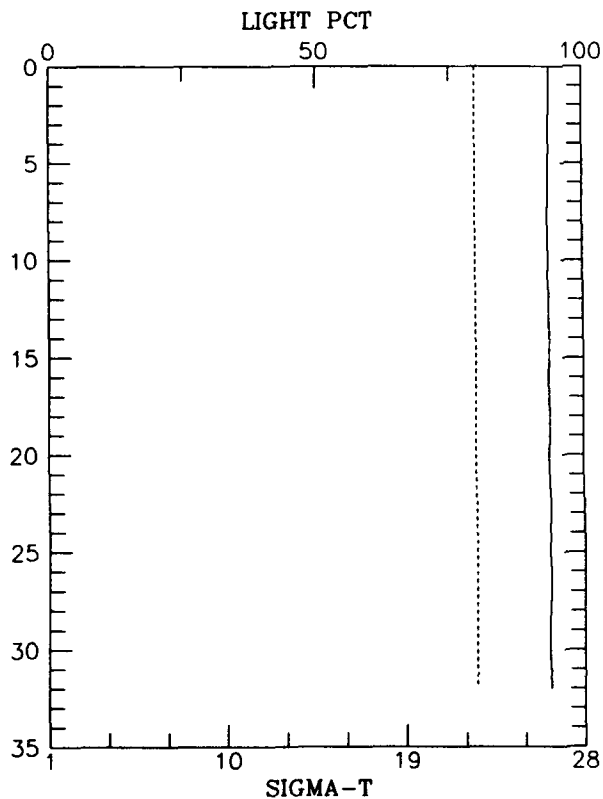
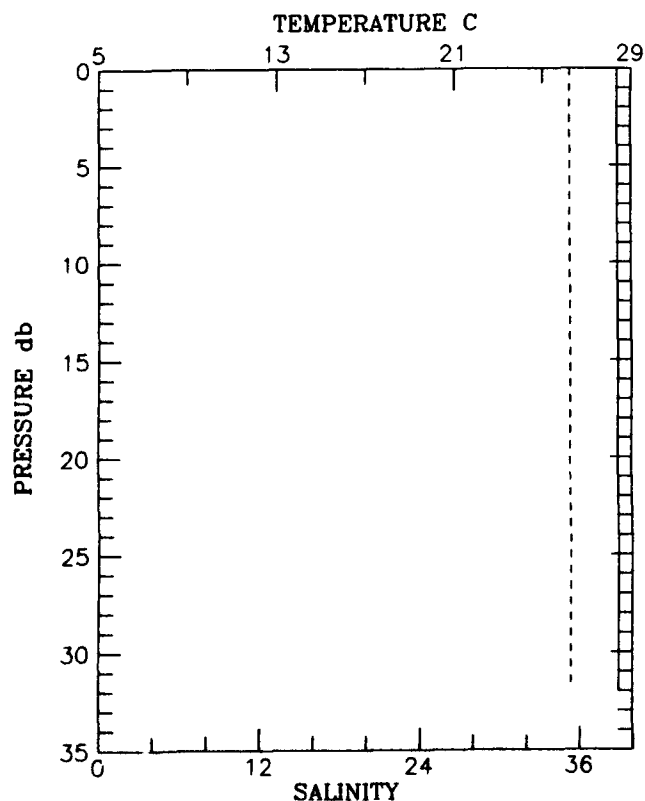
Cruise 18909 Consecutive Station # 2 Depth m:26 Time: 1989-08-04 09:15
 Position: 0° 12.50'N 47° 34.10'W Depth Deck Offset: 0.90 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.442	34.507	21.881	0.0000	0.000	0.0	93.3
2.0		28.441	34.506	21.881	0.0119	0.000	0.0	93.3
4.0		28.442	34.505	21.880	0.0238	0.000	0.0	93.8
6.0		28.442	34.504	21.879	0.0357	0.000	0.0	95.3
8.0		28.444	34.503	21.878	0.0477	0.000	0.0	96.8
10.0		28.439	34.504	21.880	0.0596	0.000	0.0	93.3
12.0		28.437	34.504	21.880	0.0715	0.000	0.0	93.4
14.0		28.437	34.504	21.881	0.0834	0.000	0.0	93.3
16.0		28.437	34.503	21.880	0.0954	0.000	0.0	93.3
18.0		28.436	34.503	21.880	0.1073	0.000	0.0	93.3
20.0		28.436	34.503	21.880	0.1192	0.000	0.0	93.3
22.0		28.435	34.503	21.880	0.1312	0.000	0.0	93.3
24.0		28.435	34.504	21.881	0.1431	0.000	0.0	93.2
26.0		28.432	34.509	21.886	0.1550	0.000	0.0	93.5



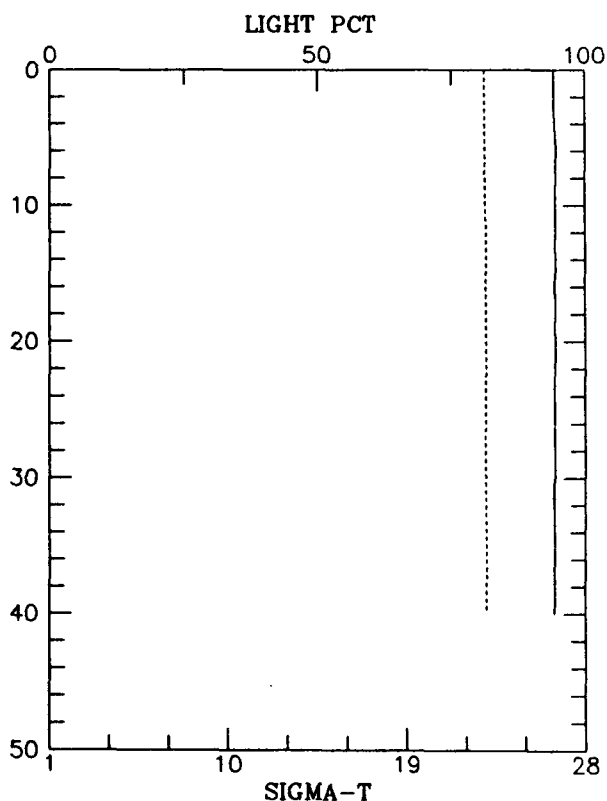
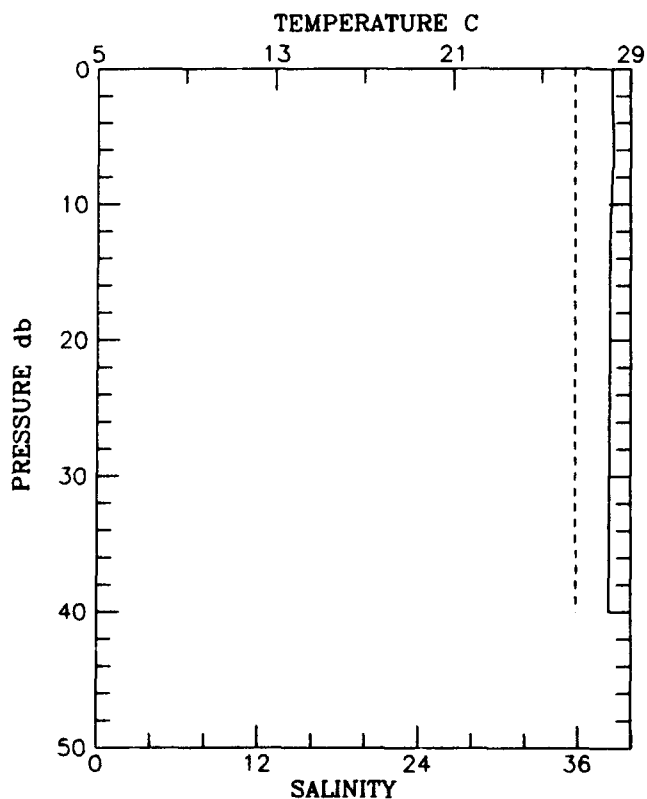
Cruise 18909 Consecutive Station # 3 Depth m:33 Time: 1989-08-04 11:19
 Position: 0° 18.40'N 47° 22.00'W Depth Deck Offset: 0.70 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.375	35.372	22.553	0.0000	0.000	0.0	93.8
2.0		28.375	35.371	22.553	0.0106	0.000	0.0	93.8
4.0		28.372	35.371	22.553	0.0213	0.000	0.0	93.7
6.0		28.371	35.371	22.554	0.0319	0.000	0.0	93.6
8.0		28.370	35.371	22.554	0.0425	0.000	0.0	93.5
10.0		28.369	35.372	22.555	0.0531	0.000	0.0	93.6
12.0		28.369	35.372	22.555	0.0638	0.000	0.0	93.6
14.0		28.368	35.373	22.556	0.0744	0.000	0.0	93.7
16.0		28.368	35.373	22.556	0.0850	0.000	0.0	93.5
18.0		28.369	35.374	22.557	0.0957	0.000	0.0	93.7
20.0		28.369	35.373	22.556	0.1063	0.000	0.0	93.6
22.0		28.368	35.374	22.557	0.1170	0.000	0.0	93.7
24.0		28.369	35.373	22.556	0.1276	0.000	0.0	93.6
26.0		28.368	35.375	22.558	0.1382	0.000	0.0	93.7
28.0		28.367	35.376	22.559	0.1489	0.000	0.0	93.6
30.0		28.368	35.376	22.559	0.1595	0.000	0.0	93.5
32.0		28.367	35.376	22.559	0.1702	0.000	0.0	93.7



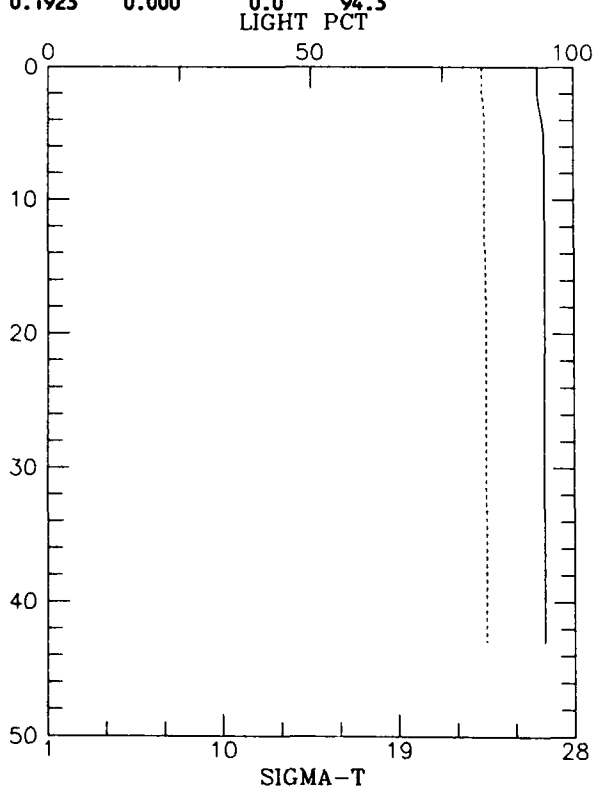
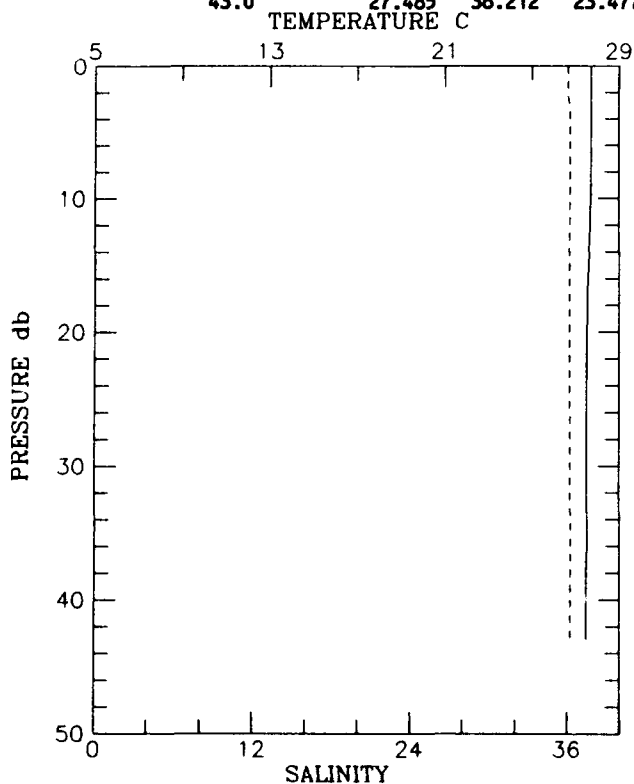
Cruise 18909 Consecutive Station # 4 Depth m:40 Time: 1989-08-04 15:09
 Position: 0° 31.20'N 47° 9.70'W Depth Deck Offset: 0.70 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.181	35.792	22.933	0.0000	0.000	0.0	94.2
2.0	E	28.181	35.792	22.933	0.0099	0.000	0.0	94.2
4.0		28.185	35.792	22.932	0.0198	0.000	0.0	94.3
6.0		28.192	35.792	22.929	0.0297	0.000	0.0	94.5
8.0		28.164	35.792	22.939	0.0396	0.000	0.0	94.5
10.0		28.156	35.790	22.940	0.0495	0.000	0.0	94.4
12.0		28.074	35.801	22.975	0.0594	0.000	0.0	94.4
14.0		28.058	35.805	22.983	0.0692	0.000	0.0	94.4
16.0		28.058	35.805	22.983	0.0790	0.000	0.0	94.3
18.0		28.059	35.805	22.983	0.0888	0.000	0.0	94.4
20.0		28.045	35.810	22.991	0.0986	0.000	0.0	94.4
22.0		28.045	35.811	22.992	0.1084	0.000	0.0	94.3
24.0		28.044	35.811	22.992	0.1182	0.000	0.0	94.3
26.0		28.033	35.817	23.001	0.1280	0.000	0.0	94.3
28.0		28.032	35.817	23.001	0.1378	0.000	0.0	94.3
30.0		28.023	35.822	23.008	0.1476	0.000	0.0	94.3
32.0		28.014	35.826	23.014	0.1574	0.000	0.0	94.3
34.0		28.007	35.830	23.019	0.1672	0.000	0.0	94.3
36.0		27.999	35.834	23.025	0.1769	0.000	0.0	94.3
38.0		27.994	35.837	23.028	0.1867	0.000	0.0	94.3
40.0		27.990	35.840	23.032	0.1964	0.000	0.0	94.1



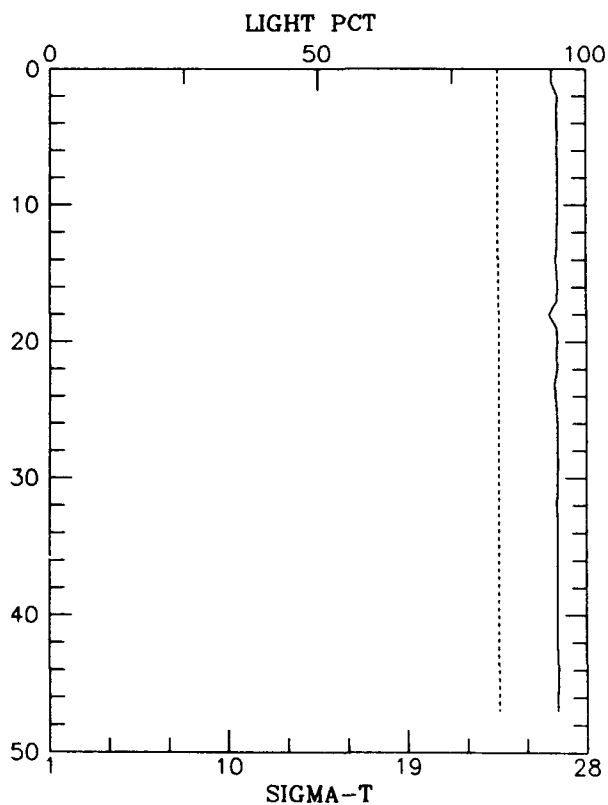
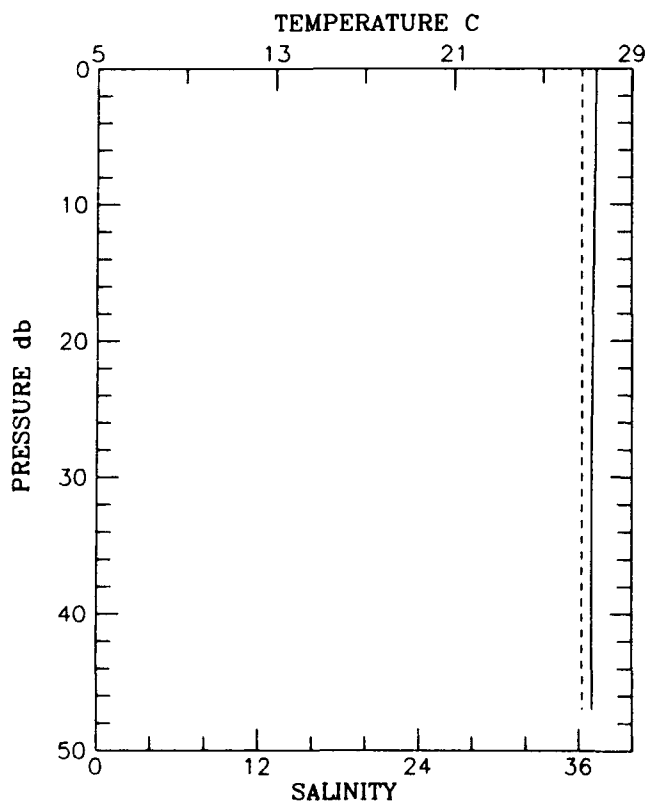
Cruise 18909 Consecutive Station # 5 Depth m:43 Time: 1989-08-04 17:06
 Position: 0° 44.10'N 46° 57.60'W Depth Deck Offset: 0.70 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	27.721	36.079	23.300	0.0000	0.000	0.0	93.1
2.0		27.721	36.079	23.300	0.0092	0.000	0.0	93.1
4.0		27.719	36.217	23.404	0.0183	0.000	0.0	93.9
6.0		27.717	36.217	23.405	0.0273	0.000	0.0	94.3
8.0		27.701	36.218	23.411	0.0363	0.000	0.0	94.4
10.0		27.691	36.216	23.413	0.0453	0.000	0.0	94.4
12.0		27.677	36.213	23.415	0.0542	0.000	0.0	94.5
14.0		27.618	36.207	23.430	0.0632	0.000	0.0	94.4
16.0		27.567	36.205	23.445	0.0722	0.000	0.0	94.4
18.0		27.517	36.209	23.464	0.0811	0.000	0.0	94.4
20.0		27.509	36.210	23.467	0.0900	0.000	0.0	94.4
22.0		27.502	36.210	23.470	0.0989	0.000	0.0	94.3
24.0		27.500	36.210	23.470	0.1078	0.000	0.0	94.3
26.0		27.495	36.211	23.472	0.1167	0.000	0.0	94.3
28.0		27.494	36.211	23.473	0.1256	0.000	0.0	94.3
30.0		27.492	36.211	23.473	0.1345	0.000	0.0	94.3
32.0		27.491	36.211	23.474	0.1434	0.000	0.0	94.3
34.0		27.490	36.211	23.474	0.1523	0.000	0.0	94.3
36.0		27.487	36.212	23.476	0.1611	0.000	0.0	94.3
38.0		27.485	36.212	23.477	0.1700	0.000	0.0	94.3
40.0		27.484	36.212	23.477	0.1789	0.000	0.0	94.3
42.0		27.485	36.212	23.477	0.1878	0.000	0.0	94.3
43.0		27.485	36.212	23.477	0.1923	0.000	0.0	94.3



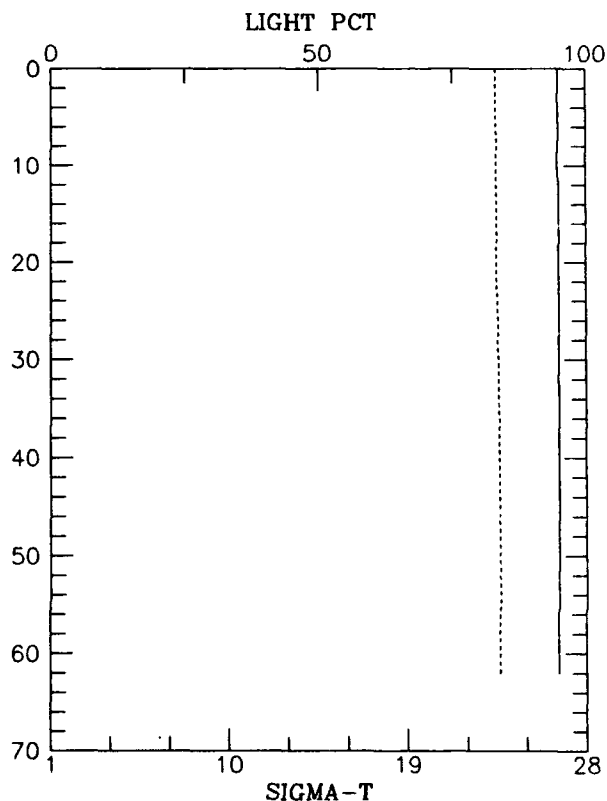
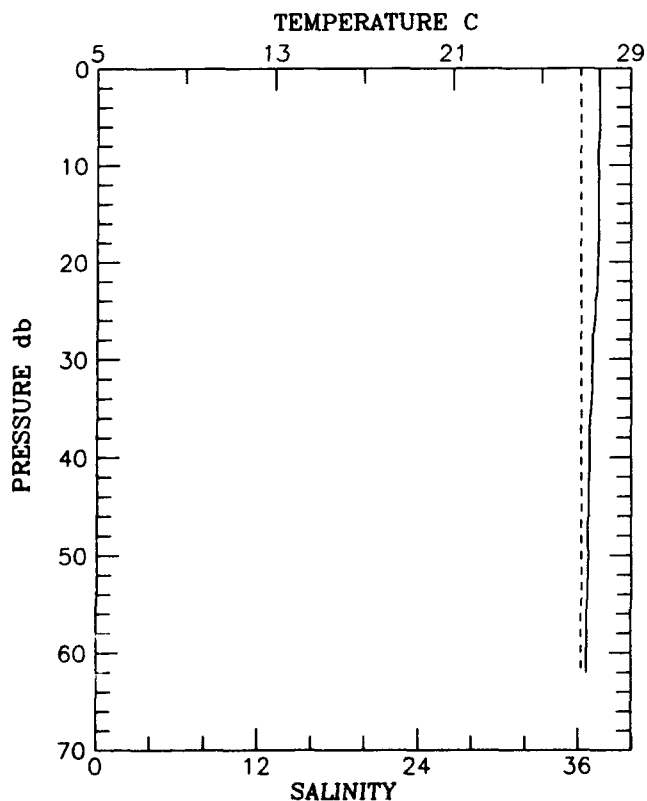
Cruise 18909 Consecutive Station # 6 Depth m:50 Time: 1989-08-04 19:50
 Position: 0° 54.30'N 46° 47.20'W Depth Deck Offset: -0.20 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	27.383	36.240	23.531	0.0000	0.000	0.0	93.6
5.0		27.356	36.239	23.539	0.0219	0.000	0.0	94.6
10.0		27.314	36.236	23.550	0.0437	0.000	0.0	94.6
15.0		27.282	36.234	23.559	0.0655	0.000	0.0	94.5
20.0		27.230	36.233	23.575	0.0873	0.000	0.0	94.5
25.0		27.199	36.233	23.585	0.1090	0.000	0.0	94.4
30.0		27.187	36.233	23.589	0.1307	0.000	0.0	94.5
35.0		27.180	36.233	23.591	0.1524	0.000	0.0	94.5
40.0		27.180	36.233	23.591	0.1741	0.000	0.0	94.5
45.0		27.180	36.233	23.591	0.1958	0.000	0.0	94.6
47.0		27.180	36.233	23.591	0.2045	0.000	0.0	94.5



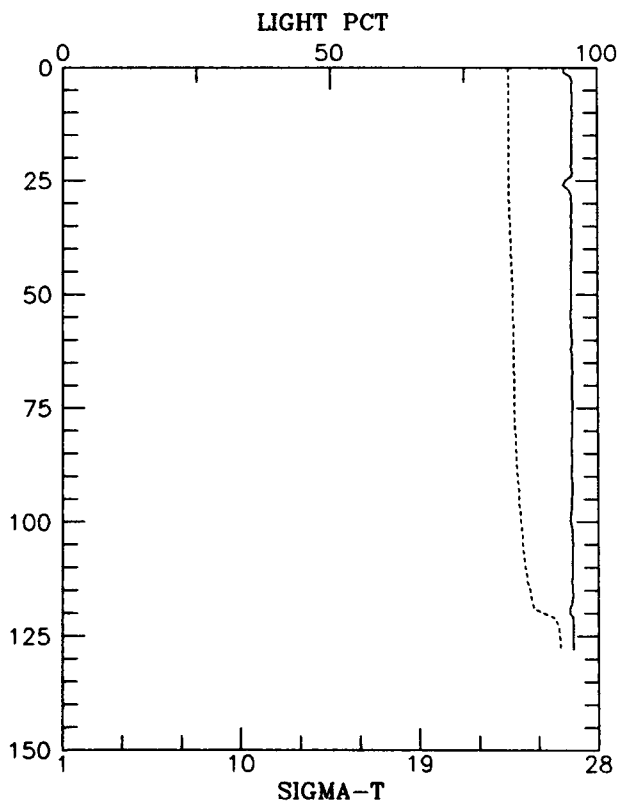
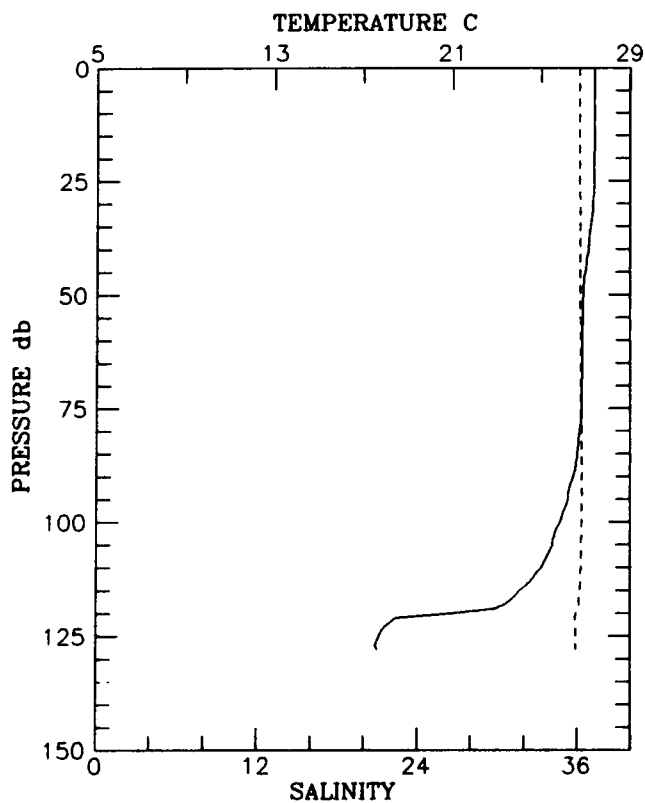
Cruise I8909 Consecutive Station # 7 Depth m:70 Time: 1989-08-04 22:06
 Position: 1° 6.96'N 46° 35.87'W Depth Deck Offset: -0.10 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	27.577	36.228	23.459	0.0000	0.000	0.0	94.8
5.0		27.581	36.229	23.458	0.0222	0.000	0.0	94.8
10.0		27.541	36.230	23.472	0.0445	0.000	0.0	94.7
15.0		27.525	36.229	23.477	0.0667	0.000	0.0	94.9
20.0		27.508	36.231	23.484	0.0888	0.000	0.0	94.9
25.0		27.382	36.227	23.521	0.1109	0.000	0.0	94.9
30.0		27.263	36.227	23.560	0.1328	0.000	0.0	94.9
35.0		27.174	36.222	23.585	0.1546	0.000	0.0	94.9
40.0		27.128	36.226	23.603	0.1763	0.000	0.0	94.9
45.0		27.066	36.223	23.620	0.1979	0.000	0.0	94.9
50.0		27.052	36.223	23.625	0.2194	0.000	0.0	94.9
55.0		27.003	36.222	23.639	0.2410	0.000	0.0	94.8
60.0		26.981	36.218	23.643	0.2625	0.000	0.0	94.8
62.0		26.970	36.220	23.649	0.2711	0.000	0.0	94.8



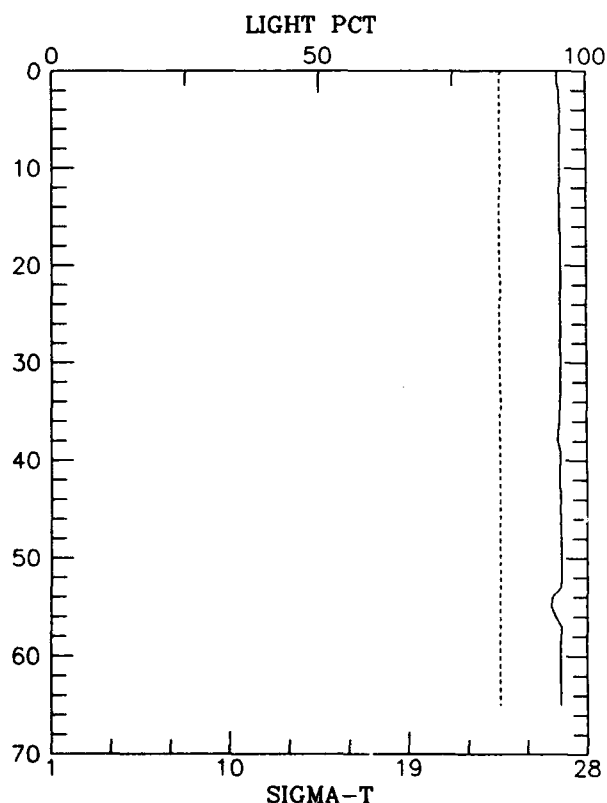
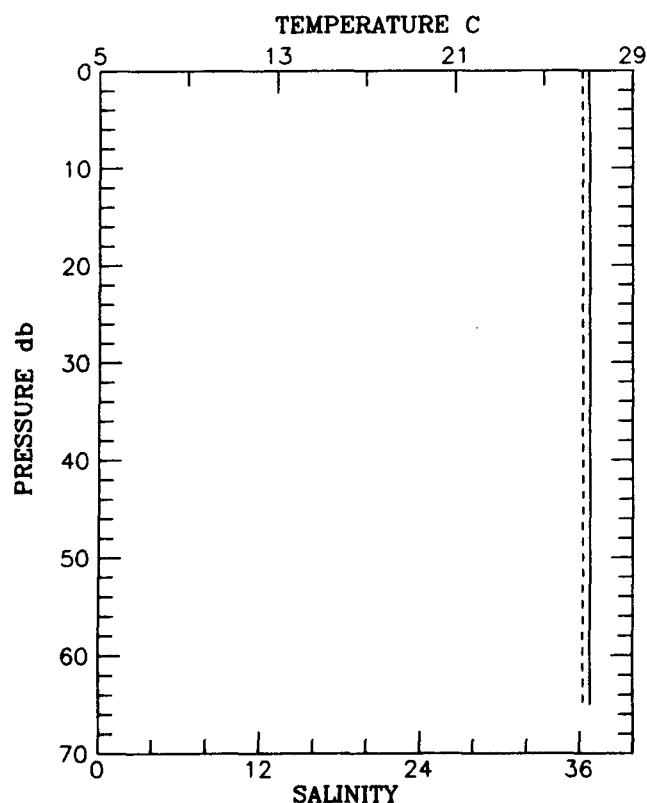
Cruise 18909 Consecutive Station # 8 Depth m:140 Time: 1989-08-05 04:49
 Position: 2° 6.00'N 47° 15.10'W Depth Deck Offset: -0.10 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	27.379	36.196	23.499	0.0000	0.000	0.0	93.7
10.0		27.383	36.203	23.503	0.0441	0.000	0.0	95.2
20.0		27.369	36.206	23.510	0.0882	0.000	0.0	95.1
30.0		27.307	36.216	23.537	0.1322	0.000	0.0	95.1
40.0		27.120	36.232	23.609	0.1758	0.000	0.0	95.1
50.0		26.875	36.258	23.708	0.2185	0.000	0.0	95.0
60.0		26.844	36.279	23.733	0.2607	0.000	0.0	95.1
70.0		26.800	36.310	23.771	0.3027	0.000	0.0	95.1
80.0		26.709	36.326	23.812	0.3445	0.000	0.0	95.1
90.0		26.413	36.353	23.926	0.3856	0.000	0.0	95.0
100.0		25.849	36.335	24.090	0.4252	0.000	0.0	94.8
110.0		24.997	36.272	24.306	0.4631	0.000	0.0	95.1
120.0		20.959	35.909	25.198	0.4977	0.000	0.0	94.7
128.0		17.605	35.913	26.070	0.5147	0.000	0.0	95.3



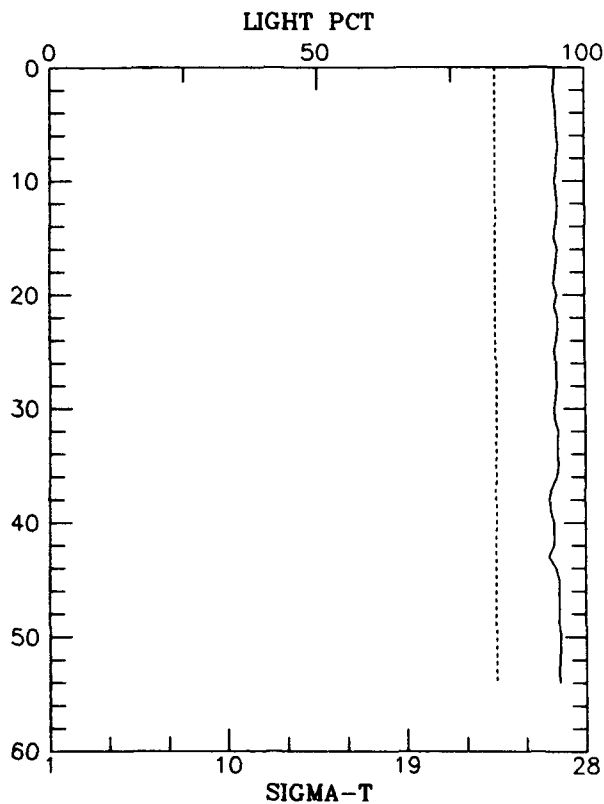
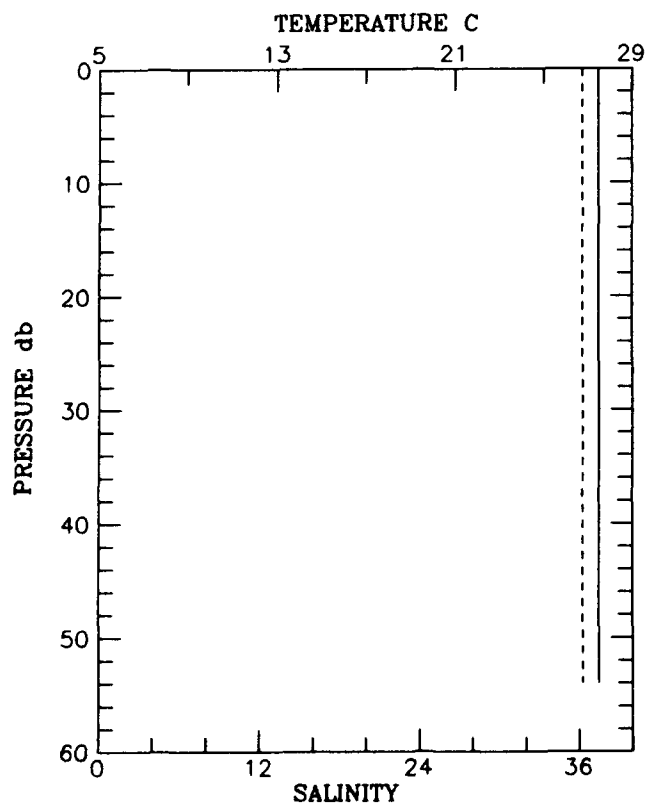
Cruise 18909 Consecutive Station # 9 Depth m:71 Time: 1989-08-05 09:33
 Position: 1° 50.20'N 47° 26.20'W Depth Deck Offset: -0.10 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	27.044	36.226	23.629	0.0000	0.000	0.0	94.6
5.0		27.054	36.226	23.626	0.0214	0.000	0.0	95.0
10.0		27.051	36.226	23.627	0.0429	0.000	0.0	95.0
15.0		27.054	36.226	23.626	0.0643	0.000	0.0	95.0
20.0		27.053	36.226	23.626	0.0858	0.000	0.0	95.1
25.0		27.054	36.226	23.626	0.1073	0.000	0.0	95.1
30.0		27.054	36.226	23.626	0.1288	0.000	0.0	95.1
35.0		27.053	36.226	23.626	0.1503	0.000	0.0	94.9
40.0		27.054	36.226	23.626	0.1719	0.000	0.0	95.0
45.0		27.054	36.226	23.626	0.1934	0.000	0.0	94.9
50.0		27.054	36.226	23.626	0.2149	0.000	0.0	95.1
55.0		27.054	36.226	23.626	0.2365	0.000	0.0	93.3
60.0		27.055	36.226	23.626	0.2581	0.000	0.0	95.0
65.0		27.055	36.226	23.626	0.2797	0.000	0.0	95.0



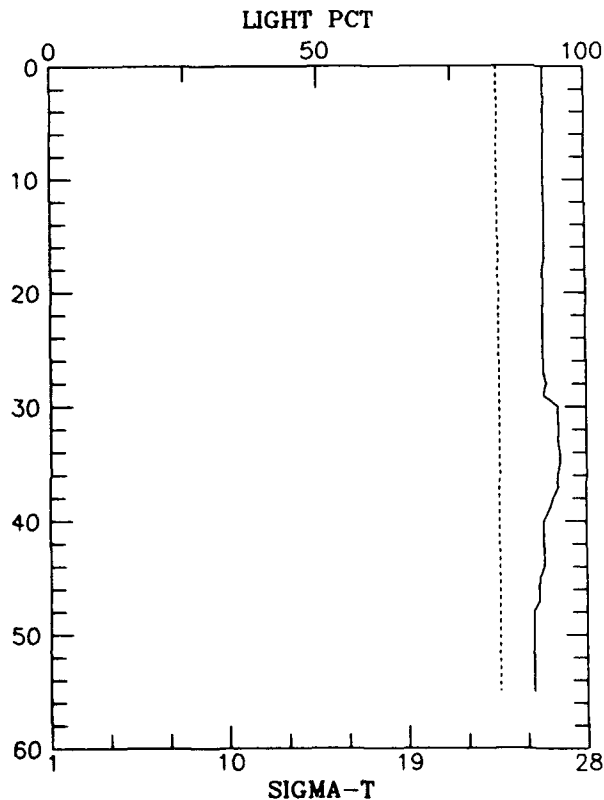
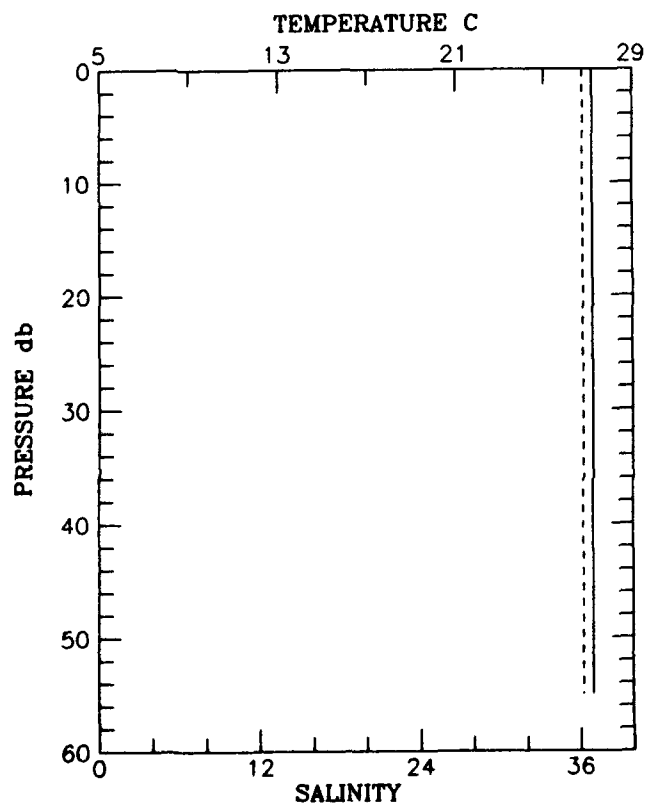
Cruise 18909 Consecutive Station # 10 Depth m:59 Time: 1989-08-05 11:27
 Position: 1° 41.50'N 47° 37.60'W Depth Deck Offset: 0.40 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	27.475	36.234	23.496	0.0000	0.000	0.0	94.4
5.0		27.472	36.234	23.497	0.0221	0.000	0.0	94.6
10.0		27.470	36.234	23.498	0.0441	0.000	0.0	94.4
15.0		27.470	36.234	23.498	0.0662	0.000	0.0	94.3
20.0		27.471	36.234	23.498	0.0883	0.000	0.0	94.8
25.0		27.469	36.234	23.498	0.1104	0.000	0.0	94.3
30.0		27.468	36.234	23.499	0.1325	0.000	0.0	94.2
35.0		27.469	36.234	23.498	0.1546	0.000	0.0	94.9
40.0		27.471	36.235	23.499	0.1768	0.000	0.0	94.0
45.0		27.472	36.235	23.498	0.1989	0.000	0.0	95.0
50.0		27.472	36.235	23.498	0.2211	0.000	0.0	95.1
54.0		27.472	36.234	23.497	0.2388	0.000	0.0	95.0



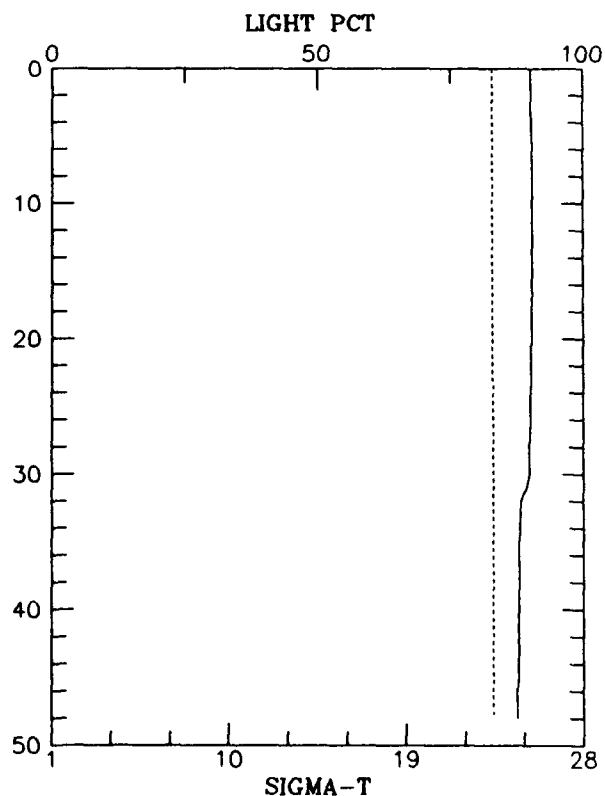
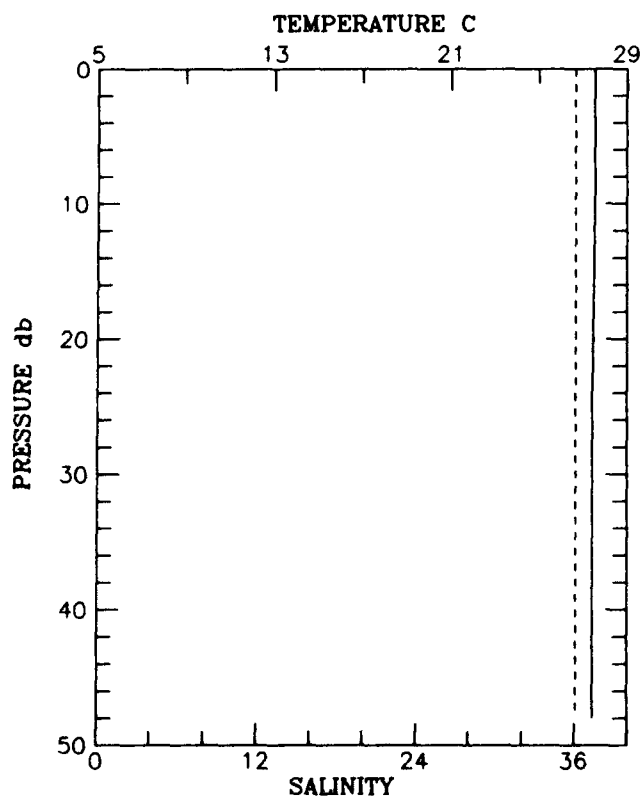
Cruise 18909 Consecutive Station # 11 Depth m:66 Time: 1989-08-05 13:38
 Position: 1° 30.30'N 47° 48.90'W Depth Deck Offset: 0.40 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	27.196	36.241	23.592	0.0000	0.000	0.0	92.3
5.0		27.194	36.239	23.591	0.0216	0.000	0.0	92.2
10.0		27.183	36.239	23.594	0.0432	0.000	0.0	92.4
15.0		27.179	36.239	23.596	0.0648	0.000	0.0	92.4
20.0		27.174	36.240	23.598	0.0864	0.000	0.0	92.0
25.0		27.174	36.240	23.598	0.1081	0.000	0.0	92.0
30.0		27.172	36.240	23.599	0.1297	0.000	0.0	94.6
35.0		27.173	36.240	23.599	0.1514	0.000	0.0	95.0
40.0		27.173	36.241	23.599	0.1730	0.000	0.0	92.0
45.0		27.173	36.241	23.599	0.1947	0.000	0.0	91.1
50.0		27.173	36.241	23.599	0.2164	0.000	0.0	90.0
55.0		27.173	36.241	23.599	0.2381	0.000	0.0	90.0



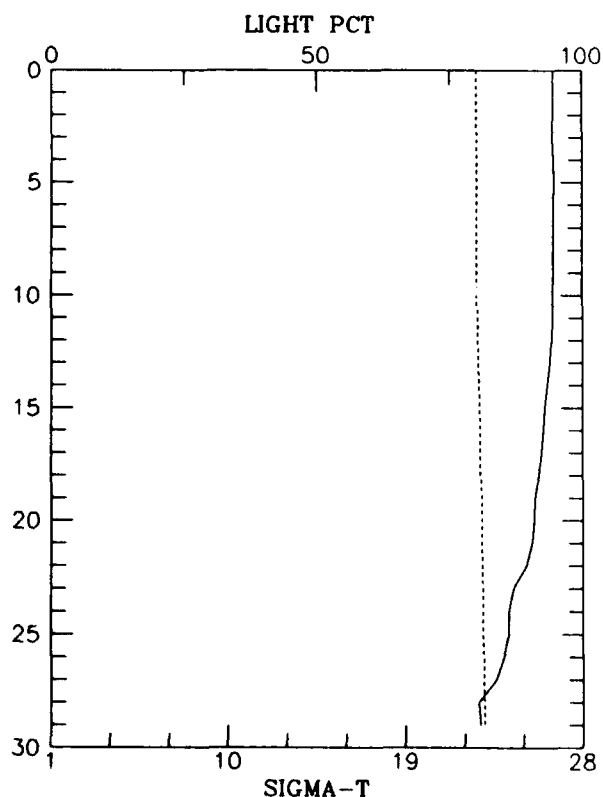
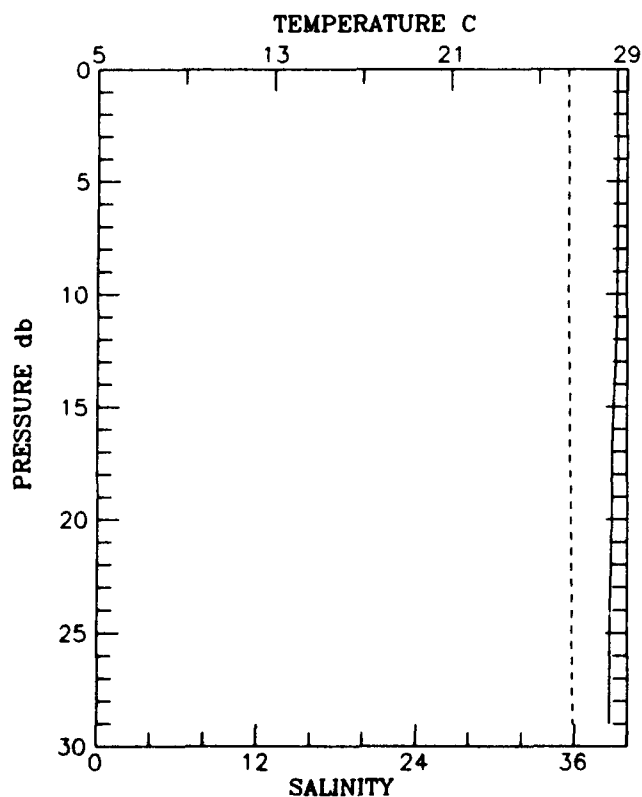
Cruise 18909 Consecutive Station # 12 Depth m:50 Time: 1989-08-05 15:44
 Position: 1° 18.70'N 48° 0.00'W Depth Deck Offset: 0.60 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 27.536	36.091	23.369	0.0000	0.000	0.0	90.1
5.0	27.535	36.090	23.368	0.0227	0.000	0.0	90.3
10.0	27.530	36.089	23.369	0.0454	0.000	0.0	90.4
15.0	27.497	36.089	23.380	0.0680	0.000	0.0	90.4
20.0	27.444	36.082	23.392	0.0906	0.000	0.0	90.3
25.0	27.406	36.081	23.404	0.1132	0.000	0.0	90.0
30.0	27.405	36.081	23.404	0.1358	0.000	0.0	89.8
35.0	27.406	36.081	23.404	0.1584	0.000	0.0	87.9
40.0	27.405	36.081	23.404	0.1810	0.000	0.0	87.8
45.0	27.404	36.082	23.405	0.2036	0.000	0.0	87.7
48.0	27.403	36.082	23.405	0.2171	0.000	0.0	87.5



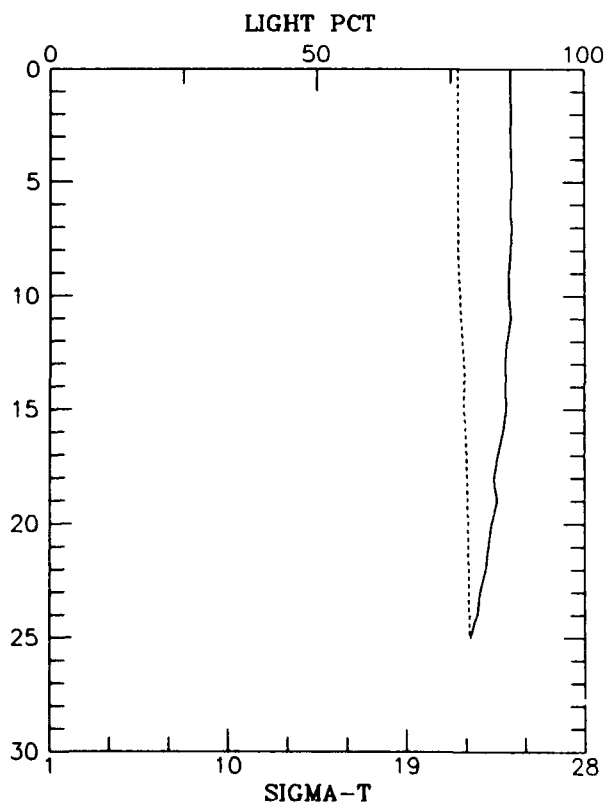
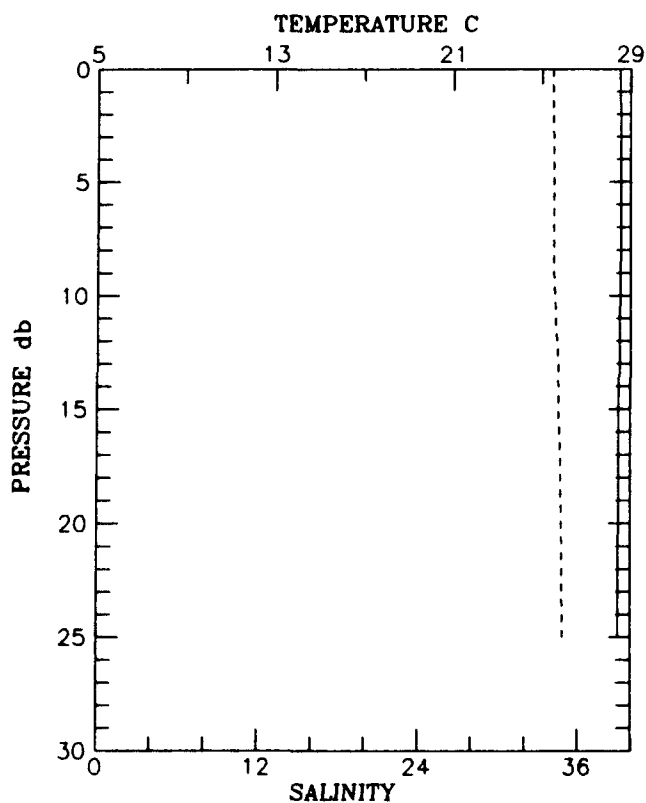
Cruise 18909 Consecutive Station # 13 Depth m:34 Time: 1989-02-05 17:45
 Position: 1° 9.09'N 48° 11.90'W Depth Deck Offset: 0.00 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.555	35.566	22.640	0.0000	0.000	0.0	94.5
2.0		28.554	35.566	22.640	0.0105	0.000	0.0	94.5
4.0		28.553	35.566	22.640	0.0209	0.000	0.0	94.5
6.0		28.547	35.565	22.641	0.0314	0.000	0.0	94.5
8.0		28.544	35.564	22.642	0.0418	0.000	0.0	94.5
10.0		28.540	35.561	22.641	0.0523	0.000	0.0	94.4
12.0		28.489	35.573	22.667	0.0628	0.000	0.0	94.2
14.0		28.400	35.625	22.735	0.0731	0.000	0.0	93.3
16.0		28.341	35.665	22.785	0.0834	0.000	0.0	92.6
18.0		28.316	35.689	22.811	0.0935	0.000	0.0	91.7
20.0		28.274	35.726	22.853	0.1036	0.000	0.0	90.8
22.0		28.253	35.749	22.877	0.1137	0.000	0.0	89.3
24.0		28.201	35.802	22.934	0.1236	0.000	0.0	86.0
26.0		28.188	35.815	22.948	0.1336	0.000	0.0	85.0
28.0		28.168	35.834	22.969	0.1434	0.000	0.0	80.4
29.0		28.168	35.834	22.969	0.1484	0.000	0.0	80.7



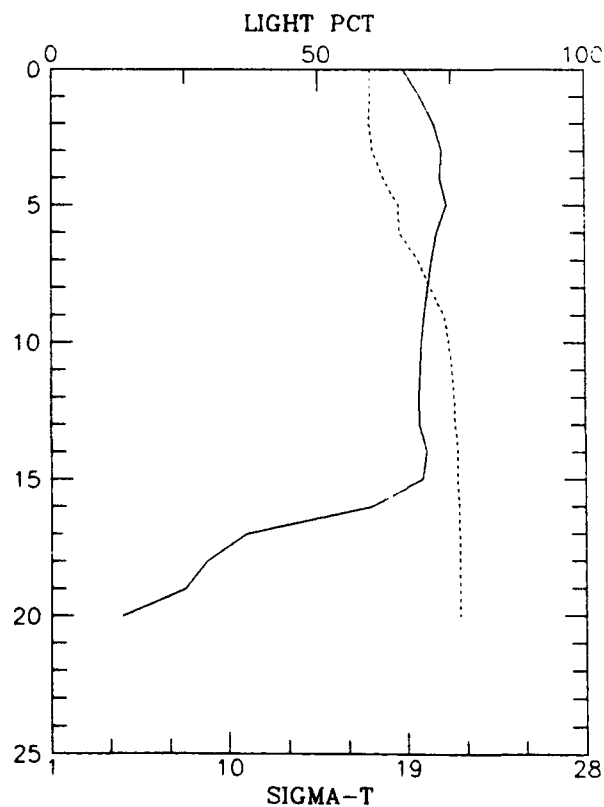
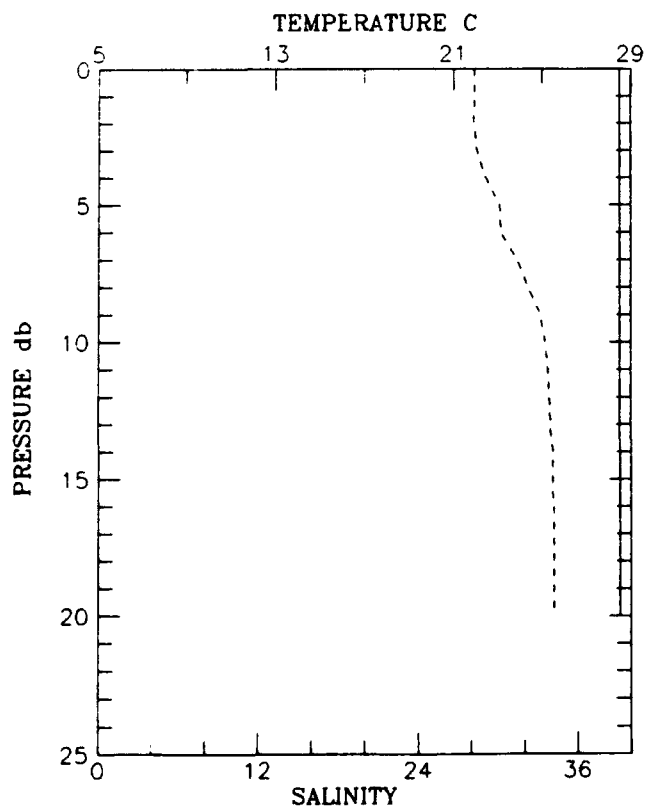
Cruise 18909 Consecutive Station # 14 Depth m:27 Time: 1989-08-05 20:29
 Position: 1° 6.90'N 48° 16.00'W Depth Deck Offset: 0.10 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.533	34.166	21.595	0.0000	0.000	0.0	86.2
2.0		28.533	34.166	21.595	0.0125	0.000	0.0	86.3
4.0		28.542	34.178	21.601	0.0249	0.000	0.0	86.3
6.0		28.542	34.178	21.601	0.0374	0.000	0.0	86.2
8.0		28.539	34.186	21.608	0.0498	0.000	0.0	86.2
10.0		28.510	34.301	21.704	0.0622	0.000	0.0	85.8
12.0		28.489	34.436	21.812	0.0744	0.000	0.0	85.4
14.0		28.469	34.585	21.931	0.0863	0.000	0.0	85.2
16.0		28.461	34.655	21.986	0.0981	0.000	0.0	84.7
18.0		28.450	34.749	22.060	0.1098	0.000	0.0	83.0
20.0		28.446	34.794	22.095	0.1213	0.000	0.0	82.5
22.0		28.442	34.834	22.127	0.1328	0.000	0.0	81.4
24.0		28.439	34.868	22.154	0.1442	0.000	0.0	79.9
25.0		28.438	34.877	22.161	0.1499	0.000	0.0	78.5



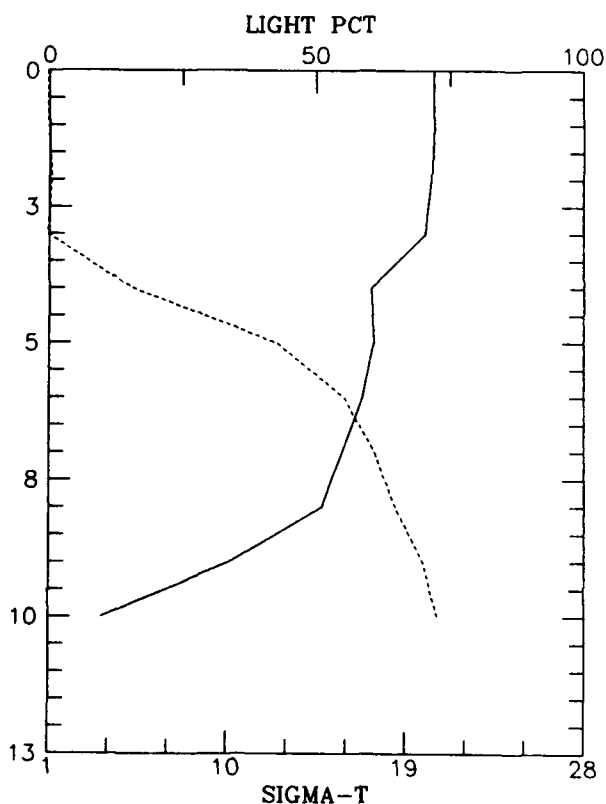
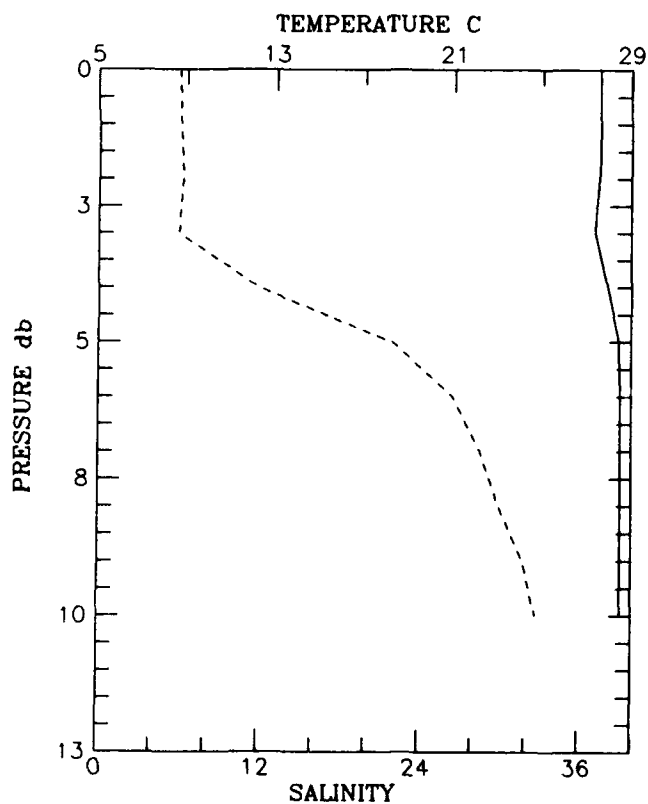
Cruise 18909 Consecutive Station # 15 Depth m:22 Time: 1989-08-05 21:43
 Position: 1° 1.80'N 48° 20.10'W Depth Deck Offset: 0.00 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0		28.499	28.243	17.165	0.0000	0.000	0.0	66.2
1.0		28.499	28.228	17.153	0.0105	0.000	0.0	69.3
2.0		28.500	28.201	17.133	0.0210	0.000	0.0	71.9
3.0		28.501	28.417	17.295	0.0315	0.000	0.0	73.3
4.0		28.504	29.122	17.821	0.0416	0.000	0.0	72.9
5.0		28.506	30.142	18.585	0.0511	0.000	0.0	74.2
6.0		28.505	30.223	18.646	0.0602	0.000	0.0	72.4
7.0	*	28.497	31.457	19.574	0.0688	0.000	0.0	71.4
8.0	*	28.492	32.283	20.195	0.0767	0.000	0.0	70.7
9.0		28.486	33.212	20.894	0.0839	0.000	0.0	69.9
10.0		28.487	33.528	21.131	0.0907	0.000	0.0	69.5
11.0		28.492	33.742	21.290	0.0973	0.000	0.0	69.2
12.0		28.495	33.874	21.388	0.1038	0.000	0.0	68.9
13.0		28.498	33.958	21.450	0.1102	0.000	0.0	69.1
14.0		28.501	34.090	21.549	0.1165	0.000	0.0	70.3
15.0		28.501	34.089	21.548	0.1228	0.000	0.0	69.6
16.0		28.502	34.176	21.613	0.1290	0.000	0.0	60.0
17.0		28.502	34.206	21.635	0.1352	0.000	0.0	36.5
18.0		28.502	34.210	21.638	0.1414	0.000	0.0	29.2
19.0		28.501	34.225	21.650	0.1476	0.000	0.0	25.1
20.0		28.501	34.227	21.651	0.1538	0.000	0.0	13.3



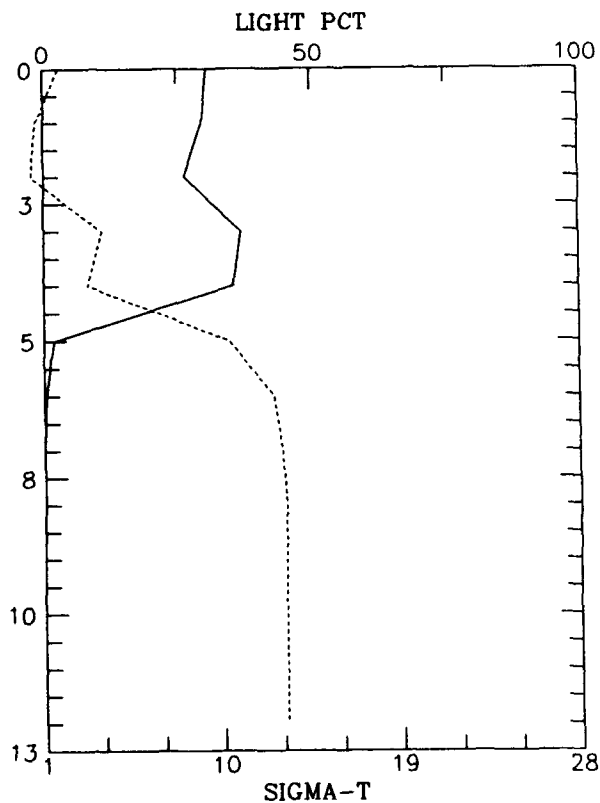
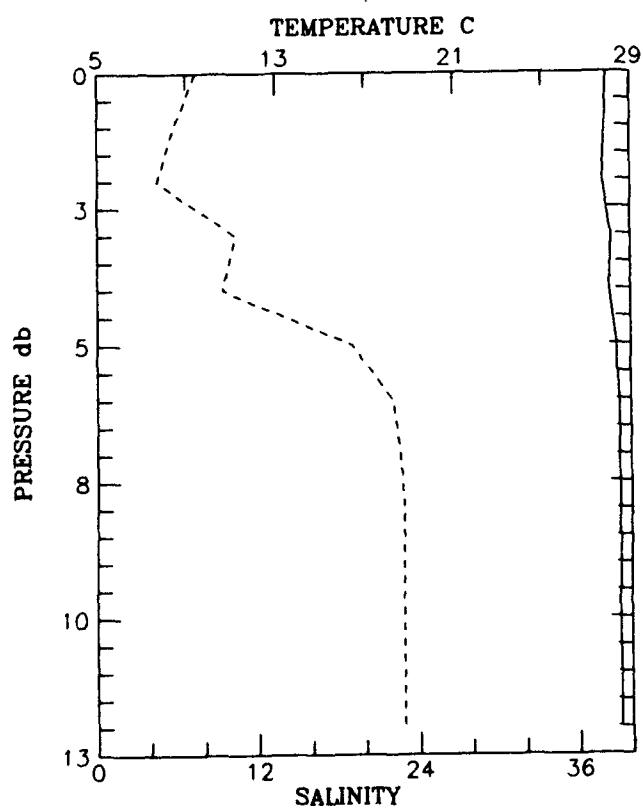
Cruise 18909 Consecutive Station # 16 Depth m:19 Time: 1989-08-05 23:24
 Position: 0° 58.80'N 48° 23.30'W Depth Deck Offset: 0.30 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	27.578	6.106	0.926	0.0000	0.000	0.0	72.0
1.0		27.578	6.106	0.926	0.0264	0.000	0.0	72.0
2.0		27.518	6.299	1.087	0.0528	0.000	0.0	71.5
3.0		27.356	6.002	0.912	0.0792	0.000	0.0	70.4
4.0		27.897	11.967	5.202	0.1035	0.000	0.0	60.2
5.0		28.428	21.973	12.500	0.1221	0.000	0.0	60.8
6.0		28.499	26.564	15.908	0.1355	0.000	0.0	58.6
7.0		28.504	28.618	17.444	0.1464	0.000	0.0	54.9
8.0		28.497	30.017	18.494	0.1562	0.000	0.0	51.1
9.0		28.490	31.853	19.873	0.1647	0.000	0.0	33.9
10.0		28.484	32.815	20.597	0.1723	0.000	0.0	9.7



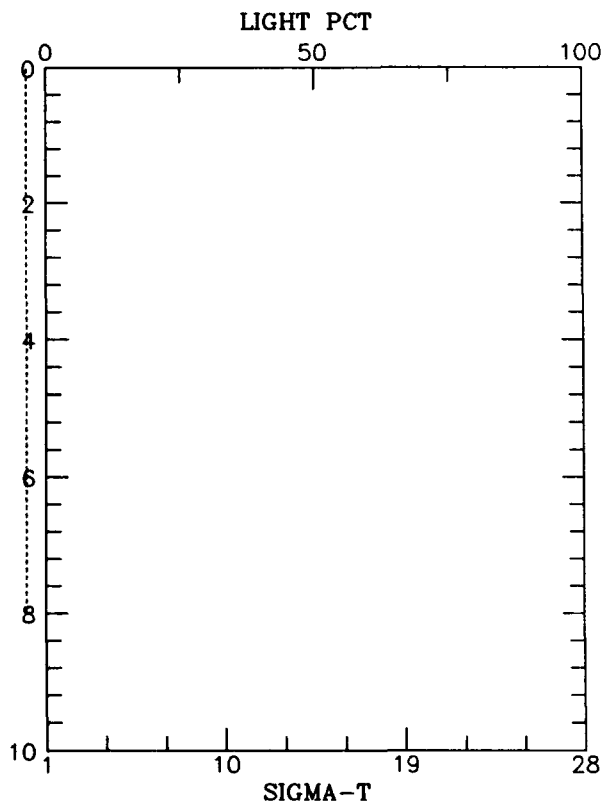
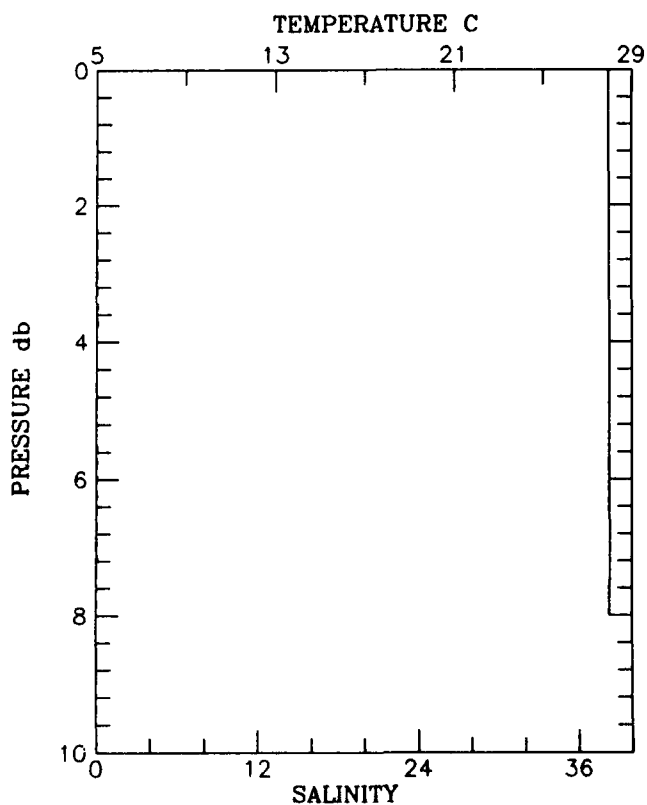
Cruise 18909 Consecutive Station # 17 Depth m:14 Time: 1989-08-06 01:24
 Position: 0° 43.50'N 48° 31.90'W Depth Deck Offset: 0.00 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	*	27.941	7.380	1.770	0.0000	0.000	0.0
1.0		27.841	5.759	0.591	0.0011	0.000	0.0
2.0		27.744	4.456	0.354	0.0284	0.000	0.0
3.0		28.117	10.358	3.937	0.0539	0.000	0.0
4.0		28.029	9.350	3.213	0.0778	0.000	0.0
5.0		28.338	19.043	10.341	0.0984	0.000	0.0
6.0		28.448	22.097	12.586	0.1144	0.000	0.0
7.0		28.462	22.642	12.989	0.1292	0.000	0.0
8.0		28.471	22.880	13.164	0.1436	0.000	0.0
9.0		28.473	22.894	13.173	0.1580	0.000	0.0
10.0		28.471	22.887	13.169	0.1724	0.000	0.0
11.0		28.472	22.882	13.165	0.1868	0.000	0.0
12.0		28.473	22.884	13.166	0.2011	0.000	0.0



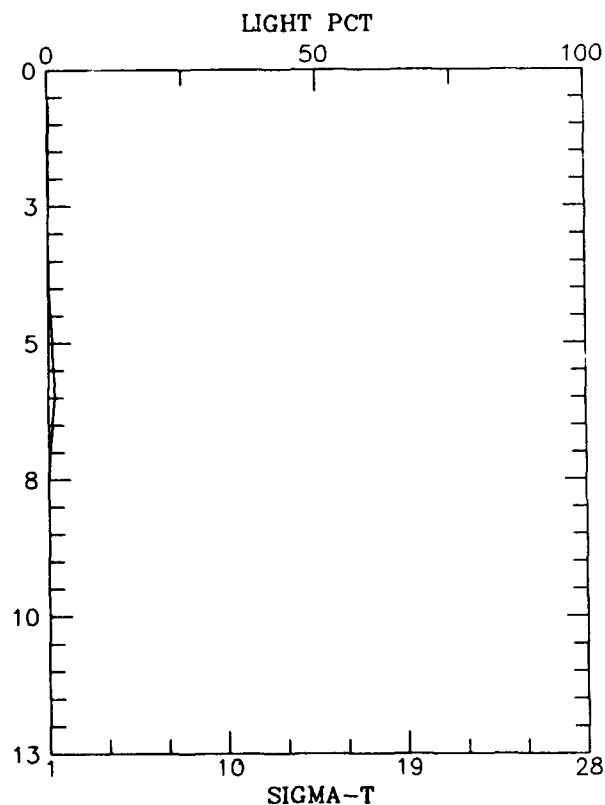
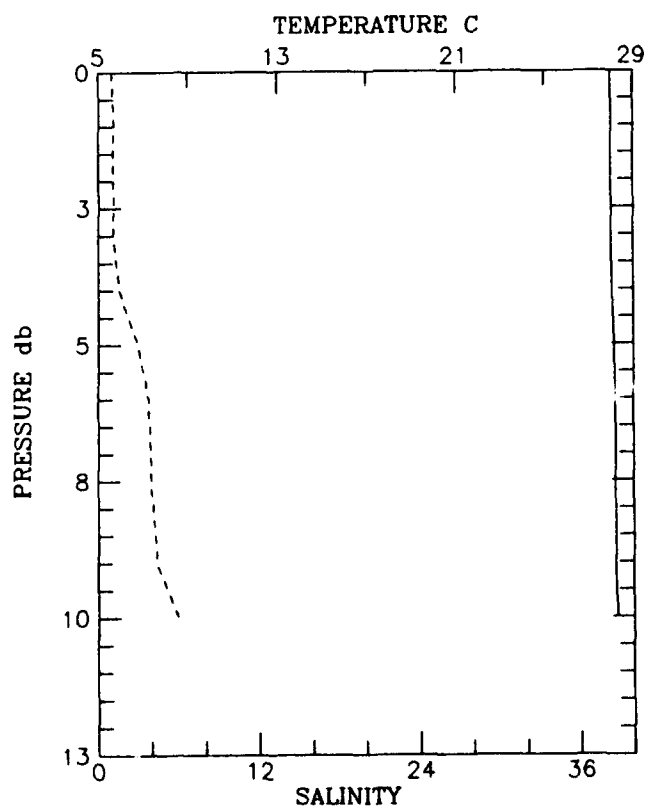
Cruise 18909 Consecutive Station # 18 Depth m:11 Time: 1989-08-06 09:27
 Position: 1° 28.60'N 49° 23.90'W Depth Deck Offset: 0.00 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	27.924	0.034	0.000	0.0000	0.000	0.0	0.0
1.0		27.924	0.034	0.000	0.0311	0.000	0.0	0.0
2.0		27.970	0.034	0.000	0.0622	0.000	0.0	0.0
3.0		27.958	0.039	0.000	0.0933	0.000	0.0	0.0
4.0		27.971	0.036	0.000	0.1244	0.000	0.0	0.0
5.0	*	27.976	0.036	0.000	0.1555	0.000	0.0	0.0
6.0	*	27.979	0.037	0.000	0.1866	0.000	0.0	0.0
7.0		27.984	0.037	0.000	0.2177	0.000	0.0	0.0
8.0		27.983	0.037	0.000	0.2489	0.000	0.0	0.0



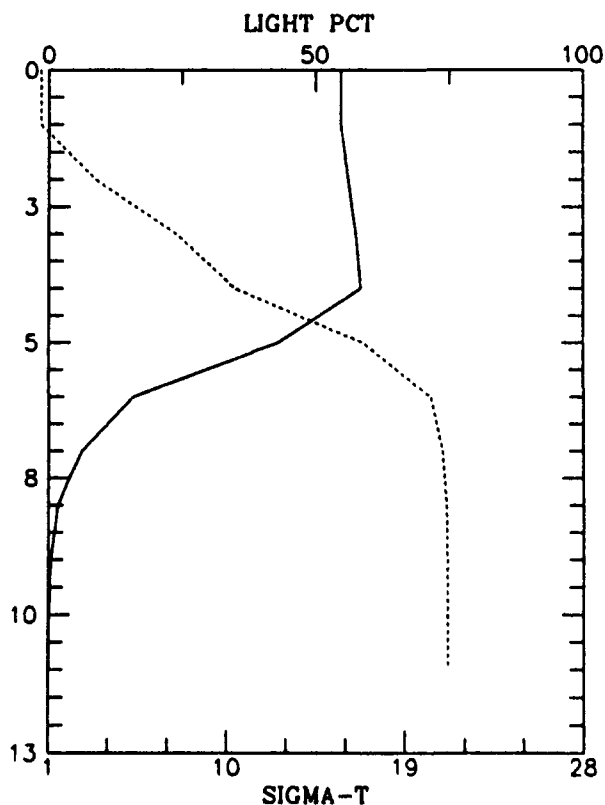
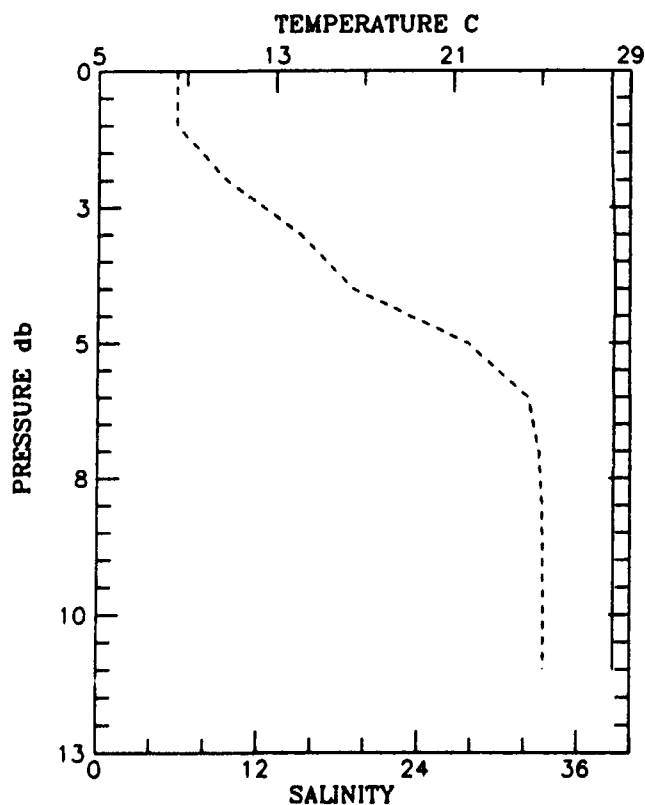
Cruise 18909 Consecutive Station # 19 Depth m:13 Time: 1989-08-06 11:12
 Position: 1° 41.90'N 49° 15.60'W Depth Deck Offset: 0.30 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	27.992	1.043	0.000	0.0000	0.000	0.0	0.0
1.0	27.992	1.123	0.000	0.0303	0.000	0.0	0.1
2.0	27.985	1.130	0.000	0.0606	0.000	0.0	0.1
3.0	27.986	1.137	0.000	0.0909	0.000	0.0	0.0
4.0	28.020	1.558	0.030	0.1210	0.000	0.0	0.1
5.0	28.113	2.932	0.000	0.1505	0.000	0.0	0.6
6.0	28.165	3.774	0.000	0.1792	0.000	0.0	1.2
7.0	28.164	3.870	0.000	0.2075	0.000	0.0	0.2
8.0	28.167	4.068	0.000	0.2357	0.000	0.0	0.0
9.0	28.178	4.403	0.000	0.2637	0.000	0.0	0.0
10.0	28.210	5.948	0.624	0.2910	0.000	0.0	0.0



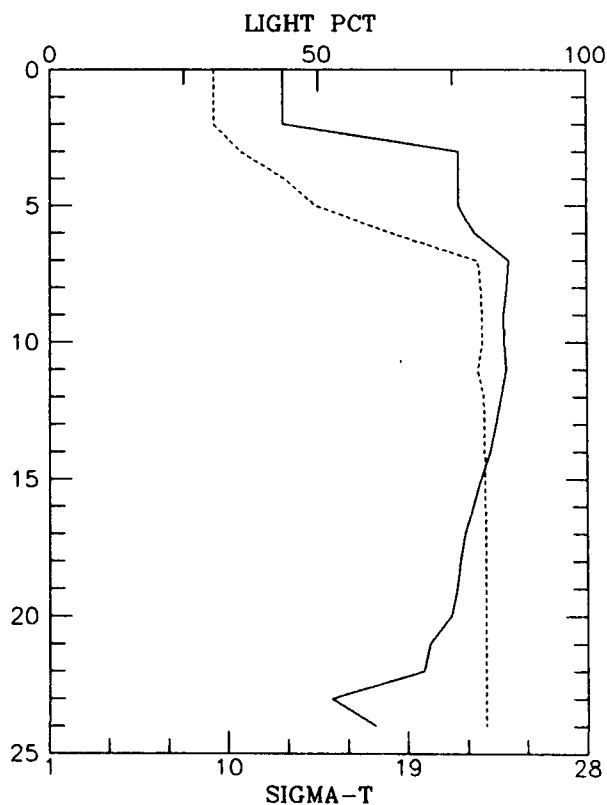
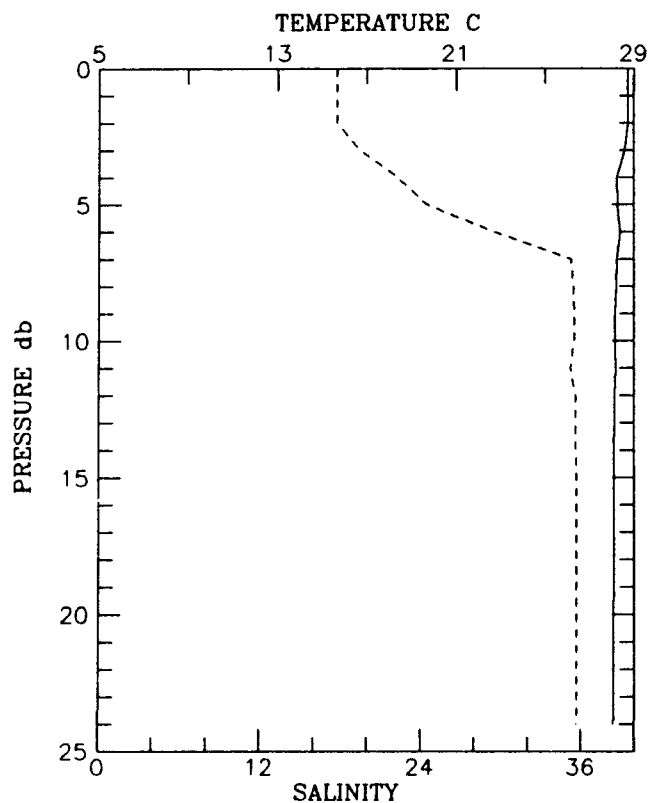
Cruise 18909 Consecutive Station # 20 Depth m:14 Time: 1989-08-06 13:21
 Position: 1° 52.90'N 48° 58.90'W Depth Deck Offset: 0.10 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.158	5.877	0.586	0.0000	0.000	0.0	54.8
1.0		28.158	5.877	0.586	0.0268	0.000	0.0	54.8
2.0		28.202	9.655	3.388	0.0522	0.000	0.0	56.1
3.0		28.277	15.171	7.475	0.0741	0.000	0.0	57.5
4.0		28.303	19.151	10.433	0.0926	0.000	0.0	58.4
5.0		28.287	27.799	16.900	0.1065	0.000	0.0	43.0
6.0		28.257	32.306	20.289	0.1157	0.000	0.0	15.8
7.0		28.246	33.121	20.904	0.1228	0.000	0.0	6.2
8.0		28.243	33.371	21.093	0.1296	0.000	0.0	1.7
9.0		28.241	33.442	21.147	0.1363	0.000	0.0	0.4
10.0		28.241	33.452	21.155	0.1430	0.000	0.0	0.2
11.0		28.240	33.468	21.167	0.1496	0.000	0.0	0.1



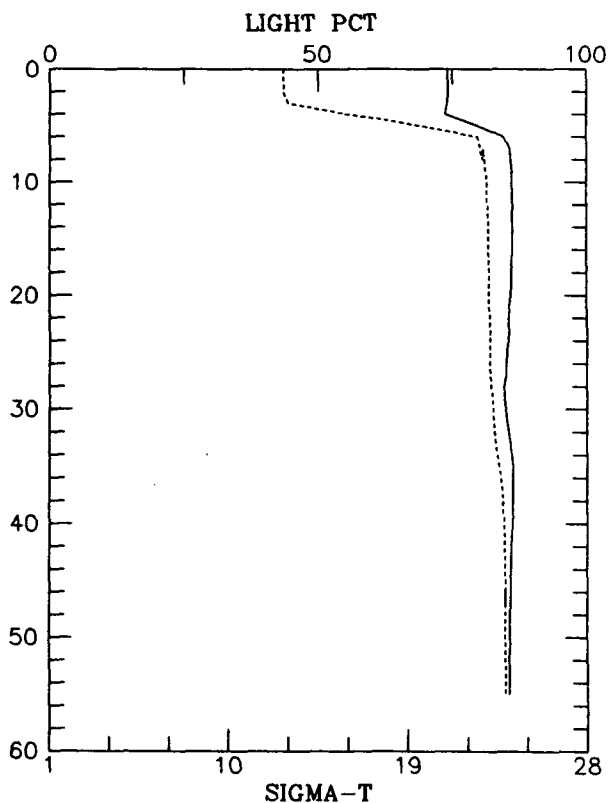
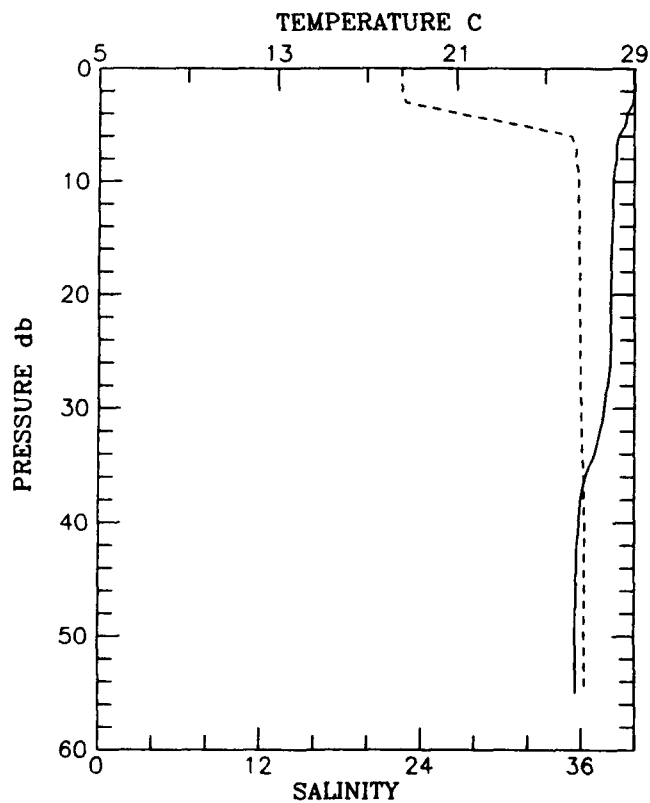
Cruise 18909 Consecutive Station # 21 Depth m:24 Time: 1989-08-06 16:25
 Position: 2° 5.30'N 48° 49.00'W Depth Deck Offset: 0.40 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.733	17.761	9.263	0.0000	0.000	0.0	43.5
2.0		28.733	17.760	9.262	0.0364	0.000	0.0	43.5
4.0		28.227	22.311	12.815	0.0697	0.000	0.0	76.1
6.0		28.364	29.515	18.161	0.0950	0.000	0.0	79.1
8.0		28.186	35.445	22.670	0.1077	0.000	0.0	85.1
10.0		28.149	35.518	22.738	0.1180	0.000	0.0	84.6
12.0		28.113	35.591	22.804	0.1285	0.000	0.0	84.0
14.0		28.096	35.629	22.839	0.1386	0.000	0.0	81.9
16.0		28.077	35.661	22.869	0.1487	0.000	0.0	78.8
18.0		28.075	35.668	22.875	0.1587	0.000	0.0	76.3
20.0		28.069	35.674	22.881	0.1687	0.000	0.0	74.7
22.0		28.068	35.679	22.885	0.1787	0.000	0.0	69.6
24.0		28.063	35.682	22.889	0.1887	0.000	0.0	60.6



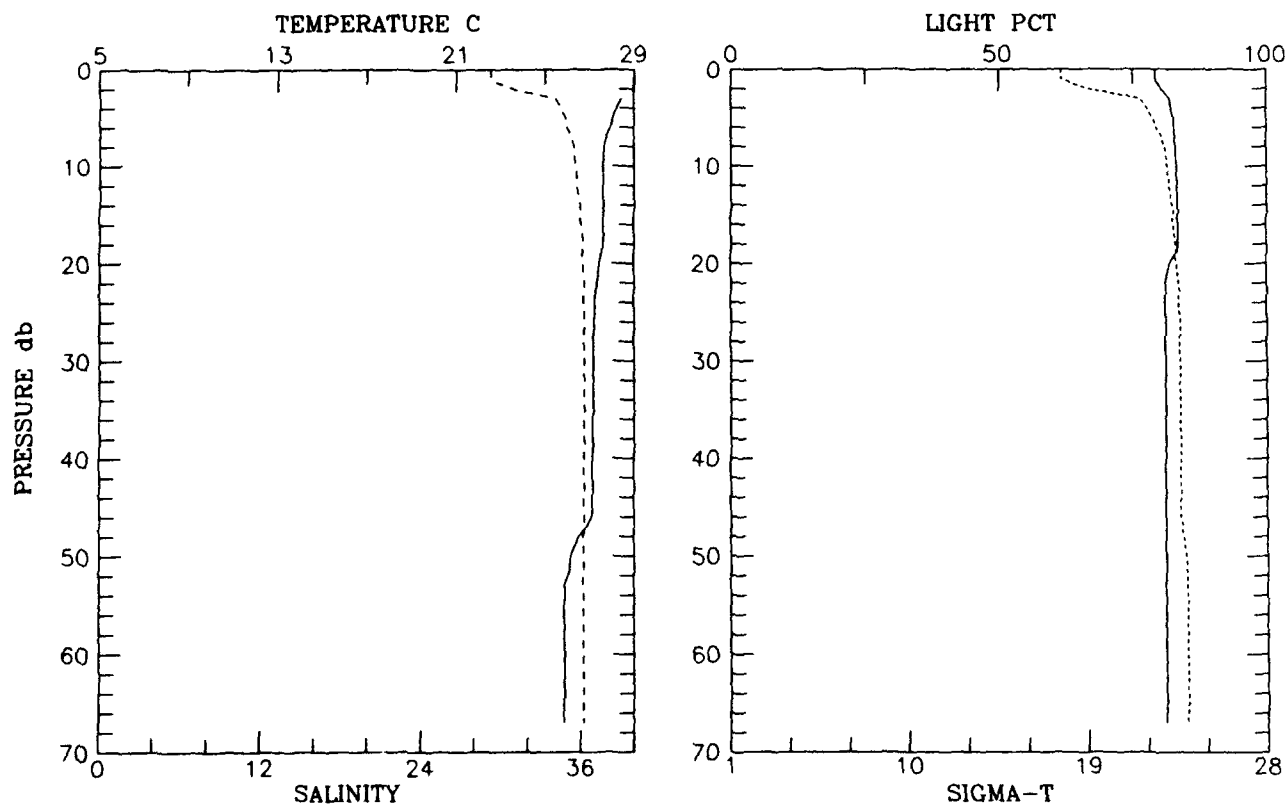
Cruise 18909 Consecutive Station # 22 Depth m:55 Time: 1989-08-06 18:36
 Position: 2° 14.30'N 48° 40.90'W Depth Deck Offset: 0.40 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.950	22.552	12.767	0.0000	0.000	0.0	74.1
5.0		28.584	31.439	19.532	0.0672	0.000	0.0	79.7
10.0		28.070	35.794	22.971	0.0942	0.000	0.0	86.0
15.0		27.992	35.865	23.050	0.1186	0.000	0.0	86.1
20.0		27.937	35.903	23.097	0.1427	0.000	0.0	85.8
25.0		27.910	35.919	23.117	0.1667	0.000	0.0	85.1
30.0		27.600	36.003	23.282	0.1903	0.000	0.0	84.8
35.0		26.942	36.131	23.591	0.2129	0.000	0.0	86.1
40.0		26.485	36.228	23.809	0.2339	0.000	0.0	86.0
45.0		26.361	36.247	23.863	0.2544	0.000	0.0	85.7
50.0		26.348	36.249	23.869	0.2748	0.000	0.0	85.6
55.0		26.335	36.250	23.873	0.2952	0.000	0.0	85.4



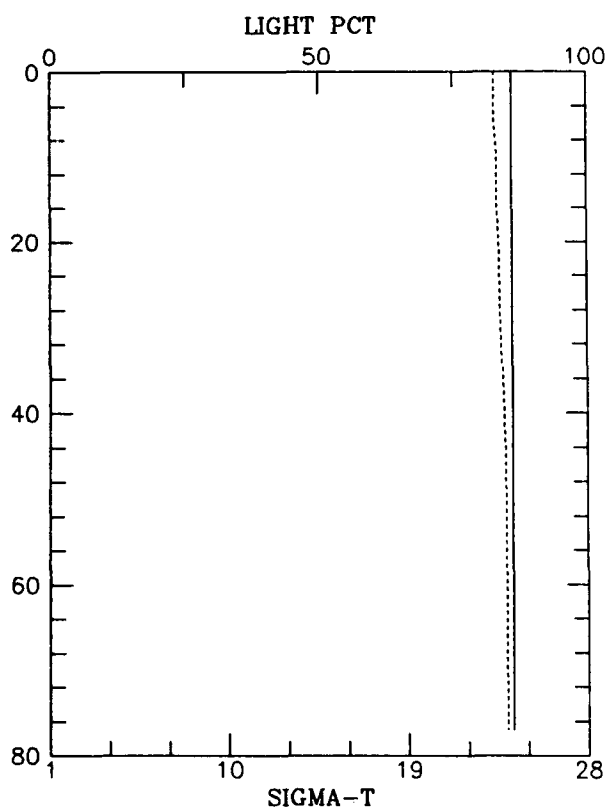
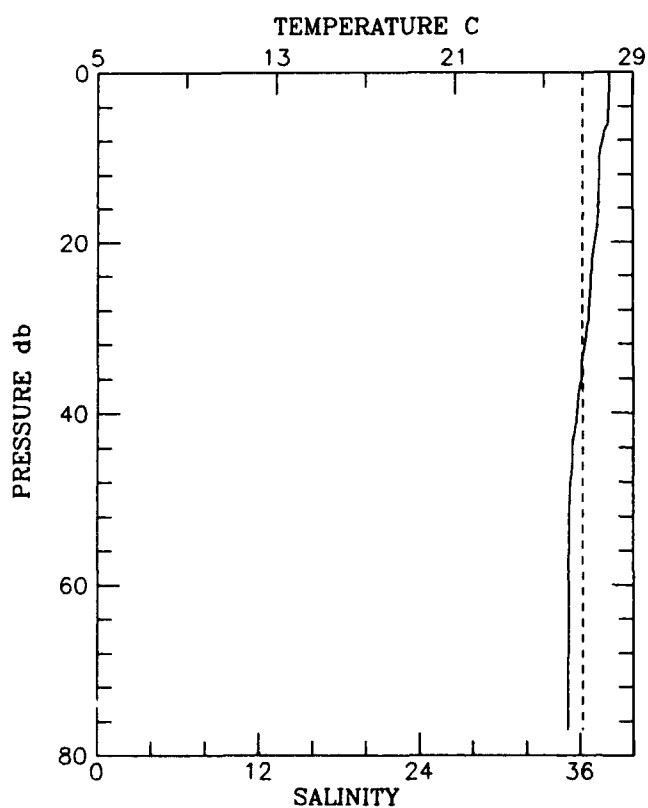
Cruise 18909 Consecutive Station # 23 Depth m:70 Time: 1989-08-06 21:10
 Position: 2° 27.00'N 48° 27.50'W Depth Deck Offset: 0.50 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	29.333	29.237	17.637	0.0000	0.000	0.0	79.3
5.0		28.014	34.842	22.273	0.0387	0.000	0.0	82.6
10.0		27.589	35.594	22.978	0.0645	0.000	0.0	83.1
15.0		27.610	36.005	23.280	0.0884	0.000	0.0	83.4
20.0		27.431	36.177	23.468	0.1111	0.000	0.0	81.9
25.0		27.212	36.254	23.597	0.1330	0.000	0.0	81.0
30.0		27.154	36.261	23.621	0.1546	0.000	0.0	81.0
35.0		27.137	36.260	23.625	0.1761	0.000	0.0	81.0
40.0		27.126	36.260	23.629	0.1976	0.000	0.0	81.0
45.0		27.114	36.260	23.633	0.2191	0.000	0.0	81.0
50.0		26.147	36.179	23.879	0.2401	0.000	0.0	81.0
55.0		25.850	36.172	23.967	0.2602	0.000	0.0	81.0
60.0		25.857	36.174	23.966	0.2802	0.000	0.0	81.0
65.0		25.851	36.174	23.968	0.3002	0.000	0.0	81.0
67.0		25.831	36.173	23.974	0.3081	0.000	0.0	81.0



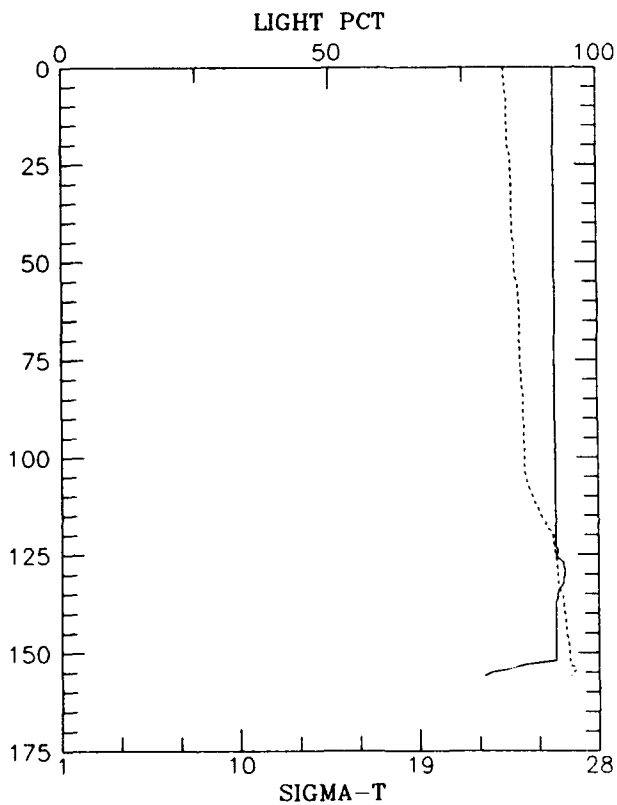
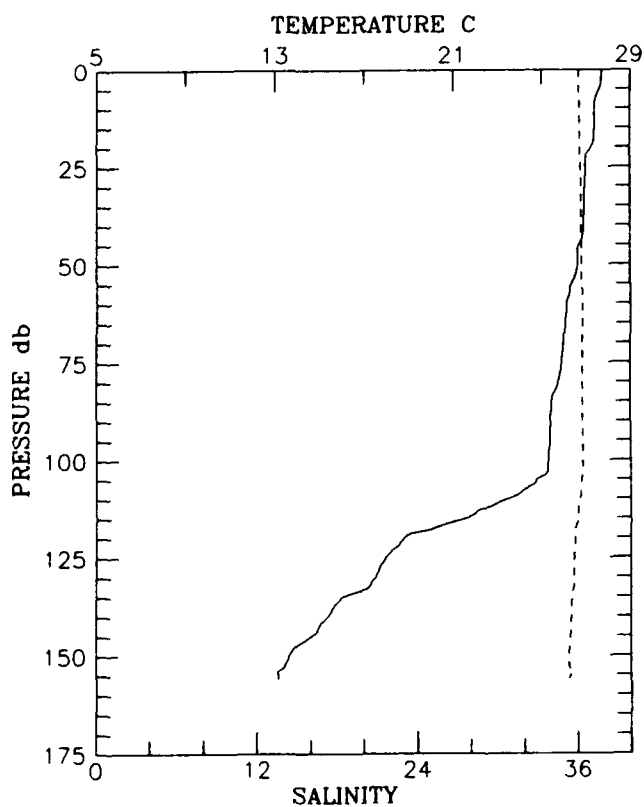
Cruise 18909 Consecutive Station # 24 Depth m:83 Time: 1989-08-06 23:04
 Position: 2° 36.70'N 48° 21.30'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 27.926	36.225	23.343	0.0000	0.000	0.0	86.0
5.0	27.892	36.224	23.353	0.0228	0.000	0.0	86.0
10.0	27.512	36.216	23.471	0.0452	0.000	0.0	86.0
15.0	27.463	36.214	23.485	0.0674	0.000	0.0	86.0
20.0	27.266	36.205	23.542	0.0895	0.000	0.0	86.0
25.0	27.079	36.206	23.603	0.1112	0.000	0.0	86.0
30.0	26.936	36.203	23.647	0.1327	0.000	0.0	86.0
35.0	26.659	36.197	23.731	0.1539	0.000	0.0	86.0
40.0	26.453	36.198	23.797	0.1748	0.000	0.0	86.0
45.0	26.259	36.196	23.857	0.1954	0.000	0.0	86.0
50.0	26.123	36.193	23.897	0.2157	0.000	0.0	86.0
55.0	26.094	36.192	23.906	0.2360	0.000	0.0	86.0
60.0	26.083	36.194	23.910	0.2562	0.000	0.0	86.0
65.0	26.072	36.194	23.914	0.2764	0.000	0.0	86.0
70.0	26.049	36.192	23.920	0.2966	0.000	0.0	86.0
75.0	26.041	36.193	23.923	0.3168	0.000	0.0	86.0
77.0	26.041	36.192	23.922	0.3249	0.000	0.0	86.0



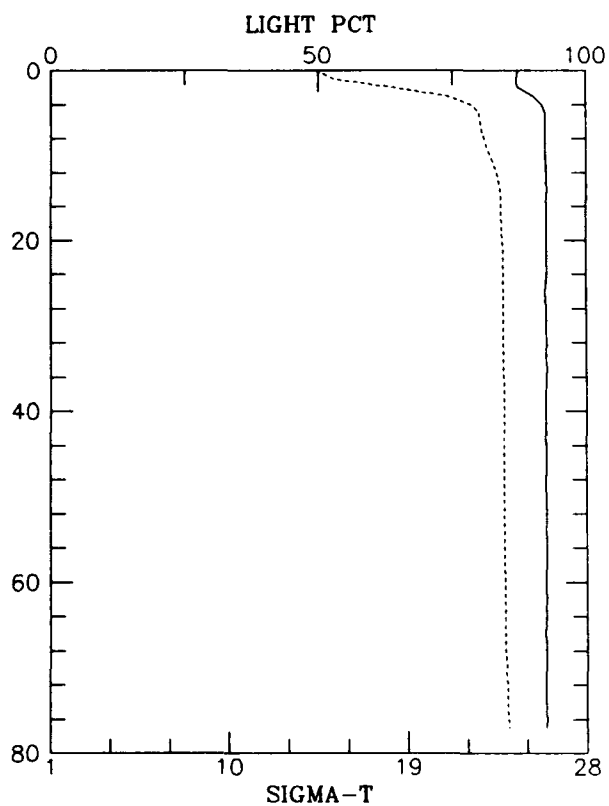
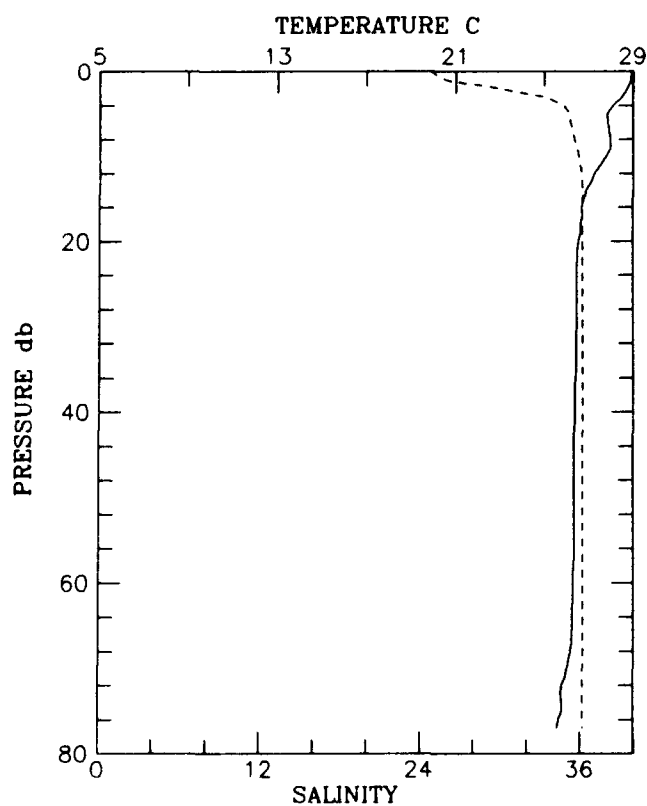
Cruise 18909 Consecutive Station # 25 Depth m:200 Time: 1989-08-07 02:35
 Position: 3° 13.30'N 48° 30.30'W Depth Deck Offset: -2.00 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	27.728	36.149	23.350	0.0000	0.000	0.0	92.0
10.0	27.384	36.175	23.482	0.0405	0.000	0.0	92.0
20.0	27.266	36.212	23.548	0.0846	0.000	0.0	92.0
30.0	26.938	36.279	23.703	0.1272	0.000	0.0	92.0
40.0	26.884	36.292	23.731	0.1694	0.000	0.0	92.0
50.0	26.616	36.325	23.841	0.2109	0.000	0.0	92.0
60.0	26.101	36.375	24.042	0.2512	0.000	0.0	92.0
70.0	25.976	36.382	24.086	0.2902	0.000	0.0	92.0
80.0	25.736	36.398	24.173	0.3287	0.000	0.0	92.0
90.0	25.382	36.383	24.272	0.3661	0.000	0.0	92.0
100.0	25.281	36.368	24.291	0.4032	0.000	0.0	92.0
110.0	23.495	36.171	24.679	0.4391	0.000	0.0	92.0
120.0	18.790	35.805	25.691	0.4680	0.000	0.0	92.0
130.0	17.514	35.714	25.940	0.4904	0.000	0.0	93.7
140.0	15.358	35.506	26.283	0.5100	0.000	0.0	92.0
150.0	13.627	35.329	26.520	0.5270	0.000	0.0	92.0
156.0	13.151	35.297	26.593	0.5359	4.488	0.0	78.7



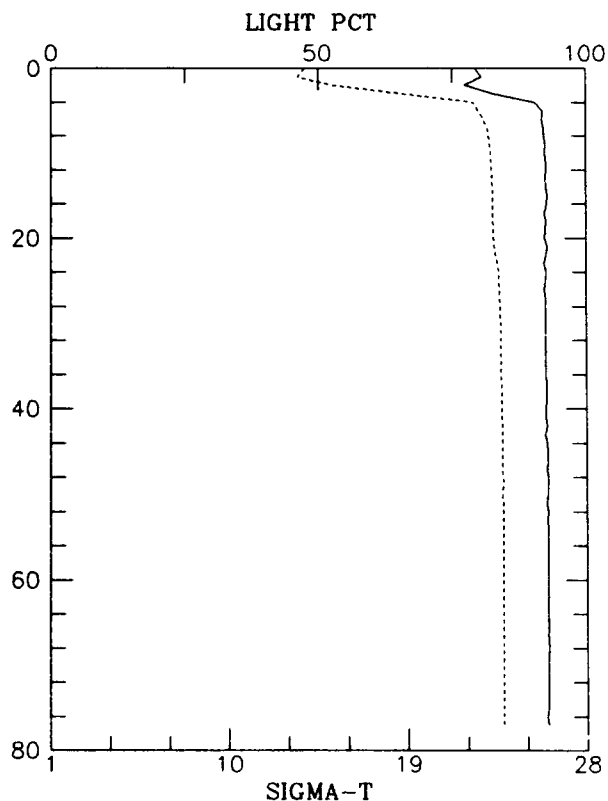
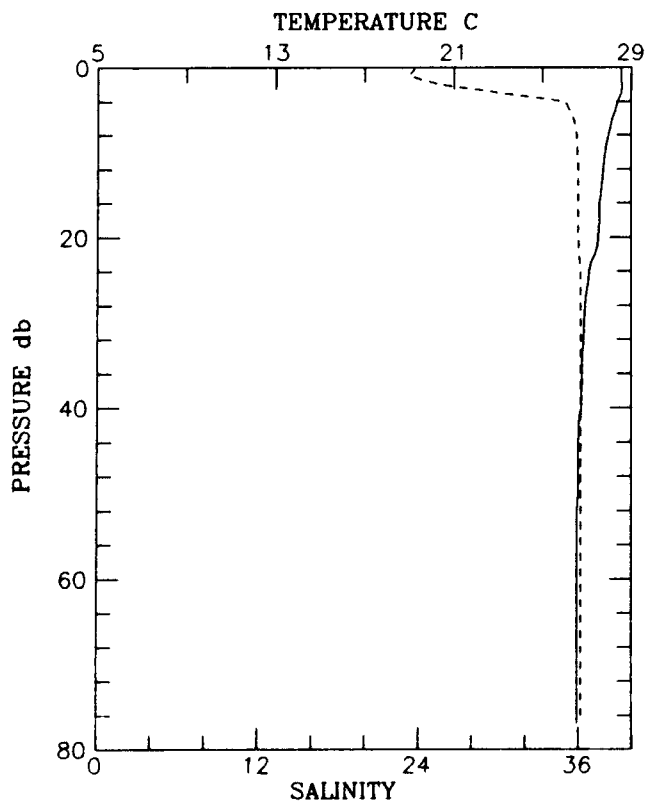
Cruise 18909 Consecutive Station # 26 Depth m:83 Time: 1989-08-07 04:48
 Position: 3° 3.30'N 48° 41.20'W Depth Deck Offset: 0.30 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	28.915	24.737	14.409	-0.0131	0.000	0.0	87.3
5.0	27.833	35.223	22.619	0.0302	0.000	0.0	92.3
10.0	27.750	35.903	23.158	0.0555	0.000	0.0	92.4
15.0	26.773	36.185	23.685	0.0777	0.000	0.0	92.5
20.0	26.546	36.200	23.769	0.0987	0.000	0.0	92.6
25.0	26.450	36.204	23.803	0.1193	0.000	0.0	92.5
30.0	26.446	36.204	23.804	0.1400	0.000	0.0	92.5
35.0	26.420	36.204	23.812	0.1607	0.000	0.0	92.6
40.0	26.352	36.204	23.833	0.1812	0.000	0.0	92.3
45.0	26.349	36.204	23.834	0.2018	0.000	0.0	92.5
50.0	26.330	36.203	23.840	0.2223	0.000	0.0	92.5
55.0	26.325	36.203	23.841	0.2429	0.000	0.0	92.5
60.0	26.280	36.200	23.853	0.2634	0.000	0.0	92.4
65.0	26.251	36.202	23.864	0.2839	0.000	0.0	92.3
70.0	26.012	36.192	23.931	0.3042	0.000	0.0	92.3
75.0	25.775	36.192	24.006	0.3241	0.000	0.0	92.4
77.0	25.587	36.191	24.063	0.3320	0.000	0.0	92.4



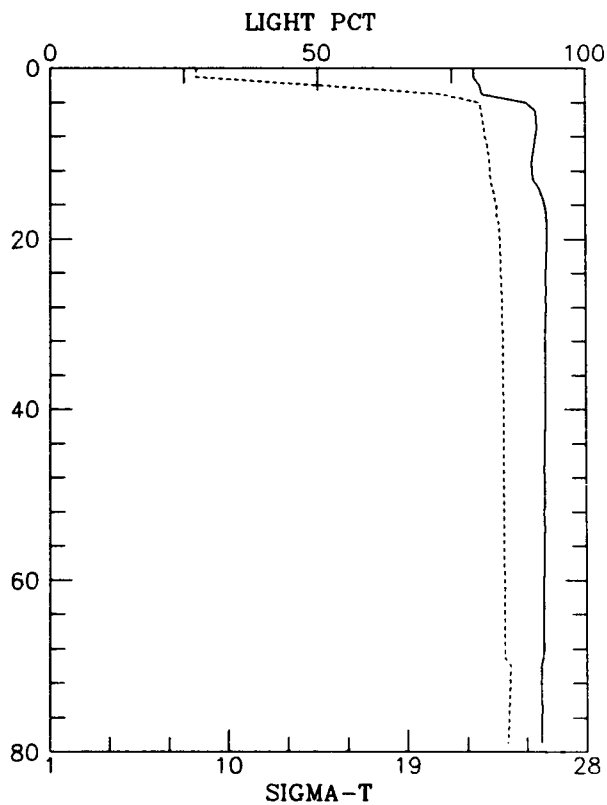
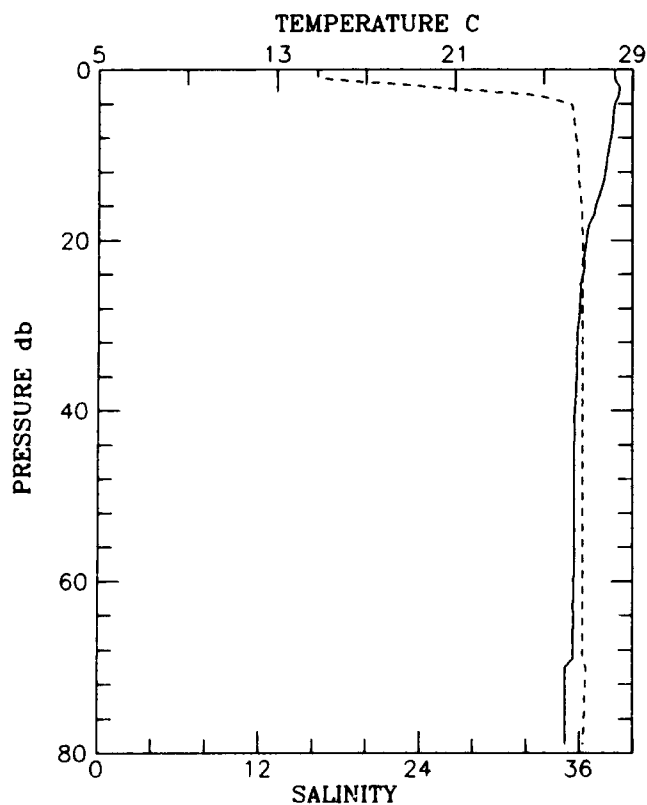
Cruise 18909 Consecutive Station # 27 Depth m:81 Time: 1989-08-07 06:34
 Position: 2° 53.60'N 48° 48.60'W Depth Deck Offset: 0.30 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	*	28.551	23.779	13.810	-0.0136	0.000	0.0	79.3
5.0		28.281	35.347	22.565	0.0370	0.000	0.0	91.8
10.0		27.827	35.958	23.174	0.0615	0.000	0.0	92.2
15.0		27.600	36.003	23.282	0.0848	0.000	0.0	92.7
20.0		27.502	36.015	23.323	0.1079	0.000	0.0	92.2
25.0		27.068	36.168	23.578	0.1301	0.000	0.0	92.4
30.0		26.865	36.188	23.658	0.1516	0.000	0.0	92.4
35.0		26.785	36.193	23.688	0.1729	0.000	0.0	92.4
40.0		26.731	36.196	23.707	0.1941	0.000	0.0	92.4
45.0		26.598	36.199	23.752	0.2151	0.000	0.0	92.7
50.0		26.598	36.200	23.752	0.2360	0.000	0.0	92.7
55.0		26.548	36.200	23.768	0.2570	0.000	0.0	92.7
60.0		26.544	36.200	23.770	0.2778	0.000	0.0	92.7
65.0		26.543	36.200	23.770	0.2988	0.000	0.0	92.7
70.0		26.541	36.200	23.771	0.3197	0.000	0.0	92.7
75.0		26.541	36.200	23.771	0.3406	0.000	0.0	92.7
77.0		26.541	36.200	23.771	0.3490	0.000	0.0	92.7



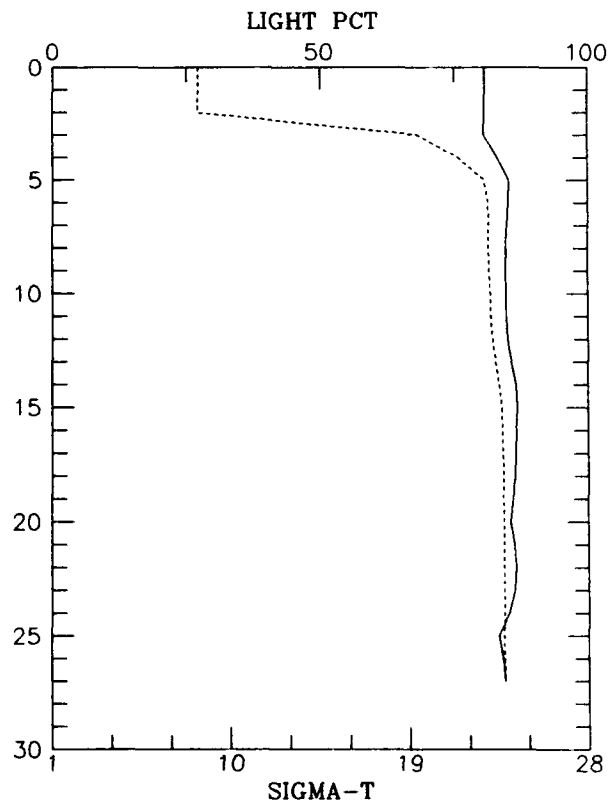
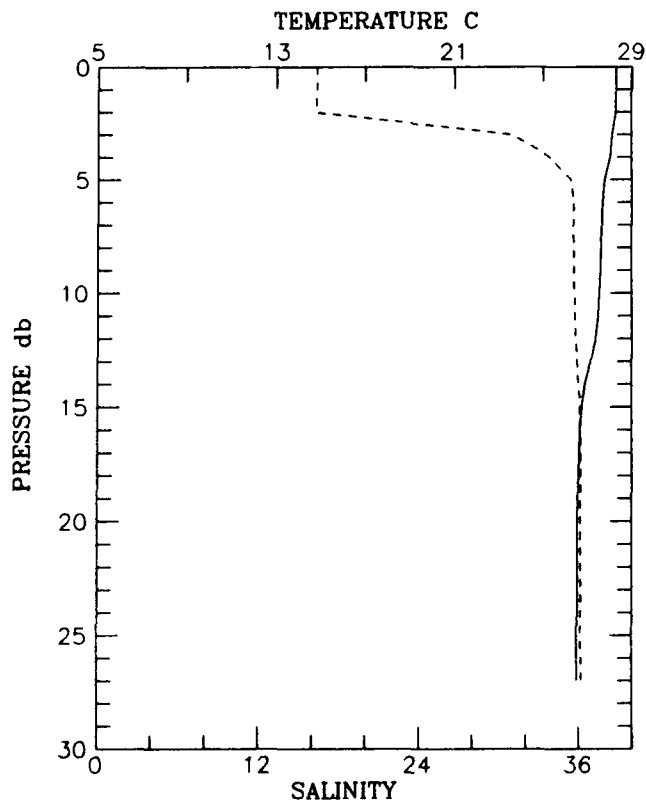
Cruise 18909 Consecutive Station # 28 Depth m:91 Time: 1989-08-07 08:59
 Position: 2° 44.20'N 48° 57.10'W Depth Deck Offset: 0.30 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.193	16.360	8.386	0.0000	0.000	0.0	79.1
5.0	28.154	35.542	22.754	0.0564	0.000	0.0	90.6
10.0	27.871	35.905	23.120	0.0812	0.000	0.0	90.1
15.0	27.469	36.089	23.389	0.1046	0.000	0.0	91.8
20.0	26.935	36.214	23.656	0.1264	0.000	0.0	92.7
25.0	26.643	36.215	23.749	0.1475	0.000	0.0	92.5
30.0	26.527	36.217	23.788	0.1684	0.000	0.0	92.5
35.0	26.475	36.226	23.811	0.1890	0.000	0.0	92.4
40.0	26.387	36.225	23.838	0.2096	0.000	0.0	92.3
45.0	26.373	36.226	23.844	0.2301	0.000	0.0	92.2
50.0	26.358	36.228	23.850	0.2506	0.000	0.0	92.2
55.0	26.367	36.228	23.847	0.2711	0.000	0.0	92.1
60.0	26.340	36.230	23.857	0.2916	0.000	0.0	92.0
65.0	26.326	36.230	23.861	0.3121	0.000	0.0	92.0
70.0	25.957	36.469	24.158	0.3324	0.000	0.0	91.5
75.0	25.956	36.361	24.076	0.3517	0.000	0.0	91.6
79.0	25.958	36.279	24.014	0.3674	0.000	0.0	91.5



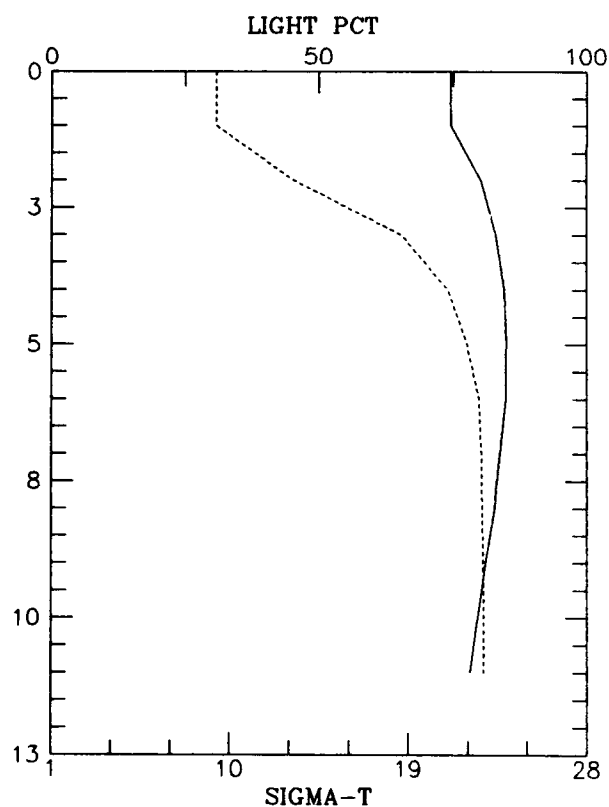
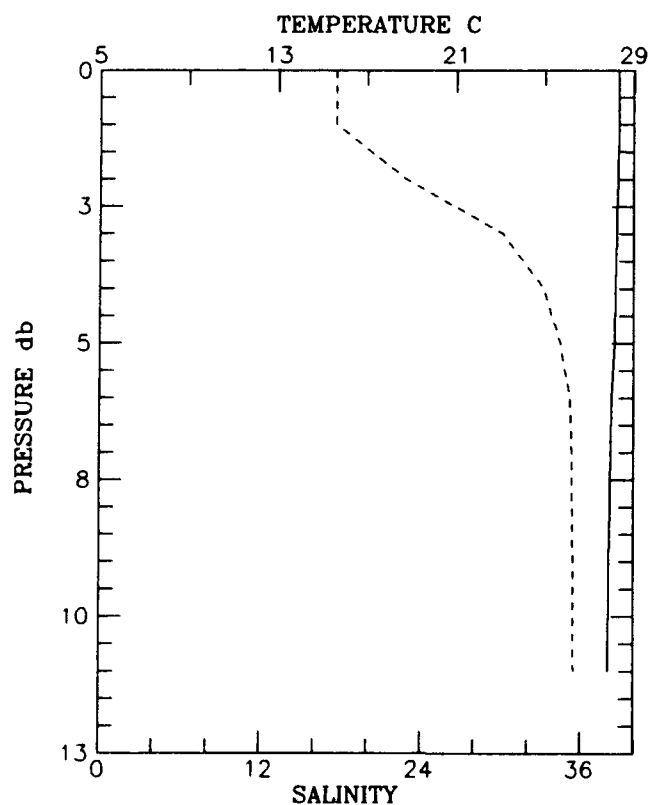
Cruise 18909 Consecutive Station # 29 Depth m:30 Time: 1989-08-07 11:54
 Position: 2° 36.50'N 49° 5.20'W Depth Deck Offset: 0.80 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DLTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.272	16.336	8.344	0.0000	0.000	0.0	80.7
2.0		28.272	16.336	8.344	0.0382	0.000	0.0	80.7
4.0		28.032	33.804	21.487	0.0592	0.000	0.0	83.1
6.0		27.661	35.610	22.966	0.0699	0.000	0.0	85.0
8.0		27.621	35.635	22.998	0.0798	0.000	0.0	84.7
10.0		27.523	35.685	23.068	0.0895	0.000	0.0	84.7
12.0		27.367	35.763	23.177	0.0991	0.000	0.0	84.9
14.0		26.899	36.022	23.522	0.1082	0.000	0.0	86.5
16.0		26.656	36.121	23.675	0.1168	0.000	0.0	86.5
18.0		26.593	36.141	23.710	0.1253	0.000	0.0	86.3
20.0		26.538	36.160	23.742	0.1337	0.000	0.0	85.5
22.0		26.535	36.162	23.744	0.1420	0.000	0.0	86.4
24.0		26.538	36.161	23.742	0.1504	0.000	0.0	85.0
26.0		26.514	36.168	23.755	0.1588	0.000	0.0	84.0
27.0		26.509	36.170	23.758	0.1630	0.000	0.0	84.3



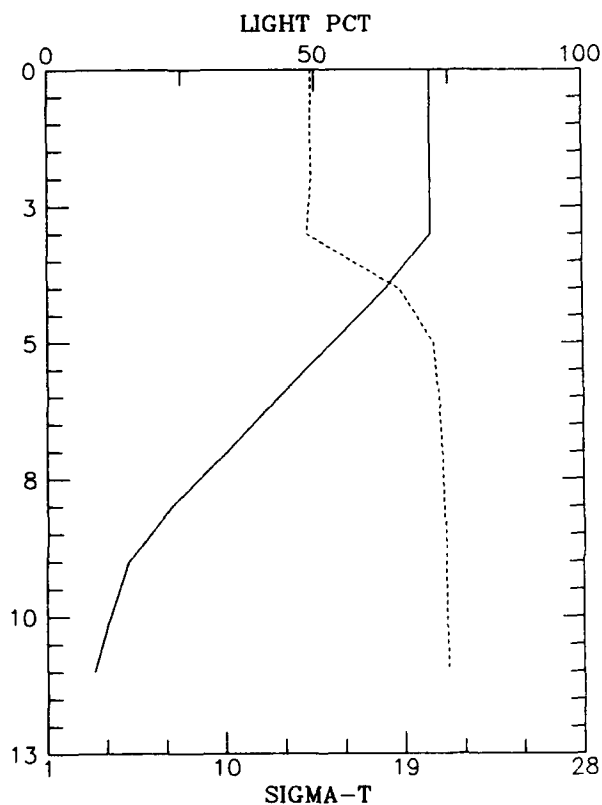
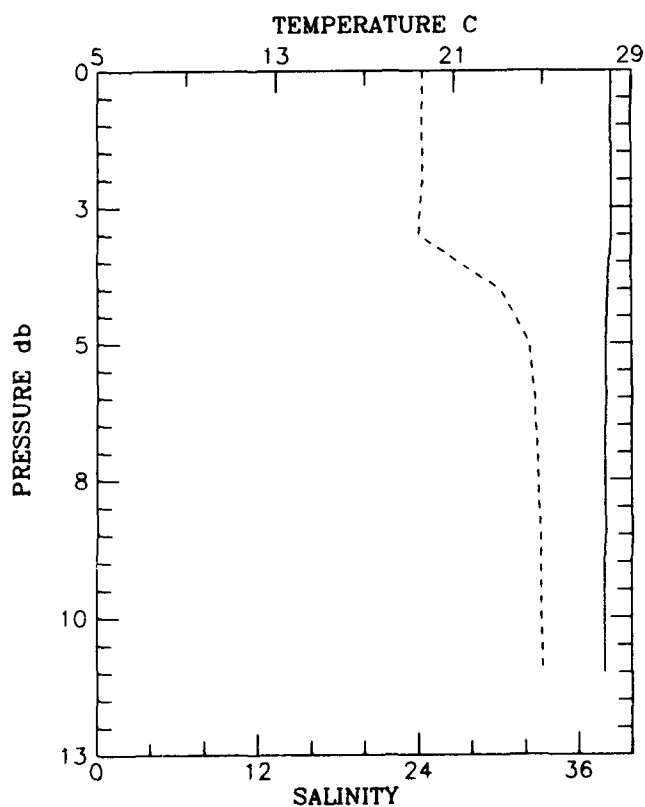
Cruise 18909 Consecutive Station # 30 Depth m:15 Time: 1989-08-07 15:23
 Position: 2° 28.62'N 49° 11.26'W Depth Deck Offset: -2.70 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.326	17.687	9.334	0.0000	0.000	78.8	74.6
1.0		28.326	17.687	9.334	0.0181	0.000	78.8	74.6
2.0		28.291	22.872	13.215	0.0343	0.000	83.7	80.2
3.0		28.241	30.113	18.649	0.0460	0.000	74.4	83.0
4.0		28.177	33.225	21.005	0.0540	0.000	85.8	84.6
5.0		28.123	34.474	21.961	0.0603	0.000	87.0	84.9
6.0		28.008	35.212	22.554	0.0659	0.000	86.5	84.8
7.0		27.955	35.352	22.676	0.0712	0.000	85.5	83.7
8.0		27.928	35.400	22.721	0.0763	0.000	84.4	82.8
9.0		27.893	35.447	22.768	0.0815	0.000	83.4	81.0
10.0		27.874	35.468	22.790	0.0866	0.000	81.6	79.6
11.0		27.858	35.485	22.808	0.0917	0.000	80.1	78.2



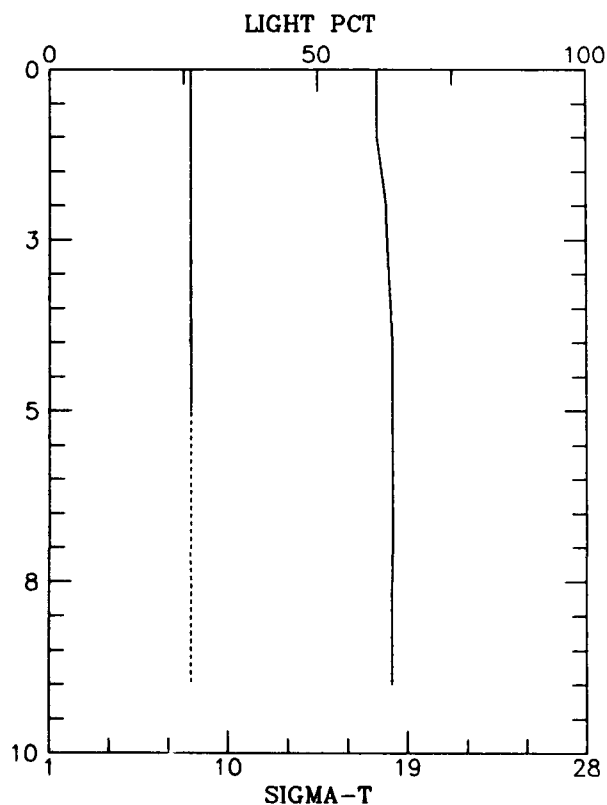
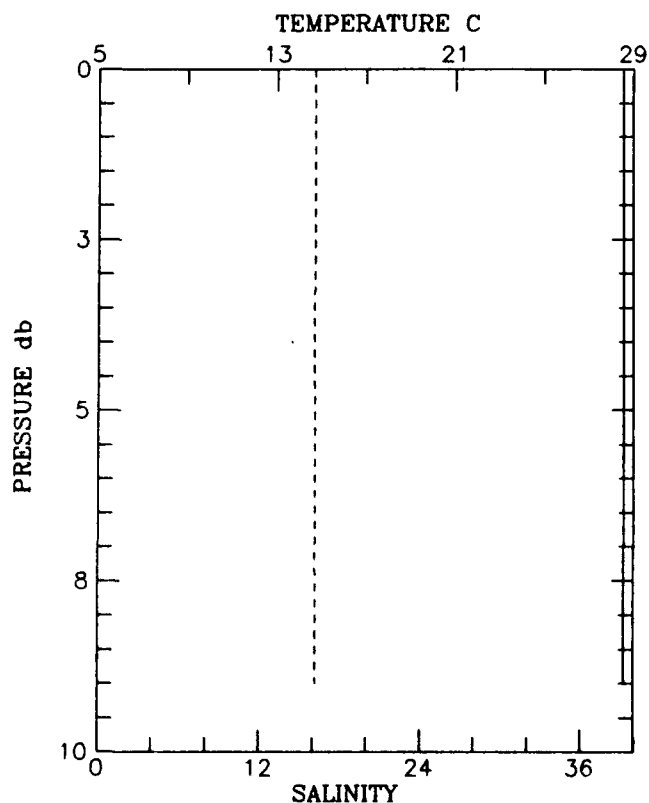
Cruise 18909 Consecutive Station # 31 Depth m:13 Time: 1989-08-07 18:17
 Position: 2° 22.69'N 49° 20.60'W Depth Deck Offset: -0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.088	24.290	14.338	0.0000	0.000	73.6
1.0	E	28.088	24.289	14.337	0.0132	0.000	73.6
2.0		28.088	24.289	14.338	0.0265	0.000	73.6
3.0		28.097	24.001	14.119	0.0398	0.000	73.3
4.0		27.910	30.127	18.766	0.0510	0.000	62.7
5.0		27.833	32.348	20.458	0.0591	0.000	50.9
6.0		27.811	32.695	20.726	0.0663	0.000	42.5
7.0		27.796	32.923	20.902	0.0733	0.000	35.9
8.0		27.785	33.017	20.976	0.0802	0.000	23.9
9.0		27.771	33.157	21.086	0.0870	0.000	18.0
10.0		27.766	33.213	21.129	0.0937	0.000	15.2
11.0		27.755	33.311	21.207	0.1003	0.000	10.8



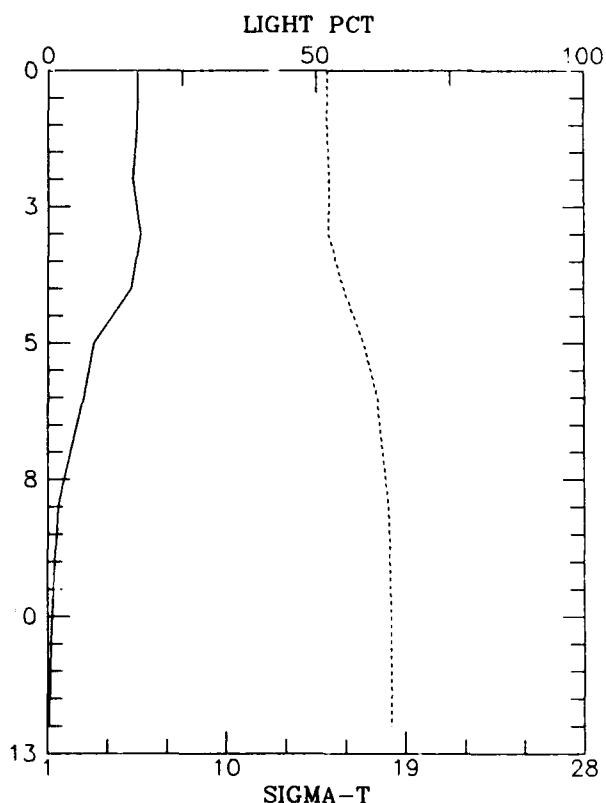
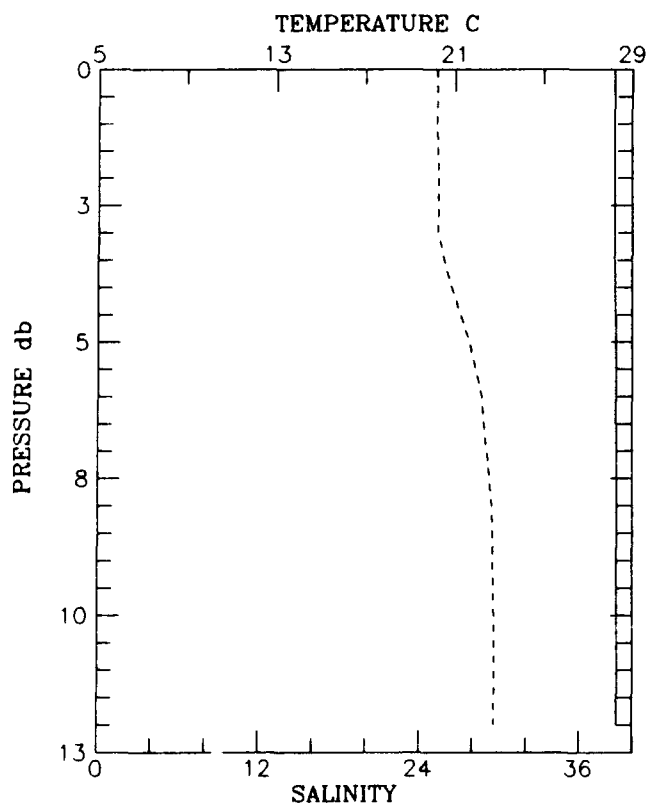
Cruise 18909 Consecutive Station # 32 Depth m:10 Time: 1989-08-07 22:50
 Position: 2° 19.50'N 50° 9.80'W Depth Deck Offset: 0.30 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.553	16.152	8.120	0.0000	0.000	62.3	61.0
1.0		28.553	16.152	8.120	0.0193	0.000	62.3	61.0
2.0		28.552	16.152	8.121	0.0386	0.000	62.8	62.8
3.0		28.551	16.144	8.115	0.0579	0.000	63.9	63.2
4.0		28.552	16.125	8.100	0.0773	0.000	64.8	63.9
5.0		28.551	16.147	8.117	0.0966	0.000	64.7	63.8
6.0		28.550	16.162	8.128	0.1159	0.000	64.7	63.8
7.0		28.549	16.177	8.140	0.1352	0.000	64.6	63.8
8.0		28.548	16.192	8.151	0.1545	0.000	64.6	63.7
9.0		28.548	16.207	8.163	0.1738	0.000	64.5	63.7



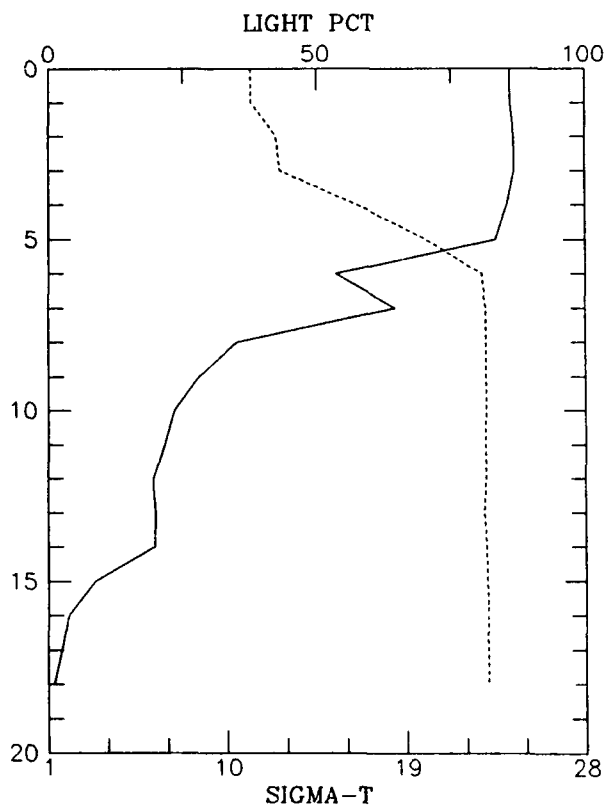
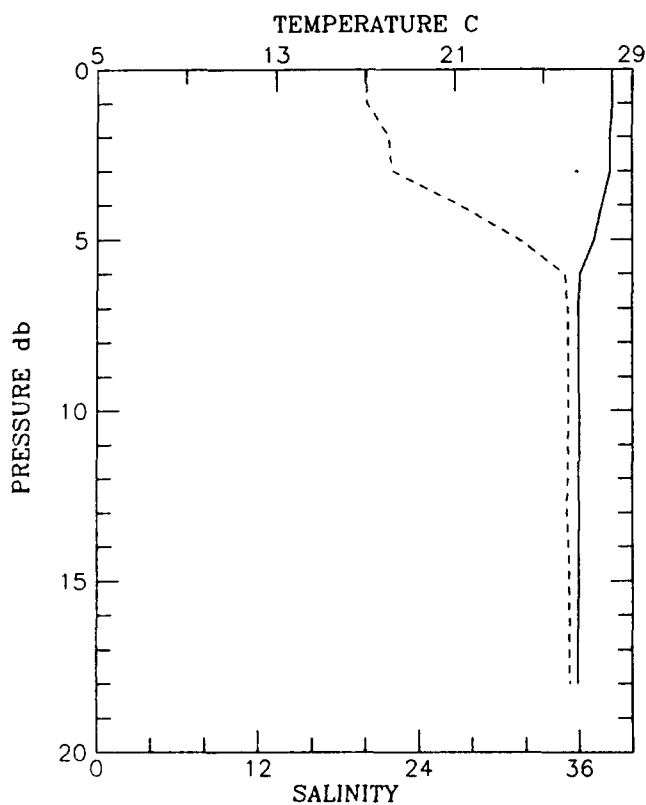
Cruise 18909 Consecutive Station # 33 Depth m:16 Time: 1989-08-08 01:49
 Position: 2° 32.70'N 49° 53.50'W Depth Deck Offset: 0.30 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.190	25.323	15.079	0.0000	0.000	14.7	16.7
1.0		28.190	25.323	15.079	0.0125	0.000	14.7	16.7
2.0		28.199	25.446	15.168	0.0250	0.000	14.7	15.8
3.0		28.199	25.393	15.128	0.0374	0.000	17.0	17.3
4.0		28.229	26.438	15.900	0.0495	0.000	14.3	15.6
5.0		28.252	27.769	16.889	0.0608	0.000	8.0	8.5
6.0		28.265	28.692	17.576	0.0712	0.000	4.2	6.6
7.0		28.273	29.080	17.865	0.0812	0.000	3.8	4.2
8.0		28.274	29.449	18.141	0.0908	0.000	3.5	1.9
9.0		28.272	29.560	18.225	0.1004	0.000	2.0	1.3
10.0		28.272	29.625	18.273	0.1098	0.000	1.9	0.8
11.0		28.278	29.636	18.280	0.1192	0.000	1.0	0.4
12.0		28.279	29.660	18.297	0.1286	0.000	0.8	0.3



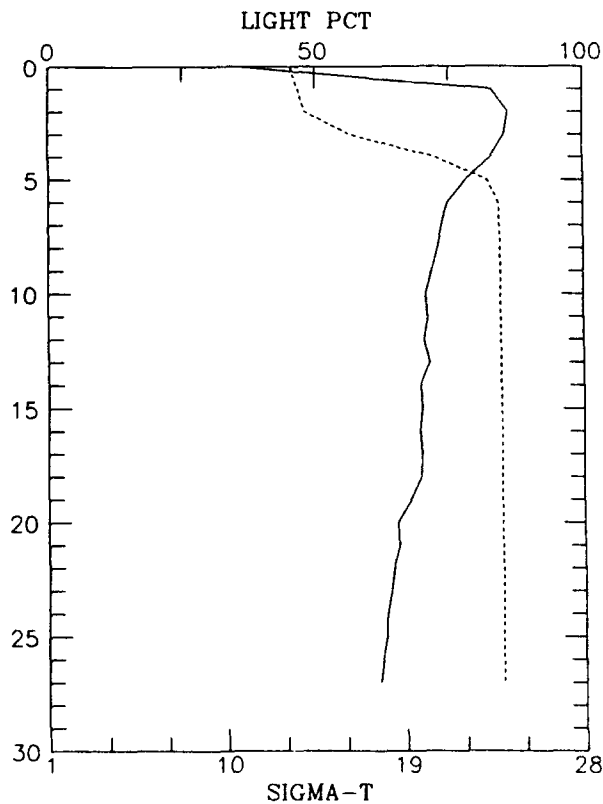
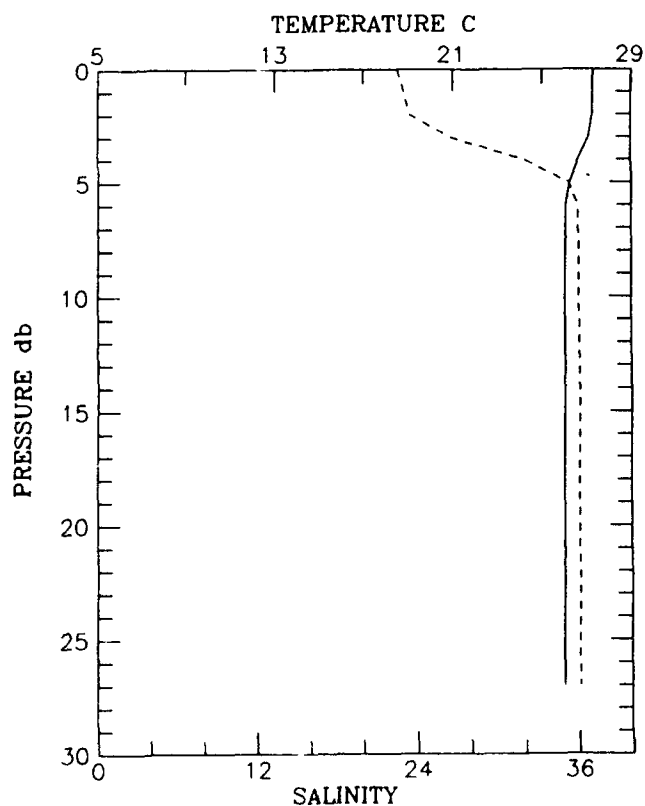
Cruise 18909 Consecutive Station # 34 Depth m:21 Time: 1989-03-08 04:15
 Position: 2° 41.20'N 49° 44.90'W Depth Deck Offset: -0.10 Fish 1

PRESSURE Interp (d-bars)		TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.079	20.090	11.203	0.0000	0.000	88.8	86.0
1.0		28.079	20.090	11.203	0.0163	0.000	88.8	86.0
2.0		28.003	21.774	12.484	0.0320	0.000	88.9	86.8
3.0		27.989	22.009	12.664	0.0469	0.000	107.9	86.8
4.0		27.623	27.038	16.541	0.0599	0.000	84.6	85.5
5.0		27.260	31.491	19.997	0.0693	0.000	84.7	83.2
6.0		26.632	34.916	22.774	0.0758	0.000	50.3	53.6
7.0		26.580	35.160	22.974	0.0808	0.000	33.5	64.6
8.0		26.580	35.170	22.982	0.0857	0.000	35.0	35.1
9.0		26.583	35.170	22.981	0.0906	0.000	26.2	28.1
10.0		26.588	35.160	22.972	0.0955	0.000	25.1	23.4
11.0		26.589	35.144	22.959	0.1004	0.000	24.5	21.7
12.0		26.584	35.165	22.976	0.1053	0.000	26.9	19.6
13.0		26.596	35.073	22.903	0.1103	0.000	26.9	20.0
14.0		26.577	35.180	22.990	0.1152	0.000	22.3	19.9
15.0		26.559	35.230	23.034	0.1201	0.000	8.5	8.7
16.0		26.551	35.250	23.051	0.1250	0.000	4.3	3.7
17.0		26.539	35.273	23.072	0.1298	0.000	3.1	2.5
18.0		26.530	35.297	23.093	0.1346	0.000	1.8	1.1



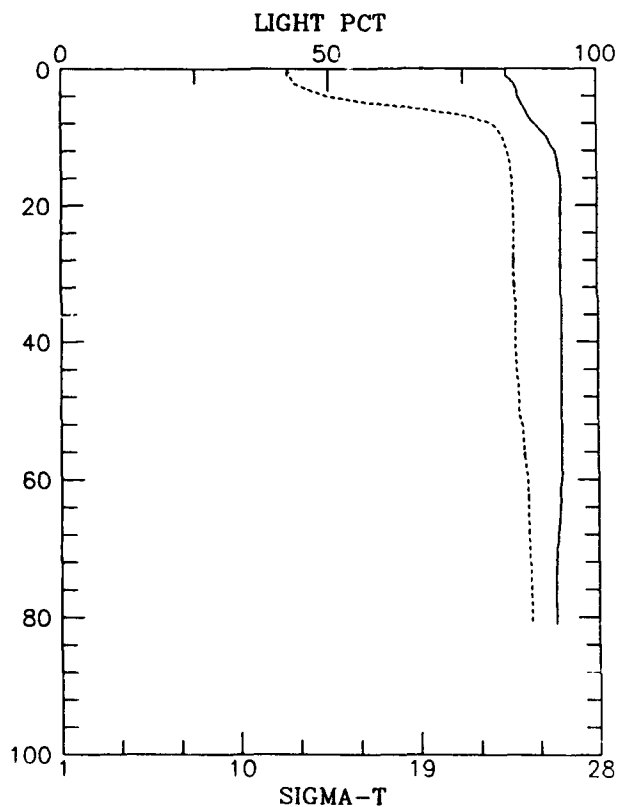
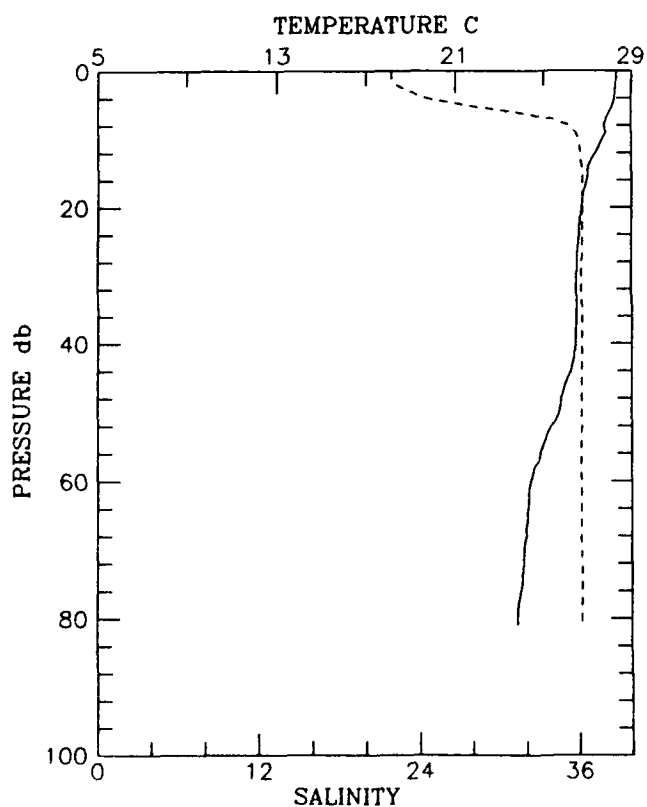
Cruise 18909 Consecutive Station # 35 Depth m:29 Time: 1989-08-08 08:14
 Position: 2° 53.80'N 49° 34.80'W Depth Deck Offset: -0.10 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	27.297	22.556	13.287	0.0000	0.000	87.8	35.8
2.0	27.269	23.511	14.010	0.0278	0.000	88.6	86.1
4.0	26.626	31.990	20.572	0.0495	0.000	84.5	82.9
6.0	26.060	35.971	23.749	0.0599	0.000	77.0	74.8
8.0	26.028	36.040	23.812	0.0682	0.000	74.9	72.8
10.0	26.011	36.064	23.835	0.0763	0.000	73.0	70.7
12.0	26.006	36.071	23.842	0.0845	0.000	72.6	70.3
14.0	25.999	36.079	23.850	0.0927	0.000	71.3	69.6
16.0	25.993	36.085	23.857	0.1009	0.000	71.3	69.5
18.0	25.984	36.093	23.866	0.1090	0.000	69.2	69.7
20.0	25.981	36.095	23.868	0.1171	0.000	68.5	65.2
22.0	25.975	36.100	23.874	0.1253	0.000	70.7	64.3
24.0	25.971	36.103	23.877	0.1334	0.000	67.8	63.1
26.0	25.969	36.105	23.879	0.1415	0.000	68.8	62.2
27.0	25.967	36.105	23.880	0.1456	0.000	67.0	61.8



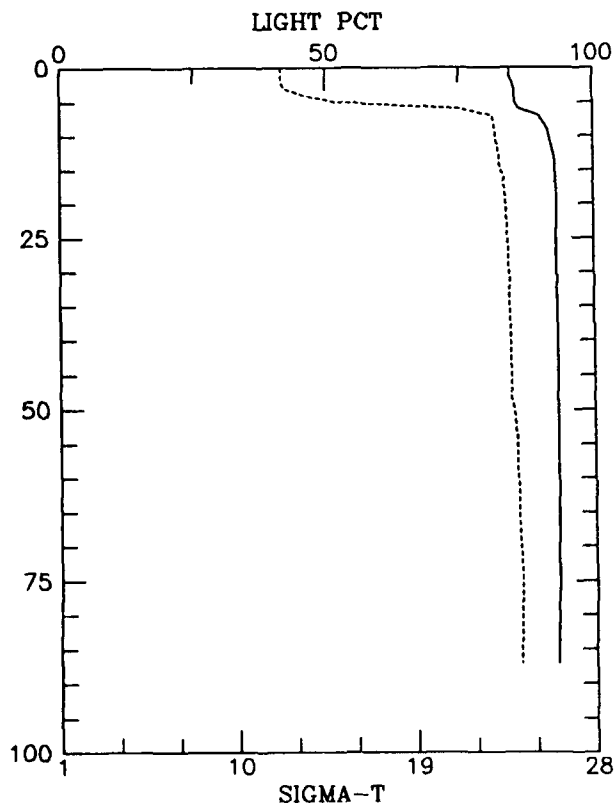
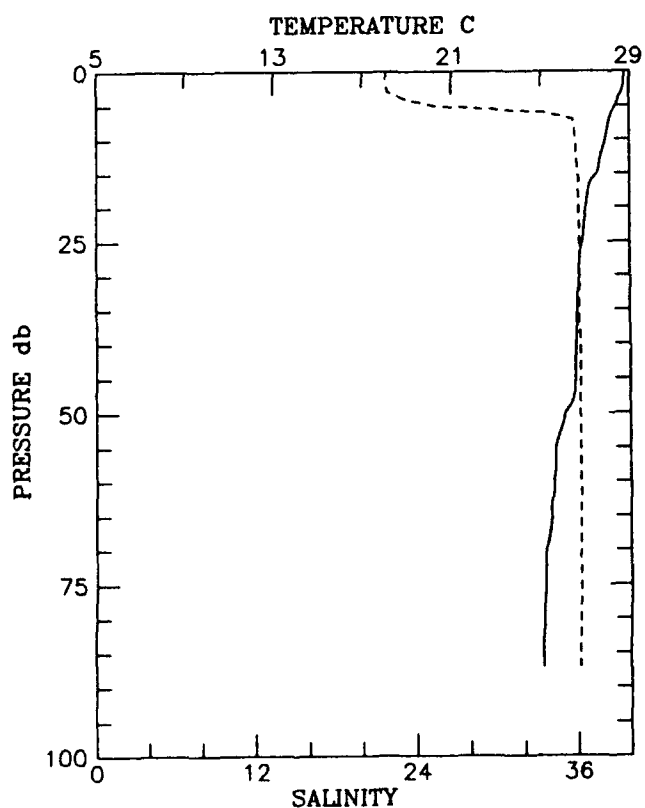
Cruise 18909 Consecutive Station # 36 Depth m:81 Time: 1989-08-08 11:36
 Position: 3° 9.20'N 49° 17.60'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.306	21.862	12.456	0.0000	0.000	86.1
5.0		28.128	27.434	16.678	0.0701	0.000	88.7
10.0		27.636	35.962	23.239	0.1025	0.000	93.6
15.0		26.984	36.221	23.645	0.1246	0.000	95.7
20.0		26.721	36.219	23.727	0.1458	0.000	95.8
25.0		26.576	36.221	23.775	0.1667	0.000	95.8
30.0		26.497	36.210	23.792	0.1875	0.000	95.9
35.0		26.461	36.206	23.800	0.2082	0.000	95.9
40.0		26.416	36.204	23.813	0.2289	0.000	95.9
45.0		26.084	36.204	23.918	0.2494	0.000	95.8
50.0		25.698	36.176	24.017	0.2693	0.000	95.8
55.0		24.950	36.147	24.226	0.2884	0.000	95.7
60.0		24.374	36.133	24.390	0.3068	0.000	95.6
65.0		24.249	36.145	24.436	0.3246	0.000	95.4
70.0		24.103	36.167	24.497	0.3423	0.000	94.8
75.0		23.996	36.181	24.539	0.3596	0.000	94.6
80.0		23.805	36.174	24.590	0.3768	0.000	94.7
81.0		23.797	36.174	24.592	0.3802	0.000	94.7



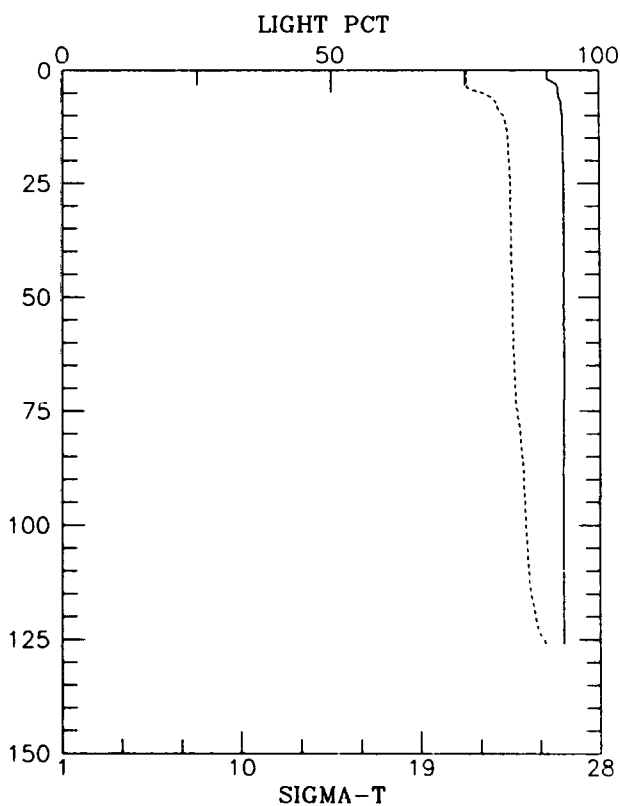
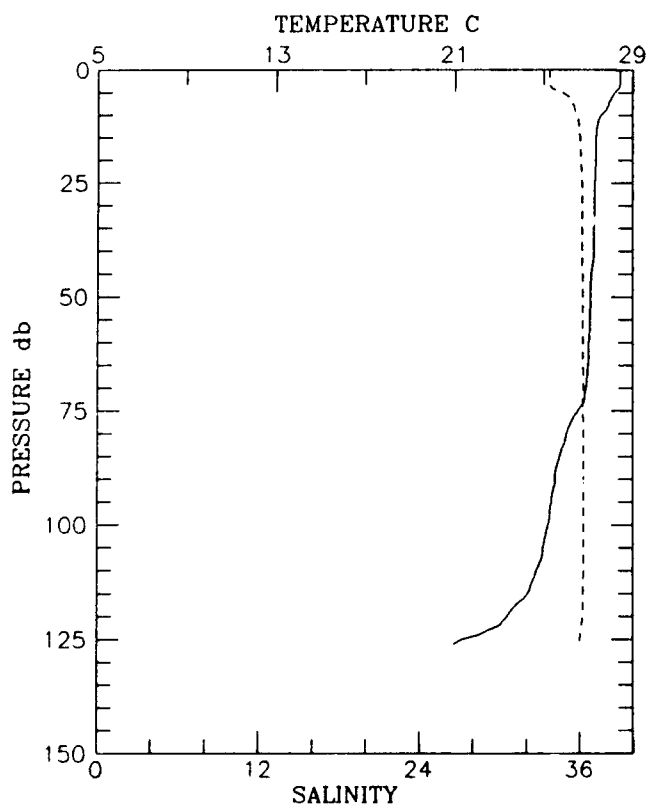
Cruise 18909 Consecutive Station # 37 Depth m:91 Time: 1989-08-08 13:53
 Position: 3° 22.80'N 49° 7.10'W Depth Deck Offset: 0.50 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.767	21.802	12.265	0.0000	0.000	87.7	84.5
5.0		28.376	25.320	15.017	0.0737	0.000	88.4	85.5
10.0		27.913	35.894	23.098	0.1036	0.000	94.3	91.7
15.0		27.529	36.036	23.330	0.1270	0.000	95.5	92.8
20.0		27.017	36.154	23.584	0.1490	0.000	95.5	93.0
25.0		26.850	36.184	23.660	0.1705	0.000	95.6	92.9
30.0		26.690	36.204	23.726	0.1916	0.000	95.5	92.9
35.0		26.618	36.209	23.753	0.2126	0.000	95.6	93.0
40.0		26.550	36.213	23.778	0.2335	0.000	95.6	93.0
45.0		26.500	36.219	23.798	0.2542	0.000	95.7	93.0
50.0		26.061	36.207	23.927	0.2748	0.000	95.6	93.0
55.0		25.594	36.215	24.079	0.2946	0.000	95.6	93.0
60.0		25.528	36.218	24.102	0.3140	0.000	95.6	93.0
65.0		25.421	36.211	24.130	0.3332	0.000	95.6	93.0
70.0		25.163	36.215	24.212	0.3522	0.000	95.5	92.9
75.0		25.115	36.205	24.219	0.3710	0.000	95.5	92.9
80.0		25.078	36.205	24.231	0.3898	0.000	95.5	92.9
85.0		25.045	36.203	24.239	0.4085	0.000	95.3	92.8
87.0		25.050	36.203	24.238	0.4160	0.000	95.4	92.8



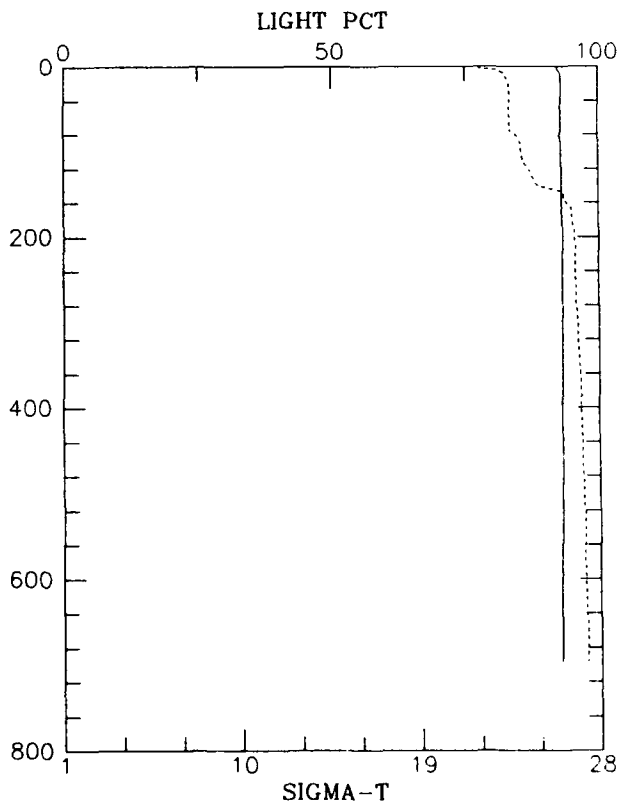
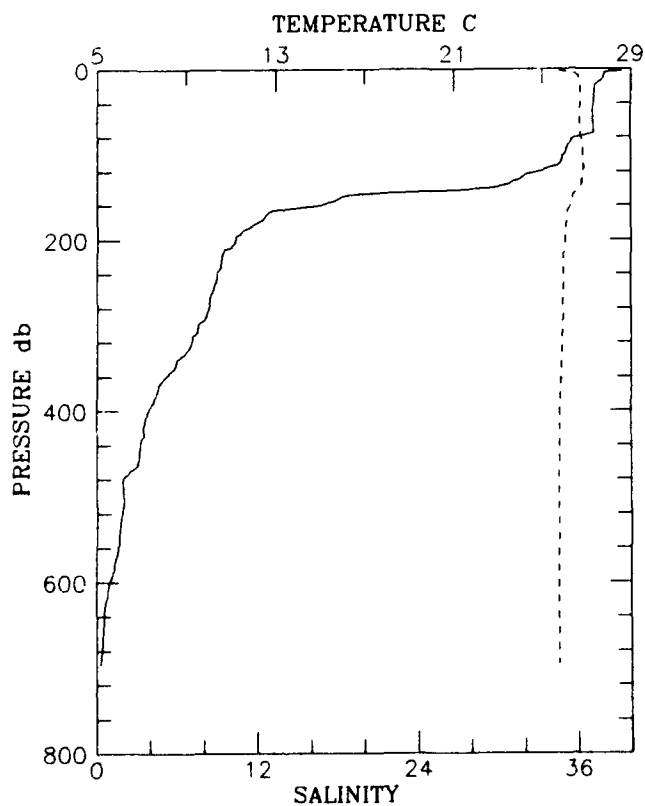
Cruise 18909 Consecutive Station # 38 Depth m:126 Time: 1989-08-08 15:40
 Position: 3° 40.47'N 48° 59.29'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.444	33.773	21.329	0.0000	0.000	95.0	90.3
10.0	27.556	35.844	23.177	0.0575	0.000	95.8	93.0
20.0	27.327	36.098	23.442	0.1030	0.000	95.9	93.2
30.0	27.260	36.180	23.525	0.1472	0.000	95.9	93.3
40.0	27.244	36.191	23.539	0.1911	0.000	95.9	93.3
50.0	27.089	36.223	23.613	0.2347	0.000	95.9	93.3
60.0	27.017	36.239	23.648	0.2778	0.000	95.9	93.3
70.0	26.895	36.281	23.719	0.3205	0.000	95.9	93.3
80.0	26.012	36.293	24.008	0.3617	0.000	95.8	93.2
90.0	25.498	36.296	24.170	0.4004	0.000	95.8	93.2
100.0	25.172	36.293	24.268	0.4380	0.000	95.8	93.2
110.0	24.657	36.282	24.416	0.4746	0.000	95.8	93.2
120.0	23.354	36.176	24.724	0.5092	0.000	95.8	93.2
126.0	20.947	35.971	25.249	0.5277	0.000	95.8	93.2



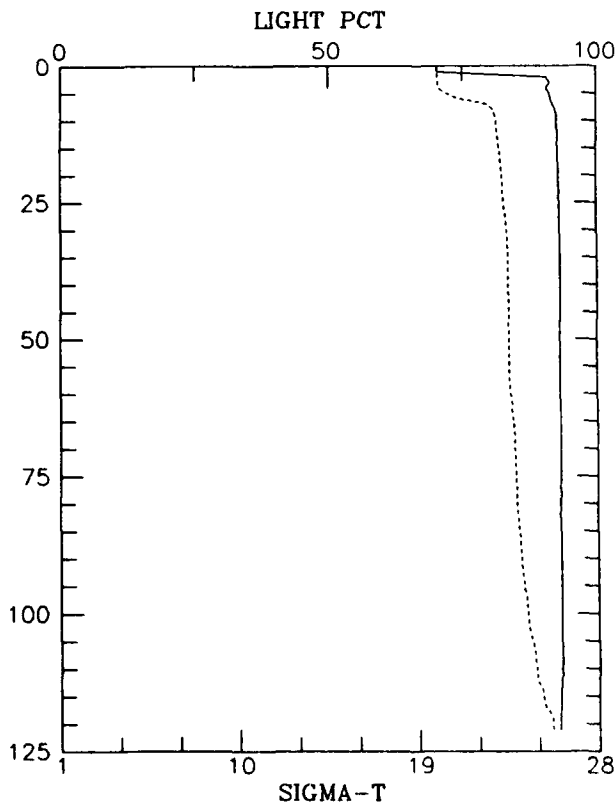
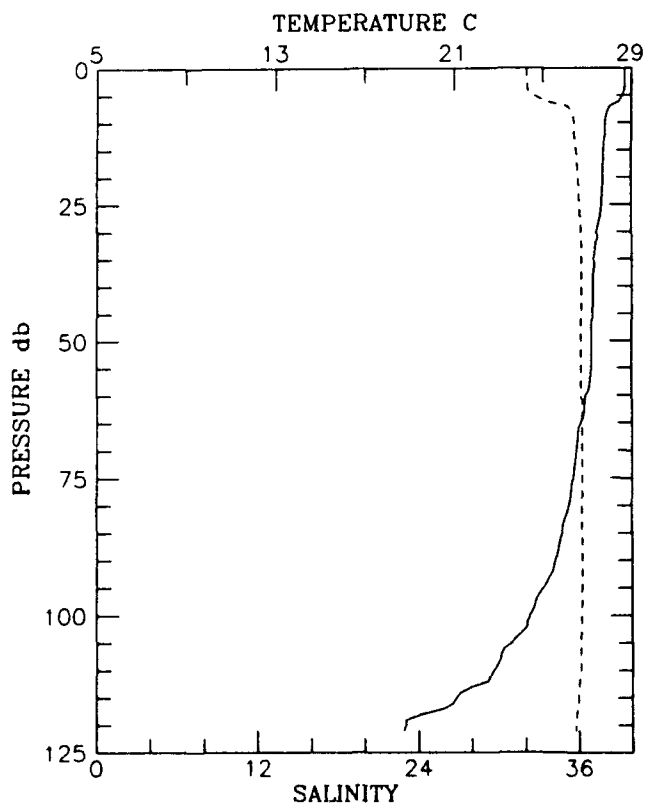
Cruise 18909 Consecutive Station # 39 Depth m:700 Time: 1989-08-08 18:20
 Position: 4° 10.10'N 49° 9.14'W Depth Deck Offset: 1.10 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.555	34.697	21.987	0.0000	0.000	92.7
50.0		27.309	36.200	23.525	0.2288	0.000	95.5
100.0		26.020	36.407	24.091	0.4396	0.000	95.4
150.0		15.972	35.598	26.215	0.6059	0.000	95.7
200.0		11.192	35.025	26.761	0.6822	0.000	95.7
250.0		10.291	34.917	26.837	0.7480	3.425	95.7
300.0		9.518	34.834	26.904	0.8118	3.389	95.7
350.0		8.457	34.731	26.993	0.8719	3.234	95.7
400.0		7.311	34.629	27.083	0.9272	3.371	95.8
450.0		6.905	34.602	27.119	0.9799	3.326	95.8
500.0		6.208	34.553	27.173	1.0307	3.401	95.1
550.0		5.998	34.557	27.203	1.0794	3.216	95.0
600.0		5.583	34.556	27.254	1.1269	3.183	0.1
650.0		5.312	34.561	27.291	1.1720	3.193	0.1
697.0		5.178	34.567	27.312	1.2135	3.190	0.1



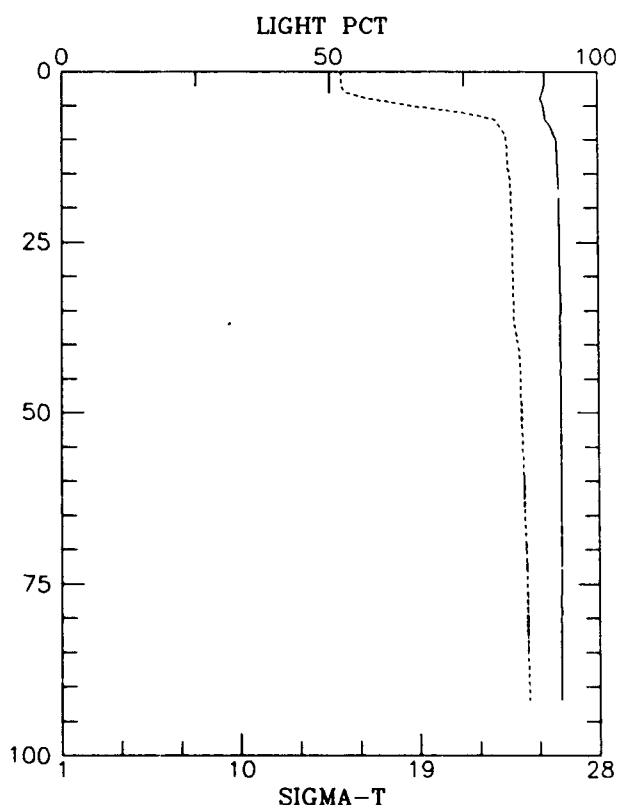
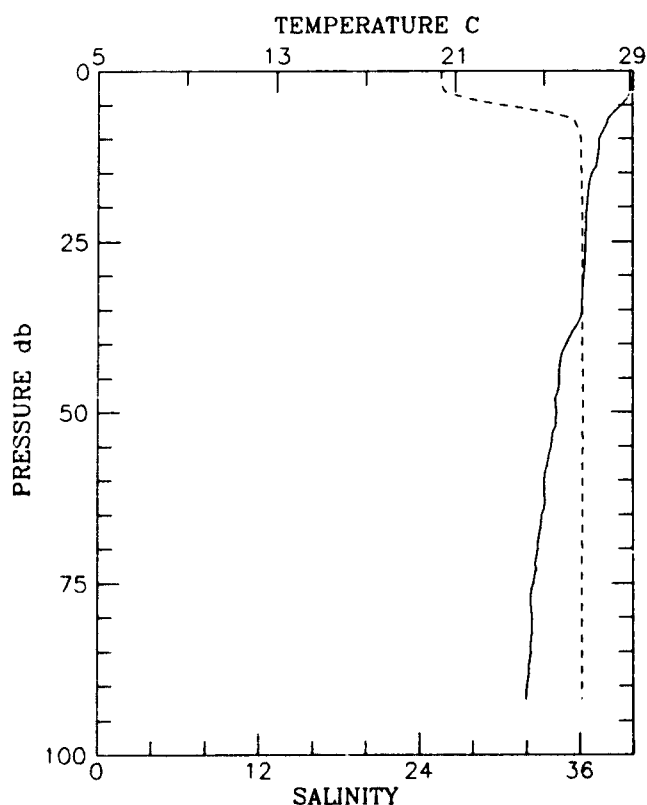
Cruise 18909 Consecutive Station # 40 Depth m:123 Time: 1989-08-08 22:03
 Position: 3° 58.10'N 49° 20.60'W Depth Deck Offset: 0.10 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.692	32.116	20.004	0.0000	0.000	87.5	70.3
10.0		27.796	35.647	22.950	0.0667	0.000	89.2	92.6
20.0		27.700	35.996	23.244	0.1147	0.000	89.5	92.9
30.0		27.416	36.174	23.471	0.1603	0.000	89.7	93.1
40.0		27.240	36.174	23.527	0.2046	0.000	89.7	93.1
50.0		27.166	36.191	23.564	0.2485	0.000	89.7	93.1
60.0		26.935	36.208	23.651	0.2920	0.000	89.7	93.1
70.0		26.477	36.241	23.822	0.3341	0.000	89.6	93.0
80.0		26.167	36.248	23.925	0.3750	0.000	89.6	93.0
90.0		25.536	36.254	24.127	0.4143	0.000	89.6	93.0
100.0		24.392	36.189	24.426	0.4515	0.000	89.7	93.0
110.0		22.758	36.076	24.821	0.4853	0.000	89.6	92.9
120.0		18.823	35.742	25.635	0.5137	0.000	94.6	92.7
121.0		18.733	35.757	25.670	0.5161	0.000	94.5	92.7



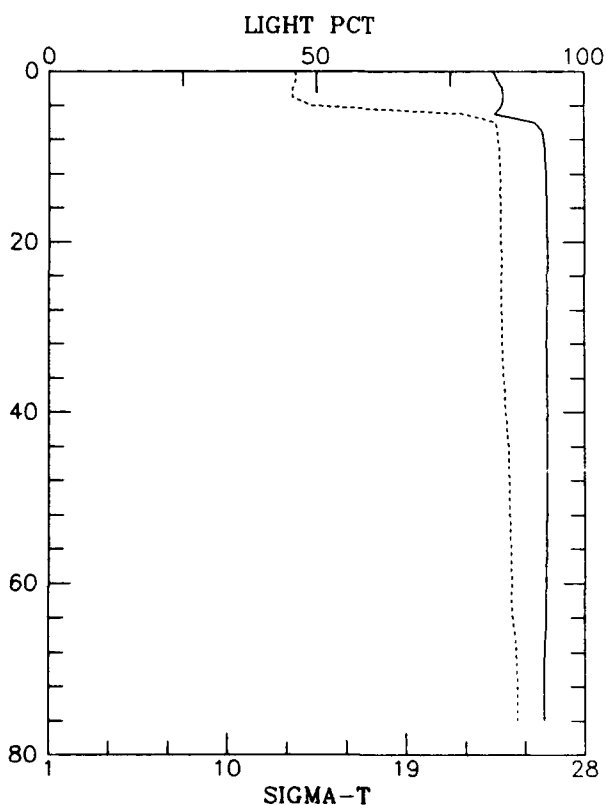
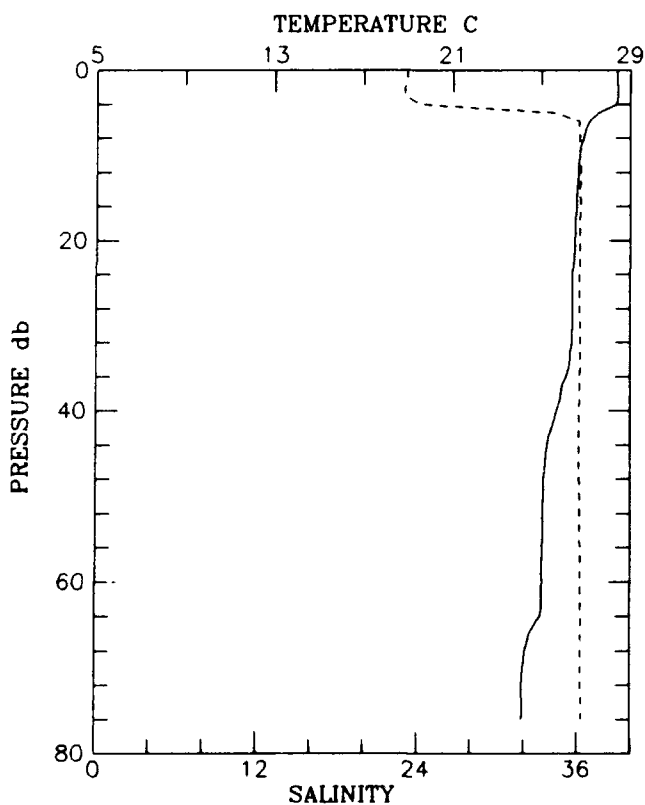
Cruise 18909 Consecutive Station # 41 Depth m:92 Time: 1989-08-09 00:22
 Position: 3° 46.40'N 49° 31.20'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.875	25.633	15.091	0.0000	0.000	92.4	90.0
5.0	28.505	30.148	18.590	0.0593	0.000	92.4	89.8
10.0	27.480	36.096	23.391	0.0873	0.000	94.6	92.2
15.0	27.159	36.138	23.526	0.1097	0.000	95.0	92.5
20.0	26.918	36.174	23.631	0.1313	0.000	95.1	92.7
25.0	26.861	36.190	23.661	0.1527	0.000	95.2	92.7
30.0	26.772	36.201	23.698	0.1740	0.000	95.4	92.8
35.0	26.681	36.208	23.732	0.1950	0.000	95.5	92.9
40.0	25.980	36.195	23.944	0.2157	0.000	95.4	92.8
45.0	25.673	36.221	24.059	0.2353	0.000	95.5	92.9
50.0	25.553	36.224	24.099	0.2547	0.000	95.5	92.9
55.0	25.313	36.214	24.164	0.2738	0.000	95.5	92.9
60.0	25.000	36.189	24.242	0.2926	0.000	95.5	92.9
65.0	24.888	36.173	24.264	0.3113	0.000	95.5	92.9
70.0	24.715	36.168	24.313	0.3297	0.000	95.5	92.9
75.0	24.493	36.160	24.373	0.3479	0.000	95.4	92.9
80.0	24.443	36.151	24.382	0.3659	0.000	95.4	92.8
85.0	24.376	36.147	24.399	0.3839	0.000	95.4	92.8
90.0	24.215	36.148	24.448	0.4017	0.000	95.4	92.8
92.0	24.177	36.146	24.458	0.4088	0.000	95.4	92.8



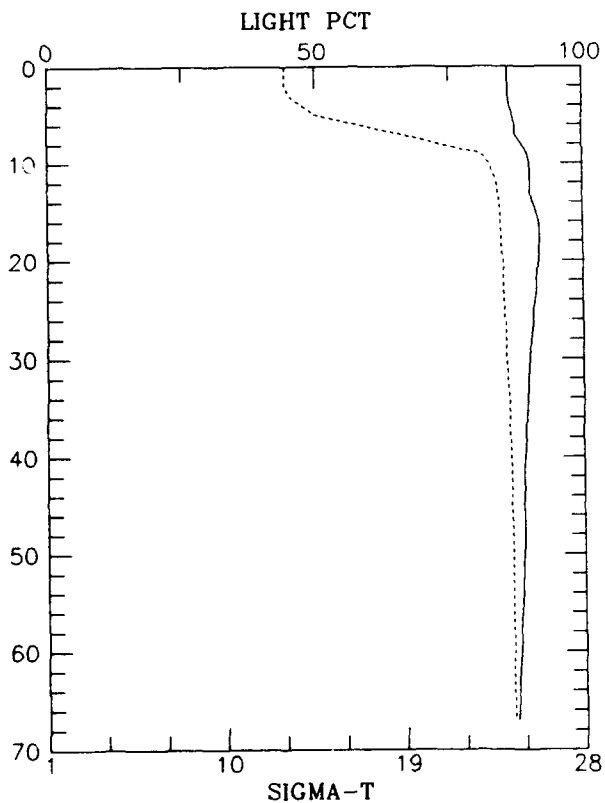
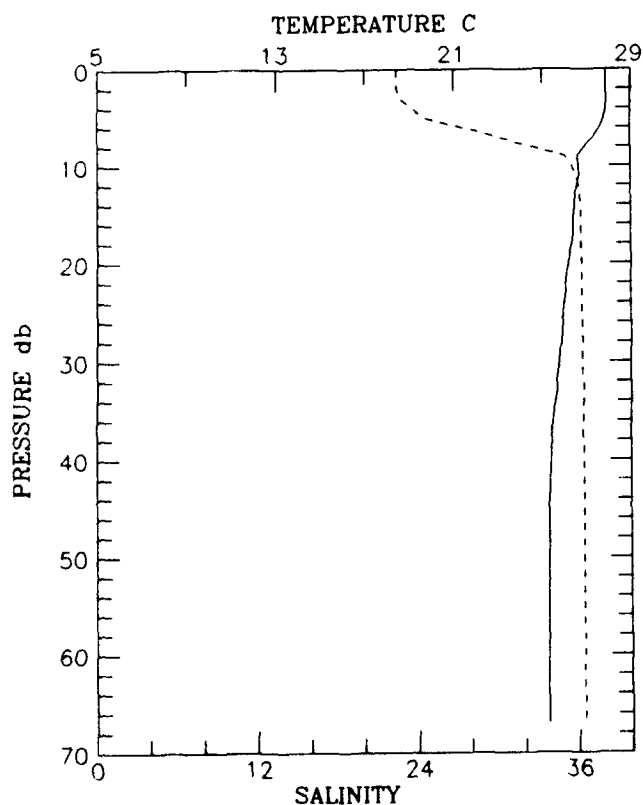
Cruise 18909 Consecutive Station # 42 Depth m:84 Time: 1989-08-09 02:38
 Position: 3° 35.10'N 49° 42.00'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	28.418	23.245	13.453	0.0000	0.000	85.8	83.0
5.0	27.567	34.233	21.961	0.0659	0.000	89.3	83.2
10.0	26.717	36.193	23.709	0.0881	0.000	95.4	92.6
15.0	26.584	36.213	23.767	0.1090	0.000	95.5	92.9
20.0	26.487	36.201	23.789	0.1298	0.000	95.6	93.0
25.0	26.402	36.201	23.816	0.1504	0.000	95.6	93.0
30.0	26.390	36.218	23.832	0.1710	0.000	95.5	92.9
35.0	26.218	36.231	23.896	0.1914	0.000	95.5	92.9
40.0	25.659	36.161	24.018	0.2113	0.000	95.6	93.0
45.0	25.201	36.164	24.161	0.2306	0.000	95.5	92.9
50.0	25.083	36.171	24.203	0.2495	0.000	95.5	92.9
55.0	25.045	36.201	24.237	0.2683	0.000	95.4	92.8
60.0	25.021	36.264	24.292	0.2868	0.000	95.3	92.7
65.0	24.719	36.313	24.421	0.3050	0.000	95.3	92.7
70.0	24.185	36.294	24.568	0.3224	0.000	95.0	92.4
75.0	24.143	36.323	24.602	0.3394	0.000	95.0	92.4
76.0	24.142	36.322	24.602	0.3428	0.000	95.0	92.4



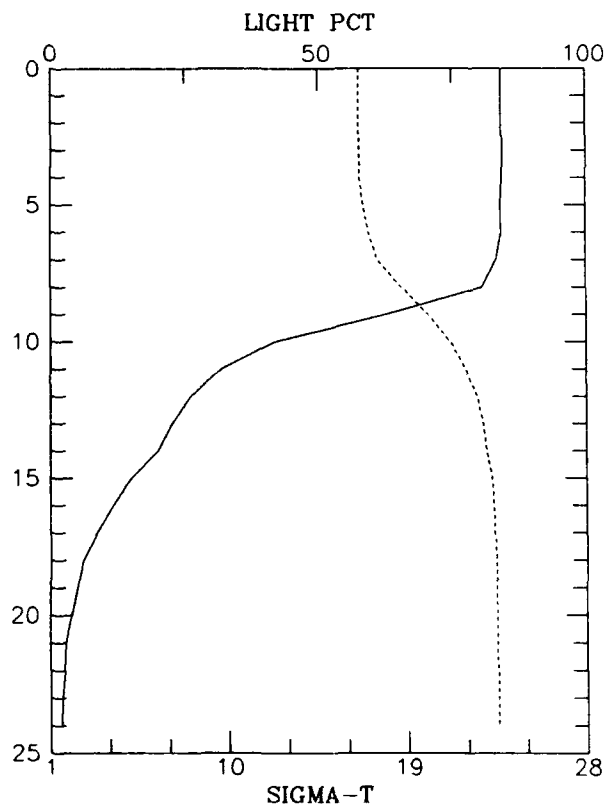
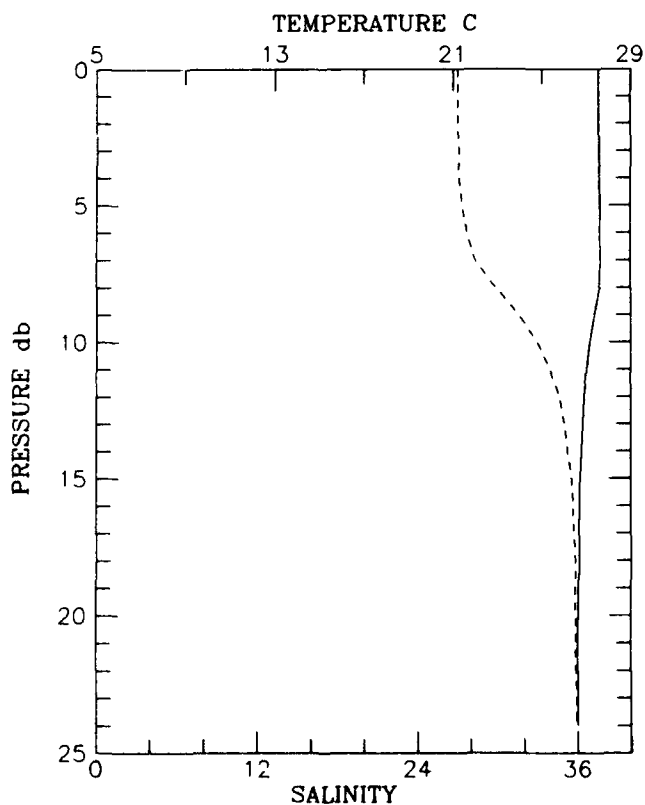
Cruise 18909 Consecutive Station # 43 Depth m:75 Time: 1989-08-09 04:55
 Position: 3° 25.55'N 49° 54.09'W Depth Deck Offset: 0.50 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	27.878	22.414	13.001	0.0000	0.000	88.0	86.0
5.0		27.814	24.555	14.623	0.0709	0.000	89.5	87.0
10.0		26.617	35.575	23.275	0.1114	0.000	92.6	90.0
15.0		26.420	36.226	23.828	0.1328	0.000	94.3	91.2
20.0		26.166	36.261	23.935	0.1531	0.000	94.1	91.6
25.0		25.940	36.295	24.032	0.1729	0.000	93.2	90.7
30.0		25.751	36.331	24.118	0.1923	0.000	92.5	89.9
35.0		25.517	36.390	24.235	0.2112	0.000	91.9	89.4
40.0		25.382	36.423	24.301	0.2296	0.000	91.4	88.9
45.0		25.293	36.437	24.339	0.2478	0.000	91.3	88.7
50.0		25.271	36.441	24.349	0.2659	0.000	91.1	88.6
55.0		25.253	36.444	24.357	0.2840	0.000	90.7	88.2
60.0		25.241	36.446	24.362	0.3021	0.000	90.3	87.7
65.0		25.236	36.447	24.364	0.3201	0.000	90.0	87.4
67.0		25.235	36.448	24.365	0.3274	0.000	89.8	87.1



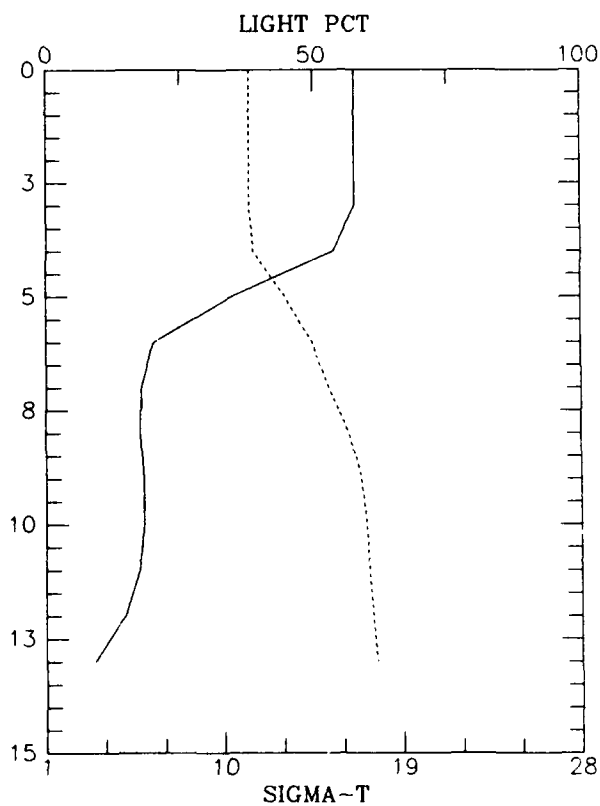
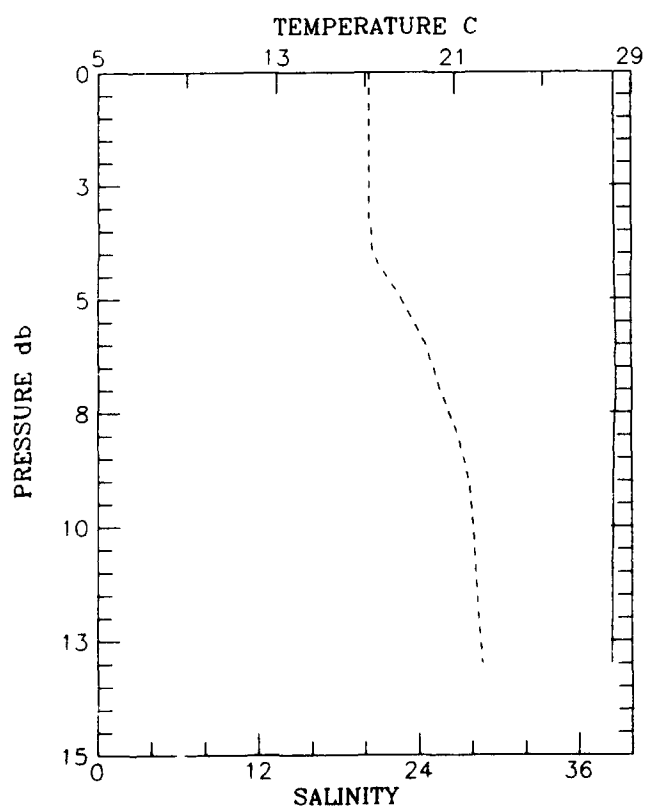
Cruise 18909 Consecutive Station # 44 Depth m:27 Time: 1989-08-09 07:42
 Position: 3° 12.90'N 50° 5.60'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	27.567	27.038	16.559	0.0000	0.000	86.7
2.0		27.567	27.037	16.558	0.0222	0.000	86.7
4.0		27.575	27.099	16.602	0.0443	0.000	86.8
6.0		27.622	27.720	17.053	0.0660	0.000	86.4
8.0		27.573	29.874	18.684	0.0860	0.000	79.9
10.0		27.159	32.974	21.144	0.1015	0.000	42.4
12.0		26.890	34.647	22.489	0.1135	0.000	27.7
14.0		26.786	35.238	22.968	0.1238	0.000	22.0
16.0		26.683	35.660	23.319	0.1332	0.000	13.8
18.0		26.643	35.775	23.418	0.1423	0.000	7.7
20.0		26.618	35.839	23.474	0.1512	0.000	6.1
22.0		26.606	35.867	23.499	0.1601	0.000	4.5
24.0		26.598	35.882	23.513	0.1689	0.000	3.1



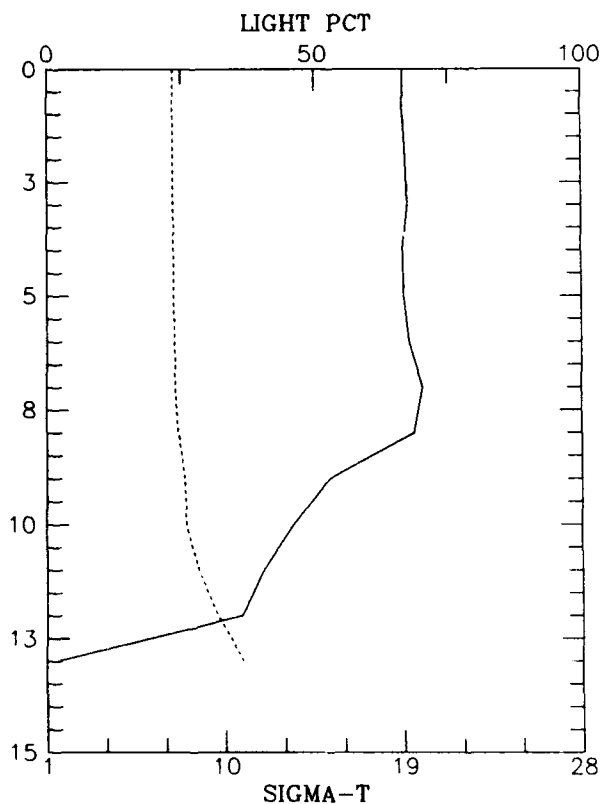
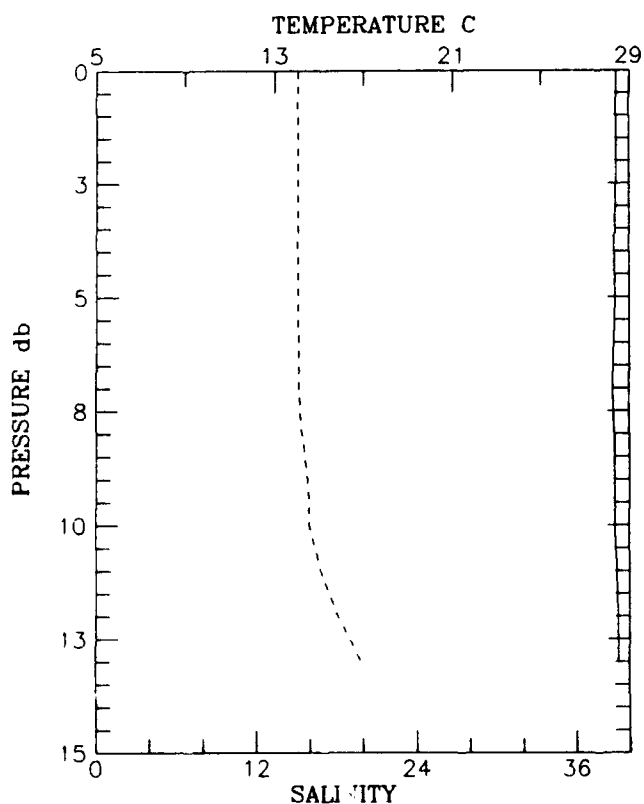
Cruise 18909 Consecutive Station # 45 Depth m:17 Time: 1989-08-09 10:06
 Position: 3° 0.00'N 50° 14.60'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.198	20.268	11.299	0.0000	0.000	58.3
1.0	E	28.198	20.268	11.299	0.0162	0.000	58.3
2.0	E	28.198	20.268	11.299	0.0324	0.000	58.3
3.0		28.198	20.268	11.299	0.0486	0.000	58.3
4.0		28.206	20.506	11.474	0.0647	0.000	52.6
5.0		28.263	22.709	13.102	0.0799	0.000	36.3
6.0		28.284	24.540	14.464	0.0937	0.000	24.3
7.0		28.250	25.579	15.251	0.1064	0.000	21.0
8.0		28.194	26.970	16.310	0.1183	0.000	20.9
9.0		28.149	27.742	16.902	0.1293	0.000	22.8
10.0		28.128	28.075	17.158	0.1399	0.000	21.9
11.0		28.118	28.248	17.291	0.1504	0.000	20.0
12.0		28.105	28.489	17.476	0.1607	0.000	14.5
13.0		28.093	28.753	17.678	0.1708	0.000	2.1



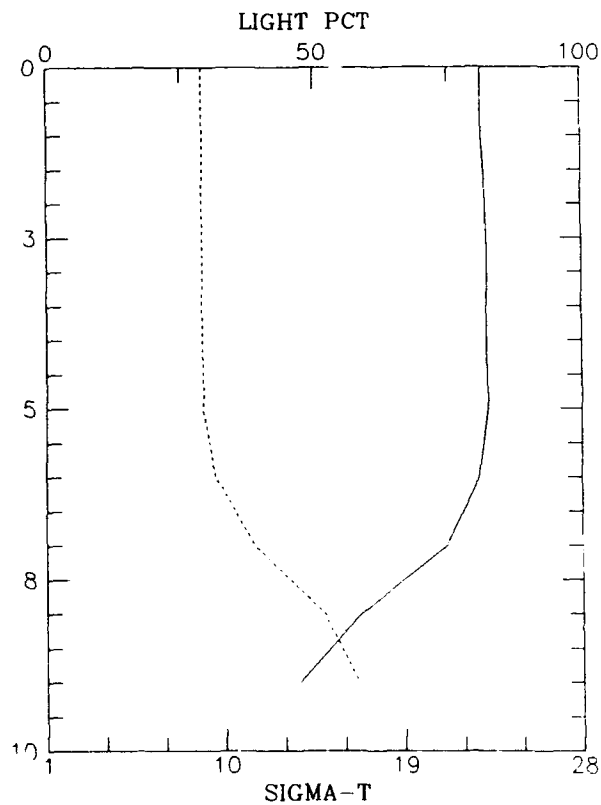
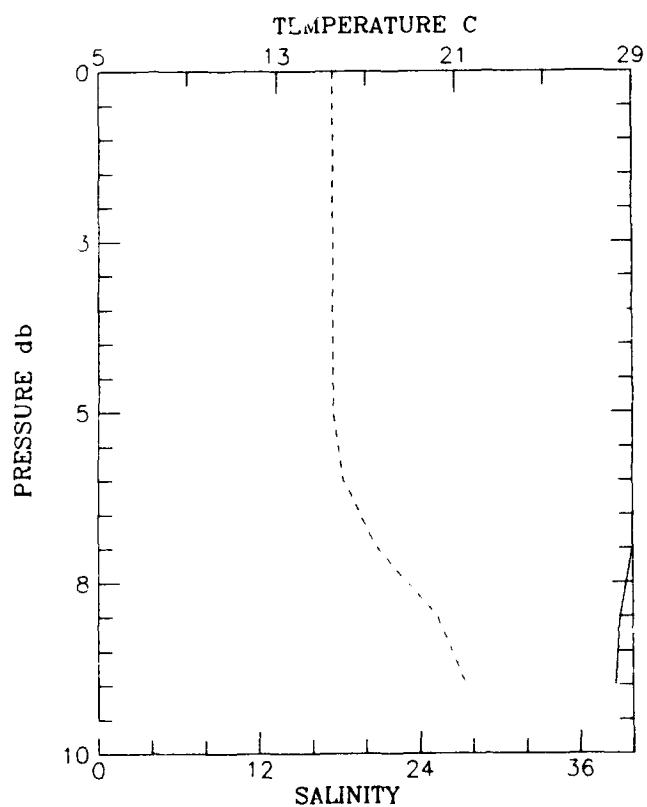
Cruise 18909 Consecutive Station # 46 Depth m:14 Time: 1989-08-09 13:12
 Position: 2° 47.70'N 50° 26.55'W Depth Deck Offset: 0.20 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.393	15.073	7.365	0.0000	0.000	69.0	66.7
1.0		28.393	15.073	7.365	0.0201	0.000	69.0	66.7
2.0		28.390	15.073	7.366	0.0401	0.000	69.2	67.1
3.0		28.363	15.074	7.376	0.0602	0.000	69.6	67.5
4.0		28.311	15.107	7.416	0.0802	0.000	70.5	66.6
5.0		28.338	15.092	7.396	0.1002	0.000	70.2	66.8
6.0		28.283	15.132	7.443	0.1202	0.000	73.3	67.7
7.0		28.261	15.189	7.492	0.1402	0.000	74.3	70.3
8.0		28.300	15.406	7.642	0.1600	0.000	69.6	68.7
9.0		28.332	15.824	7.944	0.1797	0.000	54.9	52.8
10.0		28.351	15.992	8.063	0.1991	0.000	48.1	46.1
11.0		28.399	16.795	8.647	0.2182	0.000	46.6	40.4
12.0		28.450	18.107	9.609	0.2365	0.000	32.5	36.4
13.0		28.472	19.873	10.919	0.2537	0.000	0.2	1.7



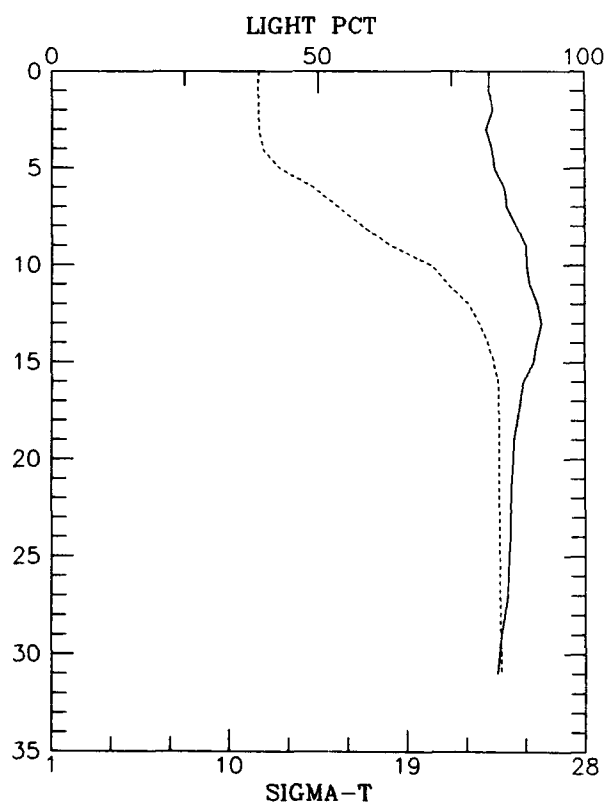
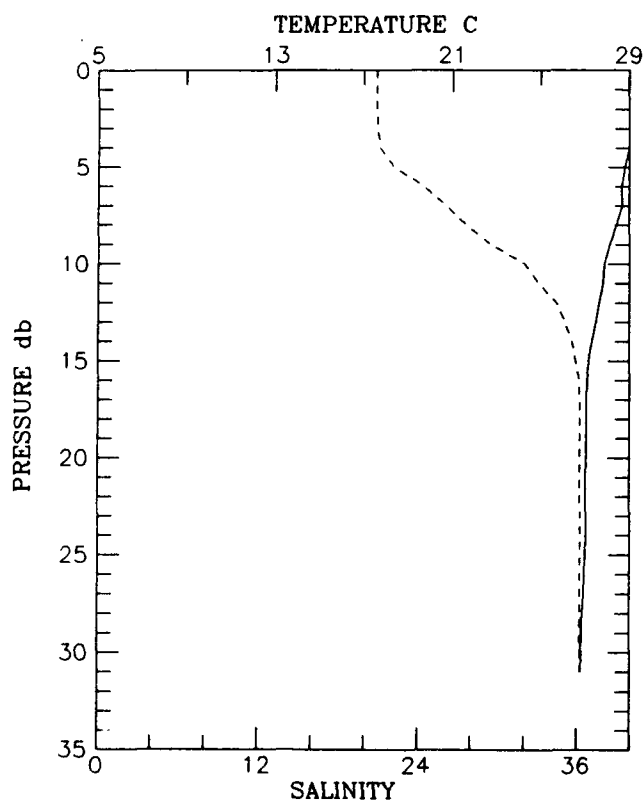
Cruise 18909 Consecutive Station # 47 Depth m:11 Time: 1989-08-09 19:38
 Position: 4° 0.50'N 50° 57.90'W Depth Deck Offset: 0.60 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.375	17.524	8.885	0.0000	0.000	84.1	81.3
1.0	29.375	17.524	8.885	0.0186	0.000	84.1	81.3
2.0	29.375	17.525	8.886	0.0371	0.000	84.4	82.2
3.0	29.375	17.526	8.886	0.0557	0.000	84.5	82.3
4.0	29.374	17.525	8.886	0.0742	0.000	84.7	82.1
5.0	29.355	17.533	8.898	0.0928	0.000	85.4	82.4
6.0	29.252	18.342	9.533	0.1110	0.000	82.9	80.7
7.0	28.957	20.853	11.497	0.1280	0.000	76.5	74.7
8.0	28.404	25.308	15.000	0.1423	0.000	55.0	58.5
9.0	28.202	27.478	16.688	0.1541	0.000	42.0	47.1



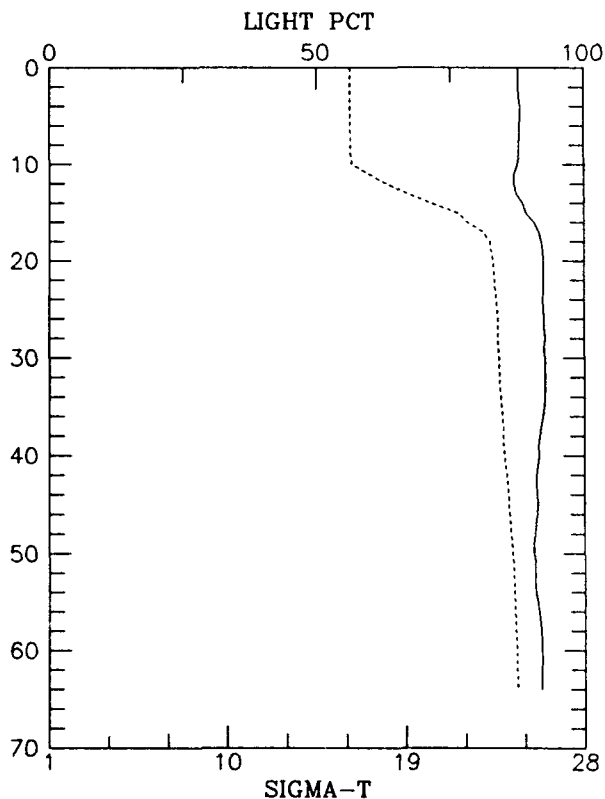
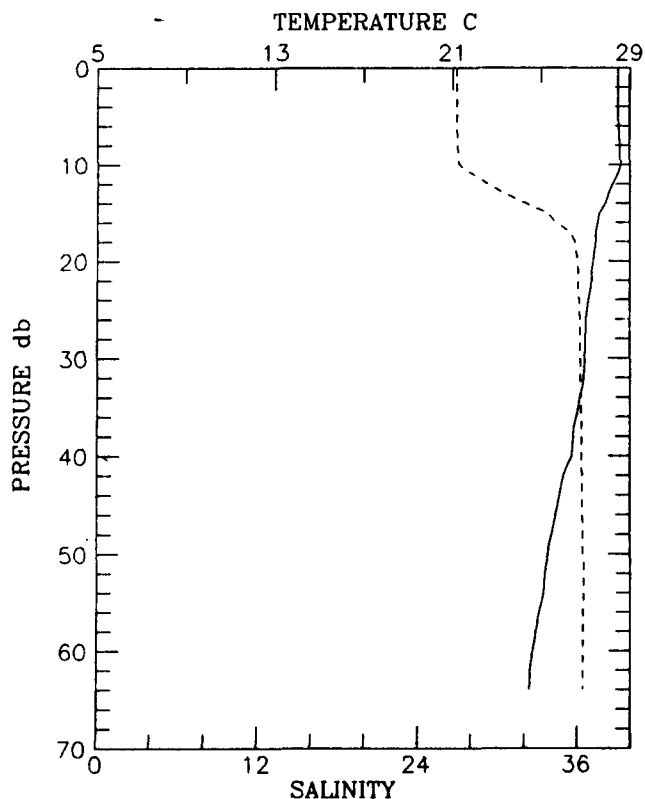
Cruise 18909 Consecutive Station # 48 Depth m:33 Time: 1989-08-09 21:04
 Position: 4° 14.40'N 50° 49.40'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.141	20.944	11.507	0.0000	0.000	84.6	82.0
2.0	29.145	20.934	11.498	0.0320	0.000	85.1	82.6
4.0	28.984	21.176	11.730	0.0639	0.000	85.1	82.5
6.0	28.628	24.464	14.297	0.0933	0.000	88.7	84.8
8.0	28.404	27.666	16.764	0.1175	0.000	90.7	87.3
10.0	27.842	32.064	20.242	0.1362	0.000	92.8	89.1
12.0	27.627	34.493	22.137	0.1495	0.000	94.4	91.1
14.0	27.294	35.634	23.104	0.1600	0.000	93.4	91.0
16.0	27.064	36.183	23.591	0.1691	0.000	90.6	88.3
18.0	27.033	36.221	23.630	0.1777	0.000	89.5	87.2
20.0	27.024	36.226	23.636	0.1863	0.000	89.0	86.5
22.0	27.014	36.228	23.641	0.1948	0.000	88.6	86.1
24.0	27.001	36.219	23.638	0.2034	0.000	88.4	85.9
26.0	26.954	36.242	23.671	0.2119	0.000	88.0	85.6
28.0	26.856	36.258	23.714	0.2204	0.000	87.4	84.9
30.0	26.798	36.267	23.740	0.2288	0.000	86.2	83.8
31.0	26.783	36.268	23.745	0.2330	0.000	85.9	83.5



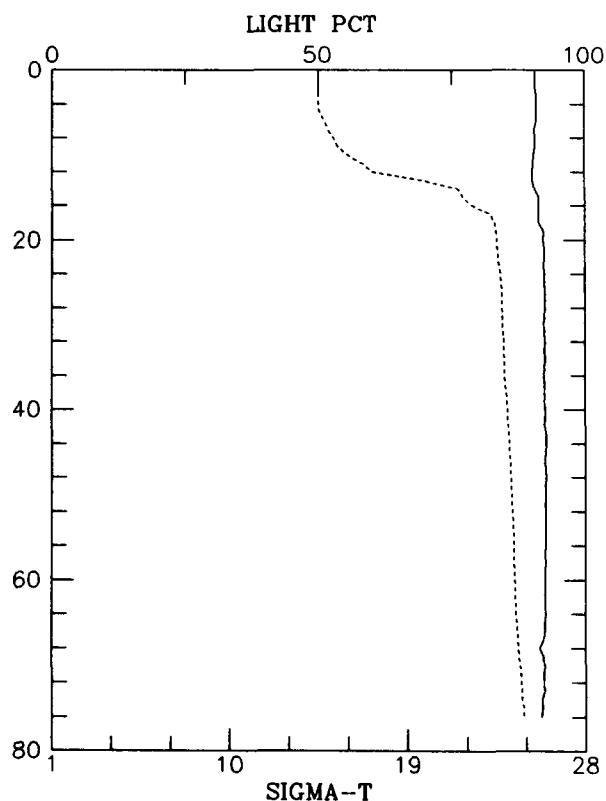
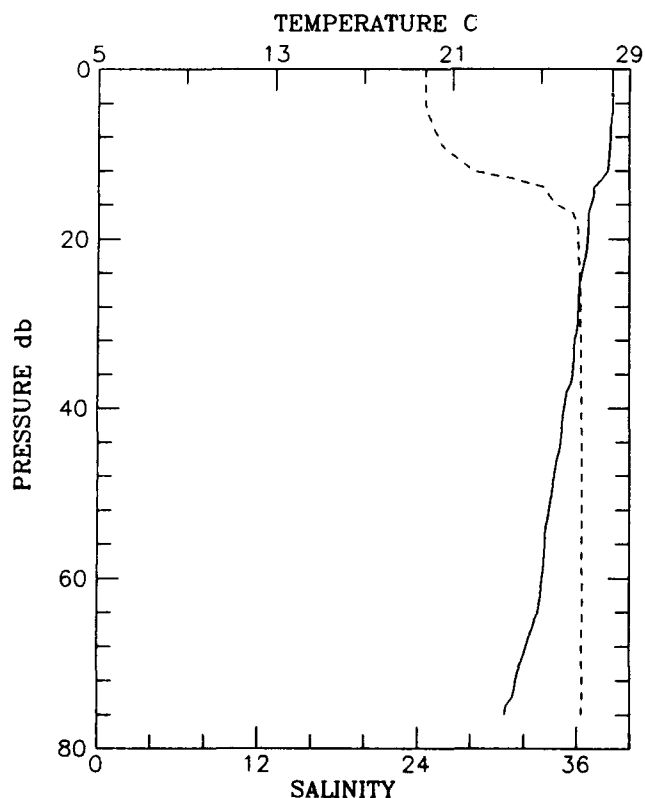
Cruise 18909 Consecutive Station # 49 Depth m:72 Time: 1989-08-10 00:28
 Position: 4° 20.10'N 50° 42.40'W Depth Deck Offset: -0.10 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.469	26.950	16.207	0.0000	0.000	90.3	87.7
5.0		28.466	26.950	16.208	0.0571	0.000	90.5	88.1
10.0		28.583	27.109	16.289	0.1141	0.000	89.8	87.5
15.0		27.632	33.794	21.610	0.1591	0.000	92.7	143.4
20.0		27.328	36.036	23.395	0.1845	0.000	95.1	92.4
25.0		27.075	36.195	23.596	0.2066	0.000	95.2	92.4
30.0		26.947	36.239	23.671	0.2280	0.000	95.4	92.6
35.0		26.639	36.292	23.809	0.2491	0.000	95.0	92.5
40.0		26.359	36.344	23.937	0.2694	0.000	94.0	91.5
45.0		25.738	36.395	24.170	0.2887	0.000	93.3	91.2
50.0		25.284	36.450	24.352	0.3072	0.000	93.1	90.5
55.0		25.004	36.459	24.444	0.3251	0.000	94.0	91.1
60.0		24.605	36.433	24.547	0.3425	0.000	94.7	91.9
64.0		24.445	36.423	24.587	0.3562	0.000	94.5	91.9



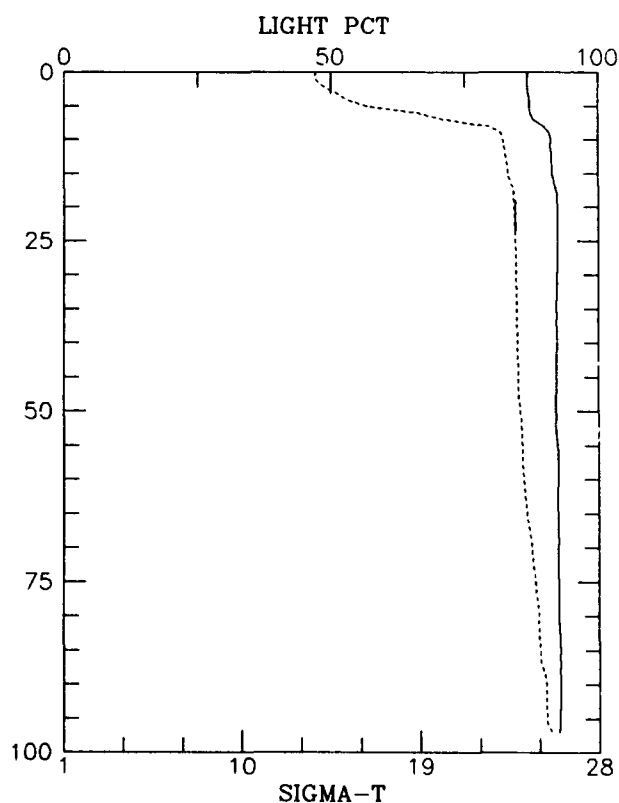
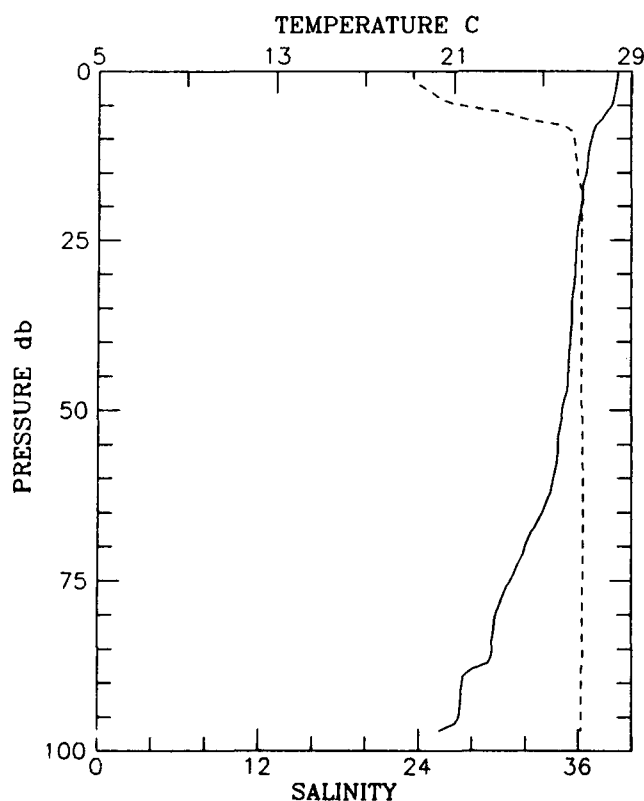
Cruise 18909 Consecutive Station # 50 Depth m:78 Time: 1989-08-10 02:13
 Position: 4° 28.20'N 50° 30.80'W Depth Deck Offset: 0.30 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.225	24.577	14.510	0.0000	0.000	93.4	90.7
5.0	28.222	24.636	14.555	0.0653	0.000	93.5	90.9
10.0	28.090	26.489	15.983	0.1274	0.000	92.9	90.4
15.0	27.341	33.913	21.793	0.1719	0.000	94.0	91.2
20.0	27.101	36.096	23.514	0.1963	0.000	94.8	92.1
25.0	26.758	36.257	23.745	0.2178	0.000	95.2	92.4
30.0	26.641	36.300	23.814	0.2385	0.000	95.1	92.2
35.0	26.449	36.333	23.900	0.2589	0.000	95.2	92.4
40.0	26.050	36.381	24.062	0.2787	0.000	94.7	92.5
45.0	25.827	36.396	24.143	0.2980	0.000	95.1	92.5
50.0	25.488	36.400	24.251	0.3168	0.000	95.2	92.5
55.0	25.185	36.404	24.348	0.3351	0.000	95.3	92.5
60.0	25.029	36.422	24.409	0.3531	0.000	95.3	92.4
65.0	24.715	36.417	24.501	0.3708	0.000	95.1	92.3
70.0	24.076	36.378	24.664	0.3879	0.000	94.9	92.2
75.0	23.386	36.358	24.853	0.4041	0.000	94.3	91.9
76.0	23.344	36.343	24.854	0.4073	0.000	94.0	91.6



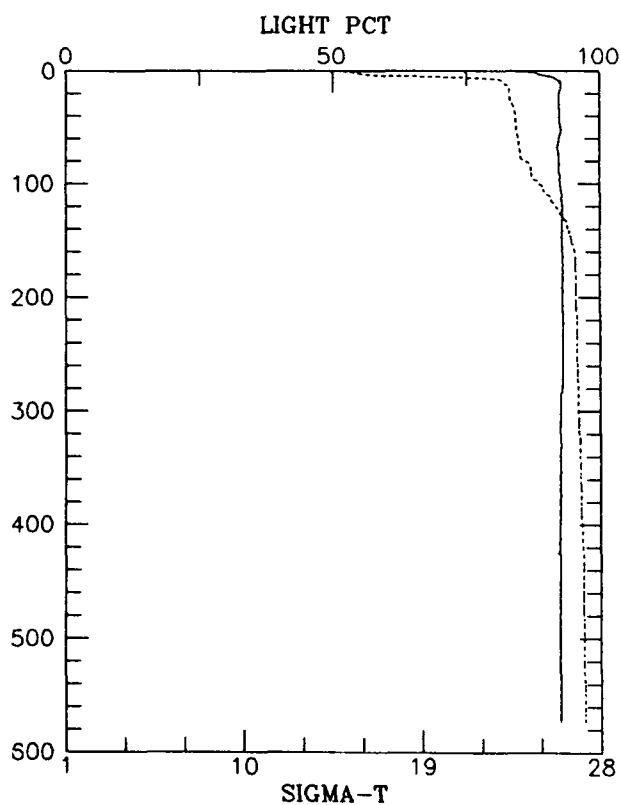
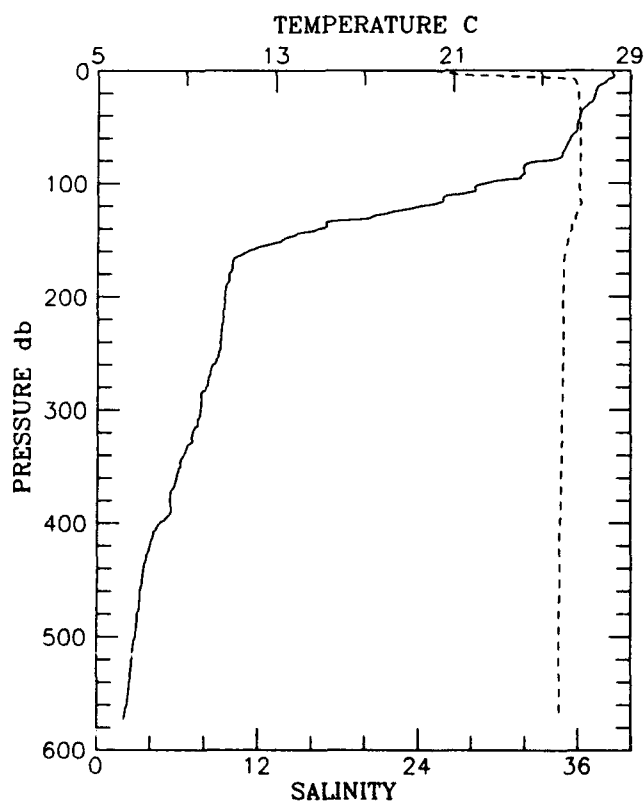
Cruise 18909 Consecutive Station # 51 Depth m:97 Time: 1989-08-10 05:18
 Position: 4° 39.50'N 50° 23.00'W Depth Deck Offset: 0.30 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.372	23.571	13.712	0.0000	0.000	89.3
5.0		28.112	26.880	16.269	0.0651	0.000	89.4
10.0		27.202	35.697	23.180	0.0996	0.000	93.9
15.0		26.965	35.954	23.450	0.1225	0.000	94.2
20.0		26.721	36.237	23.741	0.1437	0.000	95.1
25.0		26.520	36.249	23.814	0.1645	0.000	95.1
30.0		26.444	36.247	23.837	0.1850	0.000	94.8
35.0		26.306	36.251	23.883	0.2054	0.000	94.9
40.0		26.247	36.251	23.901	0.2257	0.000	94.9
45.0		26.142	36.253	23.936	0.2459	0.000	94.7
50.0		25.871	36.278	24.040	0.2657	0.000	94.8
55.0		25.667	36.298	24.119	0.2851	0.000	95.0
60.0		25.467	36.332	24.206	0.3042	0.000	95.0
65.0		24.957	36.333	24.364	0.3227	0.000	95.1
70.0		24.195	36.344	24.603	0.3402	0.000	95.2
75.0		23.541	36.316	24.776	0.3567	0.000	95.3
80.0		22.879	36.296	24.953	0.3724	0.000	95.3
85.0		22.688	36.285	25.000	0.3876	0.000	95.4
90.0		21.342	36.184	25.303	0.4020	0.000	95.5
95.0		21.222	36.174	25.328	0.4156	0.000	95.4
97.0		20.322	36.198	25.591	0.4208	0.000	95.3



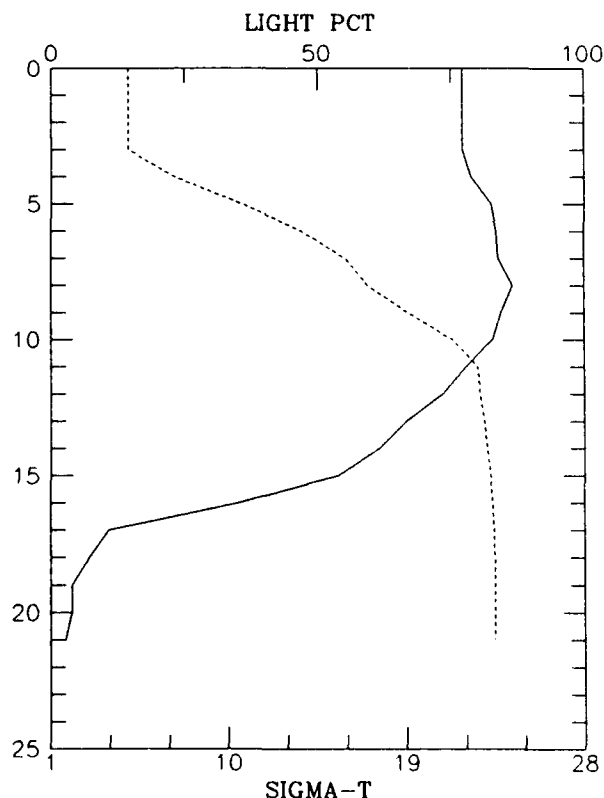
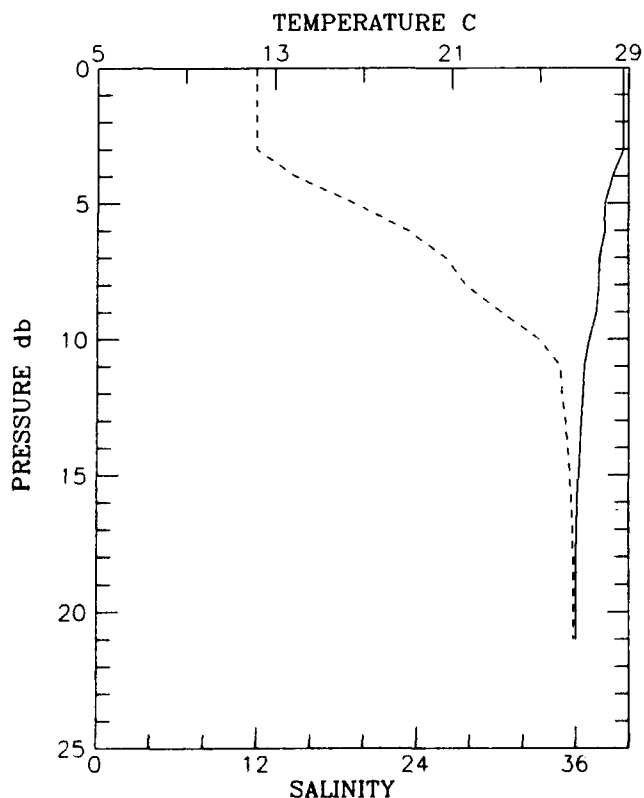
Cruise 18909 Consecutive Station # 52 Depth m:580 Time: 1989-08-10 07:06
 Position: 4° 51.30'N 50° 13.50'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	28.171	25.238	15.021	0.0000	0.000	90.5	83.2
50.0	26.606	36.226	23.770	0.2584	0.000	95.6	92.7
100.0	22.529	36.147	24.941	0.4483	0.000	95.6	92.6
150.0	13.272	35.281	26.556	0.5571	0.000	95.6	92.8
200.0	10.720	34.957	26.793	0.6254	3.251	95.8	92.9
250.0	10.432	34.933	26.825	0.6913	3.209	95.7	92.9
300.0	9.644	34.856	26.892	0.7534	3.051	0.1	92.6
350.0	8.720	34.764	26.978	0.8138	3.010	0.1	92.5
400.0	7.821	34.690	27.057	0.8711	2.938	0.1	92.4
450.0	7.026	34.623	27.119	0.9243	2.923	0.1	92.4
500.0	6.729	34.598	27.140	0.9761	2.939	0.1	92.3
550.0	6.416	34.577	27.165	1.0270	2.921	0.1	92.2
573.0	6.225	34.571	27.185	1.0500	2.892	0.1	92.3



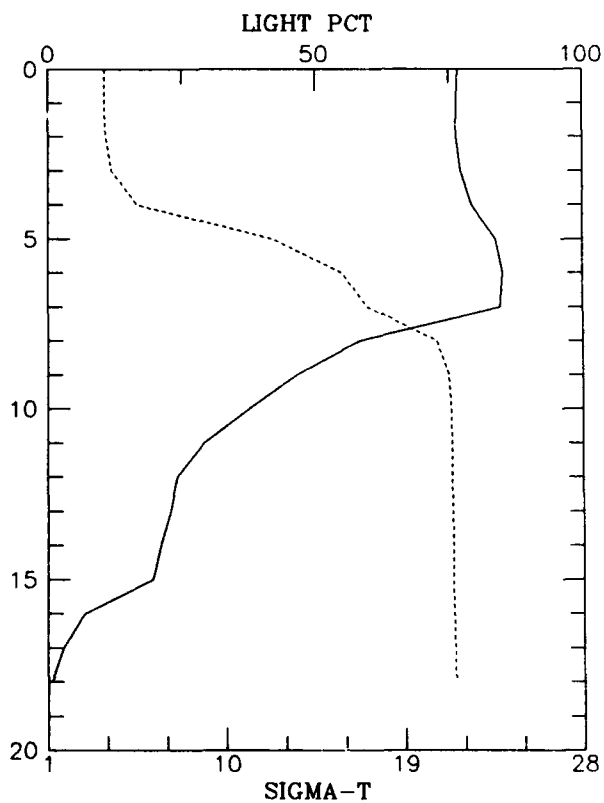
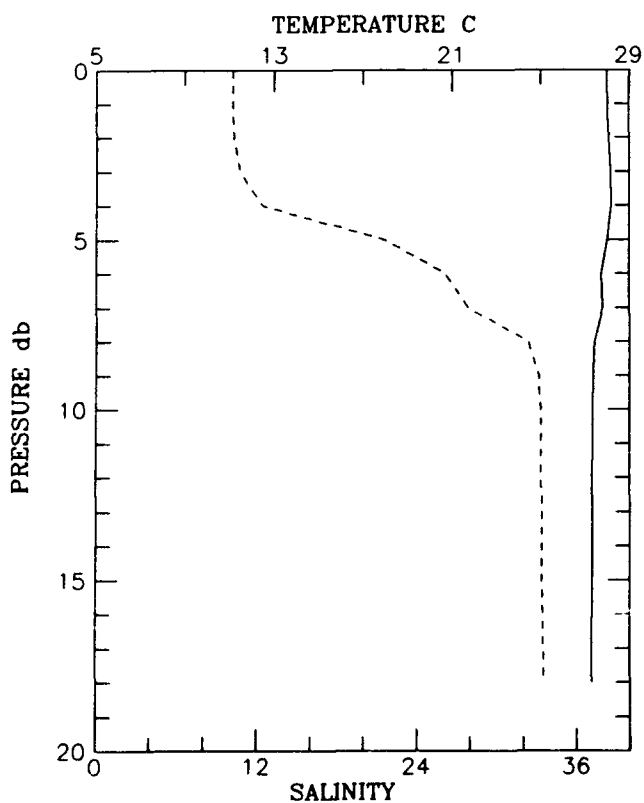
Cruise 18909 Consecutive Station # 53 Depth m:22 Time: 1989-08-10 23:52
 Position: 3° 9.60'N 50° 6.98'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.748	11.946	4.929	0.0000	0.000	78.9	77.2
1.0	E 28.747	11.946	4.929	0.0225	0.000	78.9	77.2
2.0	E 28.747	11.946	4.929	0.0449	0.000	78.9	77.2
3.0	28.747	11.946	4.929	0.0674	0.000	78.9	77.2
4.0	28.270	14.852	7.239	0.0887	0.000	81.3	78.8
5.0	27.916	19.338	10.692	0.1072	0.000	87.0	82.5
6.0	27.933	23.408	13.728	0.1225	0.000	85.3	83.5
7.0	27.681	26.258	15.939	0.1353	0.000	85.1	83.9
8.0	27.642	27.716	17.044	0.1464	0.000	85.4	86.5
9.0	27.520	30.409	19.102	0.1560	0.000	85.8	84.3
10.0	27.210	33.235	21.325	0.1636	0.000	83.6	82.8
11.0	26.974	34.834	22.603	0.1695	0.000	78.2	77.8
12.0	26.921	34.958	22.714	0.1747	0.000	74.2	73.4
13.0	26.836	35.215	22.934	0.1798	0.000	66.4	66.6
14.0	26.780	35.376	23.074	0.1846	0.000	61.9	61.5
15.0	26.707	35.551	23.228	0.1894	0.000	55.8	53.8
16.0	26.656	35.666	23.331	0.1940	0.000	35.7	35.2
17.0	26.614	35.753	23.410	0.1986	0.000	9.2	10.8
18.0	26.601	35.779	23.434	0.2030	0.000	5.5	7.2
19.0	26.598	35.784	23.438	0.2075	0.000	4.1	3.9
20.0	26.597	35.785	23.439	0.2120	0.000	3.1	4.0
21.0	26.594	35.788	23.442	0.2165	0.000	2.4	2.7



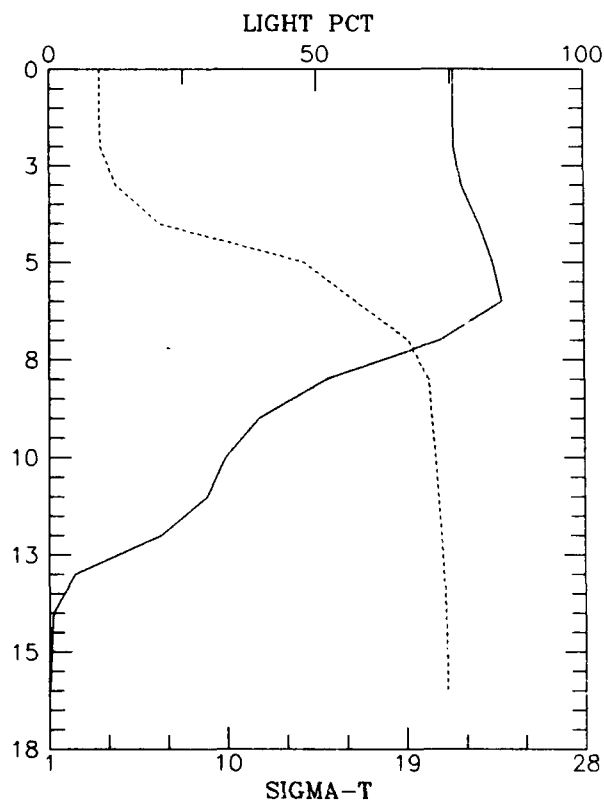
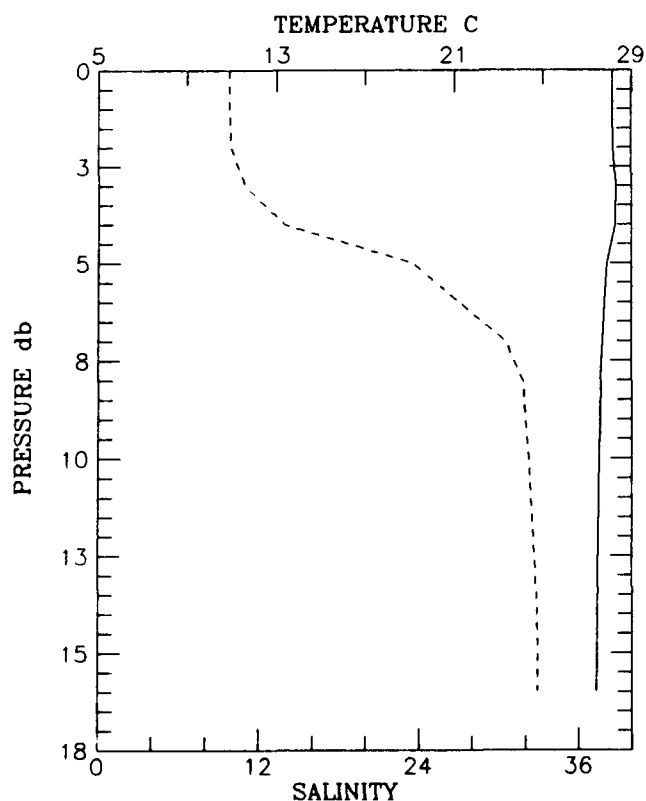
Cruise 18909 Consecutive Station # 54 Depth m:19 Time: 1989-08-11 06:12
 Position: 3° 2.80'N 50° 16.60'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	28.007	10.229	3.873	0.0000	0.000	77.9	76.7
1.0	28.020	10.226	3.867	0.0235	0.000	78.0	76.5
2.0	28.062	10.295	3.906	0.0470	0.000	77.9	76.4
3.0	28.153	10.742	4.212	0.0703	0.000	78.8	77.2
4.0	28.167	12.488	5.508	0.0929	0.000	81.2	79.3
5.0	27.997	21.586	12.346	0.1114	0.000	85.4	83.7
6.0	27.746	26.187	15.865	0.1249	0.000	86.6	85.0
7.0	27.779	27.897	17.136	0.1360	0.000	85.2	84.6
8.0	27.403	32.371	20.613	0.1449	0.000	55.5	58.2
9.0	27.340	33.160	21.227	0.1517	0.000	44.5	46.5
10.0	27.316	33.309	21.346	0.1583	0.000	35.2	37.6
11.0	27.312	33.349	21.378	0.1647	0.000	26.5	29.2
12.0	27.310	33.359	21.386	0.1712	0.000	22.8	24.2
13.0	27.307	33.369	21.394	0.1776	0.000	20.7	22.9
14.0	27.305	33.379	21.403	0.1840	0.000	18.2	21.0
15.0	27.303	33.385	21.408	0.1904	0.000	15.7	19.6
16.0	27.287	33.455	21.466	0.1968	0.000	6.2	6.8
17.0	27.276	33.502	21.504	0.2032	0.000	2.6	2.9
18.0	27.265	33.548	21.543	0.2095	0.000	0.7	0.6



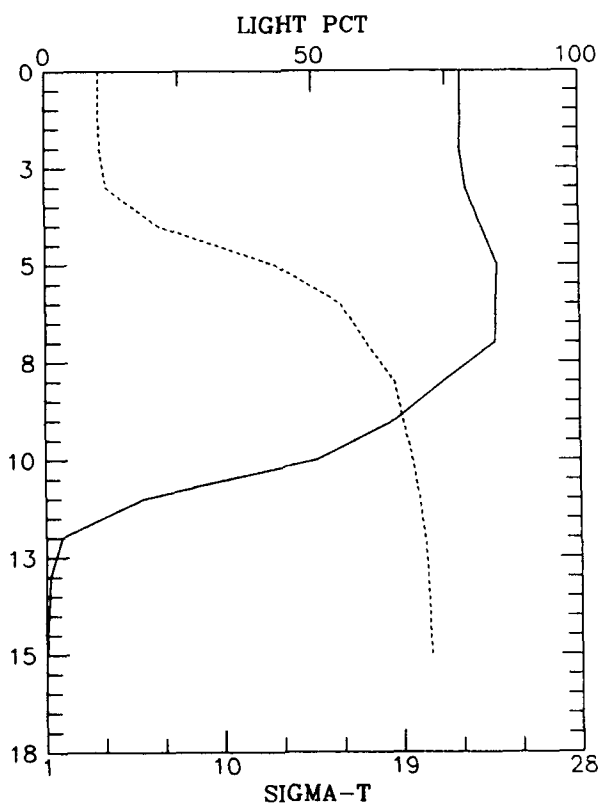
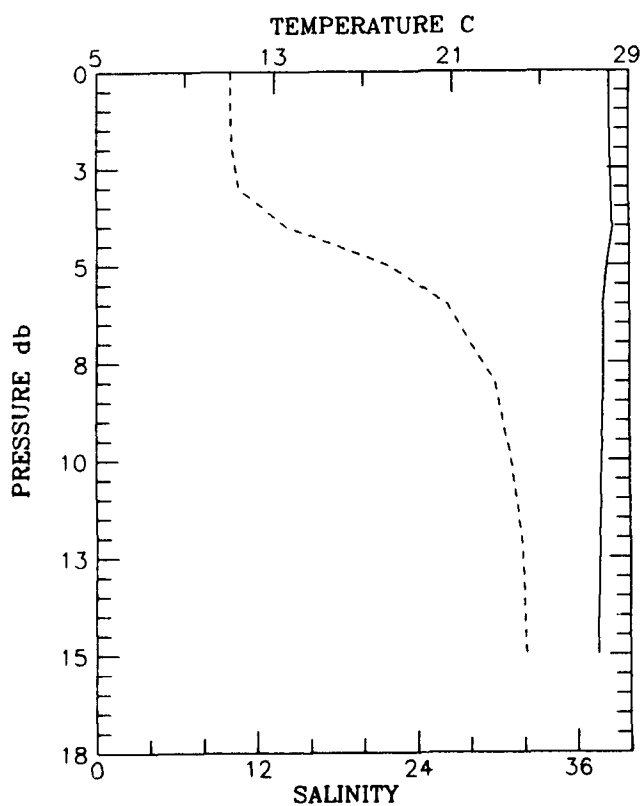
Cruise 18909 Consecutive Station # 55 Depth m:18 Time: 1989-08-11 07:11
 Position: 3° 0.60'N 50° 17.10'W Depth Deck Offset: 0.20 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.143	9.823	3.530	0.0000	0.000	78.2	75.6
1.0		28.143	9.823	3.530	0.0239	0.000	78.2	75.6
2.0		28.182	9.939	3.605	0.0477	0.000	78.3	75.7
3.0		28.289	10.984	4.351	0.0711	0.000	80.2	77.1
4.0		28.254	13.955	6.575	0.0930	0.000	84.1	80.4
5.0		27.874	23.574	13.870	0.1103	0.000	82.1	82.9
6.0		27.765	27.016	16.480	0.1227	0.000	87.3	84.6
7.0		27.668	30.525	19.142	0.1326	0.000	71.3	73.1
8.0		27.584	31.808	20.132	0.1407	0.000	51.7	51.9
9.0		27.573	32.011	20.289	0.1482	0.000	40.4	39.2
10.0		27.532	32.242	20.475	0.1556	0.000	34.9	32.9
11.0		27.497	32.419	20.619	0.1629	0.000	34.0	29.5
12.0		27.463	32.594	20.762	0.1700	0.000	20.6	20.9
13.0		27.431	32.750	20.889	0.1770	0.000	5.6	4.8
14.0		27.413	32.844	20.966	0.1838	0.000	0.7	0.7
15.0		27.403	32.895	21.007	0.1907	0.000	0.3	0.3
16.0		27.398	32.916	21.025	0.1974	0.000	0.2	0.1



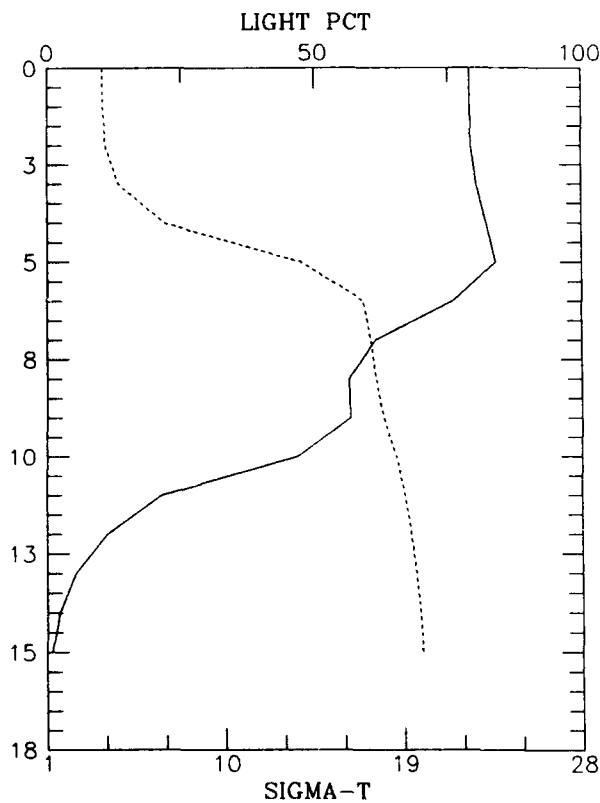
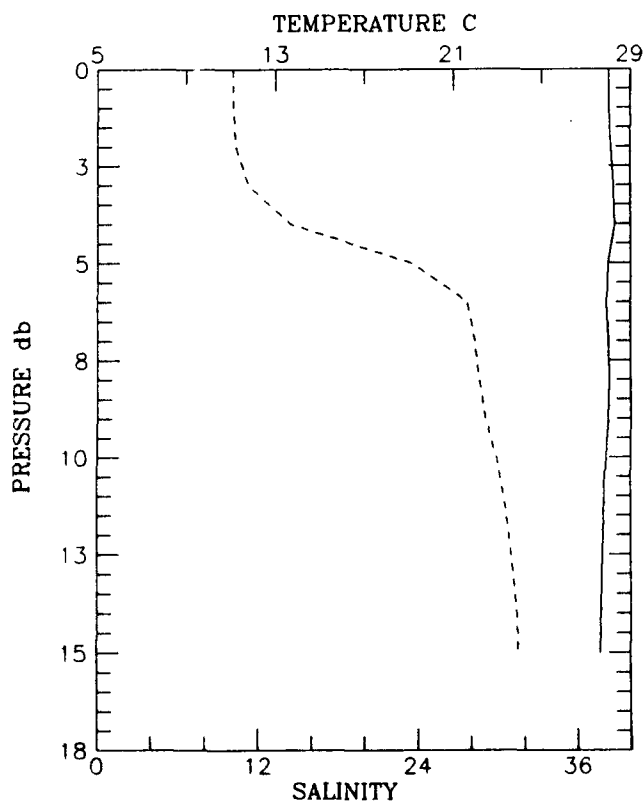
Cruise 18909 Consecutive Station # 56 Depth m:17 Time: 1989-08-11 08:13
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.100	10.066	3.724	0.0000	0.000	80.0	77.9
1.0	28.099	10.066	3.724	0.0237	0.000	80.0	77.9
2.0	28.130	10.181	3.801	0.0473	0.000	79.9	77.8
3.0	28.201	10.665	4.140	0.0707	0.000	81.0	78.9
4.0	28.211	14.186	6.760	0.0926	0.000	83.8	81.6
5.0	27.981	21.934	12.611	0.1104	0.000	86.2	84.6
6.0	27.792	26.292	15.930	0.1237	0.000	86.8	84.4
7.0	27.797	27.988	17.199	0.1348	0.000	86.0	84.1
8.0	27.778	29.880	18.623	0.1446	0.000	75.5	74.4
9.0	27.768	30.479	19.076	0.1535	0.000	66.0	65.3
10.0	27.717	31.059	19.528	0.1619	0.000	50.0	50.8
11.0	27.661	31.473	19.856	0.1700	0.000	16.2	18.2
12.0	27.605	31.795	20.116	0.1777	0.000	2.0	2.8
13.0	27.576	31.957	20.247	0.1853	0.000	0.7	0.6
14.0	27.556	32.066	20.335	0.1928	0.000	0.3	0.4
15.0	27.539	32.150	20.404	0.2002	0.000	0.2	0.1



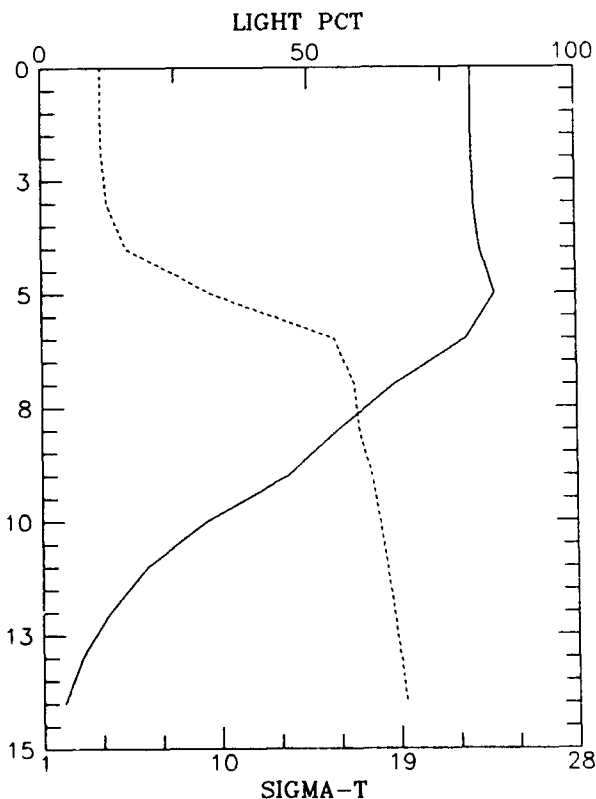
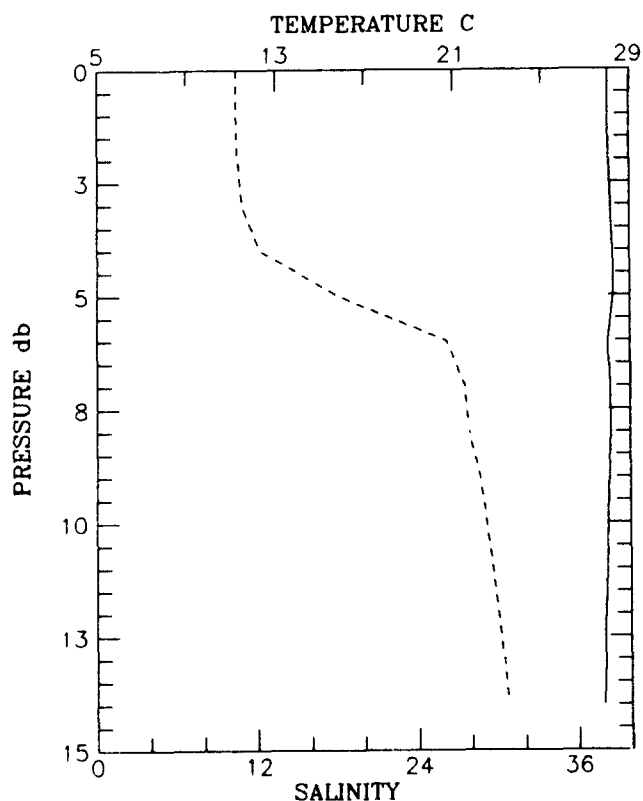
Cruise 18909 Consecutive Station # 57 Depth m:17 Time: 1989-08-11 09:08
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.00 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.024	10.148	3.808	0.0000	0.000	81.2	79.1
1.0	28.024	10.148	3.808	0.0236	0.000	81.2	79.1
2.0	28.102	10.379	3.957	0.0471	0.000	81.3	79.4
3.0	28.226	11.300	4.606	0.0702	0.000	82.8	80.4
4.0	28.279	14.471	6.952	0.0918	0.000	84.3	82.1
5.0	27.950	23.568	13.842	0.1089	0.000	86.6	83.9
6.0	27.910	27.753	16.987	0.1211	0.000	75.6	75.9
7.0	27.997	28.281	17.354	0.1316	0.000	63.3	61.4
8.0	28.016	28.606	17.592	0.1418	0.000	58.0	56.4
9.0	27.963	29.084	17.967	0.1517	0.000	58.7	56.7
10.0	27.868	29.915	18.621	0.1611	0.000	47.0	46.9
11.0	27.801	30.482	19.068	0.1700	0.000	21.0	21.4
12.0	27.737	30.844	19.360	0.1785	0.000	11.5	11.2
13.0	27.686	31.151	19.606	0.1867	0.000	3.0	5.3
14.0	27.655	31.413	19.813	0.1948	0.000	0.9	2.2
15.0	27.633	31.552	19.925	0.2027	0.000	0.4	0.9



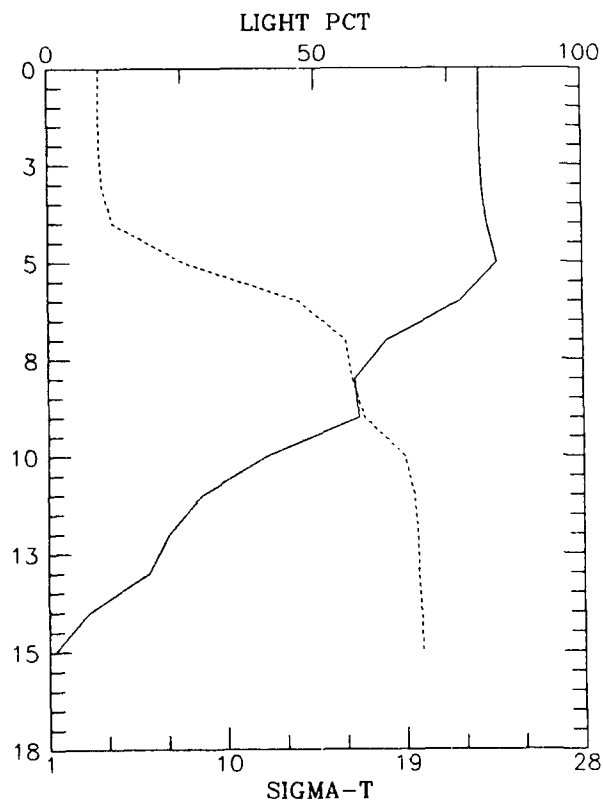
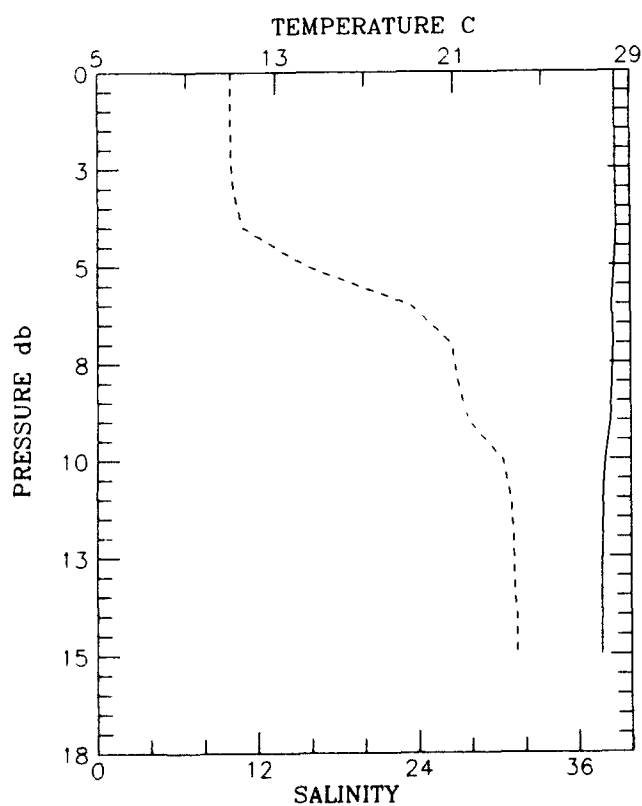
Cruise 18909 Consecutive Station # 58 Depth m:17 Time: 1989-08-11 09:57
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.30 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.026	10.453	4.035	0.0000	0.000	83.1	80.6
1.0		28.026	10.453	4.035	0.0233	0.000	83.1	80.6
2.0		28.055	10.538	4.089	0.0467	0.000	83.2	80.7
3.0		28.130	10.882	4.323	0.0699	0.000	83.5	80.9
4.0		28.231	12.240	5.305	0.0924	0.000	84.5	82.0
5.0		28.217	18.003	9.604	0.1124	0.000	87.2	84.7
6.0		27.994	26.216	15.809	0.1272	0.000	80.8	79.4
7.0		28.086	27.529	16.763	0.1386	0.000	66.8	65.8
8.0		28.122	27.882	17.016	0.1493	0.000	56.5	55.3
9.0		28.034	28.668	17.633	0.1597	0.000	43.5	46.0
10.0		27.970	29.178	18.035	0.1695	0.000	26.1	30.8
11.0		27.917	29.595	18.365	0.1790	0.000	12.9	19.4
12.0		27.860	30.032	18.711	0.1882	0.000	8.4	12.5
13.0		27.809	30.425	19.022	0.1971	0.000	7.2	7.2
14.0		27.761	30.755	19.285	0.2056	0.000	5.4	4.0



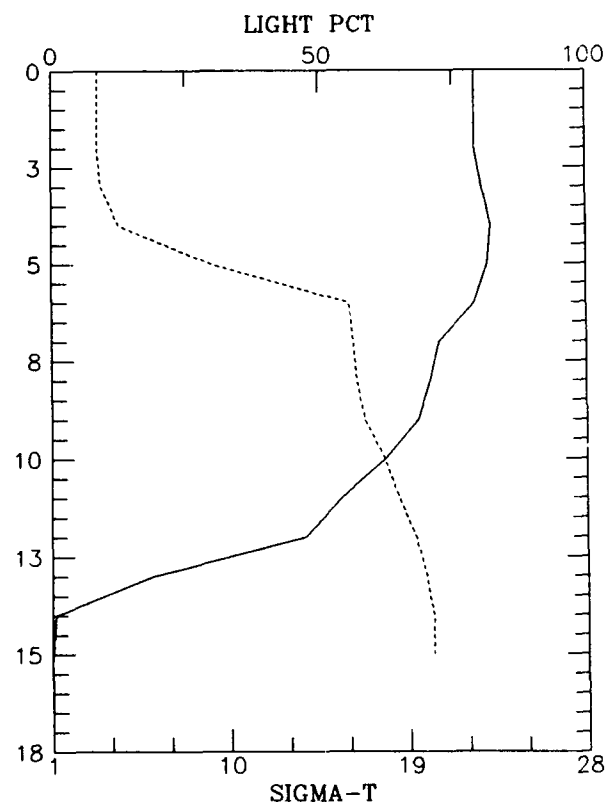
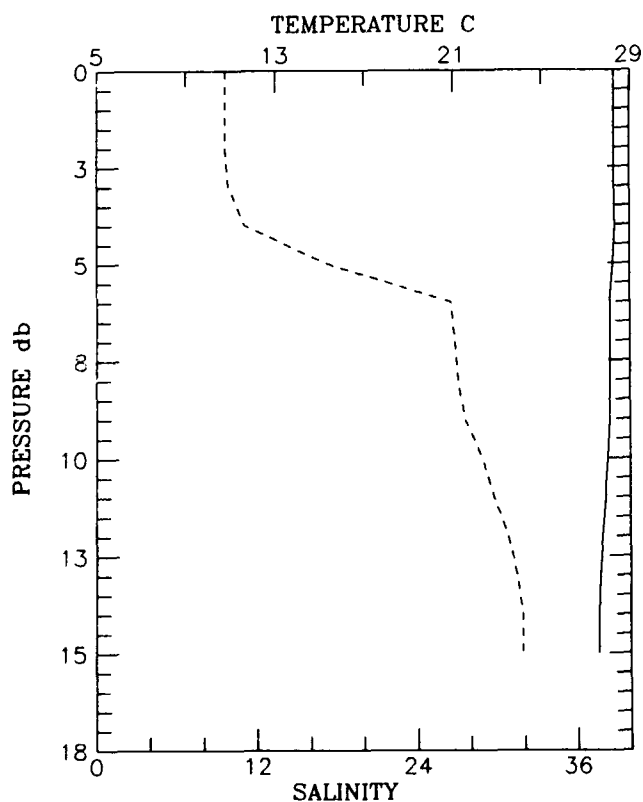
Cruise 18909 Consecutive Station # 59 Depth m:17 Time: 1989-08-11 11:08
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.40 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	28.329	9.987	3.597	0.0000	0.000	83.2	80.9
1.0	E	28.329	9.987	3.597	0.0238	0.000	83.2	80.9
2.0		28.329	9.987	3.597	0.0476	0.000	83.2	80.9
3.0		28.344	10.191	3.745	0.0713	0.000	83.9	81.3
4.0		28.344	10.901	4.273	0.0947	0.000	84.8	82.1
5.0		28.264	15.706	7.877	0.1160	0.000	85.5	84.0
6.0		28.127	23.444	13.694	0.1327	0.000	79.0	77.1
7.0		28.191	26.555	16.000	0.1454	0.000	63.9	63.2
8.0		28.151	27.017	16.359	0.1569	0.000	61.1	57.3
9.0		28.068	27.756	16.939	0.1679	0.000	59.8	58.0
10.0		27.822	30.362	18.971	0.1776	0.000	41.3	40.8
11.0		27.731	30.964	19.452	0.1861	0.000	29.5	28.7
12.0		27.697	31.147	19.600	0.1944	0.000	27.0	22.5
13.0		27.686	31.215	19.654	0.2025	0.000	20.8	18.7
14.0		27.666	31.371	19.778	0.2105	0.000	4.3	7.5
15.0		27.658	31.406	19.807	0.2185	0.000	1.0	1.0



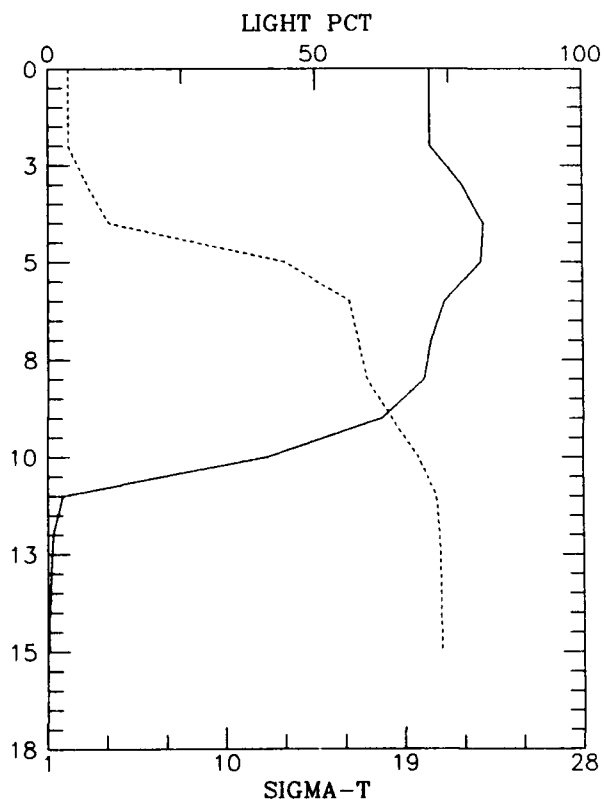
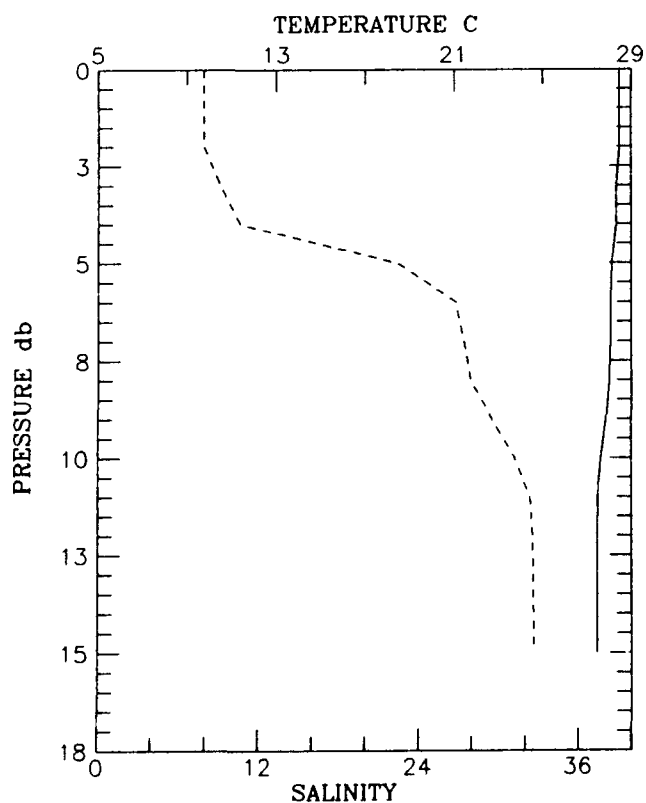
Cruise 18909 Consecutive Station # 60 Depth m:17 Time: 1989-08-11 12:10
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.30 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.278	9.601	3.325	0.0000	0.000	82.5	79.2
1.0	E	28.278	9.601	3.325	0.0241	0.000	82.5	79.2
2.0		28.277	9.601	3.325	0.0481	0.000	82.5	79.2
3.0		28.287	9.875	3.526	0.0721	0.000	83.2	80.6
4.0		28.311	11.055	4.398	0.0955	0.000	84.4	82.2
5.0		28.212	17.321	9.097	0.1162	0.000	83.4	81.6
6.0		28.095	26.515	16.001	0.1311	0.000	78.5	79.1
7.0		28.086	26.813	16.227	0.1427	0.000	75.8	72.5
8.0		28.088	27.061	16.412	0.1540	0.000	73.9	70.8
9.0		28.056	27.543	16.783	0.1650	0.000	71.3	68.4
10.0		27.971	28.850	17.789	0.1754	0.000	62.6	62.3
11.0		27.862	29.753	18.501	0.1849	0.000	55.4	54.1
12.0		27.734	30.819	19.342	0.1938	0.000	48.6	47.4
13.0		27.624	31.441	19.844	0.2019	0.000	14.5	18.8
14.0		27.571	31.882	20.192	0.2097	0.000	0.4	0.5
15.0		27.569	31.905	20.210	0.2172	0.000	0.2	0.1



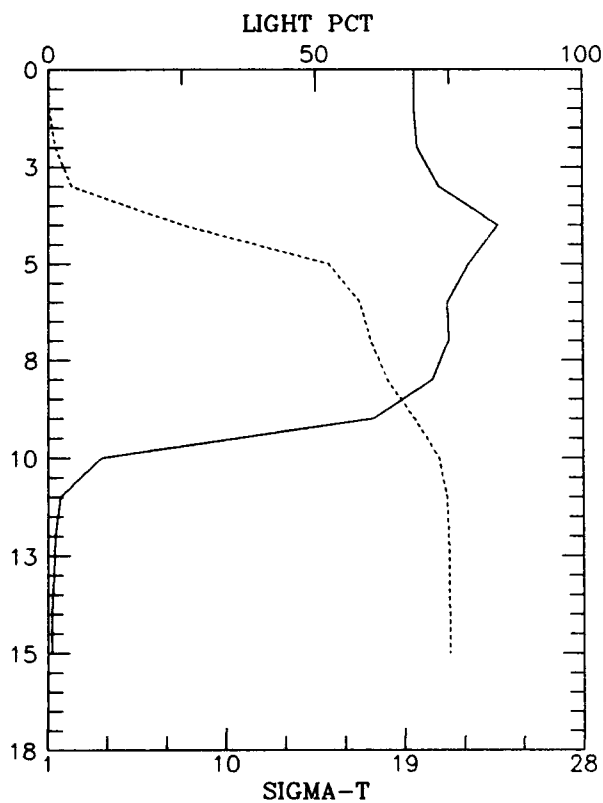
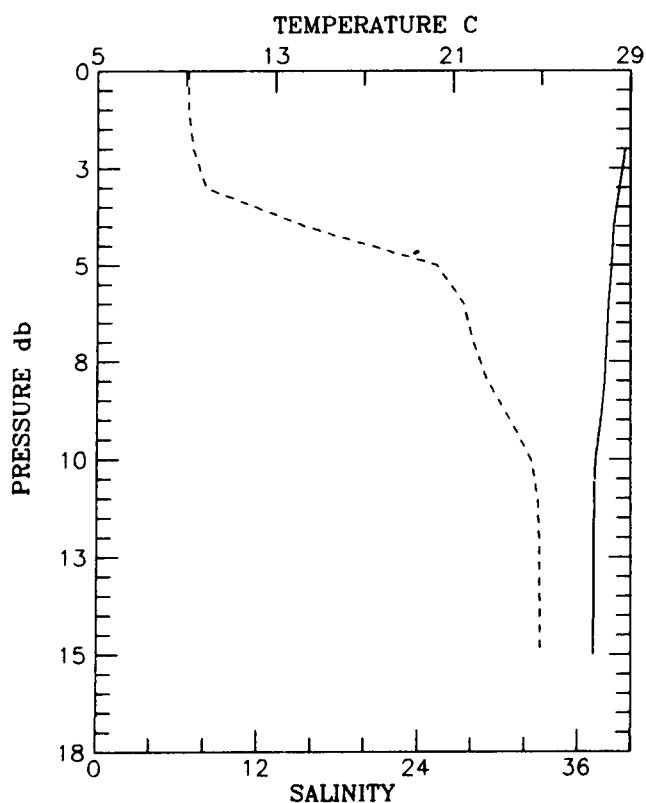
Cruise 18909 Consecutive Station # 61 Depth m:18 Time: 1989-08-11 13:08
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.50 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.468	7.921	2.017	0.0000	0.000	74.5	71.5
1.0	E 28.468	7.921	2.017	0.0254	0.000	74.5	71.5
2.0	28.467	7.921	2.017	0.0507	0.000	74.5	71.5
3.0	28.318	9.158	2.983	0.0756	0.000	79.7	77.5
4.0	28.312	10.660	4.104	0.0994	0.000	84.0	81.4
5.0	28.111	22.470	12.971	0.1183	0.000	83.2	80.9
6.0	28.065	26.809	16.231	0.1313	0.000	75.9	74.2
7.0	28.064	27.390	16.666	0.1425	0.000	72.9	71.6
8.0	27.986	27.916	17.085	0.1533	0.000	71.1	70.3
9.0	27.851	29.530	18.337	0.1633	0.000	63.5	62.4
10.0	27.616	31.224	19.684	0.1720	0.000	33.3	41.0
11.0	27.470	32.353	20.578	0.1796	0.000	2.0	2.7
12.0	27.442	32.550	20.736	0.1868	0.000	0.7	0.9
13.0	27.433	32.605	20.780	0.1938	0.000	0.5	0.5
14.0	27.428	32.637	20.805	0.2008	0.000	0.4	0.3
15.0	27.426	32.649	20.815	0.2078	0.000	0.3	0.2



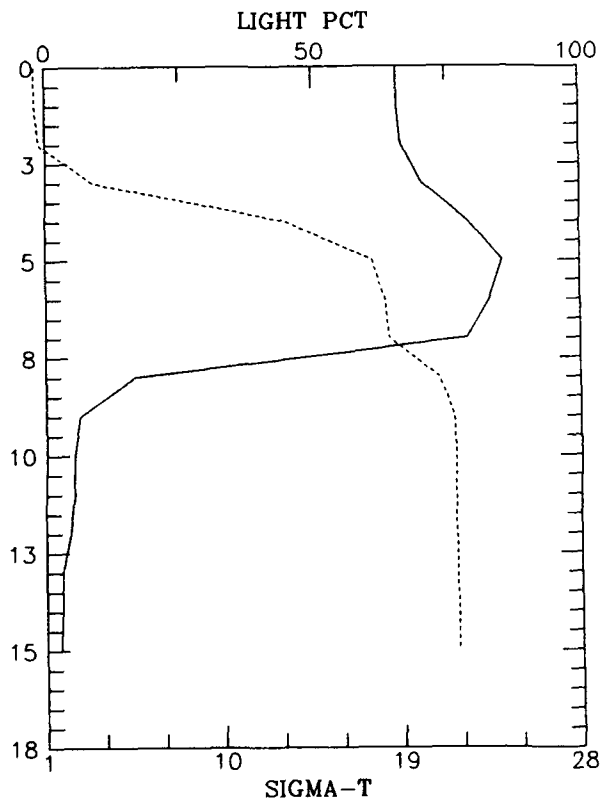
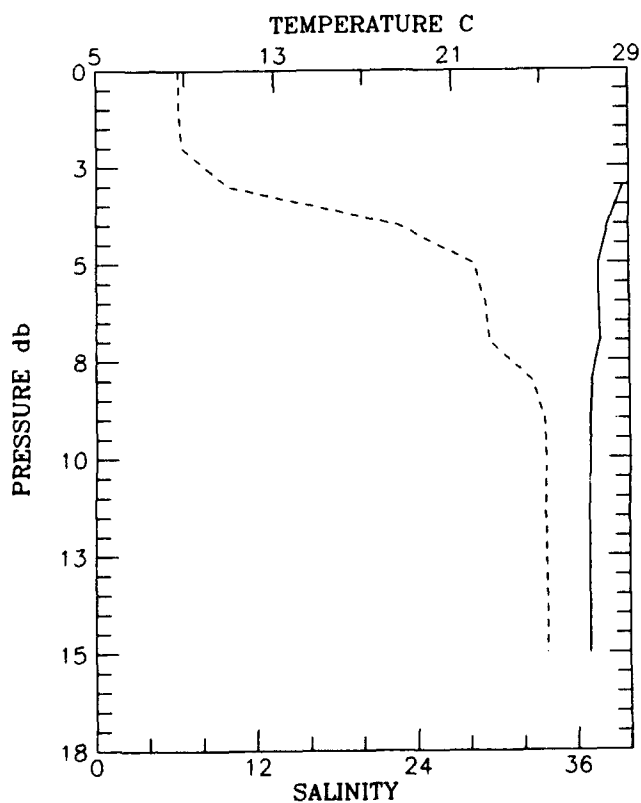
Cruise 18909 Consecutive Station # 62 Depth m: 8 Time: 1989-08-11 14:05
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.039	6.799	1.011	0.0000	0.000	70.6	68.4
1.0	29.039	6.798	1.011	0.0264	0.000	70.6	68.4
2.0	28.738	7.131	1.348	0.0525	0.000	72.0	69.0
3.0	28.476	8.129	2.169	0.0782	0.000	76.2	73.0
4.0	28.239	15.640	7.835	0.1006	0.000	80.9	84.1
5.0	28.131	25.450	15.192	0.1166	0.000	78.9	78.7
6.0	27.989	27.469	16.749	0.1282	0.000	76.7	74.7
7.0	27.921	28.168	17.294	0.1388	0.000	76.7	74.9
8.0	27.832	29.223	18.113	0.1488	0.000	73.2	71.8
9.0	27.641	30.963	19.480	0.1577	0.000	53.9	60.8
10.0	27.406	32.519	20.724	0.1654	0.000	10.4	9.9
11.0	27.339	33.014	21.117	0.1723	0.000	1.8	2.2
12.0	27.323	33.115	21.198	0.1789	0.000	1.0	1.3
13.0	27.320	33.135	21.214	0.1856	0.000	1.0	1.1
14.0	27.312	33.174	21.246	0.1921	0.000	0.7	0.7
15.0	27.308	33.202	21.268	0.1987	0.000	0.7	0.6



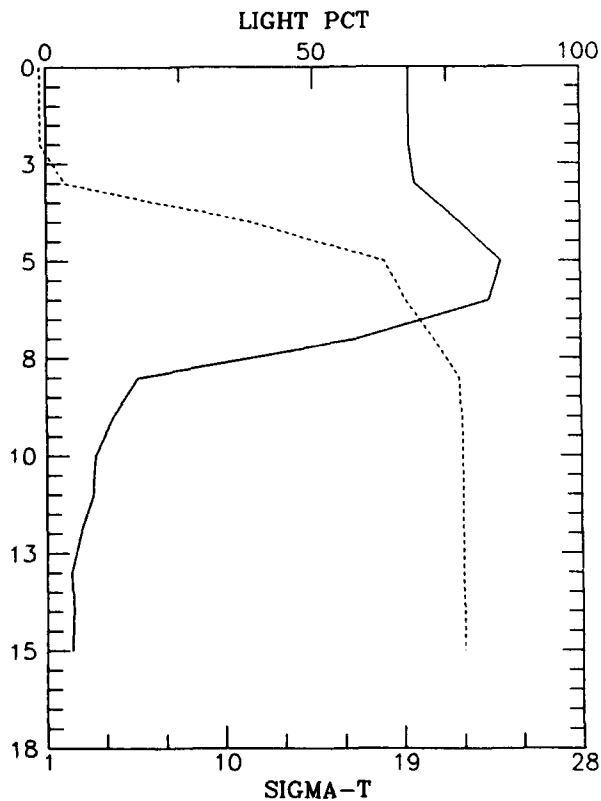
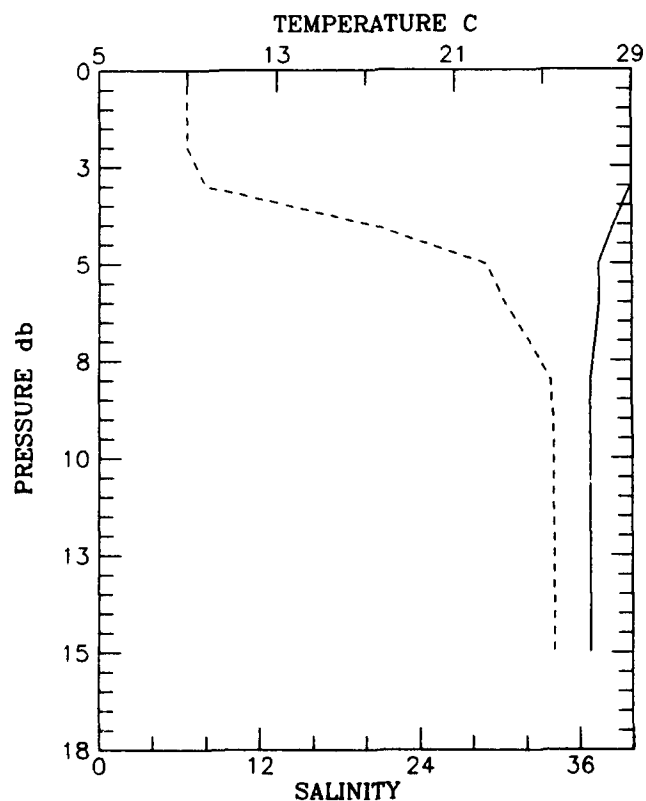
Cruise 18909 Consecutive Station # 63 Depth m:18 Time: 1989-08-11 15:08
 Position: 3° 3.59'N 50° 15.41'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.450	6.237	0.469	0.0000	0.000	68.0	65.9
1.0	29.449	6.237	0.469	0.0269	0.000	68.0	65.9
2.0	29.264	6.448	0.682	0.0537	0.000	68.5	66.6
3.0	28.723	9.889	3.406	0.0790	0.000	79.6	70.4
4.0	28.037	22.668	13.142	0.0982	0.000	77.3	79.1
5.0	27.619	28.354	17.529	0.1105	0.000	87.6	85.5
6.0	27.626	29.161	18.132	0.1203	0.000	84.7	83.0
7.0	27.664	29.477	18.357	0.1298	0.000	80.7	78.8
8.0	27.297	32.668	20.870	0.1379	0.000	12.8	16.5
9.0	27.208	33.587	21.590	0.1445	0.000	6.4	6.2
10.0	27.197	33.660	21.649	0.1507	0.000	4.9	5.2
11.0	27.193	33.678	21.663	0.1569	0.000	4.1	5.3
12.0	27.187	33.708	21.688	0.1631	0.000	3.7	4.4
13.0	27.180	33.755	21.726	0.1692	0.000	2.9	3.0
14.0	27.177	33.771	21.739	0.1753	0.000	2.3	2.8
15.0	27.176	33.773	21.740	0.1814	0.000	2.7	2.6



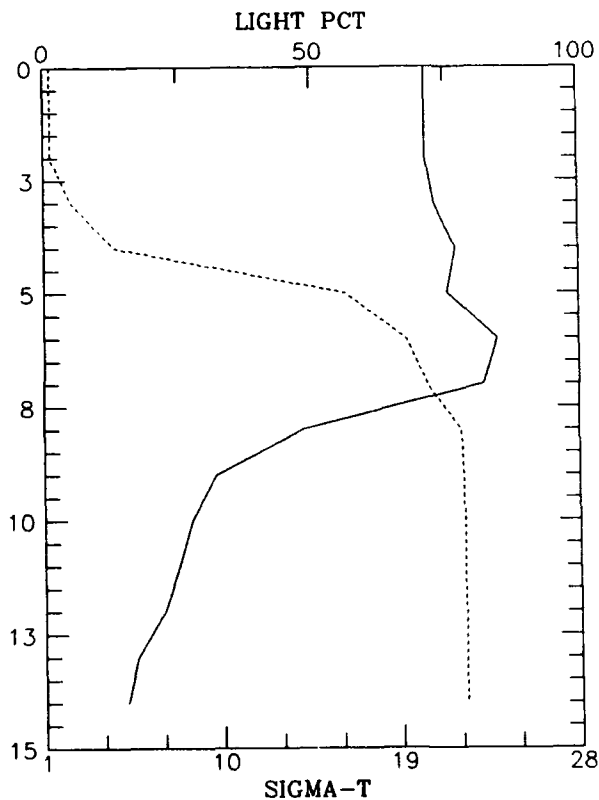
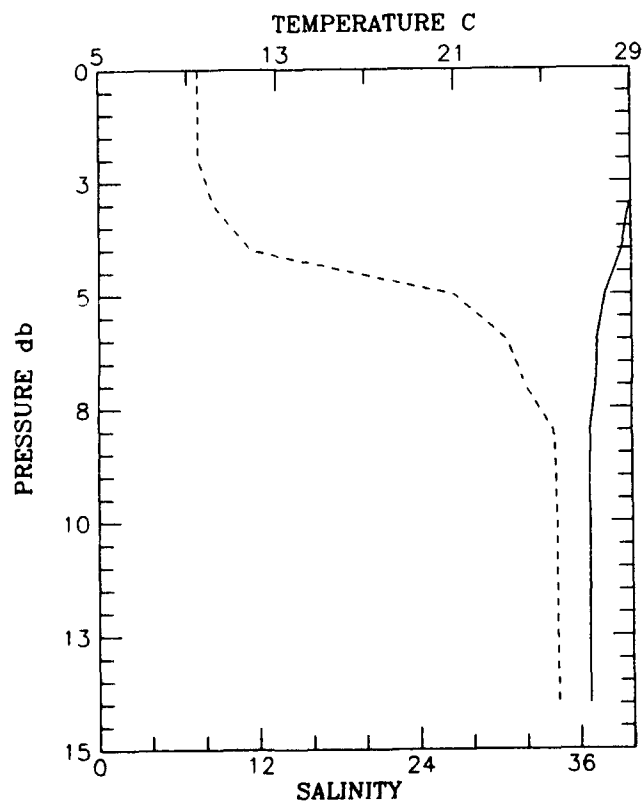
Cruise 18909 Consecutive Station # 64 Depth m:18 Time: 1989-08-11 16:09
 Position: 3° 3.57'N 50° 15.14'W Depth Deck Offset: 0.40 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	29.716	6.619	0.671	0.0000	0.000	70.4
1.0	E	29.716	6.619	0.672	0.0267	0.000	70.4
2.0		29.716	6.619	0.672	0.0534	0.000	70.4
3.0		28.953	8.051	1.968	0.0794	0.000	72.4
4.0		28.179	20.439	11.433	0.1002	0.000	69.9
5.0		27.489	29.056	18.097	0.1130	0.000	87.9
6.0		27.497	30.446	19.138	0.1221	0.000	84.9
7.0		27.334	32.260	20.552	0.1300	0.000	50.5
8.0		27.132	33.890	21.842	0.1366	0.000	16.3
9.0		27.109	34.040	21.962	0.1426	0.000	12.3
10.0		27.105	34.064	21.981	0.1484	0.000	9.7
11.0		27.102	34.083	21.997	0.1543	0.000	9.0
12.0		27.099	34.100	22.010	0.1601	0.000	7.7
13.0		27.098	34.109	22.017	0.1660	0.000	5.5
14.0		27.095	34.121	22.027	0.1718	0.000	5.2
15.0		27.094	34.125	22.031	0.1776	0.000	5.1



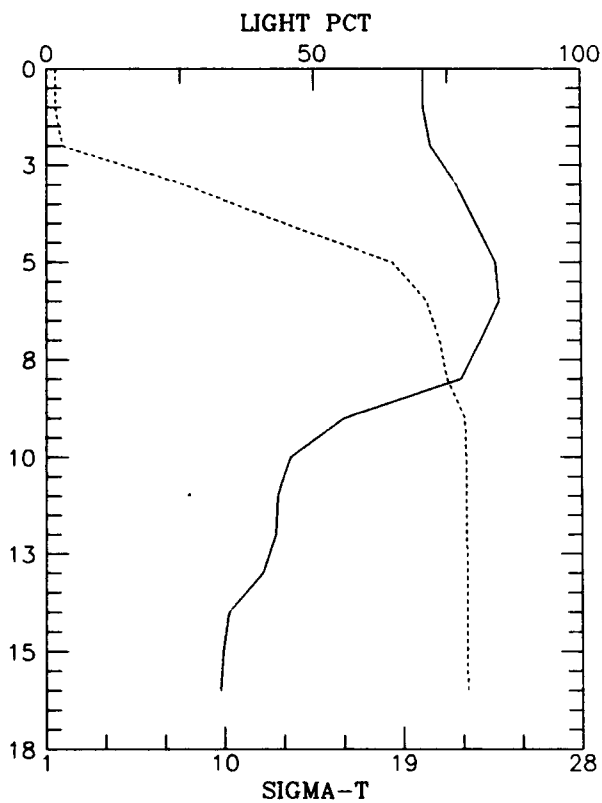
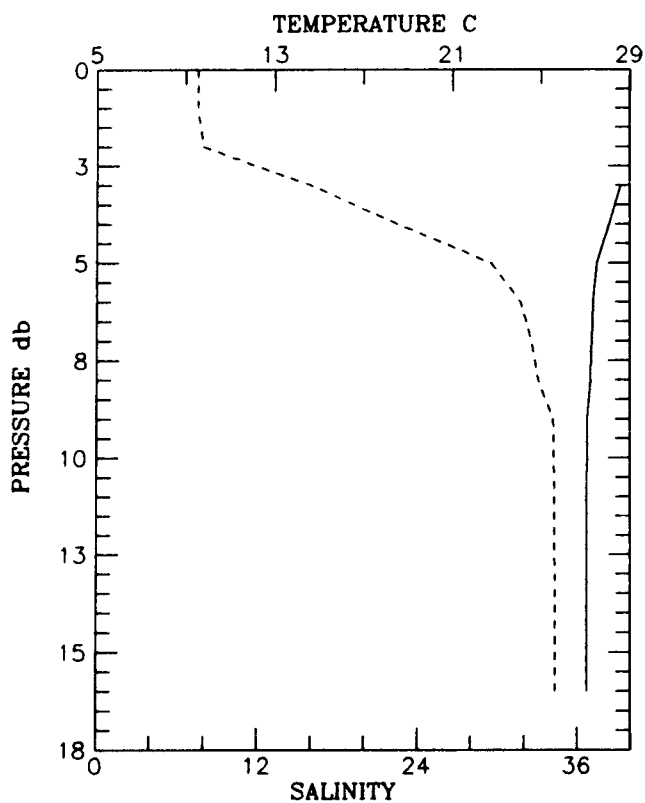
Cruise 18909 Consecutive Station # 65 Depth m:18 Time: 1989-08-11 17:16
 Position: 3° 3.50'N 50° 16.19'W Depth Deck Offset: 0.50 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	29.636	7.489	1.343	0.0000	0.000	74.1	71.5
1.0	E	29.636	7.489	1.343	0.0260	0.000	74.1	71.5
2.0		29.635	7.489	1.343	0.0521	0.000	74.1	71.5
3.0		28.939	8.590	2.374	0.0776	0.000	76.7	73.1
4.0		28.543	11.403	4.587	0.1015	0.000	77.4	76.9
5.0		27.793	26.676	16.217	0.1186	0.000	86.4	75.4
6.0		27.417	30.586	19.268	0.1285	0.000	88.0	84.7
7.0		27.358	31.970	20.326	0.1365	0.000	80.3	82.0
8.0		27.084	34.114	22.026	0.1431	0.000	45.5	48.3
9.0		27.060	34.238	22.127	0.1489	0.000	34.4	32.1
10.0		27.054	34.282	22.162	0.1546	0.000	30.5	27.5
11.0		27.052	34.286	22.165	0.1603	0.000	28.5	25.0
12.0		27.049	34.309	22.184	0.1660	0.000	24.3	22.3
13.0		27.044	34.335	22.205	0.1716	0.000	21.4	17.2
14.0		27.042	34.343	22.211	0.1773	0.000	19.8	15.2



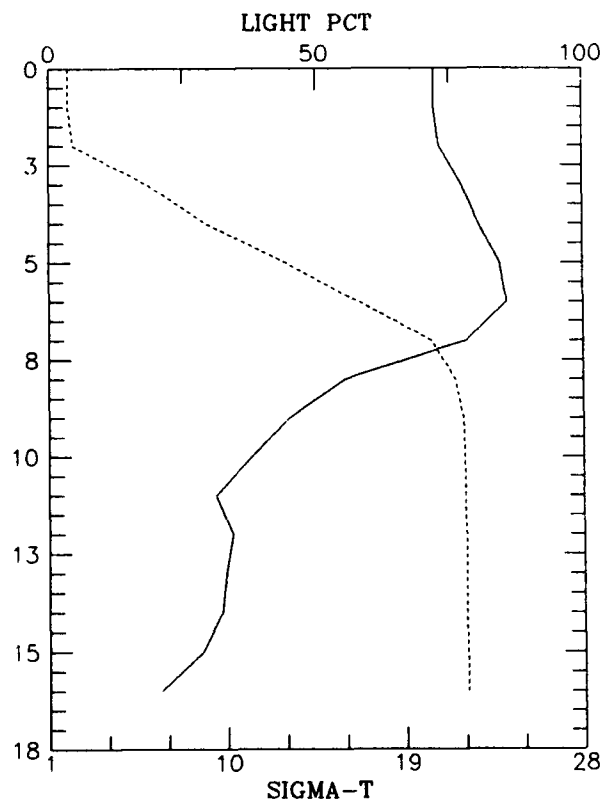
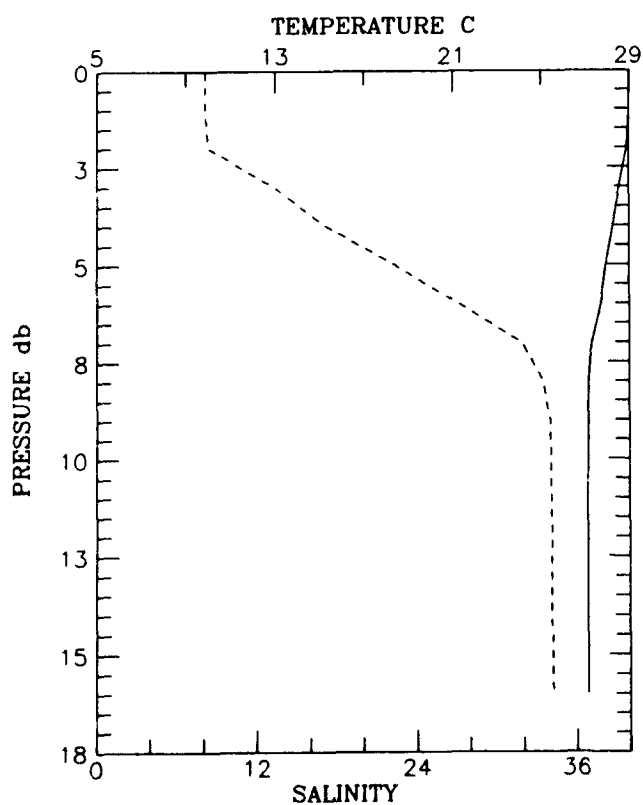
Cruise 18909 Consecutive Station # 66 Depth m:18 Time: 1989-08-11 18:12
 Position: 3° 3.34'N 50° 16.11'W Depth Deck Offset: 0.40 Fish 1

PRESSURE	Interp	TEMP	SALINITY	SIGMA-T	DELTA-D	OXYGEN	CHANNELA	CHANNELB
(d-bars)		(deg C)	(0/00)			(ml/l)	(%light)	(%light)
0.0	E	29.513	7.558	1.431	0.0000	0.000	73.3	70.5
1.0		29.513	7.558	1.431	0.0259	0.000	73.3	70.5
2.0		29.296	7.972	1.805	0.0517	0.000	74.7	71.8
3.0	*	28.578	16.007	8.005	0.0742	0.000	79.0	76.7
4.0	*	28.037	22.557	13.059	0.0911	0.000	82.2	80.3
5.0		27.491	29.548	18.465	0.1030	0.000	85.4	84.0
6.0		27.317	31.772	20.191	0.1114	0.000	86.7	84.6
7.0		27.262	32.615	20.842	0.1187	0.000	83.8	81.2
8.0		27.208	33.095	21.219	0.1255	0.000	80.6	77.5
9.0		27.057	34.224	22.117	0.1316	0.000	61.5	55.6
10.0		27.051	34.272	22.155	0.1373	0.000	46.2	45.7
11.0		27.047	34.287	22.168	0.1430	0.000	41.8	43.2
12.0		27.046	34.295	22.174	0.1487	0.000	41.9	42.9
13.0		27.041	34.334	22.205	0.1544	0.000	39.0	40.5
14.0		27.039	34.344	22.213	0.1600	0.000	34.5	34.1
15.0		27.038	34.352	22.219	0.1657	0.000	32.4	33.0
16.0		27.036	34.358	22.224	0.1713	0.000	31.0	32.5



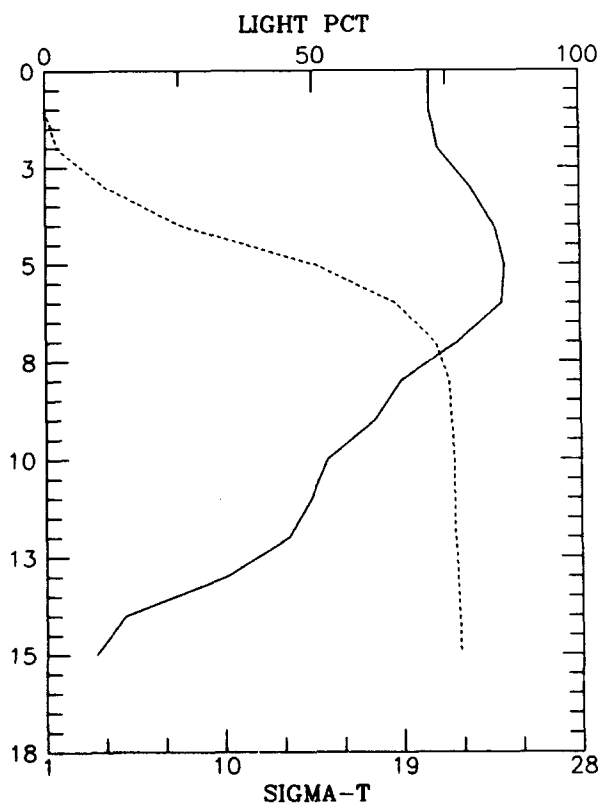
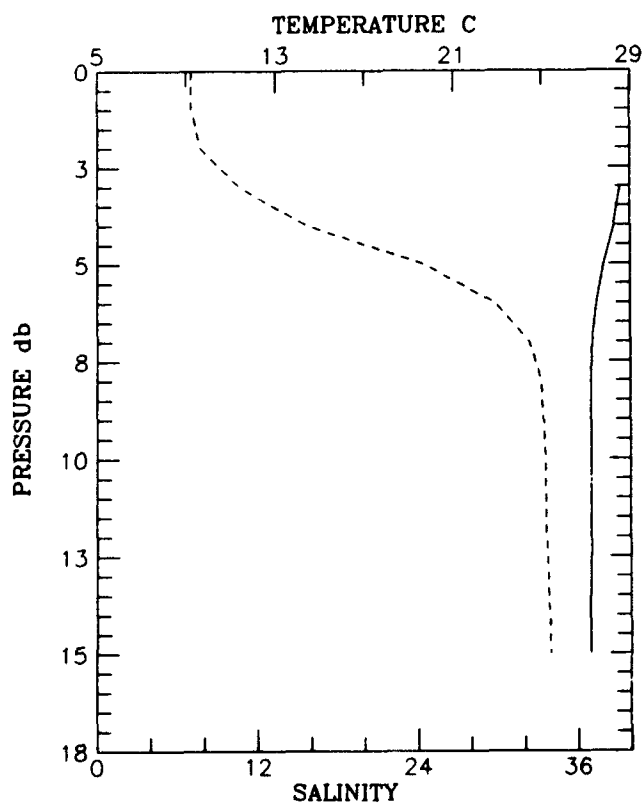
Cruise 18909 Consecutive Station # 67 Depth m:18 Time: 1989-08-11 19:08
 Position: 3° 3.31'N 50° 16.63'W Depth Deck Offset: 0.60 Fish 1

PRESSURE Interp (d-bars)		TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.992	8.083	1.980	0.0000	0.000	74.9	72.2
1.0		28.992	8.083	1.980	0.0254	0.000	74.9	72.2
2.0		28.887	8.386	2.238	0.0507	0.000	75.4	73.2
3.0	*	28.533	13.316	6.014	0.0739	0.000	79.3	77.4
4.0	*	28.269	17.177	8.972	0.0939	0.000	82.2	80.5
5.0		27.925	22.429	12.998	0.1104	0.000	86.1	84.5
6.0		27.712	27.192	16.629	0.1231	0.000	88.3	85.7
7.0		27.293	31.929	20.316	0.1324	0.000	79.3	78.2
8.0		27.163	33.493	21.533	0.1393	0.000	54.7	55.5
9.0		27.125	33.986	21.916	0.1454	0.000	41.7	44.9
10.0		27.112	34.062	21.977	0.1513	0.000	36.4	37.9
11.0		27.102	34.102	22.011	0.1571	0.000	31.5	31.2
12.0		27.097	34.120	22.026	0.1629	0.000	34.4	34.3
13.0		27.096	34.125	22.030	0.1688	0.000	33.3	33.0
14.0		27.096	34.127	22.032	0.1746	0.000	30.8	32.3
15.0		27.090	34.153	22.053	0.1804	0.000	26.5	28.6
16.0		27.083	34.178	22.074	0.1862	0.000	22.7	20.8



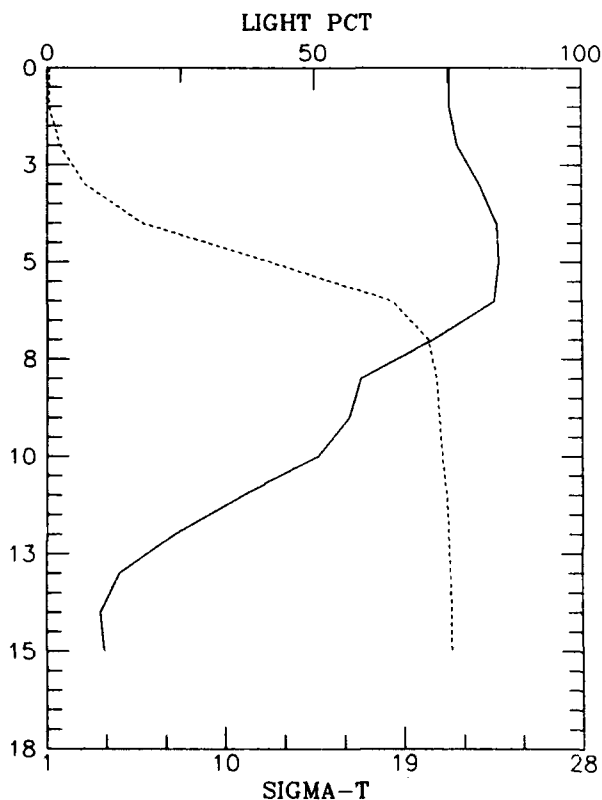
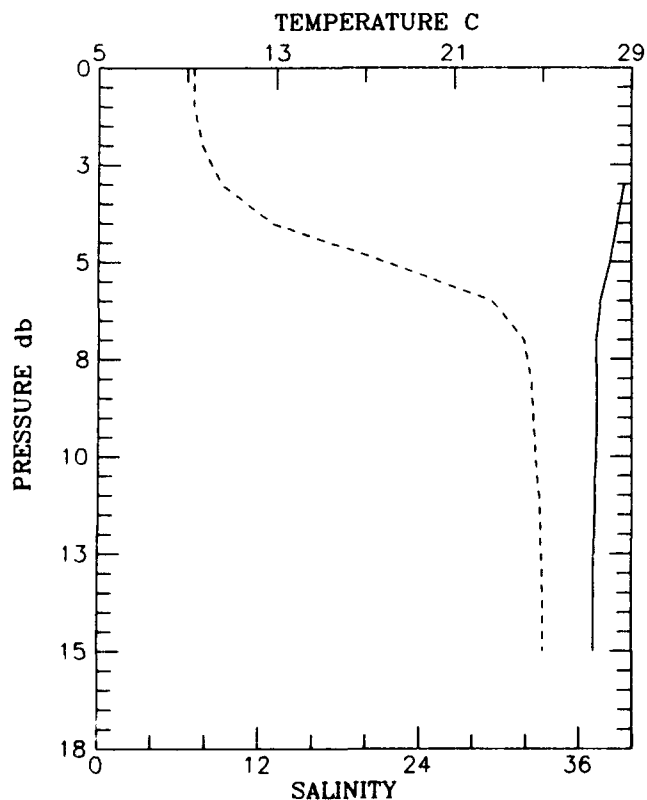
Cruise 18909 Consecutive Station # 68 Depth m:18 Time: 1989-08-11 20:08
 Position: 3° 1.90'N 50° 16.80'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.782	7.051	0.972	0.0000	0.000	74.2	72.0
1.0	29.782	7.051	0.972	0.0264	0.000	74.2	72.0
2.0	29.454	7.739	1.584	0.0525	0.000	76.0	73.4
3.0	28.553	10.678	4.044	0.0771	0.000	83.1	79.5
4.0	28.269	15.691	7.864	0.0985	0.000	87.2	84.0
5.0	27.806	24.492	14.578	0.1148	0.000	88.0	85.8
6.0	27.475	29.827	18.680	0.1258	0.000	87.1	85.3
7.0	27.277	32.382	20.662	0.1339	0.000	78.6	77.1
8.0	27.224	33.277	21.351	0.1407	0.000	67.7	66.4
9.0	27.217	33.434	21.471	0.1471	0.000	62.0	61.5
10.0	27.213	33.567	21.573	0.1534	0.000	52.7	52.6
11.0	27.211	33.600	21.598	0.1596	0.000	49.1	49.7
12.0	27.205	33.648	21.636	0.1659	0.000	44.5	45.4
13.0	27.183	33.750	21.720	0.1720	0.000	32.4	33.7
14.0	27.160	33.850	21.803	0.1781	0.000	11.1	14.7
15.0	27.153	33.889	21.834	0.1841	0.000	10.4	9.2



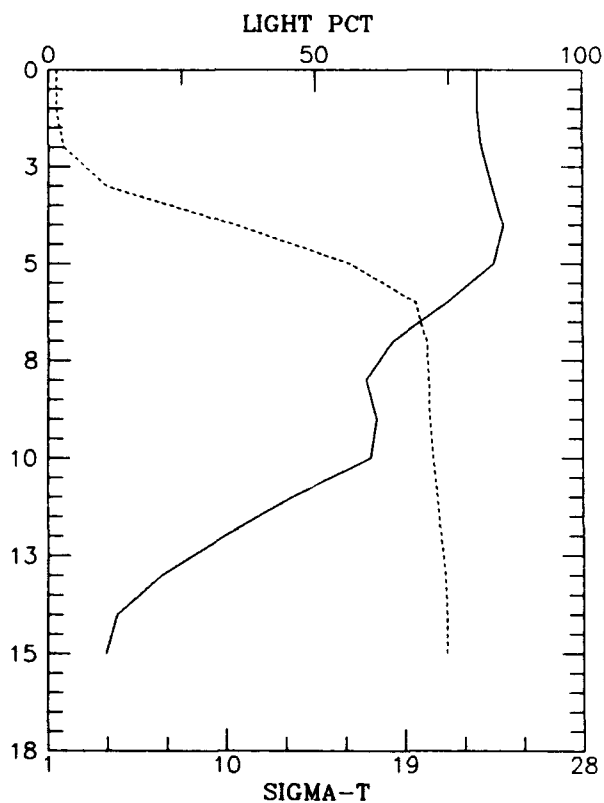
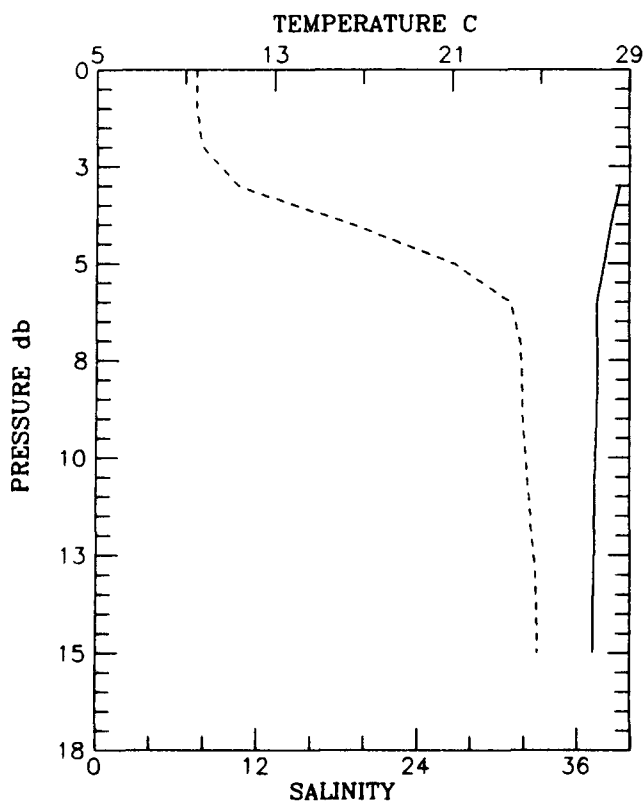
Cruise 18909 Consecutive Station # 69 Depth m:17 Time: 1989-08-11 21:08
 Position: 3° 3.30'N 50° 15.30'W Depth Deck Offset: 0.00 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.656	7.163	1.094	0.0000	0.000	77.0	75.2
1.0	29.655	7.162	1.093	0.0263	0.000	77.0	75.2
2.0	29.365	7.775	1.638	0.0523	0.000	78.1	76.7
3.0	28.679	9.200	2.906	0.0774	0.000	82.6	80.8
4.0	28.345	13.026	5.856	0.1004	0.000	85.8	84.1
5.0	28.034	21.571	12.323	0.1188	0.000	86.4	84.5
6.0	27.589	29.517	18.411	0.1310	0.000	85.3	83.6
7.0	27.397	31.856	20.228	0.1394	0.000	70.7	72.1
8.0	27.404	32.427	20.655	0.1468	0.000	57.6	58.7
9.0	27.400	32.605	20.790	0.1538	0.000	54.7	56.5
10.0	27.375	32.771	20.923	0.1608	0.000	47.8	50.7
11.0	27.326	33.039	21.140	0.1676	0.000	32.4	36.7
12.0	27.304	33.152	21.232	0.1742	0.000	21.8	23.9
13.0	27.280	33.280	21.336	0.1807	0.000	13.5	13.5
14.0	27.266	33.348	21.391	0.1872	0.000	9.1	10.0
15.0	27.267	33.345	21.389	0.1936	0.000	9.2	10.7



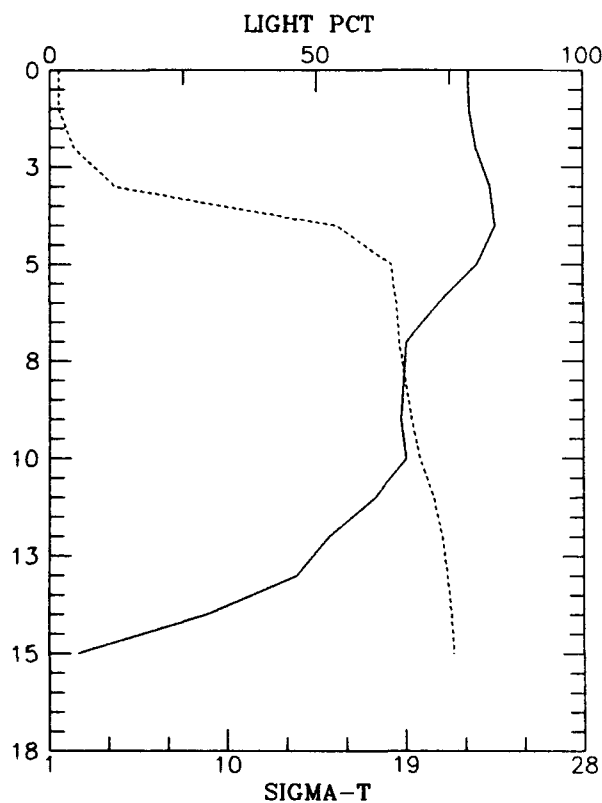
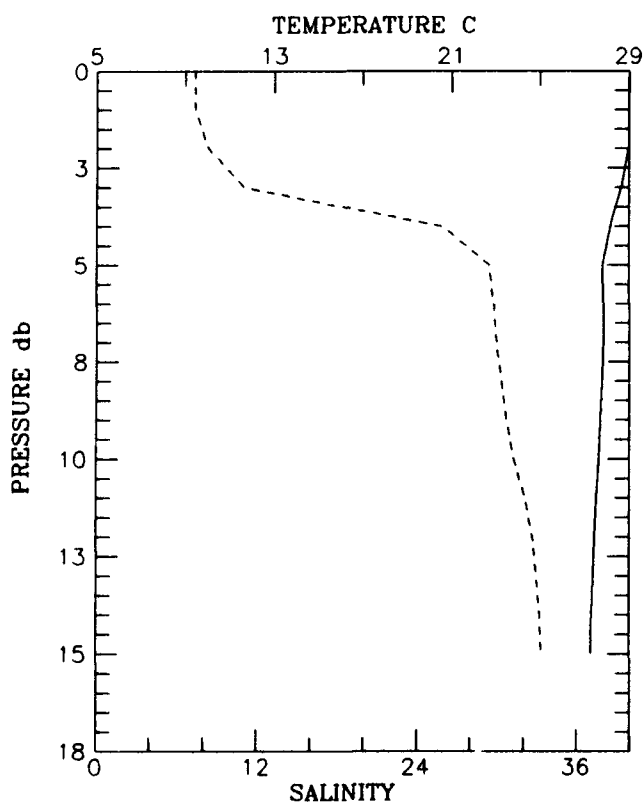
Cruise 18909 Consecutive Station # 70 Depth m:17 Time: 1989-08-11 22:06
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.414	7.474	1.399	0.0000	0.000	60.5	80.3
1.0	29.414	7.474	1.399	0.0260	0.000	60.5	80.3
2.0	29.246	7.930	1.790	0.0517	0.000	0.1	81.1
3.0	28.540	10.561	3.961	0.0762	0.000	0.1	83.0
4.0	28.139	19.162	10.492	0.0965	0.000	0.1	85.2
5.0	27.858	26.787	16.279	0.1106	0.000	0.1	83.4
6.0	27.519	31.040	19.576	0.1204	0.000	0.1	74.8
7.0	27.522	31.757	20.114	0.1283	0.000	0.1	64.6
8.0	27.524	31.889	20.213	0.1359	0.000	0.1	59.5
9.0	27.498	31.955	20.271	0.1434	0.000	0.1	61.4
10.0	27.451	32.170	20.447	0.1509	0.000	0.1	60.3
11.0	27.420	32.438	20.658	0.1581	0.000	0.1	45.7
12.0	27.390	32.632	20.813	0.1652	0.000	0.1	32.9
13.0	27.351	32.904	21.030	0.1720	0.000	0.1	21.2
14.0	27.332	33.004	21.111	0.1788	0.000	0.1	12.9
15.0	27.327	33.034	21.135	0.1855	0.000	0.1	10.9



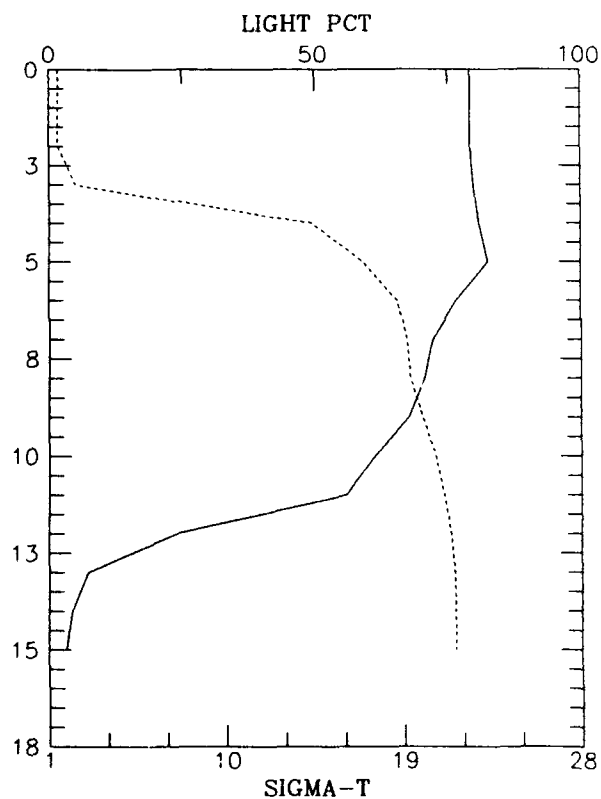
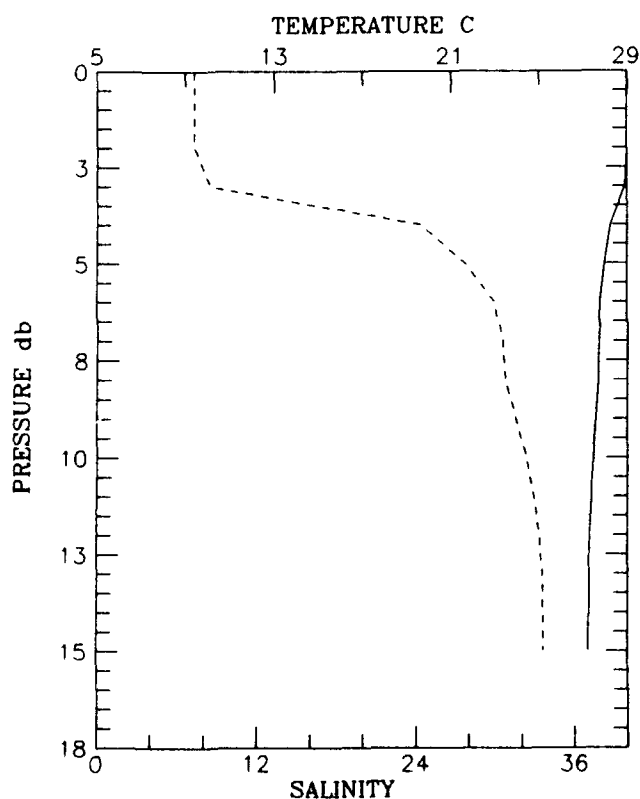
Cruise 18909 Consecutive Station # 72 Depth m:17 Time: 1989-08-12 00:25
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 29.046	7.374	1.437	0.0000	0.000	81.2	78.6
1.0	29.046	7.374	1.437	0.0259	0.000	81.2	78.6
2.0	28.948	8.376	2.212	0.0515	0.000	82.6	79.8
3.0	28.640	11.103	4.334	0.0756	0.000	84.8	82.5
4.0	28.149	25.921	15.539	0.0931	0.000	83.0	83.5
5.0	27.808	29.454	18.294	0.1039	0.000	82.3	80.1
6.0	27.810	29.771	18.531	0.1132	0.000	75.1	72.8
7.0	27.809	29.959	18.673	0.1223	0.000	69.6	66.8
8.0	27.759	30.374	19.000	0.1312	0.000	68.2	66.3
9.0	27.675	30.743	19.304	0.1397	0.000	69.5	65.8
10.0	27.617	31.275	19.722	0.1480	0.000	69.0	66.8
11.0	27.499	32.149	20.415	0.1557	0.000	60.8	60.9
12.0	27.406	32.688	20.850	0.1628	0.000	52.0	52.3
13.0	27.353	33.001	21.102	0.1697	0.000	47.8	46.2
14.0	27.298	33.259	21.314	0.1763	0.000	24.5	29.4
15.0	27.265	33.399	21.430	0.1827	0.000	5.2	5.4



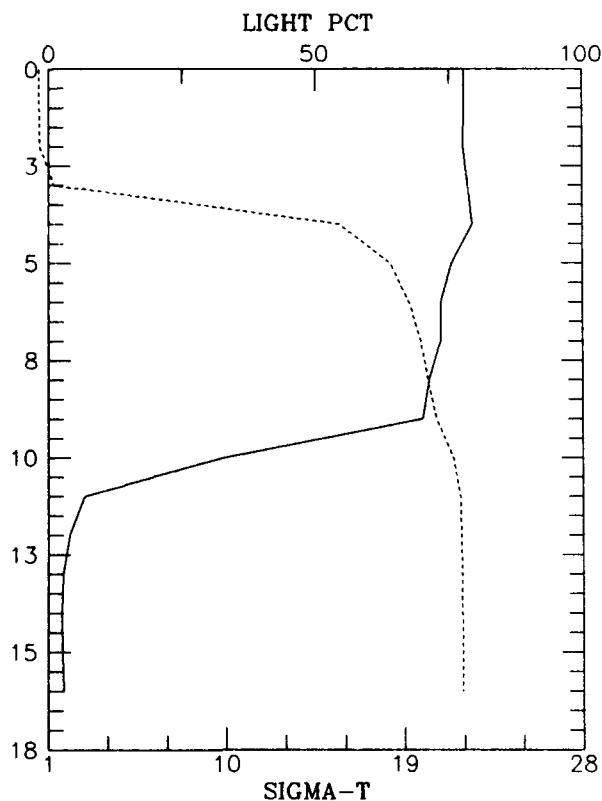
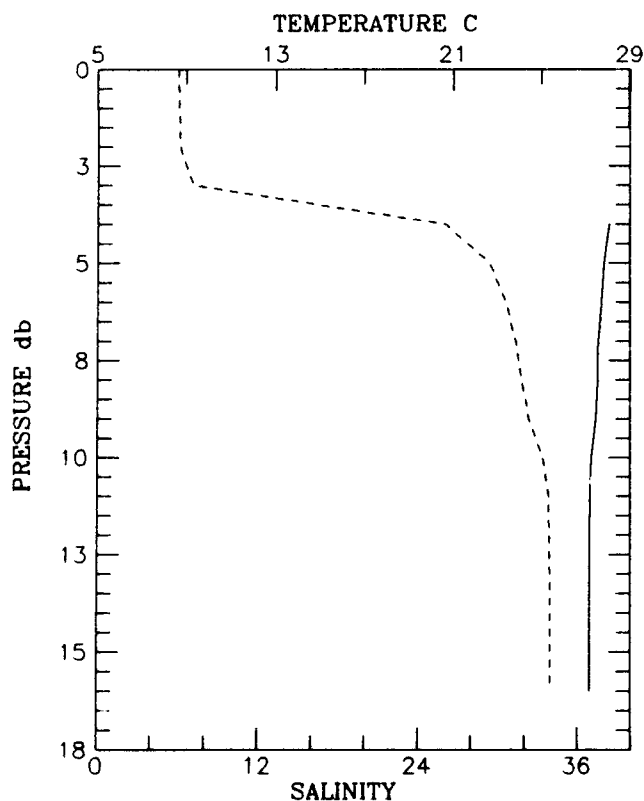
Cruise 18909 Consecutive Station # 73 Depth m:17 Time: 1989-08-12 01:08
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.994	7.344	1.430	0.0000	0.000	81.9	79.2
1.0	E	28.994	7.344	1.430	0.0259	0.000	81.9	79.2
2.0		28.994	7.344	1.430	0.0519	0.000	81.9	79.2
3.0		28.906	8.557	2.359	0.0774	0.000	82.9	79.8
4.0		28.229	24.380	14.361	0.0965	0.000	74.9	80.8
5.0		27.979	27.721	16.941	0.1084	0.000	84.8	82.5
6.0		27.763	29.969	18.695	0.1183	0.000	79.1	76.6
7.0		27.702	30.544	19.146	0.1271	0.000	74.3	72.1
8.0		27.672	30.772	19.327	0.1356	0.000	73.1	70.5
9.0		27.566	31.582	19.969	0.1437	0.000	69.6	67.6
10.0		27.452	32.359	20.588	0.1512	0.000	62.6	61.2
11.0		27.358	32.902	21.026	0.1582	0.000	53.3	55.9
12.0		27.271	33.346	21.388	0.1648	0.000	15.6	24.0
13.0		27.237	33.541	21.545	0.1712	0.000	6.6	7.2
14.0		27.225	33.597	21.591	0.1774	0.000	3.4	4.3
15.0		27.222	33.613	21.605	0.1837	0.000	2.6	3.2



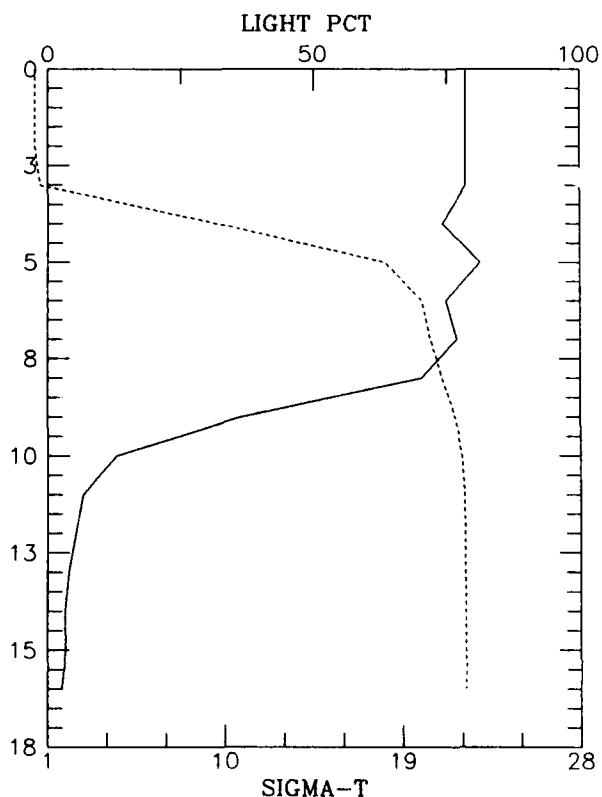
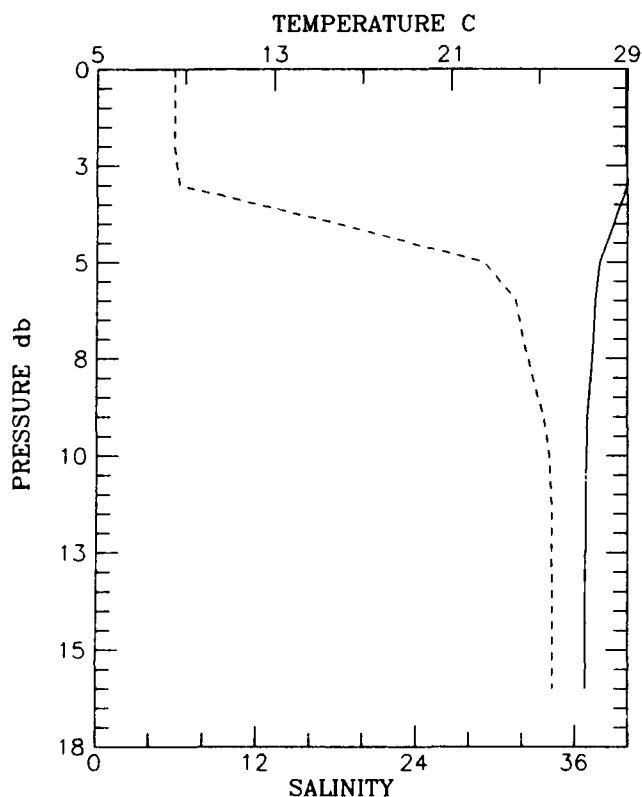
Cruise 18909 Consecutive Station # 74 Depth m:17 Time: 1989-08-12 02:08
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.963	6.098	0.512	0.0000	0.000	80.6
1.0		28.963	6.097	0.512	0.0269	0.000	80.6
2.0		28.994	6.146	0.538	0.0537	0.000	80.7
3.0		29.005	7.120	1.260	0.0802	0.000	79.1
4.0		28.039	26.081	15.694	0.0992	0.000	83.2
5.0		27.833	29.441	18.277	0.1099	0.000	77.0
6.0		27.691	30.642	19.223	0.1188	0.000	75.6
7.0		27.559	31.386	19.823	0.1270	0.000	75.7
8.0		27.521	31.827	20.166	0.1348	0.000	72.9
9.0		27.426	32.375	20.608	0.1422	0.000	70.8
10.0		27.243	33.419	21.452	0.1490	0.000	24.4
11.0		27.171	33.843	21.794	0.1552	0.000	5.4
12.0		27.160	33.903	21.842	0.1612	0.000	3.5
13.0		27.152	33.946	21.878	0.1672	0.000	2.7
14.0		27.149	33.959	21.888	0.1732	0.000	2.5
15.0		27.148	33.964	21.892	0.1791	0.000	2.2
16.0		27.147	33.965	21.893	0.1851	0.000	2.0



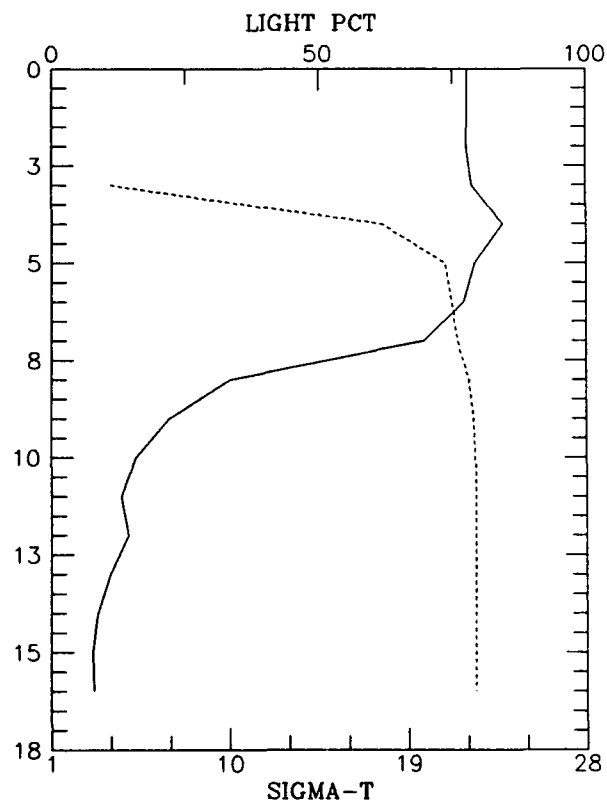
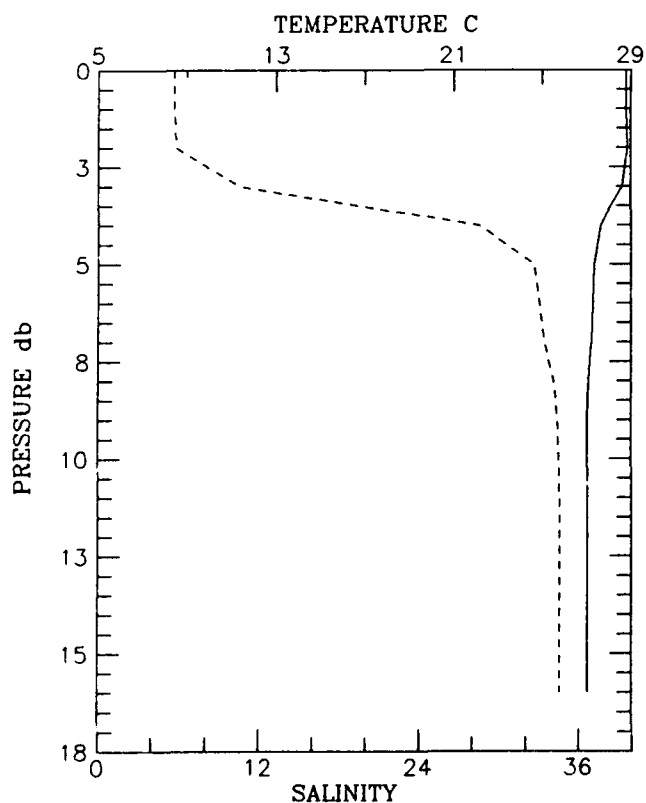
Cruise 18909 Consecutive Station # 75 Depth m:18.6 Time: 1989-08-12 03:09
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.934	5.836	0.326	0.0000	0.000	80.8	78.5
1.0	E	28.934	5.836	0.326	0.0270	0.000	80.8	78.5
2.0		28.933	5.836	0.326	0.0541	0.000	80.8	78.5
3.0		28.997	6.235	0.604	0.0810	0.000	81.0	78.5
4.0		28.365	18.147	9.665	0.1033	0.000	81.4	74.2
5.0		27.724	29.185	18.119	0.1170	0.000	82.9	81.2
6.0		27.532	31.561	19.963	0.1256	0.000	76.7	74.8
7.0		27.429	32.100	20.401	0.1332	0.000	79.7	76.8
8.0		27.326	32.844	20.993	0.1403	0.000	66.4	70.2
9.0		27.191	33.670	21.657	0.1468	0.000	28.6	36.3
10.0		27.116	34.049	21.967	0.1528	0.000	11.7	12.9
11.0		27.082	34.226	22.111	0.1587	0.000	5.2	6.6
12.0		27.076	34.255	22.134	0.1644	0.000	4.2	5.3
13.0		27.072	34.277	22.152	0.1701	0.000	3.4	3.9
14.0		27.070	34.284	22.158	0.1758	0.000	2.9	3.2
15.0		27.070	34.284	22.158	0.1815	0.000	2.7	3.3
16.0		27.069	34.289	22.162	0.1872	0.000	2.3	2.6



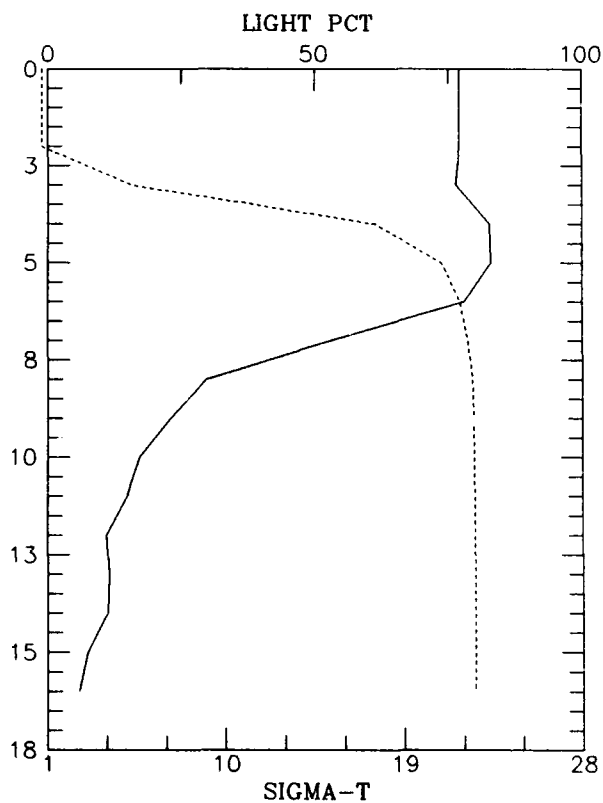
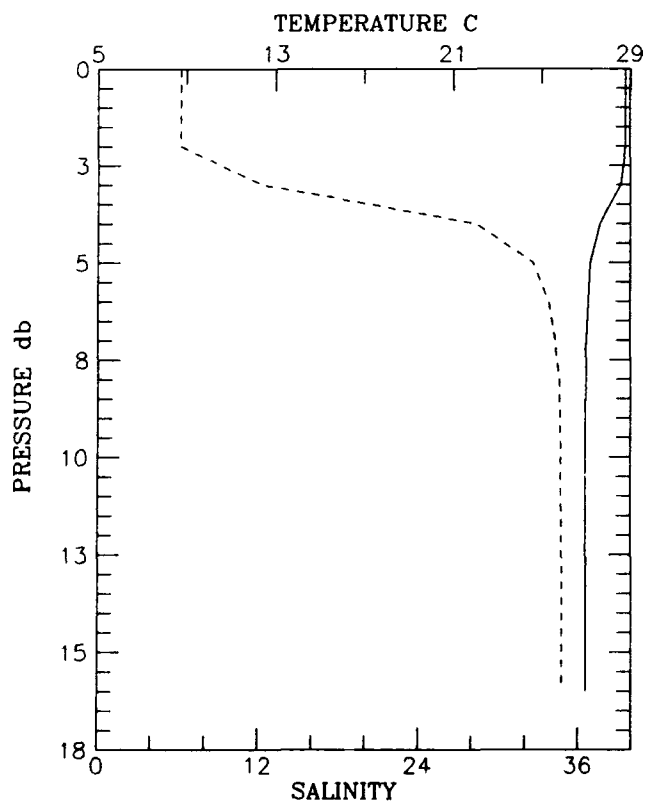
Cruise I8909 Consecutive Station # 76 Depth m:19 Time: 1989-08-12 04:07
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.789	5.705	0.272	0.0000	0.000	80.1	77.8
1.0	28.789	5.705	0.272	0.0271	0.000	80.1	77.8
2.0	28.828	5.845	0.365	0.0541	0.000	80.2	77.7
3.0	28.605	10.622	3.987	0.0793	0.000	79.6	78.6
4.0	27.606	28.538	17.672	0.0960	0.000	86.3	84.4
5.0	27.312	32.681	20.875	0.1045	0.000	80.7	79.1
6.0	27.257	33.109	21.214	0.1113	0.000	79.1	77.1
7.0	27.202	33.465	21.500	0.1177	0.000	67.7	69.7
8.0	27.074	34.158	22.062	0.1238	0.000	31.1	33.4
9.0	27.017	34.460	22.307	0.1295	0.000	17.5	22.0
10.0	27.001	34.545	22.377	0.1350	0.000	12.1	15.9
11.0	26.996	34.568	22.396	0.1405	0.000	9.7	13.0
12.0	26.995	34.575	22.401	0.1459	0.000	8.4	14.4
13.0	26.994	34.578	22.404	0.1514	0.000	8.8	11.0
14.0	26.992	34.588	22.412	0.1568	0.000	6.4	8.7
15.0	26.992	34.589	22.413	0.1623	0.000	6.3	7.7
16.0	26.992	34.589	22.413	0.1678	0.000	6.1	8.0



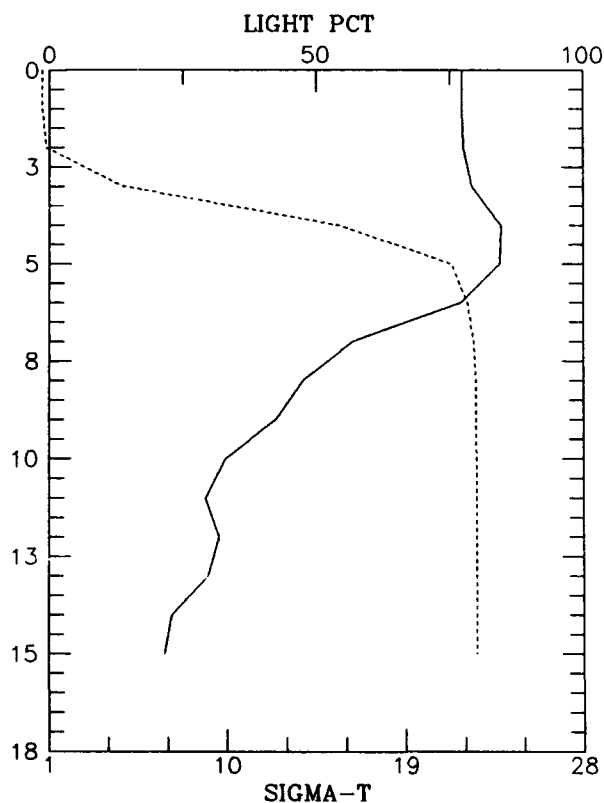
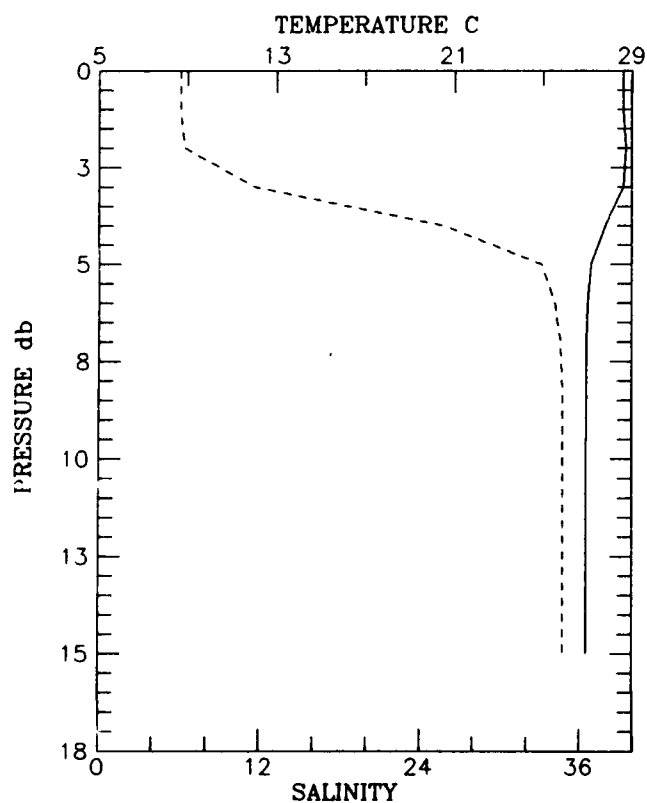
Cruise 18909 Consecutive Station # 77 Depth m:19 Time: 1989-08-12 05:07
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE (d-bars)	Interp	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.771	6.238	0.674	0.0000	0.000	80.3	77.0
1.0	E	28.771	6.238	0.674	0.0267	0.000	80.3	77.0
2.0		28.771	6.238	0.674	0.0534	0.000	80.3	77.0
3.0		28.550	12.308	5.259	0.0778	0.000	70.1	76.4
4.0		27.621	28.365	17.537	0.0939	0.000	75.6	82.7
5.0		27.194	32.668	20.903	0.1025	0.000	85.8	82.9
6.0		27.103	33.844	21.817	0.1089	0.000	80.2	77.9
7.0		27.016	34.350	22.225	0.1147	0.000	49.5	53.0
8.0		26.972	34.616	22.439	0.1203	0.000	30.0	29.7
9.0		26.960	34.684	22.494	0.1257	0.000	24.7	23.0
10.0		26.949	34.735	22.536	0.1310	0.000	17.9	17.2
11.0		26.946	34.750	22.549	0.1364	0.000	13.9	14.9
12.0		26.941	34.767	22.563	0.1417	0.000	11.7	11.0
13.0		26.938	34.779	22.573	0.1470	0.000	11.0	11.4
14.0		26.939	34.775	22.570	0.1523	0.000	12.2	11.2
15.0		26.939	34.777	22.571	0.1576	0.000	7.8	7.5
16.0		26.940	34.775	22.569	0.1629	0.000	5.1	5.9



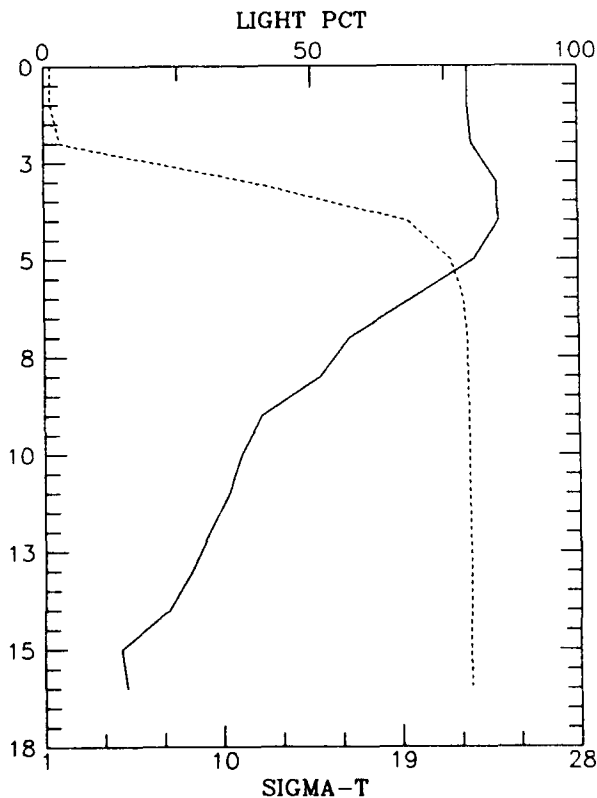
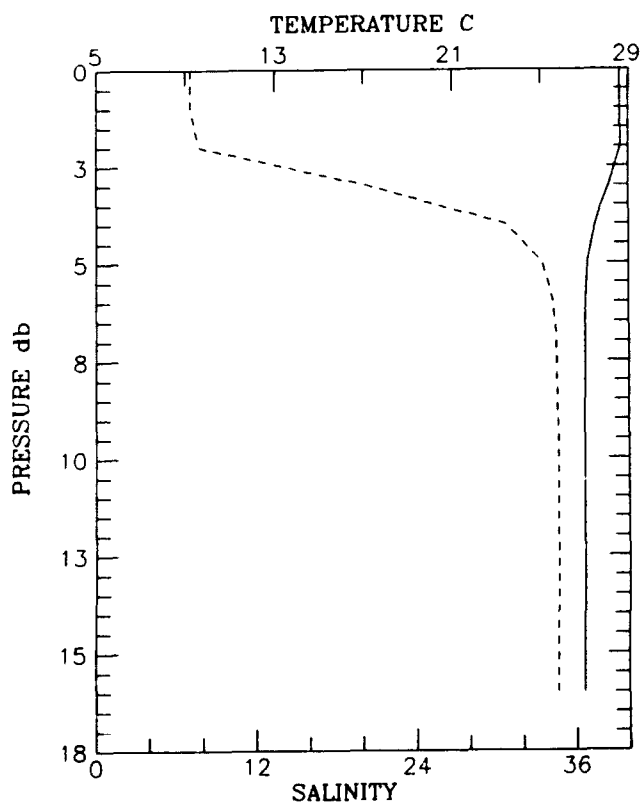
Cruise 18909 Consecutive Station # 78 Depth m:19 Time: 1989-08-12 06:09
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.20 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.617	6.119	0.631	0.000	81.0	77.3
1.0		28.617	6.119	0.631	0.0267	81.0	77.3
2.0		28.719	6.437	0.837	0.0534	81.3	77.6
3.0		28.601	11.675	4.772	0.0779	80.0	79.1
4.0		27.796	25.863	15.607	0.0953	77.1	84.6
5.0		27.156	33.225	21.334	0.1045	83.4	84.4
6.0		27.022	34.226	22.130	0.1106	78.8	77.1
7.0		26.962	34.633	22.455	0.1162	57.6	56.9
8.0		26.940	34.756	22.555	0.1215	47.1	47.6
9.0		26.937	34.775	22.570	0.1268	42.4	42.5
10.0		26.936	34.783	22.577	0.1321	31.9	33.1
11.0		26.935	34.788	22.581	0.1374	24.1	29.3
12.0		26.935	34.788	22.581	0.1427	26.0	31.8
13.0		26.935	34.791	22.583	0.1480	28.7	29.8
14.0		26.934	34.797	22.588	0.1533	21.8	23.0
15.0		26.935	34.793	22.584	0.1586	18.0	21.7



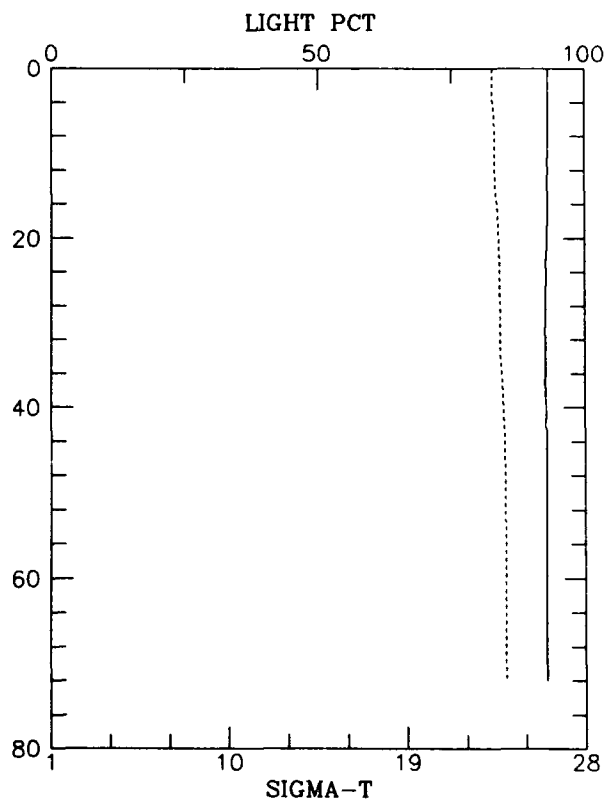
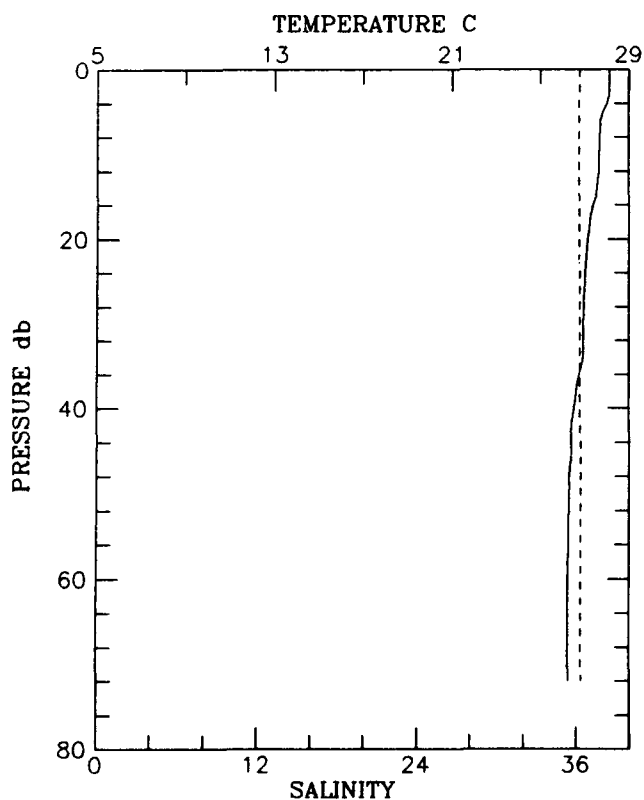
Cruise 18909 Consecutive Station # 79 Depth m:19 Time: 1989-08-12 07:07
 Position: 3° 3.50'N 50° 16.90'W Depth Deck Offset: 0.10 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.609	7.048	1.325	0.0000	0.000	82.9
1.0		28.609	7.048	1.325	0.0260	0.000	82.9
2.0		28.629	7.737	1.832	0.0518	0.000	83.5
3.0		28.103	20.449	11.464	0.0726	0.000	87.3
4.0		27.460	30.727	19.360	0.0848	0.000	88.3
5.0		27.120	33.513	21.562	0.0922	0.000	84.1
6.0		27.028	34.320	22.199	0.0981	0.000	71.3
7.0		26.998	34.515	22.355	0.1037	0.000	57.1
8.0		26.991	34.557	22.389	0.1092	0.000	51.3
9.0		26.982	34.619	22.438	0.1146	0.000	42.7
10.0		26.982	34.623	22.441	0.1201	0.000	40.1
11.0		26.981	34.627	22.445	0.1255	0.000	34.2
12.0		26.979	34.637	22.453	0.1309	0.000	32.2
13.0		26.976	34.647	22.461	0.1363	0.000	29.6
14.0		26.973	34.657	22.470	0.1417	0.000	21.3
15.0		26.971	34.666	22.477	0.1471	0.000	13.0
16.0		26.971	34.667	22.478	0.1525	0.000	14.8



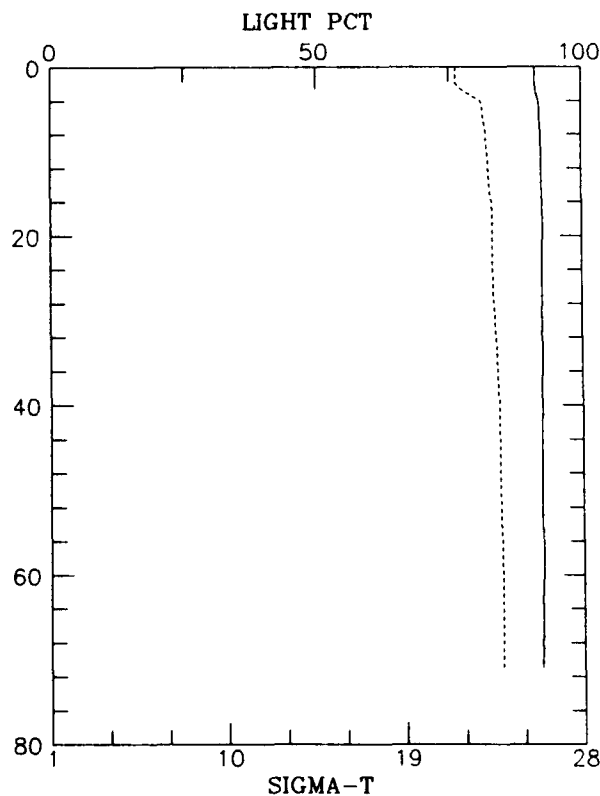
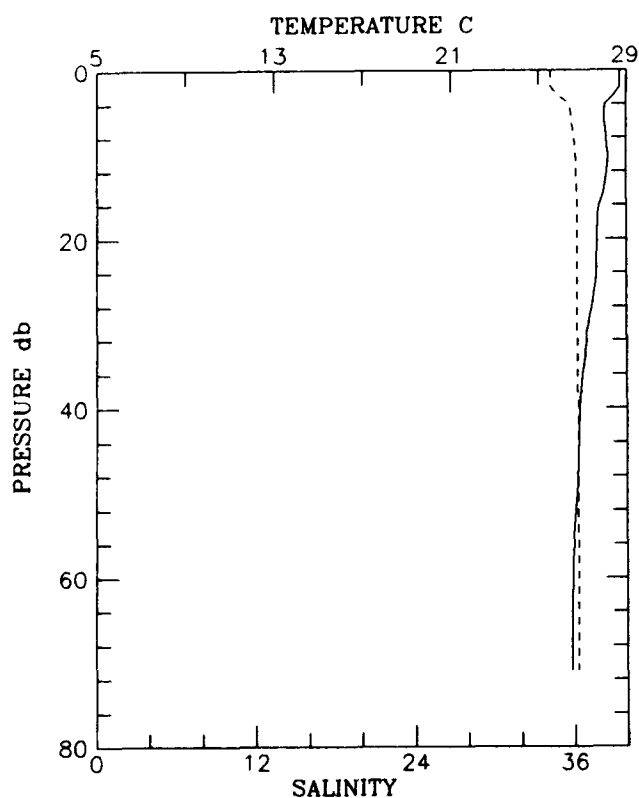
Cruise 18909 Consecutive Station # 80 Depth m:77 Time: 1989-08-12 19:10
 Position: 2° 26.70'N 48° 28.20'W Depth Deck Offset: -1.90 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.117	36.274	23.317	0.0000	0.000	96.5	93.0
5.0	27.820	36.234	23.384	0.0229	0.000	96.5	93.0
10.0	27.660	36.245	23.444	0.0453	0.000	96.4	93.0
15.0	27.498	36.241	23.494	0.0675	0.000	96.4	92.9
20.0	27.134	36.261	23.627	0.0893	0.000	96.2	92.8
25.0	26.994	36.272	23.680	0.1106	0.000	96.1	92.7
30.0	26.935	36.282	23.706	0.1318	0.000	96.0	92.6
35.0	26.835	36.292	23.746	0.1529	0.000	96.1	92.6
40.0	26.501	36.307	23.864	0.1735	0.000	96.0	92.7
45.0	26.357	36.314	23.915	0.1937	0.000	96.1	92.7
50.0	26.282	36.315	23.939	0.2139	0.000	96.1	92.7
55.0	26.247	36.318	23.952	0.2339	0.000	96.1	92.7
60.0	26.232	36.318	23.957	0.2539	0.000	96.2	92.7
65.0	26.226	36.318	23.959	0.2739	0.000	96.2	92.7
70.0	26.226	36.318	23.959	0.2939	0.000	96.1	92.7
72.0	26.227	36.318	23.959	0.3019	0.000	96.2	92.7



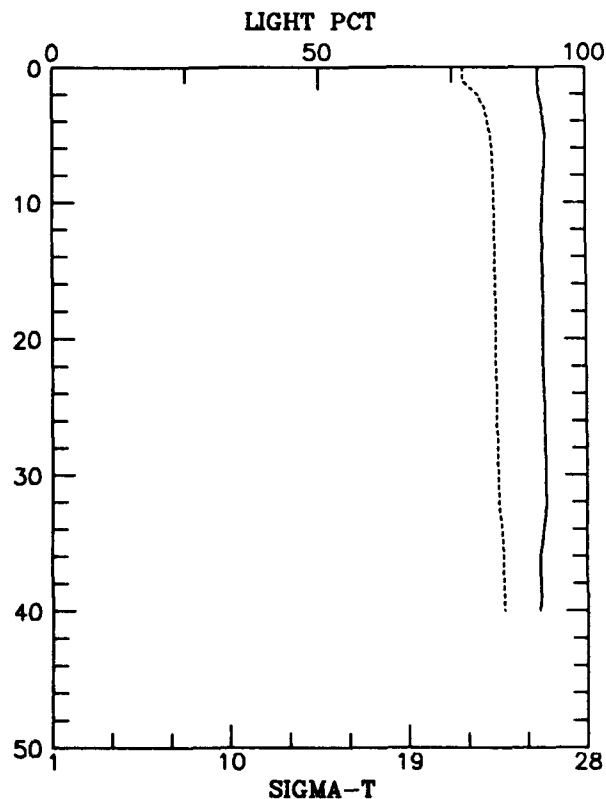
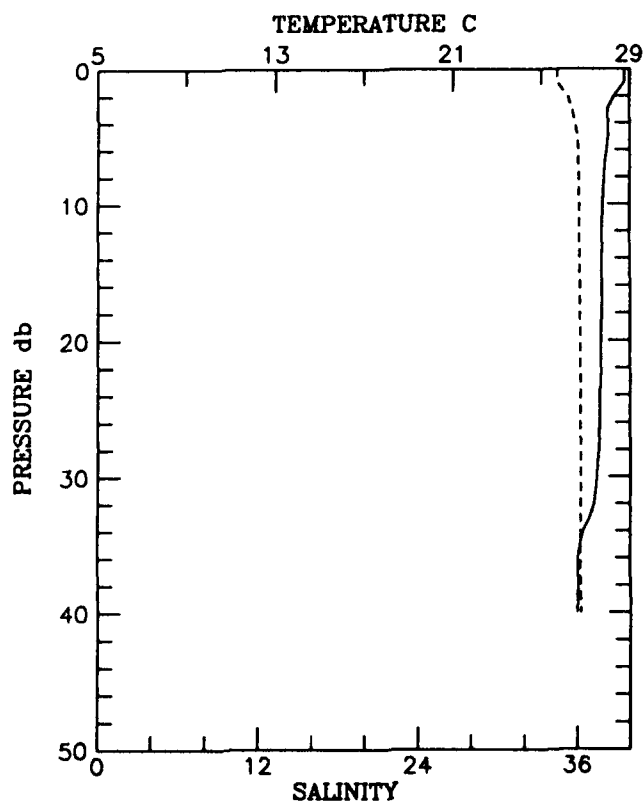
Cruise 18909 Consecutive Station # 81 Depth m:72 Time: 1989-08-12 20:47
 Position: 2° 24.00'N 48° 33.50'W Depth Deck Offset: 1.00 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E 28.705	34.253	21.603	0.0000	0.000	95.0	91.2
5.0	27.990	35.781	22.987	0.0287	0.000	95.9	92.1
10.0	28.164	36.145	23.204	0.0527	0.000	96.3	92.5
15.0	27.906	36.238	23.359	0.0758	0.000	96.4	92.6
20.0	27.647	36.242	23.446	0.0982	0.000	96.4	92.6
25.0	27.595	36.241	23.463	0.1206	0.000	96.4	92.5
30.0	27.261	36.248	23.576	0.1426	0.000	96.3	92.5
35.0	27.044	36.258	23.654	0.1641	0.000	96.3	92.5
40.0	26.844	36.277	23.732	0.1853	0.000	96.2	92.3
45.0	26.783	36.284	23.757	0.2063	0.000	96.0	92.2
50.0	26.710	36.287	23.782	0.2272	0.000	96.0	92.2
55.0	26.583	36.293	23.827	0.2479	0.000	96.1	92.3
60.0	26.508	36.298	23.855	0.2684	0.000	96.1	92.3
65.0	26.489	36.299	23.861	0.2889	0.000	95.9	92.2
70.0	26.489	36.299	23.861	0.3094	0.000	95.9	92.1
71.0	26.489	36.298	23.861	0.3135	0.000	95.9	92.1



Cruise 18909 Consecutive Station # 82 Depth m:45 Time: 1989-08-12 21:52
 Position: 2° 16.40'N 48° 37.90'W Depth Deck Offset: -0.10 Fish 1

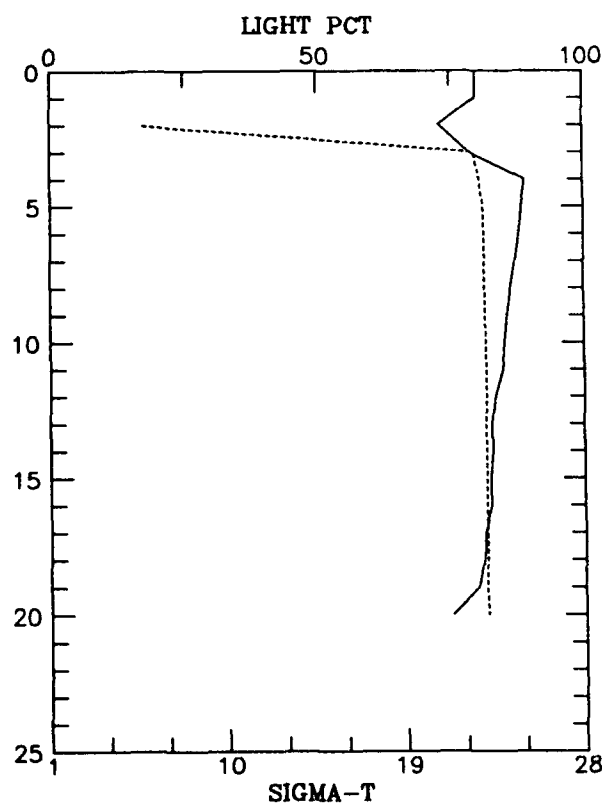
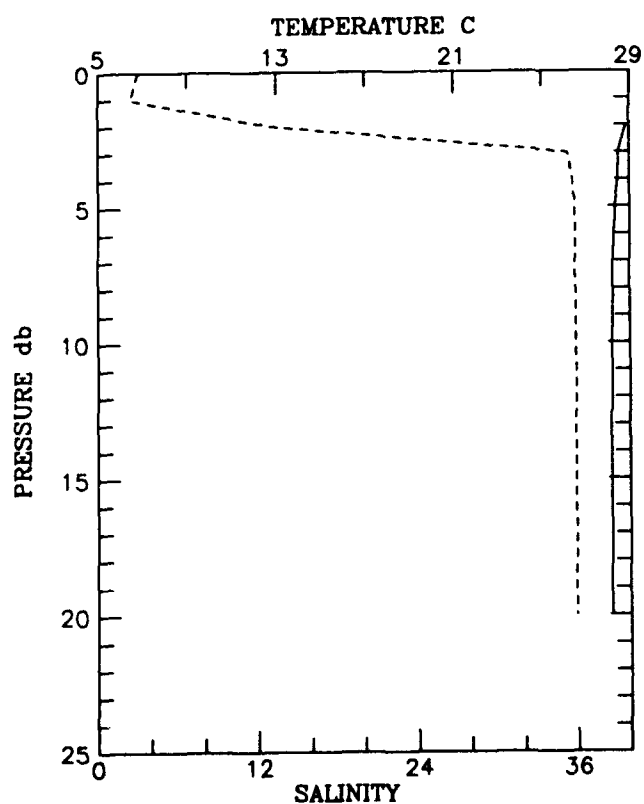
PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.763	34.546	21.804	0.0000	0.000	95.4
2.0		28.291	35.336	22.554	0.0117	0.000	95.8
4.0		28.008	35.831	23.019	0.0218	0.000	96.4
6.0		27.927	36.092	23.242	0.0312	0.000	96.7
8.0		27.817	36.140	23.314	0.0405	0.000	96.6
10.0		27.757	36.170	23.356	0.0496	0.000	96.3
12.0		27.732	36.183	23.374	0.0587	0.000	96.2
14.0		27.716	36.191	23.385	0.0678	0.000	96.1
16.0		27.702	36.198	23.395	0.0768	0.000	96.2
18.0		27.691	36.207	23.406	0.0858	0.000	96.2
20.0		27.674	36.215	23.417	0.0948	0.000	96.2
22.0		27.666	36.219	23.423	0.1038	0.000	96.3
24.0		27.631	36.228	23.441	0.1128	0.000	96.4
26.0		27.608	36.236	23.454	0.1217	0.000	96.5
28.0		27.548	36.242	23.478	0.1306	0.000	96.6
30.0		27.468	36.241	23.504	0.1395	0.000	96.6
32.0		27.339	36.237	23.542	0.1483	0.000	96.7
34.0		26.850	36.234	23.698	0.1569	0.000	96.3
36.0		26.638	36.239	23.769	0.1653	0.000	95.7
38.0		26.620	36.240	23.776	0.1737	0.000	95.5
40.0		26.571	36.242	23.793	0.1820	0.000	95.3



Cruise 18909 Consecutive Station # 83 Depth m:22 Time: 1989-08-13 00:38
 Position: 2° 4.60'N 48° 48.00'W Depth Deck Offset: 0.70 Fish 1

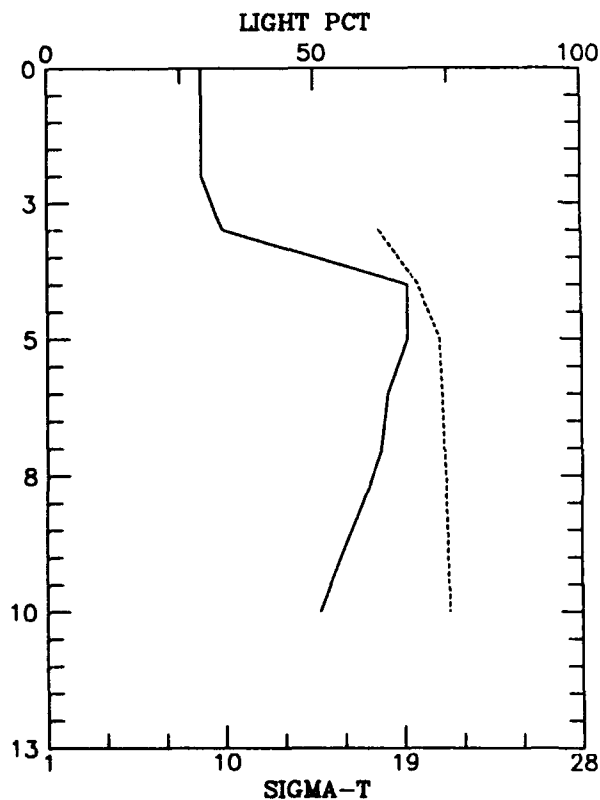
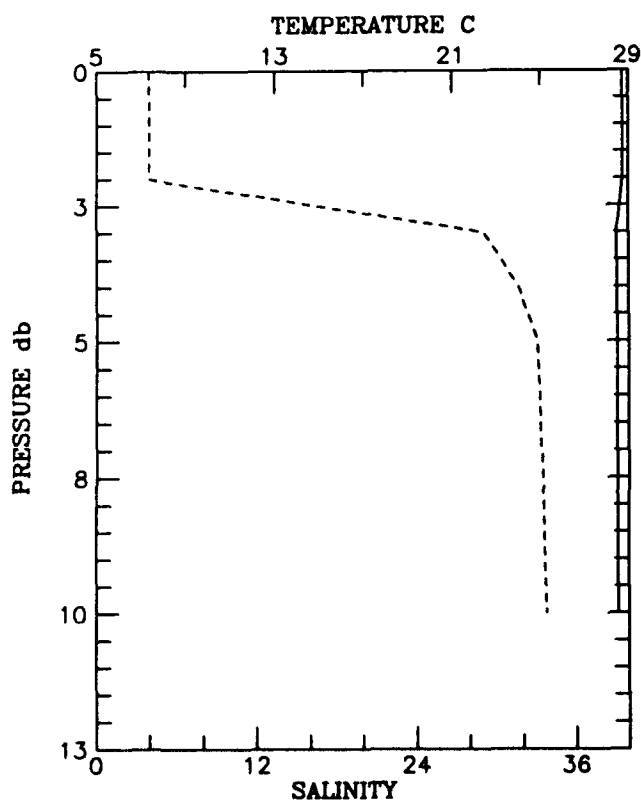
PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
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0.0	29.048	3.010	0.000	0.0000	0.000	83.0	79.8
1.0	29.104	2.401	0.000	0.0294	0.000	83.4	79.9
2.0	28.838	13.062	5.732	0.0551	0.000	53.3	73.1
3.0	28.497	35.314	22.469	0.0686	0.000	87.7	78.6
4.0	28.457	35.688	22.764	0.0739	0.000	92.9	89.1
5.0	28.325	35.818	22.905	0.0789	0.000	92.3	88.4
6.0	28.269	35.851	22.948	0.0839	0.000	91.6	87.8
7.0	28.234	35.869	22.973	0.0888	0.000	90.8	87.1
8.0	28.212	35.882	22.990	0.0937	0.000	90.1	86.3
9.0	28.192	35.891	23.004	0.0986	0.000	89.3	85.6
10.0	28.180	35.898	23.013	0.1035	0.000	88.7	85.0
11.0	28.174	35.901	23.017	0.1084	0.000	88.1	84.7
12.0	28.160	35.907	23.026	0.1132	0.000	86.7	83.2
13.0	28.156	35.908	23.028	0.1181	0.000	86.0	82.7
14.0	28.156	35.908	23.028	0.1230	0.000	86.2	82.8
15.0	28.153	35.910	23.031	0.1278	0.000	85.5	82.3
16.0	28.154	35.909	23.030	0.1327	0.000	85.6	82.4
17.0	28.150	35.911	23.033	0.1376	0.000	84.7	81.2
18.0	28.149	35.912	23.034	0.1424	0.000	84.2	80.9
19.0	28.147	35.913	23.035	0.1473	0.000	83.7	80.0
20.0	28.142	35.915	23.038	0.1521	0.000	78.7	75.0



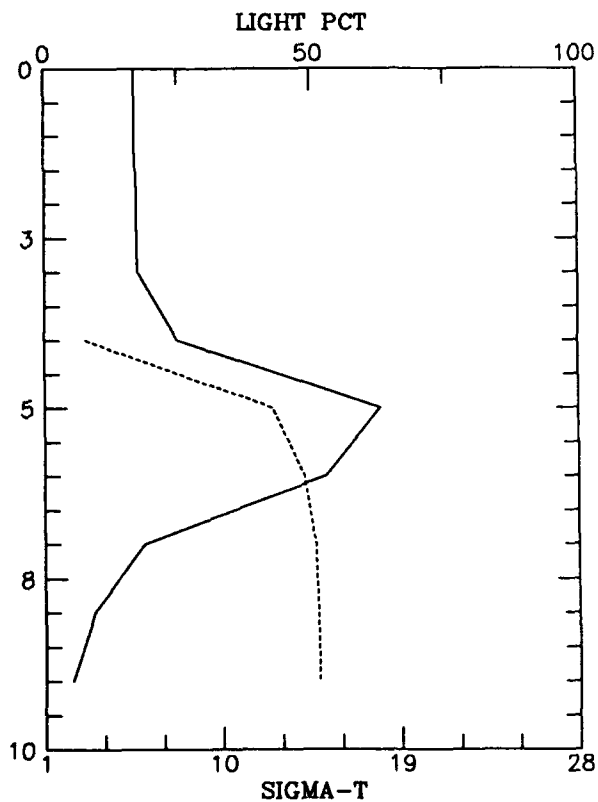
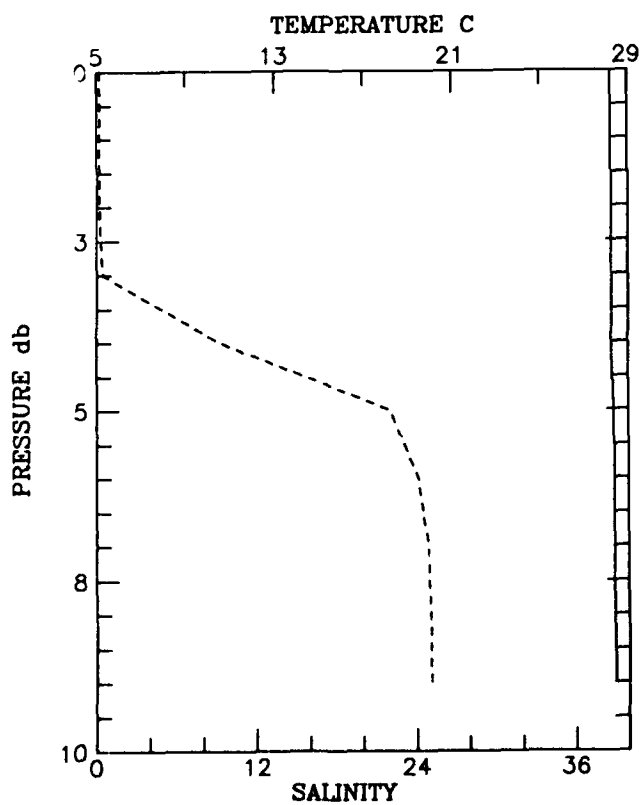
Cruise 18909 Consecutive Station # 84 Depth m:13 Time: 1989-08-13 02:28
 Position: 1° 52.70'N 49° 0.90'W Depth Deck Offset: 0.70 Fish 1

PRESSURE Interp (d-bars)		TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.719	3.931	0.000	0.0000	0.000	31.3	29.1
1.0	E	28.719	3.931	0.000	0.0284	0.000	31.3	29.1
2.0		28.719	3.931	0.000	0.0568	0.000	31.3	29.1
3.0		28.432	29.037	17.782	0.0759	0.000	56.4	33.1
4.0		28.451	31.679	19.755	0.0849	0.000	74.1	67.5
5.0		28.452	33.086	20.811	0.0924	0.000	69.2	67.3
6.0		28.462	33.272	20.947	0.0993	0.000	65.5	63.7
7.0		28.472	33.402	21.041	0.1061	0.000	62.4	62.5
8.0		28.482	33.563	21.159	0.1128	0.000	58.8	59.0
9.0		28.488	33.670	21.237	0.1194	0.000	53.7	54.9
10.0		28.492	33.746	21.293	0.1260	0.000	50.2	51.0



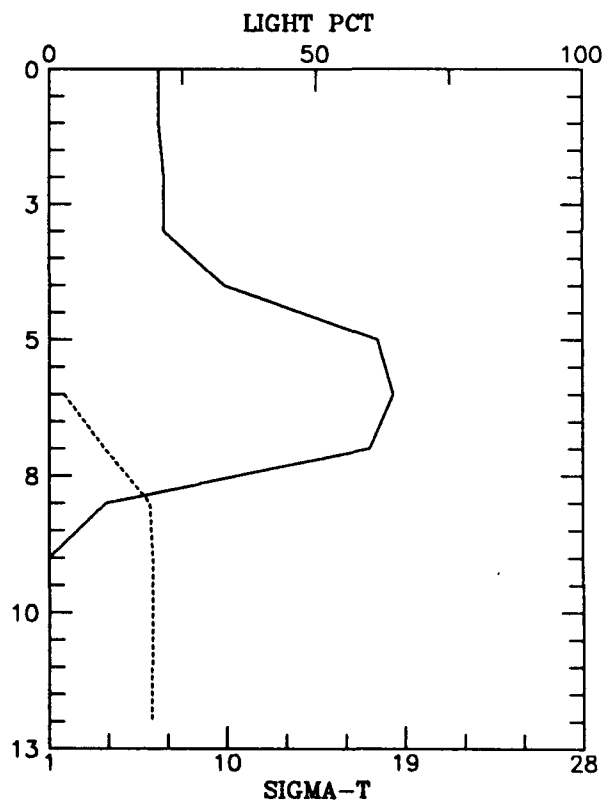
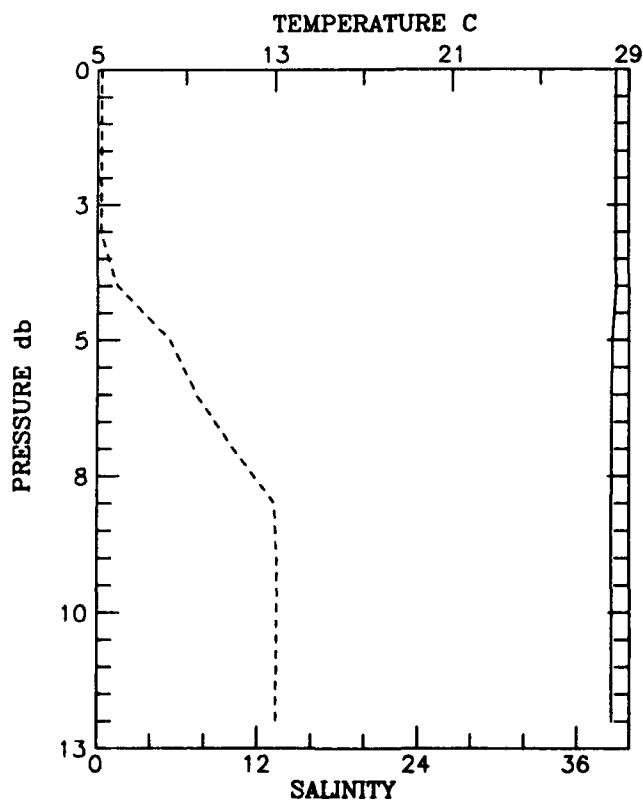
Cruise 18909 Consecutive Station # 85 Depth m:11 Time: 1989-08-13 04:27
 Position: 1° 41.00'N 49° 12.00'W Depth Deck Offset: 0.70 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.241	0.238	0.000	0.000	18.0	17.0
1.0		28.241	0.238	0.000	0.0310	18.0	17.0
2.0		28.232	0.216	0.000	0.0621	18.1	17.3
3.0		28.225	0.483	0.000	0.0930	19.3	17.5
4.0		28.219	9.258	3.087	0.1206	33.2	25.0
5.0		28.301	21.995	12.557	0.1402	55.1	62.9
6.0		28.338	24.131	14.141	0.1544	53.0	52.7
7.0		28.355	24.876	14.693	0.1676	16.5	18.6
8.0		28.358	25.026	14.804	0.000	6.7	9.2
9.0		28.359	25.062	14.830	0.1932	4.4	5.0



Cruise 18909 Consecutive Station # 86 Depth m:13 Time: 1989-08-13 06:45
 Position: 1° 31.70'N 49° 23.60'W Depth Deck Offset: 0.80 Fish 1

PRESSURE Interp (d-bars)	TEMP (deg C)	SALINITY (0/00)	SIGMA-T	DELTA-D	OXYGEN (ml/l)	CHANNELA (%light)	CHANNELB (%light)
0.0	E	28.407	0.271	0.000	0.000	22.3	20.6
1.0		28.407	0.271	0.000	0.0311	22.3	20.6
2.0		28.408	0.269	0.000	0.0621	22.5	21.5
3.0		28.415	0.280	0.000	0.0932	22.5	21.5
4.0		28.395	1.504	0.000	0.1238	38.0	32.8
5.0		28.220	5.461	0.258	0.1524	68.1	61.6
6.0		28.200	7.449	1.745	0.1787	70.1	64.5
7.0		28.184	10.204	3.802	0.2033	49.1	60.1
8.0		28.164	13.290	6.107	0.2258	0.9	10.6
9.0		28.161	13.471	6.243	0.2470	0.1	0.0
10.0		28.160	13.458	6.233	0.2682	0.1	0.0
11.0		28.160	13.423	6.208	0.2894	0.1	0.0
12.0		28.160	13.388	6.181	0.3106	0.1	0.0



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Author(s) Richard Limeburner and Robert C. Beardsley			6.
Performing Organization Name and Address Woods Hole Oceanographic Institution Woods Hole, Massachusetts 02543			8. Performing Organization Rept. No. WHOI-89-53
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Abstract (Limit: 200 words) CTD and acoustic Doppler current profiler (ADCP) observations were made on the North Brazil shelf adjacent to the mouth of the Amazon River during R/V <i>Iselin</i> cruise I8909 August 3-14, 1989 as part of A Multidisciplinary Amazon Shelf SEDiment Study (AMASSEDs). These observations were obtained during a large-scale survey in support of geological and geochemical sampling, an anchored time series station consisting of 26 hourly CTD casts, and one transect which was repeated off the mouth of the Amazon River. The maximum sampling depth at each station was within two meters of the bottom. The primary objectives of the AMASSEDs hydrographic measurement program were to (a) observe and characterize the temperature, salinity, density, oxygen, fluorescence and light transmission fields and their spatial variability on the north Brazilian shelf directly influenced by the Amazon River discharge, (b) resolve the seaward extent and vertical structure of the surface plume of low salinity Amazon River water during different stages of river discharge, (c) describe the spatial structure of the turbidity and associated suspended sediment distributions across the shelf, (d) characterize the properties of the Amazon shelf water beneath the surface plume and their seasonal variability, and (e) describe the landward penetration of the North Brazil Current (NBC) with respect to water properties and shelf currents. This report represents a summary in graphic and tabular form of the hydrographic observations made during the first AMASSEDs cruise (I8909) on the R/V <i>Iselin</i> .			
Document Analysis a. Descriptors hydrography/CTD North Brazil coastal region Amazon river AMASSEDs (A Multidisciplinary Amazon Shelf SEDiment Study)			
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