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## **Biological, chemical and physical oceanographic conditions in the Southern Gulf of Saint Lawrence, 1996**

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1997

### **Canadian Data Report of Fisheries and Aquatic Sciences 1029**



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## **Canadian Data Report of Fisheries and Aquatic Sciences**

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Canadian Data Report of  
Fisheries and Aquatic Sciences 1029

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Biological, chemical and physical oceanographic conditions in the Southern Gulf of  
Saint Lawrence, 1996

by

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## ABSTRACT

L.E. Waite, J.C. Smith, P. Cormier and K. Pauley. 1997. Biological, chemical and physical oceanographic conditions in the Southern Gulf of Saint Lawrence, 1996. Can. Data Rep. Fish. Aquat. Sci. 1029: vi + 172p.

An oceanographic program was developed for the Southern Gulf of Saint Lawrence to help address DFO issues relating to the decline in Gulf groundfish stocks and the role of environmental factors in recruitment failure. The program started in 1993 and continued through 1996 and was designed to develop a comprehensive database on biological, chemical and physical properties in the Southern Gulf in order to (1) characterize regional and temporal variability in oceanographic conditions, (2) quantify the effects of physical and chemical environmental changes on plankton productivity, (3) determine if a relationship exists between variations in productivity and recruitment variability in important commercial fisheries stocks and (4) determine the effects of the environment on the carrying capacity of molluscan aquaculture. This reports summarizes the oceanographic survey data in the Southern Gulf of Saint Lawrence for 1996.

## RÉSUMÉ

L.E. Waite, J.C. Smith, P. Cormier and K. Pauley. 1997. Biological, chemical and physical oceanographic conditions in the Southern Gulf of Saint Lawrence, 1996. Can. Data Rep. Fish. Aquat. Sci. 1029: vi + 172p.

En 1993, un programme de suivi des paramètres océanographiques a été établi dans le sud du Golfe du St.-Laurent pour aider le MPO à comprendre la baisse des stocks de poissons de fond et le rôle des facteurs environnementaux sur la diminution du recrutement. Ce programme qui s'est terminé en 1996, avait été créé pour développer une base de données compréhensive sur les aspects de l'océanographie biologique, chimique et physique dans le sud du Golfe pour (1) caractériser la variabilité régionale et temporelle des conditions océanographiques, (2) quantifier les changements environnementaux physiques et chimiques sur la productivité planctonique, (3) déterminer s'il y a une relation entre les variations de productivité et la variabilité du recrutement dans les pêcheries commerciales et (4) déterminer les effets environnementaux sur la capacité de charge de l'aquiculture des mollusques. Ce rapport est un sommaire des données océanographiques pour 1996.





## 1.0 INTRODUCTION

The data summarized in this report are the outcome of a research program developed for the Southern Gulf of Saint Lawrence to respond to environmental issues related to the recent dramatic decline in commercial fish stocks and the question of a possible environmental link to these declines. This report summarizes the results from surveys of biological, chemical and physical oceanographic variables in the Southern Gulf of Saint Lawrence in 1996.

### 1.1 Background

The recent catastrophic declines in Gulf and Atlantic Zone groundfish stocks prompted scientists to inquire into the reasons for the failure of recruitment to these populations. Recruitment can fail at any life history stage, but larvae would seem particularly vulnerable. The factors governing larval fish production and recruitment need to be understood. Also, in support of other fisheries such as molluscan aquaculture, the knowledge of the effects of the environment on aquaculture carrying capacity is required. The objective of this environmental program was to develop a more comprehensive database of physical, chemical and biological properties. This database would then be used to (1) characterize regional and temporal variability in oceanographic conditions within the southern Gulf of Saint Lawrence; (2) quantify the effects of changes, in the physical and chemical environment, on primary production and (3) determine whether any relationship exists between environmentally induced variation in primary production and the variance in recruitment to important commercial species.

## 2.0 MATERIAL AND METHODS

### 2.1 Sampling Sites

There were 2 research surveys conducted during 1996: (1) Survey 96-01 with 25 stations, 03-Jul-96 to 08-Jul-96 aboard the C.C.G.C. Calanus on Shediac Valley and (2) Survey 96-02 with 37 stations, 17-Jul-96 to 24-Jul-96 aboard the C.C.G.C. Navicula from Miramichi, NB down through the Northumberland Strait into Cardigan Bay, PEI and across to St. Georges Bay, NS. Water samples were collected when weather permitted while at anchor.

### 2.2 Data and Sample Collection

Data and samples collected at most stations included location, date, local time, total depth, SECCHI depth, air temperature, surface water temperature, integrated sky irradiance, latitude and longitude, *in situ* fluorescence, fluorescence response index (*FRI*); depth profiles of salinity, temperature, density, fluorescence and irradiance; chlorophyll *a*;

phaeophytin  $a$ ; ammonia ( $NH_3$ ); nitrates ( $NO_2$  and  $NO_3$ ); phosphate ( $PO_4$ ); silicate ( $SiO_4$ ) and total carbon dioxide ( $tCO_2$ ). Primary productivity ( $P^B$ ) was measured at selected sites. Initial water sample depth was 4m with additional sample depths added depending on the total depth of the water column and the relative fluorescence of the CTD profiler. The date, local time, total depth and latitude and longitude were taken from ship board instruments when possible.

Surveys are identified with the last 2 digits of the year followed by a consecutive number for that year starting at 1. For example, the first survey in 1996 was labeled "Survey 96-01".

Discrete water samples were collected using a 12V Rule submersible bilge pump attached to a vinyl garden hose or 5L Niskin bottles. All water samples were stored in clean polyethylene containers in the dark until samples were processed.

### 2.3 SECCHI Depth

Light attenuation was measured with a SECCHI disk. The extinction coefficient ( $-k_l$ ) was calculated as described by Vollenweider (1969):

$$-k_l = \frac{\ln(0.01)}{3 \cdot SECCHI} \quad (1)$$

where:

$$SECCHI \text{ (m)} = \text{SECCHI depth}$$

### 2.4 Irradiance

A LI-COR LI-192SA Quantum sensor was used to measure the irradiance ( $\text{mol m}^{-2}$ ) in the sky. During Survey 96-01 the irradiance in the sky was integrated on an hourly basis and every 30 minutes during Survey 96-02.

### 2.5 Manual Salinity and Temperature

Manual salinity was measured using a hand held salinity refractometer (Atago Co.) with a precision of  $\pm 0.2 \text{ } \text{‰}$ . The air and water surface temperature was measured using a hand held Barnant 115 thermocouple with an accuracy of  $\pm 0.1 \text{ } ^\circ\text{C}$ .

## 2.6 SEACAT SBE-19 CTD Data

Temperature, salinity, density, fluorescence and irradiance profiles were obtained using a SEABIRD electronics SEACAT SBE-19 pumped conductivity, temperature and pressure profiler (CTD) equipped with a Chelsea Instruments Mk III Aquatracka fluorometer configured and calibrated for chlorophyll *a* measurements and a LI-COR underwater LI-193SA Spherical Quantum Sensor which measures Photosynthetically Active Radiation ( PAR ) in aquatic environments.

In order to maintain data accuracy the conductivity, temperature and pressure sensors were factory calibrated every 2 years. The accuracy of the SBE-19 CTD conductivity, temperature and pressure sensors is better than 0.001 S/m/month, 0.01 °C/6 months and 0.25% of full scale range respectively and the resolution is better than 0.0001 S/m, 0.001 °C and 0.015% of full scale range respectively.

The Chelsea fluorometer measures chlorophyll *a* concentrations in the approximate range of 0.01 to 100 µg L<sup>-1</sup> with an accuracy of ± 0.01 µg L<sup>-1</sup>. SEASOFT (SEABIRD software) interprets the fluorometer output voltage as:

$$C_{a\text{CTD}} = \text{slope} \cdot \left( \frac{10^{V/sf} - 10^{VB}}{10^{V1} - 10^{V_{\text{acetone}}}} \right) + \text{offset} \quad (2)$$

where:

$C_{a\text{CTD}}$ ( µg L <sup>-1</sup> )	= chlorophyll <i>a</i> derived from the CTD
<i>slope</i>	= nominally 1.0
<i>V</i>	= fluorometer output voltage <i>in-situ</i>
<i>sf</i>	= scale factor (1.0 for the SBE-19)
<i>VB</i>	= electrical zero (from Chelsea factory calibration sheet)
<i>V1</i>	= fluorometer output voltage at 1 µg L <sup>-1</sup> (from Chelsea factory calibration sheet)
$V_{\text{acetone}}$	= fluorometer output voltage at zero chlorophyll (from Chelsea factory calibration sheet)
<i>offset</i>	= nominally 0.0

The LI-COR underwater LI-193SA Spherical Quantum Sensor is designed to respond equally to photons between 400 and 700 nm approximating a flat photon response. Spatial error is due to variations in the diffusing sphere, (negligible), and the sphere area "lost" because of the sensor base. This error is less than -10% for totally diffuse radiation, but is usually smaller than this because the upwelling radiation is smaller than the downwelling radiation. In high turbid waters the sensor will indicate high quanta values due to the displacement of water by the sensor sphere volume. This is because the point of measurement is taken to be at the centre of the sphere, but the attenuation which would

have been provided by the water within the sphere is absent. This error is typically +6.3% for water with an attenuation coefficient of  $3 \text{ m}^{-1}$ . The absolute calibration is  $\pm 5\%$  in air traceable to National Bureau Standards with a sensitivity typically of  $3 \mu\text{A}$  per  $1000 \mu\text{mol s}^{-1} \text{ m}^{-2}$  in water.

## 2.7 Nutrient Analysis

### 2.7.1 Ammonia Analysis

Samples for the manual determination of ammonium were analysed according to Solórzano (1969). The following procedures were employed in order to reduce sample volume and contamination. The  $25 \times 150 \text{ mm}$  screw capped culture tubes used for sample storage were cleaned prior to use by running the complete ammonia determination with deionized water. Sea water was filtered through clean  $47 \text{ mm}$  Whatman GF/F filters that were precombusted at  $450 \text{ }^\circ\text{C}$  for 4 hours in order to remove plant material and detritus. The tubes and caps were rinsed twice with the sample water.  $20 \text{ mL}$  of the filtered sea water were introduced into the tubes which were then sealed with parafilm, capped and frozen at  $-20 \text{ }^\circ\text{C}$  for subsequent analysis. There were 3 sub-samples taken. Analysis was performed in the same tubes in order to avoid sample transfer contamination (Glibert and McCarthy, 1984). With this method we had a detection limit of  $0.25 \mu\text{M}$ , which was double the blank, and a precision of  $\pm 0.01 \mu\text{M}$  based on a 4 point analysis over the concentration range  $0.5$  to  $4.0 \mu\text{M}$ .

Standards and calibration curves were prepared in the following manner. A primary stock solution of  $50 \text{ mM}$  ( $3.3035 \text{ g}$  of ammonium sulphate in  $1 \text{ L}$  of deionized water) was prepared and stored in a dark bottle with  $1 \text{ mL}$  of chloroform at  $4 \text{ }^\circ\text{C}$ . A working stock of  $50 \mu\text{M}$  was then prepared from the primary stock by a  $1/1000$  dilution. A fresh working stock and working standards were prepared daily during sample analysis. From the working stock a dilution series in the appropriate range was prepared. A linear calibration was obtained by regressing the absorbance readings from a Beckman DU-64 spectrophotometer at  $640 \text{ nm}$  against known concentrations of the working stock.

The method was scaled down for a  $20 \text{ mL}$  sample using  $0.8 \text{ mL}$  of phenol solution,  $0.8 \text{ mL}$  of nitroprusside solution and  $2 \text{ mL}$  of oxidising solution. Deionized water was used in order to generate a reagent blank. The reaction was carried out in the screw-capped test tubes and incubated in the dark in a  $50 \pm 2 \text{ }^\circ\text{C}$  water bath for 20 minutes in order to ensure reaction completion. Samples were then cooled and ammonia concentrations read at  $640 \text{ nm}$  in a spectrophotometer equipped with a flow through  $5 \text{ cm}$  path length cell. The cell was zeroed with deionized water. All absorbance readings were blank corrected before calculating corresponding concentrations. Ammonia concentration of the sample is derived by solving for  $x$  (where  $x = [\text{NH}_3]$ ) in the straight line equation:

$$NH_3 = \frac{(R_{640} - b_{640})}{a_{640}} \quad (3)$$

where:

$NH_3$  ( $\mu M$ ) = ammonia concentration of the sample

$R_{640}$  = the absorbance reading at 640 nm

$a_{640}$  = slope of ( $R_{640}$ , [standards]) regression

$b_{640}$  = intercept of ( $R_{640}$ , [standards]) regression

### 2.7.2 Nitrates, Phosphate and Silicate Analysis

Unfiltered samples for nitrates ( $NO_2 + NO_3$ ), phosphate ( $PO_4$ ) and silicate ( $SiO_4$ ) determinations were stored in 30 mL high-density polyethylene bottles that were previously cleaned. They were kept at  $-20^\circ C$  for 2 to 6 months until analysed using colorimetric techniques on a Technicon AutoAnalyzer II (Strain and Clement, 1996).

### 2.8 Chlorophyll *a* and Phaeophytin *a* Analysis

For chlorophyll *a* and phaeophytin *a* analysis, 3 sub-samples of a known volume of seawater were gently filtered onto 25 mm GFC filters prewashed with 5 mL of 5%  $Na_2HPO_4$  in order to buffer the filter then frozen in scintillation vials at  $-20^\circ C$  for subsequent analysis. Pigments were extracted from the filter with 10 mL of 90% acetone overnight at  $-20^\circ C$  (Parsons *et. al.* 1984 and Yentsch and Menzel, 1963).

For fluorometric calibration, a dilution series of the primary standard was prepared from pure spinach chlorophyll *a* (1 mg Sigma) which was dissolved in 250 mL of 90% acetone. The chlorophyll *a* concentration of the primary standard was determined spectrophotometrically at 663.5 nm using the extinction coefficient  $E^M(1) 8.36 \cdot 10^4$  at 659 nm in ether supplied by Sigma. It was assumed that the supplied chlorophyll *a* was 100% pure, i.e. that it contained no chlorophyll *a* degradation products such as phaeophytin *a*.

Two pigment analysis were performed on chlorophyll *a* samples taken during Survey 96-01. Two independent samples were taken, one for each method. Pigment analysis was performed using a Perkin Elmer LS3 spectrofluorometer and a Turner Designs fluorometer equipped with a chlorophyll *a* accessory kit. The results were adjusted to the volume of water filtered to the volume of the acetone extract. The same chlorophyll *a* standard was used for both techniques to ensure intercalibration.

### 2.8.1 Perkin Elmer LS3 Spectrofluorometer Pigment Analysis

The method described here is as suggested by Parsons *et. al.* 1984 and Yentsch and Menzel, 1963. Fluorescence using the Perkin Elmer LS3 spectrofluorometer were taken at excitation wavelengths of 408 nm for phaeophytin *a* and 430 nm for chlorophyll *a* before and after the samples were acidified with 2 drops of 5% HCl. The emission wavelength was 670 nm for all readings. Slit widths for the instrument were set at 10 nm for excitation and emission. The 1 cm sample cell was zeroed with 90% acetone.

Based on the spectrofluorometer monochromator calibration a pure chlorophyll *a* standard exhibited an emission peak at 670 nm and excitation peaks at 408 nm and 430 nm. Following acidification of the standard with 2 drops of 5% HCl, the excitation peak at 430 nm nearly disappeared (relative to the acetone blank) while the 408 nm peak was largely unaffected. The acidification completely converted the chlorophyll *a* to phaeophytin *a*. Since both chlorophyll *a* and phaeophytin *a* give equivalent fluorescence for 408 nm excitation, this gives a good estimate of the total concentration of *a* pigments (chlorophyll *a* + phaeophytin *a*) in a sample solution. In practice, we use an acidified sample for this purpose and calibrations are also based on acidified standards. The relation between 408 nm excited fluorescence and total *a* pigment levels is highly linear, with quenching occurring only at concentrations greater than 400  $\mu\text{g L}^{-1}$ . To determine the proportions of chlorophyll *a* and phaeophytin *a* in a sample, we assume that for a pure chlorophyll *a* standard the ratio between the 430 nm excited fluorescence before and after acidification ( $R_{430} / R_{430a}$ ) is characteristic of a solution of 100% pure chlorophyll *a*. A value of unity for this ratio is characteristic of a 100% pure phaeophytin *a* or 0% chlorophyll *a* solution. The slope of the line between these 2 sets of points  $\left[ (0,1), \left( \frac{\sum_{i=1}^n R_{430i}}{R_{430a}}, 100 \right) \right]$  can be used to calculate the

percentage of chlorophyll *a* present in a sample by:

$$\%C_{aPE} = a_{430/430a} \cdot \left( \frac{R_{430}}{R_{430a}} \right) + b_{430/430a} \quad (4)$$

where:

- $\%C_{aPE}$  = percentage of chlorophyll *a* in the sample
- $a_{430/430a}$  = slope of ( $R_{430} / R_{430a}$ ) regression
- $b_{430/430a}$  = intercept of ( $R_{430} / R_{430a}$ ) regression
- $R_{430}$  = absorbance reading at 430 nm
- $R_{430a}$  = absorbance reading at 430 nm with sample acidified

Then, using the coefficients from the regression of the acidified standard concentrations against the fluorescence at 408 nm, calculate the total amount of *a* pigment in the sample and adjust the results from the volume of the extract to the volume of sea water filtered by:

$$T_{a_{PE}} = ((a_{408a} \cdot R_{408a}) + b_{408a}) \cdot E' \cdot \frac{v}{V} \quad (5)$$

where:

$$\begin{aligned} T_{a_{PE}} \text{ (}\mu\text{g L}^{-1}\text{)} &= \text{total } a \text{ pigment in the sample} \\ a_{408a} &= \text{slope of ( [standards] / } R_{408a} \text{ ) regression} \\ b_{408a} &= \text{intercept of ( [standards] / } R_{408a} \text{ ) regression} \\ E' &= \text{normalized expansion factor ( 100 / expansion )} \\ R_{408a} &= \text{absorbance reading at 408 nm with sample acidified} \\ v \text{ ( mL )} &= \text{extract volume} \\ V \text{ ( mL )} &= \text{sample volume} \end{aligned}$$

From these 2 equations ( 4, 5 ) the amount of chlorophyll *a* and phaeophytin *a* in the sample can be calculated by:

$$C_{a_{PE}} = T_{a_{PE}} \cdot \left( \frac{\%C_{a_{PE}}}{100} \right) \quad (6)$$

and

$$P_{a_{PE}} = T_{a_{PE}} - C_{a_{PE}} \quad (7)$$

where:

$$\begin{aligned} C_{a_{PE}} \text{ (}\mu\text{g L}^{-1}\text{)} &= \text{the amount of chlorophyll } a \text{ in the sample} \\ P_{a_{PE}} \text{ (}\mu\text{g L}^{-1}\text{)} &= \text{the amount of phaeophytin } a \text{ in the sample} \end{aligned}$$

### 2.8.2 Turner Designs Fluorometer Pigment Analysis

The method described here is as suggested by Parsons *et. al.* 1984 and Yentsch and Menzel, 1963. The background (or blank) was read for each setting using 90% acetone and the fluorometer "zeroed". A linear calibration was obtained by regressing known concentrations of chlorophyll *a* against normalized fluorescence readings i.e.  $((100/\text{expansion}) \cdot \text{fluorescence})$ .

The fluorescence of the sample was measured before and after acidification. The average of the ratios of the fluorescence readings of the acid standard to the non-acid

standard ( $R'_B/R'_A$ ) equalled 2.2 which matches that suggested by Parsons *et. al.* 1984. This is the drop in fluorescence intensity before and after acid treatment of a pure chlorophyll extract which previously did not contain phaeo-pigments. Taking the intensity drop into account, chlorophyll *a* and phaeophytin *a* are calculated as follows:

$$C_{aTD} = (a_{TD} \cdot 1.83(R_B - R_A) - b_{TD}) \cdot \frac{v}{V} \quad (8)$$

$$P_{aTD} = (a_{TD} \cdot 1.83(2.2R_A - R_B) - b_{TD}) \cdot \frac{v}{V} \quad (9)$$

where:

$C_{aTD}$  ( $\mu\text{g mL}^{-1}$ ) = concentration of chlorophyll *a* in the acetone extract

$P_{aTD}$  ( $\mu\text{g mL}^{-1}$ ) = concentration of phaeophytin *a* in the sample

$$2.2 = \frac{\sum_{i=1}^n R'_B/R'_A}{n}$$

$$1.83 = \frac{\frac{\sum_{i=1}^n R'_B/R'_A}{n}}{\frac{\sum_{i=1}^n R'_B/R'_A}{n} - 1}$$

$a_{TD}$  = slope of the ( [standards] /  $R'_B$  ) regression

$b_{TD}$  = intercept of the ( [standards] /  $R'_B$  ) regression

$R_A$  = normalized fluorescence of the sample before acidification

$R_B$  = normalized fluorescence of the sample after acidification

$R'_A$  = normalized fluorescence of the standard after acidification

$R'_B$  = normalized fluorescence of the standard before acidification

$v$  ( mL ) = extract volume

$V$  ( mL ) = sample volume filtered



## 2.9 Fluorescence Response Index (*FRI*)

*In situ* fluorescence ( $F_o$ ) and 3-(3,4-dichlorophenyl)-1,1-dimethyl urea (DCMU) enhanced *in situ* fluorescence ( $F_{dcmu}$ ) was measured by introducing 5 mL of the seawater sample into a fluorometer cuvette. An initial fluorometer reading ( $F_o$ ) was taken. The cuvette was then removed and DCMU added to a final concentration of 5  $\mu\text{mol L}^{-1}$ . The sample was then mixed by inversion and the fluorometer reading taken again ( $F_{dcmu}$ ). A Turner Designs fluorometer equipped with a chlorophyll *a* accessory kit was used for these readings. The fluorescence readings were normalized (i.e.  $((10,000/\text{setting}) \cdot \text{fluorescence})$ ) then the fluorescence response index (*FRI*) (Roy and Legendre, 1979) calculated by the following equation:

$$FRI = \frac{(F_{dcmu} - F_o)}{F_o} \quad (10)$$

where:

$FRI$	= <i>in situ</i> fluorescence response index
$F_{dcmu}$	= normalized DCMU enhanced <i>in situ</i> fluorescence
$F_o$	= normalized <i>in situ</i> fluorescence

## 3.0 ACKNOWLEDGMENTS

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## APPENDIX 1.0 List of Symbols and Abbreviations

$a_{408a}$	slope of ( [standards] / $R_{408a}$ ) regression to determine $T_{aPE}$
$a_{430/430a}$	slope of ( $R_{430} / R_{430a}$ ) regression to determine $\%C_{aPE}$
$a_{640}$	slope of calibration regression to determine $NH_3$
$a_{TD}$	slope of ( [standards] / $R'_B$ ) regression to determine $T_{aTD}$
$b_{408a}$	intercept of ( [standards] / $R_{408a}$ ) regression to determine $T_{aPE}$
$b_{430/430a}$	intercept of ( $R_{430} / R_{430a}$ ) regression to determine $\%C_{aPE}$
$b_{640}$	intercept of calibration regression to determine $NH_3$
$b_{TD}$	intercept of ( [standards] / $R'_B$ ) regression to determine $T_{aTD}$
$C_{aCTD}$	chlorophyll $a$ derived from the CTD
$\%C_{aPE}$	percentage of chlorophyll $a$ in the sample (Perkin Elmer method)
$C_{aPE}$ ( $\mu\text{g L}^{-1}$ )	amount of chlorophyll $a$ in the sample (Perkin Elmer method)
$C_{aTD}$ ( $\mu\text{g L}^{-1}$ )	amount of chlorophyll $a$ in the sample (Turner Designs method)
CTD	conductivity, temperature and depth
DCMU	3-(3,4-dichlorophenyl)-1,1-dimethyl urea
$E'$	normalized expansion factor to calculate $T_{aPE}$
$F_o$	normalized <i>in situ</i> fluorescence to determine $FRI$
$F_{CTD}$	relative fluorescence from the CTD
$F_{dcmu}$	normalized DCMU enhanced <i>in situ</i> fluorescence to determine $FRI$
$FRI$	fluorescence response index
$\langle I_{CTD} \rangle$ ( $\mu\text{mol s}^{-1} \text{m}^{-2}$ )	irradiance readings from the CTD
$-k_1$	extinction coefficient calculated using SECCHI depth
$-k_2$	extinction coefficient calculated using the irradiance data
$NH_3$ ( $\mu\text{M}$ )	ammonia concentration of the sample
$NO_2 + NO_3$ ( $\mu\text{M}$ )	amount of nitrates in the sample
$P_{aPE}$ ( $\mu\text{g L}^{-1}$ )	amount of phaeophytin $a$ in the sample (Perkin Elmer method)
$P_{aTD}$ ( $\mu\text{g L}^{-1}$ )	amount of phaeophytin $a$ in the sample (Turner Designs method)
$PO_4$ ( $\mu\text{M}$ )	amount of phosphate in the sample
PAR	photosynthetically active radiation
$R'_A$	normalized fluorescence of the standard after acidification using a Turner Designs fluorometer
$R'_B$	normalized fluorescence of the standard before acidification using a Turner Designs fluorometer
$R_A$	normalized fluorescence of the sample after acidification

$R_B$	using a Turner Designs fluorometer normalized fluorescence of the sample before acidification using a Turner Designs fluorometer
$R_{408a}$	absorbance reading at 408 nm with sample acidified to determine $T_{aPE}$
$R_{430}$	absorbance reading at 430 nm to determine $\%C_{aPE}$
$R_{430a}$	absorbance reading at 430 nm with sample acidified to determine $\%C_{aPE}$
$R_{640}$	absorbance reading at 640 nm to determine $NH_3$
Sal (PSU)	salinity from the CTD
SECCHI (m)	SECCHI depth
$\sigma_\tau$ (kg m <sup>-3</sup> )	density (sigma-theta) from the CTD
$SiO_4$ (μM)	amount of silicate in the sample
$T_{aPE}$ (μg L <sup>-1</sup> )	total $a$ pigment in the sample
$v$ (mL)	extract volume
$V$ (mL)	sample volume filtered

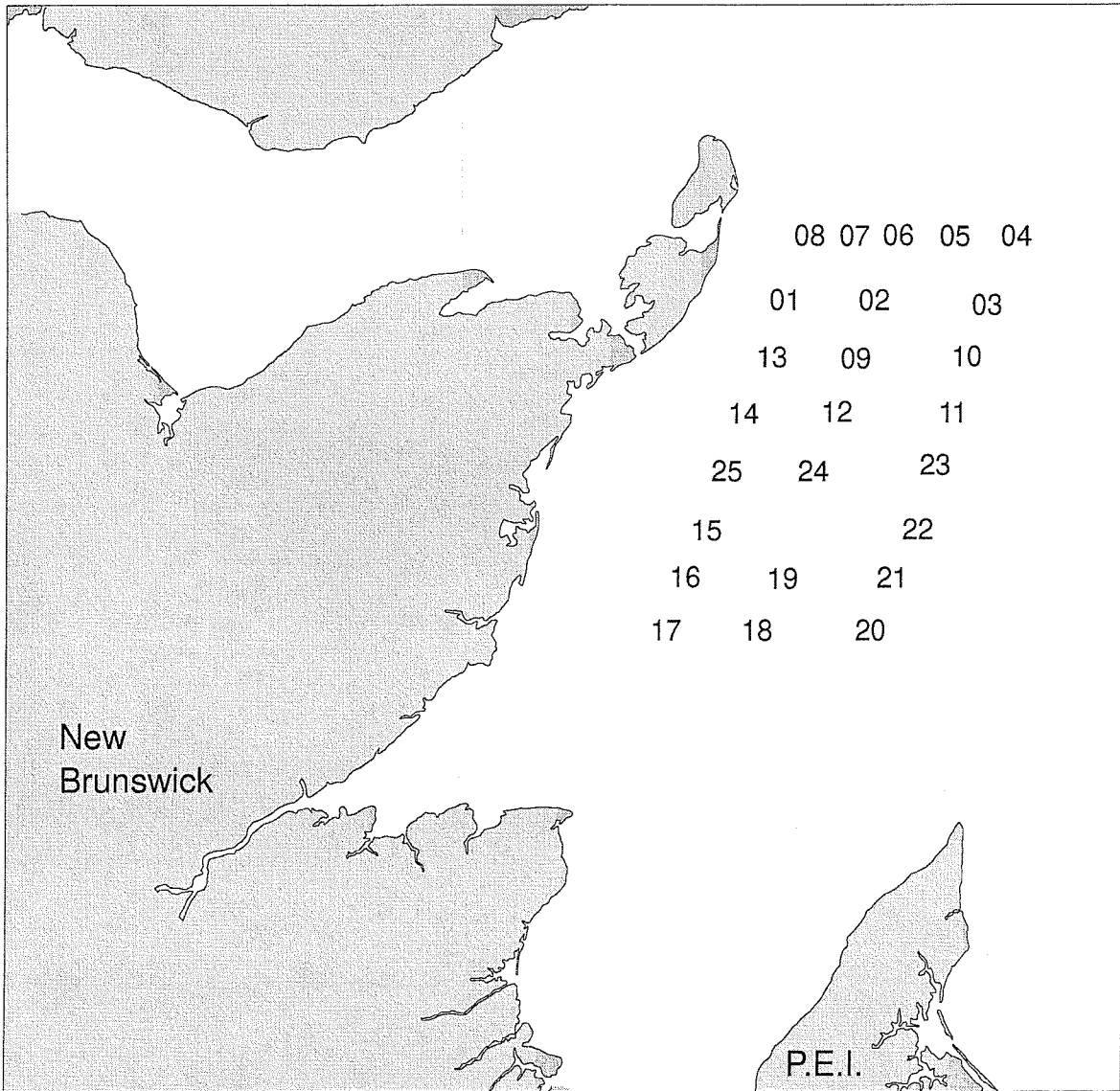
**APPENDIX 2.0 1996 Sampling Summary.**

<b>Survey</b>	<b>Survey Description</b>	<b>Start Date</b>	<b>End Date</b>	<b>Number of Stations</b>	<b>Number of CTD Casts</b>
<b>Survey 96-01</b>	1996 Calanus July Research Survey sample collection	03-Jul-96	08-Jul-96	25	25
<b>Survey 96-02</b>	1996 Navicula July Research Survey sample collection	17-Jul-96	24-Jul-96	37	37
<b>Total for Year:</b>				<b>62</b>	<b>62</b>

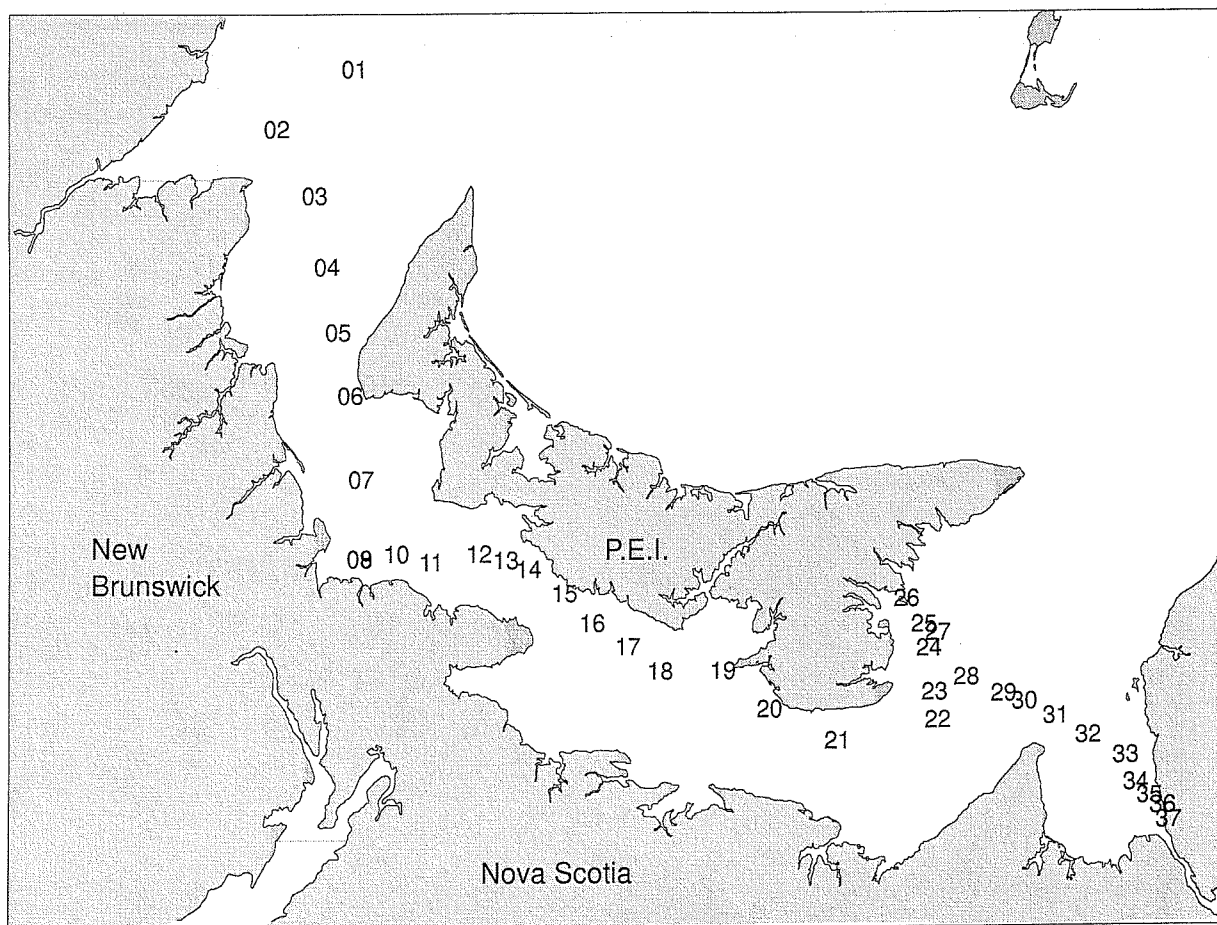


### APPENDIX 3.0 1996 Sampling Locations.

Appendix 3.1 Survey 96-01 sampling locations.



Appendix 3.2 Survey 96-02 sampling locations.





### Appendix 4.1 Physical and biological data collected during Survey 96-01. 03-Jul-96 to 08-Jul-96

#### Survey 96-01

STATION 01

Location SHEDIAC VALLEY

Date	03-Jul-96	Time	9:03 AM	Total Depth (m)	30.00	SECCHI Depth (m)	7.5	$-k_I$	0.2	Air Temperature (°C)	17.5	Surface Temperature (°C)	14.5	Surface Salinity (p.p.t.)	26.5	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude
Depth (m)	4	13.78	2.53	3.80	0.33	$FRI$		$F_{CTD}$ (Relative)	34	Sal (PSU)	26.23	Surface Temperature (°C)	19.46	Surface Salinity (p.p.t.)	< $I_{CTD}$ >	$C_{a^{PE}}$ (µg/L)	$P_{a^{PE}}$ (µg/L)	$NH_3$ (µM)	$NO_2+NO_3$ (µM)	$P^0_4$ (µM)	$Si^0_4$ (µM)	47°48.07'	64°25.06'
Depth (m)	4	13.78	2.53	3.80	0.33	$FRI$		$F_{CTD}$ (Relative)	34	Sal (PSU)	26.23	Surface Temperature (°C)	19.46	Surface Salinity (p.p.t.)	< $I_{CTD}$ >	$C_{a^{PE}}$ (µg/L)	$P_{a^{PE}}$ (µg/L)	$NH_3$ (µM)	$NO_2+NO_3$ (µM)	$P^0_4$ (µM)	$Si^0_4$ (µM)	47°48.07'	64°25.06'

Weather: Overcast; light wind

Comment: Moderate sea; CTD PAR sensor broken; Quebec time

#### Survey 96-01

STATION 02

Location SHEDIAC VALLEY

Date	03-Jul-96	Time	10:20 AM	Total Depth (m)	46.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature (°C)	24.8	Surface Temperature (°C)	14.7	Surface Salinity (p.p.t.)	26.5	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude
Depth (m)	4	13.38	0.28	4.43	0.94	$FRI$		$F_{CTD}$ (Relative)	35	Sal (PSU)	25.92	Surface Temperature (°C)	19.30	Surface Salinity (p.p.t.)	< $I_{CTD}$ >	$C_{a^{PE}}$ (µg/L)	$P_{a^{PE}}$ (µg/L)	$NH_3$ (µM)	$NO_2+NO_3$ (µM)	$P^0_4$ (µM)	$Si^0_4$ (µM)	47°48.00'	64°14.00'
Depth (m)	4	13.38	0.28	4.43	0.94	$FRI$		$F_{CTD}$ (Relative)	35	Sal (PSU)	25.92	Surface Temperature (°C)	19.30	Surface Salinity (p.p.t.)	< $I_{CTD}$ >	$C_{a^{PE}}$ (µg/L)	$P_{a^{PE}}$ (µg/L)	$NH_3$ (µM)	$NO_2+NO_3$ (µM)	$P^0_4$ (µM)	$Si^0_4$ (µM)	47°48.00'	64°14.00'

Weather: Foggy; sun showing through; light wind

Comment: Calm sea; CTD PAR sensor broken; Quebec time

## Survey 96-01

STATION 03

Location SHEDIAC-VALLEY

Date	03-Jul-96	Time	11:45 AM	Total Depth (m)	79.00	SECCHI Depth (m)	7	-k <sub>l</sub>	0.2	Air Temperature (°C)	21.6	Surface Temperature (°C)	14.3	Surface Salinity (p.p.t.)	26	Surface F <sub>o</sub>	2.22	Surface F <sub>dcmu</sub>	2.85	Surface FRI	0.22	Latitude	47°47.99'	Longitude	64°00.03'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>d</sub> <sup>PE</sup> (μg/L)	P <sub>d</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P0 <sub>4</sub> (μM)	Si0 <sub>4</sub> (μM)											
4	13.05				38	25.89	19.34	132	0.39	0.77	0.78	0.38	0.15	1.30											
8	12.73	2.85	5.06	0.44	54	25.95	19.44	53	0.56	0.85	0.69	0.20	0.24	1.26											
12	12.43	2.85	6.01	0.53	51	26.04	19.57	25	1.18	1.41	1.91	0.09	0.22	1.19											
16	12.51	2.22	4.11	0.46	38	27.67	20.81	9	0.47	1.76	1.04	0.00	0.25	1.18											
24	4.73	1.58	1.58	0.00	13	30.20	23.90	2	0.20	0.40	1.22	0.68	0.53	1.71											
30	2.33	1.58	1.58	0.00	9	30.36	24.23	1	0.16	0.39	1.65														
60	-0.84	0.95	0.95	0.00	7	31.40	25.23		0.04	0.43	2.48	8.98	1.28	14.48											

Weather: Foggy

Comment: Calm; CTD PAR sensor broken; profiled with independent PAR sensor; Quebec time; manual light profile on back of station sheet; nitrate, phosphate and silicate sample from depth 30 missing

## Survey 96-01

STATION 04

Location SHEDIAC VALLEY

Date	03-Jul-96	Time	6:00 PM	Total Depth (m)	75.00	SECCHI Depth (m)	6.5	$-k_I$	0.2	Air Temperature (°C)	19	Surface Temperature (°C)	14.2	Surface Salinity (p.p.t.)	26	Surface $F_0$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	47°53.75'	Longitude	63°56.66'
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ (kg/m <sup>3</sup> )	$<I_{CTD}>$ (µmol/s/m <sup>2</sup> )	$C_{d,PE}$ (µg/L)	$P_{d,PE}$ (µg/L)	$NH_3$ (µM)	$NO_2+NO_3$ (µM)	$P^0_4$ (µM)	$Si^0_4$ (µM)								
4	13.37	2.53	5.06	0.50	44	25.88	19.27	80	0.62	0.96	0.49	0.04	0.16	1.26								
8	13.01	3.48	6.65	0.48	60	26.25	19.62	25	2.17	2.06	0.13	0.04	0.21	1.28								
12	12.80	4.11	7.28	0.43	57	26.28	19.69	9	1.39	1.39	0.36	0.00	0.21	1.87								
16	11.35	2.85	5.38	0.47	37	26.63	20.21	3	1.21	1.33	0.17	0.01	0.22	1.85								
22	6.95	2.53	4.75	0.47	14	29.66	23.22	1	0.96	1.36	0.68	0.04	0.28	1.58								
30	3.45	1.58	1.90	0.17	10	29.97	23.83	0	0.20	0.42	1.15	1.07	0.58	1.98								
50	-0.75	1.58	1.58	0.00	6	31.31	25.15	0	0.05	0.40	2.18	8.67	1.26	14.40								

Weather: Foggy; sun showing through

Comment: Calm; CTD PAR sensor replaced with PAR sensor SPQA-1275; Quebec time

## Survey 96-01

STATION 05

Location SHEDIAC VALLEY

Date	04-Jul-96	Time	7:50 AM	Total Depth (m)	79.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature (°C)	16.9	Surface Temperature (°C)	13.2	Surface Salinity (p.p.t.)	26.5	Surface $F_0$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	47°53.72'	Longitude	64°04.07'
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ (kg/m <sup>3</sup> )	$<I_{CTD}>$ (µmol/s/m <sup>2</sup> )	$C_{d,PE}$ (µg/L)	$P_{d,PE}$ (µg/L)	$NH_3$ (µM)	$NO_2+NO_3$ (µM)	$P^0_4$ (µM)	$Si^0_4$ (µM)								
4	13.33	2.22	5.38	0.59	41	25.86	19.26	60	1.01	1.32	0.27	0.03	0.20	1.24								

Weather: Overcast; light wind

Comment: Moderate sea; Quebec time

## Survey 96-01

STATION 06

Location SHEDIAC VALLEY

Date	04-Jul-96	Time	8:30 AM	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	Longitude	
				44.00	7.5	0.2	17.3	13.9	25.5	2.22	3.80	47°53.90'	64°11.03'	
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>a</sub> <sup>PE</sup> (μg/L)	P <sub>a</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P0 <sub>4</sub> (μM)	SiO <sub>4</sub> (μM)
4	13.12	2.53	5.70	0.56	41	25.77	19.24	62	1.02	1.19	0.24	0.00	0.13	1.21
8	12.29	3.16	6.33	0.50	52	25.80	19.40	19	1.18	1.62	0.44	0.00	0.13	1.20
12	12.05	2.53	5.70	0.56	49	25.84	19.47	7	1.24	1.53	0.52	0.00	0.21	1.16
16	11.81	2.22	5.06	0.56	36	25.97	19.62	3	1.12	1.38	0.48	0.00	0.17	1.12
20	10.90	1.90	2.85	0.33	22	28.62	21.83	1	0.63	0.96	0.55	0.22	0.28	1.55
24	7.01	0.95	0.95	0.00	12	29.46	23.06	1	0.18	0.43	1.84	0.51	0.43	1.69
40	1.59	0.63	0.63	0.00	9	30.62	24.49	0	0.08	0.35	1.84	3.99	0.89	6.84

Weather: Foggy; cool

Comment: Calm; Quebec time; ammonia sample lost from 8m

## Survey 96-01

STATION 07

Location SHEDIAC VALLEY

Date	04-Jul-96	Time	10:55 AM	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	Longitude	
				32.00	7	0.2	24.1	13.9	26	1.23	1.11	47°53.78'	64°16.77'	
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>a</sub> <sup>PE</sup> (μg/L)	P <sub>a</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P0 <sub>4</sub> (μM)	SiO <sub>4</sub> (μM)
4	13.35	2.22	4.75	0.53	43	25.81	19.22	142	1.23	1.11	0.17	0.01	0.34	1.27

Weather: Sunny; foggy

Comment: Calm; Quebec time

## Survey 96-01

STATION 08

Location SHEDIAC VALLEY

Date	Time	Total Depth (m)	SECCHI Depth (m)	$-k_I$	Air Temperature ( $^{\circ}\text{C}$ )	Surface Temperature ( $^{\circ}\text{C}$ )	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude		
04-Jul-96	11:30 AM	28.00	8	0.2	24.5	15	26	1.58	2.85	0.44	47°53.80'	64°22.00'		
Depth (m)	Temp. ( $^{\circ}\text{C}$ )	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $\text{kg/m}^3$ )	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{a,PE}$ ( $\mu\text{g/L}$ )	$P_{a,PE}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$NO_2+NO_3$ ( $\mu\text{M}$ )	$P0_4$ ( $\mu\text{M}$ )	$SiO_4$ ( $\mu\text{M}$ )
4	13.61	1.27	3.80	0.67	42	25.87	19.21	97	0.68	0.79	0.56	0.01	0.13	1.09
8	13.45	2.53	6.01	0.58	54	26.00	19.35	33	2.21	1.83	0.12	0.01	0.15	1.14
16	11.79	1.58	3.48	0.55	34	26.47	20.01	5	0.93	1.26	0.25	0.09	0.34	1.90
20	7.24	0.32	0.95	0.67	16	28.41	22.20	2	0.19	0.52	0.92	1.54	0.47	4.77
24	6.76	0.95	1.27	0.25	14	28.66	22.46	1	0.16	0.55	1.32	1.67	0.57	5.14
28	5.74	0.63	1.90	0.67	13	29.24	23.04	1	0.21	0.60	0.84	1.47	0.54	5.12

Weather: Foggy; overcast; coolComment: Quebec time

## Survey 96-01

STATION 09

Location SHEDIAC VALLEY

Date	06-Jul-96	Time	9:22 AM	Total Depth (m)	48.00	SECCHI Depth (m)	7	-k <sub>I</sub>	0.2	Air Temperature (°C)	18.2	Surface Temperature (°C)	14.5	Surface Salinity (p.p.t.)	25.5	Surface F <sub>o</sub>	1.58	Surface F <sub>dcmu</sub>	3.80	Surface FRI	0.58	Latitude	47°43.09'	Longitude	64°16.38'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>dPE</sub> (μg/L)	P <sub>dPE</sub> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P0 <sub>4</sub> (μM)	Si0 <sub>4</sub> (μM)											
4	14.11	1.58	3.80	0.58	37	26.37	19.51	20	0.58	0.64	n.d.	0.02	0.13	1.31											
8	14.26	2.22	5.70	0.61	48	27.14	20.07	7	1.01	0.85	0.17	0.05	0.20	1.24											
12	13.15	2.22	5.70	0.61	39	27.94	20.90	3	1.08	0.98	1.14	0.09	0.22	1.61											
16	10.46	1.58	3.80	0.58	21	28.99	22.19	2	0.78	0.96	0.95	0.14	0.28	1.47											
20	5.98	0.63	1.58	0.60	12	29.78	23.44	1	0.28	0.65	0.77	0.08	0.36	1.40											
30	1.41	0.32	0.35	0.09	7	30.46	24.38	0	0.07	0.18	1.90	2.06	0.63	2.83											
40	0.88	0.95	0.95	0.00	6	30.75	24.63	0	0.05	0.23	1.67	3.69	0.85	5.91											

**Weather:** Foggy; cool; rain; light wind**Comment:** Moderate sea; cod on bottom; smell of pulp and paper; Quebec time



## Survey 96-01

STATION 12

Location SHEDIAC VALLEY

Date	06-Jul-96	Time	3:25 PM	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	Longitude	
Total Depth (m)	50.00			6	0.3	22.5	15.1	26	3.48	7.28	0.52	47°38.90'	64°18.91'	
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>aPE</sub> (μg/L)	P <sub>aPE</sub> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	PO <sub>4</sub> (μM)	SiO <sub>4</sub> (μM)
4	14.64	3.48	7.59	0.54	62	26.53	19.53	79	1.22	1.11	1.02	0.12	0.16	1.87

Weather: Overcast; cool

Comment: Moderate sea; Quebec time

## Survey 96-01

STATION 13

Location SHEDIAC VALLEY

Date	06-Jul-96	Time	4:20 PM	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	Longitude	
Total Depth (m)	29.00			6.5	0.2	17.2	14.1	25.5	2.53	5.70	0.56	47°43.28'	64°26.96'	
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>aPE</sub> (μg/L)	P <sub>aPE</sub> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	PO <sub>4</sub> (μM)	SiO <sub>4</sub> (μM)
4	13.98	2.22	6.01	0.63	53	25.95	19.21	27	0.90	1.07	0.22	0.28	0.32	1.70
8	13.92	2.22	5.06	0.56	54	25.95	19.23	10	0.92	1.14	0.13	0.06	0.16	1.34
12	12.15	2.22	4.43	0.50	34	28.16	21.25	3	0.82	1.08	0.25	0.25	0.17	1.54
16	7.64	1.27	2.22	0.43	16	28.17	21.97	2	0.40	0.80	0.61	0.41	0.36	2.26
20	6.82	1.27	1.58	0.20	13	28.97	22.69	1	0.13	0.41	1.50	1.22	0.40	3.54
26	3.12				12	30.24	24.07	0	0.12	0.38	2.16	2.50	0.90	5.98

Weather: Sunny; cool

Comment: Moderate sea; Quebec time





## Survey 96-01

STATION 16

Location SHEDIAC VALLEY

Date	Time	Temp. (°C)	Total Depth (m)	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Surface NH <sub>3</sub> (µM)	Surface C <sub>a,PE</sub> (µg/L)	Surface P <sub>a,PE</sub> (µg/L)	Surface NO <sub>2</sub> +NO <sub>3</sub> (µM)	Surface P <sub>04</sub> (µM)	Surface Si <sub>04</sub> (µM)	Latitude	Longitude	
07-Jul-96	8:30 AM		30.00	6	0.3	18.1	14.5	27	2.85	5.38	0.47							47°24.89'	64°37.27'	
Depth (m)																				
4		14.02	2.53	0.56		27.26	20.21	<I <sub>CTD</sub> >	1.10	0.93	0.77	0.14	1.10	0.93	0.77	0.21	3.11			
8		13.89	2.53	0.56		27.30	20.26		1.14	1.04	0.31	0.04	1.14	1.04	0.31	0.19	3.08			
12		9.86	2.53	0.60		29.01	22.30		1.44	1.02	0.42	0.22	1.44	1.02	0.42	0.28	3.47			
16		5.52	0.95	0.57		29.21	23.04		0.58	0.71	0.87	1.38	0.58	0.71	0.87	0.47	4.88			
20		5.11	0.63	0.33		29.30	23.15		0.17	0.32	1.81	2.67	0.17	0.32	1.81	0.65	6.96			
25		3.86	0.95	0.00		29.69	23.57		0.06	0.44	4.27	3.35	0.06	0.44	4.27	0.83	9.07			

Weather: Sunny; windy

Comment: Quebec time

## Survey 96-01

STATION 17

Location SHEDIAC VALLEY

Date	Time	Temp. (°C)	Total Depth (m)	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Surface NH <sub>3</sub> (µM)	Surface C <sub>a,PE</sub> (µg/L)	Surface P <sub>a,PE</sub> (µg/L)	Surface NO <sub>2</sub> +NO <sub>3</sub> (µM)	Surface P <sub>04</sub> (µM)	Surface Si <sub>04</sub> (µM)	Latitude	Longitude	
07-Jul-96	9:50 AM		29.00	11	0.1	20.1	14.5	27	1.27	1.27	0.00							47°20.04'	64°39.89'	
Depth (m)																				
4		14.16	1.90	0.50		27.16	20.10	<I <sub>CTD</sub> >	0.81	0.98	0.34	0.09	0.81	0.98	0.34	0.15	2.49			

Weather: Sunny; clear

Comment: Moderate sea; Quebec time





## Survey 96-01

STATION 22

Location SHELDIAK VALLEY

Date	Time	Total Depth (m)	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Surface NH <sub>3</sub> (µM)	Surface NO <sub>2</sub> +NO <sub>3</sub> (µM)	Surface P <sub>04</sub> (µM)	Surface SiO <sub>4</sub> (µM)	Latitude	Longitude
07-Jul-96	2:49 PM	58.00	6.5	0.2	20.3	15.2	27	1.58	3.16	0.50					47°28.94'	64°08.71'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>T</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (µmol/s/m <sup>2</sup> )	C <sub>a</sub> <sup>PE</sup> (µg/L)	P <sub>a</sub> <sup>PE</sup> (µg/L)	NH <sub>3</sub> (µM)	NO <sub>2</sub> +NO <sub>3</sub> (µM)	P <sub>04</sub> (µM)	SiO <sub>4</sub> (µM)		
4	14.66	2.22	4.75	0.53	40	26.53	19.53	40	0.61	0.71	0.01	0.10	0.32	1.47		

Weather: Overcast; light windComment: Quebec time

## Survey 96-01

STATION 23

Location SHELDIAK VALLEY

Date	Time	Total Depth (m)	SECCHI Depth (m)	-k <sub>I</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Surface NH <sub>3</sub> (µM)	Surface NO <sub>2</sub> +NO <sub>3</sub> (µM)	Surface P <sub>04</sub> (µM)	Surface SiO <sub>4</sub> (µM)	Latitude	Longitude
07-Jul-96	6:00 PM	70.00	8	0.2	17.9	15.2	27	1.27	3.16	0.60					47°34.06'	64°06.46'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>T</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (µmol/s/m <sup>2</sup> )	C <sub>a</sub> <sup>PE</sup> (µg/L)	P <sub>a</sub> <sup>PE</sup> (µg/L)	NH <sub>3</sub> (µM)	NO <sub>2</sub> +NO <sub>3</sub> (µM)	P <sub>04</sub> (µM)	SiO <sub>4</sub> (µM)		
4	14.67	1.27	4.11	0.69	32	27.04	19.92	43	0.52	0.64	0.13	0.11	0.23	1.46		
8	14.13	2.22	6.01	0.63	46	27.12	20.08	22	0.70	0.73	0.89	0.22	0.76	1.55		
12	9.59	1.90	5.38	0.65	42	28.54	21.98	11	0.74	0.78	0.50	0.05	0.34	1.46		
16	6.88	0.32	0.32	0.00	28	29.06	22.76	6	0.60	0.82	1.98	0.56	0.41	2.04		
25	3.49	0.63	1.27	0.50	10	29.76	23.66	2	0.12	0.36	1.99	1.63	0.61	3.28		
50	0.08	0.32	0.63	0.50	7	30.95	24.83	0	0.03	0.30		6.37	1.17	11.84		

Weather: Sunny; high cloudsComment: Calm; Quebec time; ammonia sample from 50m lost

## Survey 96-01

## STATION 24

## Location SHEDIAC VALLEY

Date	Time	08-Jul-96	7:00 AM	Total Depth (m)	47.00	SECCHI Depth (m)	7.5	-k I	0.2	Air Temperature (°C)	22.1	Surface Temperature (°C)	15.1	Surface Salinity (p.p.t.)	27	Surface $F_o$	1.58	Surface $F_{dcmu}$	3.48	Surface FRI	0.55	Latitude	47°33.89'	Longitude	64°21.65'
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	FRI	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ (kg/m <sup>3</sup> )	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{aPE}$ ( $\mu\text{g/L}$ )	$P_{aPE}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$NO_2+NO_3$ ( $\mu\text{M}$ )	$PO_4$ ( $\mu\text{M}$ )	$SiO_4$ ( $\mu\text{M}$ )											
4	14.49	1.90	4.43	0.57	32	26.53	19.56	23	0.43	0.58	n.d.	0.13	0.14	1.62											
8	13.94	2.22	5.06	0.56	36	26.56	19.69	10	0.48	0.67	0.04	0.10	0.14	1.50											
12	13.22	2.53	5.38	0.53	39	26.99	20.16	4	0.72	0.91	0.32	0.08	0.14	1.59											
16	10.41	2.22	5.06	0.56	27	28.27	21.64	2	0.71	0.99	0.88	0.18	0.23	2.10											
25	4.13	0.95	1.27	0.25	8	29.49	23.39	1	0.03	0.42	2.11	1.72	0.59	4.33											
40	0.55	0.32	0.95	0.67	8	30.88	24.76	0	0.04	0.21	3.26	5.59	1.12	10.40											

Weather: Overcast; cool

Comment: Calm; whales; lots of fish; lots of fishing boats; Quebec time

## Survey 96-01

STATION 25

Location SHEDIAC VALLEY

Date	Time	08-Jul-96	10:00 AM	Total Depth (m)	27.00	SECCHI Depth (m)	6.5	-k <sub>1</sub>	0.2	Air Temperature (°C)	14.6	Surface Temperature (°C)	14.5	Surface Salinity (p.p.t.)	26	Surface F <sub>o</sub>	1.58	Surface F <sub>dcmu</sub>	3.16	Surface FRI	0.50	Latitude	47°33.88'	Longitude	64°32.11'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub>	<I <sub>CTD</sub> >	C <sub>d</sub> <sup>PE</sup> (μg/L)	P <sub>d</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	PO <sub>4</sub> (μM)	SiO <sub>4</sub> (μM)											
4	14.29	1.58	4.75	0.67	40	26.13	19.29	33	0.80	0.96	0.94	0.18	0.17	1.37											
8	13.67	1.90	5.06	0.62	39	26.16	19.43	14	0.79	0.98	0.14	0.11	0.17	1.34											
12	11.64	1.58	4.75	0.67	38	27.65	20.95	6	0.86	1.06	1.32														
16	10.90	2.22	4.43	0.50	27	28.70	21.89	3	0.85	1.18	0.16	0.21	0.32	2.17											
20	9.62	0.95	2.85	0.67	23	28.69	22.09	2	0.31	0.56	0.86	0.27	0.36	2.05											
24	6.50	0.95	1.58	0.40	15	29.31	23.00	1	0.16	0.35	1.67	1.50	0.66	5.03											

Weather: Rain; overcast; coolComment: Calm sea; Quebec time; nitrates, phosphate and silicate sample from depth 12 lost







## Survey 96-02

## STATION 02

Location 6 MILES NORTH OF POINT ESCUMINAC, N.B.

Date	17-Jul-96	Time	2:30 PM	Total Depth (m)	22.00	SECCHI Depth (m)	8	$-k_I$	0.2	Air Temperature (°C)	24.5	Surface Temperature (°C)	16.5	Surface Salinity (p.p.t.)	26	Surface $F_o$	1.58	Surface $F_{dcmu}$	1.58	Surface $FRI$	0.00	Latitude	47°10.92'	Longitude	64°47.73'				
Depth (m)	4	Temp. (°C)	16.84	$F_o$	1.58	$F_{dcmu}$	0.00	$FRI$	0.00	$F_{CTD}$ (Relative)	23	Sal (PSU)	26.39	$\sigma_t$ ( $kg/m^3$ )	18.95	Surface Temperature ( $\mu mol/s/m^2$ )	39	$C_{a^{PE}}$ ( $\mu g/L$ )	0.28	$P_{a^{PE}}$ ( $\mu g/L$ )	0.42	$NH_3$ ( $\mu M$ )	0.09	$NO_2+NO_3$ ( $\mu M$ )	0.14	$PO_4$ ( $\mu M$ )	0.14	$SiO_4$ ( $\mu M$ )	2.26
<b>Weather:</b> Sunny; hot; light breeze																													
<b>Comment:</b> Calm sea; wind has died down on the inside																													

## Survey 96-02

## STATION 03

Location 6 MILES EAST OF POINT ESCUMINAC, N.B.

Date	18-Jul-96	Time	9:25 AM	Total Depth (m)	21.00	SECCHI Depth (m)	4	$-k_I$	0.4	Air Temperature (°C)	19.5	Surface Temperature (°C)	16.3	Surface Salinity (p.p.t.)	26	Surface $F_o$	3.16	Surface $F_{dcmu}$	7.59	Surface $FRI$	0.58	Latitude	47°02.21'	Longitude	64°39.16'				
Depth (m)	4	Temp. (°C)	16.89	$F_o$	3.16	$F_{dcmu}$	0.62	$FRI$	0.62	$F_{CTD}$ (Relative)	56	Sal (PSU)	26.00	$\sigma_t$ ( $kg/m^3$ )	18.65	Surface Temperature ( $\mu mol/s/m^2$ )	47	$C_{a^{PE}}$ ( $\mu g/L$ )	0.94	$P_{a^{PE}}$ ( $\mu g/L$ )	0.94	$NH_3$ ( $\mu M$ )	0.01	$NO_2+NO_3$ ( $\mu M$ )	0.06	$PO_4$ ( $\mu M$ )	0.29	$SiO_4$ ( $\mu M$ )	4.59
<b>Weather:</b> Overcast; light breeze; on the cool side																													
<b>Comment:</b> Coast Guard ship coming																													

## Survey 96-02

STATION 04

Location 12 MILES EAST OF LITTLE GULLY

Date	Time	18-Jul-96	10:30 AM	Total Depth (m)	25.00	SECCHI Depth (m)	6.5	-k <sub>1</sub>	0.2	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Surface NH <sub>3</sub> (µM)	Surface NO <sub>2</sub> +NO <sub>3</sub> (µM)	Surface P <sub>04</sub> (µM)	Surface SiO <sub>4</sub> (µM)
													1.58	3.48	0.55		46°53.45'	64°36.73'	
Depth (m)	Temp. (°C)			F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (µmol/s/m <sup>2</sup> )	C <sub>a,PE</sub> (µg/L)	P <sub>a,PE</sub> (µg/L)	NH <sub>3</sub> (µM)	NO <sub>2</sub> +NO <sub>3</sub> (µM)	P <sub>04</sub> (µM)	SiO <sub>4</sub> (µM)			
4	16.62	1.90	4.75	0.60	37	26.67	19.22	88	0.57	0.52	n.d.	0.07	0.17	2.37					
8	16.45	1.90	5.06	0.62	46	26.72	19.30	36	0.64	0.59	n.d.	0.04	0.17	2.29					
12	8.10	3.16	8.54	0.63	71	28.35	22.04	16	1.08	0.83	n.d.	0.12	0.28	3.12					
16	5.53	1.58	3.80	0.58	21	28.77	22.68	8	0.61	0.69	0.35	2.30	0.72	7.08					
20	4.90	0.63	0.63	0.00	14	29.06	22.98	4	0.12	0.30	2.08	2.80	0.83	9.54					

Weather: Overcast; on the cool sideComment: Moderate sea; no LN2 so we are unable to do pigments; going to try Pi box but no promises

## Survey 96-02

STATION 05

Location 8 MILES WEST OF SEAL POINT, P.E.I.

Date	18-Jul-96	Time	12:00 PM	Total Depth (m)	19.00	SECCHI Depth (m)	5	$-k_I$	0.3	Air Temperature (°C)	21.8	Surface Temperature (°C)	17.1	Surface Salinity (p.p.t.)	27	Surface $F_o$	2.22	Surface $F_{dcmu}$	4.11	Surface FRI	0.46	Latitude	46°45.03'	Longitude	64°34.15'
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	FRI	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{dPE}$ ( $\mu\text{g/L}$ )	$P_{dPE}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$NO_2+NO_3$ ( $\mu\text{M}$ )	$PO_4$ ( $\mu\text{M}$ )	$SiO_4$ ( $\mu\text{M}$ )											
4	16.55	1.90	5.38	0.65	34	26.84	19.36	166	0.65	0.53	0.05	0.07	0.18	2.70											
8	16.30	2.53	6.33	0.60	62	26.90	19.46	66	0.69	0.67	0.71	0.11	0.17	2.59											
12	6.11	3.16	4.43	0.29	44	28.73	22.59	30	0.97	0.83	0.07	0.07	0.32	3.30											
16	5.44	0.95	2.22	0.57	20	28.97	22.86	15	0.34	0.40	1.35	2.44	0.76	8.88											
19	5.41	0.63	1.90	0.67	20	28.94	22.83	8	0.24	0.39	1.73	2.73	0.80	9.49											

Weather: Overcast; hot

Comment: Calm sea

## Survey 96-02

STATION 06

Location 6 MILES WEST OF WEST POINT, P.E.I.

Date	18-Jul-96	Time	2:05 PM	Total Depth (m)	21.00	SECCHI Depth (m)	6.5	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	28.1	Surface Temperature ( $^{\circ}$ C)	17.4	Surface Salinity (p.p.t.)	27	Surface $F_o$	1.27	Surface $F_{dcmu}$	1.90	Surface FRI	0.33	Latitude	46 $^{\circ}$ 37.03'	Longitude	64 $^{\circ}$ 31.68'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	FRI	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{aPE}$ ( $\mu g/L$ )	$P_{aPE}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$PO_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )											
4	16.63	2.22	5.70	0.61	25	27.31	19.70	505	0.68	0.72	0.11	0.06	0.28	2.67											
8	15.39	3.16	8.54	0.63	87	27.56	20.17	200	1.19	1.01	n.d.	0.10	0.35	2.71											
12	13.17	3.48	9.49	0.63	71	27.82	20.81	65	1.38	1.21	0.12	0.29	0.47	3.92											
16	12.18	1.90	6.01	0.68	69	27.95	21.09	24	0.89	0.88	0.31	0.74	0.55	4.85											
20	9.87	1.58	3.80	0.58	36	28.26	21.72	10	0.60	0.82	0.61	1.37	0.59	5.81											

Weather: Sunny; warmComment: Moderate sea

## Survey 96-02

STATION 07

Location 8 MILES EAST OF SAINT-THOMAS-DE-KENT, N.B.

Date	18-Jul-96	Time	4:12 PM	Total Depth (m)	10.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	24.8	Surface Temperature ( $^{\circ}$ C)	17.5	Surface Salinity (p.p.t.)	28.5	Surface $F_o$	2.22	Surface $F_{dcmu}$	4.75	Surface FRI	0.53	Latitude	46 $^{\circ}$ 26.83'	Longitude	64 $^{\circ}$ 29.00'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	FRI	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{aPE}$ ( $\mu g/L$ )	$P_{aPE}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$PO_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )											
4	17.42	1.90	5.38	0.65	33	27.43	19.61	387	0.64	0.78	0.00	0.05	0.36	1.64											

Weather: Sunny; warmComment: Moderate sea



## Survey 96-02

STATION -10

Location 4 MILES NORTH OF ROBICHAUD, N.B.

Date	19-Jul-96	Time	9:20 AM	Total Depth (m)	11.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature (°C)	21.4	Surface Temperature (°C)	17	Surface Salinity (p.p.t.)	27	Surface $F_o$	1.27	Surface $F_{dcmu}$	2.53	Surface $FRI$	0.50	Latitude	46°17.19'	Longitude	64°21.52'				
Depth (m)	4	Temp. (°C)	17.29	$F_o$	1.27	$F_{dcmu}$	3.16	$FRI$	0.60	$F_{CTD}$ (Relative)	34	Sal (PSU)	27.49	$\sigma_t$	19.69	$<I_{CTD}>$	234	$C_{d^{PE}}$ ( $\mu\text{g/L}$ )	0.50	$P_{d^{PE}}$ ( $\mu\text{g/L}$ )	0.60	$NH_3$ ( $\mu\text{M}$ )	n.d.	$N0_2+N0_3$ ( $\mu\text{M}$ )	0.16	$PO_4$ ( $\mu\text{M}$ )	0.41	$Si0_4$ ( $\mu\text{M}$ )	2.17

Weather: Sunny; warm

Comment: Calm sea; the stations are really close to one another

## Survey 96-02

STATION -11

Location 3 MILES NORTH OF FAGAN POINT, N.B.

Date	19-Jul-96	Time	10:05 AM	Total Depth (m)	12.00	SECCHI Depth (m)	6	$-k_I$	0.3	Air Temperature (°C)	28.5	Surface Temperature (°C)	18.4	Surface Salinity (p.p.t.)	27	Surface $F_o$	1.90	Surface $F_{dcmu}$	3.16	Surface $FRI$	0.40	Latitude	46°16.09'	Longitude	64°13.65'				
Depth (m)	4	Temp. (°C)	18.42	$F_o$	0.95	$F_{dcmu}$	2.22	$FRI$	0.57	$F_{CTD}$ (Relative)	32	Sal (PSU)	27.46	$\sigma_t$	19.41	$<I_{CTD}>$	169	$C_{d^{PE}}$ ( $\mu\text{g/L}$ )	0.40	$P_{d^{PE}}$ ( $\mu\text{g/L}$ )	0.59	$NH_3$ ( $\mu\text{M}$ )	n.d.	$N0_2+N0_3$ ( $\mu\text{M}$ )	0.19	$PO_4$ ( $\mu\text{M}$ )	0.44	$Si0_4$ ( $\mu\text{M}$ )	1.62

Weather: Sunny; warm

Comment: Calm sea

## Survey 96-02

STATION ·12

Location 2 MILES NORTH OF CADMAN POINT, N.B.

Date	19-Jul-96	Time	11:50 AM	Total Depth (m)	15.00	SECCHI Depth (m)	6	$-k_I$	0.3	Air Temperature (°C)	27.2	Surface Temperature (°C)	17.8	Surface Salinity (p.p.t.)	27	Surface $F_o$	1.58	Surface $F_{demu}$	2.22	Surface $FRI$	0.29	Latitude	46°17.10'	Longitude	64°03.15'
Depth (m)	Temp. (°C)	$F_o$	$F_{demu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ (kg/m <sup>3</sup> )	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{d^{PE}}$ ( $\mu\text{g/L}$ )	$P_{d^{PE}}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$NO_2+NO_3$ ( $\mu\text{M}$ )	$P0_4$ ( $\mu\text{M}$ )	$SiO_4$ ( $\mu\text{M}$ )											
4	17.94	1.90	5.06	0.62	40	27.62	19.64	417	0.14	0.35	n.d.	0.87	0.46	1.66											

Weather: Sunny; HOT

Comment: Calm sea; falling behind only a little bit because the stations are on top of one another

## Survey 96-02

STATION ·13

Location 5.5 MILES NORTH OF CAPE BRUIN, N.B.

Date	19-Jul-96	Time	12:40 PM	Total Depth (m)	16.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature (°C)	29.6	Surface Temperature (°C)	17.7	Surface Salinity (p.p.t.)	27	Surface $F_o$	1.58	Surface $F_{demu}$	2.22	Surface $FRI$	0.29	Latitude	46°16.44'	Longitude	63°57.22'
Depth (m)	Temp. (°C)	$F_o$	$F_{demu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ (kg/m <sup>3</sup> )	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{d^{PE}}$ ( $\mu\text{g/L}$ )	$P_{d^{PE}}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$NO_2+NO_3$ ( $\mu\text{M}$ )	$P0_4$ ( $\mu\text{M}$ )	$SiO_4$ ( $\mu\text{M}$ )											
4	18.06	1.27	4.43	0.71	45	27.63	19.62	148	0.60	1.05	n.d.	0.30	0.41	1.40											
8	17.86	1.58	5.70	0.72	55	27.63	19.67	66	0.71	1.24	n.d.	0.38	0.47	2.21											
12	17.84	1.58	5.38	0.71	51	27.63	19.68	31	0.75	1.28	n.d.	0.30	0.44	1.37											
16	17.83	1.58	5.38	0.71	49	27.63	19.68	14	0.68	1.26	0.07	0.20	2.99	2.04											

Weather: Sunny; hot

Comment: Moderate sea



## Survey 96-02

STATION 14

Location 5 MILES SW OF SEACOW HEAD, P.E.I.

Date	22-Jul-96	Time	7:30 AM	Total Depth (m)	24.00	SECCI Depth (m)	4	$-k_I$	0.4	Air Temperature (°C)	28	Surface Salinity (p.p.t.)	28	Surface $F_o$	2.22	Surface $F_{dcmu}$	4.43	Surface $FRI$	0.50	Latitude	46°15.24'	Longitude	63°52.27'
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{dPE}$ ( $\mu\text{g/L}$ )	$P_{dPE}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$N0_2+N0_3$ ( $\mu\text{M}$ )	$P0_4$ ( $\mu\text{M}$ )	$Si0_4$ ( $\mu\text{M}$ )									
4	17.43	1.90	5.38	0.65	48	27.78	19.88	38	0.73	1.13	0.16	0.76	0.89	2.12									
8	17.17	0.95	4.75	0.80	46	27.87	20.01	15	0.80	1.14	n.d.	0.48	0.49	1.92									
12	17.07	1.90	3.80	0.50	46	27.90	20.05	6	0.77	1.12	n.d.	0.15	0.62	1.90									
16	16.92	1.58	4.75	0.67	41	27.93	20.12	3	0.74	1.11	n.d.	0.19	0.52	1.98									
20	16.51	1.90	4.11	0.54	42	28.04	20.30	1	0.83	1.09	n.d.	0.29	0.52	2.39									

Weather: Overcast; warm

Comment: Rough rough sea; thermometer broke; it's really really rough

## Survey 96-02

STATION 15

Location 2 MILES SOUTH OF BORDEN, P.E.I.

Date	22-Jul-96	Time	10:30 AM	Total Depth (m)	22.00	SECCHI Depth (m)	6	-k <sub>I</sub>	0.3	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	28.5	Surface F <sub>o</sub>	2.85	Surface F <sub>dcmu</sub>	6.96	Surface F <sub>RI</sub>	0.59	Latitude	46°12.11'	Longitude	63°44.44'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	F <sub>RI</sub>	F <sub>CTD (Relative)</sub>	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>a</sub> <sup>PE</sup> (μg/L)	P <sub>a</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P0 <sub>4</sub> (μM)	Si0 <sub>4</sub> (μM)									
4	16.43	1.90	5.70	0.67	46	28.07	20.33	68	0.83	1.17	0.33	0.17	0.55	2.62									
8	16.09	1.90	5.06	0.62	43	28.12	20.44	24	0.83	1.23	n.d.	0.92	0.58	2.53									
12	16.01	1.90	5.06	0.62	42	28.13	20.47	10	0.84	1.31	n.d.	0.57	0.61	2.75									
16	15.97	1.90	5.38	0.65	43	28.15	20.49	4	0.81	1.16	n.d.	0.41	0.57	2.77									
20	15.96	1.90	5.06	0.62	44	28.15	20.49	2	0.83	1.25	n.d.	0.43	0.65	2.80									

Weather: Overcast; warmComment: Moderate sea; alot of activity on the FLINK

## Survey 96-02

STATION 16

Location 4.5 MILES SOUTH OF BELLS POINT, P.E.I.

Date	22-Jul-96	Time	12:00 PM	Total Depth (m)	20.00	SECCHI Depth (m)	6	$-k_I$	0.3	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	29	Surface $F_0$	1.90	Surface $F_{dcmu}$	3.16	Surface $FRI$	0.40	Latitude	46°08.56'	Longitude	63°38.14'
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_T$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{d^{PE}}$ ( $\mu g/L$ )	$P_{d^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )									
4	15.86	1.90	5.38	0.65	43	28.24	20.58	162	1.07	1.24	n.d.	0.26	0.69	3.06									
8	15.67	1.58	5.06	0.69	47	28.27	20.65	53	0.89	1.35	n.d.	0.35	0.58	3.08									
12	15.42	1.58	5.70	0.72	45	28.31	20.74	19	0.97	1.29	0.07	0.27	0.60	3.19									
16	14.89	0.95	4.11	0.77	44	28.41	20.92	7	0.92	1.15	0.00	0.34	0.69	3.55									
20	13.18	0.95	4.11	0.77	40	28.57	21.39	2	0.93	1.24	0.69	0.33	0.69	3.74									

Weather: Overcast; warm

Comment: Calm sea; much better day now

## Survey 96-02

STATION 17

Location 6.5 MILES SOUTH OF BIRCH POINT, P.E.I.

Date	22-Jul-96	Time	1:40 PM	Total Depth (m)	16.00	SECCHI Depth (m)	4	$-k_I$	0.4	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	28	Surface $F_0$	1.90	Surface $F_{dcmu}$	5.06	Surface $FRI$	0.62	Latitude	46°05.67'	Longitude	63°30.51'
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_T$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{d^{PE}}$ ( $\mu g/L$ )	$P_{d^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )									
4	16.91	1.58	5.38	0.71	48	28.15	20.29	110	0.73	1.19	0.13	0.17	0.52	2.41									

Weather: Overcast; cool

Comment: Calm sea

## Survey 96-02

STATION 18

Location 7 MILES SOUTH OF BLACK POINT, P.E.I.

Date	Time	Total Depth (m)	SECCHI Depth (m)	$-k_I$	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude
22-Jul-96	2:25 PM	20.00	6	0.3				2.22	5.06	0.56				46°02.51'	63°23.31'
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{d^{PE}}$ ( $\mu g/L$ )	$P_{d^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )	
4	17.08	1.27	4.43	0.71	24	28.28	20.35	177	0.66	1.01	0.25	0.14	2.53	2.28	

Weather: Overcast; warm

Comment: Moderate sea

## Survey 96-02

STATION 19

Location 5 MILES WEST OF PRIM POINT, P.E.I.

Date	Time	Total Depth (m)	SECCHI Depth (m)	$-k_I$	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude
22-Jul-96	3:30 PM	18.00	7	0.2				1.58	4.11	0.62				46°02.53'	63°09.84'
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{d^{PE}}$ ( $\mu g/L$ )	$P_{d^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )	
4	16.73	1.90	5.06	0.62	47	28.28	20.42	106	0.69	1.16	0.34	0.31	0.61	2.13	

Weather: Overcast; warm

Comment: Calm sea

## Survey 96-02

STATION 20

Location 5.5 MILES SE OF PRIM POINT, P.E.I.

Date	Time	Total Depth (m)	SECCHI Depth (m)	$-k_I$	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface $F_0$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude		
23-Jul-96	8:20 AM	20.00	6	0.3			29	2.22	2.22	0.00	45°57.91'	62°59.27'		
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ (kg/m <sup>3</sup> )	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{a^{PE}}$ ( $\mu\text{g/L}$ )	$P_{a^{PE}}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$NO_2+NO_3$ ( $\mu\text{M}$ )	$P^0_4$ ( $\mu\text{M}$ )	$Si^0_4$ ( $\mu\text{M}$ )
4	16.59	1.90	4.43	0.57	33	28.43	20.57	202	0.25	0.47	0.28	0.22	0.84	2.03
8	16.55	2.53	4.43	0.43	41	28.44	20.59	67	0.74	1.07	n.d.	0.28	0.51	1.91
12	12.91	1.90	4.43	0.57	46	29.11	21.85	23	0.95	1.19	0.12	0.44	1.08	2.18
16	11.47	2.22	6.01	0.63	37	29.27	22.24	10	1.20	1.09	n.d.	0.32	0.90	2.79
20	11.13	2.22	5.38	0.59	37	29.29	22.31	3	1.26	1.09	0.31	0.44	0.78	3.96

Weather: Sunny; warm

Comment: Calm sea

## Survey 96-02

STATION 21

Location 3.5 MILES SOUTH OF WOOD ISLAND, P.E.I.

Date	Time	Total Depth (m)	SECCHI Depth (m)	$-k_I$	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Surface $C_{d^{PE}}$ ( $\mu\text{g/L}$ )	Surface $P_{d^{PE}}$ ( $\mu\text{g/L}$ )	Surface $NH_3$ ( $\mu\text{M}$ )	Surface $N0_2+N0_3$ ( $\mu\text{M}$ )	Surface $P0_4$ ( $\mu\text{M}$ )	Surface $Si0_4$ ( $\mu\text{M}$ )
23-Jul-96	10:35 AM	44.00	5	0.3		30	1.27	2.22	0.43	45°53.81'	62°44.39'					
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_T$ ( $\text{kg/m}^3$ )	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	$C_{d^{PE}}$ ( $\mu\text{g/L}$ )	$P_{d^{PE}}$ ( $\mu\text{g/L}$ )	$NH_3$ ( $\mu\text{M}$ )	$N0_2+N0_3$ ( $\mu\text{M}$ )	$P0_4$ ( $\mu\text{M}$ )	$Si0_4$ ( $\mu\text{M}$ )		
4	12.80	2.85	7.28	0.61	49	29.12	21.88	226	0.83	1.14	n.d.	0.47	0.68	2.50		
8	11.63	2.85	8.23	0.65	50	29.23	22.18	58	1.33	1.30	0.21	0.91	0.67	3.72		
12	11.35	2.22	6.33	0.65	48	29.26	22.25	15	1.24	1.20	1.37	1.05	0.74	5.31		
16	9.03	2.53	6.96	0.64	43	29.46	22.78	5	1.07	1.20	0.20	1.28	0.86	6.16		
40	6.32	0.63	2.22	0.71	23	29.75	23.37	0	0.44	0.63	0.73	2.34	1.38	9.48		

Weather: Sunny; warm

Comment: Calm sea

## Survey 96-02

STATION 22

Location 5 MILES SE OF CAPE BEAR, P.E.I.

Date	23-Jul-96	Time	1:45 PM	Total Depth (m)	36.00	SECCHI Depth (m)	8.5	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	Surface Temperature ( $^{\circ}$ C)	Surface Salinity (p.p.t.)	29	Surface $F_o$	0.63	Surface $F_{dcmu}$	0.95	Surface $FRI$	0.33	Latitude	45 $^{\circ}$ 56.16'	Longitude	62 $^{\circ}$ 22.53'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_T$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{d^{PE}}$ ( $\mu g/L$ )	$P_{d^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$N_{O_2+N_{O_3}}$ ( $\mu M$ )	$P_{O_4}$ ( $\mu M$ )	$Si_{O_4}$ ( $\mu M$ )									
4	14.65	2.22	5.06	0.56	28	28.98	21.41	329	0.62	0.86	0.12	0.35	0.53	0.60									
8	14.34	3.16	6.65	0.52	65	29.00	21.49	227	0.39	0.91	n.d.	0.27	0.44	0.28									
12	10.33	3.48	10.13	0.66	64	29.39	22.52	75	0.70	1.11	n.d.	0.10	0.46	0.65									
16	8.28	1.90	5.38	0.65	45	29.55	22.96	30	0.24	0.35	0.10	0.24	0.62	4.53									
30	2.45				13	30.08	24.00	1	0.06	0.16	1.52	4.16	1.07	11.75									

Weather: Sunny; warm

Comment: Calm sea; water won't filter quick at all

## Survey 96-02

STATION 23

Location 3.5 MILES EAST OF CAPE BEAR, P.E.I.

Date	23-Jul-96	Time	2:25 PM	Total Depth (m)	30.00	SECCHI Depth (m)	9	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	Surface Temperature ( $^{\circ}$ C)	Surface Salinity (p.p.t.)	29	Surface $F_o$	0.63	Surface $F_{dcmu}$	0.95	Surface $FRI$	0.33	Latitude	45 $^{\circ}$ 59.95'	Longitude	62 $^{\circ}$ 23.09'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_T$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{d^{PE}}$ ( $\mu g/L$ )	$P_{d^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$N_{O_2+N_{O_3}}$ ( $\mu M$ )	$P_{O_4}$ ( $\mu M$ )	$Si_{O_4}$ ( $\mu M$ )									
4	15.62	1.90	3.80	0.50	25	28.85	21.11	281	0.33	0.83	0.55	0.24	0.34	0.33									

Weather: Sunny; hot

Comment: Calm sea

## Survey 96-02

STATION 24

Location 1.5 MILES EAST OF GRAND POINT, P.E.I.

Date	23-Jul-96	Time	3:05 PM	Total Depth (m)	18.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature ( $^{\circ}\text{C}$ )	Surface Temperature ( $^{\circ}\text{C}$ )	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude										
Depth (m)	4	Temp. ( $^{\circ}\text{C}$ )	15.21	$F_o$	2.22	$F_{dcmu}$	0.63	$F_{CTD}$ (Relative)	26	Sal (PSU)	28.85	$\sigma_t$ ( $\text{kg/m}^3$ )	21.19	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	202	$C_{aPE}$ ( $\mu\text{g/L}$ )	0.42	$P_{aPE}$ ( $\mu\text{g/L}$ )	0.92	$NH_3$ ( $\mu\text{M}$ )	n.d.	$NO_2+NO_3$ ( $\mu\text{M}$ )	0.35	$P0_4$ ( $\mu\text{M}$ )	0.49	$SiO_4$ ( $\mu\text{M}$ )	0.38

Weather: Sunny; hot

Comment: Calm sea

## Survey 96-02

STATION 25

Location 2 MILES EAST OF PANMURE ISLAND, P.E.I.

Date	23-Jul-96	Time	3:30 PM	Total Depth (m)	21.00	SECCHI Depth (m)	4.5	$-k_I$	0.3	Air Temperature ( $^{\circ}\text{C}$ )	Surface Temperature ( $^{\circ}\text{C}$ )	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude										
Depth (m)	4	Temp. ( $^{\circ}\text{C}$ )	14.66	$F_o$	4.11	$F_{dcmu}$	0.62	$F_{CTD}$ (Relative)	56	Sal (PSU)	28.87	$\sigma_t$ ( $\text{kg/m}^3$ )	21.32	$<I_{CTD}>$ ( $\mu\text{mol/s/m}^2$ )	53	$C_{aPE}$ ( $\mu\text{g/L}$ )	0.59	$P_{aPE}$ ( $\mu\text{g/L}$ )	1.12	$NH_3$ ( $\mu\text{M}$ )	n.d.	$NO_2+NO_3$ ( $\mu\text{M}$ )	0.26	$P0_4$ ( $\mu\text{M}$ )	0.57	$SiO_4$ ( $\mu\text{M}$ )	0.76

Weather:

Comment:



## Survey 96-02

STATION 26

Location 1 MILE SW OF RED HEAD, P.E.I.

Date	23-Jul-96	Time	4:00 PM	Total Depth (m)	12.00	SECCHI Depth (m)	-k <sub>1</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	46°11.58'	Longitude	62°29.18'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>d</sub> <sup>PE</sup> (μg/L)	P <sub>d</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P <sub>04</sub> (μM)	Si <sub>04</sub> (μM)			
4	14.25	5.38	10.76	0.50	95	28.84	21.38	255	0.69	1.51	n.d.	0.86	0.69	0.31			
7	13.31	5.38	12.97	0.59	113	28.98	21.68	111	0.83	1.45	0.10	0.39	0.73	1.04			
10	12.16	5.38	15.19	0.65	108	29.12	22.00	42	1.43	1.94	n.d.	0.40	0.65	2.20			
13	10.87	4.75	16.14	0.71	83	29.30	22.36	15	1.99	2.03	n.d.	0.48	0.64	3.58			

Weather: Sunny; hot

Comment: Calm sea

## Survey 96-02

STATION 27

Location 4.5 MILES EAST OF PANMURE ISLAND, P.E.I.

Date	24-Jul-96	Time	6:50 AM	Total Depth (m)	18.00	SECCHI Depth (m)	-k <sub>1</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	46°07.15'	Longitude	62°22.41'
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>t</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>d</sub> <sup>PE</sup> (μg/L)	P <sub>d</sub> <sup>PE</sup> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P <sub>04</sub> (μM)	Si <sub>04</sub> (μM)			
4	14.47	3.16	9.18	0.66	70	28.81	21.31	7	1.18	1.25	n.d.	0.17	0.59	0.78			

Weather: Overcast; cool

Comment: Calm sea

## Survey 96-02

STATION 28

Location 5 MILE NORTH OF FISHERMAN'S BANK

Date	24-Jul-96	Total Depth (m)	SECCHI Depth (m)	-k <sub>1</sub>	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface F <sub>o</sub>	Surface F <sub>dcmu</sub>	Surface FRI	Latitude	Longitude		
Time	7:35 AM	19.00	5	0.3		29	1.58	2.22	0.29	46°01.73'	62°16.08'			
Depth (m)	Temp. (°C)	F <sub>o</sub>	F <sub>dcmu</sub>	FRI	F <sub>CTD</sub> (Relative)	Sal (PSU)	σ <sub>T</sub> (kg/m <sup>3</sup> )	<I <sub>CTD</sub> > (μmol/s/m <sup>2</sup> )	C <sub>aPE</sub> (μg/L)	P <sub>aPE</sub> (μg/L)	NH <sub>3</sub> (μM)	NO <sub>2</sub> +NO <sub>3</sub> (μM)	P0 <sub>4</sub> (μM)	Si0 <sub>4</sub> (μM)
4	16.25	1.58	4.43	0.64	33	28.52	20.71	33	0.49	0.52	4.42	0.35	0.37	0.32
8	16.23	2.22	5.38	0.59	35	28.52	20.72	17	0.54	0.66	0.78	0.13	1.41	0.48
12	15.82	2.85	7.91	0.64	48	28.63	20.90	9	0.53	0.83	n.d.	0.50	2.46	0.67
16	14.82	3.48	11.39	0.69	72	28.76	21.20	4	0.89	1.29	0.25	0.37	1.36	0.63
20	9.60	3.48	10.44	0.67	54	29.44	22.68	2	1.63	1.47	0.28	1.18	0.97	4.72

Weather: Overcast; cool

Comment: Calm sea; a couple of scallop draggers on Fisherman's Bank

## Survey 96-02

## STATION 29

Location 6 MILES EAST OF FISHERMAN'S BANK

Date	24-Jul-96	Time	9:00 AM	Total Depth (m)	42.00	SECCHI Depth (m)	8	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	29	Surface Salinity (p.p.t.)	29	Surface $F_o$	1.27	Surface $F_{dcmu}$	2.85	Surface $F_{RI}$	0.56	Latitude	45 $^{\circ}$ 59.56'	Longitude	62 $^{\circ}$ 08.04'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	$F_{RI}$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{a^{PE}}$ ( $\mu g/L$ )	$P_{a^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )									
4	16.38	1.58	4.11	0.62	25	28.52	20.69	131	0.22	0.76	0.15	1.64	2.55	0.83									
8	16.12	1.90	5.38	0.65	37	28.53	20.75	73	0.38	0.51	0.20	0.15	0.46	0.29									
16	13.14	2.22	3.80	0.42	79	28.65	21.45	24	1.57	1.42	0.17	0.11	0.46	0.31									
24	2.94	3.80	9.18	0.59	53	29.93	23.85	5	1.78	1.79	0.10	1.86	1.07	6.34									
40	0.40	1.58	1.58	0.00	11	30.60	24.54	0	0.16	0.31	2.57	5.28	1.24	12.88									

Weather: Sunny; warm

Comment: Calm sea; keeping up right now

## Survey 96-02

## STATION 30

Location 6.5 MILES NW OF LIMSON COVE, N.S.

Date	24-Jul-96	Time	10:15 AM	Total Depth (m)	41.00	SECCHI Depth (m)	8	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	29	Surface Salinity (p.p.t.)	29	Surface $F_o$	0.95	Surface $F_{dcmu}$	2.22	Surface $F_{RI}$	0.57	Latitude	45 $^{\circ}$ 58.54'	Longitude	62 $^{\circ}$ 03.70'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	$F_{RI}$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{a^{PE}}$ ( $\mu g/L$ )	$P_{a^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )									
4	16.39	1.58	4.11	0.62	22	28.60	20.74	296	0.35	0.50	0.35	0.19	0.34	0.54									

Weather: Sunny; warm

Comment: Calm sea

## Survey 96-02

STATION 31

Location 3 MILES NORTH OF CAPE GEORGE, N.S.

Date	24-Jul-96	Time	11:00 AM	Total Depth (m)	42.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature (°C)	29	Surface Salinity (p.p.t.)	29	Surface $F_o$	0.95	Surface $F_{dcmu}$	2.22	Surface $FRI$	0.57	Latitude	45°56.77'	Longitude	61°56.98'	
Temp. (°C)	16.61	Temp. (°C)	16.61	Depth (m)	4	Depth (m)	4	Relative)	21	Temp. (°C)	28.41	( $\mu\text{mol/s/m}^2$ )	< $I_{CTD}$ >	( $\mu\text{g/L}$ )	0.39	( $\mu\text{g/L}$ )	0.52	( $\mu\text{M}$ )	0.28	( $\mu\text{M}$ )	$NO_2+NO_3$	( $\mu\text{M}$ )	$P0_4$	( $\mu\text{M}$ )
Temp. (°C)	16.61	Temp. (°C)	16.61	Depth (m)	4	Depth (m)	4	Relative)	21	Temp. (°C)	28.41	( $\mu\text{mol/s/m}^2$ )	< $I_{CTD}$ >	( $\mu\text{g/L}$ )	0.39	( $\mu\text{g/L}$ )	0.52	( $\mu\text{M}$ )	0.28	( $\mu\text{M}$ )	$NO_2+NO_3$	( $\mu\text{M}$ )	$P0_4$	( $\mu\text{M}$ )
16.61	16.61	16.61	16.61	4	4	4	4	21	21	28.41	28.41	< $I_{CTD}$ >	< $I_{CTD}$ >	0.39	0.39	0.52	0.52	0.28	0.28	$NO_2+NO_3$	0.11	0.30	0.30	

Weather: Sunny; warmComment: Calm sea

## Survey 96-02

STATION 32

Location 3 MILES NE OF CAPE GEORGE, N.S.

Date	24-Jul-96	Time	11:45 AM	Total Depth (m)	37.00	SECCHI Depth (m)	8	$-k_I$	0.2	Air Temperature (°C)	29	Surface Salinity (p.p.t.)	29	Surface $F_o$	0.95	Surface $F_{dcmu}$	1.27	Surface $FRI$	0.25	Latitude	45°54.11'	Longitude	61°49.93'	
Temp. (°C)	16.19	Temp. (°C)	16.19	Depth (m)	4	Depth (m)	4	Relative)	19	Temp. (°C)	28.79	( $\mu\text{mol/s/m}^2$ )	< $I_{CTD}$ >	( $\mu\text{g/L}$ )	0.39	( $\mu\text{g/L}$ )	0.57	( $\mu\text{M}$ )	0.02	( $\mu\text{M}$ )	$NO_2+NO_3$	( $\mu\text{M}$ )	$P0_4$	( $\mu\text{M}$ )
Temp. (°C)	16.19	Temp. (°C)	16.19	Depth (m)	4	Depth (m)	4	Relative)	19	Temp. (°C)	28.79	( $\mu\text{mol/s/m}^2$ )	< $I_{CTD}$ >	( $\mu\text{g/L}$ )	0.39	( $\mu\text{g/L}$ )	0.57	( $\mu\text{M}$ )	0.02	( $\mu\text{M}$ )	$NO_2+NO_3$	( $\mu\text{M}$ )	$P0_4$	( $\mu\text{M}$ )
16.19	16.19	16.19	16.19	4	4	4	4	19	19	28.79	28.79	< $I_{CTD}$ >	< $I_{CTD}$ >	0.39	0.39	0.57	0.57	0.02	0.02	$NO_2+NO_3$	0.08	0.40	0.40	

Weather: Sunny; warmComment: Calm sea

## Survey 96-02

STATION 33

Location 8 MILES EAST OF CAPE GEORGE, N.S.

Date	Time	Total Depth (m)	SECCHI Depth (m)	$-k_I$	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	Surface $F_o$	Surface $F_{dcmu}$	Surface $FRI$	Latitude	Longitude		
24-Jul-96	12:30 PM	37.00	10	0.2		29	29	0.32	0.63	0.50	45°51.79'	61°41.84'		
Depth (m)	Temp. (°C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{a^{PE}}$ ( $\mu g/L$ )	$P_{a^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P^0_4$ ( $\mu M$ )	$Si^0_4$ ( $\mu M$ )
4	16.52	1.27	2.53	0.50	10	28.83	20.89	85	0.25	0.39	0.27	0.18	0.39	0.52
16	15.77	1.58	4.75	0.67	25	28.85	21.08	45	0.49	0.75	0.07	0.54	0.57	0.66
20	15.66	2.22	6.96	0.68	32	28.87	21.12	24	0.63	0.81	n.d.	0.15	0.46	0.66
25	5.40	3.48	7.91	0.56	30	29.76	23.48	16	0.88	0.99	n.d.	1.00	0.77	5.93
35	1.07	1.27	1.58	0.20	10	30.53	24.45	2	0.13	0.27	1.64	4.13	1.11	13.73

Weather: Sunny; warm

Comment: Fog moving in; calm sea

## Survey 96-02

STATION 34

Location 9 MILES EAST OF CRIBBEANS POINT, N.S.

Date	24-Jul-96	Time	2:15 PM	Total Depth (m)	32.00	SECCHI Depth (m)	10	$-k_I$	0.2	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	29	Surface $F_0$	0.32	Surface $F_{dcmu}$	0.63	Surface $FRI$	0.50	Latitude	45°48.06'	Longitude	61°39.38'
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P_{aPE}$ ( $\mu g/L$ )	$C_{aPE}$ ( $\mu g/L$ )	$F_0$	$F_{dcmu}$	$FRI$	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P_{aPE}$ ( $\mu g/L$ )	$C_{aPE}$ ( $\mu g/L$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )		
4	17.09	0.63	1.27	0.50	11	28.84	20.77	418	n.d.	0.18	0.26	0.20	0.20	0.26	0.49	0.57							
15	16.62	0.95	2.85	0.67	23	28.85	20.89	90	0.10	0.10	0.34	0.24	0.34	0.37	0.40								
20	9.54	3.48	7.28	0.52	60	28.96	22.31	38	0.56	0.18	0.97	0.53	0.97	0.56	1.06								
30	2.56	0.95	1.58	0.40	11	30.05	23.97	5	1.31	3.09	0.46	0.36	0.46	1.10	14.92								

Weather: Sunny; hot

Comment: Calm sea

## Survey 96-02

STATION 35

Location 5 MILES WEST OF LONG POINT, N.S.

Date	24-Jul-96	Time	3:25 PM	Total Depth (m)	28.00	SECCHI Depth (m)	10	$-k_I$	0.2	Air Temperature (°C)	Surface Temperature (°C)	Surface Salinity (p.p.t.)	29	Surface $F_0$	0.32	Surface $F_{dcmu}$	0.95	Surface $FRI$	0.67	Latitude	45°46.64'	Longitude	61°36.29'
Depth (m)	Temp. (°C)	$F_0$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P_{aPE}$ ( $\mu g/L$ )	$C_{aPE}$ ( $\mu g/L$ )	$F_0$	$F_{dcmu}$	$FRI$	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P_{aPE}$ ( $\mu g/L$ )	$C_{aPE}$ ( $\mu g/L$ )	$P0_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )		
4	17.35	0.63	1.58	0.60	7	28.85	20.72	54	0.43	0.29	0.50	0.21	0.21	0.50	0.43	0.32	0.43						

Weather: Sunny; hot

Comment: Moderate sea

## Survey 96-02

STATION 36

Location 3.5 MILES NORTH OF CAPE JACK, N.S.

Date	24-Jul-96	Time	4:20 PM	Total Depth (m)	23.00	SECCHI Depth (m)	8	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	28.87	Surface Temperature ( $^{\circ}$ C)	20.79	Surface Salinity (p.p.t.)	30	Surface $F_o$	0.63	Surface $F_{dcmu}$	0.95	Surface $FRI$	0.33	Latitude	45°45.23'	Longitude	61°33.71'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{a^{PE}}$ ( $\mu g/L$ )	$P_{a^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$Si0_4$ ( $\mu M$ )											
4	17.12	1.27	2.85	0.56	14	28.87	20.79	427	0.21	0.33	0.71	0.10	0.37	0.41											
8	16.86	1.58	2.22	0.29	21	28.87	20.85	192	0.23	0.32	0.69	0.16	0.36	0.34											
12	16.76	0.95	2.22	0.57	24	28.87	20.87	92	0.21	0.36	1.31	0.09	0.37	0.44											
16	14.87	1.58	4.11	0.62	32	28.64	21.10	51	0.32	0.55	0.53	0.52	0.47	0.91											
20	10.02	3.16	6.01	0.47	32	29.32	22.52	20	0.71	1.16	0.49	0.29	0.61	3.67											

Weather: Sunny; hot

Comment: Moderate sea

## Survey 96-02

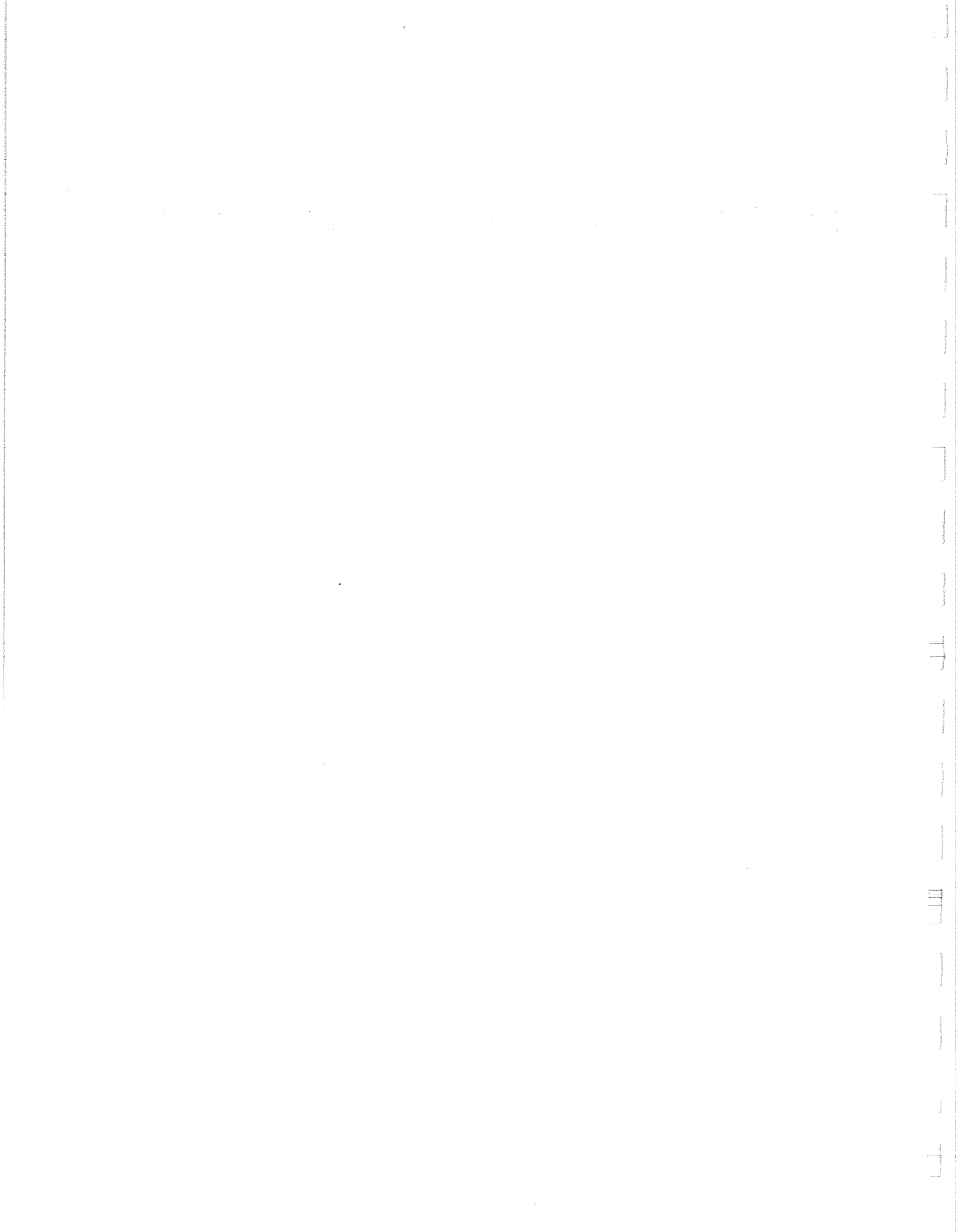
STATION 37

Location 2 MILES NORTH OF HAVRE BOUCHER, N.S.

Date	24-Jul-96	Time	5:40 PM	Total Depth (m)	23.00	SECCHI Depth (m)	7	$-k_I$	0.2	Air Temperature ( $^{\circ}$ C)	28.84	Surface Temperature ( $^{\circ}$ C)	20.73	Surface Salinity (p.p.t.)	39	Surface $F_o$	0.95	Surface $F_{dcmu}$	2.53	Surface $FRI$	0.62	Latitude	45°43.52'	Longitude	61°32.11'
Depth (m)	Temp. ( $^{\circ}$ C)	$F_o$	$F_{dcmu}$	$FRI$	$F_{CTD}$ (Relative)	Sal (PSU)	$\sigma_t$ ( $kg/m^3$ )	$<I_{CTD}>$ ( $\mu mol/s/m^2$ )	$C_{a^{PE}}$ ( $\mu g/L$ )	$P_{a^{PE}}$ ( $\mu g/L$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$P0_4$ ( $\mu M$ )	$Si0_4$ ( $\mu M$ )											
4	17.29	1.58	2.85	0.44	17	28.84	20.73	39	0.31	0.40	0.27	0.75	0.47	0.48											

Weather: Sunny; hot

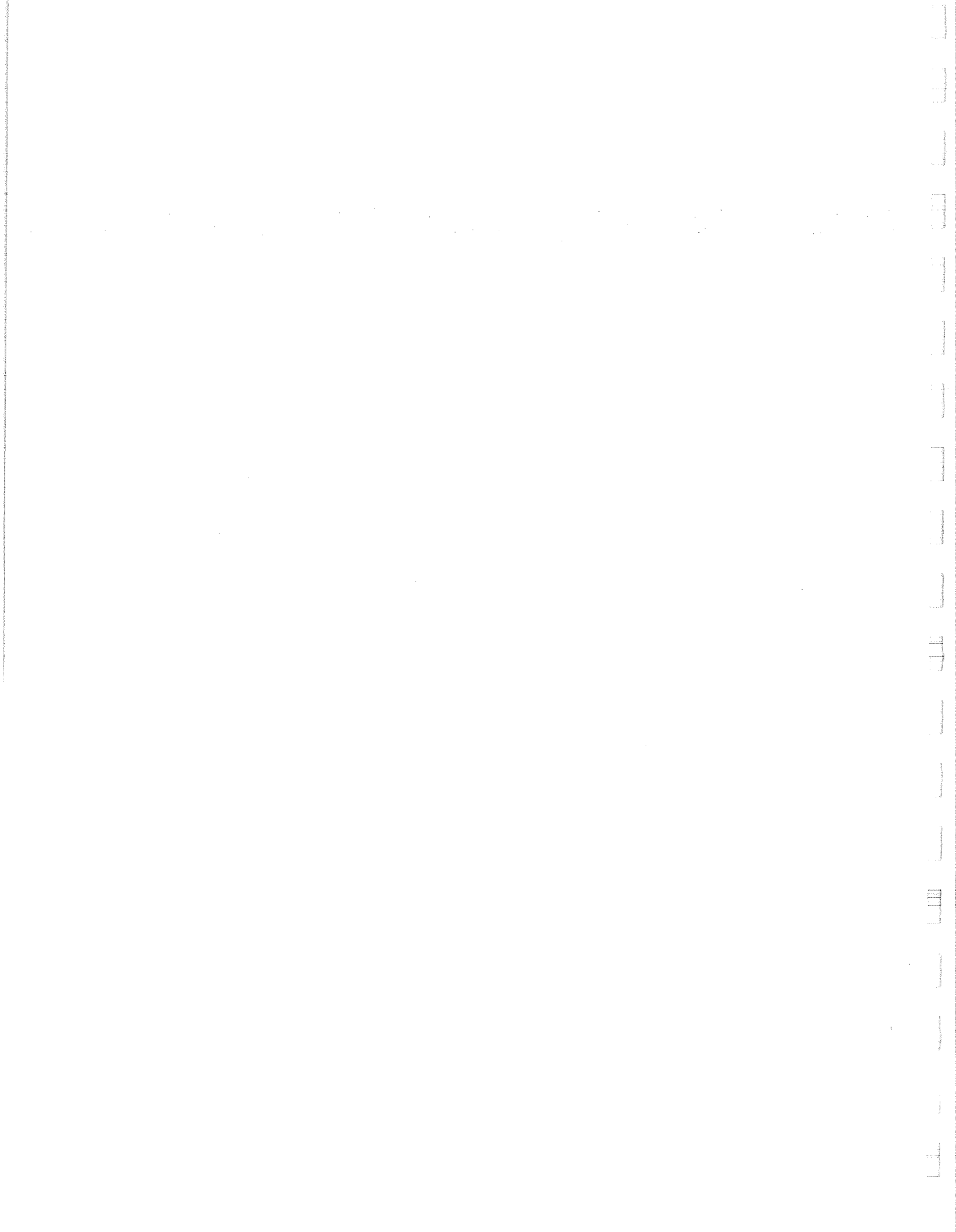
Comment: Moderate sea





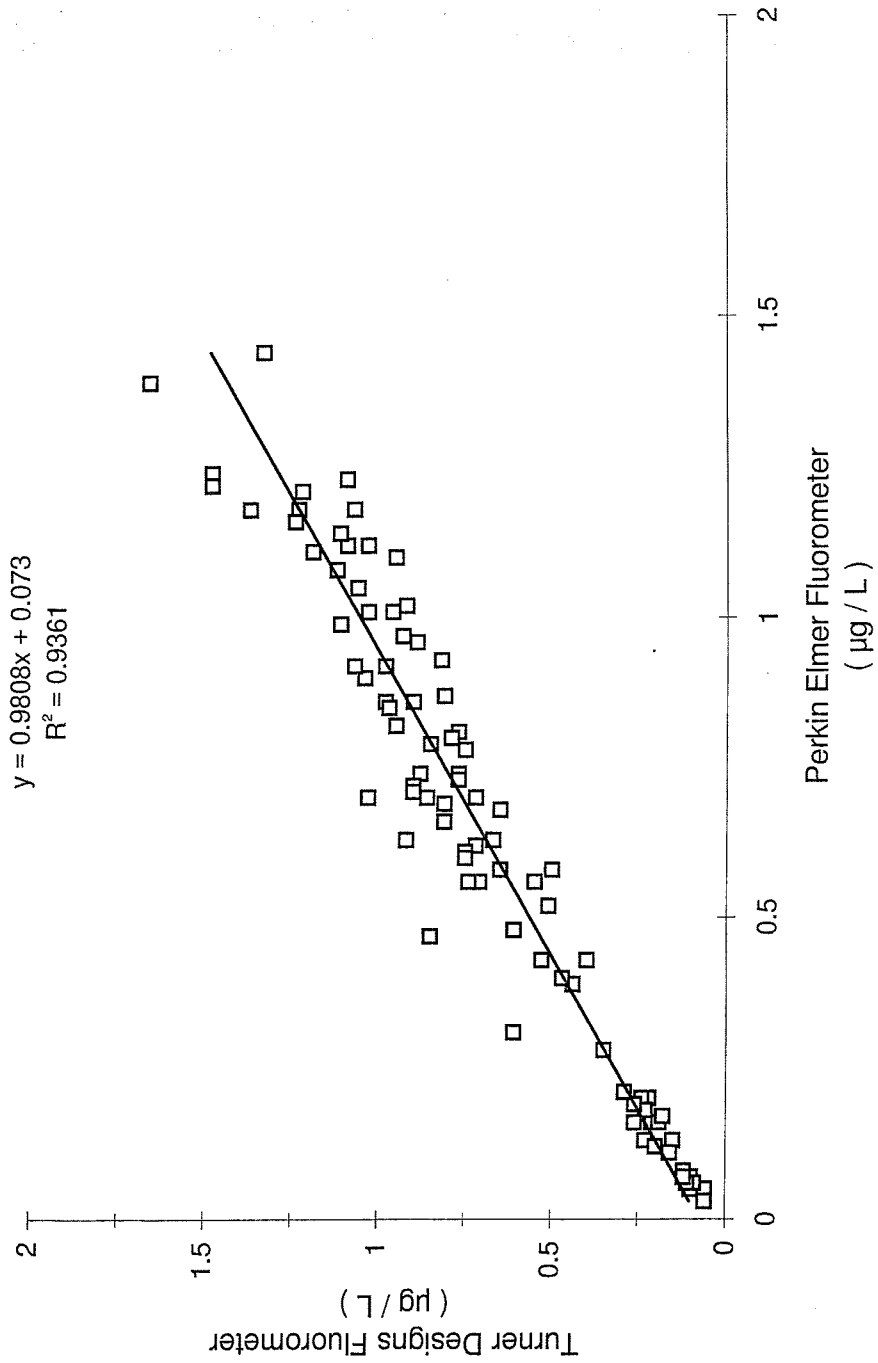
Appendix 4.3 Average, minimum, maximum, standard deviation and variance of chlorophyll ( $C_{aPE}$ ), phaeophytin ( $P_{aPE}$ ), ammonia ( $NH_3$ ), nitrates ( $NO_2 + NO_3$ ), phosphate ( $PO_4$ ) and silicate ( $SiO_4$ ) by sampling event and for the year 1996 (Variance = ((Std. dev. / Avg.) x 100)).

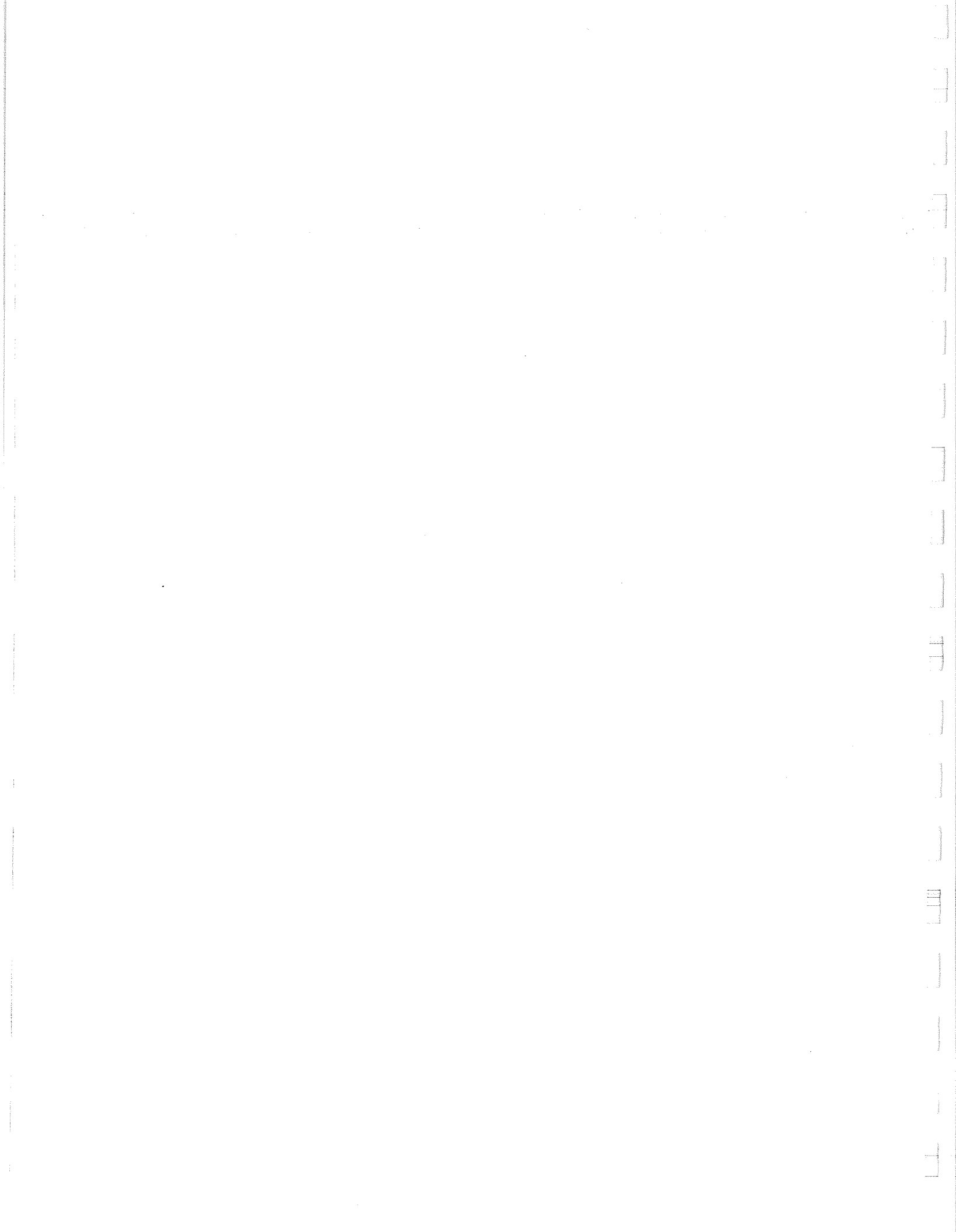
Survey	$C_{aPE}$ ( $\mu M$ )	$P_{aPE}$ ( $\mu M$ )	$NH_3$ ( $\mu M$ )	$NO_2+NO_3$ ( $\mu M$ )	$PO_4$ ( $\mu M$ )	$SiO_4$ ( $\mu M$ )
<b>Survey 96-01</b>						
<b>03-Jul-96 to 08-Jul-96</b>						
<b>Average:</b>	0.65	0.82	0.92	1.13	0.41	3.41
<b>Minimum:</b>	0.03	0.18	n.d.	0.00	0.10	1.09
<b>Maximum:</b>	2.21	2.06	4.46	10.88	1.55	23.00
<b>St. Dev.:</b>	0.46	0.38	0.98	2.26	0.33	4.07
<b>Variance:</b>	70.21	47.00	107.35	199.90	80.82	119.43
<b>Survey 96-02</b>						
<b>17-Jul-96 to 24-Jul-96</b>						
<b>Average:</b>	0.65	0.85	0.37	0.70	0.66	3.04
<b>Minimum:</b>	0.02	0.09	n.d.	0.04	0.14	0.28
<b>Maximum:</b>	1.99	2.03	5.12	6.03	2.99	14.92
<b>St. Dev.:</b>	0.39	0.40	0.91	1.09	0.48	3.16
<b>Variance:</b>	59.50	47.39	245.06	156.17	72.35	103.93
<b>1996:</b>						
<b>Average:</b>	0.65	0.84	0.62	0.90	0.54	3.21
<b>Minimum:</b>	0.02	0.09	n.d.	0.00	0.10	0.28
<b>Maximum:</b>	2.21	2.06	5.12	10.88	2.99	23.00
<b>St. Dev.:</b>	0.42	0.39	0.98	1.75	0.43	3.61
<b>Variance:</b>	64.62	47.16	157.82	194.13	79.80	112.38



Appendix 4.3.1 Correlation between the chlorophyll *a* concentrations obtained with a Perkin Elmer spectrofluorometer and a Turner Designs fluorometer in sea water samples from Survey 96-01 ( $\mu\text{g/L}$ ).

### Chlorophyll *a*





Appendix 4.3.1 Average and standard deviation of chlorophyll *a* and phaeophytin *a* concentrations obtained with a Perkin Elmer spectrofluorometer and a Turner Designs fluorometer in sea water samples from Survey 96-01 ( $\mu\text{g/L}$ ).

Station	Sample Depth (m)	$C_{a^{PE}}$ ( $\mu\text{g/L}$ )		$C_{a^{TD}}$ ( $\mu\text{g/L}$ )		$C_{a^{TD}}/C_{a^{PE}}$	
		Avg.	Std. Dev.	Avg.	Std. Dev.	Avg.	Std. Dev.
01	4	0.43	0.00	0.40	0.02	0.90	0.00
02	4	0.56	0.07	0.71	0.09	1.29	0.19
03	4	0.39	0.00	0.44	0.02	1.12	0.07
	8	0.56	0.01	0.74	0.04	1.35	0.01
	12	1.18	0.11	1.07	0.06	0.94	0.09
	16	0.47	0.24	0.85	0.04	2.00	0.91
	24	0.20	0.02	0.22	0.02	1.16	0.09
	30	0.16	0.04	0.21	0.01	1.35	0.32
	60	0.04	0.01	0.06	0.01	1.52	0.15
04	4	0.62	0.02	0.72	0.07	1.16	0.13
	12	1.39	0.10	1.66	0.11	1.21	0.16
	16	1.21	0.12	1.22	0.00	1.01	0.11
	22	0.96	0.16	0.89	0.00	0.95	0.17
	30	0.20	0.01	0.24	0.02	1.21	0.16
	50	0.05	0.00	0.09	0.01	1.71	0.14
05	4	1.01	0.07	1.03	0.02	1.03	0.07
06	4	1.02	0.12	0.92	0.02	0.92	0.13
	8	1.18	0.04	1.37	0.23	1.15	0.16
	12	1.24	0.05	1.48	0.06	1.19	0.01
	16	1.12	0.03	1.09	0.09	0.97	0.08
	20	0.63	0.02	0.67	0.04	1.06	0.02
	24	0.18	0.02	0.23	0.02	1.27	0.10
	40	0.08	0.01	0.12	0.00	1.50	0.17
07	4	1.23	0.03	1.09	0.04	0.88	0.05
08	4	0.68	0.02	0.65	0.02	0.97	0.04
	16	0.93	0.08	0.82	0.05	0.89	0.13
	20	0.19	0.01	0.26	0.01	1.36	0.06
	24	0.16	0.01	0.19	0.01	1.23	0.03
	28	0.21	0.00	0.29	0.02	1.37	0.08
09	4	0.58	0.04	0.65	0.05	1.14	0.10
	8	1.01	0.02	0.96	0.05	0.95	0.07
	12	1.08	0.01	1.12	0.06	1.04	0.05
	16	0.78	0.05	0.75	0.02	0.96	0.07

Station	Sample Depth	$C_{aPE}$ ( $\mu\text{g/L}$ )		$C_{aTD}$ ( $\mu\text{g/L}$ )		$C_{aTD}/C_{aPE}$	
		Avg.	Std. Dev.	Avg.	Std. Dev.	Avg.	Std. Dev.
09	20	0.28	0.01	0.35	0.00	1.27	0.05
	30	0.07	0.00	0.10	0.01	1.39	0.11
	40	0.05	0.00	0.07	0.01	1.51	0.21
10	4	0.70	0.06	0.72	0.02	1.04	0.08
	8	0.74	0.02	0.77	0.04	1.04	0.07
	12	1.12	0.01	1.03	0.02	0.92	0.02
	16	1.11	0.06	1.19	0.04	1.08	0.09
	20	0.73	0.03	0.77	0.04	1.03	0.08
	50	0.05	0.01	0.06	0.01	1.32	0.31
	70	0.05	0.00	0.10	0.01	1.97	0.23
11	4	1.18	0.06	1.23	0.04	1.05	0.06
12	4	1.22	0.06	1.48	0.06	1.22	0.09
13	4	0.90	0.04	1.04	0.07	1.16	0.14
	8	0.92	0.11	1.07	0.02	1.19	0.17
	12	0.82	0.01	0.95	0.00	1.15	0.01
	16	0.40	0.02	0.47	0.02	1.18	0.07
	20	0.13	0.01	0.15	0.07	1.15	0.58
14	4	0.99	0.04	1.11	0.07	1.12	0.12
15	4	0.56	0.03	0.55	0.02	0.99	0.09
16	4	1.10	0.05	0.95	0.00	0.86	0.04
	8	1.14	0.06	1.11	0.07	0.98	0.07
	12	1.44	0.02	1.33	0.07	0.92	0.06
	16	0.58	0.04	0.50	0.04	0.87	0.07
	20	0.17	0.02	0.18	0.01	1.09	0.15
	25	0.06	0.00	0.09	0.00	1.43	0.08
	17	4	0.81	0.01	0.77	0.06	0.95
18	4	0.97	0.04	0.93	0.05	0.96	0.04
19	4	0.87	0.04	0.81	0.00	0.92	0.04
	8	0.63	0.07	0.92	0.05	1.48	0.16
	12	0.70	0.08	1.03	0.10	1.47	0.11
	16	1.16	0.02	1.24	0.04	1.07	0.04
	25	0.11	0.01	0.16	0.01	1.44	0.22
	40	0.06	0.00	0.11	0.02	1.95	0.33
20	4	0.69	0.05	0.81	0.04	1.18	0.12
21	4	0.66	0.02	0.81	0.06	1.21	0.07
	8	0.92	0.06	0.98	0.07	1.07	0.12
	12	1.05	0.07	1.06	0.10	1.02	0.14
	16	0.86	0.06	0.98	0.00	1.14	0.08

Station	Sample Depth	$C_{a^{PE}}$ ( $\mu\text{g/L}$ )		$C_{a^{TD}}$ ( $\mu\text{g/L}$ )		$C_{a^{TD}}/C_{a^{PE}}$	
		Avg.	Std. Dev.	Avg.	Std. Dev.	Avg.	Std. Dev.
21	30	0.13	0.00	0.23	0.02	1.77	0.18
	50	0.07	0.00	0.12	0.01	1.66	0.10
22	4	0.61	0.02	0.75	0.02	1.23	0.05
23	4	0.52	0.02	0.51	0.04	0.99	0.08
	8	0.70	0.04	0.86	0.05	1.24	0.07
	12	0.74	0.05	0.88	0.07	1.19	0.17
	16	0.60	0.02	0.75	0.04	1.26	0.10
	25	0.12	0.00	0.20	0.01	1.69	0.09
24	50	0.03	0.00	0.06	0.01	2.40	0.28
	4	0.43	0.03	0.53	0.00	1.21	0.08
	8	0.48	0.01	0.61	0.05	1.26	0.13
	12	0.72	0.05	0.90	0.02	1.24	0.08
	16	0.71	0.04	0.90	0.05	1.27	0.07
	25	0.03	0.00	0.06	0.01	2.04	0.21
25	4	0.80	0.00	0.79	0.02	0.99	0.02
	8	0.79	0.05	0.85	0.05	1.09	0.13
	12	0.86	0.07	0.90	0.05	1.06	0.13
	16	0.85	0.03	0.97	0.02	1.15	0.02
	20	0.31	0.07	0.61	0.07	2.04	0.59
	24	0.16	0.01	0.26	0.01	1.62	0.10

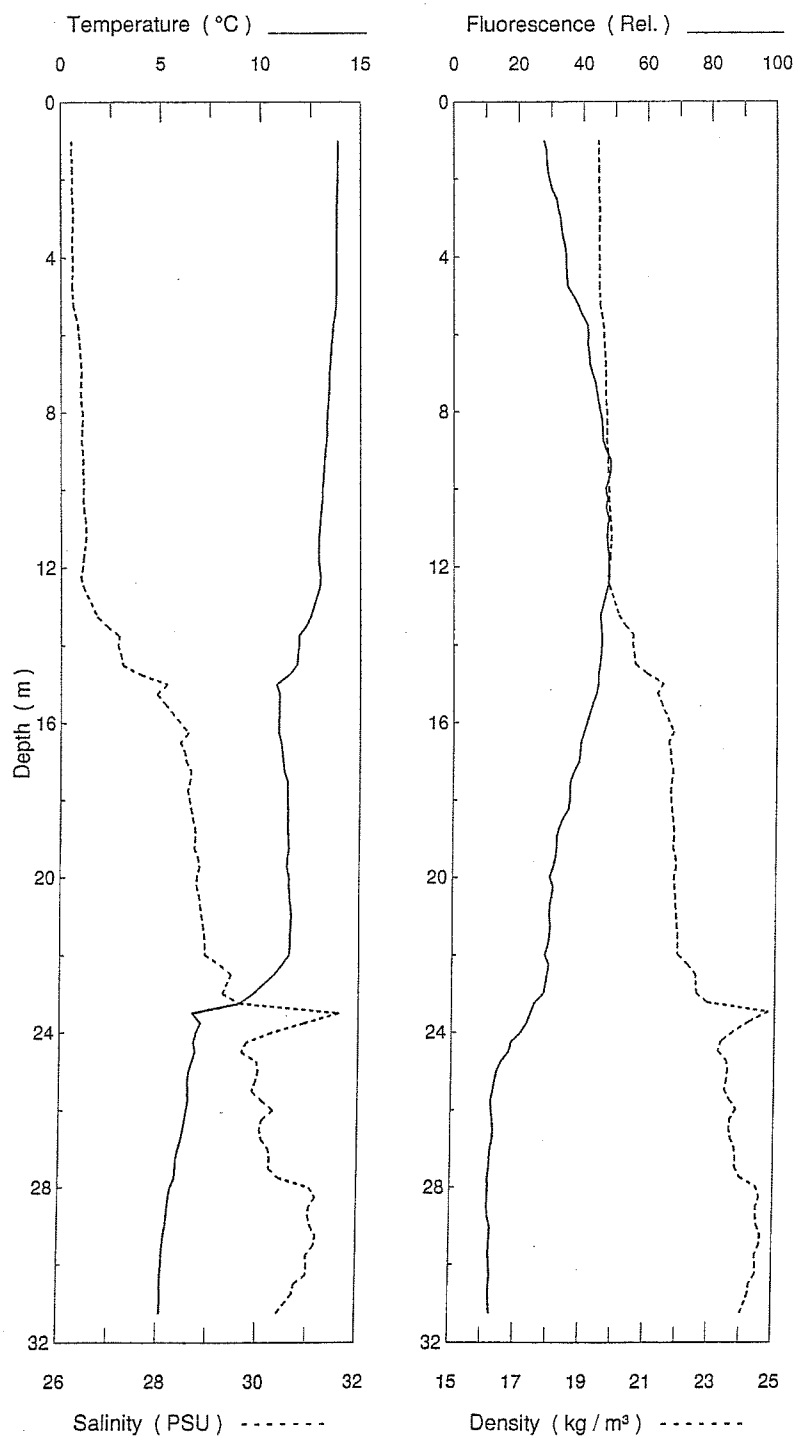




Appendix 5.1 Survey 96-01 profiles of temperature ( $^{\circ}\text{C}$ ), salinity (PSU),  
fluorescence (relative) and density ( $\text{kg}/\text{m}^3$ ).

Survey 96-01

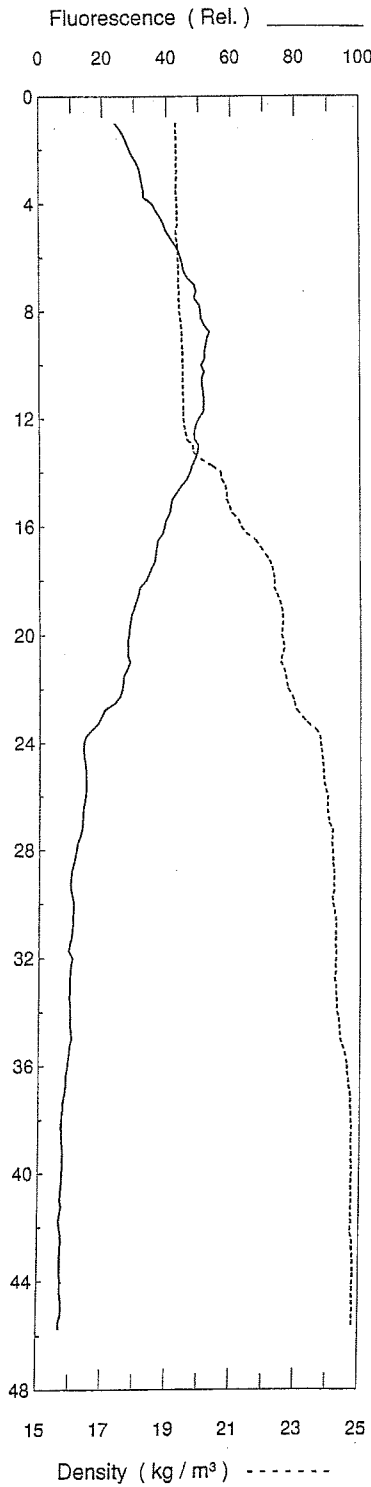
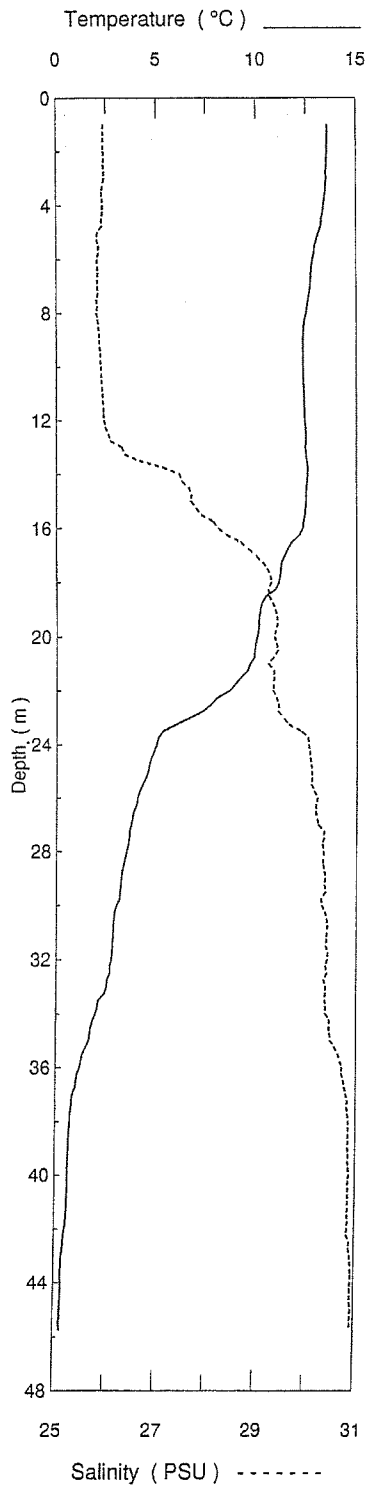
Station 1



Depth (m)	Temp. ( $^{\circ}\text{C}$ )	Sal. (PSU)	Fluor. (Rel.)	Density ( $\text{kg}/\text{m}^3$ )
1	13.86	26.21	28	19.44
2	13.83	26.22	29	19.45
3	13.79	26.23	32	19.46
4	13.78	26.23	34	19.46
5	13.76	26.23	37	19.47
6	13.58	26.34	41	19.59
7	13.44	26.40	42	19.66
8	13.34	26.41	45	19.69
9	13.23	26.42	47	19.71
10	13.10	26.44	47	19.76
11	12.94	26.48	47	19.82
12	12.92	26.42	48	19.77
13	12.59	26.67	46	20.02
14	11.97	27.10	45	20.47
15	11.21	27.75	44	21.10
16	10.97	28.33	41	21.59
17	11.16	28.54	38	21.72
18	11.35	28.60	36	21.74
19	11.40	28.70	32	21.81
20	11.41	28.76	31	21.85
21	11.56	28.83	30	21.88
22	11.42	28.98	29	22.02
23	9.39	29.66	27	22.87
24	7.13	30.07	21	23.52
25	6.54	29.94	14	23.49
26	6.37	30.04	12	23.59
27	6.01	30.16	12	23.73
28	5.69	30.72	11	24.21
29	5.37	31.09	12	24.53
30	5.19	31.00	12	24.48
31	5.15	30.59	12	24.16

Survey 96-01

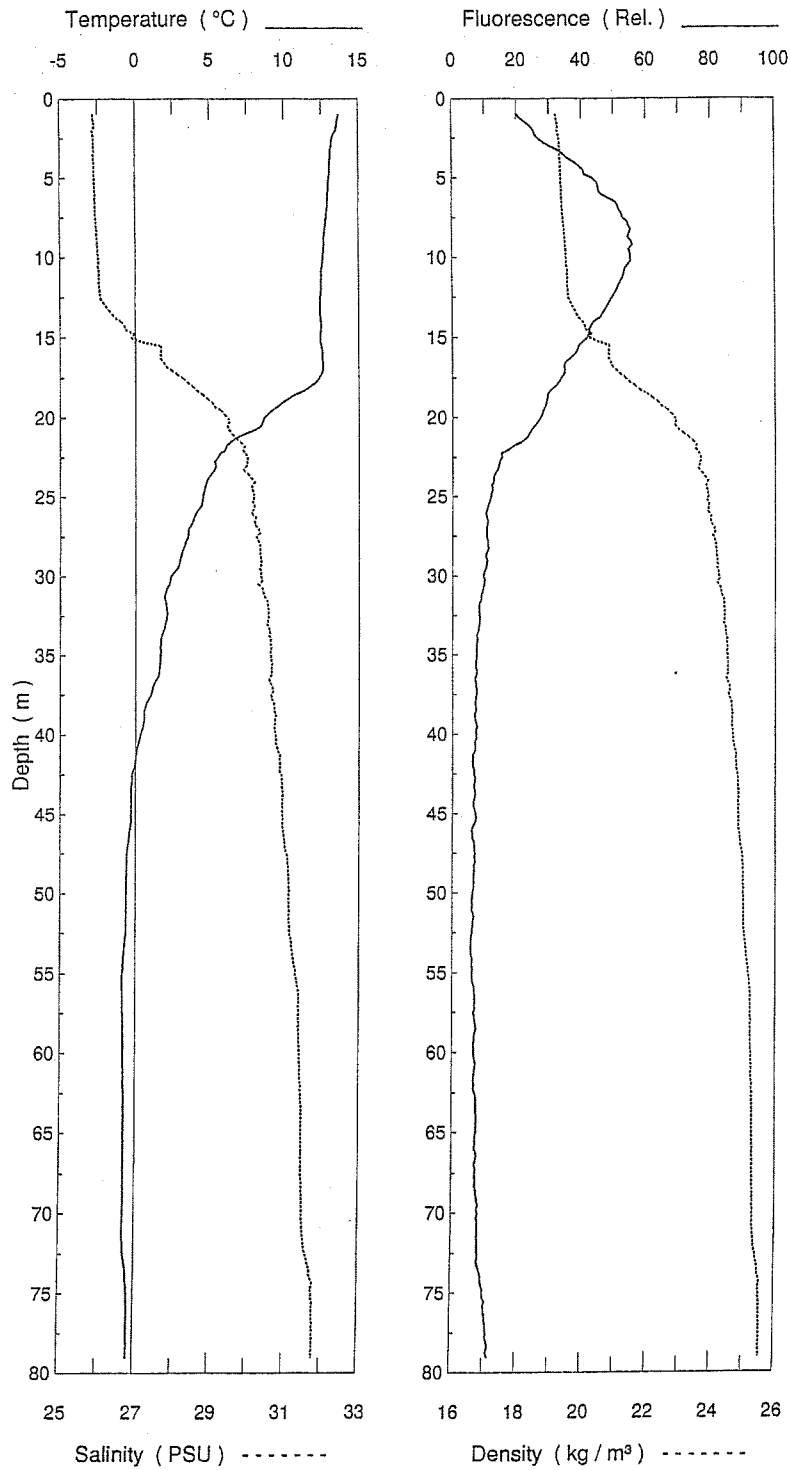
Station 2



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	13.57	25.94	24	19.28
2	13.53	25.95	29	19.29
3	13.51	25.93	32	19.29
4	13.37	25.91	35	19.30
5	13.09	25.85	40	19.30
6	12.81	25.83	44	19.34
7	12.68	25.81	48	19.35
8	12.46	25.82	50	19.39
9	12.33	25.86	52	19.44
10	12.33	25.89	51	19.47
11	12.37	25.92	51	19.48
12	12.42	25.96	50	19.50
13	12.47	26.23	49	19.71
14	12.54	27.36	47	20.57
15	12.45	27.74	42	20.88
16	12.20	28.25	39	21.32
17	11.41	28.98	36	22.02
18	11.08	29.26	33	22.30
19	10.22	29.36	29	22.52
20	10.02	29.39	28	22.57
21	9.65	29.31	27	22.56
22	8.46	29.38	25	22.80
23	6.53	29.58	19	23.20
24	4.91	30.05	14	23.76
25	4.54	30.10	14	23.84
26	4.06	30.18	14	23.95
27	3.74	30.27	13	24.05
28	3.53	30.34	11	24.13
29	3.25	30.36	10	24.16
30	3.04	30.34	10	24.16
31	2.84	30.41	10	24.23
32	2.75	30.41	9	24.24
33	2.47	30.38	10	24.24
34	1.95	30.41	10	24.30
35	1.59	30.50	10	24.40
36	1.14	30.70	9	24.58
37	0.87	30.80	8	24.67
38	0.70	30.84	7	24.72
39	0.65	30.85	7	24.73
40	0.61	30.86	7	24.74
41	0.59	30.86	7	24.74
42	0.50	30.86	7	24.74
43	0.38	30.91	7	24.79
44	0.34	30.93	7	24.81
45	0.32	30.92	7	24.80
46	0.31	30.92	7	24.80

Survey 96-01

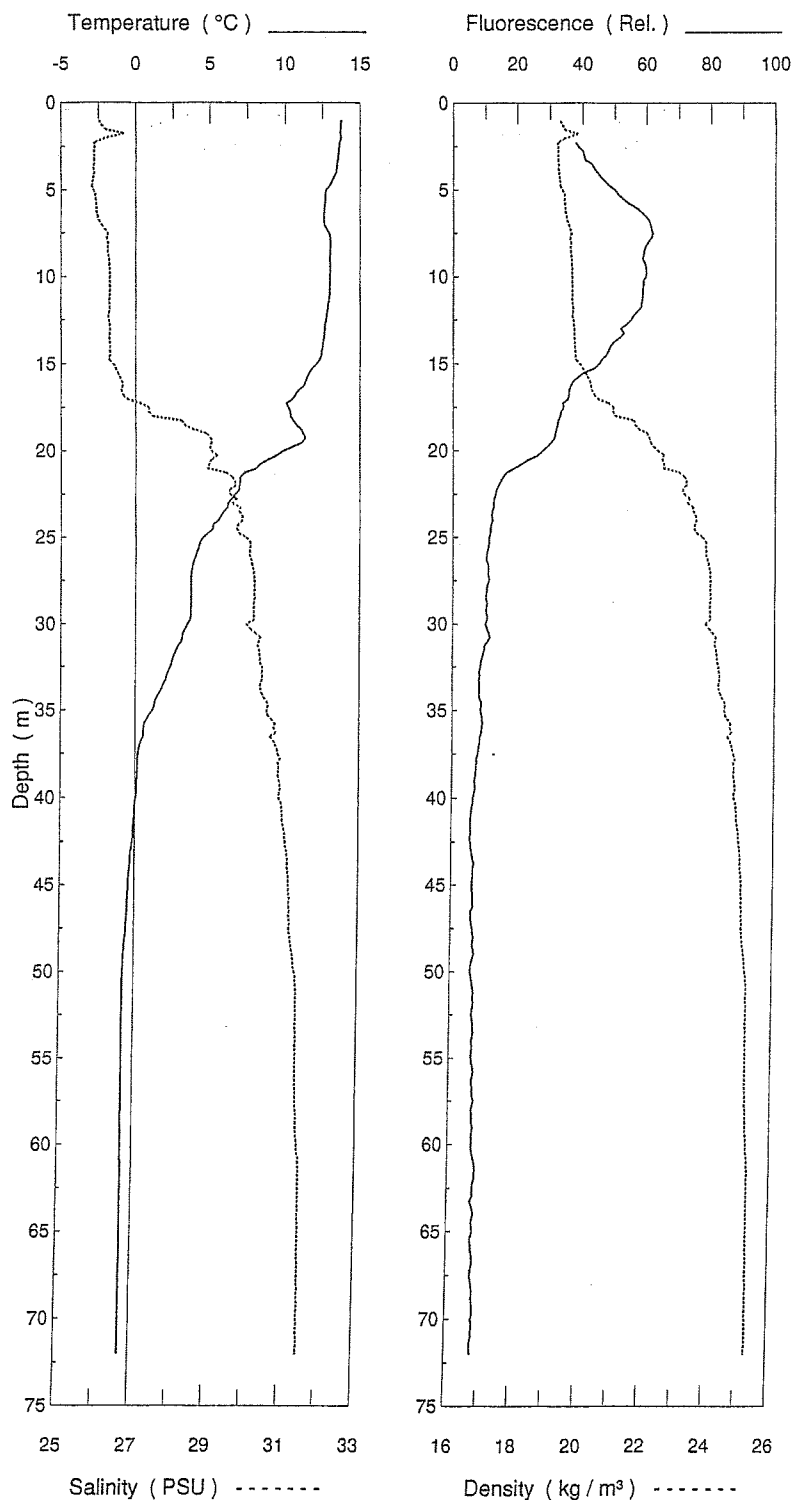
Station 3



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	13.68	25.88	20	19.21
2	13.40	25.88	25	19.27
3	13.15	25.89	30	19.32
4	13.05	25.89	38	19.34
5	12.98	25.90	43	19.36
6	12.92	25.92	47	19.38
7	12.84	25.93	52	19.40
8	12.73	25.95	54	19.44
9	12.64	25.98	55	19.48
10	12.56	26.00	55	19.51
11	12.46	26.02	53	19.54
12	12.43	26.04	51	19.57
13	12.38	26.20	48	19.70
14	12.43	26.58	44	19.99
15	12.41	27.05	41	20.35
16	12.51	27.64	37	20.79
17	12.49	27.97	34	21.05
18	11.63	28.52	32	21.63
19	9.89	29.04	29	22.32
20	8.72	29.43	27	22.80
21	7.48	29.58	24	23.09
22	5.94	29.91	17	23.54
23	5.35	29.94	14	23.63
24	4.78	30.12	12	23.83
25	4.50	30.16	12	23.89
26	4.06	30.18	11	23.95
27	3.59	30.27	10	24.07
28	3.29	30.30	11	24.11
29	2.95	30.35	10	24.18
30	2.44	30.34	10	24.21
31	2.02	30.41	9	24.29
32	2.06	30.54	8	24.40
33	1.95	30.56	8	24.42
34	1.68	30.60	7	24.47
35	1.64	30.63	7	24.50
36	1.54	30.63	7	24.50
37	1.15	30.65	7	24.54
38	0.73	30.68	7	24.59
39	0.56	30.74	7	24.64
40	0.31	30.76	7	24.67
41	0.06	30.82	7	24.73
42	-0.11	30.87	6	24.78
43	-0.30	30.93	7	24.83
44	-0.31	30.94	7	24.84
45	-0.34	30.93	7	24.84
46	-0.40	30.95	7	24.85
47	-0.54	31.01	7	24.90
48	-0.62	31.08	7	24.96
49	-0.64	31.10	7	24.98
50	-0.65	31.11	6	24.99
51	-0.66	31.11	6	24.99
52	-0.66	31.12	6	25.00
53	-0.74	31.17	6	25.04
54	-0.83	31.23	6	25.09
55	-0.90	31.29	6	25.14
56	-0.92	31.36	7	25.20
57	-0.88	31.37	7	25.21
58	-0.86	31.38	7	25.22
59	-0.85	31.39	7	25.22
60	-0.84	31.40	7	25.23
61	-0.83	31.41	7	25.24
62	-0.81	31.43	7	25.25
63	-0.79	31.45	7	25.27
64	-0.80	31.45	7	25.27
65	-0.80	31.46	7	25.28
66	-0.80	31.46	7	25.28
67	-0.80	31.46	7	25.28
68	-0.80	31.47	7	25.28
69	-0.80	31.48	8	25.30
70	-0.80	31.49	8	25.30
71	-0.80	31.51	8	25.32
72	-0.77	31.55	8	25.35
73	-0.66	31.66	8	25.43
74	-0.55	31.74	9	25.50
75	-0.48	31.77	10	25.52
76	-0.46	31.80	10	25.54
77	-0.45	31.80	11	25.54
78	-0.45	31.80	11	25.54
79	-0.45	31.80	11	25.54

Survey 96-01

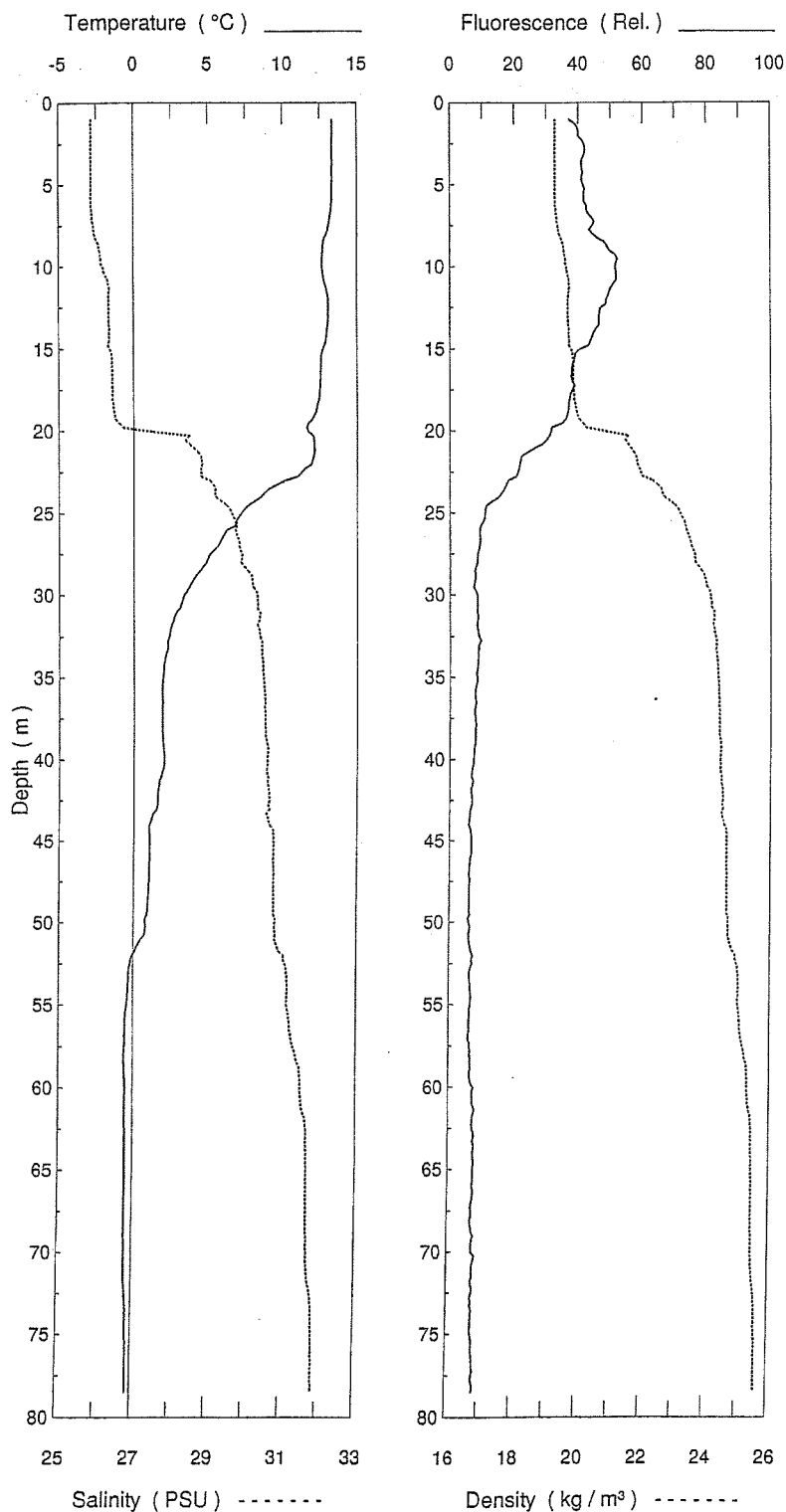
Station 4



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	13.71	25.93		19.25
2	13.66	26.16		19.44
3	13.52	25.86	42	19.23
4	13.35	25.87	44	19.27
5	12.82	25.86	50	19.36
6	12.61	25.93	56	19.45
7	12.66	26.09	61	19.56
8	13.01	26.24	60	19.62
9	12.99	26.27	59	19.64
10	12.98	26.30	59	19.67
11	12.94	26.29	59	19.67
12	12.79	26.28	57	19.69
13	12.64	26.29	53	19.72
14	12.49	26.30	49	19.75
15	12.01	26.39	44	19.91
16	11.31	26.58	38	20.18
17	10.45	26.81	35	20.49
18	10.41	27.69	33	21.18
19	11.13	28.75	32	21.89
20	9.95	29.04	27	22.31
21	7.90	29.06	19	22.62
22	6.97	29.55	14	23.14
23	6.29	29.69	13	23.33
24	5.52	29.80	12	23.50
25	4.58	29.92	11	23.70
26	4.04	30.06	11	23.86
27	3.72	30.16	11	23.97
28	3.70	30.18	11	23.98
29	3.69	30.17	10	23.97
30	3.46	30.09	10	23.93
31	3.00	30.30	11	24.14
32	2.52	30.33	9	24.20
33	2.10	30.38	8	24.27
34	1.57	30.37	8	24.30
35	1.06	30.54	9	24.46
36	0.58	30.69	9	24.60
37	0.28	30.75	8	24.66
38	0.12	30.85	7	24.75
39	0.09	30.86	7	24.76
40	0.02	30.88	7	24.78
41	-0.07	30.95	6	24.84
42	-0.15	31.00	6	24.89
43	-0.24	31.06	6	24.94
44	-0.36	31.10	7	24.97
45	-0.43	31.13	7	25.00
46	-0.49	31.15	7	25.01
47	-0.54	31.16	6	25.03
48	-0.61	31.17	7	25.04
49	-0.70	31.25	7	25.11
50	-0.75	31.31	6	25.16
51	-0.78	31.36	7	25.20
52	-0.78	31.36	7	25.20
53	-0.78	31.36	7	25.20
54	-0.78	31.36	7	25.20
55	-0.78	31.36	7	25.20
56	-0.78	31.37	8	25.20
57	-0.79	31.38	7	25.21
58	-0.79	31.39	7	25.22
59	-0.79	31.40	7	25.23
60	-0.79	31.44	7	25.26
61	-0.76	31.48	8	25.29
62	-0.75	31.49	8	25.30
63	-0.75	31.49	8	25.30
64	-0.75	31.49	8	25.30
65	-0.75	31.50	8	25.31
66	-0.75	31.50	8	25.31
67	-0.74	31.51	8	25.31
68	-0.74	31.51	8	25.32
69	-0.73	31.51	8	25.32
70	-0.73	31.51	8	25.32
71	-0.73	31.51	8	25.32
72	-0.73	31.51	8	25.32

Survey 96-01

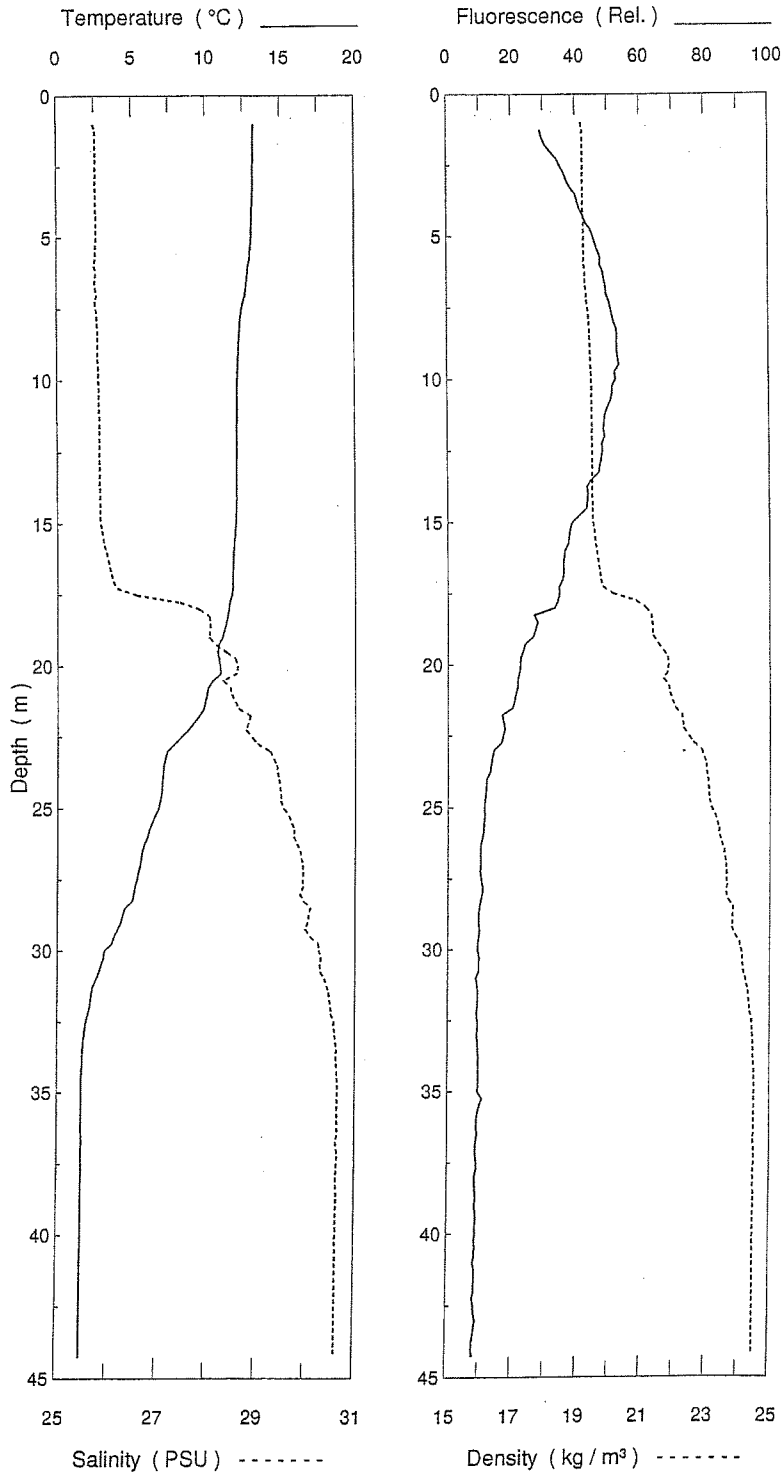
Station 5



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	13.35	25.88	37	19.28
2	13.33	25.86	40	19.26
3	13.33	25.86	42	19.26
4	13.33	25.86	41	19.26
5	13.33	25.86	41	19.26
6	13.32	25.86	42	19.27
7	13.18	25.89	44	19.32
8	12.93	25.95	45	19.40
9	12.70	26.07	50	19.54
10	12.66	26.15	52	19.61
11	12.85	26.31	51	19.70
12	13.06	26.32	49	19.67
13	13.06	26.32	46	19.67
14	12.97	26.33	45	19.69
15	12.70	26.35	41	19.76
16	12.56	26.41	38	19.83
17	12.53	26.41	38	19.84
18	12.42	26.42	37	19.87
19	12.05	26.51	36	19.99
20	11.86	27.53	31	20.82
21	12.11	28.55	26	21.56
22	11.79	28.84	21	21.85
23	10.29	28.96	19	22.20
24	8.40	29.28	15	22.73
25	7.20	29.64	11	23.17
26	6.35	29.75	9	23.37
27	5.60	29.83	9	23.52
28	4.85	29.92	8	23.67
29	4.02	30.17	8	23.94
30	3.39	30.30	8	24.10
31	2.89	30.35	9	24.19
32	2.46	30.35	9	24.22
33	2.25	30.41	9	24.28
34	2.03	30.45	9	24.33
35	1.92	30.48	8	24.36
36	1.89	30.51	8	24.38
37	1.88	30.52	8	24.39
38	1.88	30.53	8	24.40
39	1.94	30.57	8	24.43
40	1.99	30.58	7	24.43
41	1.81	30.59	7	24.45
42	1.62	30.63	7	24.49
43	1.46	30.61	7	24.49
44	1.07	30.70	6	24.59
45	1.04	30.75	7	24.63
46	1.03	30.75	7	24.63
47	1.02	30.76	6	24.63
48	0.98	30.75	6	24.63
49	0.90	30.75	6	24.64
50	0.78	30.77	6	24.66
51	0.47	30.81	6	24.71
52	-0.09	30.99	7	24.88
53	-0.35	31.12	6	24.99
54	-0.39	31.14	7	25.01
55	-0.50	31.14	7	25.01
56	-0.58	31.19	6	25.05
57	-0.61	31.25	6	25.10
58	-0.64	31.37	7	25.20
59	-0.61	31.49	7	25.30
60	-0.58	31.50	7	25.31
61	-0.58	31.54	8	25.33
62	-0.58	31.63	8	25.41
63	-0.57	31.66	8	25.43
64	-0.57	31.67	8	25.44
65	-0.57	31.68	8	25.45
66	-0.56	31.68	8	25.45
67	-0.56	31.68	8	25.45
68	-0.55	31.69	7	25.45
69	-0.55	31.70	8	25.46
70	-0.55	31.70	8	25.47
71	-0.54	31.73	8	25.49
72	-0.49	31.78	8	25.53
73	-0.42	31.85	8	25.58
74	-0.39	31.86	8	25.59
75	-0.38	31.87	8	25.60
76	-0.37	31.88	8	25.60
77	-0.36	31.88	9	25.61
78	-0.35	31.88	8	25.61

Survey 96-01

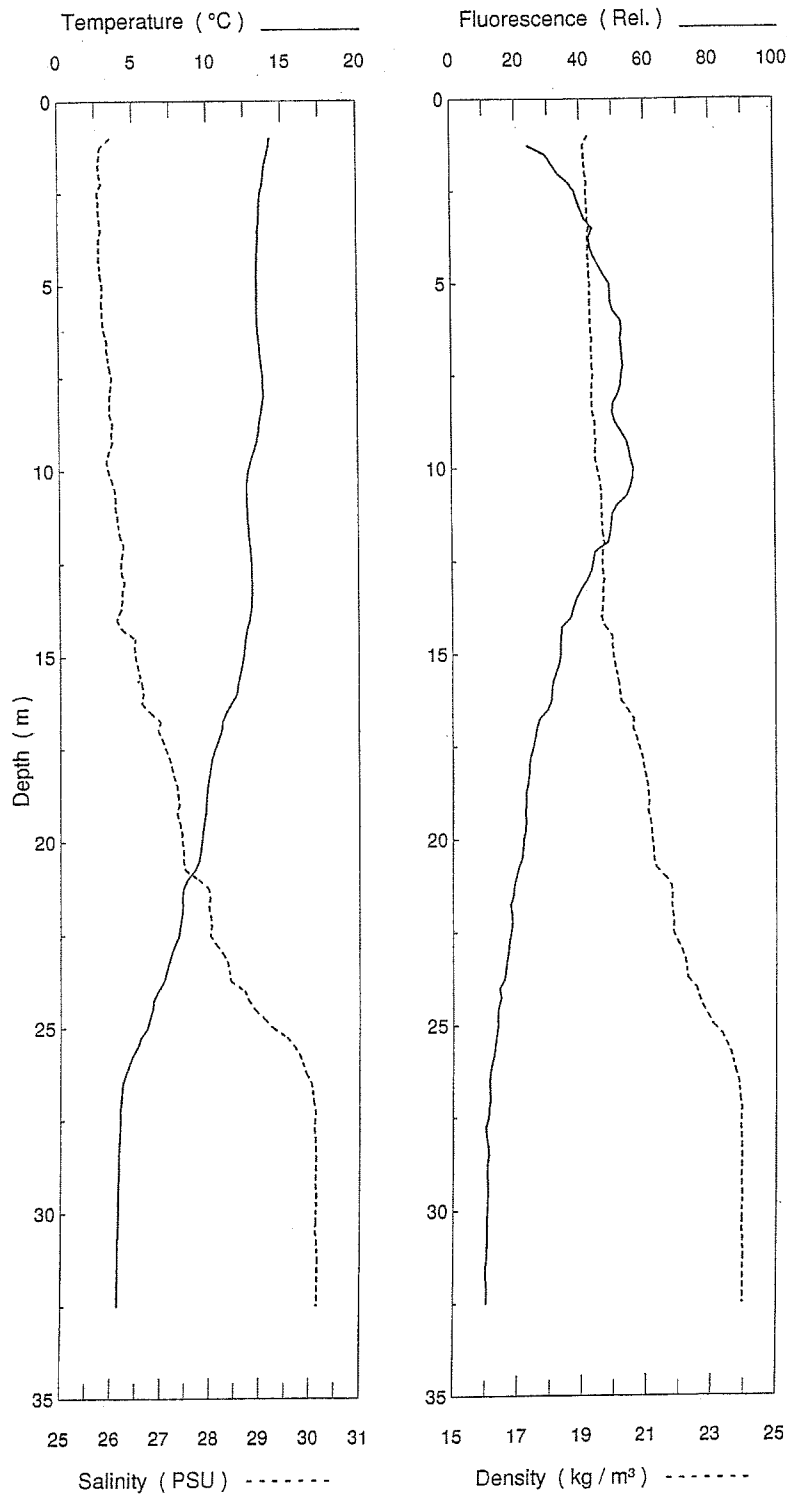
Station 6



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	13.24	25.67	29	19.13
2	13.19	25.76	31	19.22
3	13.17	25.77	37	19.22
4	13.12	25.77	41	19.24
5	13.05	25.78	45	19.25
6	12.89	25.76	48	19.27
7	12.61	25.76	50	19.32
8	12.29	25.80	52	19.40
9	12.18	25.81	53	19.43
10	12.10	25.83	52	19.46
11	12.07	25.83	50	19.47
12	12.05	25.84	48	19.47
13	12.04	25.84	47	19.48
14	12.03	25.84	43	19.48
15	11.96	25.86	39	19.51
16	11.81	25.97	37	19.62
17	11.75	26.20	35	19.81
18	11.48	27.69	31	21.01
19	10.94	28.12	25	21.43
20	10.80	28.54	22	21.78
21	10.03	28.54	21	21.91
22	9.08	28.82	17	22.27
23	7.26	29.24	15	22.85
24	7.01	29.46	12	23.06
25	6.64	29.58	11	23.20
26	5.97	29.78	11	23.43
27	5.46	29.94	10	23.62
28	4.97	29.97	10	23.69
29	4.17	30.03	10	23.82
30	3.25	30.26	9	24.08
31	2.55	30.35	9	24.21
32	2.11	30.49	9	24.35
33	1.77	30.60	9	24.46
34	1.65	30.63	9	24.49
35	1.61	30.64	10	24.51
36	1.60	30.64	9	24.51
37	1.61	30.63	9	24.50
38	1.60	30.63	9	24.50
39	1.59	30.63	9	24.50
40	1.59	30.62	9	24.49
41	1.58	30.62	9	24.49
42	1.59	30.62	8	24.49
43	1.58	30.62	9	24.49
44	1.58	30.62	8	24.49

Survey 96-01

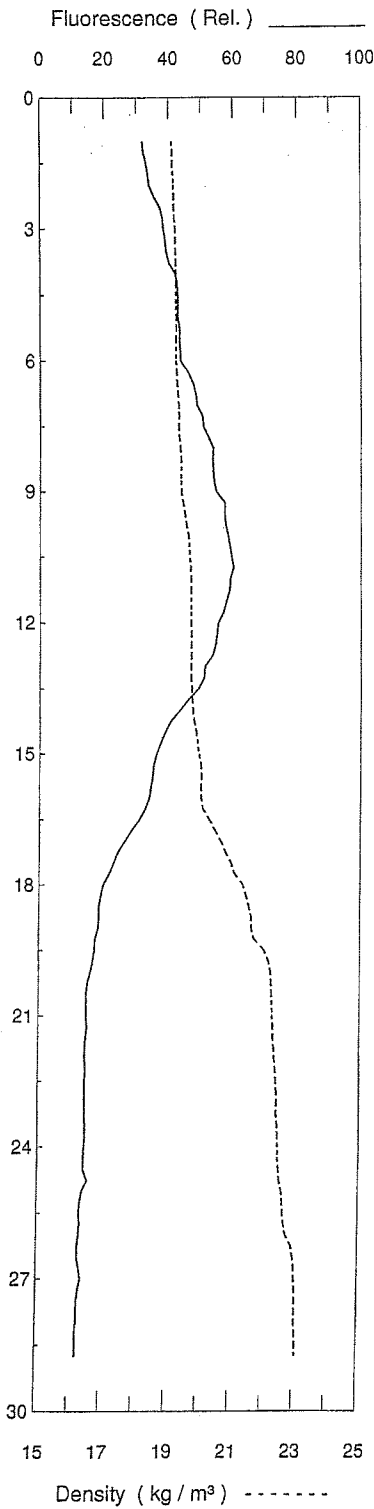
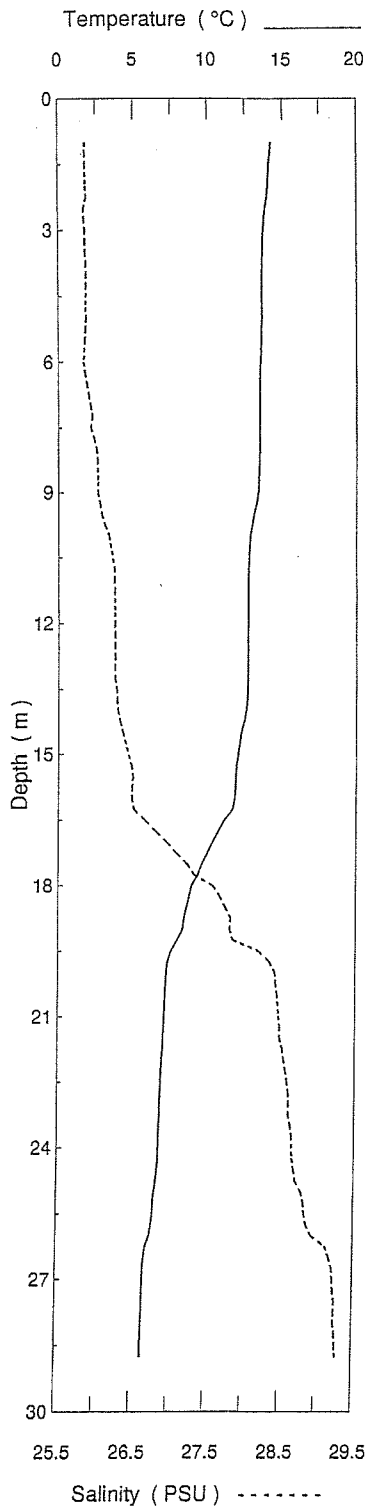
Station 7



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.21	25.95	24	19.17
2	13.78	25.82	34	19.15
3	13.50	25.82	40	19.20
4	13.35	25.81	43	19.22
5	13.30	25.85	48	19.26
6	13.34	25.89	51	19.29
7	13.53	25.98	53	19.32
8	13.68	26.03	51	19.33
9	13.33	26.05	53	19.41
10	12.71	25.97	56	19.46
11	12.57	26.14	52	19.62
12	12.78	26.24	46	19.66
13	12.89	26.24	41	19.64
14	12.68	26.26	36	19.69
15	12.30	26.50	33	19.95
16	11.70	26.66	30	20.17
17	10.75	27.00	26	20.59
18	10.07	27.23	24	20.88
19	9.75	27.36	22	21.03
20	9.44	27.44	22	21.14
21	8.58	27.74	20	21.50
22	8.05	28.02	18	21.79
23	7.44	28.24	17	22.04
24	6.58	28.62	15	22.45
25	5.72	29.30	14	23.08
26	4.61	29.86	12	23.64
27	4.02	30.09	11	23.88
28	3.93	30.12	10	23.91
29	3.87	30.12	11	23.92
30	3.84	30.13	11	23.93
31	3.78	30.14	10	23.94
32	3.75	30.14	10	23.95
33	3.75	30.14	11	23.94

Survey 96-01

Station 8

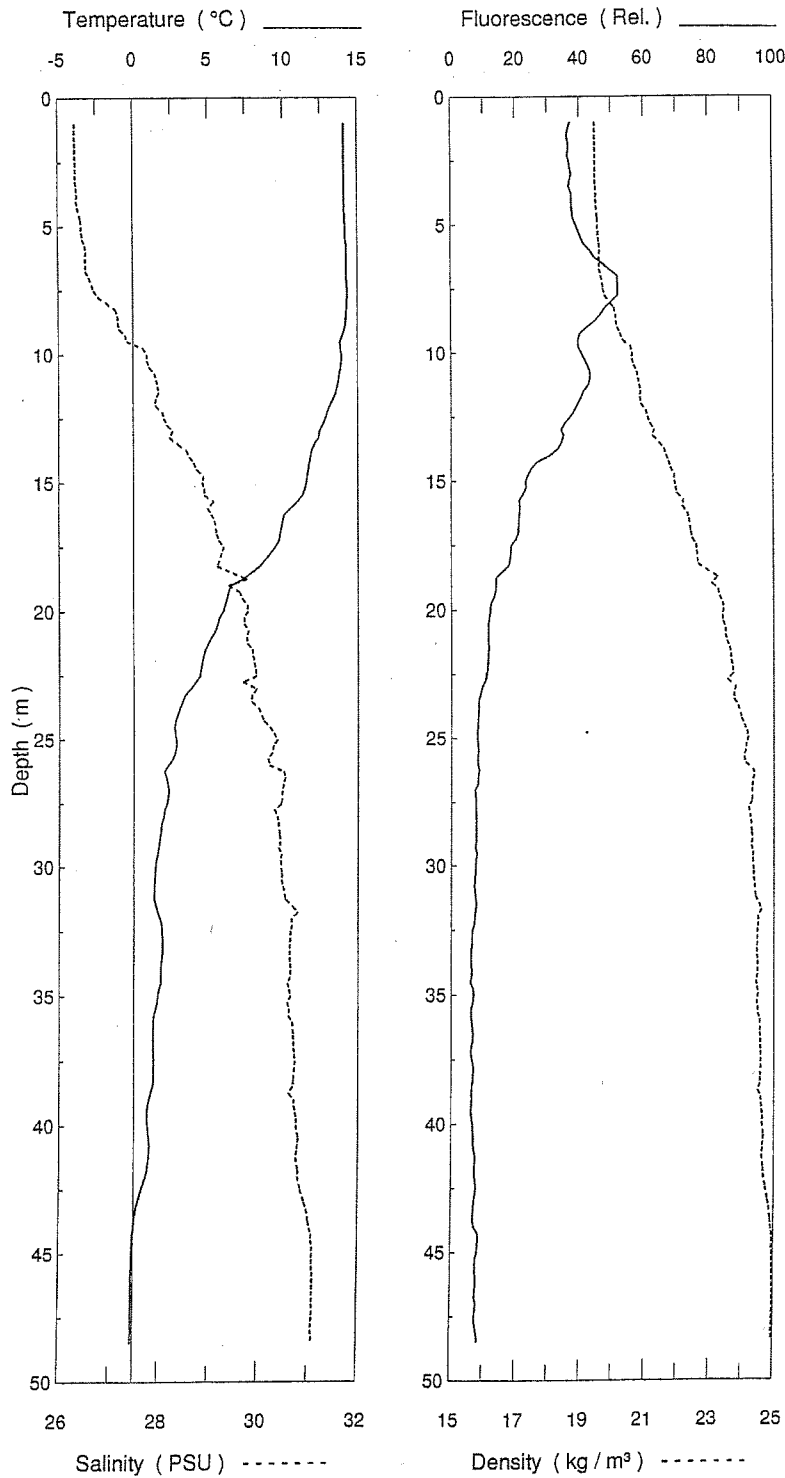


Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	14.19	25.89	27	19.12
2	13.99	25.86	35	19.14
3	13.69	25.84	39	19.18
4	13.61	25.86	41	19.21
5	13.59	25.86	43	19.22
6	13.51	25.85	45	19.22
7	13.46	25.92	49	19.28
8	13.44	25.99	53	19.34
9	13.31	26.04	56	19.40
10	12.81	26.16	58	19.59
11	12.69	26.24	59	19.67
12	12.67	26.25	56	19.68
13	12.66	26.25	52	19.69
14	12.54	26.29	43	19.74
15	11.98	26.43	36	19.95
16	11.70	26.51	34	20.06
17	10.33	26.94	27	20.61
18	9.04	27.50	20	21.25
19	8.19	27.85	18	21.64
20	7.22	28.40	16	22.20
21	7.11	28.46	15	22.26
22	6.98	28.53	14	22.33
23	6.85	28.61	15	22.40
24	6.75	28.66	14	22.46
25	6.54	28.76	14	22.57
26	6.17	28.98	13	22.78
27	5.79	29.22	13	23.02
28	5.73	29.25	13	23.05
29	5.69	29.28	12	23.07



Survey 96-01

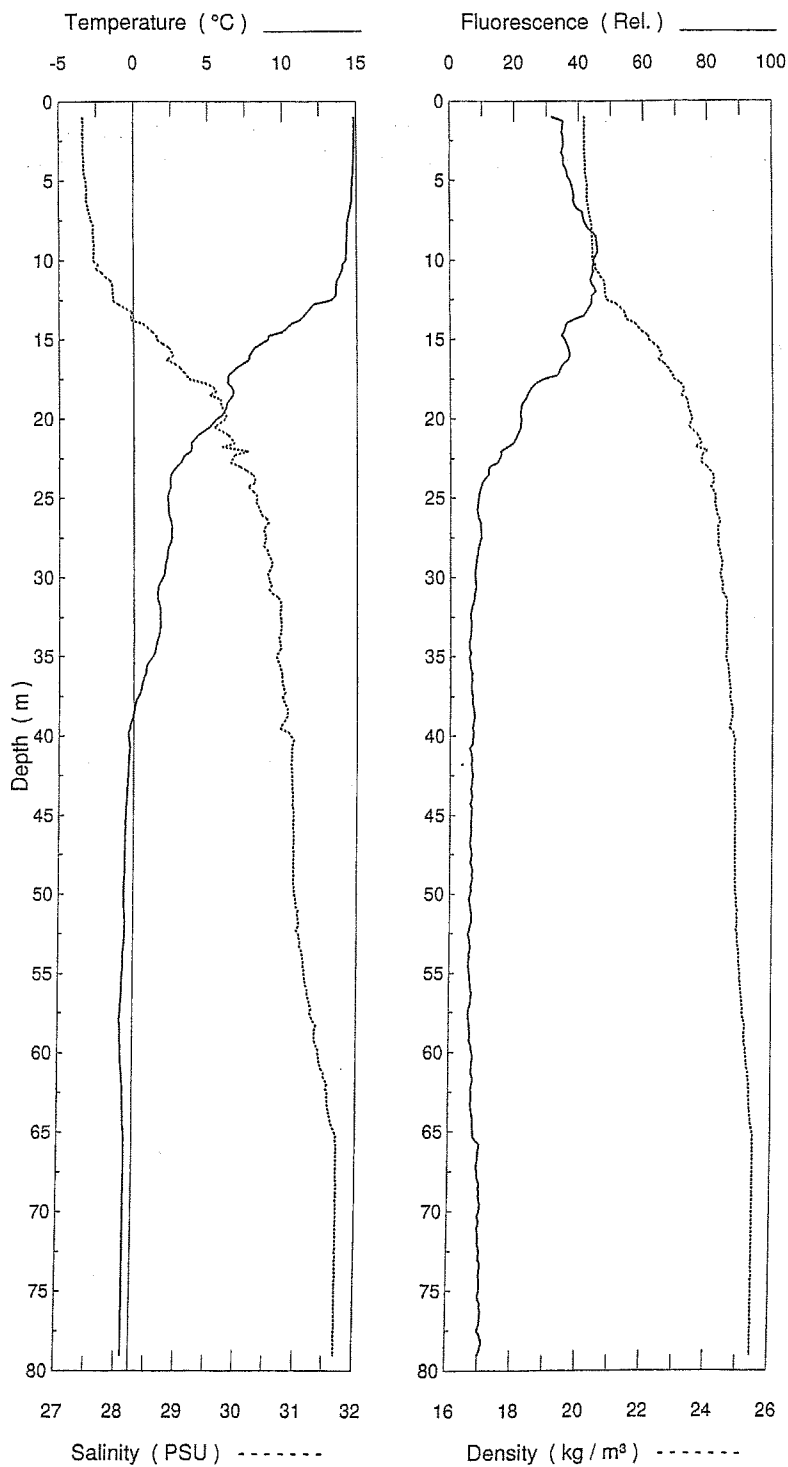
Station 9



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.10	26.34	32	19.49
2	14.09	26.34	35	19.49
3	14.09	26.35	37	19.49
4	14.11	26.37	37	19.51
5	14.17	26.45	39	19.56
6	14.23	26.52	43	19.60
7	14.25	26.60	51	19.66
8	14.28	26.95	50	19.92
9	14.10	27.26	42	20.19
10	13.88	27.68	41	20.57
11	13.68	27.94	43	20.80
12	13.18	27.99	39	20.94
13	12.46	28.23	35	21.25
14	11.83	28.62	30	21.67
15	11.49	28.88	24	21.93
16	10.54	29.01	21	22.19
17	9.77	29.19	20	22.46
18	8.74	29.22	18	22.63
19	6.61	29.66	13	23.27
20	5.93	29.74	12	23.41
21	5.19	29.79	11	23.53
22	4.57	29.91	11	23.69
23	3.79	29.83	10	23.70
24	2.94	30.07	8	23.95
25	2.82	30.28	8	24.13
26	2.34	30.30	8	24.18
27	2.24	30.52	8	24.36
28	1.97	30.38	8	24.27
29	1.71	30.42	8	24.33
30	1.43	30.45	7	24.36
31	1.38	30.53	7	24.43
32	1.72	30.67	7	24.52
33	1.86	30.63	6	24.48
34	1.79	30.63	6	24.49
35	1.58	30.60	6	24.47
36	1.29	30.66	6	24.54
37	1.27	30.70	6	24.58
38	1.27	30.71	7	24.58
39	1.00	30.68	6	24.57
40	0.89	30.76	6	24.64
41	1.00	30.76	7	24.64
42	0.74	30.80	7	24.68
43	0.22	30.92	7	24.81
44	-0.04	31.04	7	24.91
45	-0.12	31.08	8	24.94
46	-0.16	31.09	8	24.96
47	-0.17	31.09	8	24.96
48	-0.17	31.08	8	24.95
49	-0.19	31.09	9	24.96

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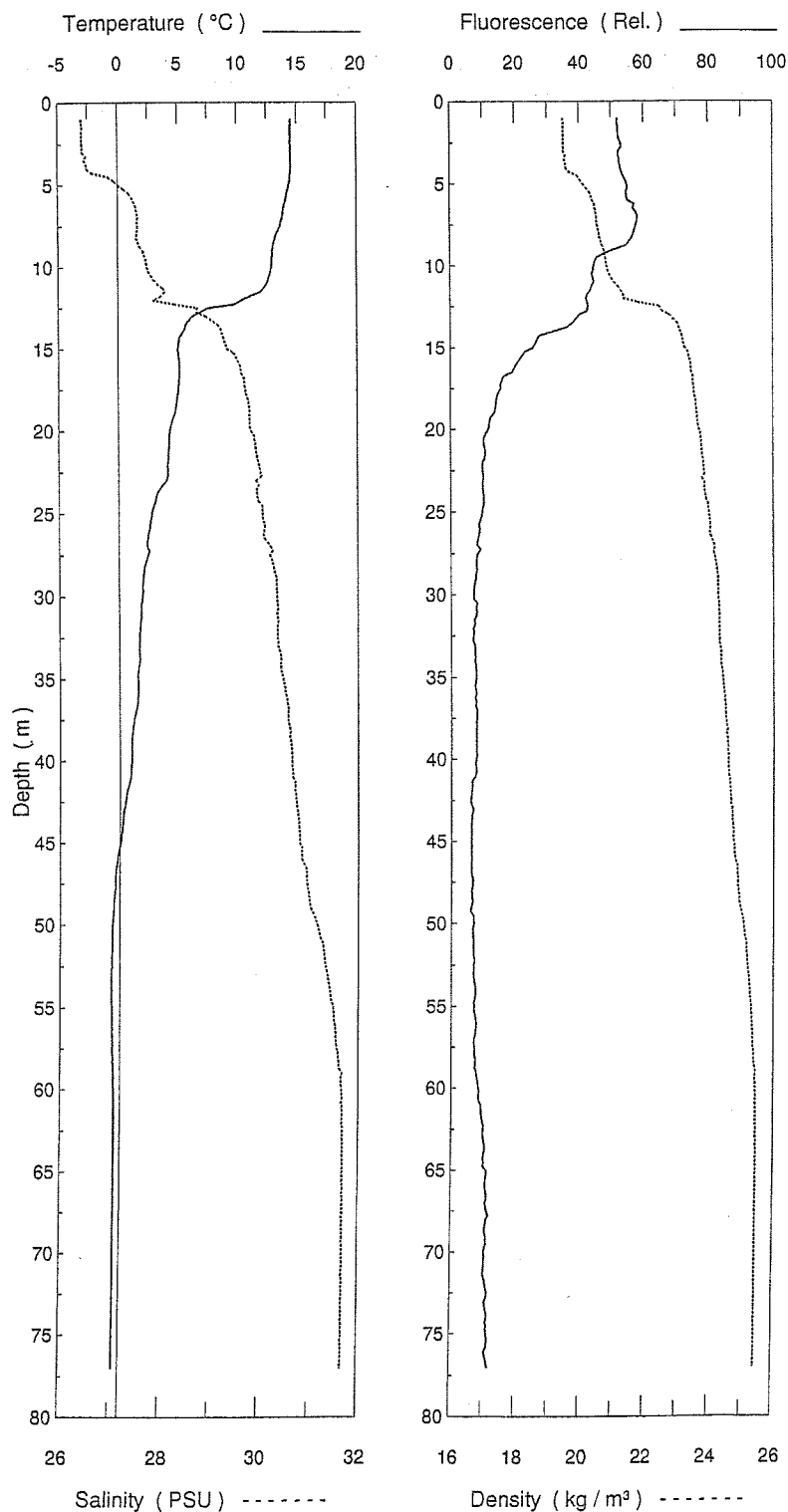
Station 10



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.82	27.40	32	20.16
2	14.81	27.40	35	20.16
3	14.80	27.40	35	20.16
4	14.76	27.41	36	20.18
5	14.70	27.44	37	20.21
6	14.66	27.46	38	20.24
7	14.50	27.50	40	20.30
8	14.36	27.55	43	20.37
9	14.31	27.57	45	20.40
10	14.19	27.59	45	20.43
11	13.81	27.77	44	20.65
12	13.59	27.89	44	20.78
13	12.05	28.09	43	21.22
14	10.71	28.35	37	21.65
15	8.95	28.66	35	22.17
16	7.75	28.87	37	22.50
17	6.69	29.08	33	22.80
18	6.51	29.50	25	23.15
19	6.32	29.70	22	23.33
20	5.58	29.67	22	23.39
21	4.41	29.85	21	23.66
22	3.66	29.89	17	23.76
23	2.85	30.03	13	23.93
24	2.44	30.24	10	24.13
25	2.27	30.30	9	24.19
26	2.38	30.43	9	24.29
27	2.54	30.48	10	24.31
28	2.38	30.46	9	24.31
29	2.15	30.55	8	24.40
30	1.90	30.52	8	24.39
31	1.60	30.61	8	24.48
32	1.72	30.70	7	24.55
33	1.74	30.72	6	24.56
34	1.54	30.70	6	24.56
35	1.20	30.67	6	24.56
36	0.77	30.73	7	24.62
37	0.47	30.77	7	24.67
38	0.11	30.81	7	24.72
39	-0.15	30.79	7	24.71
40	-0.36	30.83	7	24.76
41	-0.30	30.91	7	24.82
42	-0.36	30.90	7	24.81
43	-0.42	30.91	7	24.82
44	-0.47	30.92	7	24.83
45	-0.53	30.93	7	24.84
46	-0.56	30.93	6	24.84
47	-0.59	30.94	6	24.85
48	-0.60	30.94	7	24.85
49	-0.62	30.94	7	24.85
50	-0.65	30.96	6	24.87
51	-0.62	31.00	6	24.90
52	-0.59	31.01	6	24.91
53	-0.64	31.04	6	24.94
54	-0.70	31.09	6	24.98
55	-0.73	31.12	6	25.01
56	-0.78	31.17	7	25.04
57	-0.83	31.22	6	25.09
58	-0.91	31.28	6	25.14
59	-0.86	31.31	6	25.16
60	-0.84	31.37	7	25.21
61	-0.77	31.43	7	25.25
62	-0.71	31.51	7	25.31
63	-0.68	31.53	7	25.33
64	-0.65	31.57	7	25.36
65	-0.59	31.65	8	25.42
66	-0.56	31.69	9	25.45
67	-0.56	31.68	9	25.45
68	-0.56	31.69	9	25.45
69	-0.55	31.69	10	25.45
70	-0.56	31.69	10	25.46
71	-0.55	31.69	9	25.45
72	-0.55	31.69	10	25.46
73	-0.55	31.69	10	25.46
74	-0.55	31.69	10	25.46
75	-0.55	31.69	10	25.46
76	-0.55	31.69	10	25.46
77	-0.55	31.69	10	25.46
78	-0.55	31.69	10	25.46
79	-0.55	31.69	13	25.46

Survey 96-01

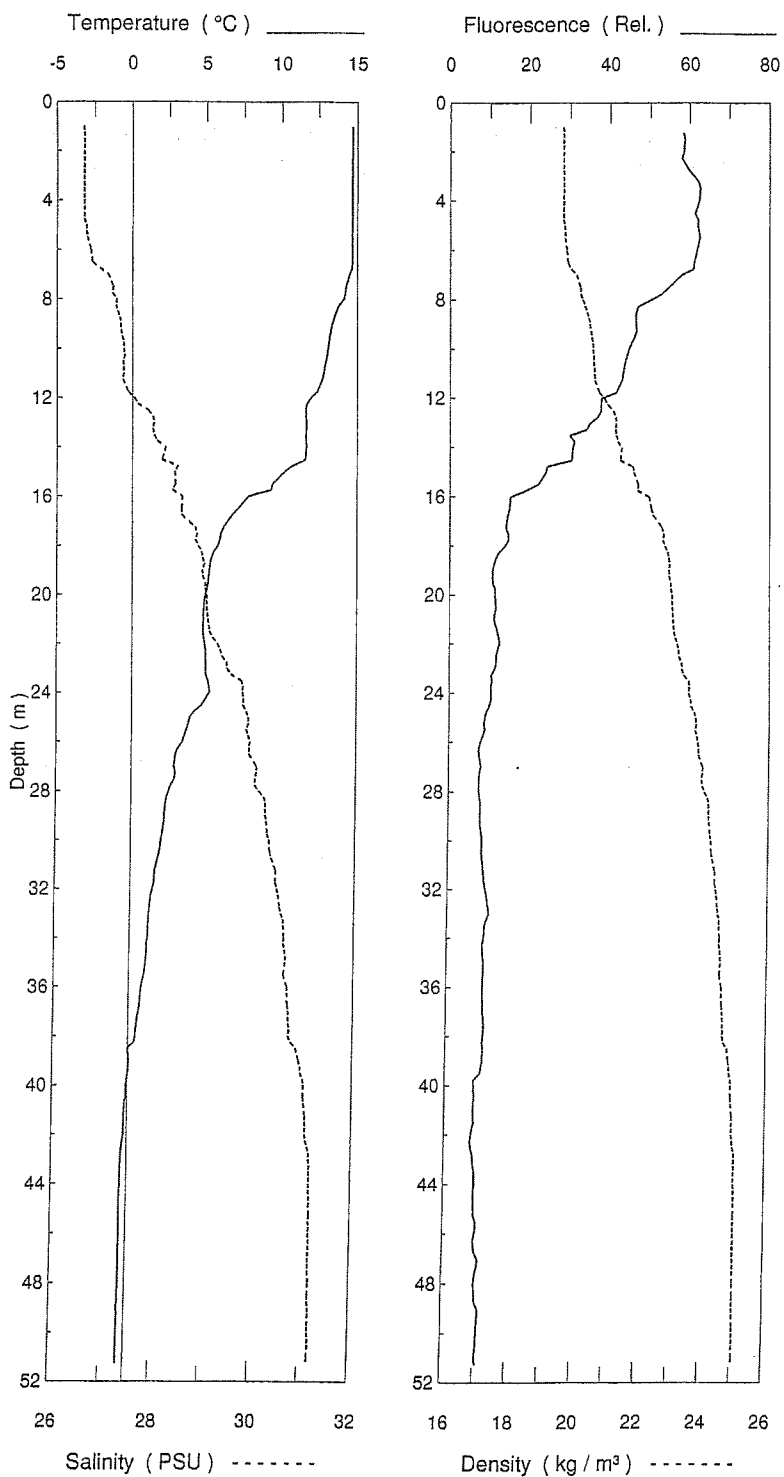
Station 11



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.49	26.50	52	19.53
2	14.48	26.48	53	19.52
3	14.48	26.50	53	19.53
4	14.48	26.60	53	19.61
5	14.34	27.24	55	20.13
6	14.02	27.51	55	20.40
7	13.77	27.59	58	20.52
8	13.31	27.58	57	20.59
9	12.98	27.69	50	20.74
10	12.84	27.79	45	20.84
11	12.41	27.99	44	21.08
12	10.16	28.25	43	21.65
13	5.95	28.96	41	22.80
14	5.35	29.30	33	23.12
15	5.06	29.46	25	23.28
16	5.10	29.63	20	23.41
17	5.06	29.74	15	23.50
18	4.92	29.79	14	23.56
19	4.64	29.83	13	23.61
20	4.29	29.89	11	23.69
21	4.17	29.96	10	23.76
22	4.07	30.01	10	23.82
23	3.88	30.00	10	23.83
24	3.10	30.01	10	23.89
25	2.74	30.10	10	23.99
26	2.51	30.12	9	24.03
27	2.36	30.23	8	24.12
28	2.20	30.30	8	24.19
29	1.99	30.36	8	24.26
30	1.91	30.38	7	24.28
31	1.80	30.39	8	24.29
32	1.71	30.39	7	24.30
33	1.65	30.41	7	24.31
34	1.63	30.45	7	24.35
35	1.52	30.50	8	24.40
36	1.50	30.55	8	24.44
37	1.34	30.59	8	24.48
38	1.10	30.61	8	24.51
39	0.99	30.64	8	24.55
40	0.96	30.67	8	24.57
41	0.87	30.69	7	24.59
42	0.55	30.74	6	24.64
43	0.34	30.77	6	24.68
44	0.17	30.80	6	24.71
45	0.00	30.84	6	24.75
46	-0.23	30.88	6	24.79
47	-0.40	30.96	6	24.86
48	-0.45	30.98	6	24.88
49	-0.54	31.06	6	24.95
50	-0.62	31.17	7	25.04
51	-0.67	31.27	7	25.12
52	-0.69	31.32	7	25.17
53	-0.71	31.38	7	25.21
54	-0.73	31.43	7	25.25
55	-0.71	31.49	7	25.30
56	-0.68	31.52	8	25.33
57	-0.67	31.55	7	25.35
58	-0.64	31.59	7	25.38
59	-0.60	31.64	8	25.41
60	-0.57	31.66	8	25.43
61	-0.56	31.67	9	25.44
62	-0.55	31.67	10	25.44
63	-0.55	31.68	10	25.45
64	-0.55	31.68	10	25.45
65	-0.55	31.68	11	25.45
66	-0.55	31.68	11	25.45
67	-0.55	31.68	11	25.45
68	-0.55	31.68	11	25.45
69	-0.55	31.68	11	25.45
70	-0.55	31.68	11	25.45
71	-0.55	31.68	10	25.45
72	-0.55	31.68	11	25.45
73	-0.55	31.68	11	25.45
74	-0.55	31.68	11	25.45
75	-0.55	31.68	11	25.45
76	-0.55	31.68	11	25.45
77	-0.55	31.68	12	25.45

Survey 96-01

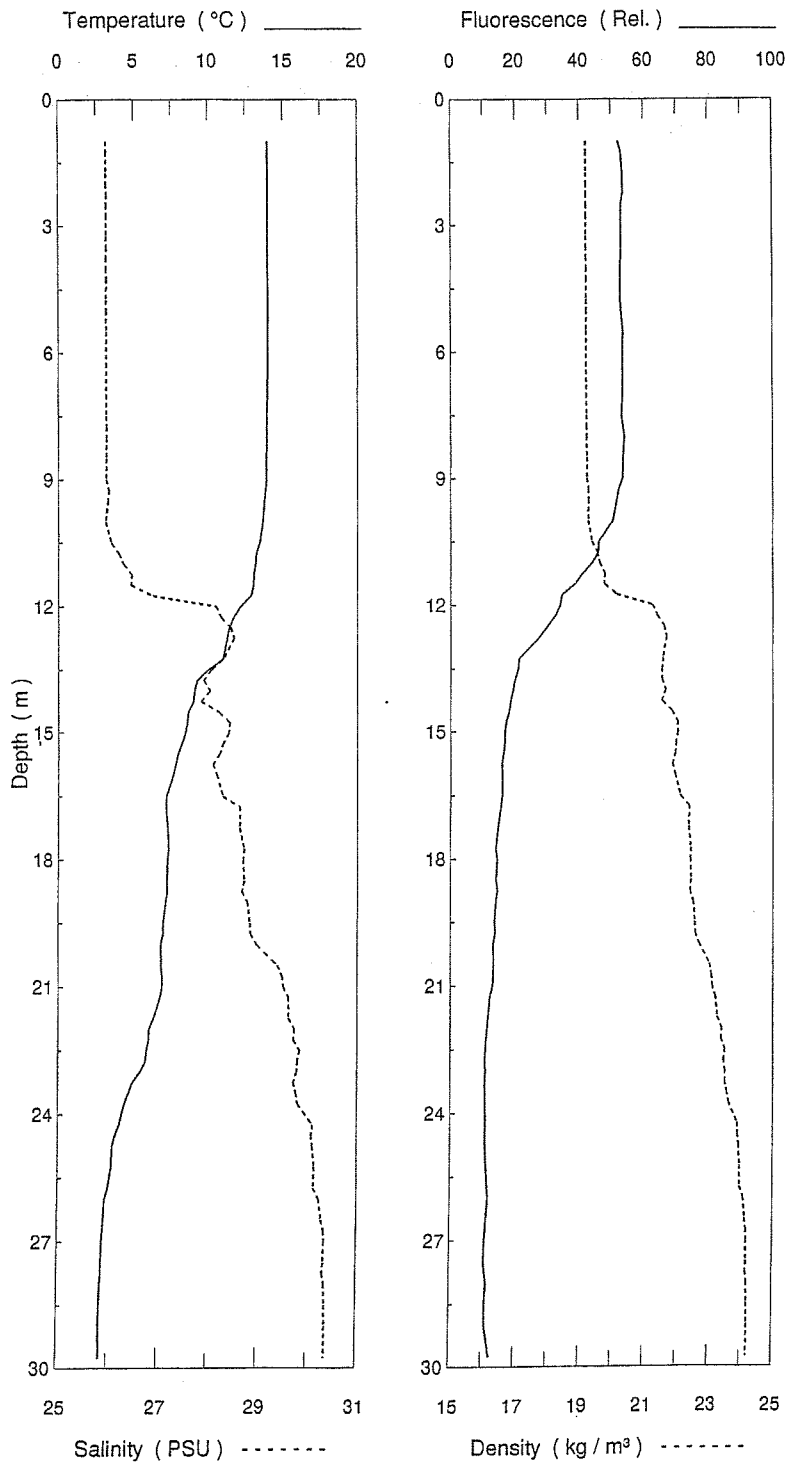
Station 12



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.66	26.53		19.52
2	14.64	26.53	57	19.53
3	14.64	26.53	61	19.53
4	14.64	26.53	62	19.53
5	14.64	26.56	62	19.55
6	14.64	26.65	62	19.61
7	14.49	26.98	58	19.91
8	13.96	27.14	50	20.13
9	13.32	27.25	46	20.34
10	13.04	27.31	45	20.44
11	12.74	27.31	43	20.49
12	11.99	27.53	39	20.80
13	11.62	27.89	35	21.14
14	11.59	28.09	31	21.30
15	10.19	28.38	23	21.76
16	8.21	28.41	17	22.07
17	6.43	28.64	14	22.48
18	5.65	28.82	13	22.71
19	5.10	28.94	10	22.86
20	4.90	28.98	11	22.92
21	4.74	29.02	11	22.97
22	4.81	29.18	12	23.09
23	4.92	29.44	11	23.28
24	5.05	29.74	10	23.50
25	3.97	29.81	9	23.66
26	3.32	29.86	8	23.76
27	2.91	29.97	8	23.88
28	2.48	30.09	8	24.00
29	2.22	30.21	8	24.12
30	2.02	30.27	8	24.18
31	1.72	30.36	9	24.28
32	1.47	30.45	9	24.36
33	1.26	30.54	10	24.45
34	1.16	30.59	9	24.49
35	1.07	30.62	9	24.52
36	0.80	30.65	9	24.56
37	0.63	30.70	9	24.61
38	0.38	30.75	9	24.66
39	0.07	30.93	9	24.82
40	-0.09	31.02	7	24.89
41	-0.22	31.06	7	24.93
42	-0.27	31.08	7	24.95
43	-0.42	31.16	7	25.02
44	-0.46	31.17	8	25.03
45	-0.47	31.17	8	25.04
46	-0.47	31.18	8	25.04
47	-0.47	31.18	8	25.04
48	-0.48	31.19	8	25.05
49	-0.50	31.19	9	25.05
50	-0.51	31.19	9	25.05
51	-0.51	31.20	9	25.06

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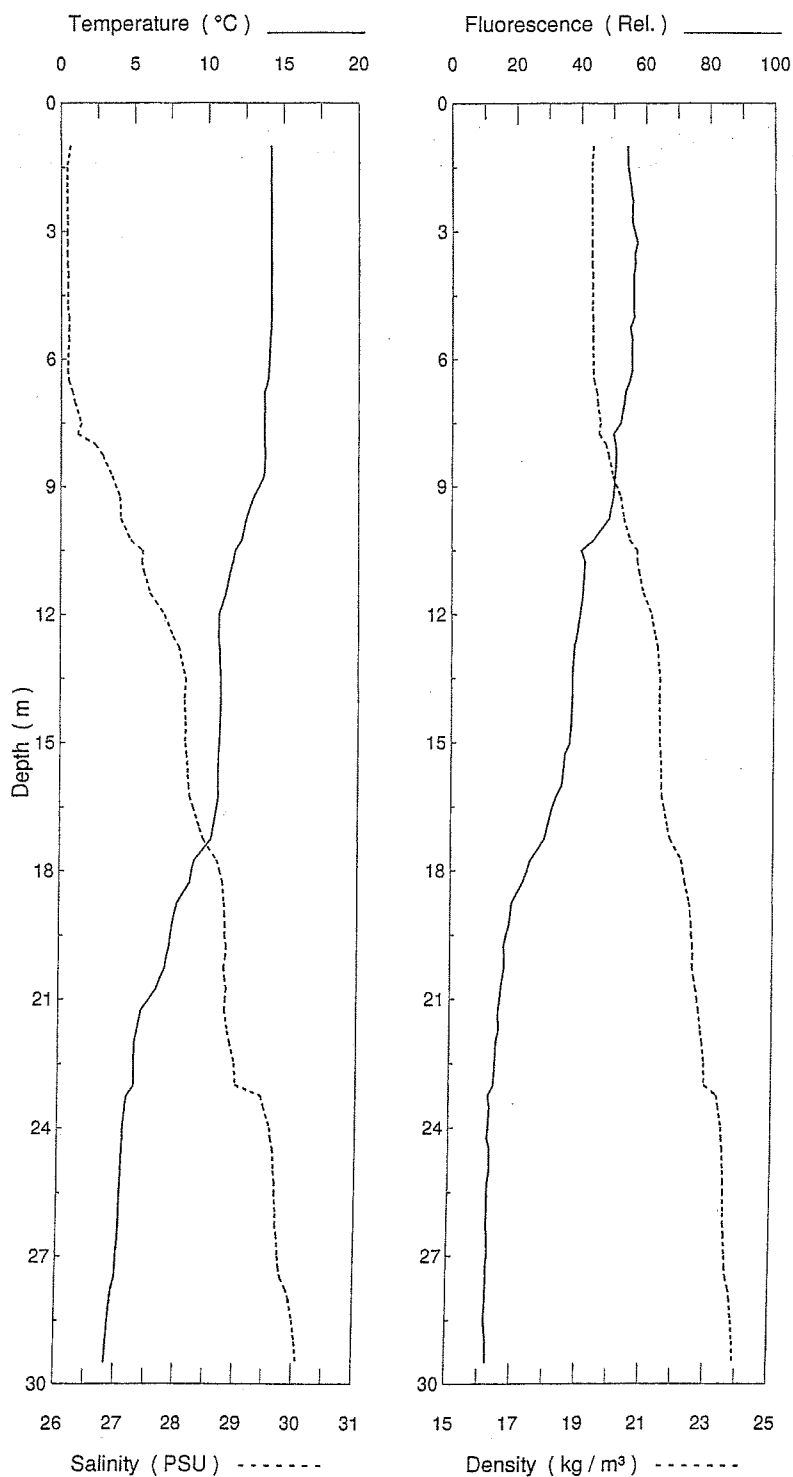
Station 13



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	13.98	25.95	52	19.21
2	13.98	25.95	53	19.21
3	13.98	25.95	53	19.21
4	13.98	25.95	53	19.21
5	13.99	25.95	53	19.21
6	13.97	25.95	53	19.21
7	13.94	25.95	53	19.22
8	13.92	25.96	54	19.23
9	13.85	25.97	53	19.25
10	13.60	25.99	49	19.32
11	13.15	26.32	43	19.65
12	12.28	27.60	34	20.80
13	11.01	28.24	25	21.51
14	9.24	28.05	20	21.65
15	8.40	28.47	17	22.10
16	7.59	28.19	16	21.99
17	7.27	28.62	15	22.36
18	7.27	28.72	14	22.44
19	7.17	28.75	14	22.48
20	6.89	29.02	13	22.73
21	6.86	29.52	13	23.13
22	6.12	29.69	11	23.34
23	5.44	29.83	11	23.53
24	4.19	29.94	11	23.75
25	3.61	30.11	11	23.93
26	3.16	30.22	11	24.06
27	2.93	30.36	11	24.19
28	2.84	30.33	11	24.17
29	2.78	30.38	11	24.21
30	2.80	30.37	13	24.21

Survey 96-01

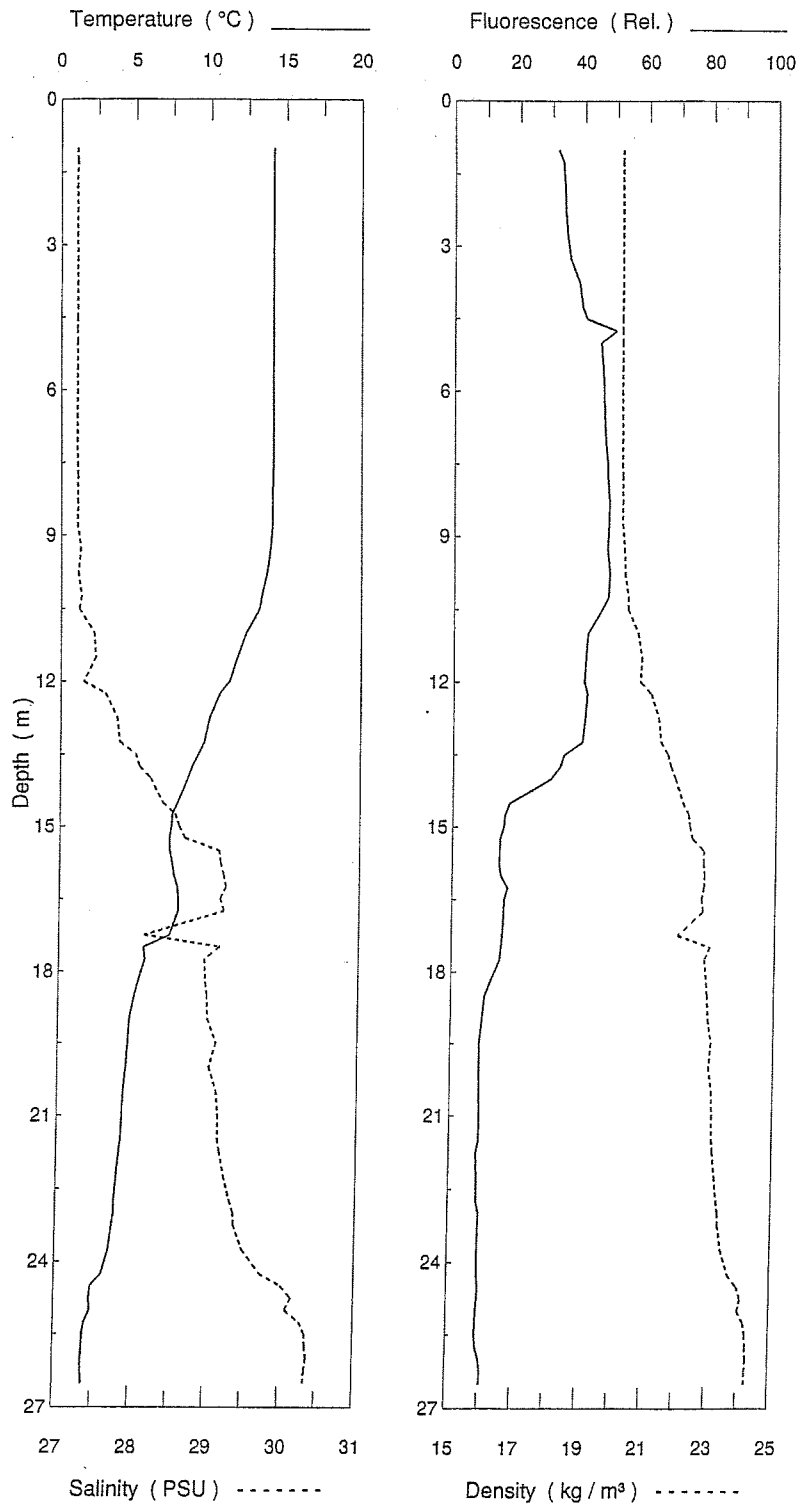
Station 14



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m <sup>3</sup> )
1	14.13	26.15	54	19.34
2	14.13	26.10	53	19.29
3	14.13	26.10	56	19.29
4	14.13	26.11	56	19.30
5	14.13	26.12	56	19.31
6	13.98	26.12	55	19.34
7	13.72	26.24	53	19.48
8	13.70	26.54	51	19.72
9	13.39	26.93	50	20.08
10	12.30	27.13	45	20.44
11	11.40	27.41	40	20.81
12	10.78	27.67	40	21.11
13	10.70	28.02	38	21.39
14	10.80	28.09	37	21.43
15	10.70	28.11	36	21.47
16	10.64	28.16	33	21.52
17	10.29	28.35	30	21.72
18	8.96	28.68	23	22.18
19	7.76	28.77	18	22.42
20	7.21	28.80	16	22.51
21	6.06	28.80	15	22.65
22	5.15	28.88	14	22.81
23	4.90	29.13	13	23.04
24	4.35	29.57	12	23.44
25	4.23	29.65	13	23.51
26	4.16	29.68	12	23.54
27	4.00	29.74	12	23.60
28	3.68	29.91	12	23.77
29	3.43	30.04	12	23.89

Survey 96-01

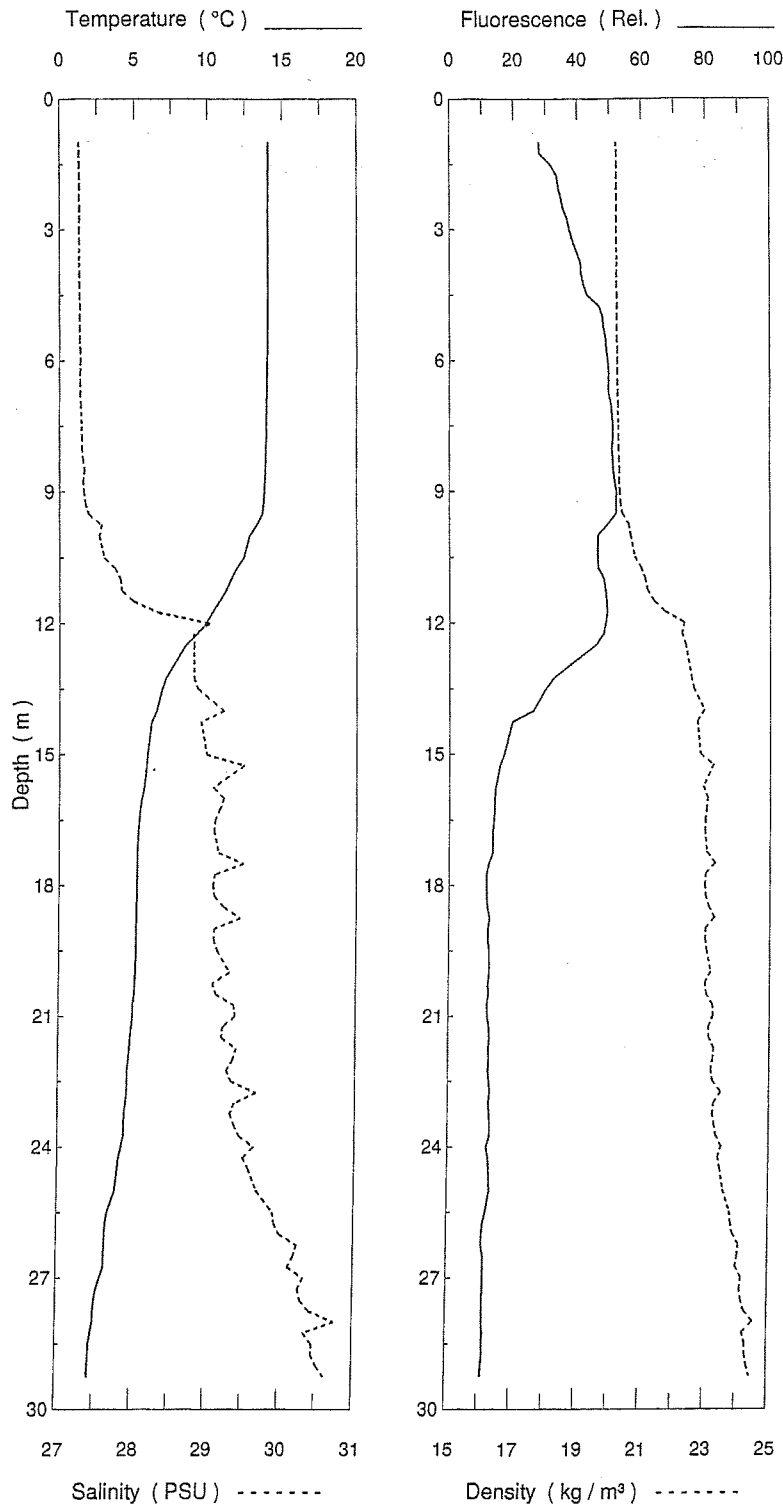
Station 15



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	14.09	27.24	32	20.18
2	14.09	27.20	35	20.15
3	14.09	27.21	35	20.16
4	14.09	27.21	39	20.16
5	14.09	27.21	45	20.16
6	14.09	27.21	46	20.16
7	14.08	27.21	46	20.16
8	14.06	27.21	47	20.17
9	13.97	27.23	47	20.20
10	13.45	27.24	47	20.30
11	12.33	27.40	42	20.64
12	11.05	27.43	41	20.88
13	9.74	27.79	38	21.37
14	8.47	28.17	28	21.85
15	7.47	28.66	16	22.37
16	7.66	29.13	15	22.71
17	7.19	28.79	15	22.51
18	5.58	28.93	13	22.80
19	4.78	29.03	9	22.97
20	4.48	29.05	9	23.01
21	4.34	29.16	9	23.11
22	4.08	29.19	8	23.16
23	3.79	29.36	9	23.32
24	3.21	29.66	9	23.61
25	2.23	30.16	9	24.08
26	1.87	30.36	10	24.26
27	1.89	30.33	10	24.24

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Station 16

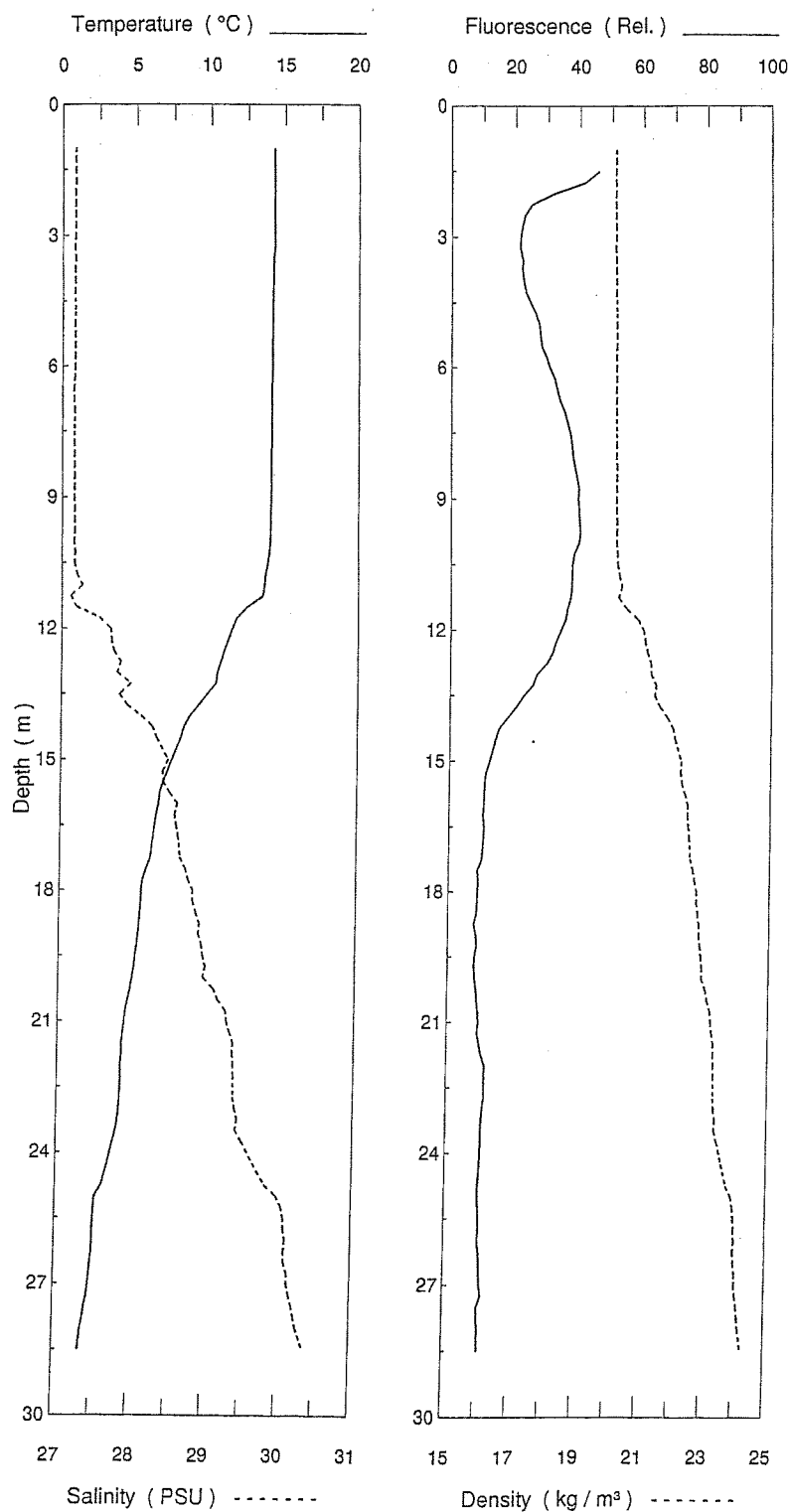


Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m <sup>3</sup> )
1	14.04	27.21	28	20.17
2	14.02	27.26	35	20.21
3	14.02	27.26	37	20.21
4	14.02	27.26	41	20.21
5	14.00	27.27	47	20.22
6	13.98	27.27	49	20.23
7	13.94	27.28	50	20.24
8	13.89	27.30	51	20.27
9	13.78	27.33	52	20.31
10	13.03	27.55	49	20.62
11	11.57	27.79	48	21.07
12	9.76	28.69	48	22.06
13	7.36	28.90	36	22.58
14	6.42	28.99	24	22.76
15	5.91	29.23	17	23.01
16	5.53	29.15	14	22.99
17	5.25	29.24	13	23.09
18	5.20	29.13	12	23.01
19	5.16	29.29	12	23.14
20	5.09	29.19	12	23.06
21	4.92	29.31	12	23.17
22	4.70	29.31	12	23.20
23	4.53	29.41	13	23.30
24	4.25	29.56	12	23.44
25	3.73	29.73	13	23.62
26	3.25	30.09	11	23.95
27	2.94	30.23	11	24.08
28	2.44	30.54	11	24.37
29	2.17	30.53	11	24.38



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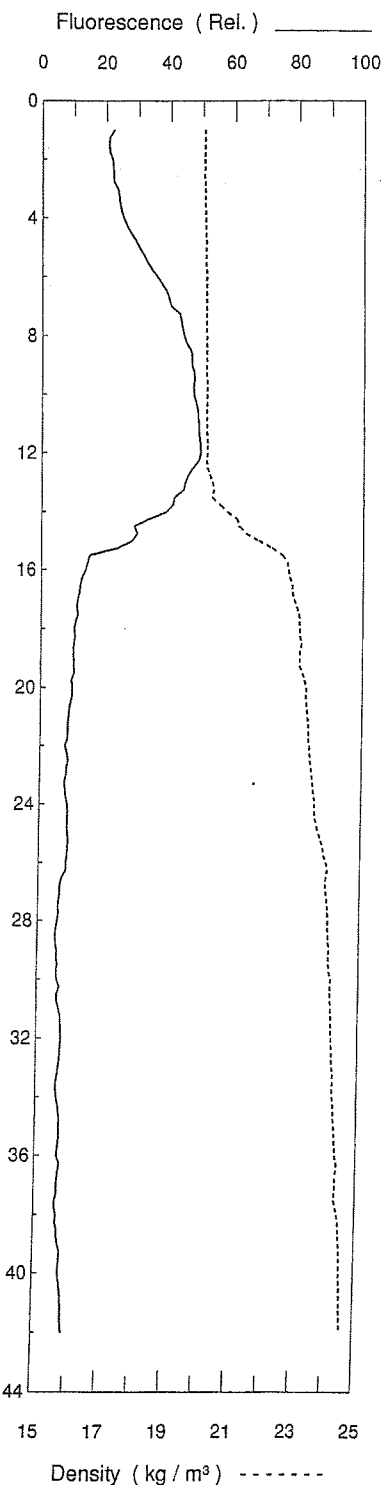
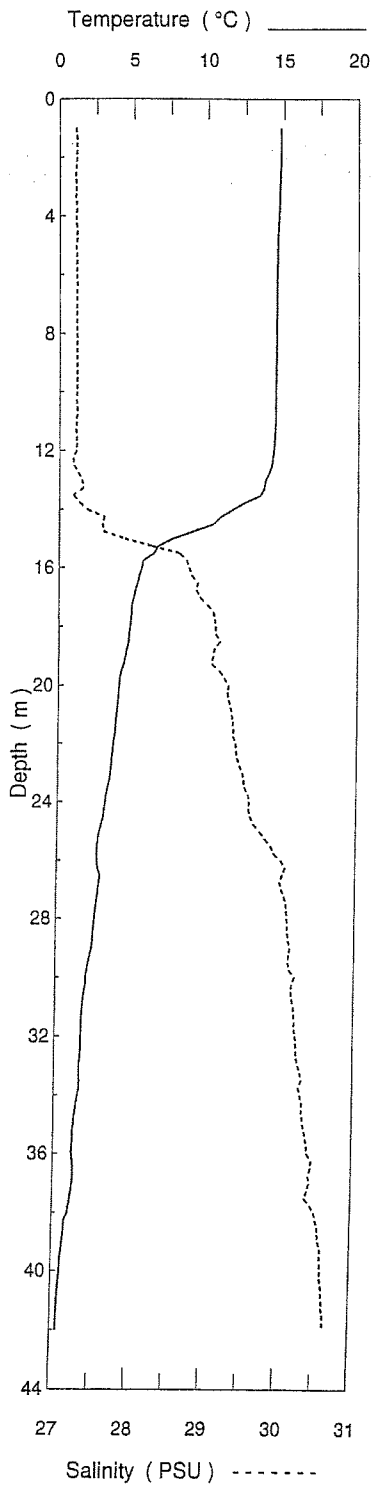
Station 17



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	14.25	27.19		20.11
2	14.26	27.16		20.09
3	14.24	27.16	22	20.09
4	14.17	27.16	22	20.10
5	14.13	27.16	27	20.11
6	14.12	27.16	31	20.12
7	14.08	27.15	35	20.12
8	14.07	27.16	38	20.12
9	14.05	27.16	40	20.13
10	13.98	27.16	39	20.14
11	13.50	27.15	37	20.23
12	11.46	27.60	34	20.95
13	10.48	27.81	27	21.27
14	8.71	28.04	18	21.71
15	7.47	28.39	12	22.16
16	6.55	28.50	11	22.36
17	6.11	28.60	10	22.49
18	5.55	28.76	9	22.67
19	5.28	28.89	8	22.81
20	4.90	29.03	9	22.95
21	4.45	29.26	9	23.19
22	4.23	29.37	11	23.29
23	4.11	29.40	11	23.32
24	3.59	29.58	11	23.51
25	2.79	29.94	10	23.86
26	2.51	30.09	11	24.00
27	2.30	30.15	11	24.07
28	1.89	30.29	11	24.21
29	1.63	30.45	11	24.35

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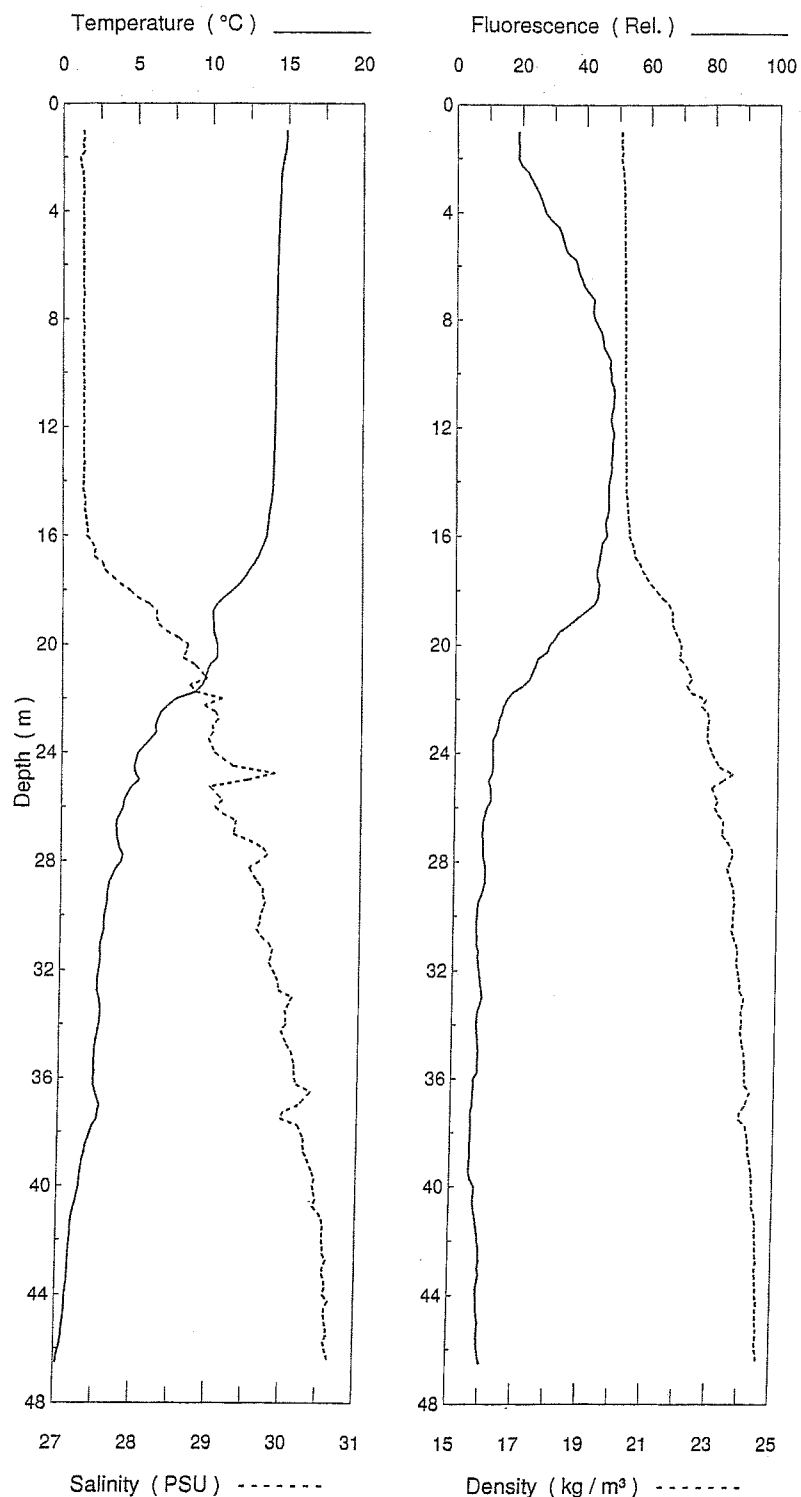
Station 18



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.78	27.16	22	19.98
2	14.77	27.23	23	20.03
3	14.71	27.21	23	20.03
4	14.64	27.21	25	20.05
5	14.58	27.22	30	20.07
6	14.53	27.22	36	20.08
7	14.51	27.22	41	20.08
8	14.49	27.22	44	20.09
9	14.47	27.22	47	20.09
10	14.45	27.22	47	20.10
11	14.42	27.21	48	20.10
12	14.31	27.20	49	20.10
13	13.82	27.25	44	20.24
14	11.56	27.44	36	20.80
15	7.82	28.03	26	21.81
16	5.57	28.72	13	22.64
17	4.99	28.94	11	22.88
18	4.73	29.09	10	23.02
19	4.41	29.11	10	23.06
20	4.03	29.25	10	23.21
21	3.86	29.32	9	23.29
22	3.67	29.37	8	23.34
23	3.48	29.46	8	23.43
24	3.14	29.56	8	23.53
25	2.80	29.72	9	23.69
26	2.71	29.97	8	23.89
27	2.72	30.03	7	23.94
28	2.52	30.09	6	24.00
29	2.33	30.12	6	24.04
30	2.00	30.14	6	24.08
31	1.78	30.19	7	24.13
32	1.69	30.22	7	24.16
33	1.62	30.26	7	24.20
34	1.54	30.30	6	24.24
35	1.29	30.34	7	24.28
36	1.21	30.41	7	24.35
37	1.27	30.43	7	24.36
38	0.97	30.49	7	24.42
39	0.71	30.57	8	24.50
40	0.55	30.60	8	24.54
41	0.44	30.63	9	24.56
42	0.38	30.66	9	24.59

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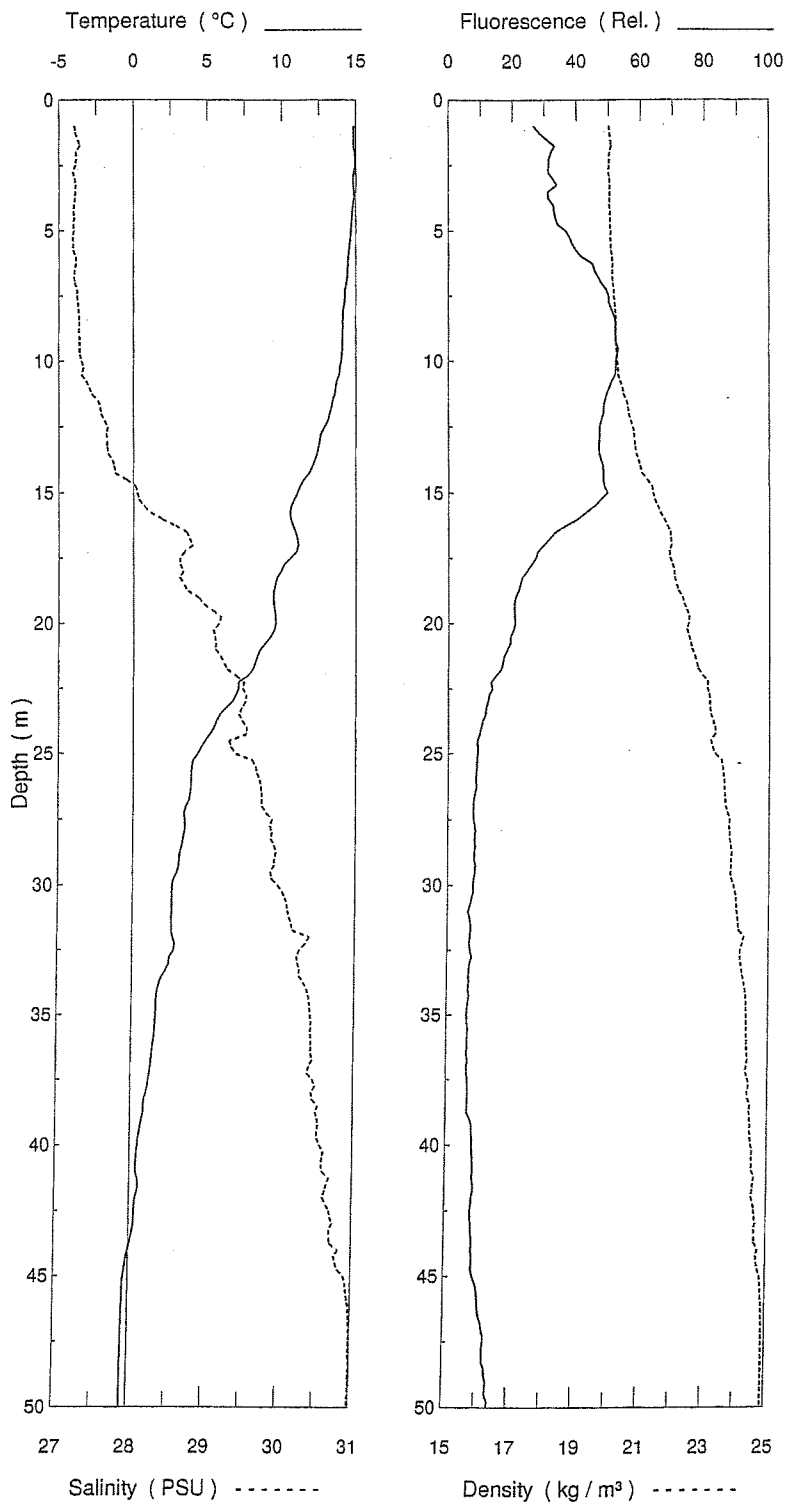
Station 19



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.83	27.28	19	20.06
2	14.68	27.24	19	20.07
3	14.46	27.26	24	20.13
4	14.39	27.26	27	20.14
5	14.32	27.26	33	20.15
6	14.26	27.27	37	20.17
7	14.23	27.27	40	20.18
8	14.20	27.27	43	20.18
9	14.17	27.27	46	20.19
10	14.14	27.27	48	20.20
11	14.12	27.27	48	20.20
12	14.09	27.28	48	20.21
13	14.04	27.28	48	20.22
14	13.98	27.27	47	20.23
15	13.80	27.29	47	20.28
16	13.51	27.35	46	20.38
17	12.68	27.51	44	20.66
18	11.27	27.87	44	21.19
19	10.10	28.23	37	21.66
20	10.21	28.58	29	21.91
21	9.60	28.80	23	22.18
22	7.89	28.89	16	22.49
23	6.31	29.03	13	22.80
24	5.12	29.07	12	22.96
25	4.80	29.39	11	23.25
26	4.01	29.13	10	23.12
27	3.60	29.42	9	23.39
28	3.85	29.64	9	23.54
29	3.15	29.68	9	23.63
30	2.89	29.68	7	23.65
31	2.68	29.74	7	23.71
32	2.54	29.84	8	23.80
33	2.57	30.01	9	23.94
34	2.57	29.99	8	23.92
35	2.34	30.08	8	24.01
36	2.31	30.15	7	24.07
37	2.59	30.21	6	24.10
38	2.13	30.20	6	24.12
39	1.64	30.33	6	24.26
40	1.40	30.43	7	24.35
41	1.04	30.50	8	24.43
42	0.87	30.56	9	24.48
43	0.78	30.57	9	24.50
44	0.65	30.61	9	24.54
45	0.52	30.61	9	24.54
46	0.30	30.63	10	24.56

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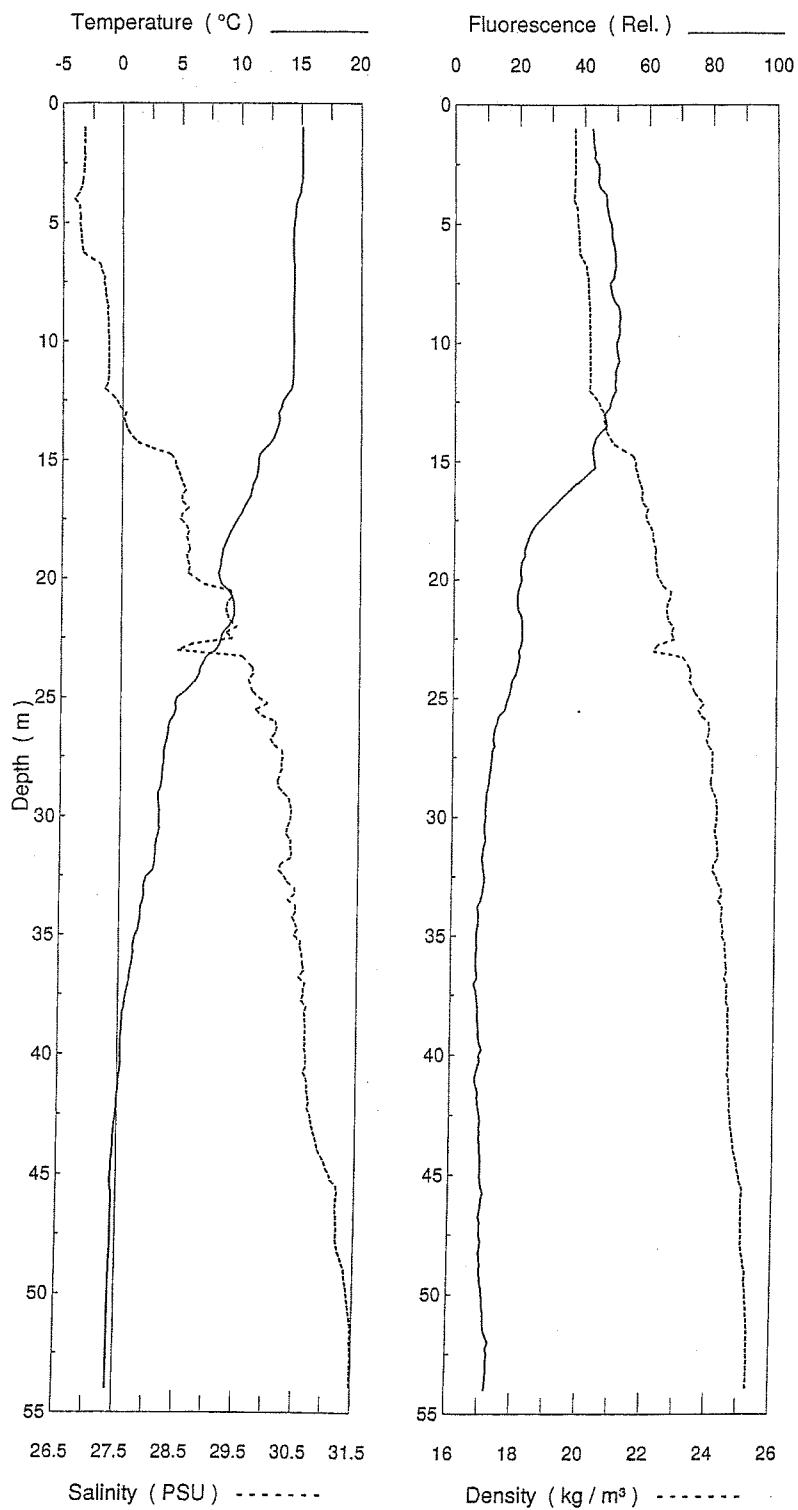
Station 20



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.83	27.20	27	20.01
2	14.89	27.23	32	20.02
3	14.82	27.19	32	20.00
4	14.81	27.20	32	20.01
5	14.63	27.19	36	20.03
6	14.47	27.21	42	20.08
7	14.34	27.21	48	20.11
8	14.15	27.26	51	20.18
9	14.09	27.27	52	20.20
10	13.96	27.30	52	20.25
11	13.63	27.41	50	20.40
12	13.20	27.57	48	20.61
13	12.54	27.65	47	20.79
14	12.00	27.74	48	20.96
15	11.01	28.05	48	21.37
16	10.65	28.40	40	21.70
17	10.99	28.75	30	21.92
18	9.91	28.64	24	22.00
19	9.46	28.85	21	22.24
20	9.49	29.13	20	22.45
21	8.62	29.11	18	22.57
22	7.67	29.37	15	22.90
23	6.59	29.49	12	23.13
24	5.37	29.46	10	23.24
25	4.34	29.50	9	23.38
26	3.89	29.71	9	23.59
27	3.61	29.75	8	23.65
28	3.43	29.87	8	23.75
29	3.16	29.90	8	23.81
30	2.74	29.94	8	23.87
31	2.65	30.09	7	24.00
32	2.75	30.26	7	24.12
33	2.46	30.24	7	24.13
34	1.76	30.34	7	24.26
35	1.63	30.40	6	24.31
36	1.50	30.42	6	24.33
37	1.31	30.42	6	24.34
38	1.02	30.46	7	24.40
39	0.75	30.51	7	24.45
40	0.48	30.55	8	24.49
41	0.44	30.62	8	24.55
42	0.43	30.63	8	24.56
43	0.26	30.71	8	24.64
44	-0.05	30.75	8	24.68
45	-0.32	30.88	9	24.79
46	-0.41	30.96	10	24.86
47	-0.45	30.99	12	24.88
48	-0.46	30.99	12	24.89
49	-0.47	30.99	13	24.88
50	-0.47	30.98	14	24.88

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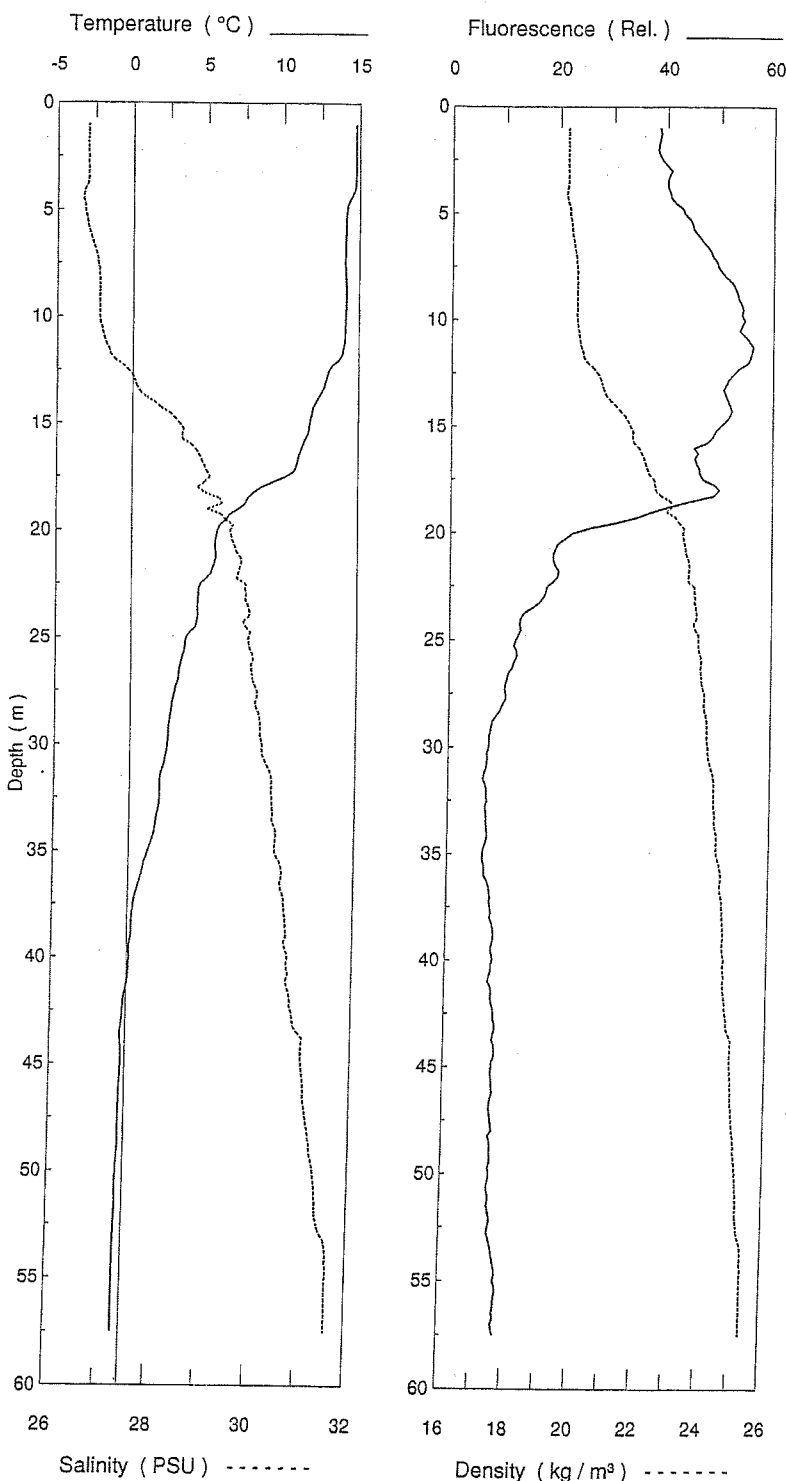
Station 21



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	15.09	26.85	42	19.68
2	15.07	26.85	43	19.69
3	15.02	26.83	44	19.68
4	14.68	26.75	46	19.69
5	14.37	26.78	48	19.77
6	14.27	26.81	49	19.82
7	14.35	27.12	49	20.04
8	14.34	27.20	49	20.10
9	14.32	27.24	50	20.13
10	14.32	27.25	50	20.15
11	14.30	27.26	50	20.15
12	14.04	27.25	49	20.20
13	13.22	27.48	47	20.54
14	12.66	27.67	44	20.79
15	11.53	28.30	43	21.48
16	11.04	28.52	37	21.73
17	10.22	28.52	30	21.86
18	9.13	28.58	24	22.08
19	8.43	28.60	21	22.19
20	8.36	28.84	20	22.39
21	9.27	29.23	20	22.56
22	8.98	29.33	21	22.68
23	7.69	29.03	20	22.63
24	6.49	29.65	19	23.27
25	4.92	29.79	17	23.56
26	4.17	30.01	13	23.80
27	3.73	30.10	12	23.91
28	3.51	30.17	12	23.99
29	3.26	30.25	11	24.08
30	3.21	30.36	10	24.17
31	3.11	30.31	10	24.14
32	2.79	30.24	10	24.11
33	2.08	30.37	10	24.26
34	1.78	30.42	8	24.32
35	1.39	30.50	8	24.41
36	1.08	30.58	8	24.49
37	0.81	30.58	8	24.50
38	0.45	30.60	8	24.54
39	0.26	30.64	9	24.58
40	0.21	30.66	9	24.59
41	0.10	30.66	8	24.60
42	-0.06	30.70	9	24.64
43	-0.27	30.78	9	24.71
44	-0.39	30.89	9	24.80
45	-0.52	31.07	10	24.95
46	-0.46	31.18	10	25.04
47	-0.45	31.20	10	25.05
48	-0.46	31.22	10	25.07
49	-0.54	31.33	10	25.17
50	-0.56	31.39	11	25.22
51	-0.58	31.45	11	25.26
52	-0.59	31.48	12	25.28
53	-0.59	31.48	12	25.28
54	-0.59	31.48	12	25.29

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Station 22



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.73	26.60	39	19.56
2	14.73	26.60	38	19.56
3	14.73	26.60	40	19.56
4	14.62	26.54	40	19.54
5	14.18	26.55	43	19.63
6	14.08	26.62	46	19.71
7	14.06	26.76	49	19.82
8	14.08	26.82	51	19.86
9	14.12	26.83	53	19.86
10	14.09	26.83	54	19.87
11	14.02	26.93	55	19.96
12	13.57	27.17	55	20.22
13	12.83	27.51	51	20.63
14	12.14	27.91	52	21.06
15	11.74	28.45	50	21.56
16	11.32	28.66	47	21.79
17	10.79	28.95	46	22.10
18	8.65	28.97	48	22.45
19	7.03	29.21	37	22.86
20	5.73	29.48	24	23.23
21	5.58	29.60	19	23.34
22	5.13	29.64	19	23.42
23	4.47	29.77	17	23.59
24	4.36	29.82	13	23.63
25	3.73	29.85	12	23.71
26	3.38	29.91	12	23.80
27	3.09	29.94	10	23.84
28	2.79	30.02	10	23.93
29	2.58	30.08	8	24.00
30	2.48	30.12	7	24.03
31	2.18	30.25	7	24.15
32	1.99	30.33	7	24.23
33	1.89	30.35	7	24.26
34	1.66	30.41	7	24.32
35	1.25	30.44	7	24.36
36	0.85	30.55	7	24.48
37	0.48	30.57	8	24.51
38	0.28	30.63	8	24.57
39	0.20	30.65	9	24.59
40	0.11	30.69	9	24.62
41	0.04	30.69	8	24.63
42	-0.18	30.76	9	24.69
43	-0.31	30.85	9	24.77
44	-0.36	31.02	9	24.91
45	-0.30	31.02	9	24.91
46	-0.36	31.06	9	24.94
47	-0.40	31.10	9	24.97
48	-0.41	31.16	9	25.02
49	-0.44	31.22	9	25.07
50	-0.50	31.29	9	25.14
51	-0.51	31.34	9	25.17
52	-0.52	31.37	9	25.20
53	-0.55	31.49	9	25.29
54	-0.57	31.58	10	25.37
55	-0.58	31.60	11	25.38
56	-0.58	31.60	10	25.38
57	-0.58	31.60	10	25.38
58	-0.57	31.60	11	25.38

Survey 96-01

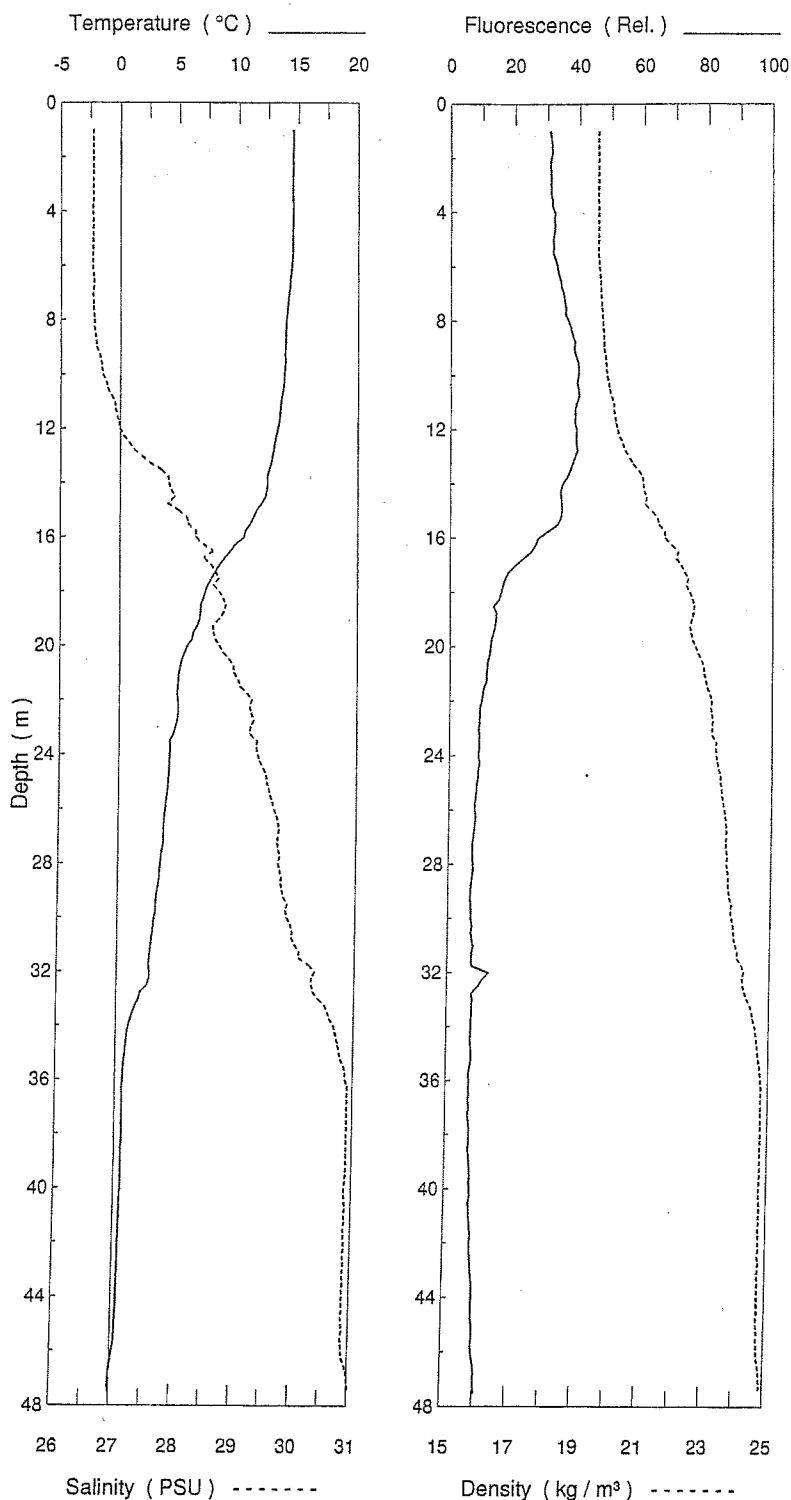
Station 23



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	15.20	27.05	29	19.81
2	15.19	27.05	29	19.81
3	15.19	27.05	29	19.81
4	14.69	27.02	33	19.89
5	14.08	27.08	40	20.06
6	14.12	27.12	45	20.08
7	14.14	27.12	45	20.08
8	14.13	27.12	46	20.08
9	14.15	27.14	47	20.09
10	13.88	27.10	48	20.11
11	11.58	27.76	47	21.04
12	9.73	28.49	42	21.92
13	9.29	28.68	34	22.14
14	9.64	29.17	28	22.46
15	9.78	29.25	26	22.50
16	7.16	29.08	27	22.73
17	4.89	29.33	21	23.19
18	4.07	29.60	14	23.49
19	4.04	29.63	12	23.51
20	4.14	29.76	13	23.61
21	4.34	29.78	12	23.60
22	4.44	29.87	12	23.66
23	4.24	29.78	12	23.61
24	3.90	29.93	11	23.77
25	3.40	29.88	10	23.77
26	3.11	29.96	9	23.86
27	2.95	30.05	9	23.94
28	2.88	30.11	9	23.99
29	2.78	30.17	9	24.05
30	2.57	30.21	9	24.09
31	2.56	30.24	8	24.12
32	2.36	30.31	8	24.19
33	2.15	30.34	8	24.23
34	1.89	30.37	7	24.27
35	2.04	30.45	7	24.33
36	1.94	30.47	7	24.34
37	1.68	30.50	6	24.39
38	1.31	30.54	7	24.44
39	0.99	30.57	7	24.49
40	0.77	30.62	7	24.54
41	0.69	30.68	7	24.59
42	0.59	30.72	7	24.62
43	0.56	30.75	7	24.65
44	0.46	30.77	7	24.68
45	0.39	30.80	7	24.70
46	0.33	30.81	7	24.71
47	0.27	30.83	7	24.73
48	0.21	30.85	7	24.75
49	0.10	30.91	7	24.80
50	0.07	30.95	7	24.84
51	-0.02	31.02	7	24.89
52	-0.32	31.14	7	25.01
53	-0.70	31.33	7	25.17
54	-0.74	31.40	6	25.23
55	-0.68	31.49	6	25.30
56	-0.57	31.54	7	25.33
57	-0.57	31.58	7	25.37
58	-0.59	31.61	7	25.39
59	-0.60	31.61	7	25.39
60	-0.60	31.61	7	25.40
61	-0.60	31.61	7	25.40
62	-0.60	31.62	7	25.40
63	-0.59	31.63	7	25.41
64	-0.58	31.63	7	25.41
65	-0.58	31.63	7	25.41
66	-0.58	31.63	7	25.41
67	-0.58	31.64	7	25.42
68	-0.57	31.64	7	25.42
69	-0.58	31.64	8	25.42
70	-0.57	31.64	7	25.42
71	-0.56	31.63	8	25.40

Survey 96-01

Station 24

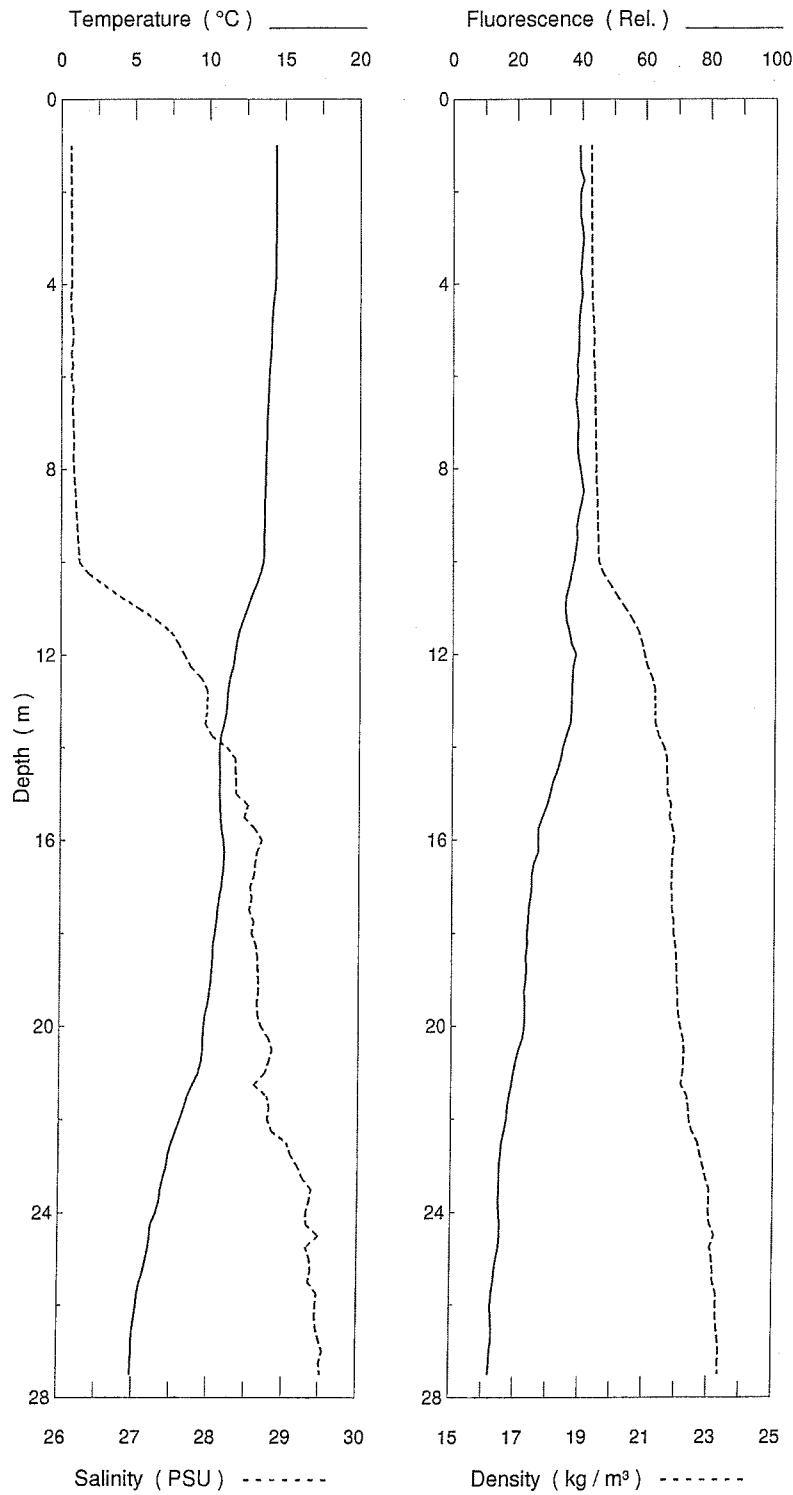


Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	14.48	26.54	31	19.56
2	14.48	26.54	31	19.56
3	14.48	26.54	31	19.56
4	14.48	26.53	32	19.56
5	14.47	26.54	32	19.56
6	14.39	26.53	33	19.58
7	14.13	26.54	35	19.64
8	13.93	26.56	36	19.69
9	13.85	26.61	38	19.75
10	13.77	26.71	39	19.84
11	13.51	26.88	39	20.02
12	13.22	27.00	39	20.17
13	12.79	27.37	38	20.53
14	12.38	27.80	35	20.94
15	11.54	27.95	34	21.20
16	10.22	28.31	28	21.70
17	8.41	28.55	20	22.16
18	7.23	28.68	16	22.42
19	6.64	28.64	14	22.46
20	5.72	28.67	12	22.58
21	5.02	28.94	11	22.87
22	4.91	29.17	10	23.06
23	4.66	29.22	9	23.13
24	4.26	29.34	9	23.26
25	4.12	29.50	9	23.40
26	3.89	29.62	8	23.52
27	3.77	29.68	7	23.58
28	3.53	29.71	7	23.62
29	3.31	29.77	7	23.69
30	3.06	29.86	7	23.78
31	2.82	30.00	7	23.91
32	2.68	30.26	10	24.13
33	1.90	30.40	8	24.29
34	1.07	30.64	7	24.54
35	0.76	30.76	8	24.65
36	0.61	30.88	7	24.75
37	0.58	30.90	7	24.78
38	0.57	30.90	7	24.77
39	0.56	30.90	7	24.77
40	0.54	30.88	8	24.76
41	0.49	30.89	8	24.77
42	0.45	30.88	8	24.77
43	0.43	30.88	9	24.76
44	0.39	30.88	9	24.76
45	0.32	30.88	9	24.77
46	0.15	30.90	9	24.79
47	-0.08	30.99	10	24.87
48	-0.09	30.98	10	24.86



Survey 96-01

Station 25



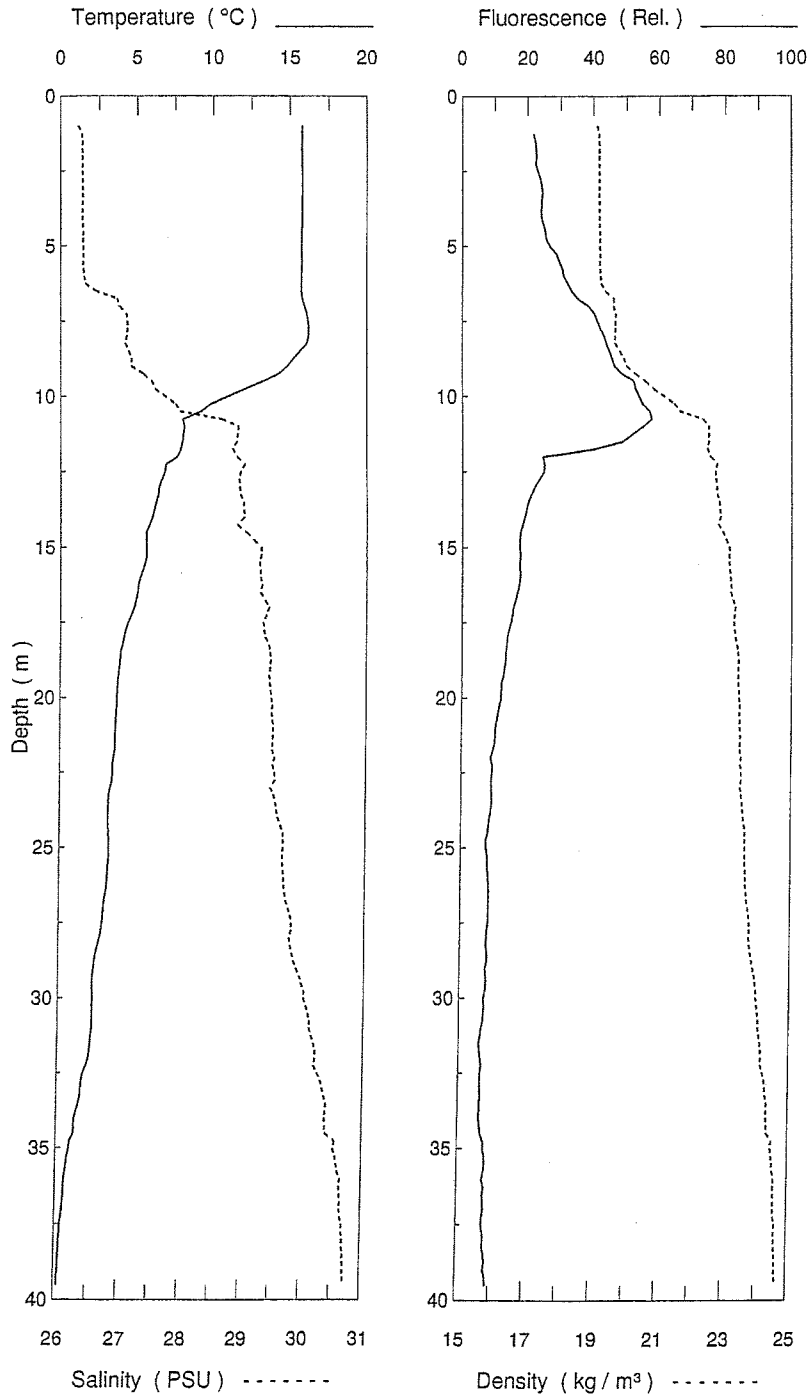
Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.34	26.12	39	19.27
2	14.34	26.12	39	19.27
3	14.33	26.13	40	19.28
4	14.26	26.13	40	19.29
5	14.06	26.15	39	19.35
6	13.89	26.14	38	19.37
7	13.75	26.15	38	19.41
8	13.67	26.17	39	19.44
9	13.60	26.20	39	19.48
10	13.41	26.32	37	19.60
11	12.44	27.05	35	20.35
12	11.63	27.65	37	20.96
13	11.14	27.92	37	21.25
14	10.70	28.21	34	21.54
15	10.68	28.41	30	21.70
16	10.87	28.61	27	21.83
17	10.74	28.57	25	21.81
18	10.37	28.59	23	21.90
19	10.09	28.65	23	21.99
20	9.69	28.74	22	22.11
21	9.17	28.74	19	22.20
22	8.06	28.81	17	22.41
23	7.13	29.19	15	22.83
24	6.47	29.37	15	23.05
25	5.84	29.35	14	23.11
26	5.23	29.45	13	23.25
27	4.94	29.52	13	23.34
28	4.87	29.52	12	23.35



Appendix 5.2 Survey 96-02 profiles of temperature ( °C ), salinity ( PSU ),  
fluorescence ( relative ) and density ( kg / m<sup>3</sup> ).

Survey 96-02

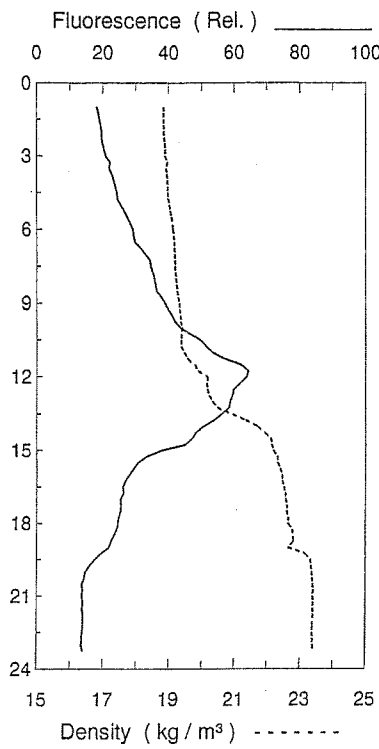
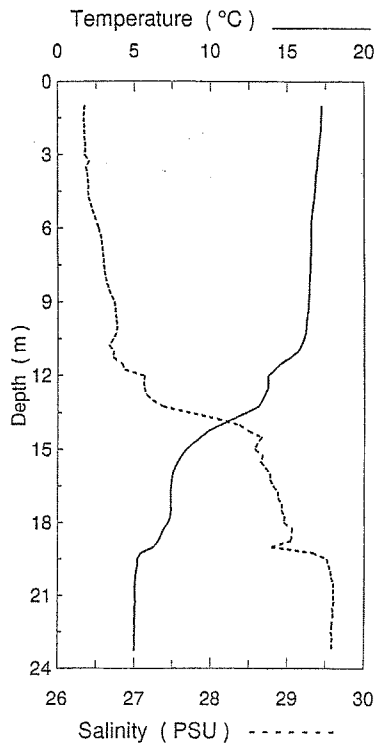
Station 1



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m <sup>3</sup> )
1	15.76	26.44	22	19.22
2	15.76	26.34	22	19.15
3	15.77	26.35	24	19.15
4	15.75	26.34	24	19.16
5	15.72	26.35	27	19.17
6	15.70	26.37	31	19.18
7	15.91	26.92	38	19.56
8	16.08	27.05	43	19.62
9	14.63	27.23	47	20.07
10	10.96	27.70	54	21.09
11	8.23	28.68	53	22.28
12	7.51	28.88	29	22.54
13	6.40	28.93	22	22.71
14	5.89	28.97	19	22.80
15	5.55	29.20	17	23.02
16	5.16	29.28	17	23.13
17	4.74	29.34	16	23.22
18	4.10	29.36	14	23.29
19	3.79	29.43	13	23.37
20	3.65	29.44	12	23.40
21	3.56	29.47	10	23.43
22	3.46	29.47	9	23.44
23	3.28	29.50	9	23.48
24	3.11	29.58	9	23.55
25	3.17	29.65	8	23.60
26	3.08	29.66	8	23.62
27	2.86	29.74	8	23.70
28	2.60	29.79	8	23.76
29	2.24	29.88	8	23.86
30	2.18	30.03	8	23.98
31	2.16	30.13	7	24.06
32	1.94	30.20	7	24.13
33	1.52	30.33	6	24.26
34	1.17	30.38	7	24.32
35	0.81	30.53	8	24.46
36	0.55	30.62	8	24.55
37	0.43	30.65	8	24.58
38	0.30	30.69	8	24.62
39	0.22	30.72	9	24.64

Survey 96-02

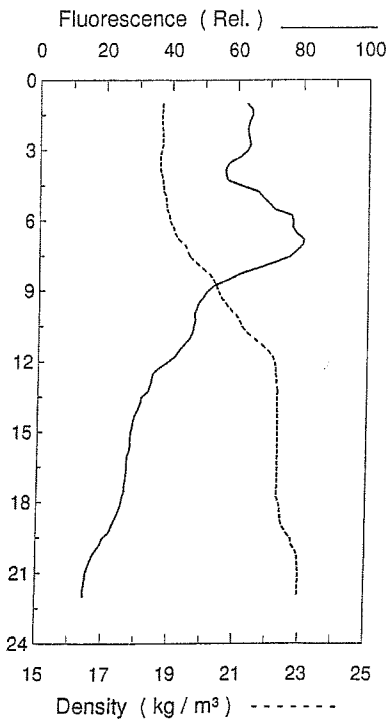
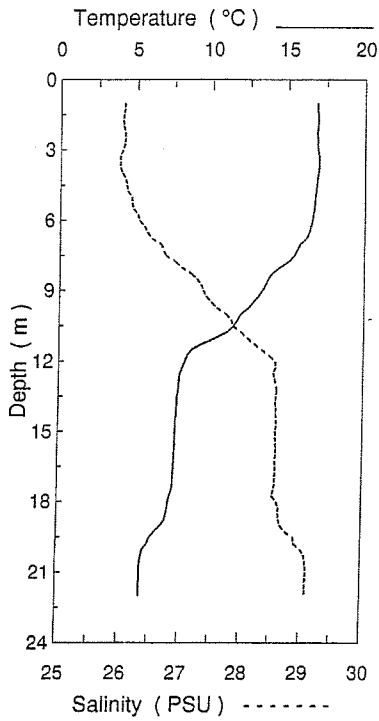
Station 2



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	17.24	26.34	18	18.83
2	17.16	26.34	19	18.85
3	17.00	26.36	21	18.89
4	16.85	26.39	23	18.95
5	16.69	26.43	26	19.02
6	16.55	26.53	29	19.13
7	16.52	26.59	33	19.18
8	16.46	26.62	35	19.22
9	16.37	26.72	39	19.31
10	16.21	26.75	45	19.37
11	15.46	26.72	54	19.50
12	13.94	27.01	63	20.03
13	13.37	27.24	58	20.32
14	10.59	28.31	51	21.63
15	8.45	28.60	39	22.19
16	7.56	28.75	29	22.43
17	7.35	28.89	26	22.57
18	7.20	28.97	24	22.65
19	6.02	29.08	21	22.87
20	5.08	29.55	15	23.35
21	5.00	29.59	14	23.39
22	4.98	29.58	14	23.38
23	4.97	29.58	14	23.38

Survey 96-02

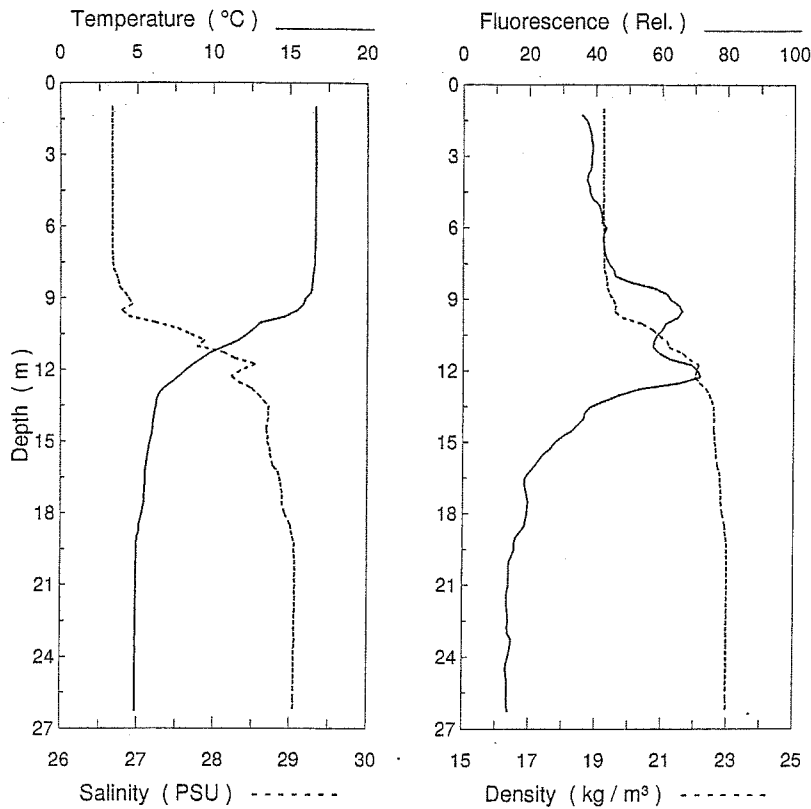
Station 3



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.84	26.04	63	18.69
2	16.85	26.02	64	18.67
3	16.88	26.00	62	18.65
4	16.88	26.01	57	18.65
5	16.73	26.13	68	18.78
6	16.52	26.30	77	18.95
7	15.85	26.60	79	19.33
8	14.49	27.00	66	19.92
9	13.22	27.37	51	20.45
10	12.03	27.68	47	20.91
11	10.16	28.08	45	21.52
12	8.25	28.50	39	22.14
13	7.86	28.56	34	22.24
14	7.72	28.57	30	22.27
15	7.65	28.57	28	22.28
16	7.61	28.57	27	22.28
17	7.55	28.57	27	22.29
18	7.29	28.60	25	22.35
19	6.69	28.71	23	22.51
20	5.66	28.99	18	22.85
21	5.43	29.09	15	22.95
22	5.41	29.09	14	22.95

Survey 96-02

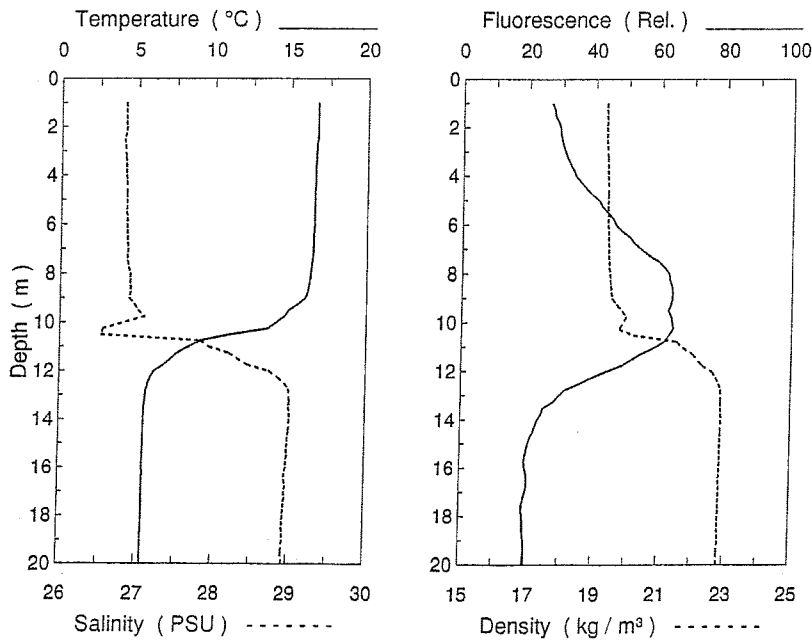
Station 4



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.62	26.67	36	19.22
2	16.62	26.67	38	19.21
3	16.62	26.67	39	19.22
4	16.62	26.67	38	19.22
5	16.61	26.67	40	19.22
6	16.60	26.67	42	19.22
7	16.57	26.67	43	19.23
8	16.46	26.72	48	19.29
9	16.01	26.87	63	19.50
10	13.65	27.14	63	20.19
11	10.69	27.99	58	21.37
12	8.15	28.35	69	22.04
13	6.53	28.55	49	22.40
14	6.03	28.72	35	22.59
15	5.80	28.70	28	22.60
16	5.53	28.79	21	22.70
17	5.43	28.88	18	22.79
18	5.25	28.93	19	22.84
19	4.98	29.03	16	22.95
20	4.90	29.06	14	22.98
21	4.89	29.06	14	22.98
22	4.87	29.05	13	22.98
23	4.86	29.05	14	22.98
24	4.86	29.05	14	22.98
25	4.86	29.05	13	22.97
26	4.86	29.05	14	22.97

Survey 96-02

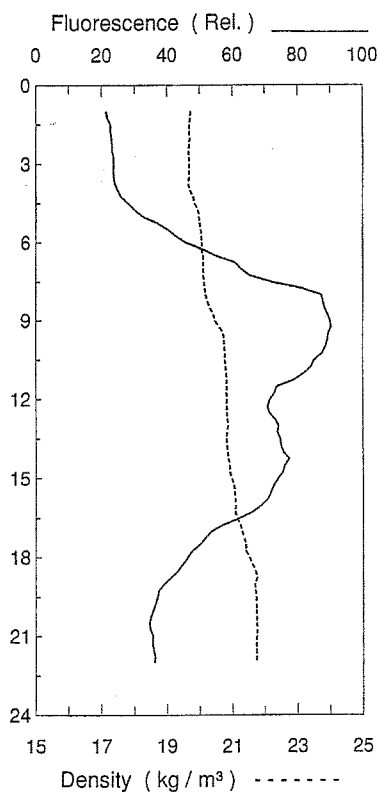
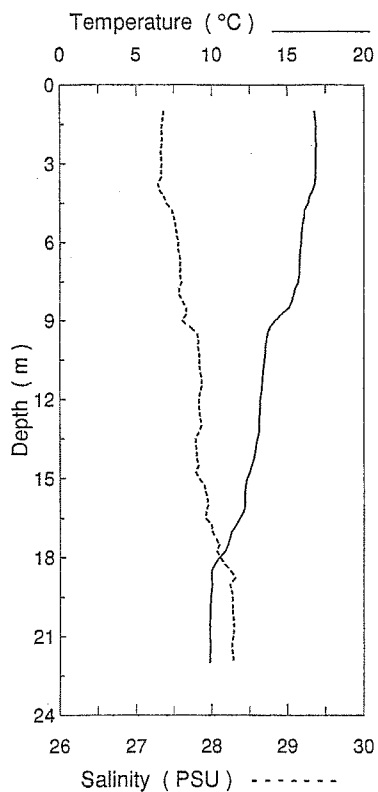
Station 5



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.70	26.84	26	19.33
2	16.71	26.84	29	19.32
3	16.61	26.83	31	19.34
4	16.55	26.84	34	19.36
5	16.53	26.85	41	19.37
6	16.50	26.86	47	19.39
7	16.44	26.86	54	19.40
8	16.31	26.89	62	19.45
9	15.77	26.93	63	19.60
10	13.65	26.83	63	19.94
11	8.54	27.91	57	21.63
12	6.22	28.69	43	22.54
13	5.57	28.99	29	22.86
14	5.48	29.00	23	22.88
15	5.46	28.98	21	22.86
16	5.44	28.97	20	22.85
17	5.43	28.96	20	22.84
18	5.42	28.94	19	22.83
19	5.41	28.94	20	22.83
20	5.41	28.93	19	22.82

Survey 96-02

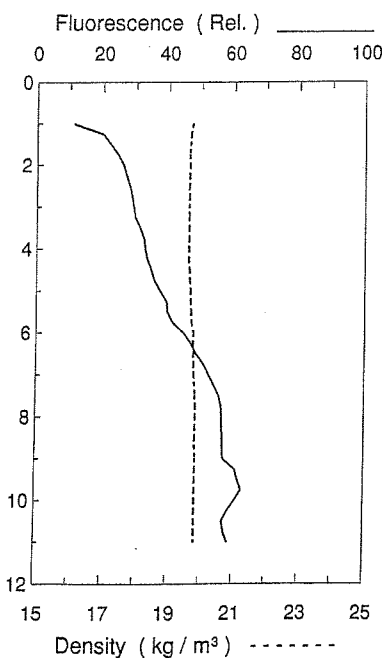
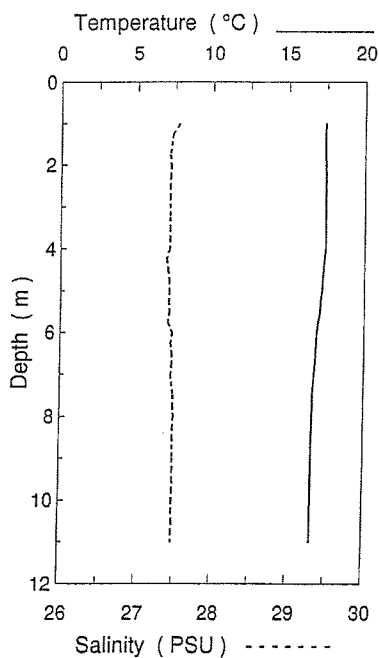
Station 6



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.77	27.35	21	19.71
2	16.84	27.34	23	19.68
3	16.84	27.33	24	19.67
4	16.68	27.31	25	19.69
5	16.10	27.48	33	19.95
6	15.87	27.55	47	20.05
7	15.75	27.58	63	20.10
8	15.40	27.60	84	20.19
9	14.17	27.69	89	20.51
10	13.56	27.82	88	20.73
11	13.37	27.85	81	20.79
12	13.20	27.83	72	20.81
13	13.09	27.83	73	20.83
14	12.83	27.80	76	20.85
15	12.35	27.84	74	20.97
16	12.12	27.93	69	21.09
17	11.37	28.01	54	21.28
18	10.49	28.13	46	21.51
19	10.00	28.25	39	21.69
20	9.88	28.27	36	21.72
21	9.86	28.27	35	21.72
22	9.85	28.27	36	21.73

Survey 96-02

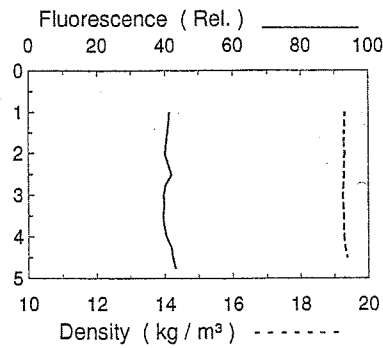
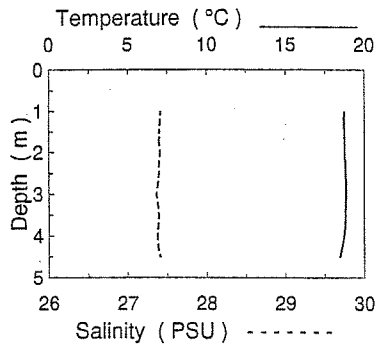
Station 7



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	17.39	27.64	11	19.79
2	17.40	27.45	25	19.64
3	17.41	27.42	29	19.62
4	17.40	27.41	33	19.61
5	17.20	27.42	37	19.66
6	16.92	27.44	44	19.74
7	16.74	27.46	52	19.79
8	16.63	27.48	56	19.84
9	16.59	27.48	59	19.85
10	16.59	27.49	60	19.85
11	16.58	27.48	58	19.85

Survey 96-02

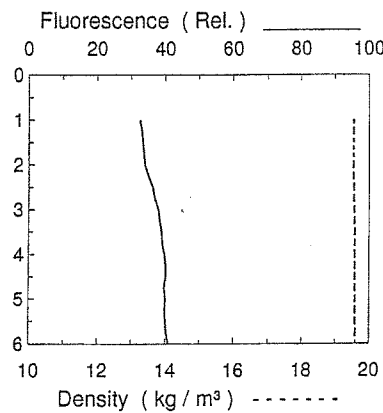
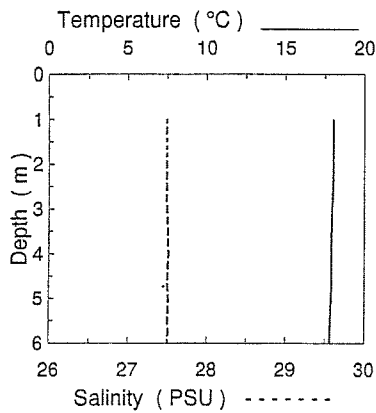
Station 8



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	18.72	27.39	41	19.28
2	18.75	27.39	41	19.28
3	18.80	27.37	40	19.25
4	18.66	27.38	41	19.29

Survey 96-02

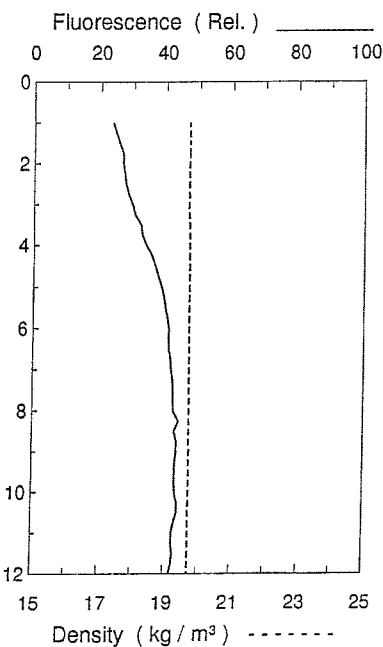
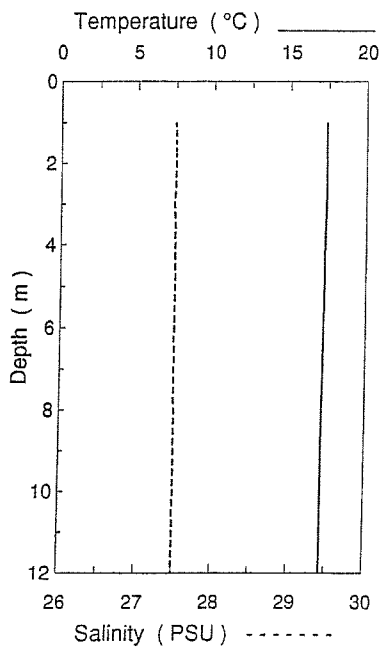
Station 9



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	18.01	27.49	32	19.53
2	18.00	27.49	34	19.53
3	17.94	27.49	38	19.55
4	17.90	27.50	40	19.56
5	17.88	27.50	40	19.57
6	17.81	27.50	41	19.58

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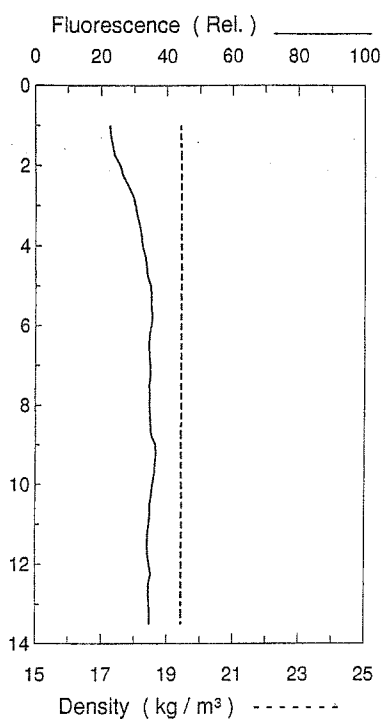
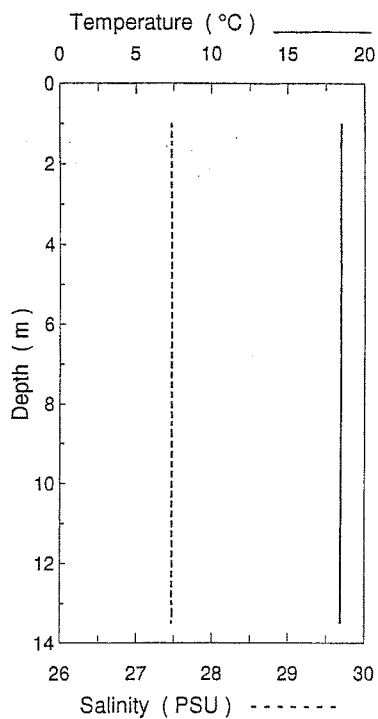
Station 10



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	17.36	27.49	24	19.68
2	17.37	27.49	27	19.68
3	17.35	27.48	30	19.67
4	17.29	27.49	34	19.69
5	17.26	27.49	39	19.70
6	17.24	27.49	41	19.70
7	17.21	27.49	42	19.71
8	17.16	27.49	43	19.72
9	17.15	27.49	43	19.73
10	17.14	27.49	43	19.73
11	17.14	27.49	43	19.73
12	17.14	27.49	42	19.73

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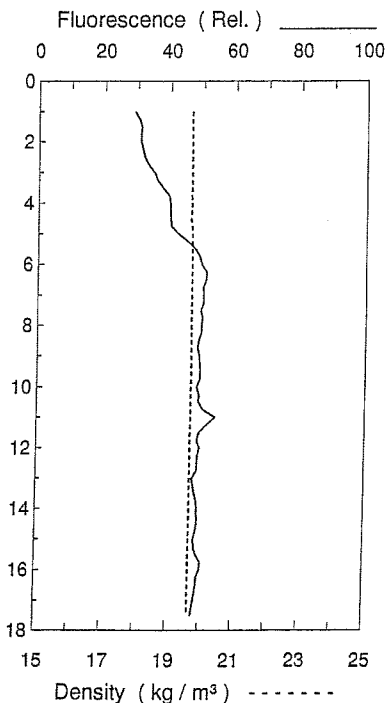
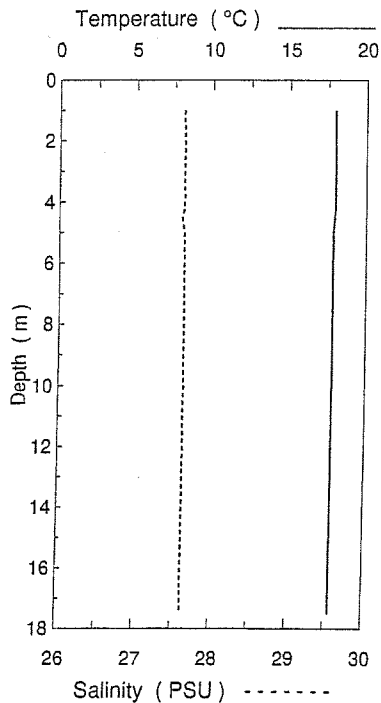
Station 11



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	18.44	27.46	22	19.40
2	18.42	27.46	26	19.41
3	18.42	27.46	30	19.41
4	18.42	27.46	32	19.41
5	18.41	27.46	34	19.41
6	18.41	27.46	35	19.41
7	18.41	27.46	35	19.41
8	18.41	27.46	35	19.41
9	18.41	27.46	36	19.41
10	18.41	27.46	35	19.41
11	18.41	27.46	34	19.41
12	18.40	27.46	34	19.42
13	18.39	27.46	34	19.42

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Station 12

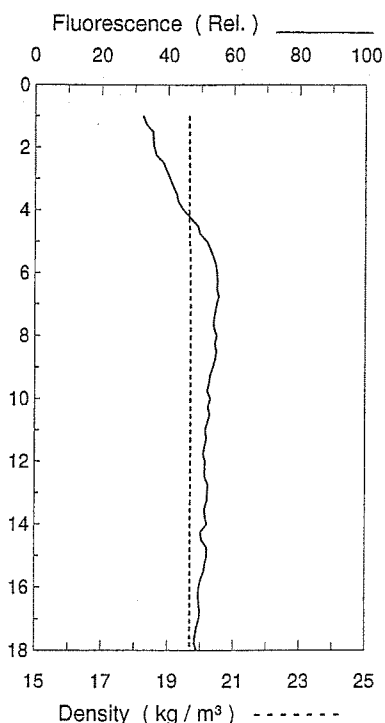
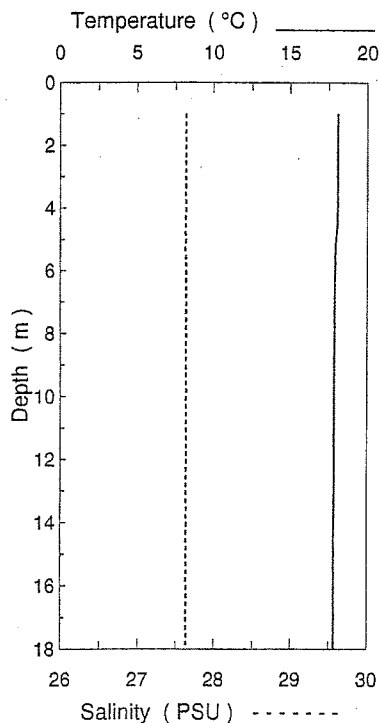


Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	17.94	27.62	29	19.64
2	17.93	27.62	31	19.65
3	17.94	27.62	34	19.65
4	17.94	27.62	40	19.64
5	17.85	27.61	43	19.66
6	17.83	27.62	50	19.67
7	17.82	27.62	50	19.67
8	17.82	27.62	50	19.67
9	17.82	27.62	49	19.67
10	17.82	27.62	49	19.67
11	17.82	27.62	52	19.67
12	17.82	27.62	49	19.67
13	17.82	27.62	48	19.67
14	17.82	27.62	49	19.67
15	17.82	27.62	49	19.67
16	17.82	27.62	50	19.67
17	17.82	27.62	49	19.67



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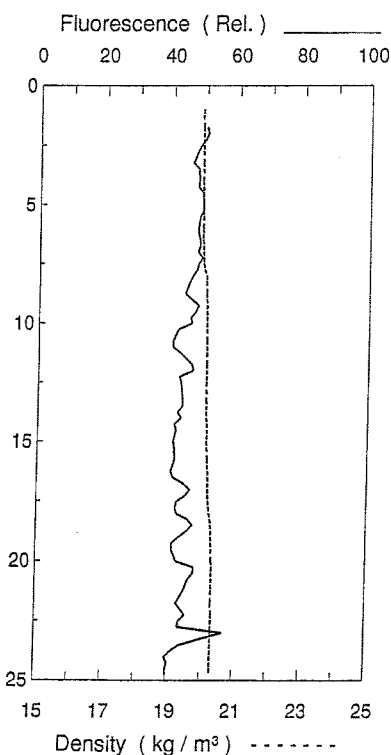
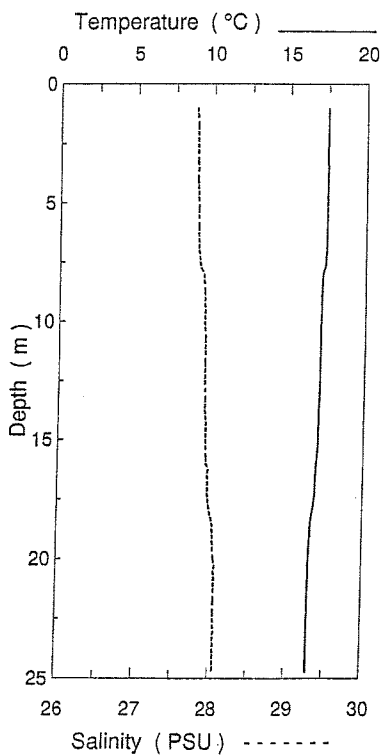
Station 13



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	18.07	27.63	33	19.62
2	18.06	27.63	36	19.62
3	18.06	27.63	40	19.62
4	18.04	27.63	45	19.62
5	17.95	27.62	51	19.64
6	17.88	27.63	55	19.66
7	17.87	27.63	54	19.67
8	17.86	27.63	54	19.67
9	17.85	27.63	54	19.67
10	17.84	27.63	52	19.67
11	17.84	27.63	52	19.67
12	17.84	27.63	51	19.67
13	17.84	27.63	52	19.67
14	17.84	27.63	51	19.68
15	17.83	27.63	51	19.68
16	17.83	27.63	50	19.68
17	17.83	27.63	49	19.68
18	17.83	27.63	48	19.68

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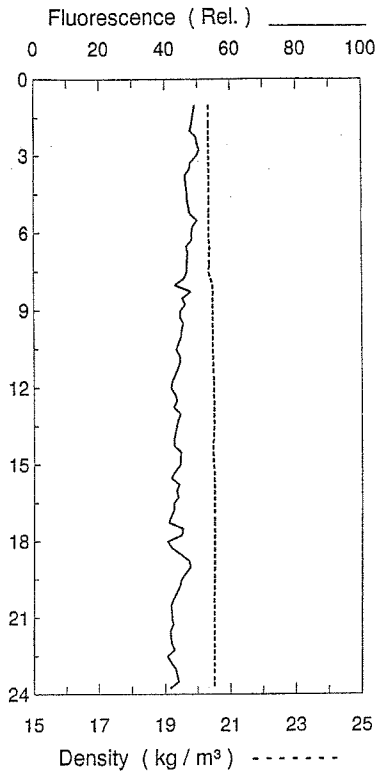
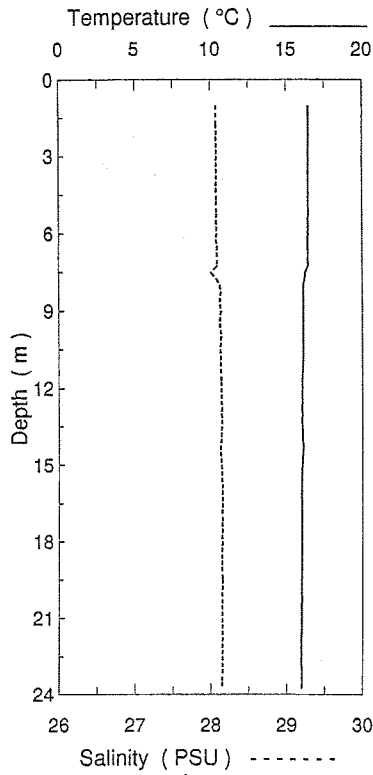
Station 14



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	17.42	27.72		19.84
2	17.44	27.77	50	19.88
3	17.43	27.78	47	19.88
4	17.43	27.78	48	19.88
5	17.42	27.79	49	19.89
6	17.41	27.79	47	19.90
7	17.38	27.80	48	19.91
8	17.21	27.85	46	19.99
9	17.12	27.88	46	20.03
10	17.09	27.89	44	20.05
11	17.08	27.90	42	20.05
12	17.07	27.90	44	20.06
13	17.05	27.90	44	20.06
14	17.02	27.91	42	20.08
15	17.00	27.92	41	20.09
16	16.92	27.94	41	20.12
17	16.85	27.95	44	20.15
18	16.71	27.99	43	20.20
19	16.57	28.03	43	20.27
20	16.50	28.05	44	20.30
21	16.48	28.06	45	20.31
22	16.47	28.06	44	20.31
23	16.46	28.06	47	20.32
24	16.46	28.06	40	20.32
25	16.46	28.06	40	20.32

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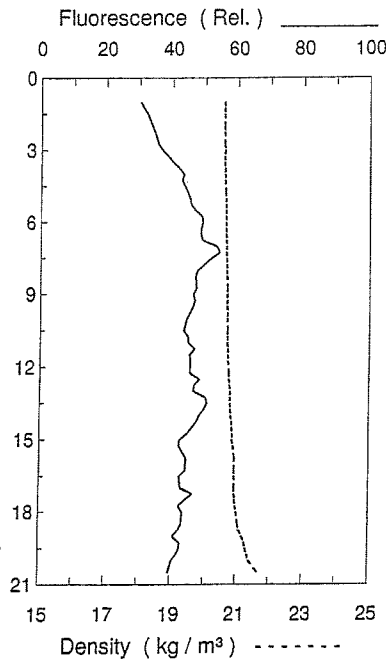
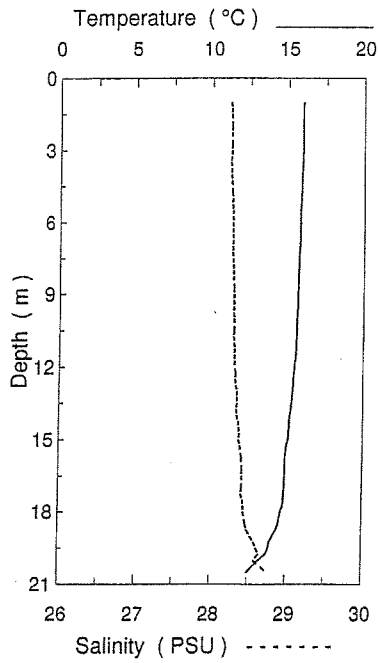
Station 15



Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	16.42	28.07	47	20.33
2	16.43	28.07	48	20.33
3	16.43	28.07	49	20.33
4	16.43	28.07	47	20.33
5	16.42	28.07	48	20.34
6	16.40	28.07	48	20.34
7	16.38	28.07	47	20.34
8	16.13	28.10	45	20.42
9	16.09	28.12	45	20.45
10	16.09	28.13	45	20.45
11	16.07	28.13	44	20.45
12	16.02	28.13	43	20.47
13	15.99	28.14	44	20.48
14	16.04	28.13	43	20.47
15	16.00	28.14	44	20.47
16	15.97	28.14	44	20.49
17	15.96	28.15	42	20.49
18	15.96	28.15	42	20.49
19	15.96	28.15	46	20.49
20	15.96	28.14	43	20.49
21	15.96	28.15	42	20.49
22	15.95	28.15	42	20.49
23	15.96	28.15	43	20.49
24	15.96	28.15	41	20.49

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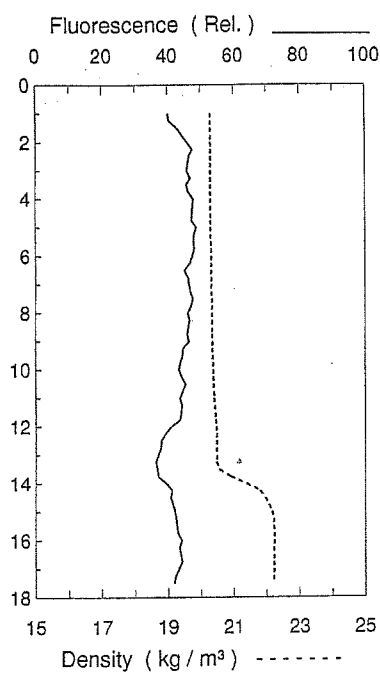
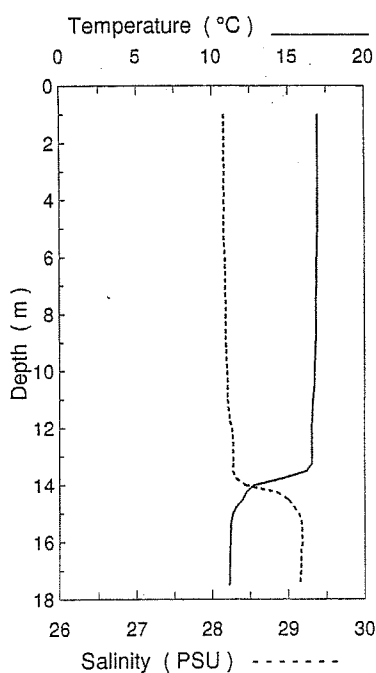
Station 16



Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	15.93	28.24	30	20.57
2	15.93	28.24	34	20.57
3	15.92	28.24	37	20.57
4	15.86	28.24	43	20.59
5	15.81	28.25	45	20.61
6	15.77	28.26	49	20.62
7	15.73	28.26	51	20.63
8	15.67	28.27	48	20.65
9	15.63	28.28	47	20.67
10	15.60	28.29	45	20.68
11	15.55	28.29	46	20.69
12	15.45	28.30	45	20.72
13	15.33	28.33	48	20.76
14	15.20	28.34	49	20.80
15	15.04	28.37	43	20.86
16	14.88	28.40	44	20.92
17	14.82	28.41	43	20.94
18	14.63	28.44	43	20.99
19	14.10	28.53	42	21.18
20	13.25	28.65	41	21.43

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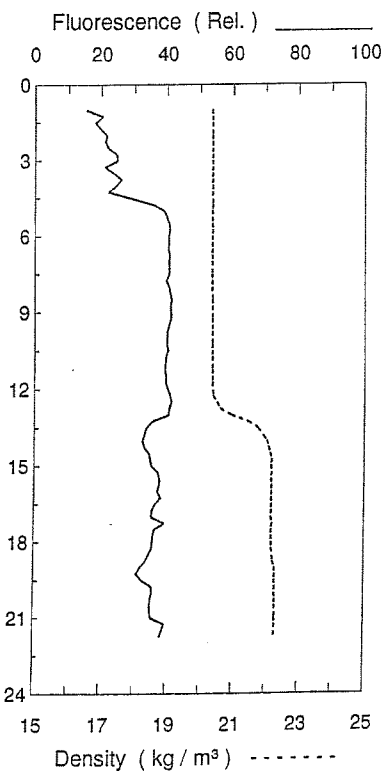
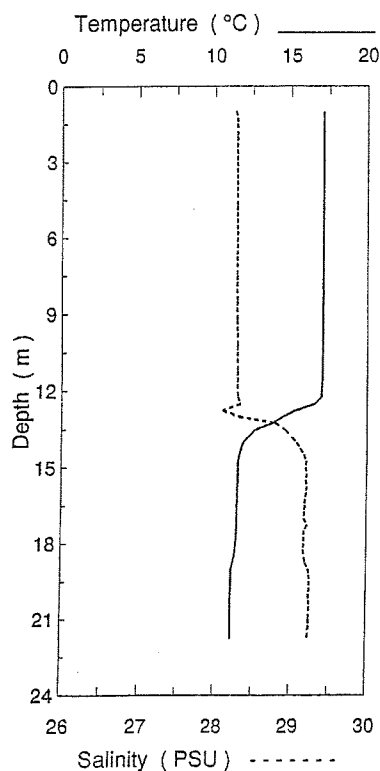
Station 17



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.91	28.15	41	20.29
2	16.91	28.15	46	20.29
3	16.91	28.15	46	20.29
4	16.91	28.15	47	20.29
5	16.90	28.15	48	20.29
6	16.86	28.16	47	20.31
7	16.84	28.17	46	20.31
8	16.81	28.18	47	20.33
9	16.78	28.18	46	20.33
10	16.71	28.19	44	20.36
11	16.62	28.20	45	20.39
12	16.51	28.25	41	20.45
13	16.44	28.25	37	20.47
14	13.64	28.54	39	21.26
15	11.57	29.07	42	22.06
16	11.14	29.17	43	22.22
17	11.13	29.16	43	22.21

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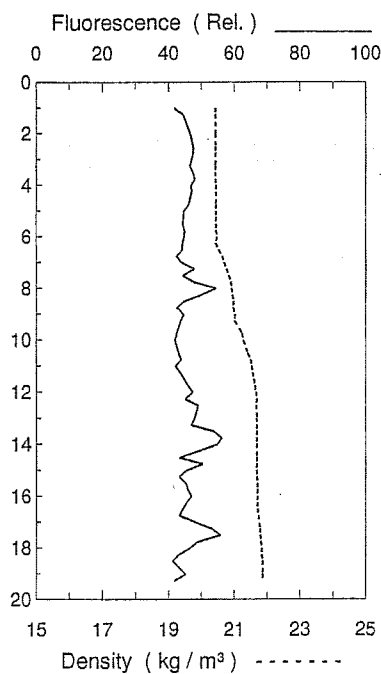
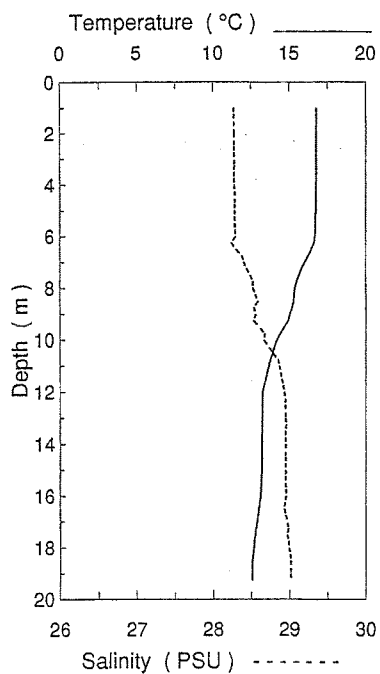
Station 18



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	17.08	28.26	16	20.33
2	17.08	28.28	21	20.35
3	17.08	28.28	23	20.35
4	17.08	28.28	23	20.35
5	17.08	28.29	38	20.35
6	17.08	28.28	41	20.35
7	17.08	28.28	40	20.35
8	17.08	28.29	40	20.35
9	17.07	28.29	41	20.35
10	17.06	28.29	40	20.36
11	17.04	28.29	39	20.37
12	16.92	28.30	40	20.40
13	14.44	28.52	38	21.10
14	12.03	29.04	34	21.96
15	11.53	29.20	36	22.17
16	11.50	29.20	38	22.18
17	11.48	29.19	36	22.17
18	11.40	29.17	36	22.18
19	11.16	29.22	32	22.25
20	11.10	29.25	35	22.29
21	11.09	29.25	36	22.29
22	11.09	29.24	37	22.28

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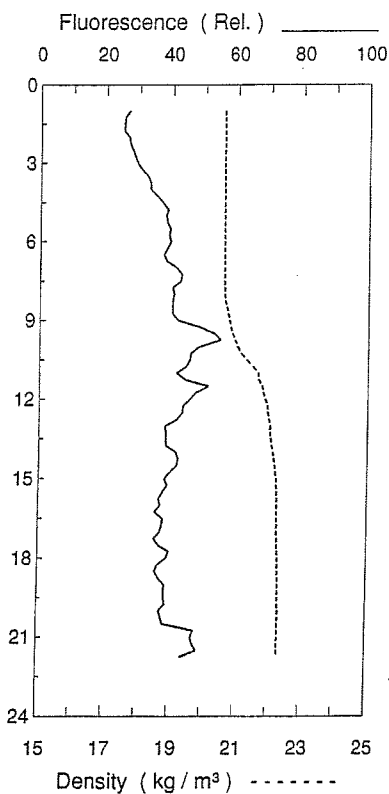
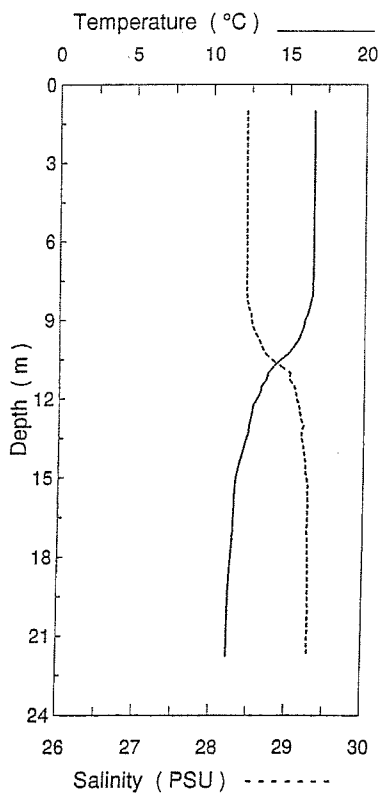
Station 19



Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	16.76	28.27	43	20.41
2	16.75	28.27	46	20.41
3	16.75	28.27	47	20.41
4	16.73	28.28	47	20.42
5	16.72	28.28	45	20.43
6	16.64	28.27	44	20.43
7	15.99	28.40	44	20.68
8	15.38	28.53	48	20.91
9	15.00	28.54	44	21.00
10	14.19	28.70	43	21.28
11	13.62	28.86	43	21.53
12	13.26	28.93	45	21.64
13	13.18	28.94	50	21.67
14	13.16	28.94	51	21.68
15	13.13	28.94	46	21.68
16	13.06	28.94	46	21.69
17	12.82	28.96	49	21.75
18	12.62	28.99	46	21.82
19	12.54	29.01	43	21.85

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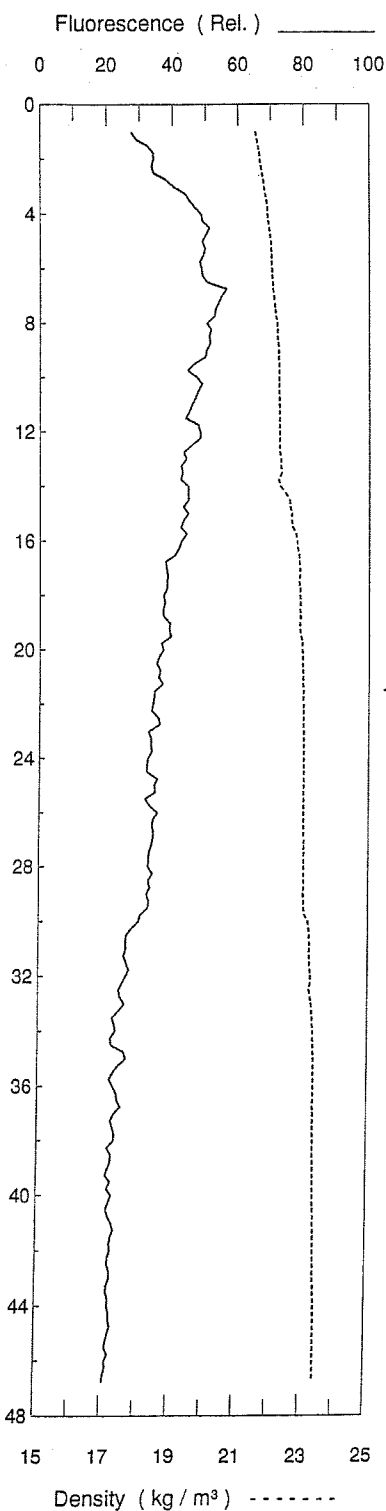
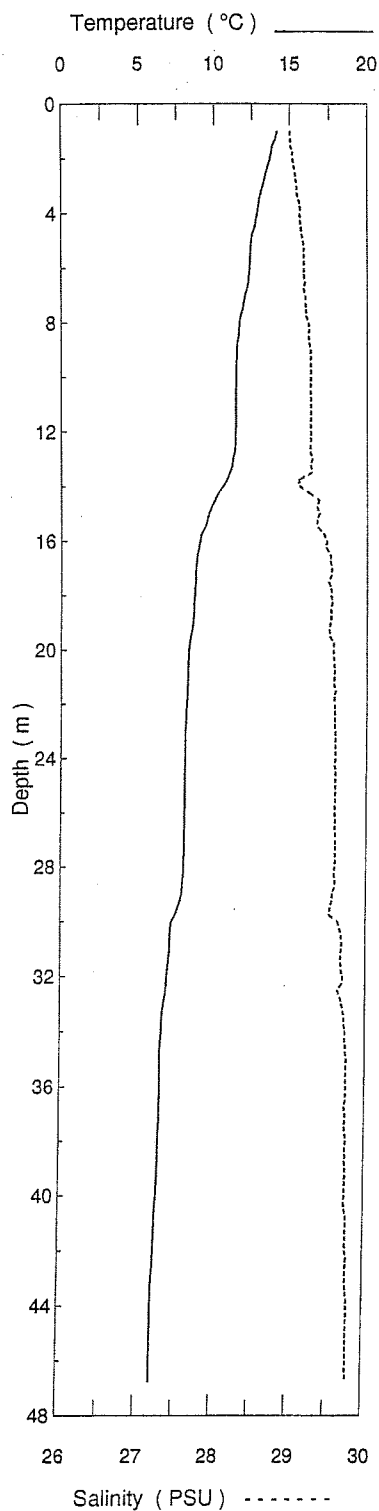
Station 20



Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	16.60	28.43	27	20.57
2	16.60	28.43	26	20.57
3	16.60	28.43	30	20.57
4	16.59	28.43	34	20.57
5	16.58	28.43	38	20.58
6	16.58	28.43	39	20.58
7	16.57	28.44	41	20.58
8	16.51	28.44	40	20.60
9	16.08	28.51	44	20.74
10	15.26	28.65	50	21.03
11	13.78	28.95	45	21.56
12	12.92	29.11	46	21.85
13	12.44	29.17	40	21.99
14	12.00	29.21	41	22.10
15	11.60	29.25	39	22.20
16	11.47	29.27	37	22.24
17	11.40	29.27	37	22.25
18	11.28	29.28	38	22.27
19	11.18	29.28	38	22.30
20	11.13	29.29	38	22.31
21	11.11	29.29	48	22.31
22	11.09	29.29	43	22.32

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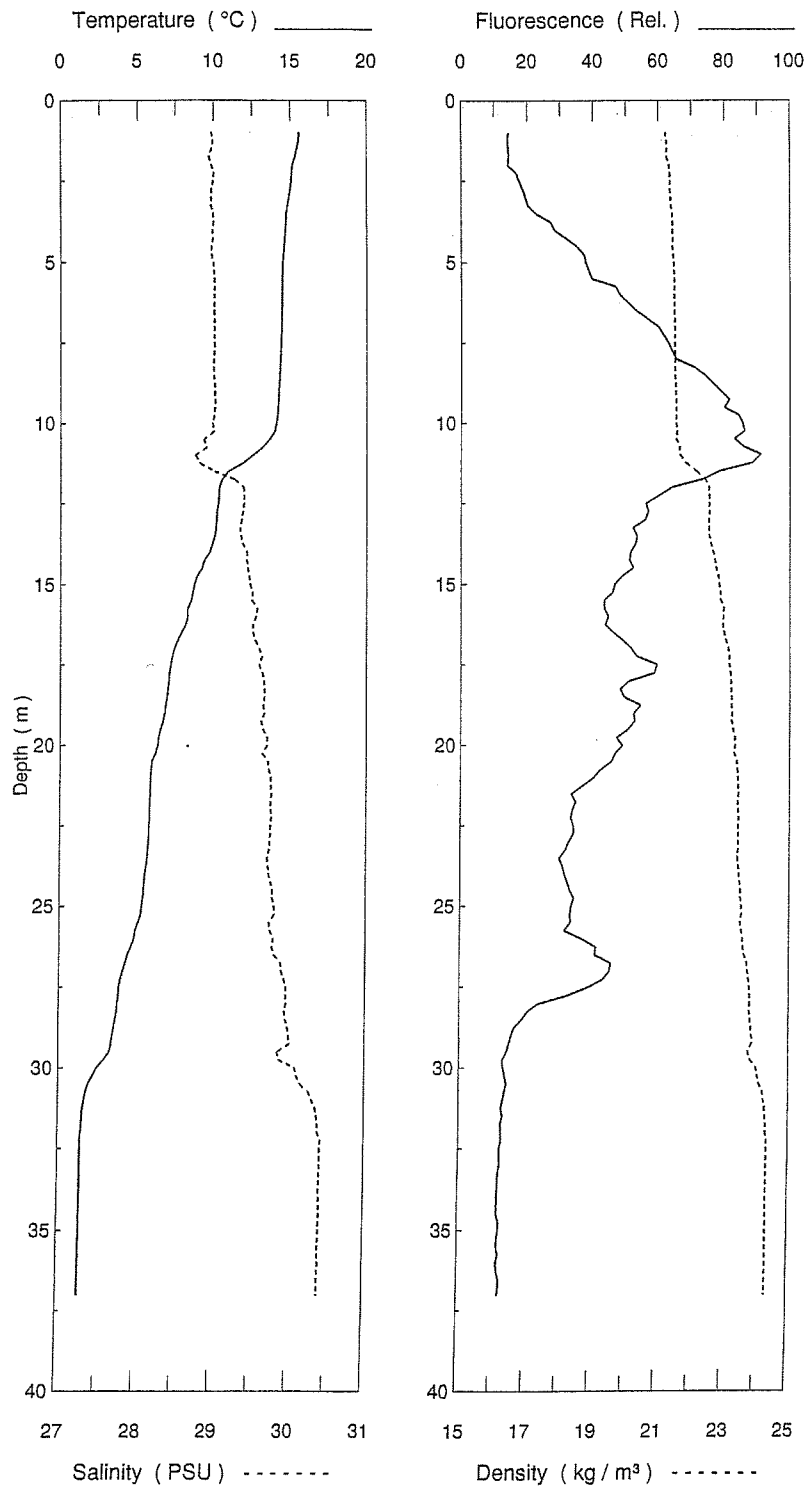
Station 21



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.10	28.99	27	21.53
2	13.62	29.03	34	21.66
3	13.15	29.08	40	21.78
4	12.77	29.12	48	21.89
5	12.41	29.16	50	21.98
6	12.27	29.17	49	22.02
7	11.98	29.19	54	22.08
8	11.64	29.22	52	22.17
9	11.46	29.25	50	22.22
10	11.40	29.26	47	22.24
11	11.37	29.26	46	22.25
12	11.35	29.26	47	22.25
13	11.19	29.26	43	22.28
14	10.49	29.21	44	22.36
15	9.61	29.36	44	22.61
16	9.03	29.44	43	22.76
17	8.77	29.51	38	22.86
18	8.66	29.52	38	22.88
19	8.54	29.51	39	22.89
20	8.30	29.55	37	22.96
21	8.21	29.57	36	22.98
22	8.15	29.57	35	22.99
23	8.09	29.58	34	23.01
24	8.07	29.58	33	23.01
25	8.05	29.59	34	23.02
26	8.04	29.58	34	23.02
27	8.01	29.58	34	23.02
28	7.98	29.58	33	23.02
29	7.84	29.56	33	23.02
30	7.28	29.59	30	23.13
31	7.08	29.67	26	23.21
32	6.93	29.68	26	23.24
33	6.73	29.67	25	23.26
34	6.56	29.73	22	23.32
35	6.48	29.75	25	23.35
36	6.48	29.75	23	23.35
37	6.46	29.74	23	23.34
38	6.42	29.74	22	23.35
39	6.38	29.75	22	23.36
40	6.31	29.74	22	23.37
41	6.22	29.77	22	23.39
42	6.17	29.77	22	23.40
43	6.09	29.77	22	23.41
44	6.03	29.79	22	23.44
45	6.02	29.79	22	23.44
46	6.02	29.79	22	23.44
47	6.03	29.79	21	23.44

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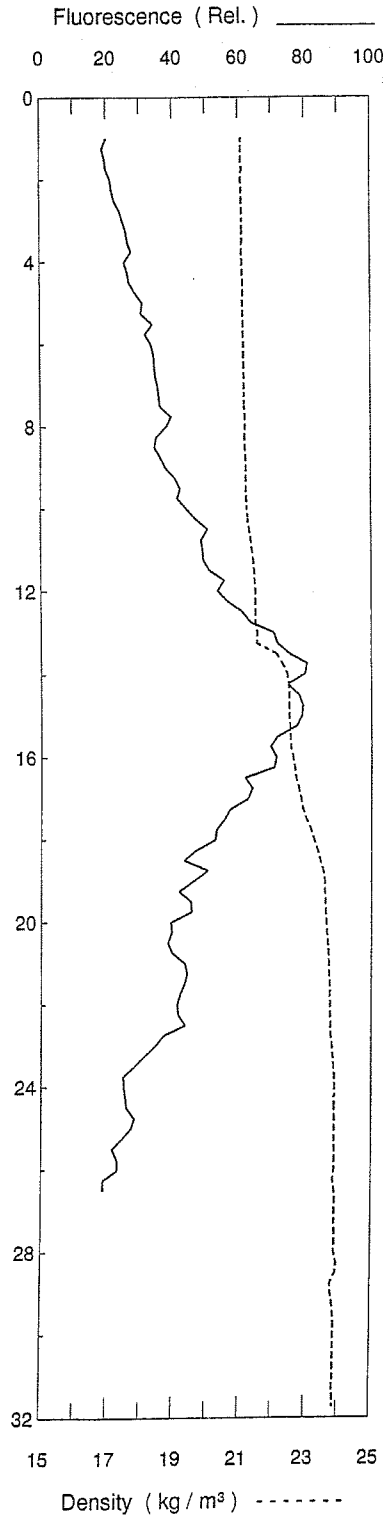
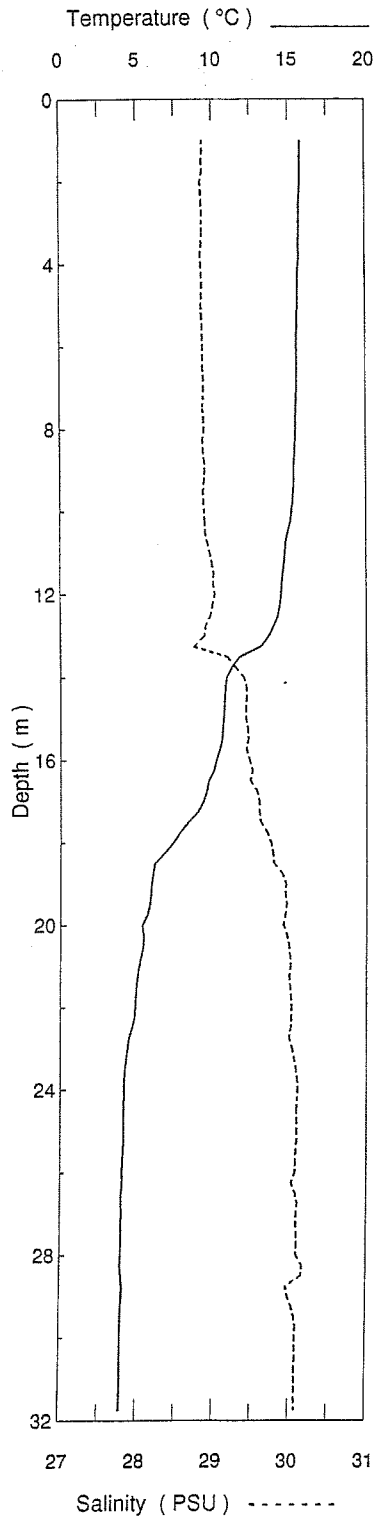
Station 22



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	15.58	28.98	14	21.22
2	15.18	28.97	15	21.29
3	14.89	28.97	20	21.35
4	14.66	28.98	29	21.41
5	14.49	28.98	38	21.44
6	14.44	29.00	48	21.47
7	14.40	29.00	59	21.48
8	14.34	29.00	67	21.49
9	14.23	29.01	79	21.51
10	14.03	28.97	84	21.53
11	12.39	28.86	86	21.75
12	10.33	29.35	66	22.49
13	10.16	29.36	55	22.53
14	9.65	29.41	52	22.65
15	8.79	29.48	47	22.83
16	8.24	29.53	44	22.95
17	7.47	29.58	52	23.09
18	7.06	29.65	53	23.20
19	6.78	29.64	52	23.23
20	6.28	29.68	48	23.32
21	5.89	29.74	40	23.41
22	5.81	29.75	34	23.43
23	5.73	29.74	33	23.43
24	5.52	29.73	31	23.45
25	5.29	29.78	33	23.51
26	4.77	29.77	36	23.56
27	4.09	29.89	44	23.72
28	3.76	29.96	26	23.80
29	3.45	29.97	16	23.84
30	2.52	30.01	13	23.94
31	1.65	30.31	13	24.24
32	1.46	30.39	13	24.32
33	1.41	30.41	12	24.34
34	1.40	30.41	12	24.34
35	1.39	30.41	12	24.34
36	1.38	30.41	12	24.33
37	1.38	30.41	13	24.33

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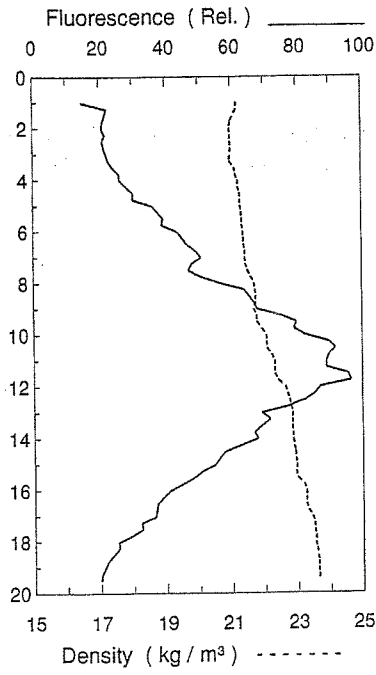
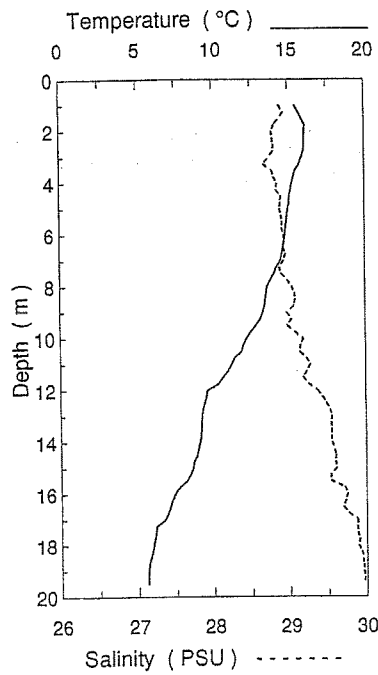
Station 23



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m <sup>3</sup> )
1	15.77	28.89	20	21.10
2	15.74	28.86	21	21.08
3	15.67	28.86	25	21.11
4	15.62	28.85	26	21.11
5	15.55	28.86	30	21.12
6	15.50	28.87	34	21.14
7	15.47	28.87	35	21.16
8	15.40	28.87	37	21.17
9	15.29	28.88	38	21.20
10	15.10	28.88	45	21.24
11	14.70	28.96	49	21.38
12	14.41	28.99	56	21.47
13	13.22	28.92	68	21.64
14	10.98	29.36	79	22.39
15	10.65	29.43	77	22.50
16	10.16	29.47	70	22.61
17	9.19	29.58	61	22.85
18	7.25	29.73	50	23.24
19	6.00	29.91	46	23.53
20	5.50	29.94	43	23.61
21	5.11	30.00	42	23.70
22	4.82	30.01	42	23.74
23	4.36	30.02	34	23.80
24	4.10	30.10	24	23.88
25	4.08	30.09	26	23.87
26	4.00	30.05		23.85
27	3.95	30.09		23.89
28	3.94	30.11		23.90
29	4.00	30.03		23.84
30	3.95	30.08		23.88
31	3.95	30.07	22	23.87
32	3.93	30.08	24	23.88

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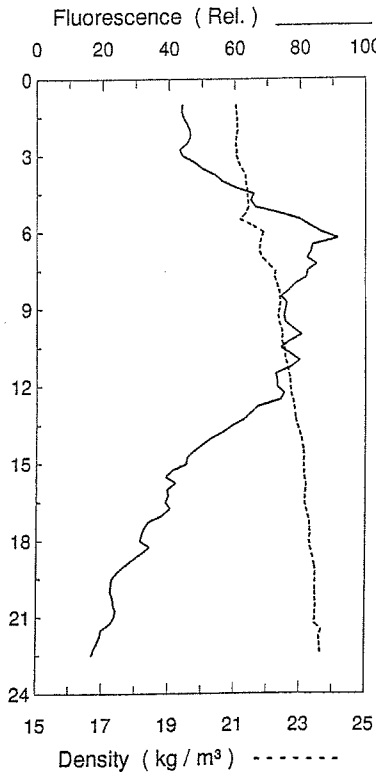
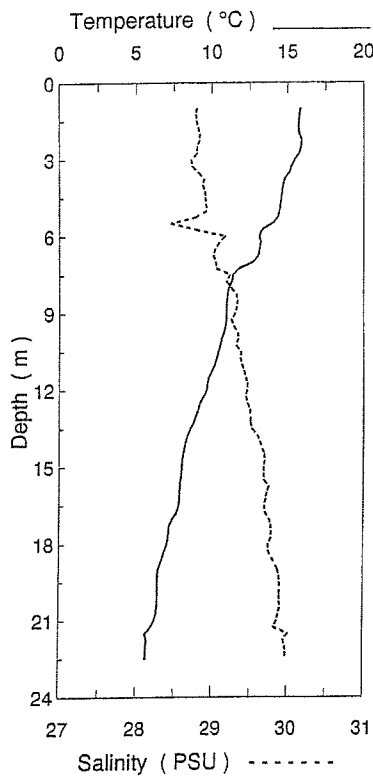
Station 24



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	15.47	28.93	13	21.20
2	15.98	28.81	20	21.00
3	15.81	28.75	22	20.99
4	15.23	28.83	27	21.18
5	14.95	28.89	35	21.28
6	14.74	28.92	43	21.35
7	14.38	28.93	49	21.42
8	13.61	29.03	58	21.65
9	13.20	29.04	71	21.74
10	12.21	29.07	85	21.95
11	11.15	29.22	90	22.25
12	9.87	29.32	92	22.54
13	9.19	29.53	74	22.81
14	9.01	29.56	65	22.86
15	8.51	29.57	53	22.94
16	7.41	29.70	42	23.19
17	6.59	29.81	35	23.39
18	5.93	29.91	27	23.54
19	5.63	29.95	21	23.61

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Station 25

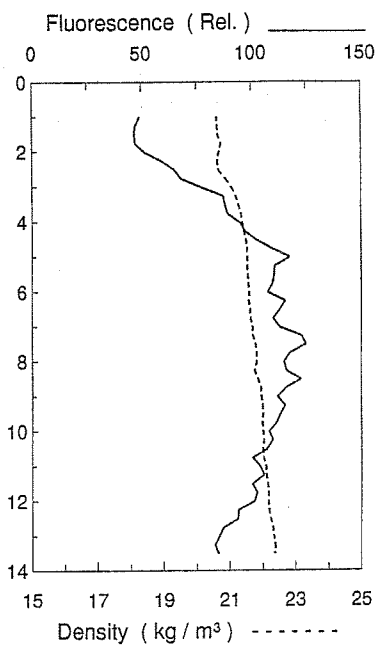
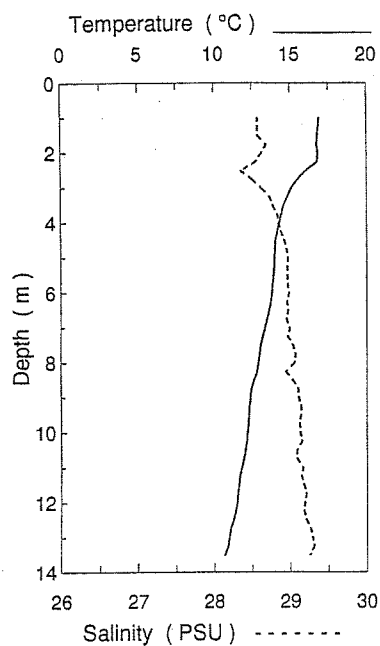


Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	15.74	28.79	44	21.03
2	15.72	28.82	46	21.06
3	15.56	28.77	45	21.06
4	14.72	28.88	57	21.32
5	14.40	28.86	69	21.36
6	13.33	28.88	86	21.59
7	12.37	29.07	83	21.92
8	11.14	29.25	79	22.28
9	10.92	29.28	75	22.34
10	10.61	29.33	78	22.43
11	10.11	29.39	77	22.56
12	9.55	29.45	74	22.69
13	8.87	29.50	66	22.83
14	8.22	29.62	53	23.02
15	7.97	29.68	44	23.10
16	7.82	29.72	40	23.15
17	7.41	29.73	38	23.22
18	6.95	29.75	32	23.30
19	6.51	29.86	26	23.44
20	6.40	29.89	23	23.47
21	6.12	29.86	23	23.48
22	5.68	29.96	19	23.61
23	5.59	29.98	16	23.64



Survey 96-02

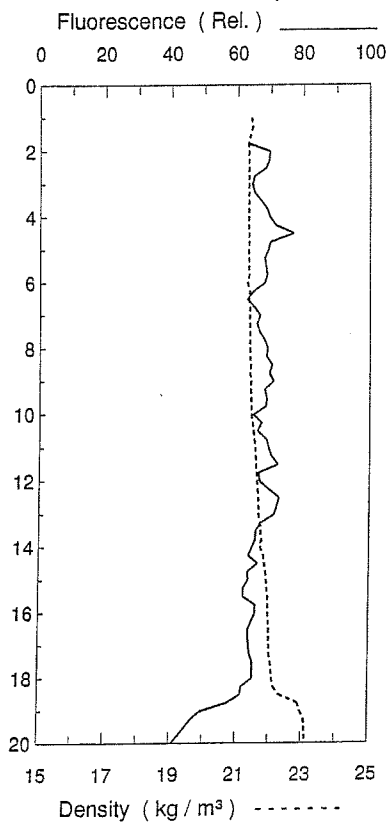
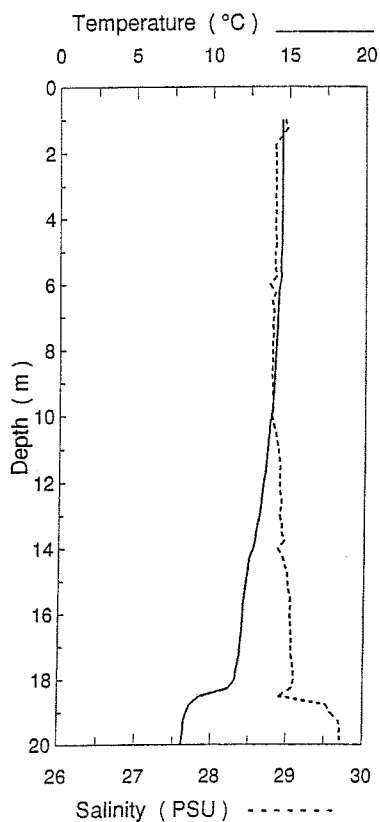
Station 26



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.87	28.57	48	20.62
2	16.68	28.56	52	20.65
3	15.10	28.62	77	21.04
4	14.25	28.85	94	21.39
5	13.95	28.95	110	21.52
6	13.75	28.96	112	21.57
7	13.30	28.98	115	21.68
8	12.85	29.02	118	21.79
9	12.35	29.11	116	21.95
10	12.16	29.12	110	22.00
11	11.80	29.13	103	22.07
12	11.45	29.18	98	22.17
13	10.96	29.25	87	22.31
14	10.44	29.26	88	22.40

Survey 96-02

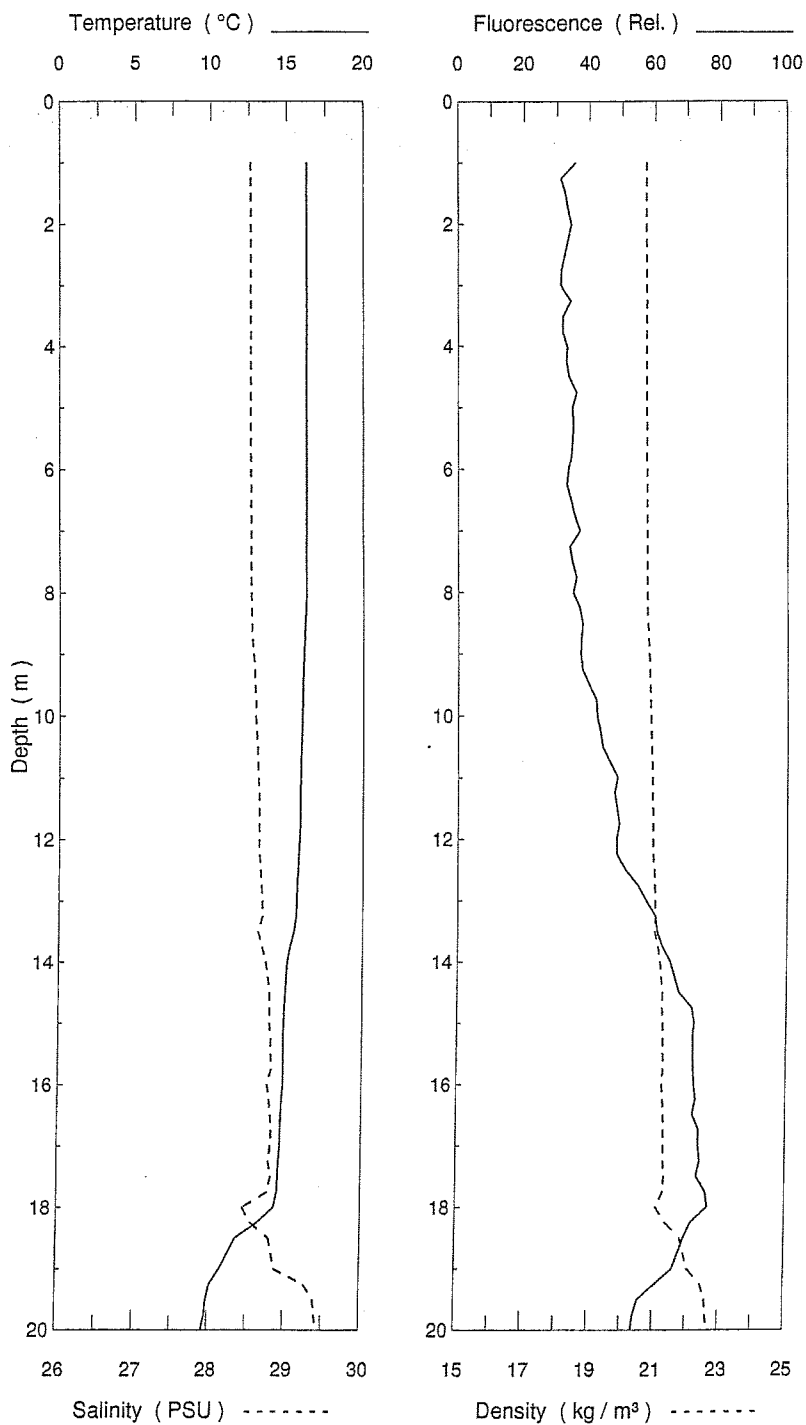
Station 27



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	14.51	28.92		21.39
2	14.50	28.80	70	21.30
3	14.49	28.81	66	21.31
4	14.47	28.81	70	21.31
5	14.44	28.81	70	21.32
6	14.36	28.78	67	21.32
7	14.21	28.79	66	21.35
8	14.10	28.78	68	21.36
9	13.99	28.78	70	21.38
10	13.82	28.79	67	21.43
11	13.58	28.85	69	21.53
12	13.35	28.89	68	21.60
13	13.06	28.91	71	21.67
14	12.65	28.92	65	21.75
15	12.25	29.00	63	21.89
16	12.04	29.04	65	21.96
17	11.89	29.05	64	21.99
18	11.11	29.04	64	22.12
19	8.46	29.54	52	22.92
20	8.07	29.74	40	23.14

Survey 96-02

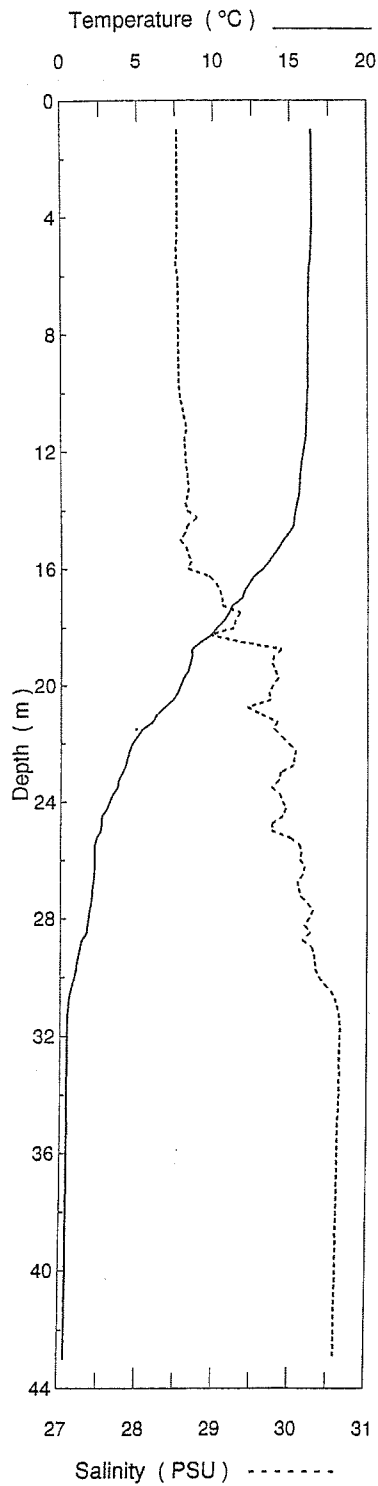
Station 28



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	16.25	28.48	35	20.68
2	16.25	28.52	34	20.72
3	16.25	28.51	32	20.71
4	16.25	28.52	32	20.71
5	16.25	28.52	35	20.71
6	16.25	28.52	33	20.71
7	16.25	28.52	35	20.72
8	16.22	28.52	36	20.72
9	16.08	28.55	37	20.78
10	15.98	28.59	42	20.83
11	15.88	28.62	47	20.87
12	15.81	28.63	48	20.90
13	15.61	28.65	57	20.95
14	15.09	28.72	64	21.12
15	14.84	28.79	71	21.23
16	14.78	28.79	72	21.24
17	14.63	28.81	73	21.28
18	13.89	28.62	74	21.28
19	10.72	29.08	64	22.21
20	9.71	29.44	54	22.66

Survey 96-02

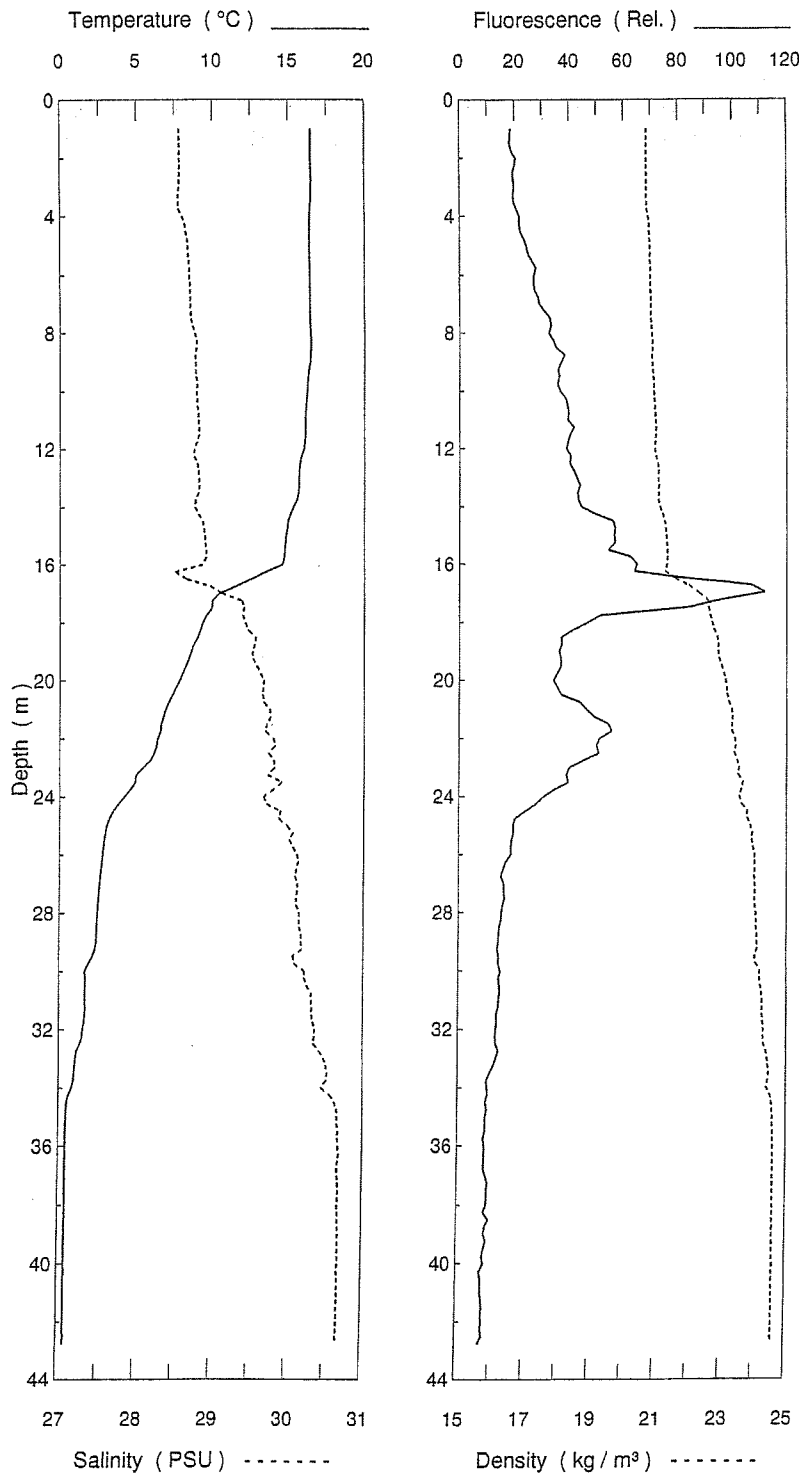
Station 29



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.38	28.50	25	20.67
2	16.38	28.52	27	20.68
3	16.38	28.52	27	20.68
4	16.38	28.52	26	20.69
5	16.32	28.51	28	20.69
6	16.18	28.51	31	20.73
7	16.13	28.53	34	20.75
8	16.12	28.53	38	20.75
9	16.09	28.53	40	20.76
10	16.07	28.54	37	20.77
11	15.99	28.61	44	20.84
12	15.80	28.61	46	20.89
13	15.58	28.65	52	20.96
14	15.30	28.69	56	21.05
15	14.57	28.58	67	21.12
16	13.04	28.78	81	21.57
17	11.62	29.12	123	22.10
18	10.09	29.11	98	22.34
19	8.53	29.71	66	23.05
20	7.75	29.77	42	23.20
21	6.25	29.65	48	23.30
22	4.70	29.96	84	23.71
23	3.95	29.91	77	23.74
24	3.11	29.87	55	23.78
25	2.50	29.82	44	23.79
26	2.17	30.13	25	24.06
27	2.03	30.14	17	24.08
28	1.79	30.22	15	24.16
29	1.26	30.26	14	24.22
30	0.86	30.39	13	24.34
31	0.51	30.61	12	24.54
32	0.43	30.64	11	24.57
33	0.41	30.64	11	24.57
34	0.40	30.63	11	24.56
35	0.40	30.62	11	24.55
36	0.40	30.62	11	24.55
37	0.41	30.61	11	24.55
38	0.40	30.61	11	24.54
39	0.40	30.60	11	24.54
40	0.40	30.60	11	24.54
41	0.40	30.60	11	24.54
42	0.40	30.60	11	24.54
43	0.40	30.59	10	24.53

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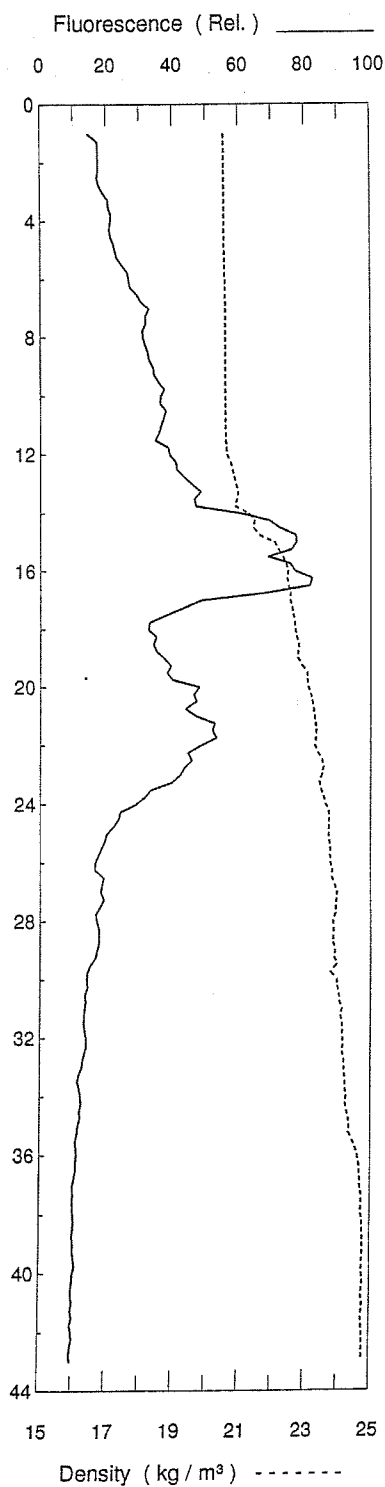
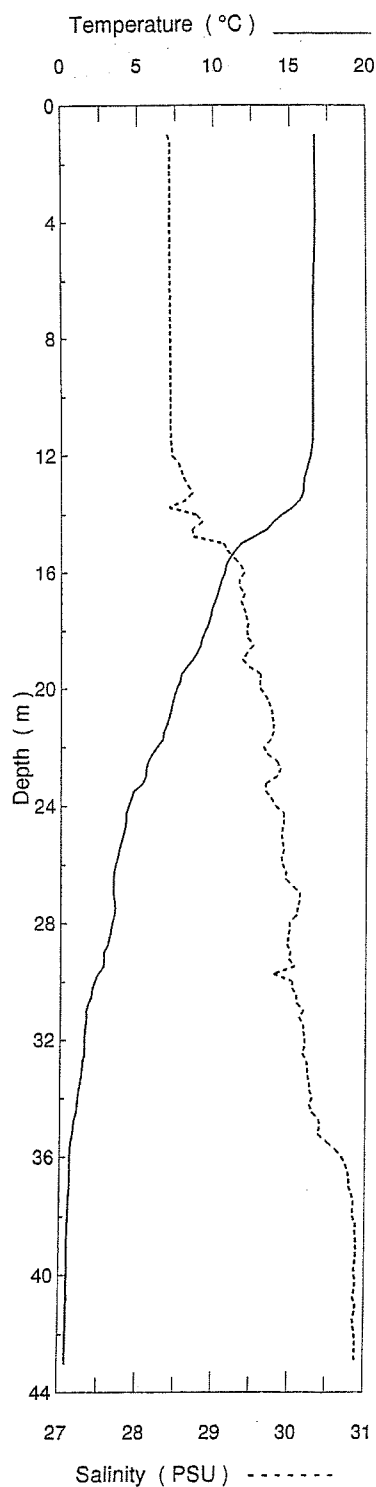
Station 30



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.47	28.56	18	20.70
2	16.48	28.56	19	20.70
3	16.47	28.55	19	20.69
4	16.40	28.60	21	20.74
5	16.39	28.67	24	20.80
6	16.40	28.69	27	20.81
7	16.41	28.70	30	20.82
8	16.45	28.76	33	20.86
9	16.42	28.77	37	20.87
10	16.23	28.79	37	20.93
11	16.10	28.81	40	20.97
12	15.98	28.77	40	20.97
13	15.68	28.81	42	21.06
14	15.32	28.79	47	21.13
15	14.84	28.89	56	21.30
16	14.25	28.76	63	21.32
17	10.77	29.05	105	22.19
18	9.46	29.41	49	22.67
19	8.58	29.54	37	22.91
20	7.80	29.64	35	23.10
21	6.92	29.73	46	23.28
22	6.39	29.77	52	23.38
23	5.49	29.80	42	23.50
24	4.19	29.81	32	23.64
25	3.12	29.97	21	23.86
26	2.79	30.11	18	24.00
27	2.60	30.12	16	24.02
28	2.45	30.13	16	24.04
29	2.32	30.16	14	24.08
30	1.75	30.16	15	24.12
31	1.65	30.30	14	24.23
32	1.51	30.35	14	24.28
33	1.08	30.47	13	24.40
34	0.77	30.52	11	24.46
35	0.44	30.66	10	24.58
36	0.42	30.67	10	24.60
37	0.42	30.67	10	24.59
38	0.42	30.67	11	24.60
39	0.42	30.68	10	24.60
40	0.42	30.68	9	24.60
41	0.42	30.68	9	24.60
42	0.42	30.68	9	24.60
43	0.42	30.68	8	24.60

Survey 96-02

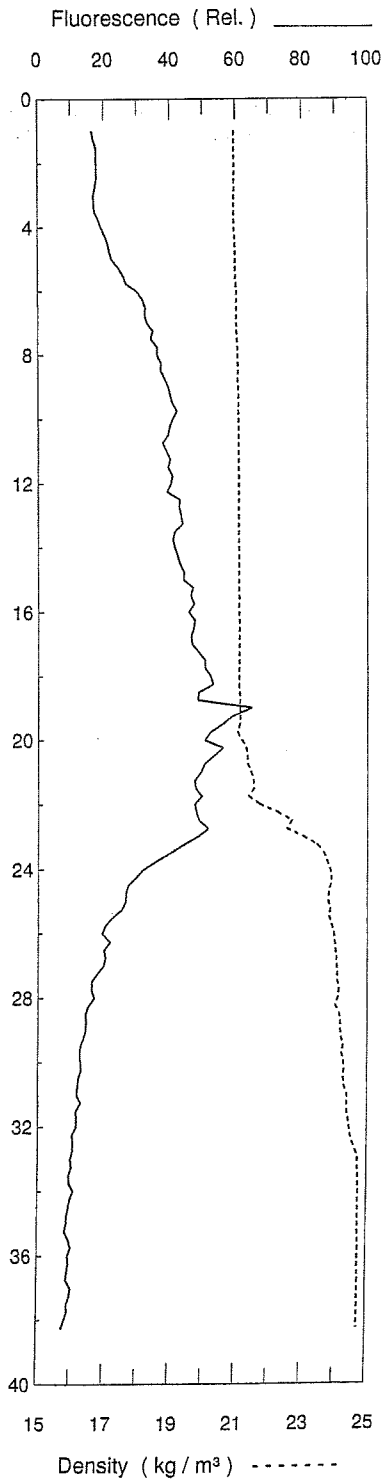
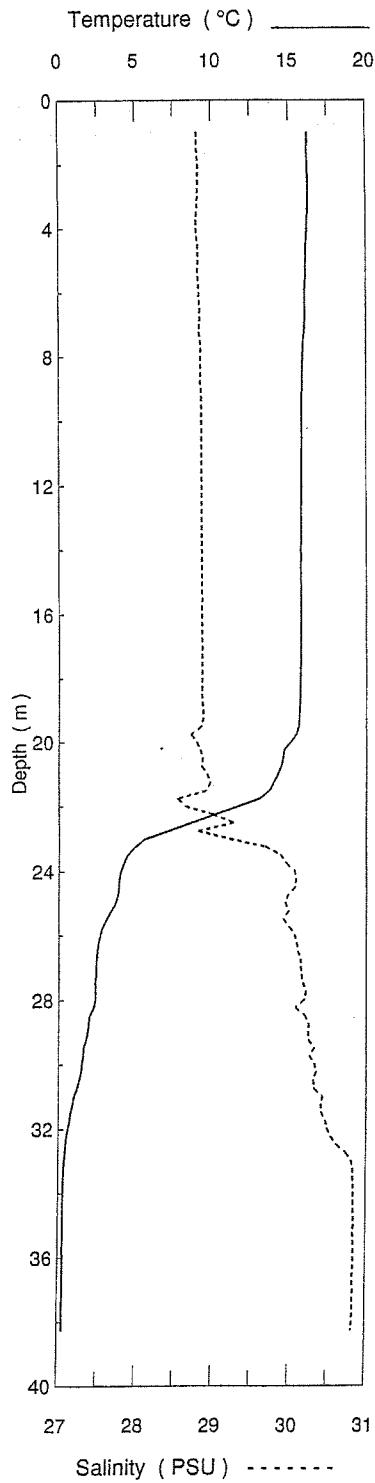
Station 31



Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	16.61	28.38	11	20.53
2	16.62	28.42	18	20.55
3	16.62	28.42	19	20.55
4	16.61	28.41	21	20.55
5	16.57	28.41	23	20.56
6	16.51	28.41	27	20.57
7	16.48	28.42	31	20.59
8	16.47	28.42	31	20.59
9	16.46	28.42	34	20.59
10	16.45	28.42	37	20.59
11	16.44	28.42	37	20.60
12	16.27	28.46	39	20.67
13	15.83	28.63	45	20.89
14	14.35	28.72	61	21.27
15	11.90	29.02	75	21.96
16	10.61	29.35	78	22.44
17	9.99	29.38	56	22.57
18	9.39	29.44	33	22.71
19	8.42	29.46	38	22.87
20	7.51	29.62	44	23.12
21	6.98	29.75	48	23.29
22	6.20	29.71	49	23.35
23	5.37	29.77	41	23.49
24	4.41	29.82	29	23.63
25	4.00	29.89	21	23.72
26	3.55	29.91	18	23.78
27	3.41	30.07	19	23.92
28	3.39	30.05	17	23.90
29	2.88	30.00	17	23.90
30	2.27	30.01	14	23.96
31	1.73	30.13	13	24.09
32	1.54	30.17	14	24.14
33	1.37	30.22	12	24.18
34	1.11	30.26	12	24.23
35	0.81	30.39	11	24.35
36	0.62	30.68	11	24.59
37	0.59	30.80	10	24.69
38	0.50	30.85	10	24.73
39	0.46	30.88	10	24.76
40	0.46	30.87	10	24.76
41	0.46	30.87	10	24.75
42	0.45	30.87	10	24.75
43	0.43	30.88	9	24.77

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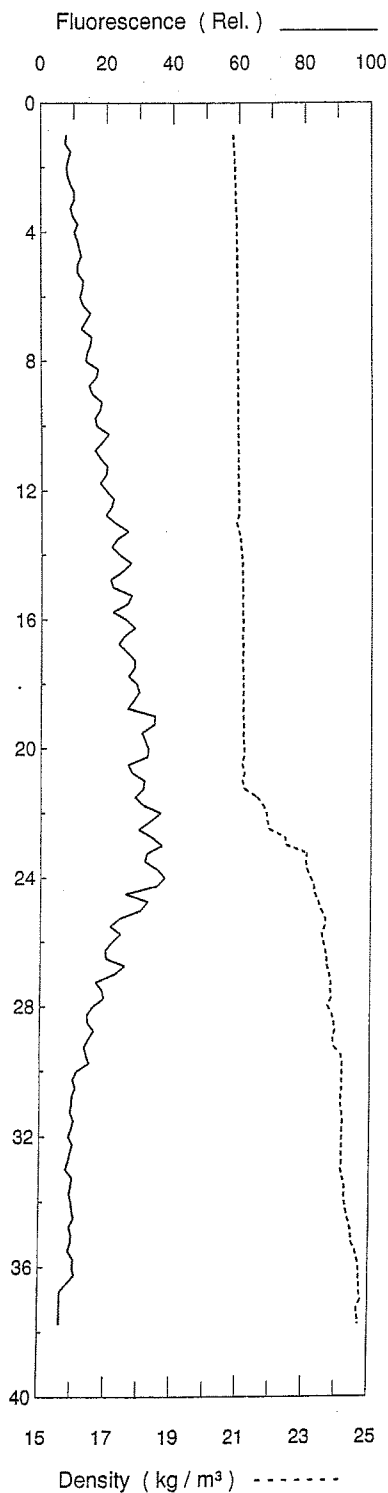
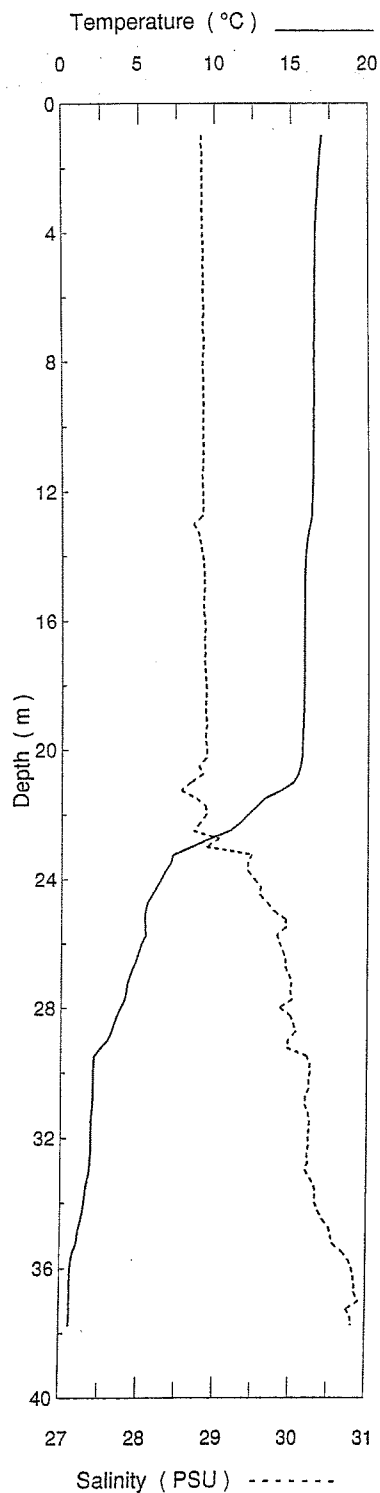
Station 32



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	16.22	28.80	17	20.94
2	16.23	28.82	18	20.95
3	16.25	28.81	17	20.94
4	16.18	28.80	19	20.95
5	16.10	28.81	23	20.97
6	16.05	28.83	29	20.99
7	16.00	28.83	33	21.01
8	15.90	28.85	36	21.04
9	15.82	28.85	39	21.06
10	15.80	28.86	41	21.07
11	15.79	28.86	39	21.07
12	15.78	28.86	40	21.08
13	15.76	28.86	43	21.08
14	15.75	28.86	41	21.08
15	15.75	28.86	45	21.08
16	15.75	28.86	47	21.08
17	15.75	28.86	48	21.09
18	15.72	28.86	51	21.09
19	15.66	28.87	54	21.11
20	15.15	28.80	53	21.17
21	14.20	28.90	49	21.44
22	11.64	28.72	48	21.78
23	5.96	29.36	47	23.10
24	4.02	30.03	32	23.83
25	3.58	29.97	26	23.83
26	2.69	30.05	21	23.96
27	2.40	30.15	19	24.06
28	2.24	30.18	16	24.09
29	1.83	30.25	14	24.18
30	1.49	30.31	13	24.25
31	1.01	30.36	12	24.32
32	0.60	30.50	11	24.45
33	0.37	30.78	10	24.69
34	0.31	30.84	10	24.74
35	0.30	30.84	9	24.73
36	0.30	30.84	10	24.74
37	0.30	30.84	10	24.73
38	0.30	30.83	8	24.73

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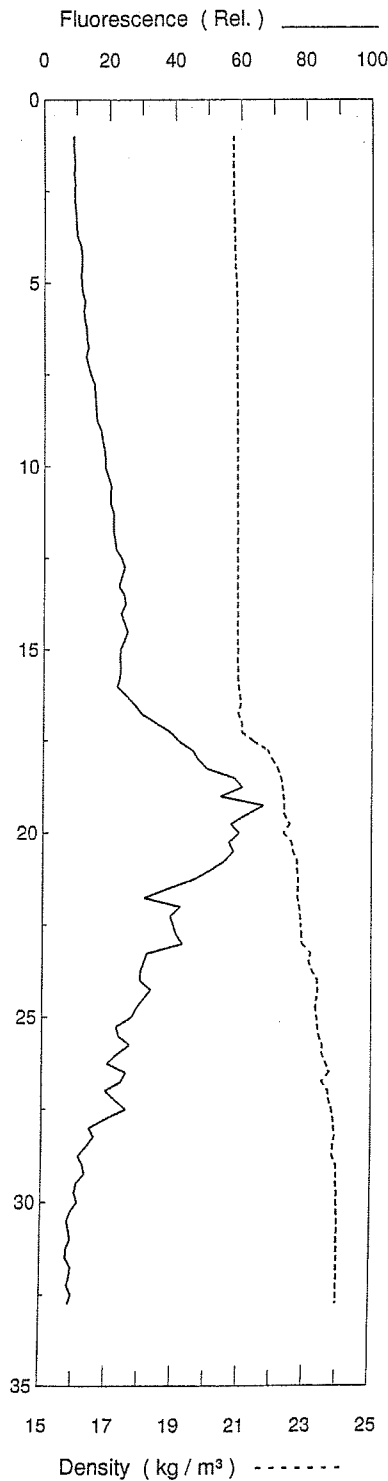
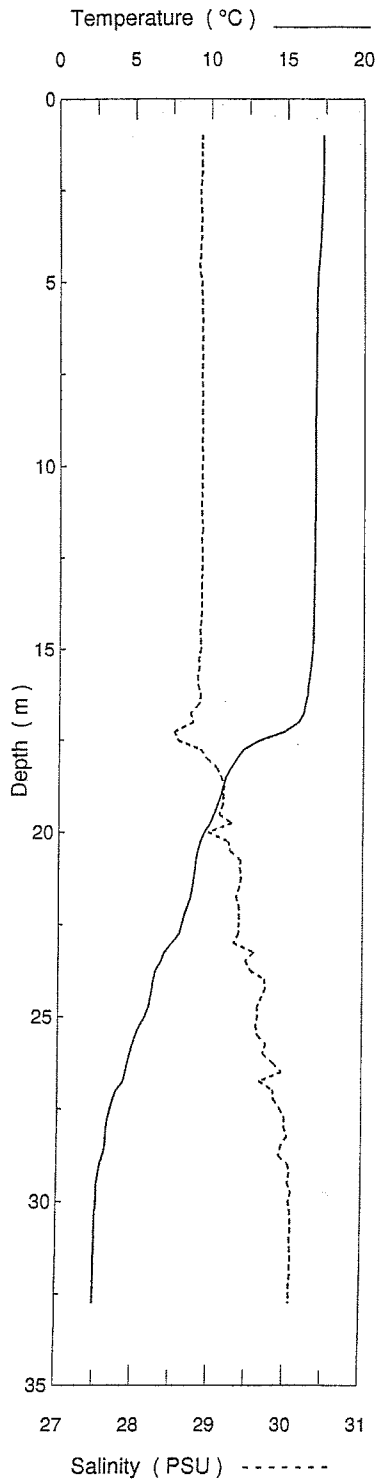
Station 33



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg/m³)
1	16.92	28.82	8	20.79
2	16.75	28.83	8	20.84
3	16.62	28.82	9	20.87
4	16.52	28.83	11	20.89
5	16.48	28.83	12	20.90
6	16.45	28.83	13	20.91
7	16.43	28.83	13	20.92
8	16.42	28.83	15	20.92
9	16.40	28.83	16	20.92
10	16.38	28.83	18	20.93
11	16.35	28.83	18	20.93
12	16.30	28.82	20	20.94
13	16.15	28.80	22	20.95
14	15.87	28.82	24	21.03
15	15.80	28.84	25	21.06
16	15.78	28.84	25	21.07
17	15.77	28.85	26	21.07
18	15.77	28.87	28	21.09
19	15.72	28.87	30	21.10
20	15.65	28.86	31	21.11
21	14.72	28.71	29	21.18
22	12.17	28.84	33	21.78
23	8.63	29.06	33	22.51
24	6.43	29.50	34	23.16
25	5.42	29.78	29	23.50
26	5.20	29.88	20	23.60
27	4.46	29.95	21	23.73
28	3.82	29.97	17	23.81
29	2.82	30.02	15	23.93
30	1.98	30.26	12	24.17
31	1.98	30.21	10	24.14
32	1.93	30.23	9	24.15
33	1.78	30.22	9	24.16
34	1.48	30.34	10	24.27
35	1.07	30.53	10	24.45
36	0.67	30.80	10	24.69
37	0.62	30.87	6	24.75
38	0.61	30.78	6	24.68

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Station 34

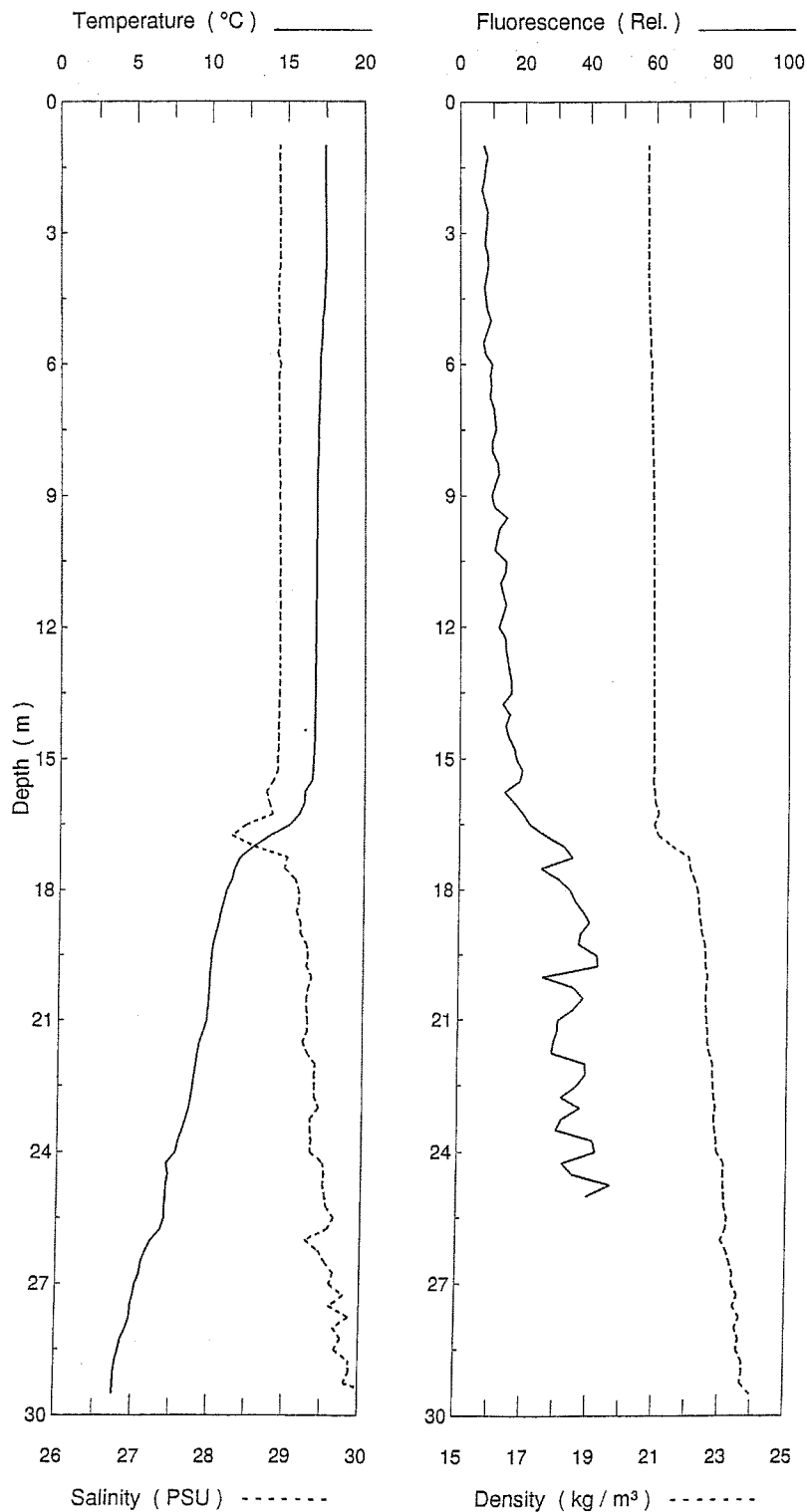


Depth ( m )	Temp. ( °C )	Sal. ( PSU )	Fluor. ( Rel. )	Density ( kg / m³ )
1	17.32	28.86	9	20.73
2	17.29	28.85	9	20.74
3	17.19	28.84	9	20.75
4	17.07	28.84	11	20.78
5	16.91	28.85	11	20.82
6	16.85	28.86	12	20.84
7	16.82	28.86	13	20.85
8	16.79	28.86	15	20.85
9	16.77	28.86	17	20.86
10	16.77	28.86	19	20.86
11	16.75	28.85	21	20.86
12	16.72	28.86	21	20.87
13	16.70	28.86	24	20.87
14	16.67	28.85	24	20.88
15	16.60	28.84	24	20.88
16	16.35	28.83	24	20.93
17	15.18	28.65	34	21.04
18	11.82	28.95	48	21.93
19	10.60	29.16	59	22.30
20	9.61	29.17	58	22.46
21	8.89	29.38	52	22.74
22	8.46	29.36	37	22.78
23	7.45	29.40	38	22.96
24	6.22	29.61	31	23.27
25	5.67	29.61	26	23.33
26	4.72	29.75	23	23.54
27	3.90	29.80	23	23.66
28	3.20	29.99	18	23.87
29	2.84	29.98	12	23.89
30	2.55	30.07	10	23.98
31	2.48	30.07	8	23.99
32	2.45	30.07	9	23.99
33	2.44	30.07	8	23.99



Survey 96-02

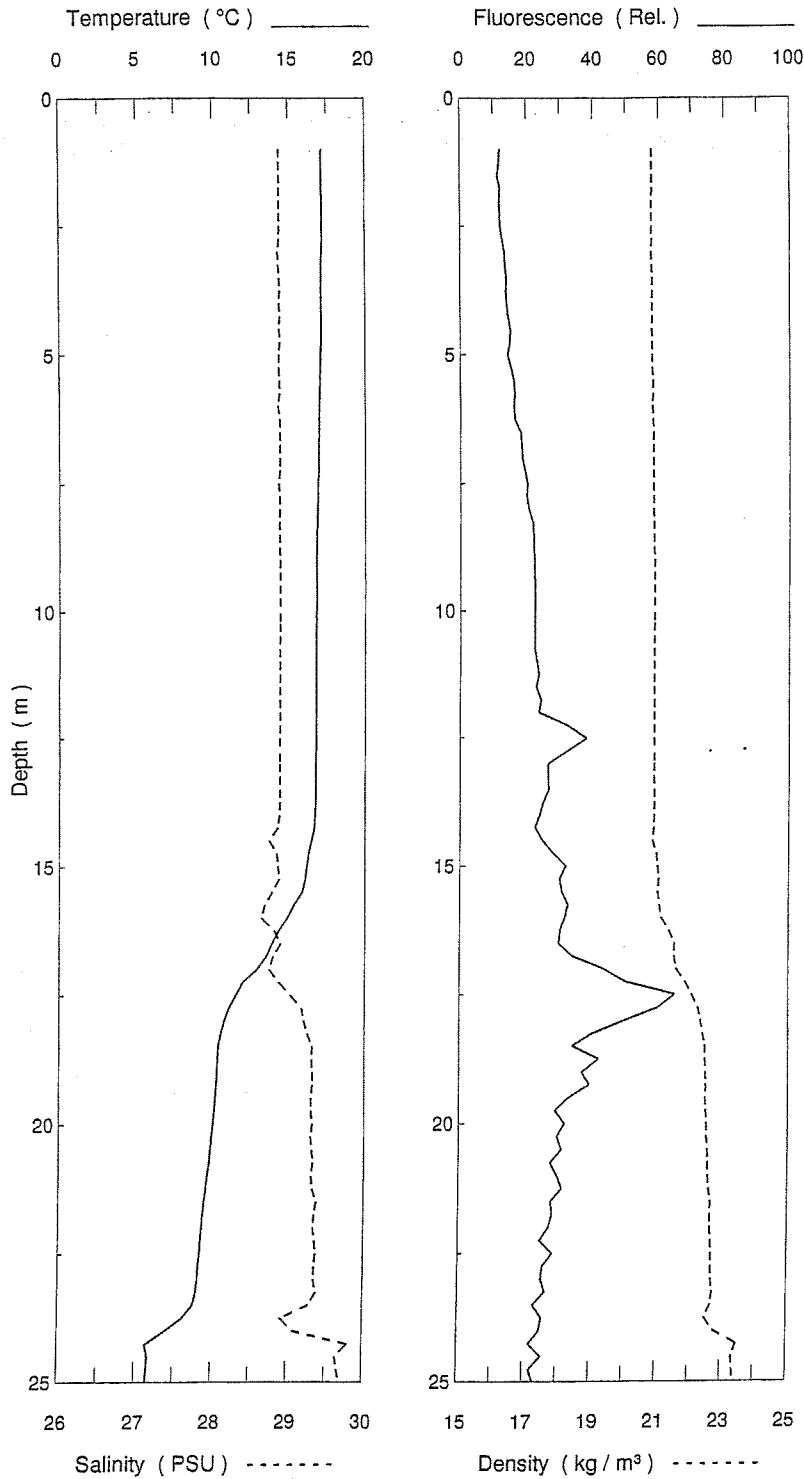
Station 35



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	17.39	28.87	6	20.72
2	17.40	28.87	7	20.73
3	17.43	28.88	8	20.73
4	17.39	28.86	8	20.72
5	17.22	28.86	8	20.76
6	17.05	28.86	8	20.80
7	16.97	28.86	10	20.82
8	16.89	28.86	10	20.84
9	16.82	28.87	11	20.86
10	16.80	28.87	11	20.86
11	16.78	28.87	13	20.87
12	16.77	28.87	13	20.87
13	16.74	28.87	15	20.88
14	16.70	28.86	14	20.88
15	16.62	28.85	18	20.89
16	16.01	28.76	18	20.95
17	12.92	28.60	29	21.45
18	10.99	29.12	33	22.21
19	10.24	29.20	38	22.39
20	9.88	29.27	38	22.51
21	9.64	29.26	32	22.53
22	8.96	29.33	35	22.68
23	8.52	29.39	34	22.80
24	7.63	29.37	37	22.90
25	7.09	29.53		23.10
26	6.23	29.46		23.15
27	5.12	29.66		23.43
28	4.53	29.70		23.52
29	3.90	29.84		23.99

Survey 96-02

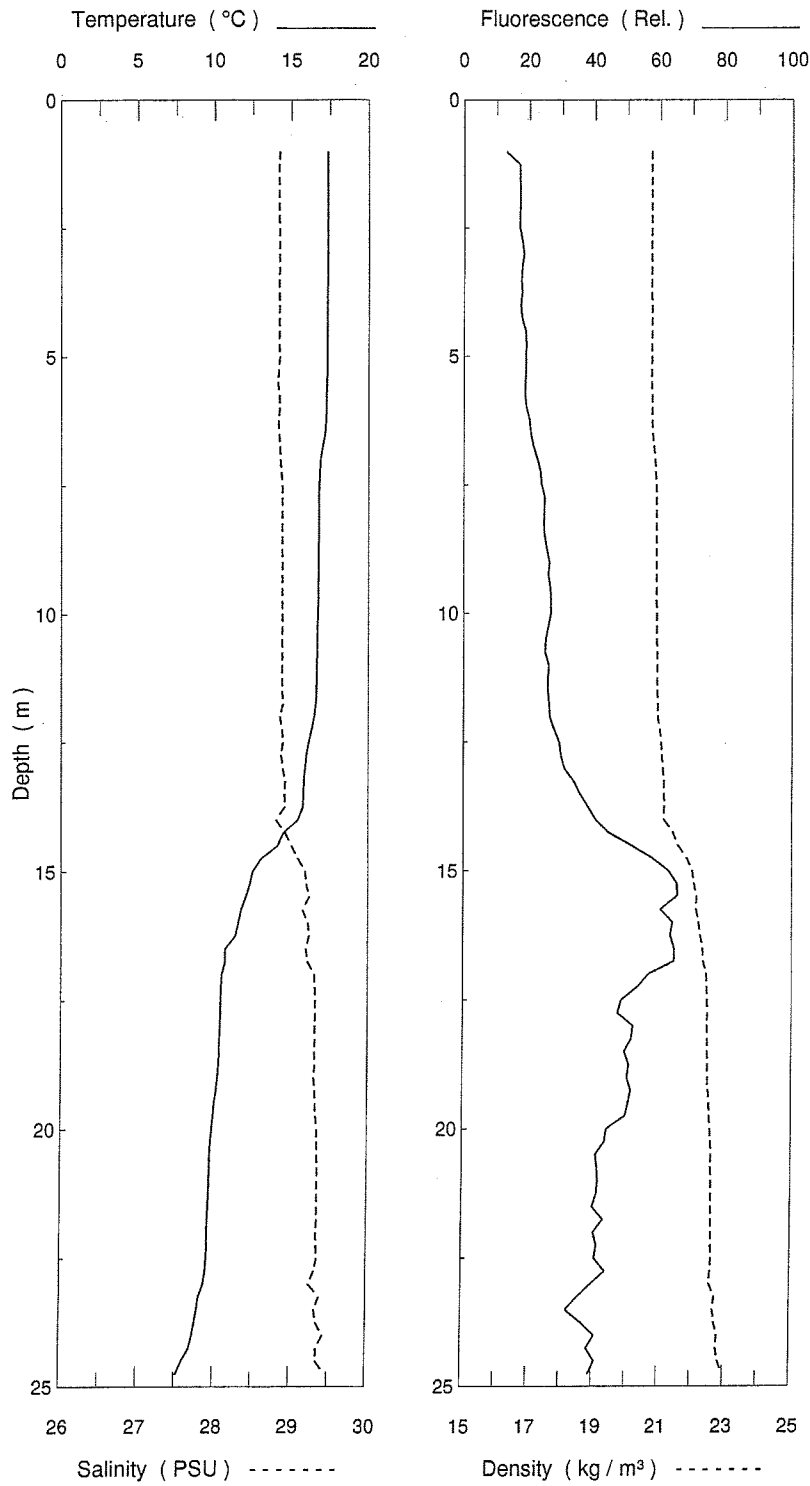
Station 36



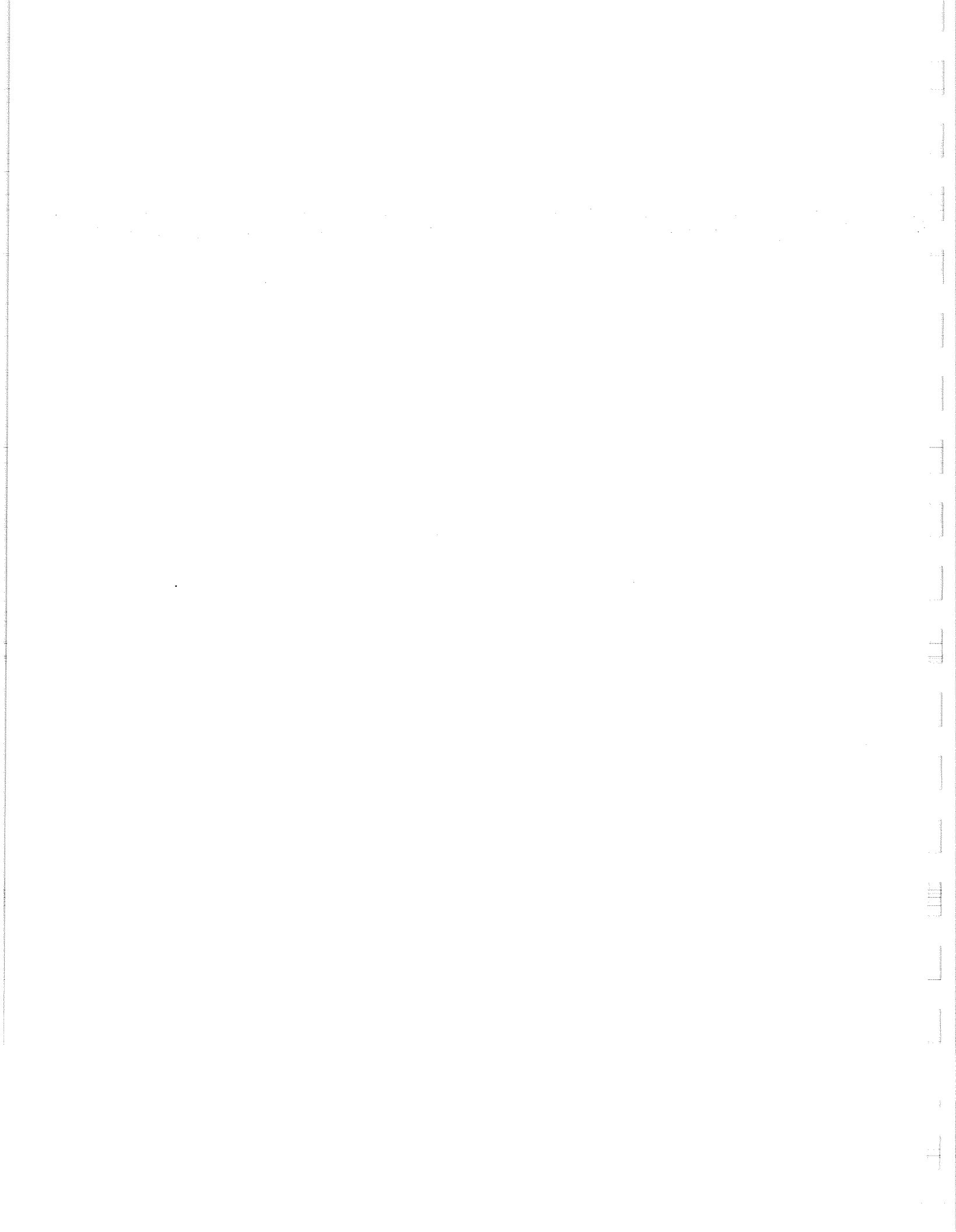
Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m <sup>3</sup> )
1	17.15	28.87	12	20.78
2	17.16	28.87	12	20.78
3	17.14	28.86	13	20.78
4	17.11	28.87	14	20.79
5	17.07	28.87	15	20.80
6	16.98	28.87	16	20.82
7	16.93	28.87	19	20.83
8	16.85	28.87	21	20.85
9	16.80	28.87	22	20.87
10	16.78	28.88	22	20.87
11	16.77	28.88	23	20.87
12	16.76	28.88	27	20.87
13	16.75	28.88	31	20.88
14	16.68	28.85	24	20.87
15	16.18	28.84	29	20.98
16	14.87	28.74	31	21.17
17	12.77	28.85	44	21.68
18	10.82	29.20	49	22.29
19	10.27	29.31	39	22.47
20	10.02	29.30	32	22.50
21	9.67	29.32	29	22.58
22	9.32	29.35	27	22.65
23	9.04	29.35	26	22.69
24	6.97	29.30	24	22.93
25	5.59	29.73	23	23.44

Survey 96-02

Station 37



Depth (m)	Temp. (°C)	Sal. (PSU)	Fluor. (Rel.)	Density (kg / m³)
1	17.32	28.84	13	20.72
2	17.31	28.83	17	20.72
3	17.32	28.84	18	20.72
4	17.30	28.83	18	20.72
5	17.30	28.83	19	20.72
6	17.22	28.83	19	20.73
7	16.90	28.85	22	20.83
8	16.74	28.88	24	20.88
9	16.73	28.88	26	20.88
10	16.69	28.87	26	20.89
11	16.63	28.87	25	20.90
12	16.40	28.87	27	20.95
13	15.86	28.89	32	21.08
14	15.15	28.89	42	21.24
15	12.69	29.14	61	21.92
16	11.52	29.21	63	22.18
17	10.58	29.27	57	22.38
18	10.35	29.31	50	22.46
19	10.17	29.31	51	22.48
20	9.84	29.33	45	22.56
21	9.66	29.35	41	22.60
22	9.56	29.35	41	22.61
23	9.26	29.34	39	22.65
24	8.59	29.37	38	22.78
25	7.26	29.52	39	23.07

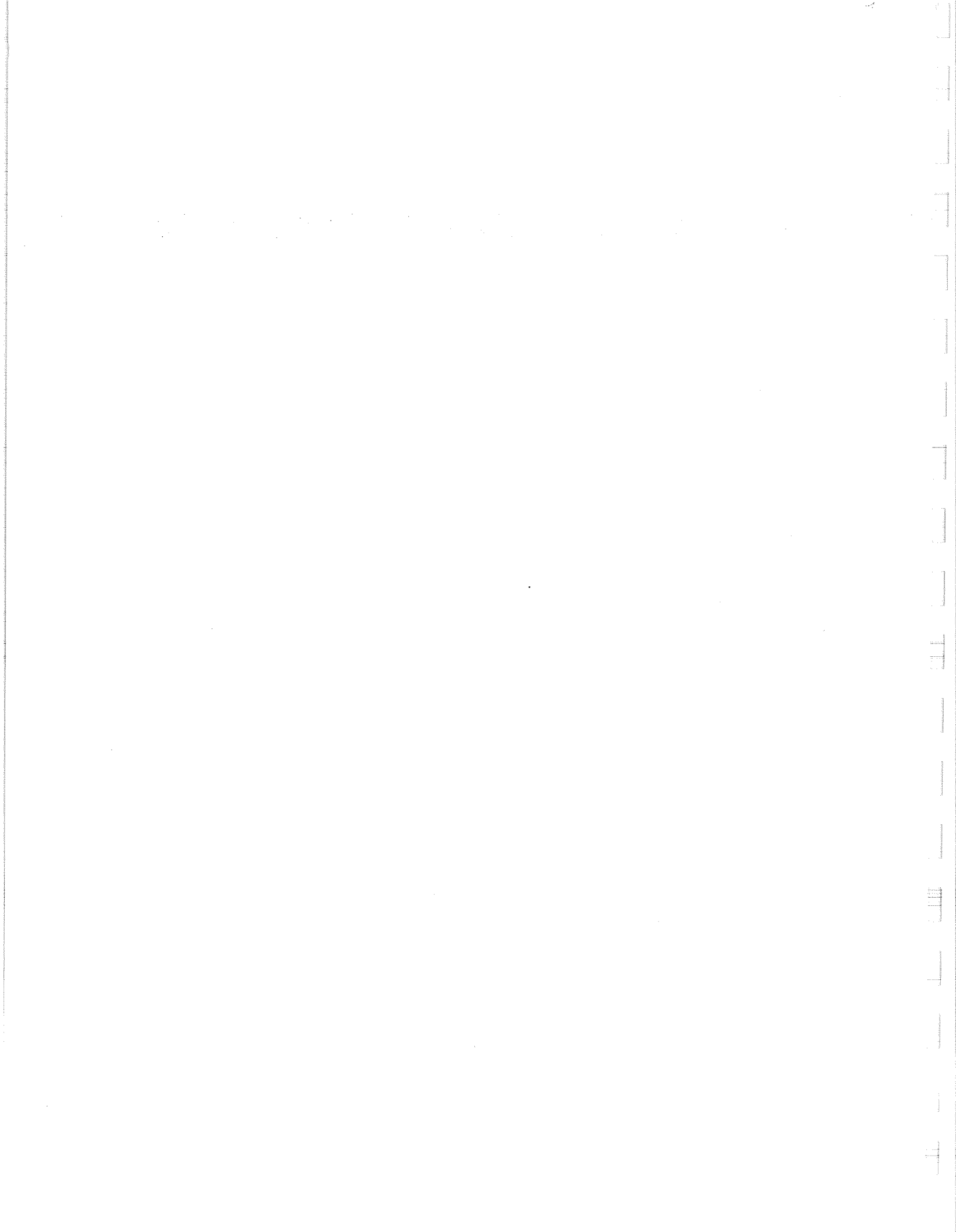


Appendix 5.3 Minimum, maximum and average of temperature ( $^{\circ}\text{C}$ ), salinity (PSU), density ( $\text{kg}/\text{m}^3$ ) and fluorescence (relative) of the 1996 CTD profiles by station.

Survey	Station	Min. Temp. ( $^{\circ}\text{C}$ )	Max. Temp. ( $^{\circ}\text{C}$ )	Avg. Temp. ( $^{\circ}\text{C}$ )	Min. Sal. (PSU)	Max. Sal. (PSU)	Avg. Sal. (PSU)	Min. Dens. ( $\text{kg}/\text{m}^3$ )	Max. Dens. ( $\text{kg}/\text{m}^3$ )	Avg. Dens. ( $\text{kg}/\text{m}^3$ )	Min. Fluor. (rel.)	Max. Fluor. (rel.)	Avg. Fluor. (rel.)
Survey 96-01	01	5.15	13.86	10.64	26.21	31.60	28.21	19.44	24.80	21.51	11	48	32
	02	0.30	13.57	6.91	25.80	30.93	28.88	19.27	24.81	22.48	7	53	24
	03	-0.93	13.67	3.48	25.85	31.80	29.95	19.21	25.54	23.67	6	56	16
	04	-0.79	13.72	3.89	25.82	31.52	29.76	19.23	25.32	23.47	6	62	18
	05	-0.65	13.34	4.65	25.85	31.89	29.61	19.26	25.61	23.28	6	52	18
	06	1.57	13.24	7.52	25.73	30.65	28.35	19.18	24.51	22.01	8	53	25
	07	3.75	14.27	9.86	25.79	30.16	27.43	19.10	23.96	21.01	10	56	30
	08	5.69	14.21	10.34	25.83	29.28	27.18	19.09	23.07	20.76	12	60	32
	09	-0.18	14.31	6.09	26.33	31.10	29.41	19.48	24.96	22.96	6	52	18
	10	-0.93	14.81	3.10	27.39	31.69	30.33	20.15	25.46	23.99	6	46	15
	11	-0.73	14.49	2.99	26.48	31.68	30.30	19.52	25.45	24.01	6	58	17
	12	-0.51	14.65	5.45	26.52	31.20	29.33	19.52	25.06	22.97	6	63	21
	13	2.78	13.99	9.09	25.94	30.37	28.07	19.21	24.21	21.61	11	54	28
	14	3.34	14.13	9.37	26.09	30.07	28.01	19.29	23.93	21.52	12	57	32
	15	1.83	14.09	8.55	27.21	30.38	28.42	20.16	24.28	21.94	8	50	25
	16	2.14	14.04	8.27	27.25	30.75	28.65	20.20	24.54	22.15	11	52	27
	17	1.73	14.26	8.87	27.12	30.38	28.29	20.08	24.29	21.78	8	46	21
	18	0.38	14.78	6.56	27.17	30.66	28.97	20.02	24.59	22.56	5	49	18
	19	0.15	14.87	7.71	27.22	30.66	28.80	20.05	24.59	22.28	6	49	23
	20	-0.47	14.94	6.35	27.18	30.99	29.28	19.98	24.89	22.82	6	53	21

Survey	Station	Min. Temp. (°C)	Max. Temp. (°C)	Avg. Temp. (°C)	Min. Sal. (PSU)	Max. Sal. (PSU)	Avg. Sal. (PSU)	Min. Dens. (kg/m <sup>3</sup> )	Max. Dens. (kg/m <sup>3</sup> )	Avg. Dens. (kg/m <sup>3</sup> )	Min. Fluor. (rel.)	Max. Fluor. (rel.)	Avg. Fluor. (rel.)
	21	-0.59	15.09	5.83	26.69	31.48	29.48	19.64	25.29	23.03	7	51	22
	22	-0.58	14.73	4.95	26.51	31.60	29.60	19.53	25.38	23.23	6	56	22
	23	-0.75	15.21	3.65	26.99	31.66	30.10	19.80	25.43	23.79	5	49	15
	24	-0.11	14.49	6.20	26.53	31.00	29.05	19.56	24.88	22.68	7	40	17
	25	4.89	14.35	10.84	26.12	29.55	27.75	19.27	23.36	21.12	12	40	29
	<b>Average:</b>	<b>1.06</b>	<b>14.28</b>	<b>6.85</b>	<b>26.46</b>	<b>30.92</b>	<b>28.93</b>	<b>19.57</b>	<b>24.73</b>	<b>22.51</b>	<b>8</b>	<b>52</b>	<b>23</b>
<b>Survey 96-01</b>													
	01	0.19	16.15	6.19	26.28	30.73	28.99	19.10	24.65	22.63	6	57	18
	02	4.97	17.25	12.08	26.33	29.60	27.69	18.83	23.40	20.79	13	64	31
	03	5.41	16.93	11.05	25.97	29.10	27.69	18.61	22.96	20.99	14	80	43
	04	4.85	16.62	9.94	26.67	29.06	28.00	19.21	22.98	21.36	13	72	34
	05	5.41	16.71	11.03	26.53	29.01	27.84	19.31	22.88	21.07	19	64	36
	06	9.84	16.88	13.55	27.29	28.30	27.78	19.65	21.74	20.68	21	90	55
	07	16.58	17.42	16.98	27.39	27.55	27.45	19.60	19.85	19.74	11	63	44
	08	18.44	18.81	18.72	27.36	27.41	27.39	19.24	19.36	19.28	39	43	41
	09	17.81	18.01	17.92	27.49	27.51	27.50	19.53	19.59	19.55	33	41	38
	10	17.14	17.38	17.23	27.47	27.49	27.49	19.66	19.73	19.71	24	44	38
	11	18.39	18.45	18.41	27.46	27.46	27.46	19.40	19.42	19.41	22	36	33
	12	17.82	17.95	17.85	27.59	27.63	27.62	19.63	19.68	19.67	29	54	46
	13	17.83	18.07	17.89	27.62	27.63	27.63	19.62	19.68	19.66	32	55	49
	14	16.46	17.44	16.97	27.76	28.06	27.92	19.87	20.32	20.09	39	57	45
	15	15.95	16.43	16.11	28.00	28.15	28.12	20.32	20.49	20.44	41	51	45
	16	12.42	15.93	15.30	28.23	28.76	28.33	20.57	21.67	20.77	30	54	44
<b>Survey 96-02</b>													

Survey	Station	Min. Temp. (°C)	Max. Temp. (°C)	Avg. Temp. (°C)	Min. Sal. (PSU)	Max. Sal. (PSU)	Avg. Sal. (PSU)	Min. Dens. (kg/m <sup>3</sup> )	Max. Dens. (kg/m <sup>3</sup> )	Avg. Dens. (kg/m <sup>3</sup> )	Min. Fluor. (rel.)	Max. Fluor. (rel.)	Avg. Fluor. (rel.)
	17	11.12	16.91	15.47	28.15	29.18	28.39	20.29	22.22	20.76	36	49	44
	18	11.09	17.08	14.60	28.10	29.25	28.67	20.33	22.29	21.15	15	41	35
	19	12.53	16.76	14.56	28.23	29.02	28.66	20.41	21.85	21.17	41	56	46
	20	11.10	16.60	13.91	28.43	29.29	28.87	20.57	22.32	21.45	25	55	39
	21	6.02	14.13	8.71	28.99	29.79	29.51	21.53	23.44	22.83	21	56	34
	22	1.38	15.57	7.80	28.75	30.43	29.61	21.21	24.35	22.94	12	91	39
	23	3.91	15.77	9.55	28.74	30.16	29.49	21.08	23.95	22.60	19	80	42
	24	5.57	16.09	11.39	28.67	29.97	29.26	20.95	23.63	22.18	15	96	50
	25	5.60	15.88	10.32	28.45	30.01	29.37	21.02	23.66	22.46	17	91	54
	26	10.66	16.87	13.41	28.35	29.30	28.95	20.61	22.36	21.62	47	125	97
	27	8.05	14.51	13.11	28.73	29.71	28.92	21.28	23.12	21.66	41	77	66
	28	9.60	16.25	15.18	28.44	29.49	28.67	20.71	22.71	21.04	31	76	48
	29	0.39	16.39	7.51	28.50	30.65	29.62	20.68	24.58	22.87	10	137	36
	30	0.42	16.48	7.87	28.51	30.68	29.64	20.68	24.61	22.85	8	112	28
	31	0.43	16.62	7.83	28.39	30.88	29.57	20.54	24.77	22.81	9	82	28
	32	0.29	16.26	9.66	28.54	30.84	29.50	20.94	24.74	22.46	7	65	30
	33	0.58	16.93	10.56	28.54	30.91	29.37	20.79	24.78	22.25	6	37	18
	34	2.44	17.32	11.51	28.51	30.08	29.23	20.73	24.00	22.02	8	67	23
	35	3.78	17.44	12.61	28.25	30.20	29.11	20.72	23.99	21.79	6	46	20
	36	5.68	17.16	14.13	28.64	29.80	29.01	20.77	23.48	21.47	11	65	25
	37	7.60	17.32	13.89	28.80	29.48	29.05	20.71	23.00	21.56	13	65	34
	<b>Average:</b>	<b>8.59</b>	<b>16.78</b>	<b>13.00</b>	<b>27.95</b>	<b>29.26</b>	<b>28.58</b>	<b>20.24</b>	<b>22.49</b>	<b>21.29</b>	<b>21</b>	<b>67</b>	<b>40</b>

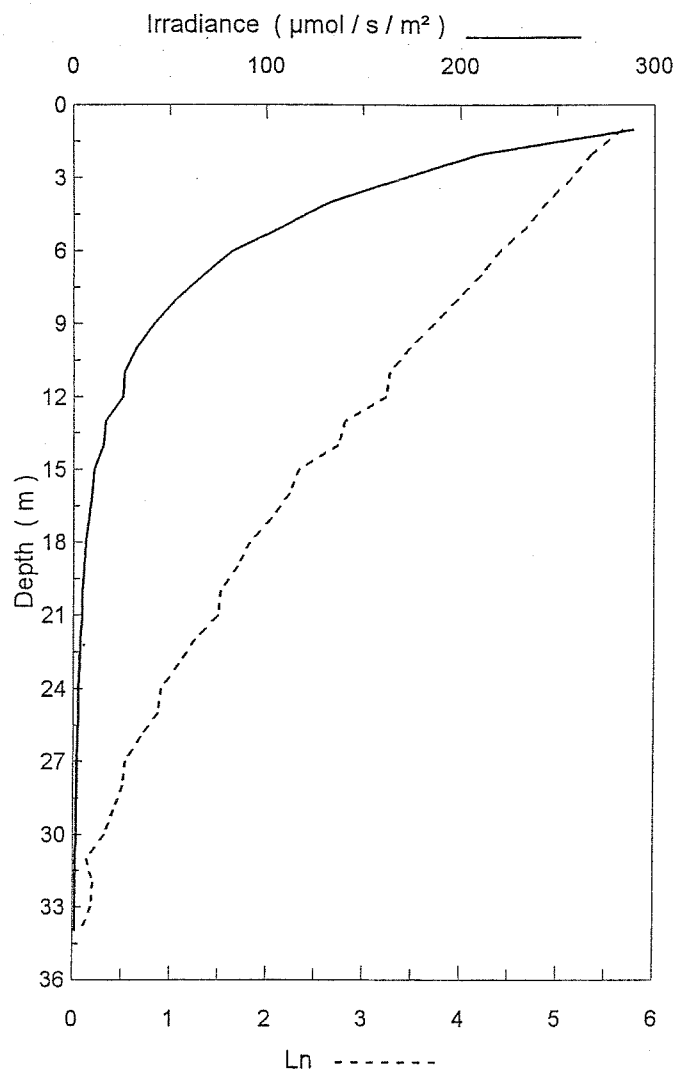




Appendix 6.1 Survey 96-01 irradiance ( $\mu\text{mol} / \text{s} / \text{m}^2$ ) profiles.

Survey 96-01

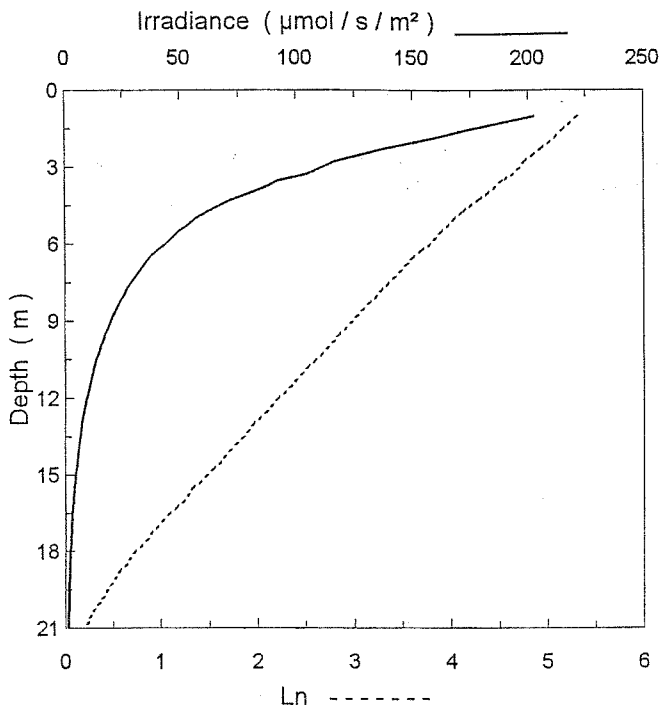
Station 3



Depth (m)	Irradiance ( $\mu\text{mol}/\text{s}/\text{m}^2$ )	Ln Irradiance
1	289	5.67
2	210	5.35
3	171	5.14
4	132	4.88
5	108	4.68
6	82	4.41
7	67	4.20
8	53	3.97
9	42	3.73
10	32	3.48
11	26	3.26
12	25	3.23
13	17	2.80
14	16	2.74
15	10	2.33
16	9	2.23
17	8	2.04
18	6	1.82
19	5	1.69
20	5	1.52
21	4	1.49
22	3	1.25
23	3	1.09
24	2	0.90
25	2	0.87
26	2	0.69
27	2	0.54
28	2	0.51
29	2	0.41
30	1	0.32
31	1	0.14
32	1	0.20
33	1	0.18
34	1	0.09

Survey 96-01

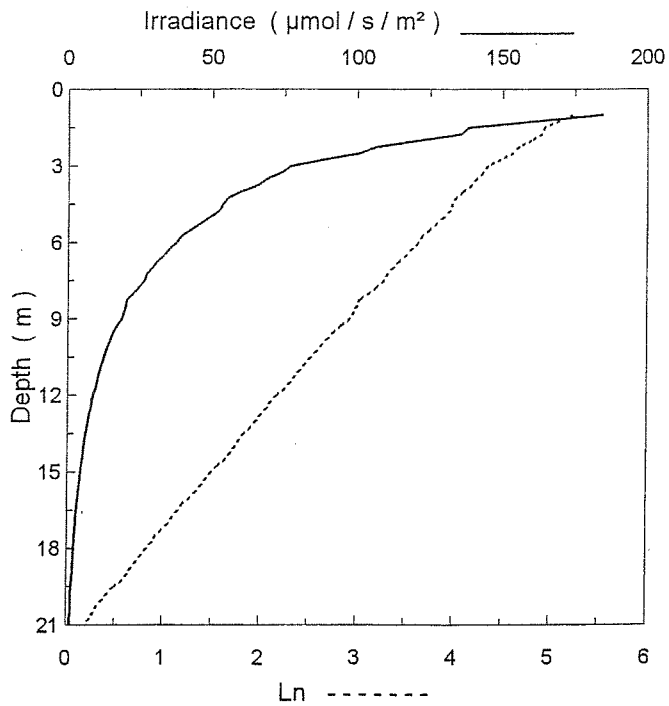
Station 4



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	204	5.32
2	152	5.02
3	109	4.69
4	79	4.37
5	57	4.05
6	43	3.77
7	32	3.48
8	25	3.23
9	20	2.98
10	15	2.73
11	12	2.47
12	9	2.22
13	7	1.97
14	6	1.73
15	4	1.48
16	3	1.23
17	3	0.97
18	2	0.74
19	2	0.53
20	1	0.35
21	1	0.19
22	1	0.05

Survey 96-01

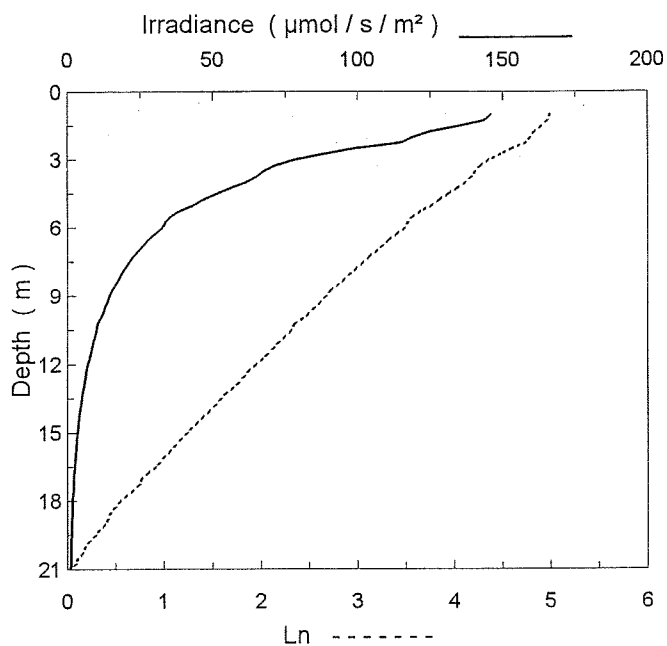
Station 5



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	177	5.18
2	121	4.80
3	81	4.40
4	61	4.10
5	49	3.89
6	38	3.62
7	30	3.39
8	23	3.13
9	18	2.90
10	14	2.64
11	11	2.41
12	9	2.17
13	7	1.96
14	6	1.74
15	4	1.50
16	4	1.27
17	3	1.05
18	2	0.84
19	2	0.62
20	1	0.38
21	1	0.19
22	1	0.02

Survey 96-01

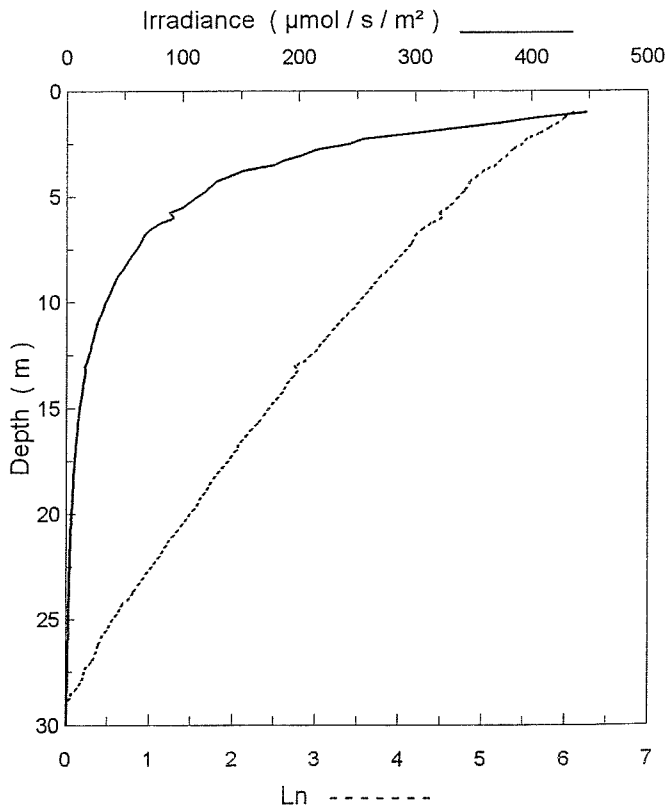
Station 6



Depth ( m )	Irradiance ( µmol/s/m² )	Ln Irradiance
1	146	4.98
2	121	4.79
3	81	4.40
4	61	4.11
5	43	3.75
6	32	3.46
7	24	3.20
8	19	2.93
9	15	2.68
10	11	2.43
11	9	2.19
12	7	1.94
13	6	1.71
14	4	1.48
15	3	1.23
16	3	1.01
17	2	0.78
18	2	0.56
19	1	0.37
20	1	0.20
21	1	0.03

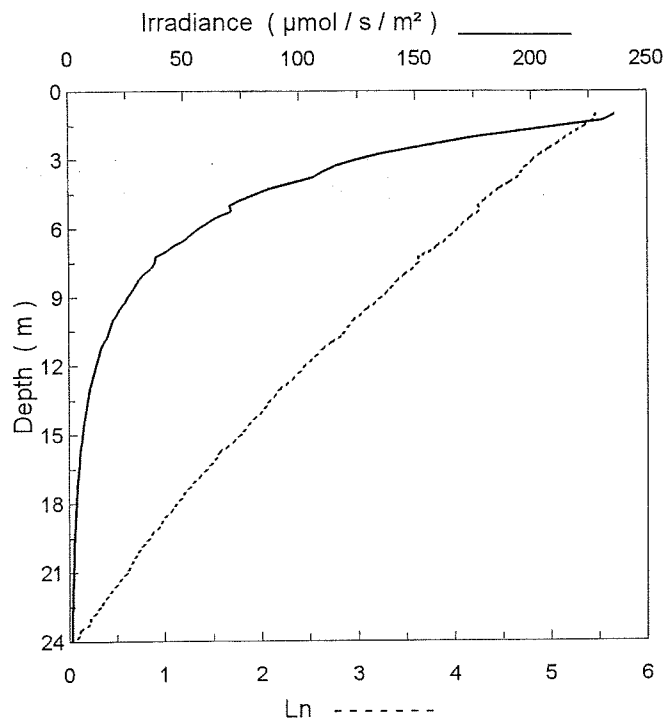
Survey 96-01

Station 7



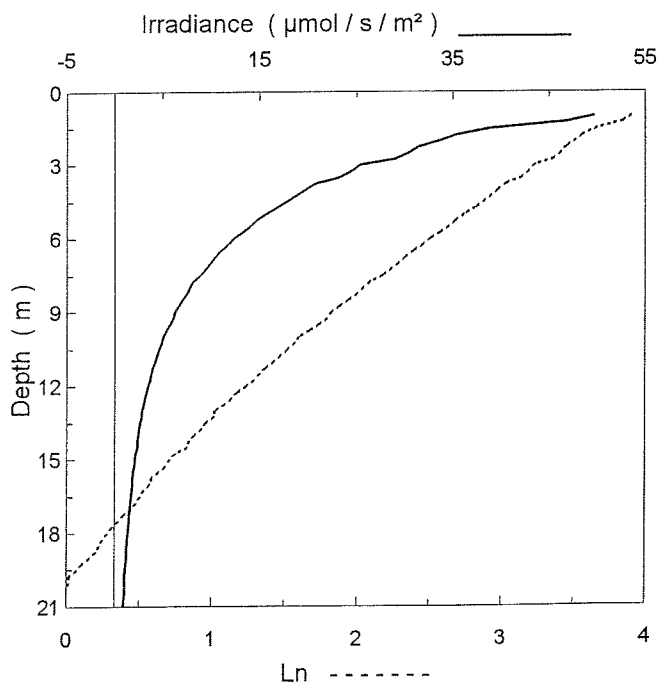
Depth ( m )	Irradiance ( µmol/s/m² )	Ln Irradiance
1	458	6.13
2	298	5.70
3	207	5.33
4	142	4.96
5	111	4.71
6	87	4.47
7	64	4.16
8	54	3.98
9	42	3.74
10	33	3.51
11	26	3.28
12	21	3.06
13	17	2.82
14	14	2.64
15	12	2.44
16	9	2.23
17	8	2.03
18	6	1.84
19	5	1.66
20	4	1.49
21	4	1.30
22	3	1.12
23	3	0.93
24	2	0.75
25	2	0.56
26	2	0.41
27	1	0.29
28	1	0.17
29	1	0.01

Survey 96-01 Station 8



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	236	5.46
2	173	5.15
3	123	4.81
4	96	4.57
5	72	4.27
6	57	4.04
7	43	3.76
8	33	3.49
9	26	3.24
10	19	2.95
11	15	2.72
12	12	2.46
13	9	2.22
14	7	1.99
15	6	1.78
16	5	1.54
17	4	1.32
18	3	1.12
19	3	0.93
20	2	0.74
21	2	0.59
22	1	0.40
23	1	0.23
24	1	0.05

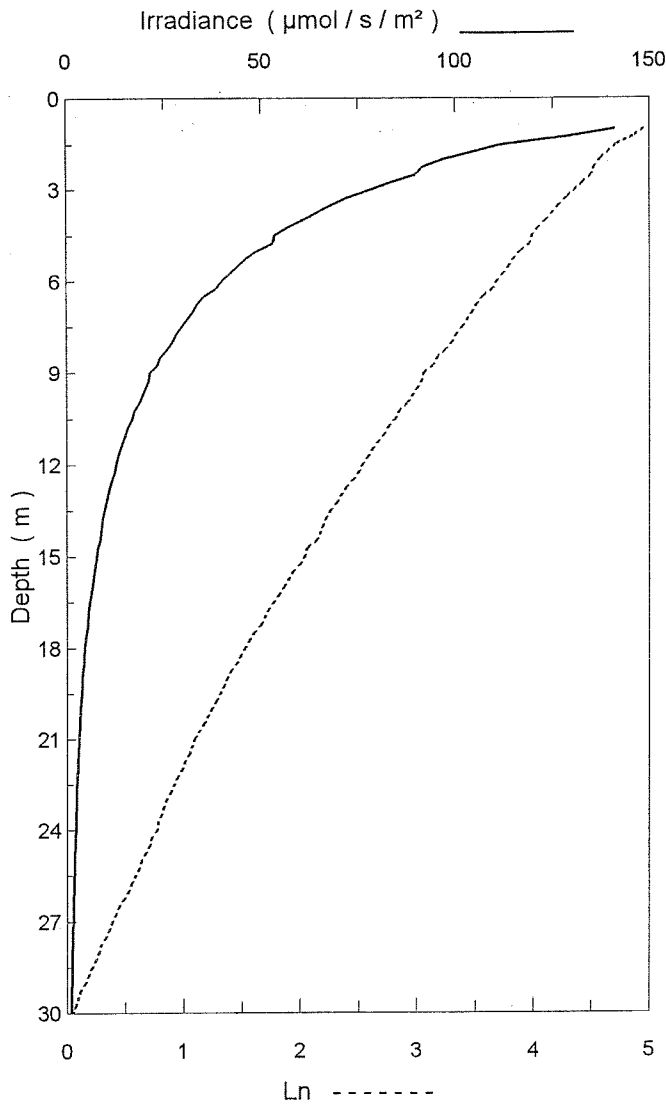
Survey 96-01 Station 9



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	50	3.91
2	34	3.53
3	27	3.28
4	20	2.99
5	16	2.75
6	12	2.52
7	10	2.28
8	8	2.05
9	6	1.83
10	5	1.63
11	4	1.42
12	3	1.24
13	3	1.05
14	2	0.89
15	2	0.72
16	2	0.57
17	2	0.44
18	1	0.28
19	1	0.15
20	1	0.01

Survey 96-01

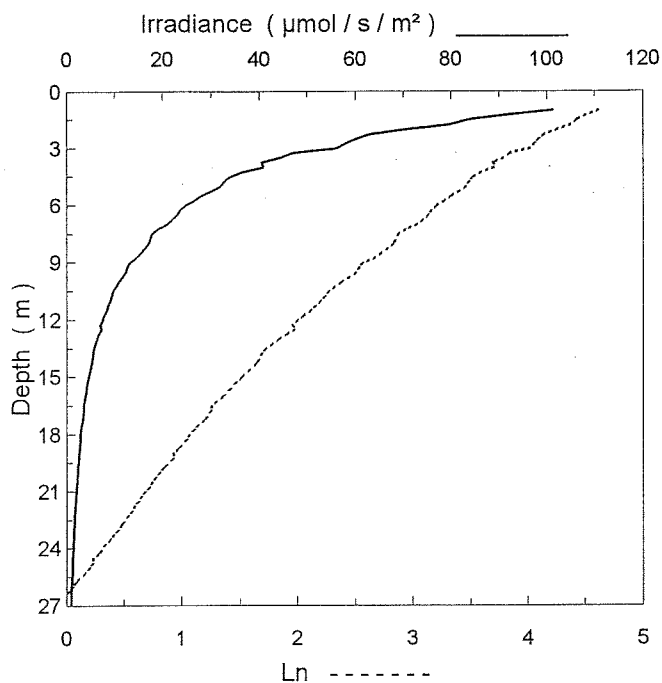
Station 10



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	140	4.94
2	97	4.57
3	78	4.36
4	60	4.10
5	49	3.89
6	40	3.69
7	32	3.47
8	27	3.29
9	22	3.09
10	18	2.91
11	15	2.72
12	13	2.55
13	11	2.36
14	9	2.19
15	8	2.04
16	6	1.86
17	5	1.69
18	5	1.53
19	4	1.38
20	3	1.24
21	3	1.11
22	3	0.98
23	2	0.86
24	2	0.75
25	2	0.65
26	2	0.52
27	1	0.39
28	1	0.27
29	1	0.15
30	1	0.04

Survey 96-01

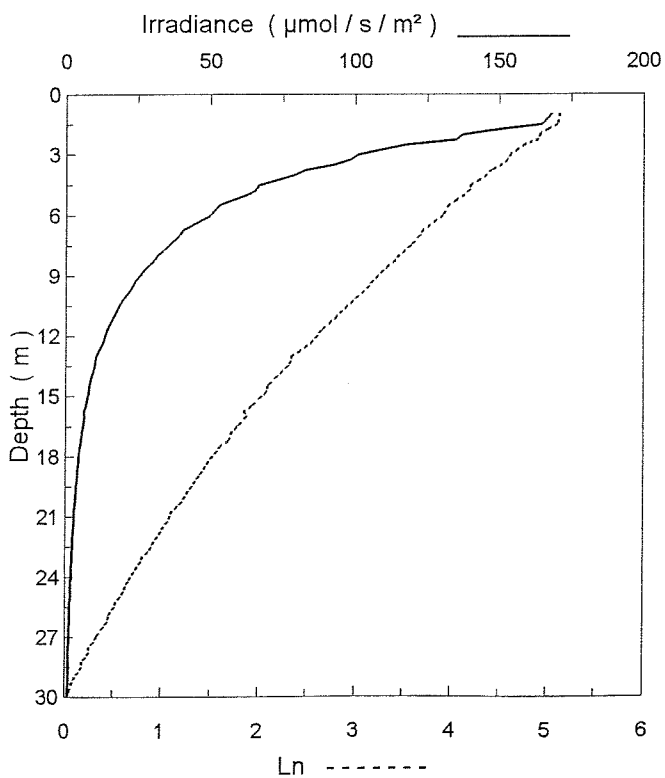
Station 11



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	101	4.62
2	71	4.27
3	54	3.98
4	40	3.68
5	31	3.44
6	25	3.22
7	21	3.03
8	17	2.82
9	13	2.59
10	11	2.39
11	9	2.21
12	8	2.02
13	6	1.85
14	5	1.66
15	5	1.51
16	4	1.34
17	3	1.22
18	3	1.07
19	3	0.95
20	2	0.81
21	2	0.68
22	2	0.56
23	2	0.45
24	1	0.30
25	1	0.20
26	1	0.06

Survey 96-01

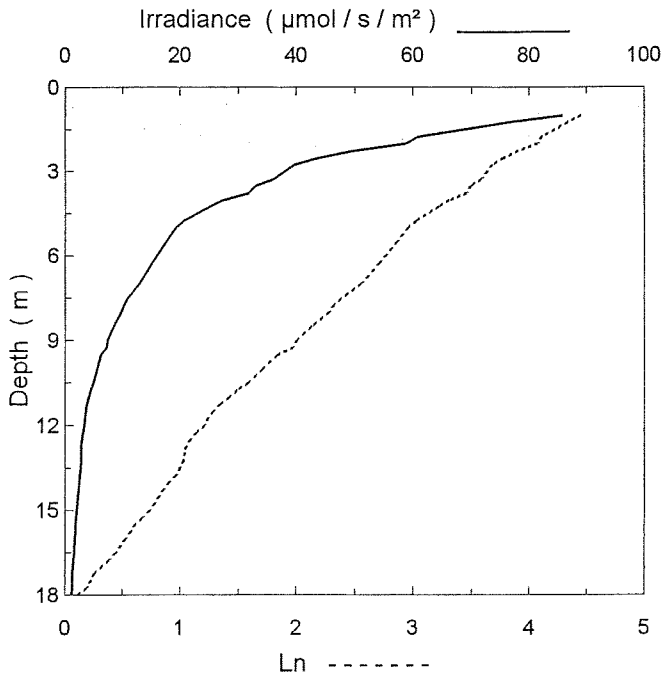
Station 12



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	168	5.12
2	141	4.95
3	102	4.62
4	79	4.37
5	62	4.12
6	49	3.89
7	39	3.66
8	32	3.47
9	25	3.24
10	21	3.04
11	17	2.81
12	14	2.60
13	11	2.38
14	9	2.19
15	8	2.03
16	6	1.84
17	5	1.70
18	5	1.53
19	4	1.38
20	3	1.24
21	3	1.09
22	3	0.95
23	2	0.82
24	2	0.68
25	2	0.57
26	2	0.46
27	1	0.33
28	1	0.22
29	1	0.11
30	1	0.01

Survey 96-01

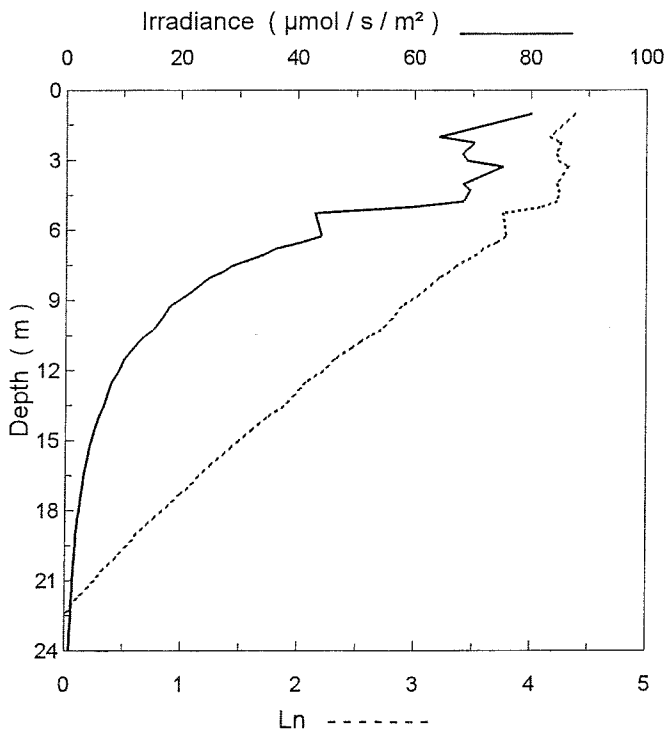
Station 13



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	86	4.46
2	57	4.04
3	37	3.61
4	28	3.32
5	19	2.95
6	16	2.77
7	13	2.53
8	10	2.27
9	7	2.00
10	5	1.70
11	4	1.43
12	3	1.19
13	3	1.05
14	2	0.90
15	2	0.73
16	2	0.52
17	1	0.32
18	1	0.12

Survey 96-01

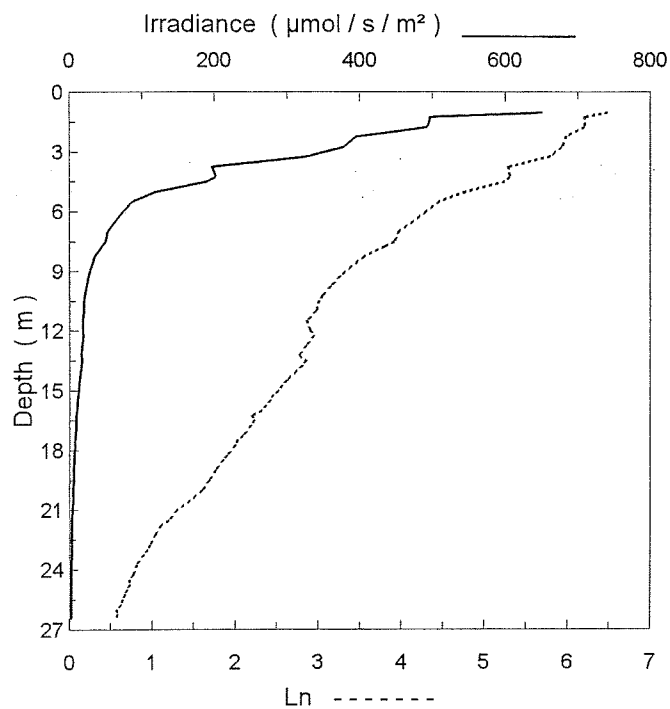
Station 14



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	81	4.39
2	68	4.22
3	69	4.23
4	72	4.27
5	58	4.06
6	45	3.81
7	34	3.53
8	25	3.23
9	20	2.97
10	16	2.76
11	12	2.46
12	9	2.22
13	7	1.98
14	6	1.74
15	4	1.50
16	4	1.26
17	3	1.05
18	2	0.84
19	2	0.63
20	2	0.43
21	1	0.25
22	1	0.07

Survey 96-01

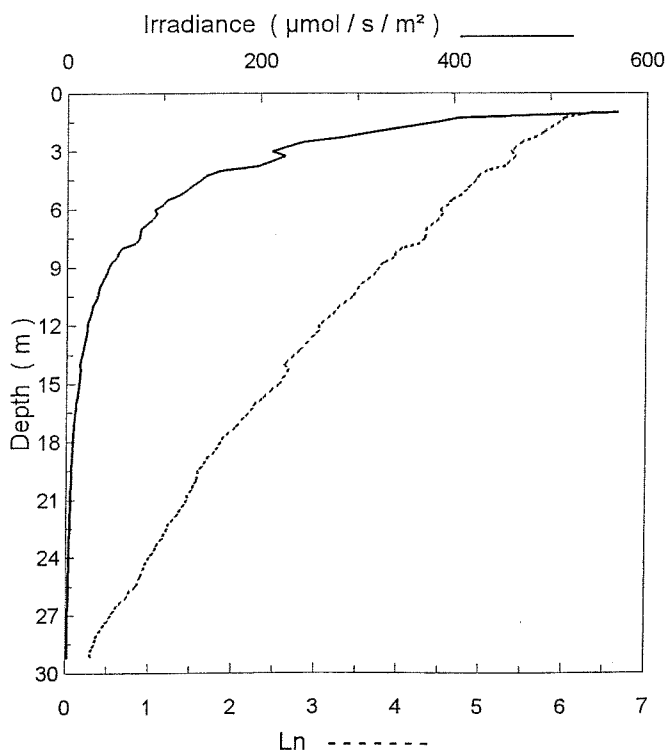
Station 15



Depth ( m )	Irradiance ( µmol/s/m <sup>2</sup> )	Ln Irradiance
1	652	6.48
2	441	6.09
3	345	5.84
4	202	5.31
5	127	4.84
6	67	4.21
7	56	4.02
8	41	3.71
9	28	3.33
10	22	3.10
11	19	2.95
12	19	2.92
13	17	2.84
14	16	2.75
15	12	2.52
16	10	2.31
17	8	2.13
18	7	1.95
19	6	1.76
20	5	1.59
21	4	1.30
22	3	1.07
23	3	0.93
24	2	0.78
25	2	0.69
26	2	0.60
27	2	0.52

Survey 96-01

Station 16

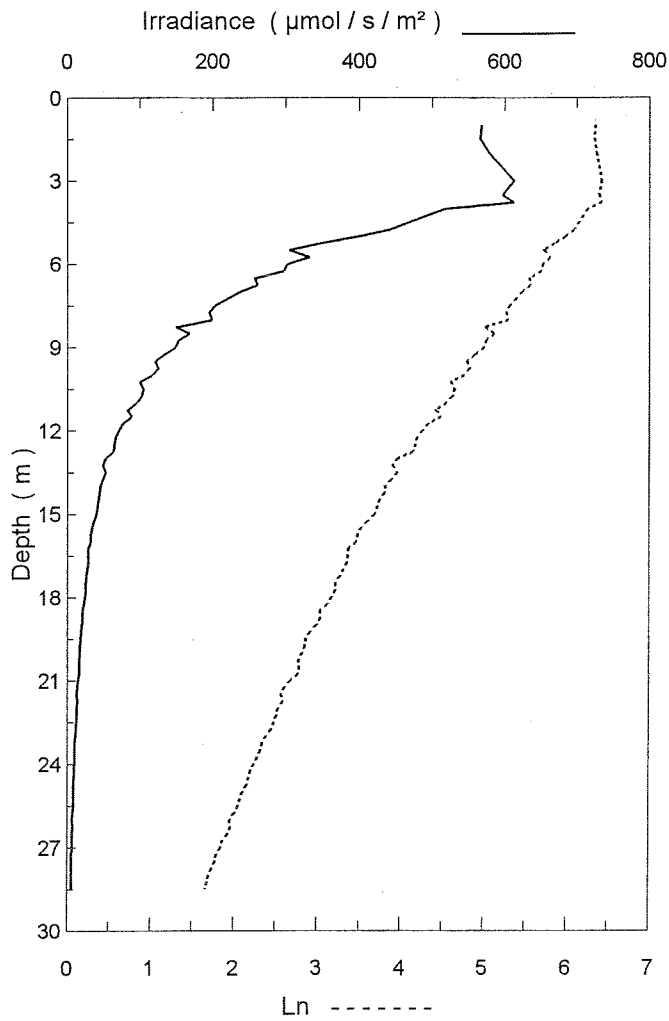


Depth ( m )	Irradiance ( µmol/s/m <sup>2</sup> )	Ln Irradiance
1	570	6.35
2	268	5.59
3	207	5.33
4	170	5.14
5	122	4.80
6	93	4.53
7	79	4.37
8	60	4.09
9	43	3.77
10	34	3.52
11	27	3.30
12	21	3.07
13	17	2.85
14	14	2.66
15	13	2.53
16	10	2.29
17	8	2.08
18	6	1.86
19	5	1.67
20	5	1.55
21	4	1.45
22	4	1.29
23	3	1.15
24	3	1.00
25	2	0.89
26	2	0.73
27	2	0.53
28	1	0.39
29	1	0.31



Survey 96-01

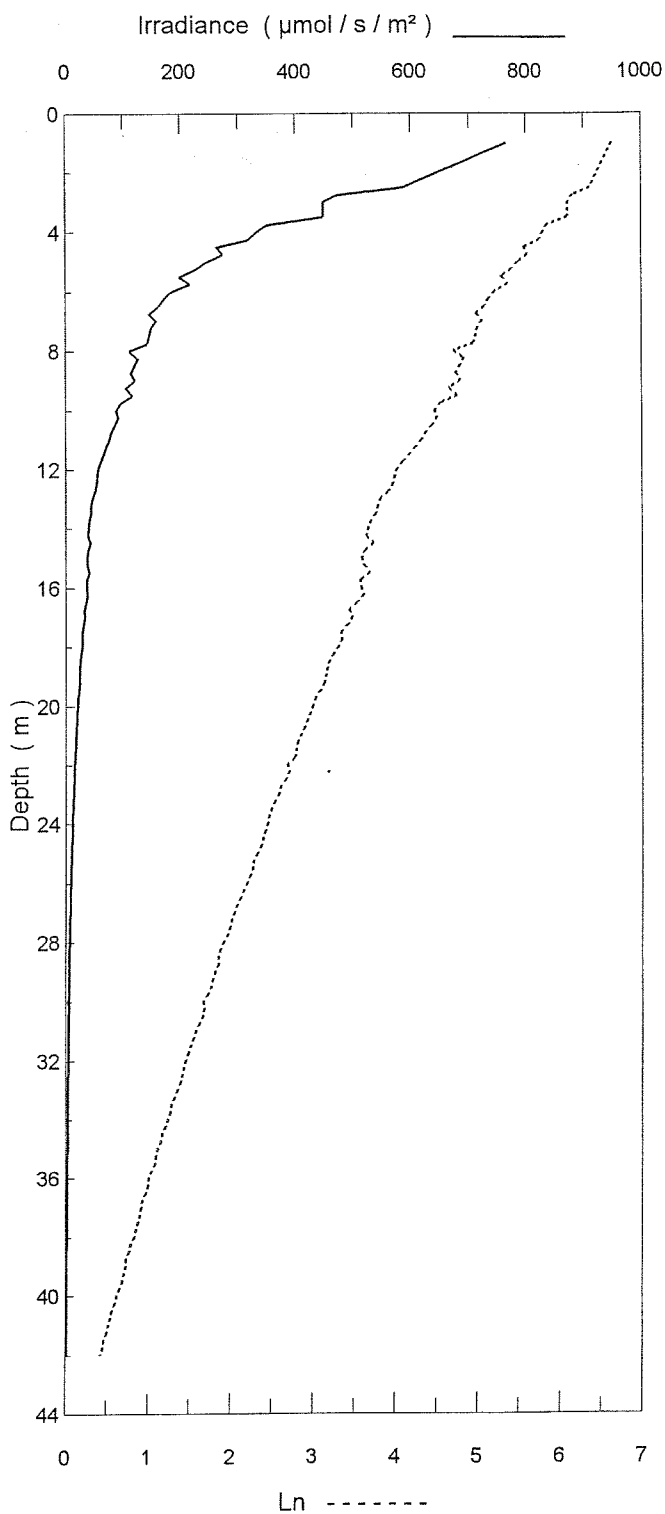
Station 17



Depth ( m )	Irradiance ( µmol/s/m <sup>2</sup> )	Ln Irradiance
1	567	6.34
2	857	6.75
3	666	6.50
4	568	6.34
5	394	5.98
6	312	5.74
7	235	5.46
8	187	5.23
9	145	4.97
10	113	4.73
11	92	4.52
12	71	4.26
13	57	4.04
14	47	3.84
15	39	3.67
16	31	3.43
17	27	3.30
18	23	3.15
19	19	2.97
20	17	2.83
21	15	2.68
22	13	2.54
23	11	2.38
24	9	2.24
25	8	2.11
26	7	1.98
27	6	1.84
28	6	1.71
29	5	1.58

Survey 96-01

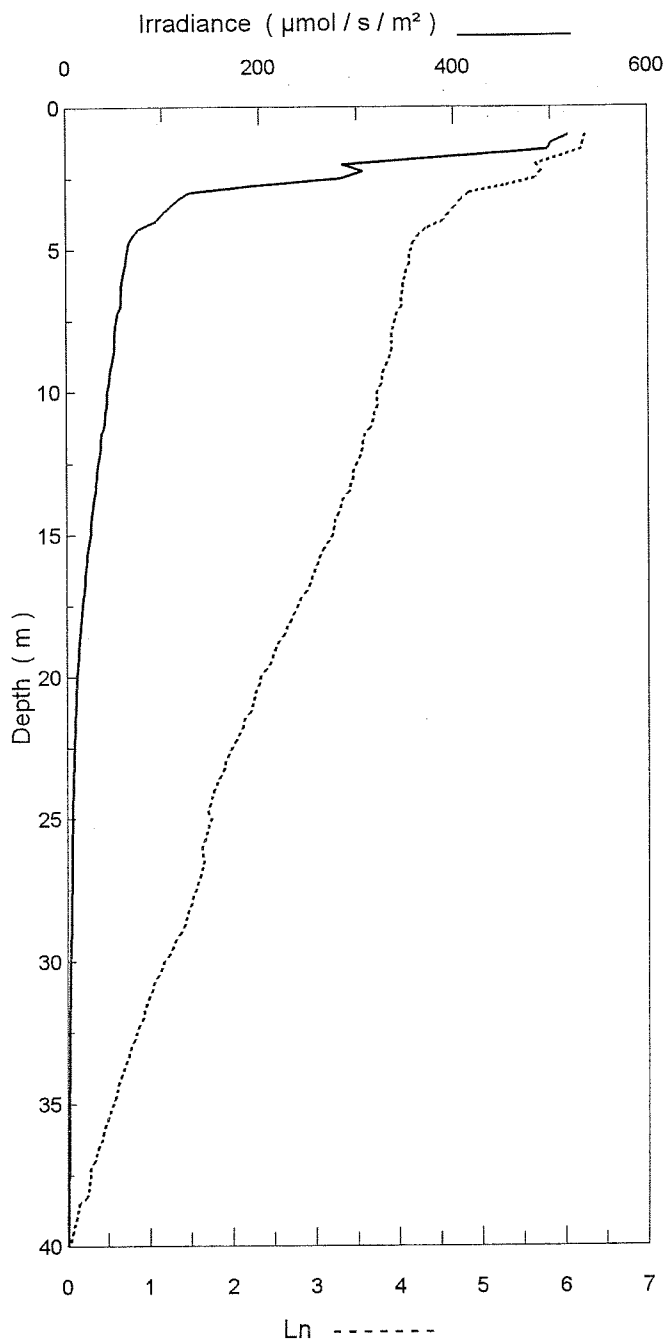
Station 18



Depth ( m )	Irradiance ( µmol/s/m² )	Ln Irradiance
1	766	6.64
2		
3	453	6.12
4	351	5.86
5	240	5.48
6	186	5.22
7	152	5.02
8	129	4.86
9	111	4.71
10	97	4.57
11	75	4.32
12	57	4.05
13	47	3.86
14	41	3.71
15	38	3.64
16	37	3.61
17	31	3.45
18	27	3.30
19	23	3.15
20	20	3.00
21	17	2.86
22	15	2.73
23	13	2.58
24	11	2.43
25	10	2.32
26	9	2.20
27	8	2.05
28	7	1.92
29	6	1.82
30	5	1.70
31	5	1.58
32	4	1.46
33	4	1.36
34	3	1.24
35	3	1.13
36	3	1.01
37	2	0.91
38	2	0.83
39	2	0.73
40	2	0.62
41	2	0.51
42	2	0.42

Survey 96-01

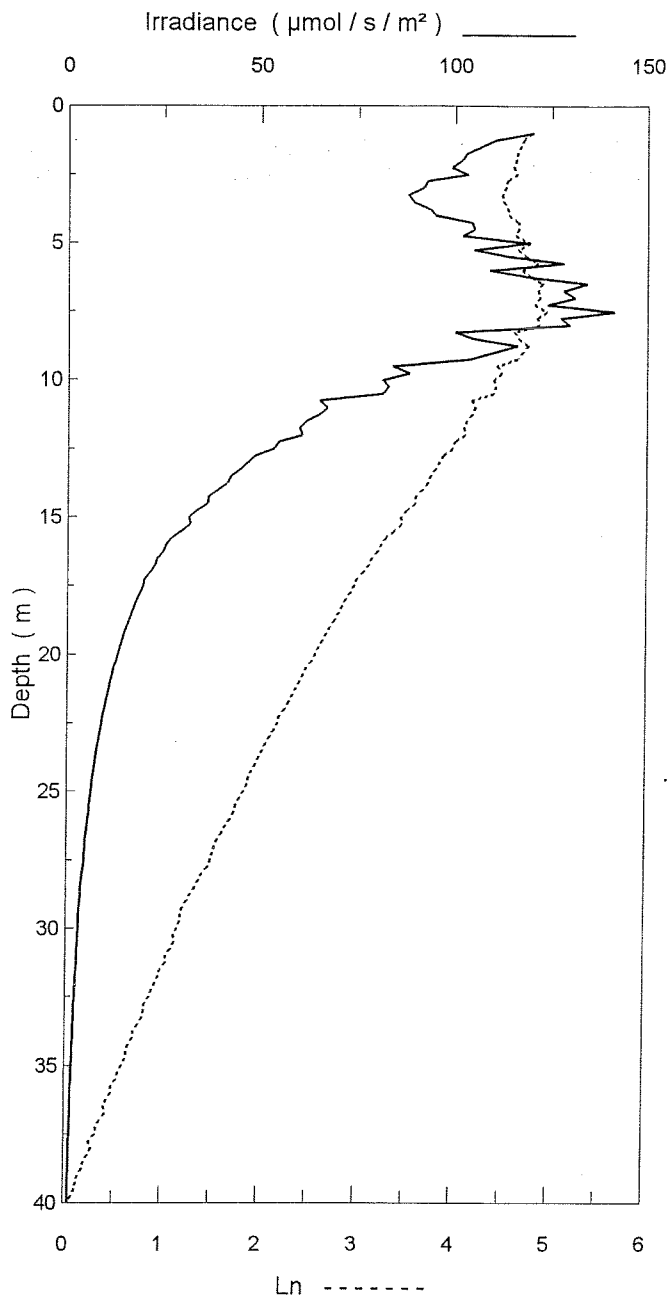
Station 19



Depth ( m )	Irradiance ( µmol/s/m² )	Ln Irradiance
1	524	6.26
2	356	5.87
3	150	5.01
4	88	4.47
5	65	4.17
6	58	4.07
7	55	4.01
8	51	3.93
9	47	3.85
10	43	3.76
11	39	3.67
12	35	3.55
13	31	3.44
14	27	3.30
15	24	3.18
16	21	3.02
17	18	2.87
18	15	2.69
19	13	2.53
20	11	2.36
21	9	2.23
22	8	2.08
23	7	1.92
24	6	1.77
25	6	1.71
26	5	1.64
27	5	1.61
28	4	1.49
29	4	1.36
30	3	1.19
31	3	1.02
32	2	0.89
33	2	0.78
34	2	0.65
35	2	0.55
36	2	0.44
37	1	0.31
38	1	0.24
39	1	0.11
40	1	0.02

Survey 96-01

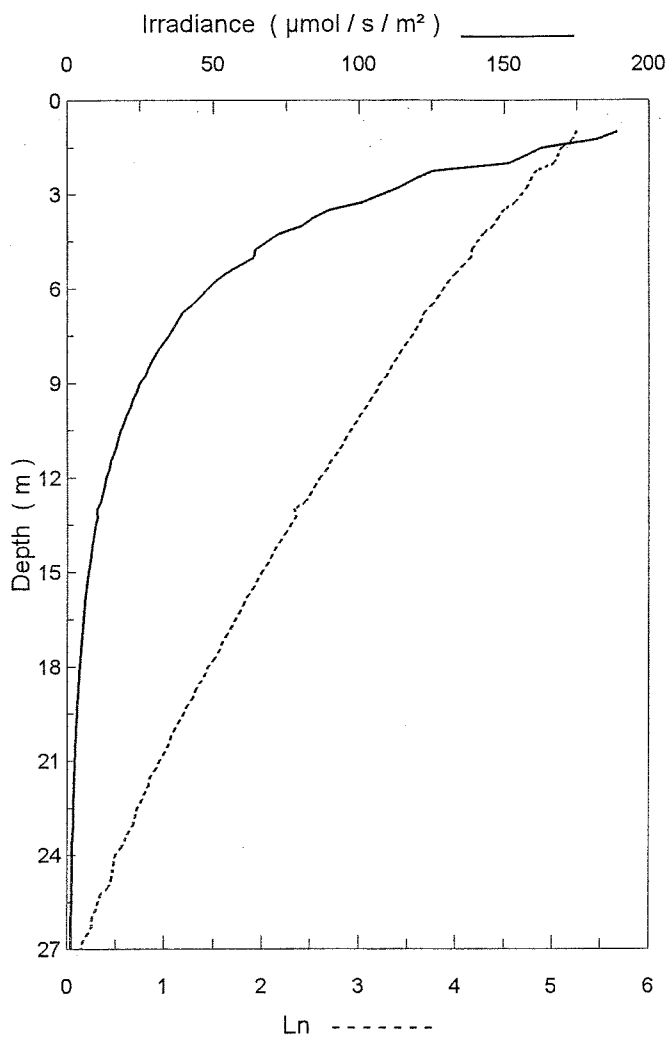
Station 20



Depth ( m )	Irradiance ( $\mu\text{mol}/\text{s}/\text{m}^2$ )	Ln Irradiance
1	119	4.78
2	102	4.63
3	90	4.51
4	96	4.57
5	109	4.69
6	121	4.80
7	132	4.88
8	122	4.80
9	106	4.66
10	86	4.45
11	68	4.22
12	58	4.06
13	47	3.85
14	39	3.66
15	32	3.48
16	26	3.25
17	21	3.06
18	18	2.88
19	15	2.72
20	13	2.56
21	11	2.40
22	10	2.25
23	8	2.10
24	7	1.95
25	6	1.83
26	5	1.69
27	5	1.54
28	4	1.42
29	3	1.25
30	3	1.15
31	3	1.05
32	3	0.93
33	2	0.81
34	2	0.69
35	2	0.59
36	2	0.47
37	1	0.37
38	1	0.26
39	1	0.15
40	1	0.05

Survey 96-01

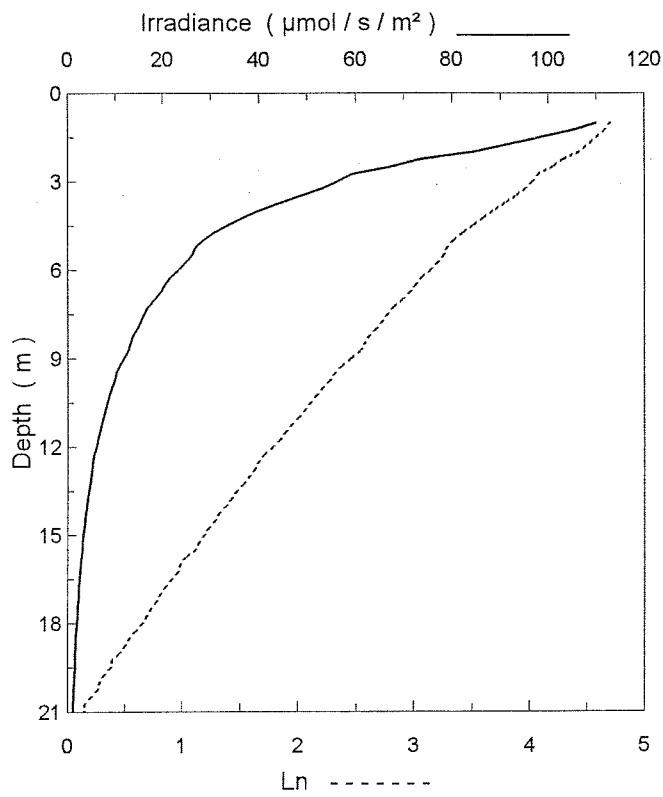
Station 21



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	190	5.25
2	141	4.95
3	105	4.65
4	78	4.36
5	62	4.12
6	48	3.87
7	38	3.65
8	31	3.43
9	25	3.23
10	21	3.02
11	17	2.82
12	14	2.61
13	11	2.40
14	9	2.19
15	7	2.01
16	6	1.81
17	5	1.64
18	4	1.46
19	4	1.29
20	3	1.11
21	3	0.95
22	2	0.79
23	2	0.67
24	2	0.51
25	1	0.40
26	1	0.27
27	1	0.13
28	1	0.01

Survey 96-01

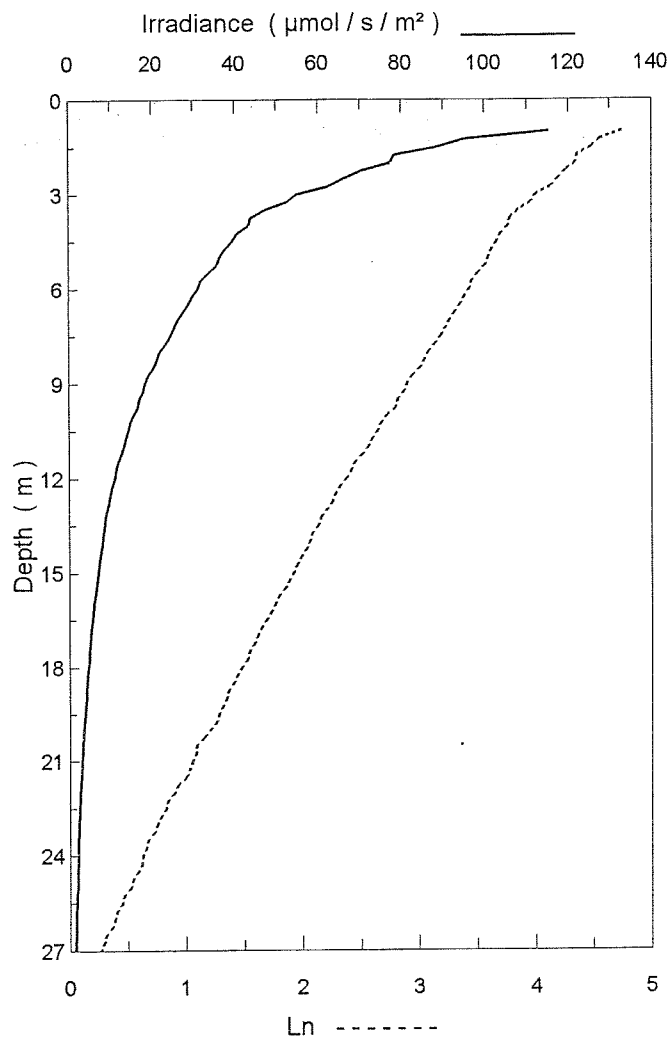
Station 22



Depth ( m )	Irradiance ( $\mu\text{mol}/\text{s}/\text{m}^2$ )	Ln Irradiance
1	114	4.74
2	82	4.41
3	56	4.02
4	40	3.69
5	29	3.37
6	23	3.15
7	18	2.90
8	14	2.67
9	12	2.45
10	9	2.22
11	7	2.01
12	6	1.79
13	5	1.58
14	4	1.38
15	3	1.19
16	3	1.01
17	2	0.82
18	2	0.64
19	2	0.45
20	1	0.29
21	1	0.13

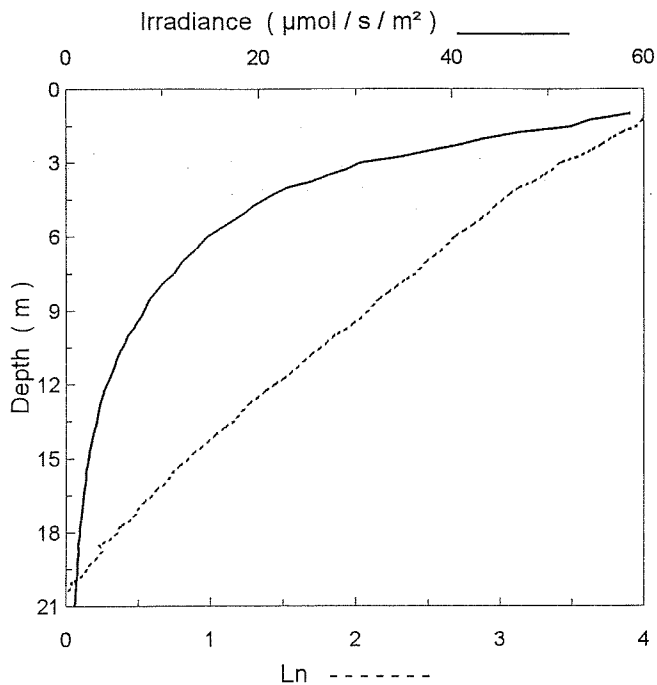
Survey 96-01

Station 23



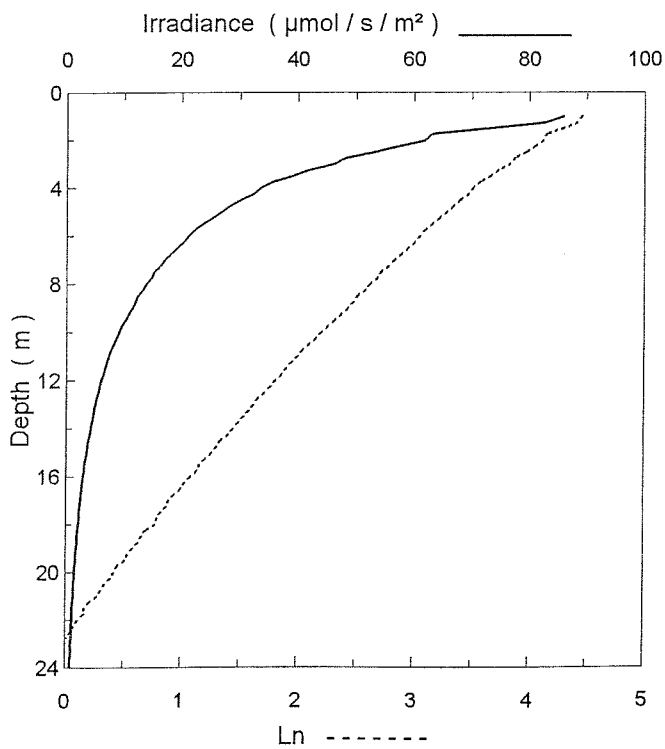
Depth ( m )	Irradiance ( $\mu\text{mol}/\text{s}/\text{m}^2$ )	Ln Irradiance
1	115	4.74
2	76	4.33
3	57	4.04
4	42	3.75
5	37	3.60
6	31	3.42
7	26	3.27
8	22	3.10
9	18	2.92
10	16	2.74
11	13	2.56
12	11	2.38
13	9	2.22
14	8	2.07
15	7	1.92
16	6	1.77
17	5	1.62
18	4	1.48
19	4	1.34
20	3	1.20
21	3	1.06
22	2	0.89
23	2	0.75
24	2	0.63
25	2	0.51
26	1	0.38
27	1	0.26
28	1	0.12

Survey 96-01 Station 24



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	59	4.07
2	44	3.78
3	32	3.46
4	23	3.15
5	18	2.92
6	15	2.69
7	12	2.50
8	10	2.28
9	8	2.08
10	7	1.87
11	5	1.65
12	4	1.44
13	3	1.23
14	3	1.05
15	2	0.84
16	2	0.67
17	2	0.52
18	1	0.35
19	1	0.21
20	1	0.06

Survey 96-01 Station 25



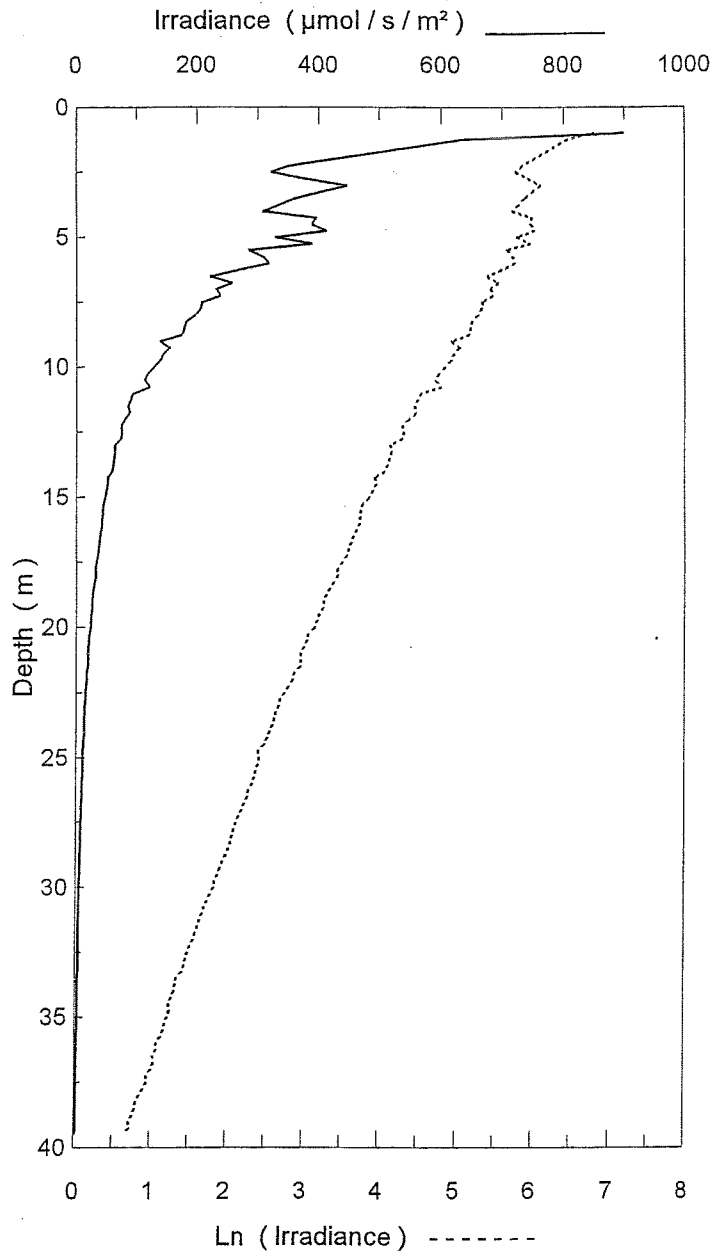
Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	86	4.45
2	62	4.12
3	45	3.81
4	34	3.53
5	27	3.28
6	21	3.05
7	17	2.84
8	14	2.63
9	11	2.43
10	9	2.22
11	7	2.00
12	6	1.81
13	5	1.63
14	4	1.44
15	4	1.25
16	3	1.08
17	2	0.91
18	2	0.75
19	2	0.58
20	2	0.43
21	1	0.26
22	1	0.11



Appendix 6.2 Survey 96-02 irradiance ( $\mu\text{mol} / \text{s} / \text{m}^2$ ) profiles.

Survey 96-02

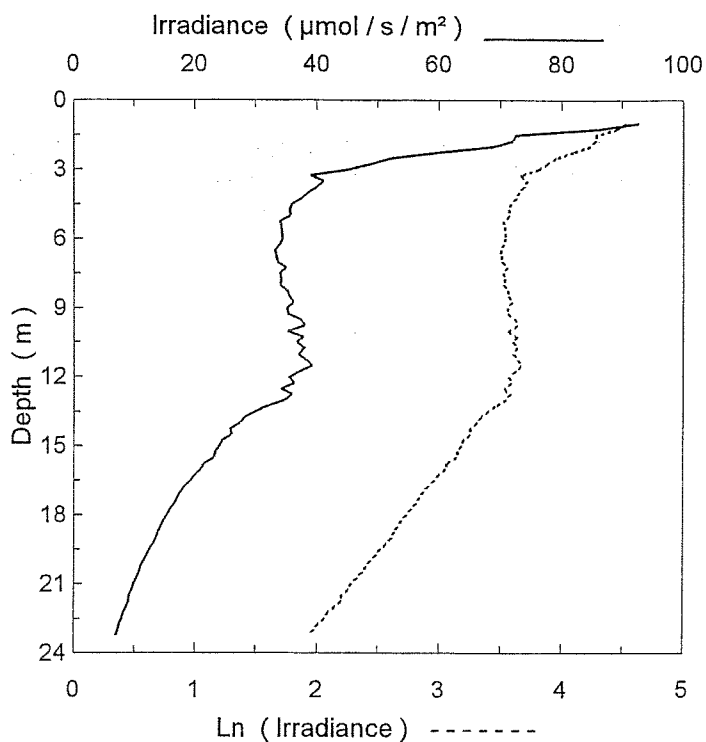
Station 1



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	898	6.80
2	636	6.46
3	337	5.82
4	355	5.87
5	370	5.91
6	282	5.64
7	230	5.44
8	193	5.26
9	157	5.06
10	127	4.85
11	99	4.60
12	80	4.38
13	67	4.21
14	56	4.03
15	46	3.84
16	41	3.72
17	36	3.59
18	31	3.43
19	26	3.27
20	23	3.12
21	20	2.99
22	17	2.84
23	14	2.65
24	13	2.55
25	11	2.41
26	10	2.31
27	9	2.18
28	8	2.06
29	7	1.94
30	6	1.80
31	5	1.68
32	5	1.55
33	4	1.43
34	4	1.30
35	3	1.22
36	3	1.10
37	3	0.99
38	2	0.86
39	2	0.73

Survey 96-02

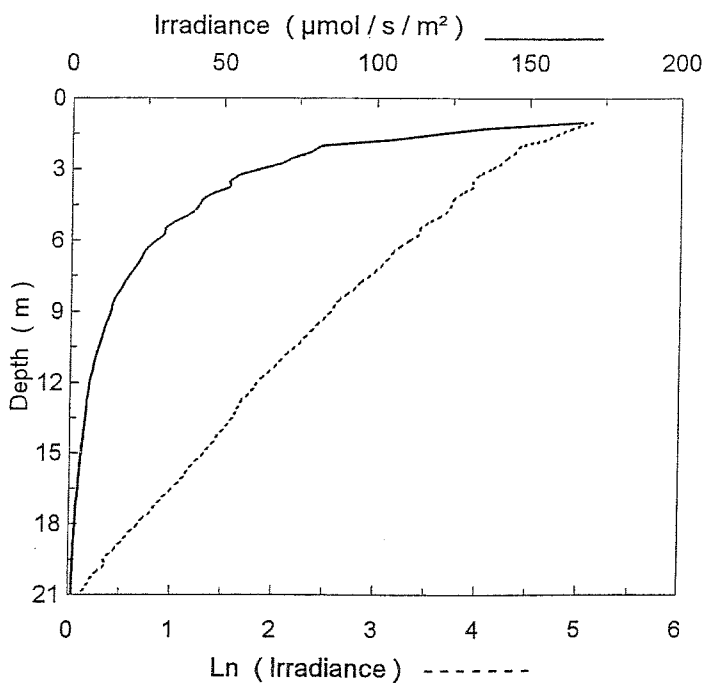
Station 2



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	93	4.54
2	66	4.20
3	45	3.80
4	39	3.65
5	35	3.55
6	34	3.53
7	34	3.51
8	34	3.54
9	36	3.58
10	37	3.61
11	38	3.64
12	36	3.60
13	34	3.52
14	28	3.31
15	24	3.18
16	21	3.04
17	18	2.87
18	15	2.73
19	13	2.60
20	11	2.44
21	10	2.29
22	8	2.14
23	7	1.98

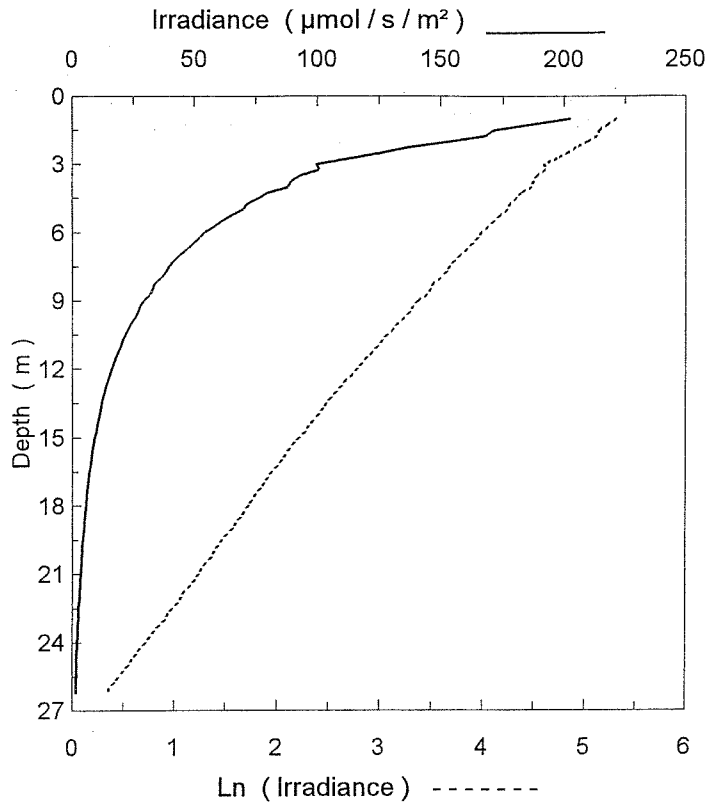
Survey 96-02

Station 3



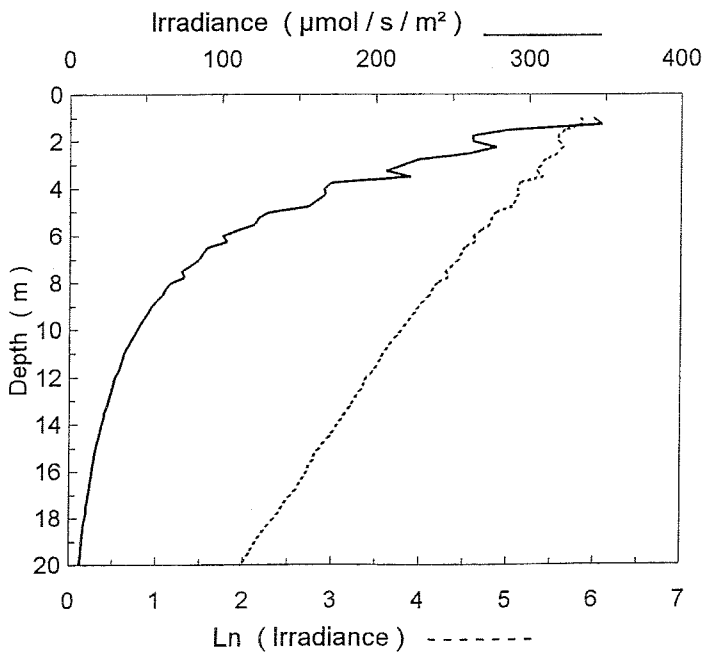
Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	160	5.07
2	90	4.50
3	62	4.13
4	47	3.85
5	37	3.60
6	28	3.33
7	21	3.06
8	16	2.79
9	13	2.55
10	10	2.33
11	8	2.08
12	6	1.85
13	5	1.66
14	5	1.51
15	4	1.32
16	3	1.12
17	2	0.89
18	2	0.68
19	2	0.46
20	1	0.29
21	1	0.11

Survey 96-02 Station 4



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	214	5.36
2	150	5.01
3	106	4.67
4	86	4.46
5	69	4.23
6	55	4.00
7	44	3.79
8	36	3.59
9	30	3.40
10	24	3.19
11	20	2.98
12	16	2.78
13	13	2.58
14	11	2.40
15	9	2.23
16	8	2.05
17	7	1.87
18	6	1.72
19	5	1.56
20	4	1.39
21	3	1.24
22	3	1.06
23	2	0.90
24	2	0.71
25	2	0.55
26	1	0.37

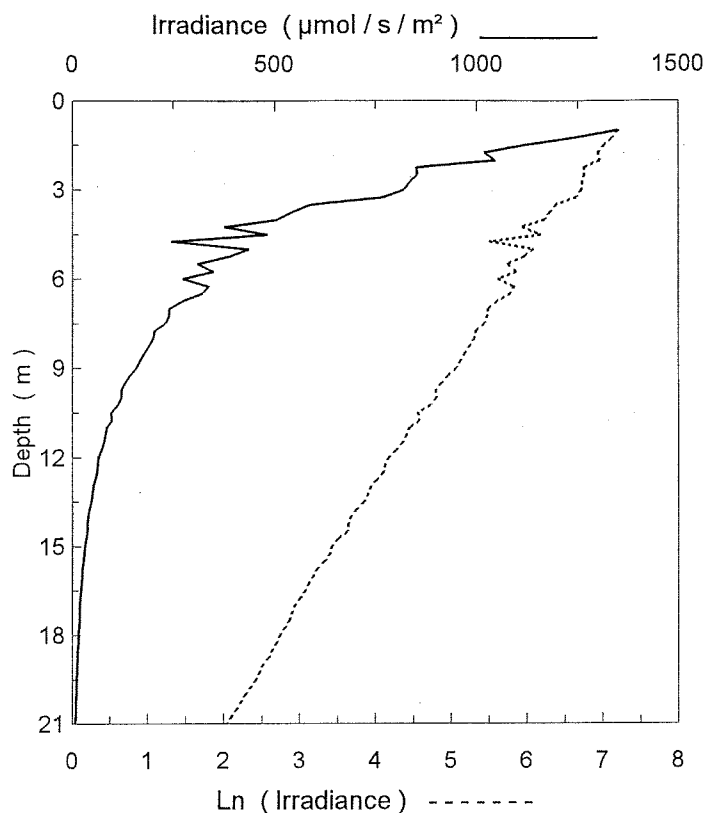
Survey 96-02 Station 5



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	342	5.83
2	269	5.59
3	224	5.41
4	171	5.14
5	137	4.92
6	106	4.66
7	84	4.43
8	68	4.22
9	54	4.00
10	44	3.78
11	36	3.59
12	30	3.40
13	25	3.24
14	21	3.06
15	18	2.86
16	15	2.71
17	13	2.53
18	10	2.34
19	8	2.14
20	7	1.95

Survey 96-02

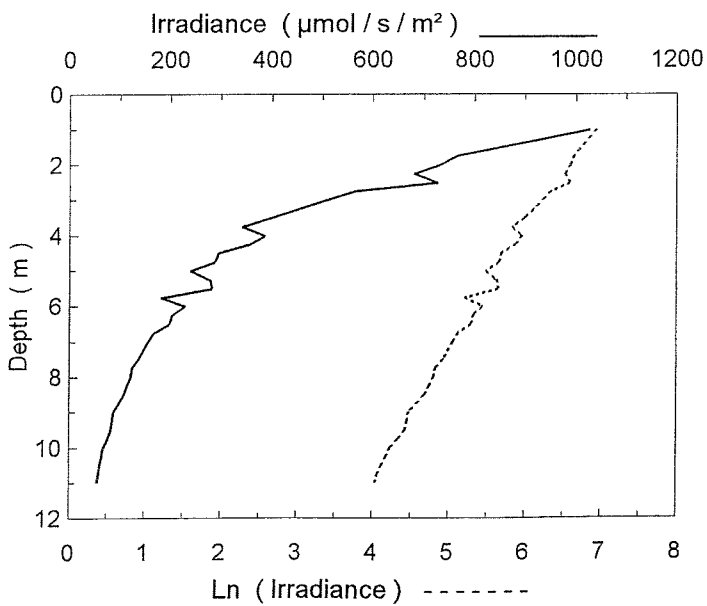
Station 6



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	1348	7.21
2	995	6.90
3	779	6.66
4	466	6.14
5	411	6.02
6	310	5.74
7	266	5.58
8	201	5.30
9	155	5.04
10	115	4.75
11	89	4.49
12	66	4.20
13	53	3.96
14	40	3.69
15	31	3.45
16	24	3.18
17	19	2.95
18	16	2.75
19	12	2.52
20	10	2.29
21	8	2.04
22	6	1.82

Survey 96-02

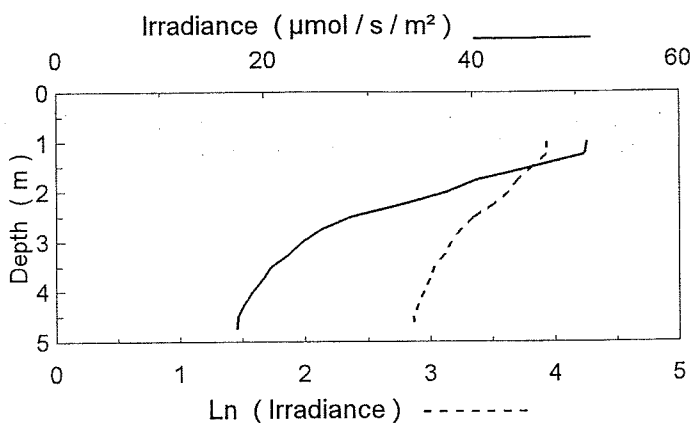
Station 7



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	1027	6.93
2	731	6.59
3	544	6.30
4	354	5.87
5	272	5.61
6	206	5.33
7	162	5.08
8	121	4.79
9	91	4.51
10	71	4.26
11	55	4.01

Survey 96-02

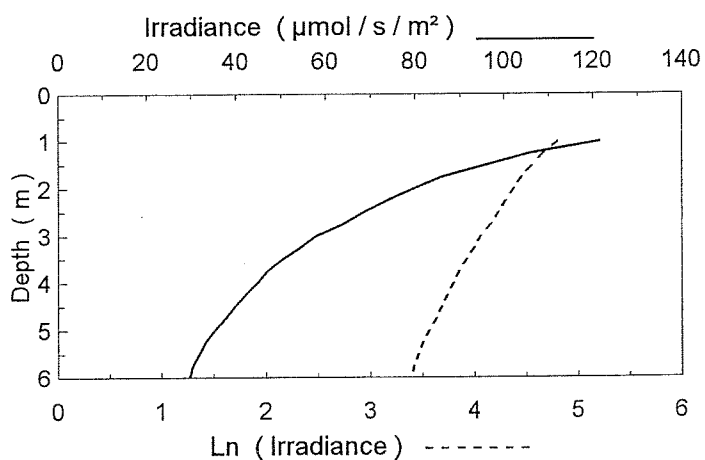
Station 8



Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	59	4.07
2	37	3.62
3	24	3.17
4	19	2.94

Survey 96-02

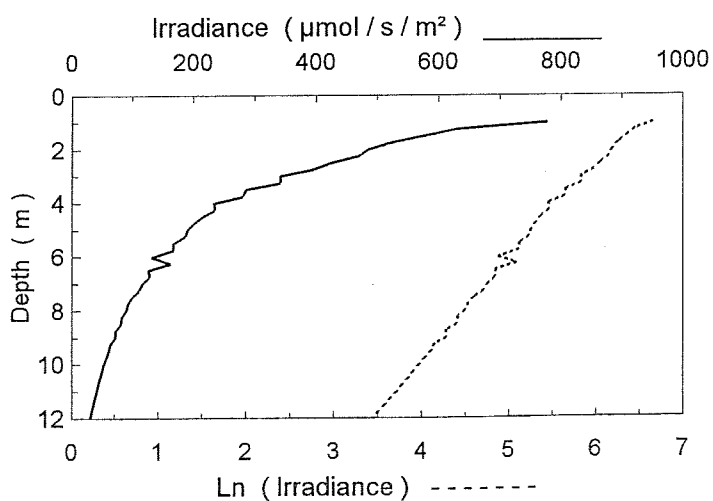
Station 9



Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	121	4.79
2	81	4.39
3	59	4.08
4	44	3.79
5	35	3.56
6	29	3.38

Survey 96-02

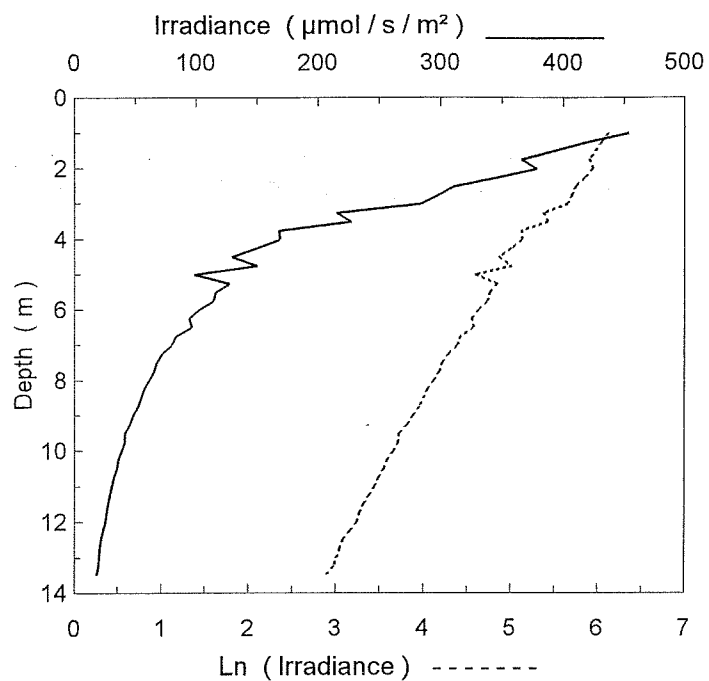
Station 10



Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	777	6.66
2	490	6.19
3	355	5.87
4	252	5.53
5	192	5.26
6	146	4.98
7	117	4.76
8	88	4.48
9	70	4.25
10	54	3.98
11	41	3.72
12	31	3.44

Survey 96-02

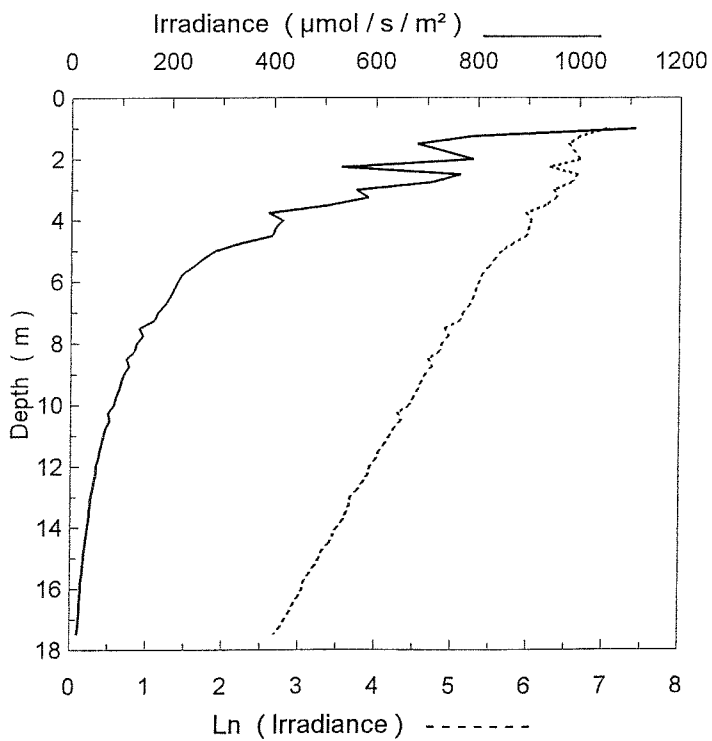
Station 11



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	454	6.12
2	364	5.90
3	275	5.62
4	170	5.14
5	132	4.88
6	104	4.64
7	79	4.36
8	61	4.12
9	48	3.87
10	38	3.65
11	31	3.44
12	25	3.22
13	20	3.00

Survey 96-02

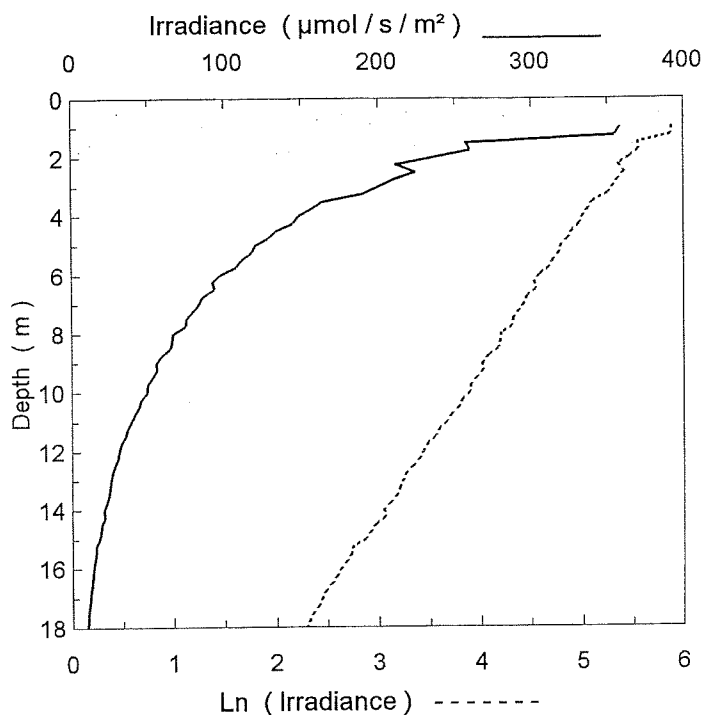
Station 12



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	1110	7.01
2	746	6.61
3	617	6.42
4	426	6.05
5	301	5.71
6	213	5.36
7	171	5.14
8	133	4.89
9	105	4.65
10	84	4.43
11	66	4.19
12	52	3.95
13	41	3.71
14	33	3.51
15	26	3.27
16	21	3.04
17	17	2.82

Survey 96-02

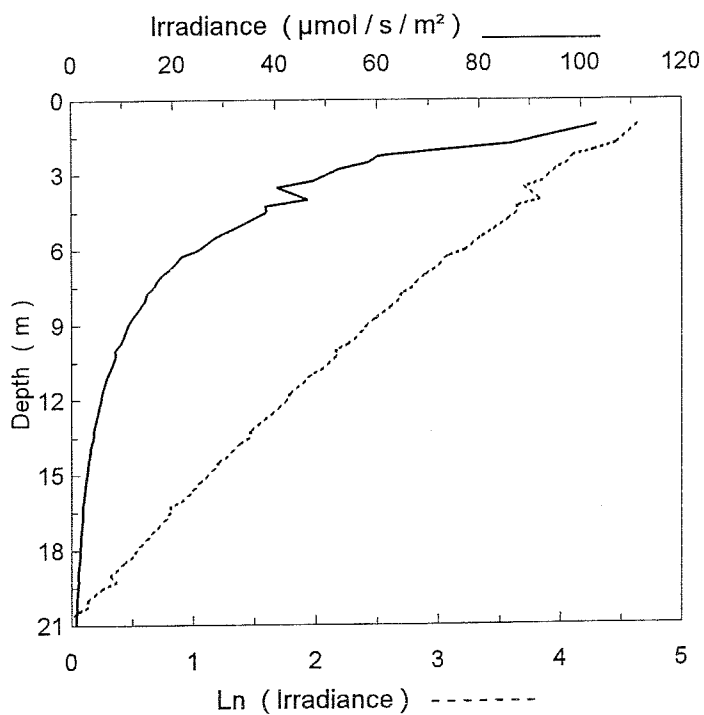
Station 13



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	358	5.88
2	228	5.43
3	198	5.29
4	152	5.02
5	123	4.81
6	99	4.60
7	83	4.42
8	70	4.25
9	57	4.04
10	48	3.87
11	39	3.66
12	31	3.44
13	26	3.25
14	21	3.07
15	17	2.85
16	14	2.63
17	12	2.45
18	10	2.30

Survey 96-02

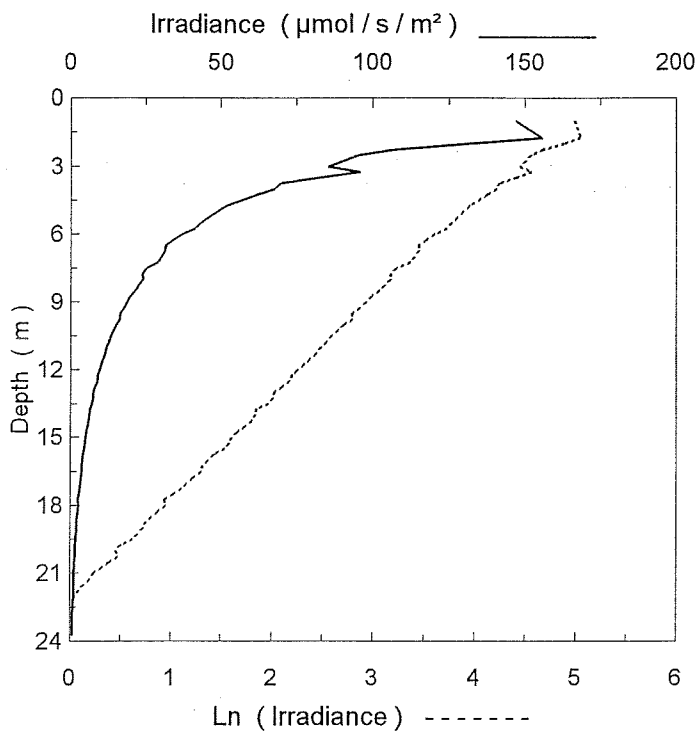
Station 14



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	112	4.72
2	72	4.28
3	49	3.90
4	41	3.71
5	34	3.51
6	24	3.18
7	18	2.90
8	14	2.66
9	11	2.42
10	9	2.20
11	7	1.98
12	6	1.76
13	5	1.54
14	4	1.33
15	3	1.12
16	3	0.92
17	2	0.72
18	2	0.54
19	1	0.34
20	1	0.15

Survey 96-02

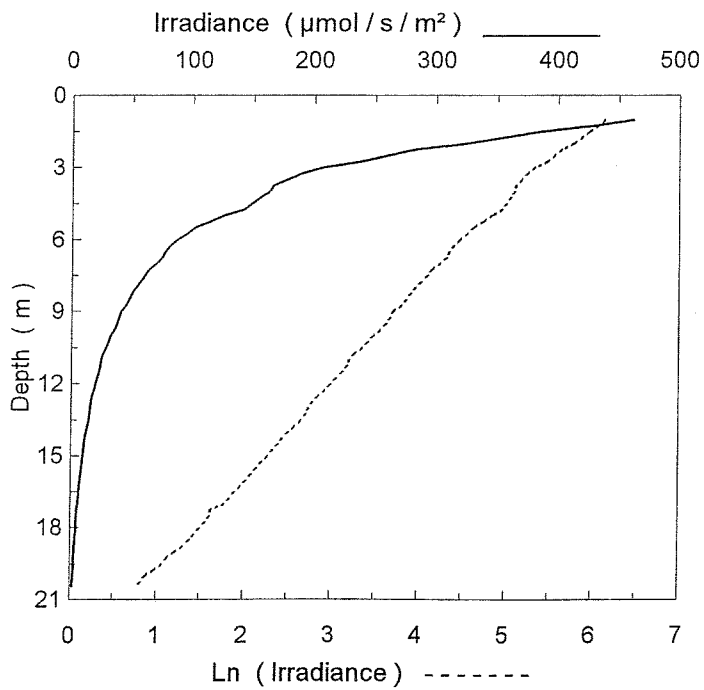
Station 15



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	147	4.99
2	132	4.88
3	92	4.52
4	67	4.21
5	49	3.90
6	37	3.62
7	29	3.38
8	23	3.15
9	19	2.93
10	15	2.71
11	12	2.49
12	10	2.27
13	8	2.05
14	6	1.84
15	5	1.62
16	4	1.38
17	3	1.16
18	3	0.92
19	2	0.71
20	2	0.49
21	1	0.25
22	1	0.03

Survey 96-02

Station 16

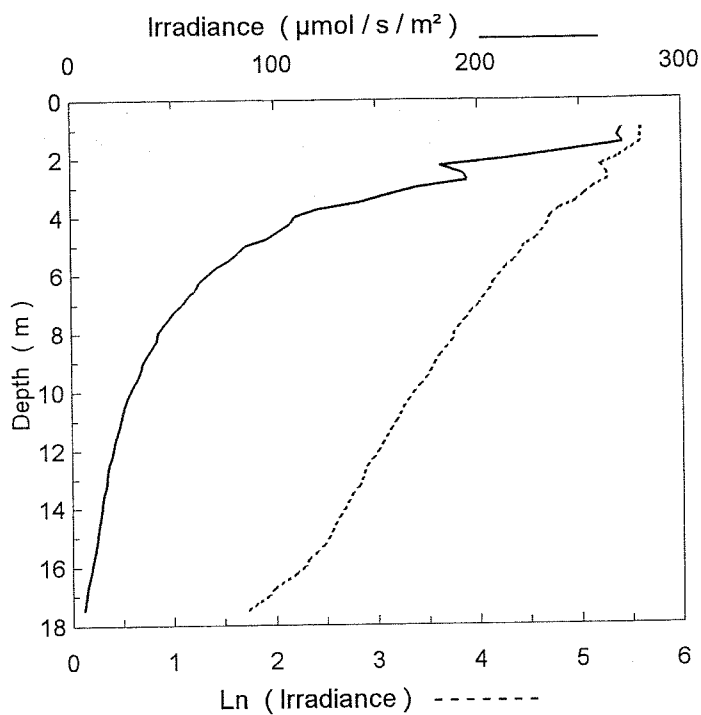


Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	462	6.13
2	316	5.76
3	210	5.35
4	161	5.08
5	125	4.83
6	89	4.48
7	69	4.23
8	53	3.97
9	42	3.73
10	33	3.49
11	25	3.24
12	20	2.99
13	15	2.74
14	12	2.52
15	10	2.27
16	8	2.02
17	6	1.75
18	4	1.50
19	3	1.22
20	2	0.90



Survey 96-02

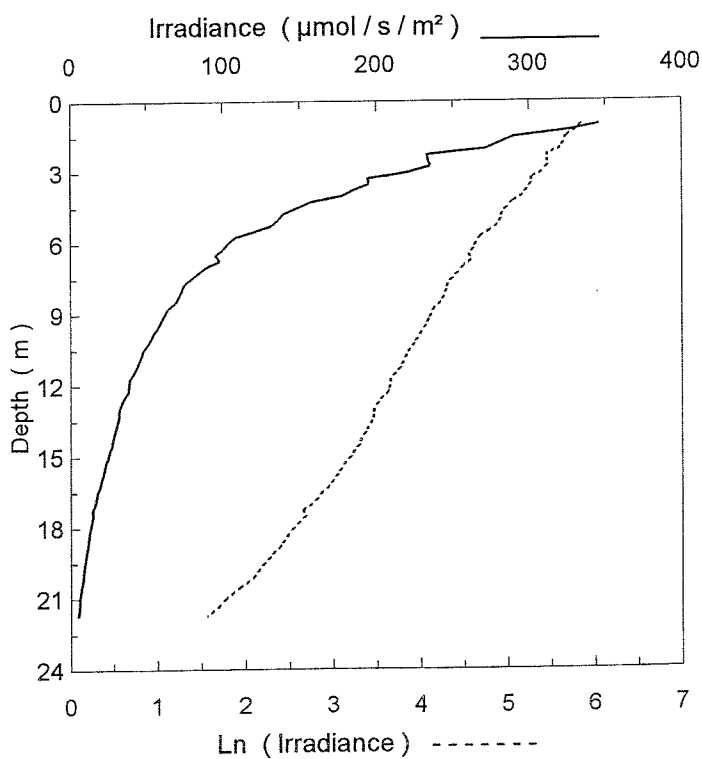
Station 17



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	275	5.62
2	212	5.36
3	170	5.14
4	115	4.75
5	87	4.47
6	67	4.21
7	54	4.00
8	44	3.77
9	36	3.57
10	29	3.37
11	24	3.18
12	20	3.01
13	17	2.84
14	14	2.67
15	12	2.52
16	10	2.27
17	7	1.92

Survey 96-02

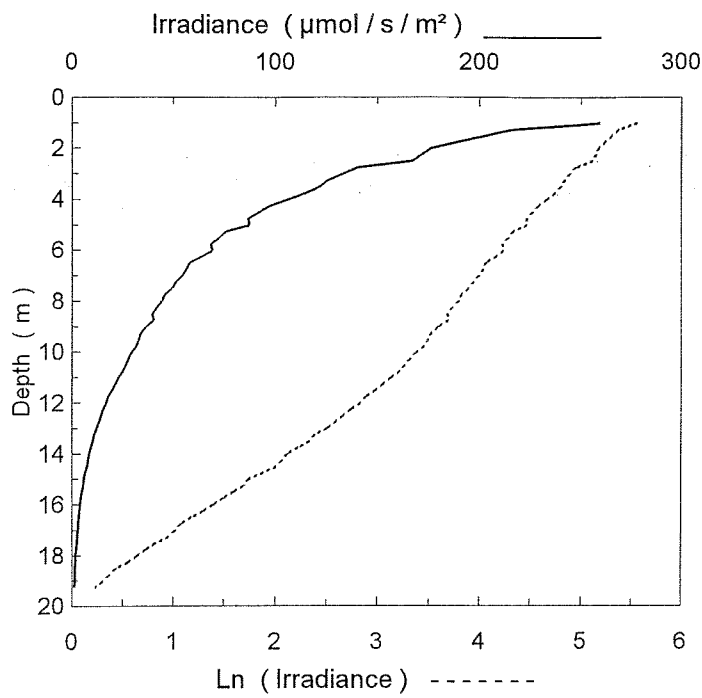
Station 18



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	338	5.82
2	263	5.57
3	217	5.38
4	172	5.15
5	135	4.90
6	104	4.64
7	88	4.48
8	73	4.30
9	62	4.13
10	53	3.96
11	45	3.80
12	38	3.64
13	33	3.48
14	29	3.36
15	24	3.20
16	20	3.00
17	16	2.76
18	13	2.55
19	10	2.34
20	8	2.09
21	6	1.79
22	4	1.47

Survey 96-02

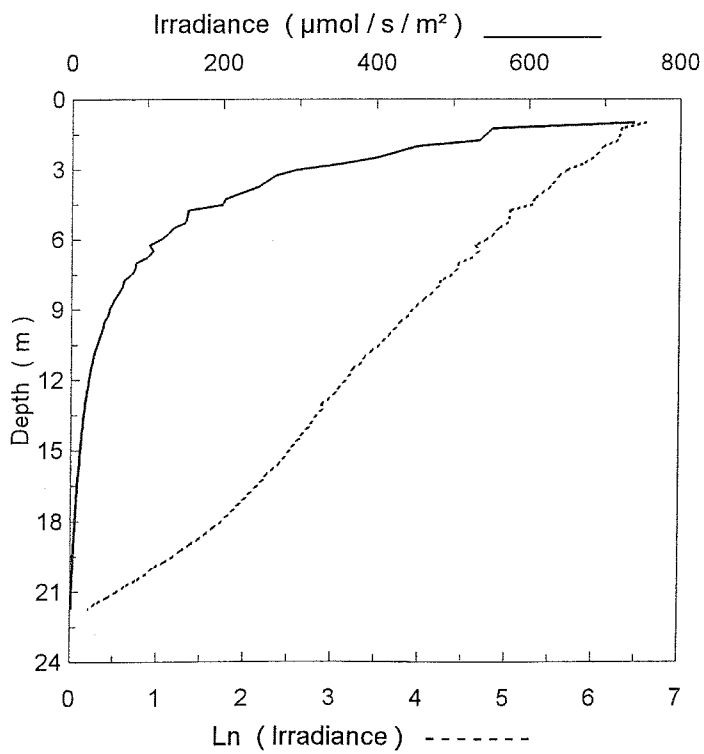
Station 19



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	259	5.56
2	184	5.21
3	135	4.90
4	106	4.66
5	83	4.42
6	67	4.20
7	54	3.99
8	44	3.78
9	36	3.59
10	30	3.39
11	23	3.14
12	17	2.82
13	12	2.50
14	8	2.14
15	6	1.78
16	4	1.39
17	3	1.00
18	2	0.65
19	1	0.30

Survey 96-02

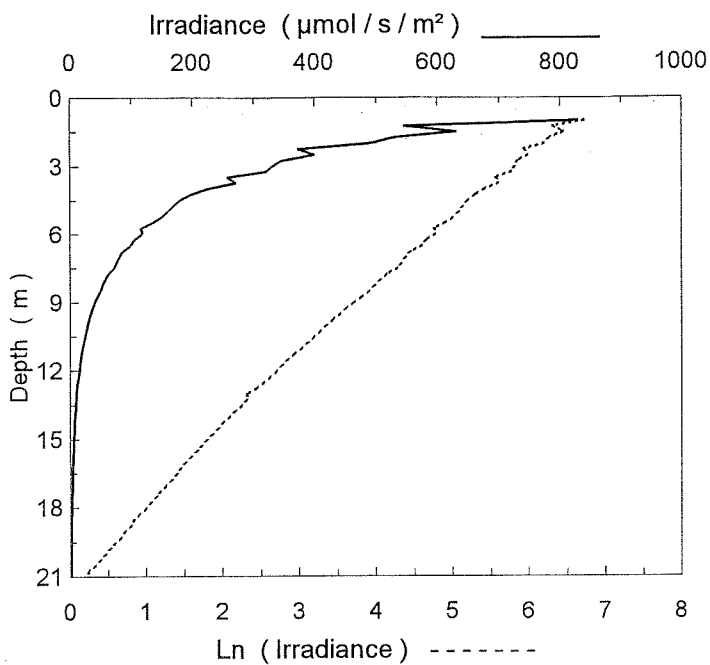
Station 20



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	739	6.61
2	396	5.98
3	291	5.67
4	218	5.39
5	160	5.07
6	114	4.74
7	89	4.49
8	66	4.20
9	51	3.92
10	39	3.66
11	30	3.40
12	23	3.16
13	19	2.93
14	15	2.72
15	12	2.52
16	10	2.27
17	8	2.02
18	6	1.74
19	4	1.38
20	3	0.99
21	2	0.54
22	1	0.06

Survey 96-02

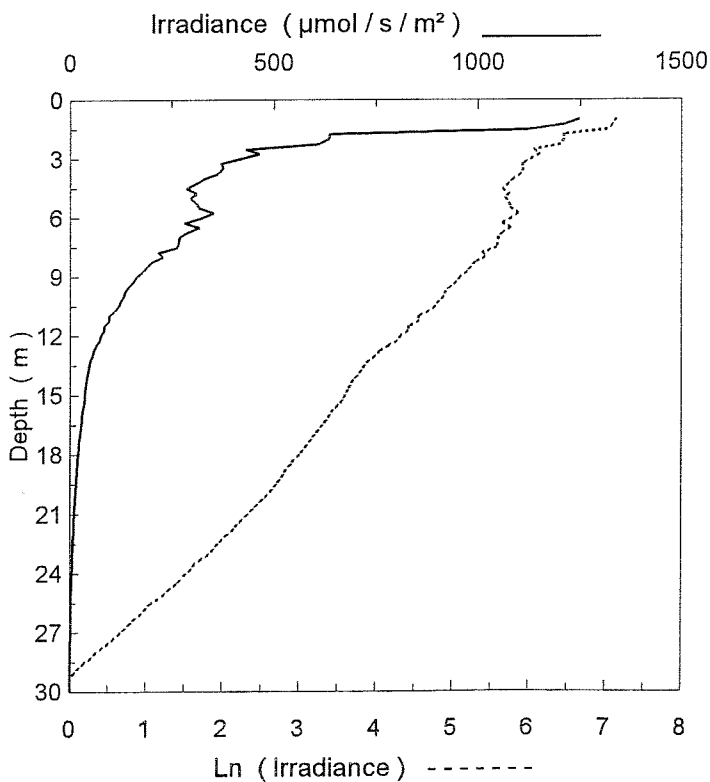
Station 21



Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	830	6.72
2	471	6.16
3	335	5.81
4	222	5.40
5	159	5.07
6	114	4.74
7	82	4.41
8	58	4.06
9	41	3.72
10	29	3.37
11	21	3.03
12	15	2.71
13	11	2.39
14	8	2.10
15	6	1.80
16	5	1.53
17	4	1.27
18	3	1.00
19	2	0.74
20	2	0.47
21	1	0.19

Survey 96-02

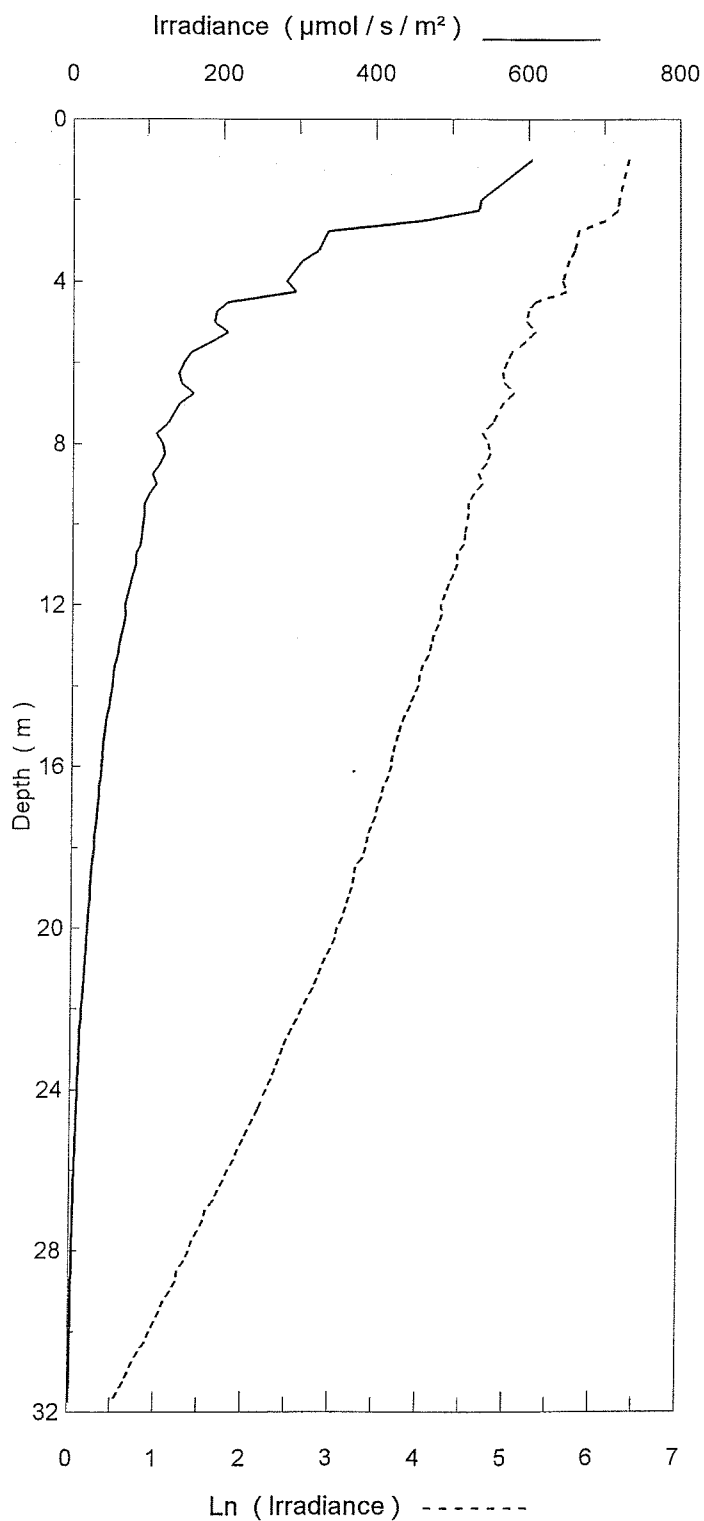
Station 22



Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	1247	7.13
2	642	6.46
3	420	6.04
4	332	5.81
5	307	5.73
6	315	5.75
7	273	5.61
8	212	5.36
9	166	5.11
10	131	4.87
11	101	4.62
12	76	4.34
13	54	4.00
14	43	3.76
15	37	3.60
16	30	3.40
17	25	3.20
18	20	2.99
19	16	2.79
20	13	2.58
21	10	2.33
22	8	2.07
23	6	1.81
24	5	1.52
25	3	1.25
26	3	0.94
27	2	0.66
28	1	0.36
29	1	0.06

Survey 96-02

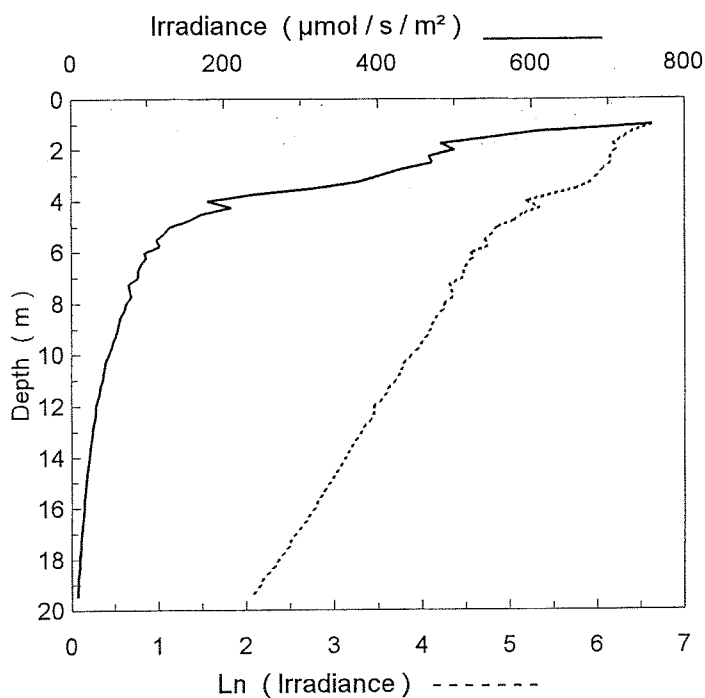
Station 23



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	604	6.40
2	536	6.28
3	334	5.81
4	319	5.76
5	182	5.20
6	152	5.02
7	144	4.97
8	119	4.78
9	105	4.65
10	93	4.53
11	82	4.41
12	71	4.26
13	62	4.13
14	53	3.97
15	44	3.80
16	39	3.67
17	34	3.53
18	29	3.38
19	25	3.23
20	22	3.08
21	18	2.88
22	14	2.67
23	12	2.45
24	10	2.26
25	8	2.05
26	6	1.83
27	5	1.60
28	4	1.38
29	3	1.17
30	3	0.94
31	2	0.70
32	2	0.44

Survey 96-02

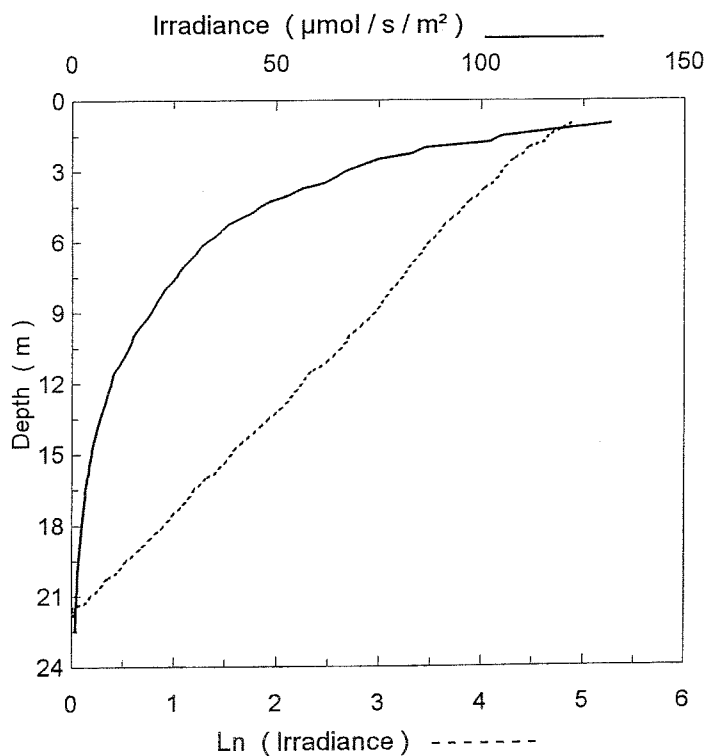
Station 24



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	7563	8.93
2	538	6.29
3	413	6.02
4	202	5.31
5	135	4.91
6	102	4.62
7	83	4.42
8	73	4.29
9	60	4.09
10	49	3.88
11	40	3.68
12	33	3.49
13	27	3.31
14	23	3.13
15	19	2.95
16	16	2.77
17	13	2.57
18	11	2.38
19	9	2.16

Survey 96-02

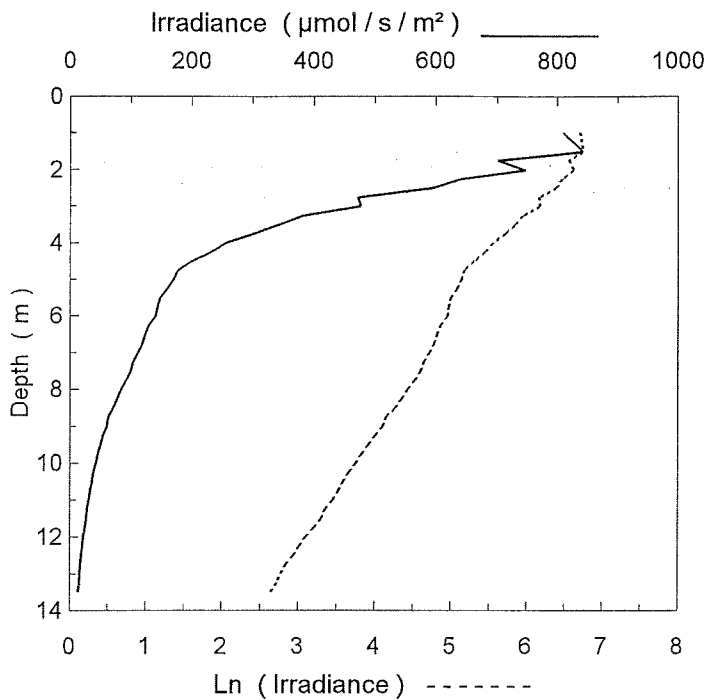
Station 25



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	132	4.88
2	86	4.45
3	66	4.20
4	53	3.96
5	41	3.72
6	33	3.50
7	28	3.32
8	23	3.13
9	19	2.95
10	15	2.72
11	12	2.51
12	9	2.25
13	8	2.05
14	6	1.80
15	5	1.56
16	4	1.33
17	3	1.11
18	2	0.89
19	2	0.67
20	2	0.42
21	1	0.19
22	1	-0.03

Survey 96-02

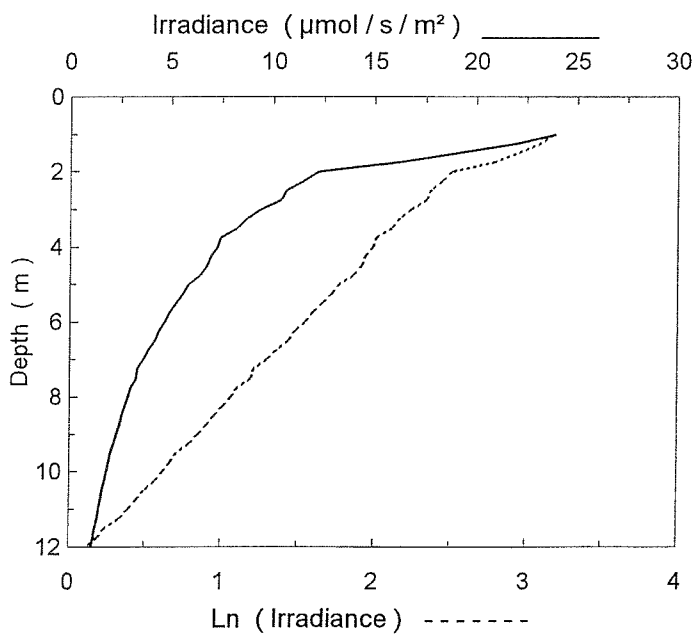
Station 26



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	810	6.70
2	704	6.56
3	440	6.09
4	267	5.59
5	172	5.15
6	137	4.92
7	112	4.71
8	84	4.44
9	59	4.08
10	42	3.74
11	31	3.44
12	22	3.10
13	16	2.78
14	12	2.49

Survey 96-02

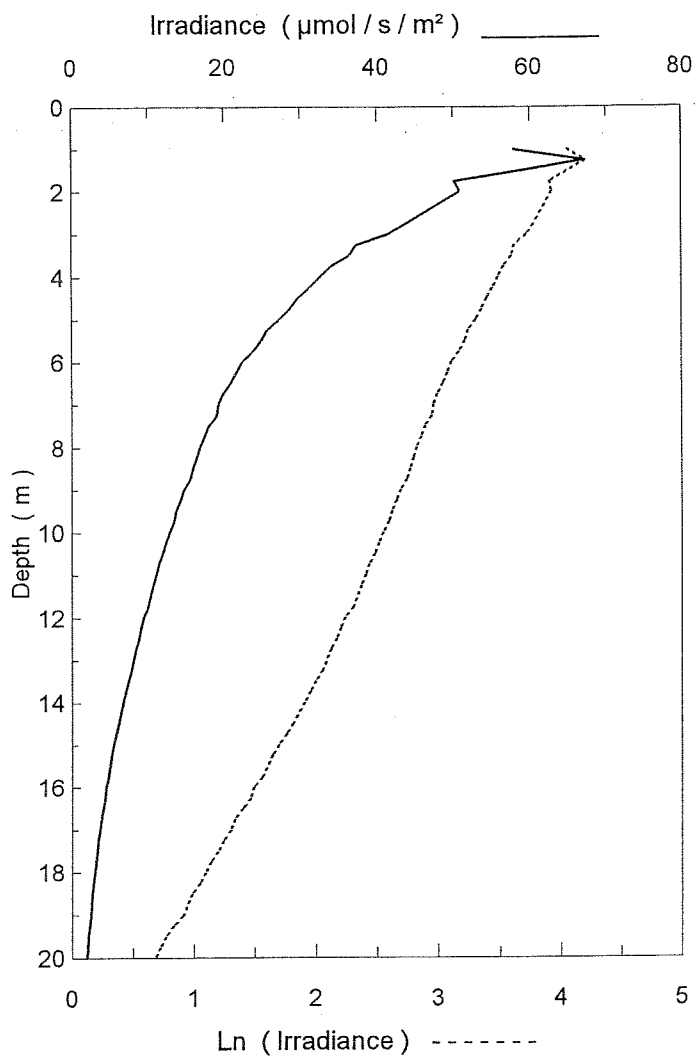
Station 27



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	23	3.15
2	13	2.58
3	9	2.24
4	7	1.99
5	6	1.78
6	5	1.54
7	4	1.30
8	3	1.06
9	2	0.84
10	2	0.61
11	1	0.38
12	1	0.11

Survey 96-02

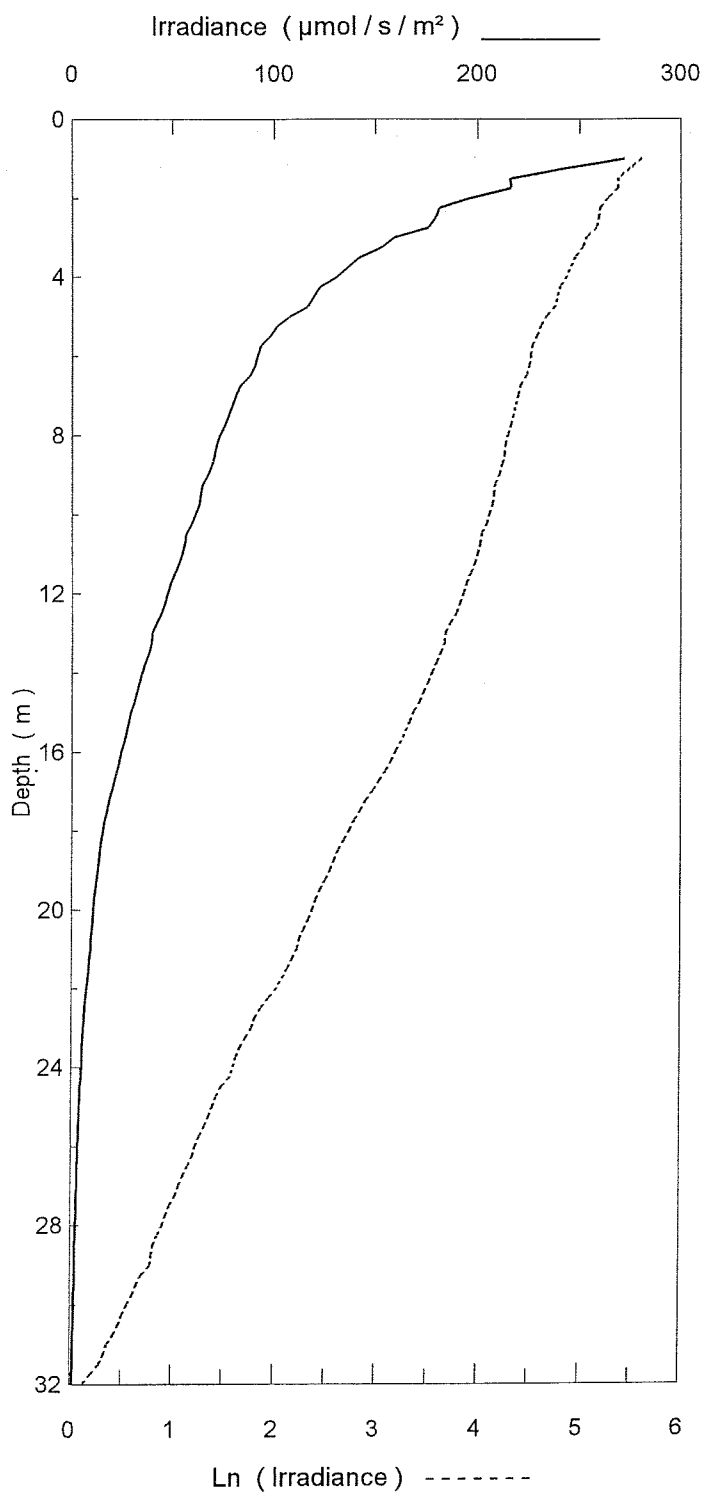
Station 28



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	58	4.06
2	49	3.88
3	41	3.72
4	33	3.49
5	27	3.30
6	23	3.12
7	19	2.97
8	17	2.83
9	15	2.70
10	13	2.55
11	11	2.40
12	9	2.24
13	8	2.08
14	7	1.91
15	5	1.70
16	4	1.50
17	4	1.29
18	3	1.10
19	2	0.89
20	2	0.68

Survey 96-02

Station 29

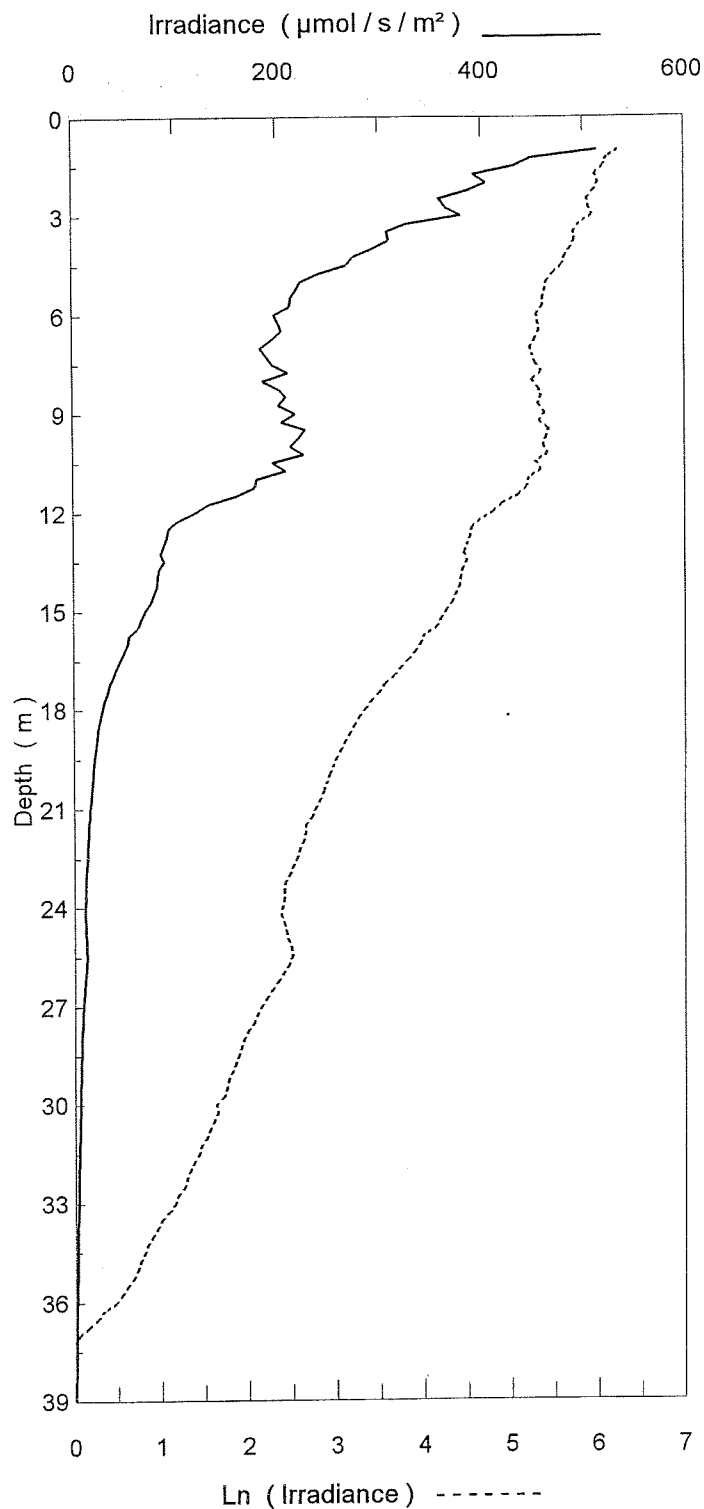


Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	272	5.61
2	195	5.28
3	165	5.11
4	131	4.87
5	108	4.68
6	92	4.52
7	81	4.40
8	73	4.30
9	67	4.20
10	61	4.11
11	54	3.99
12	47	3.86
13	41	3.70
14	35	3.55
15	29	3.38
16	24	3.19
17	19	2.96
18	15	2.74
19	13	2.54
20	11	2.37
21	9	2.21
22	7	2.01
23	6	1.77
24	5	1.58
25	4	1.40
26	3	1.23
27	3	1.07
28	2	0.90
29	2	0.75
30	2	0.56
31	1	0.38
32	1	0.14



Survey 96-02

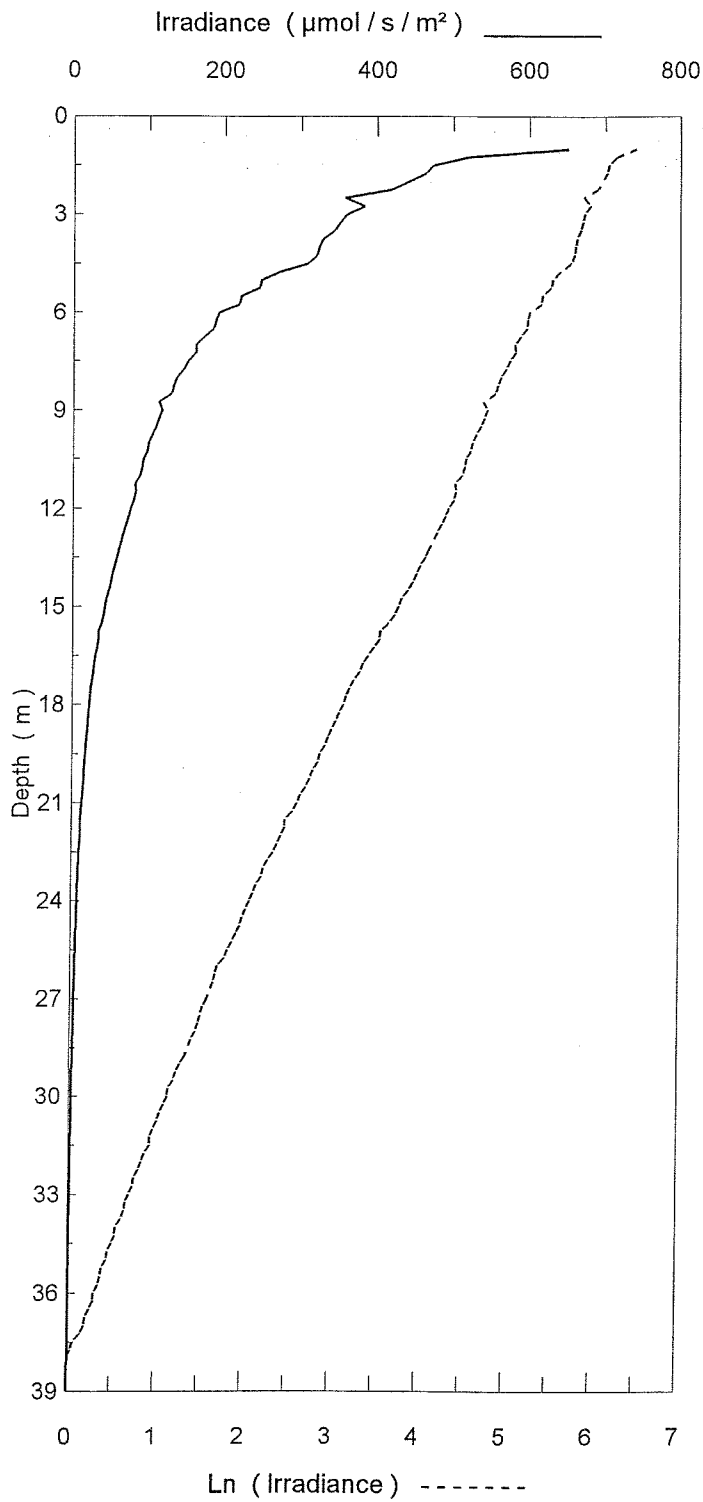
Station 30



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	522	6.26
2	394	5.98
3	350	5.86
4	292	5.68
5	235	5.46
6	203	5.31
7	197	5.28
8	197	5.28
9	213	5.36
10	220	5.39
11	187	5.23
12	120	4.79
13	91	4.51
14	84	4.43
15	71	4.26
16	53	3.97
17	39	3.66
18	29	3.35
19	22	3.10
20	18	2.92
21	16	2.76
22	14	2.61
23	12	2.47
24	11	2.38
25	12	2.45
26	11	2.39
27	9	2.15
28	7	1.95
29	6	1.80
30	5	1.67
31	4	1.50
32	4	1.33
33	3	1.13
34	2	0.89
35	2	0.71
36	2	0.44
37	1	0.07

Survey 96-02

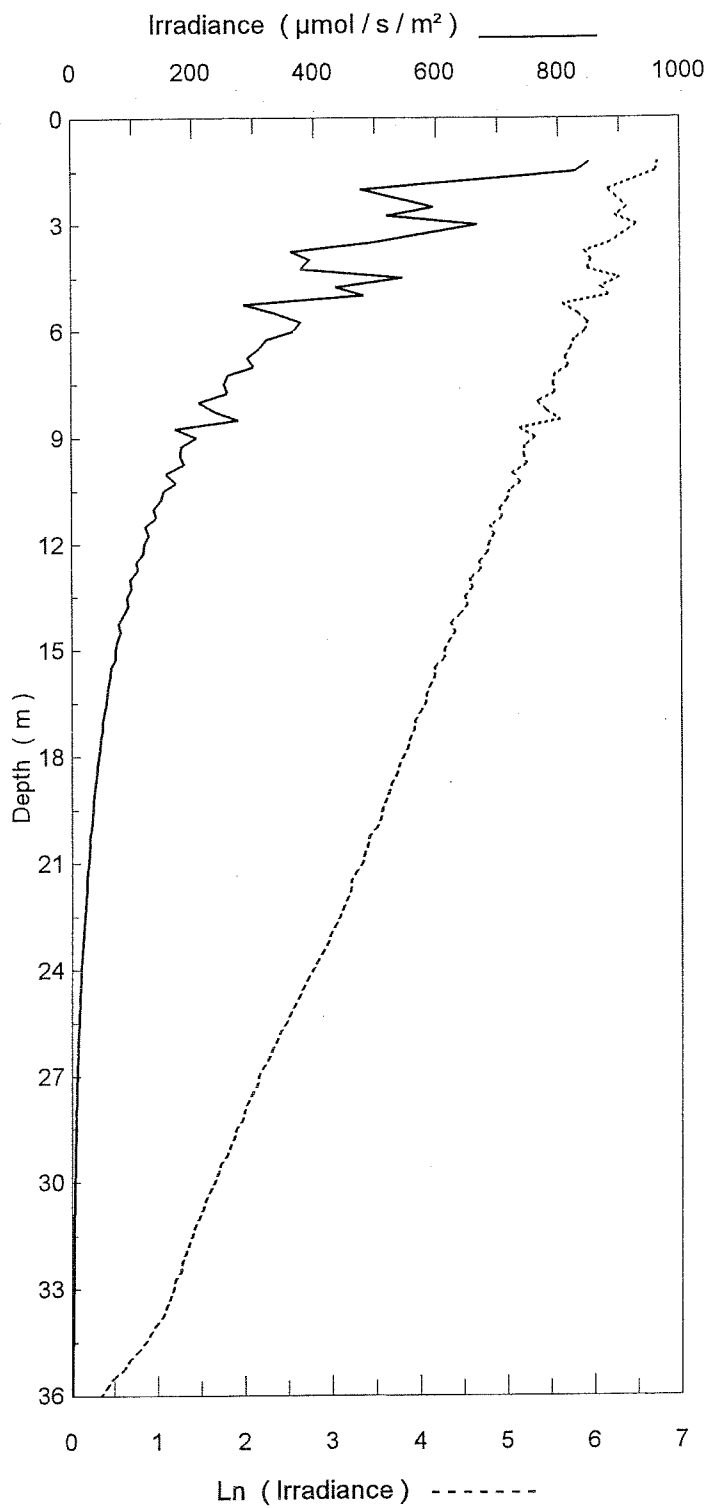
Station 31



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	659	6.49
2	425	6.05
3	366	5.90
4	324	5.78
5	255	5.54
6	204	5.32
7	165	5.10
8	138	4.93
9	117	4.76
10	100	4.60
11	87	4.46
12	76	4.33
13	63	4.15
14	52	3.96
15	42	3.75
16	34	3.52
17	27	3.29
18	22	3.11
19	19	2.95
20	16	2.78
21	13	2.59
22	11	2.41
23	9	2.22
24	8	2.06
25	7	1.90
26	6	1.72
27	5	1.57
28	4	1.44
29	4	1.27
30	3	1.12
31	3	0.98
32	2	0.84
33	2	0.70
34	2	0.57
35	2	0.44
36	1	0.32
37	1	0.19

Survey 96-02

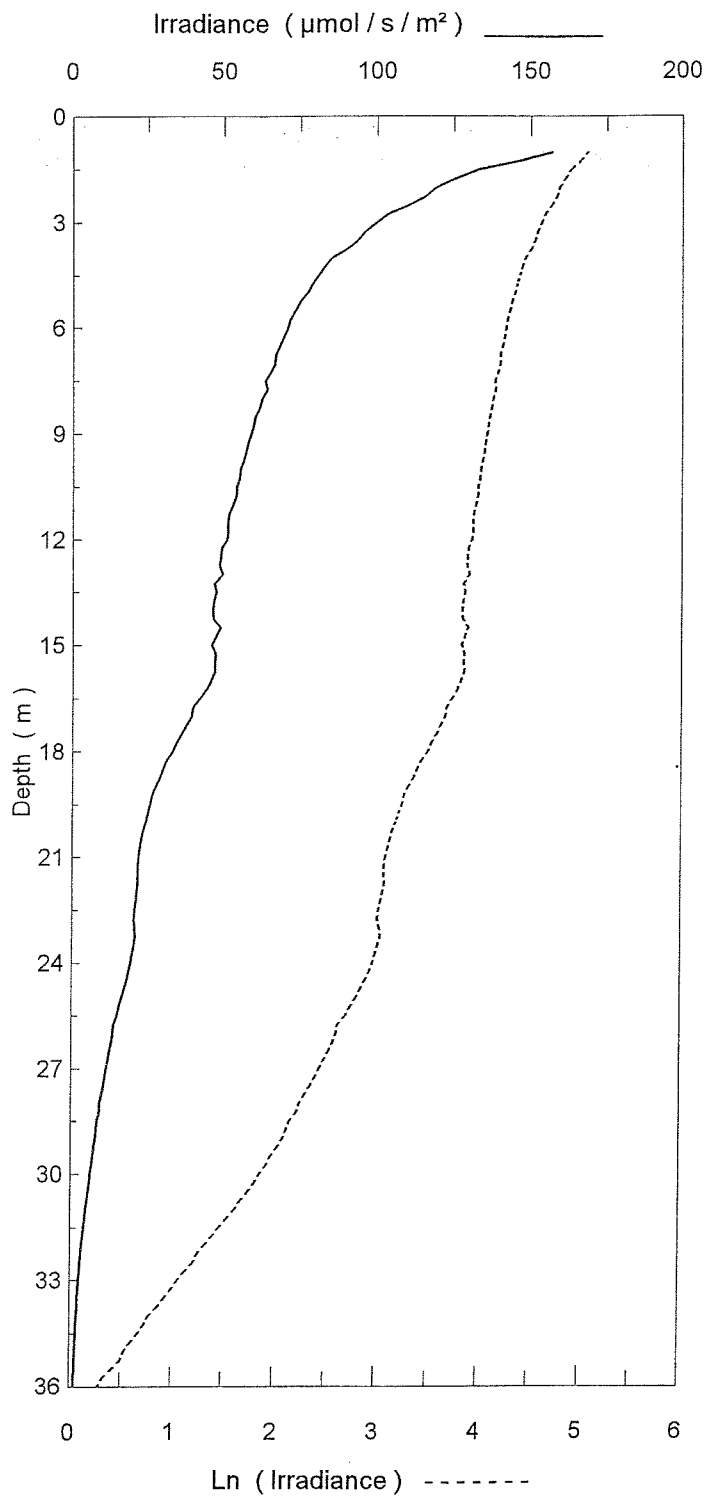
Station 32



Depth (m)	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	824	6.71
2	676	6.52
3	579	6.36
4	396	5.98
5	427	6.06
6	350	5.86
7	289	5.67
8	243	5.49
9	201	5.30
10	165	5.10
11	138	4.93
12	120	4.79
13	99	4.60
14	87	4.47
15	73	4.30
16	61	4.11
17	52	3.96
18	45	3.81
19	38	3.64
20	33	3.49
21	28	3.32
22	24	3.16
23	20	2.98
24	16	2.77
25	13	2.56
26	11	2.36
27	9	2.16
28	7	1.99
29	6	1.82
30	5	1.64
31	4	1.47
32	4	1.32
33	3	1.17
34	3	0.99
35	2	0.68
36	1	0.33

Survey 96-02

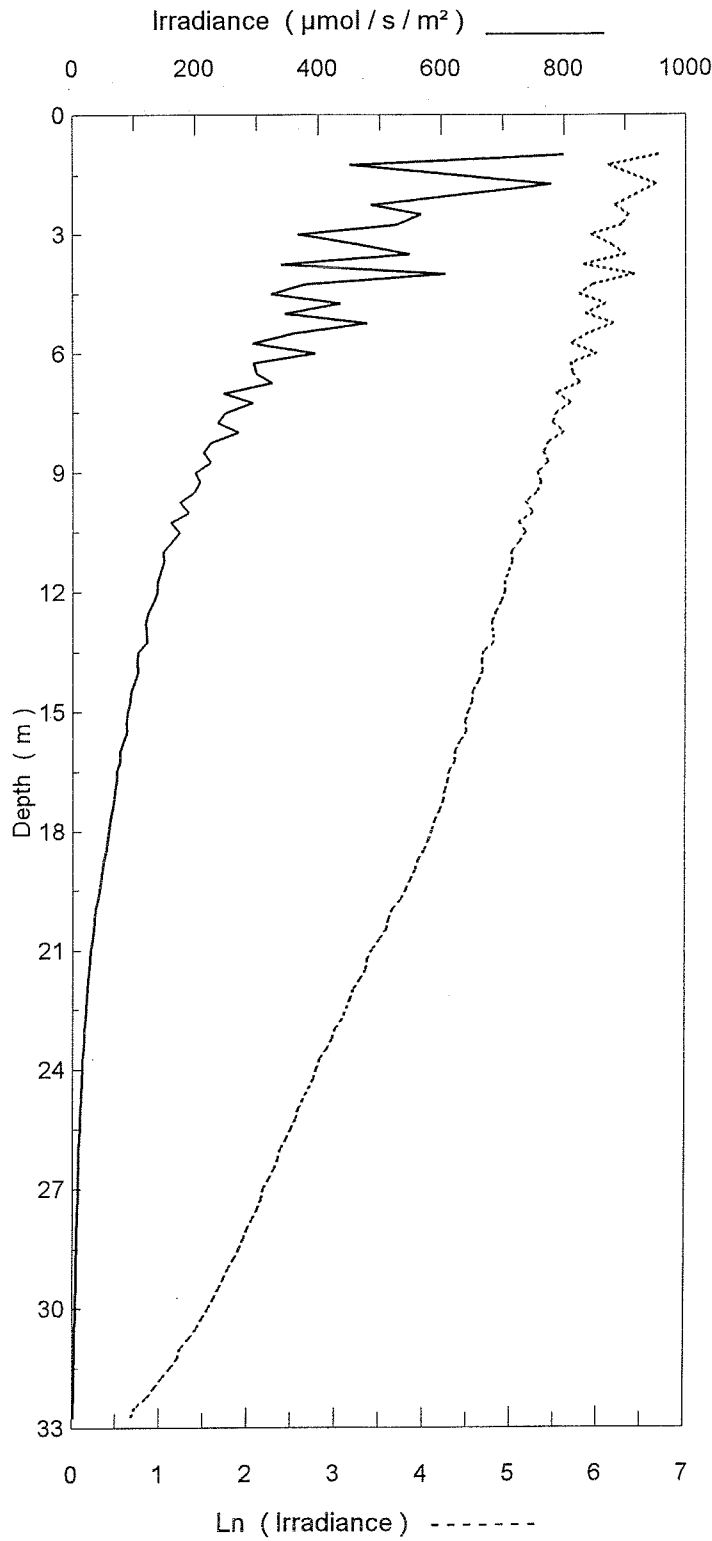
Station 33



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	155	5.04
2	119	4.78
3	100	4.60
4	86	4.45
5	77	4.34
6	70	4.25
7	66	4.19
8	62	4.13
9	58	4.07
10	55	4.01
11	52	3.96
12	50	3.91
13	48	3.87
14	47	3.85
15	47	3.85
16	45	3.81
17	39	3.66
18	33	3.49
19	27	3.31
20	24	3.18
21	22	3.09
22	21	3.05
23	20	3.02
24	19	2.96
25	16	2.80
26	14	2.61
27	12	2.45
28	10	2.26
29	8	2.08
30	6	1.87
31	5	1.62
32	4	1.33
33	3	1.07
34	2	0.79
35	2	0.55
36	1	0.26

Survey 96-02

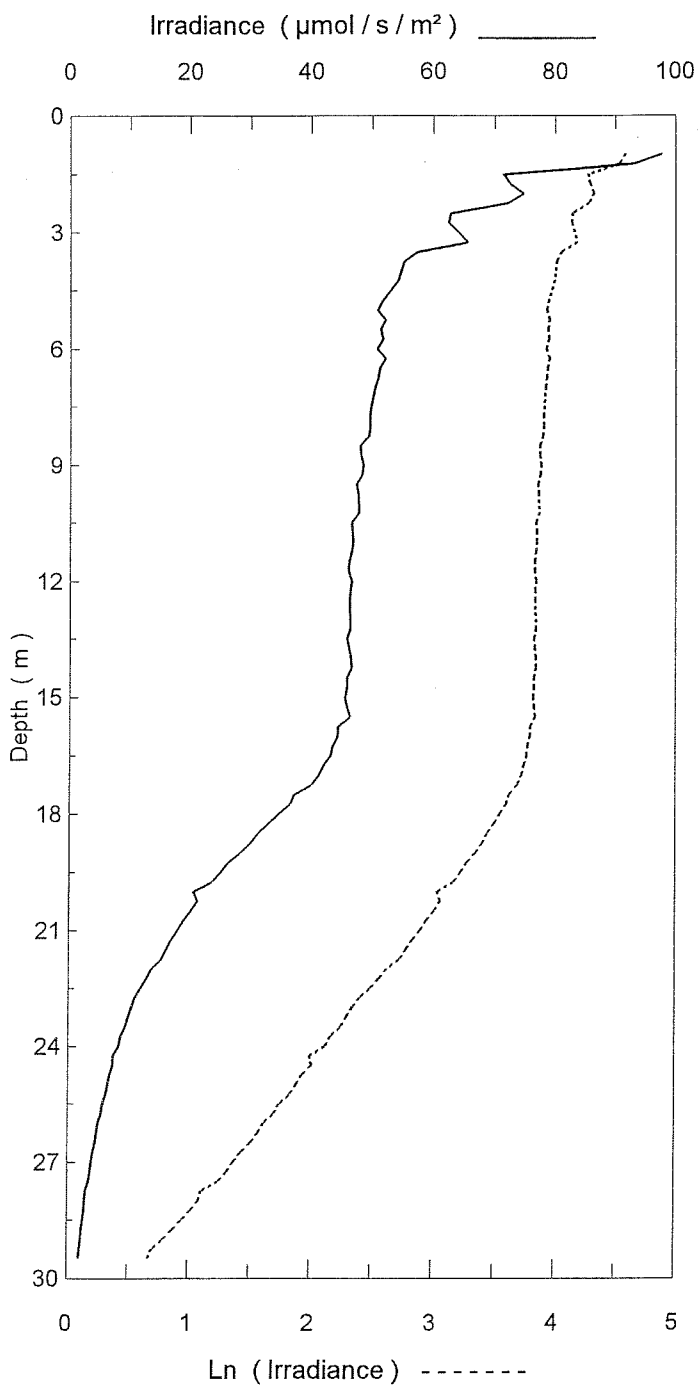
Station 34



Depth ( m )	Irradiance ( $\mu\text{mol/s/m}^2$ )	Ln Irradiance
1	879	6.78
2	730	6.59
3	503	6.22
4	418	6.04
5	401	5.99
6	327	5.79
7	283	5.65
8	240	5.48
9	206	5.33
10	174	5.16
11	155	5.05
12	136	4.91
13	117	4.76
14	103	4.63
15	91	4.51
16	79	4.37
17	70	4.24
18	59	4.08
19	49	3.89
20	39	3.66
21	31	3.43
22	25	3.21
23	20	3.00
24	16	2.78
25	13	2.58
26	11	2.39
27	9	2.19
28	7	2.00
29	6	1.79
30	5	1.55
31	4	1.27
32	3	0.94
33	2	0.59

Survey 96-02

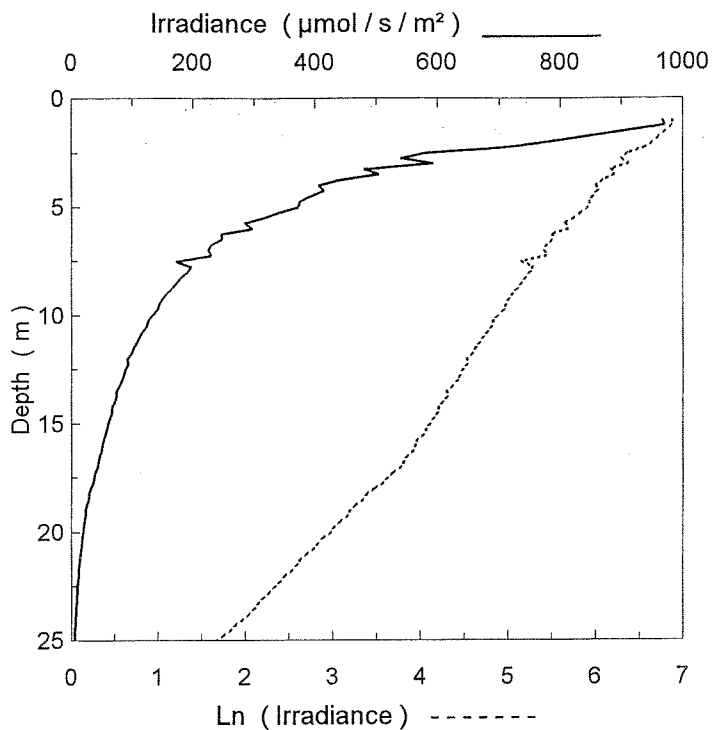
Station 35



Depth (m)	Irradiance (µmol/s/m²)	Ln Irradiance
1	97	4.58
2	74	4.31
3	62	4.13
4	54	4.00
5	52	3.94
6	51	3.94
7	50	3.92
8	49	3.90
9	48	3.87
10	47	3.86
11	47	3.84
12	46	3.83
13	46	3.83
14	46	3.83
15	46	3.82
16	44	3.79
17	41	3.71
18	35	3.55
19	28	3.33
20	22	3.10
21	18	2.89
22	14	2.64
23	10	2.34
24	8	2.12
25	7	1.88
26	5	1.63
27	4	1.37
28	3	1.08
29	2	0.80

Survey 96-02

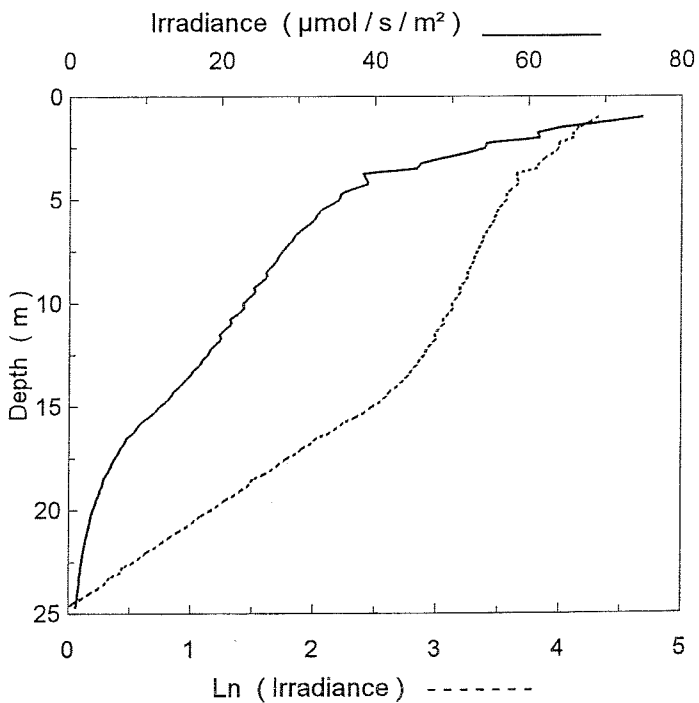
Station 36



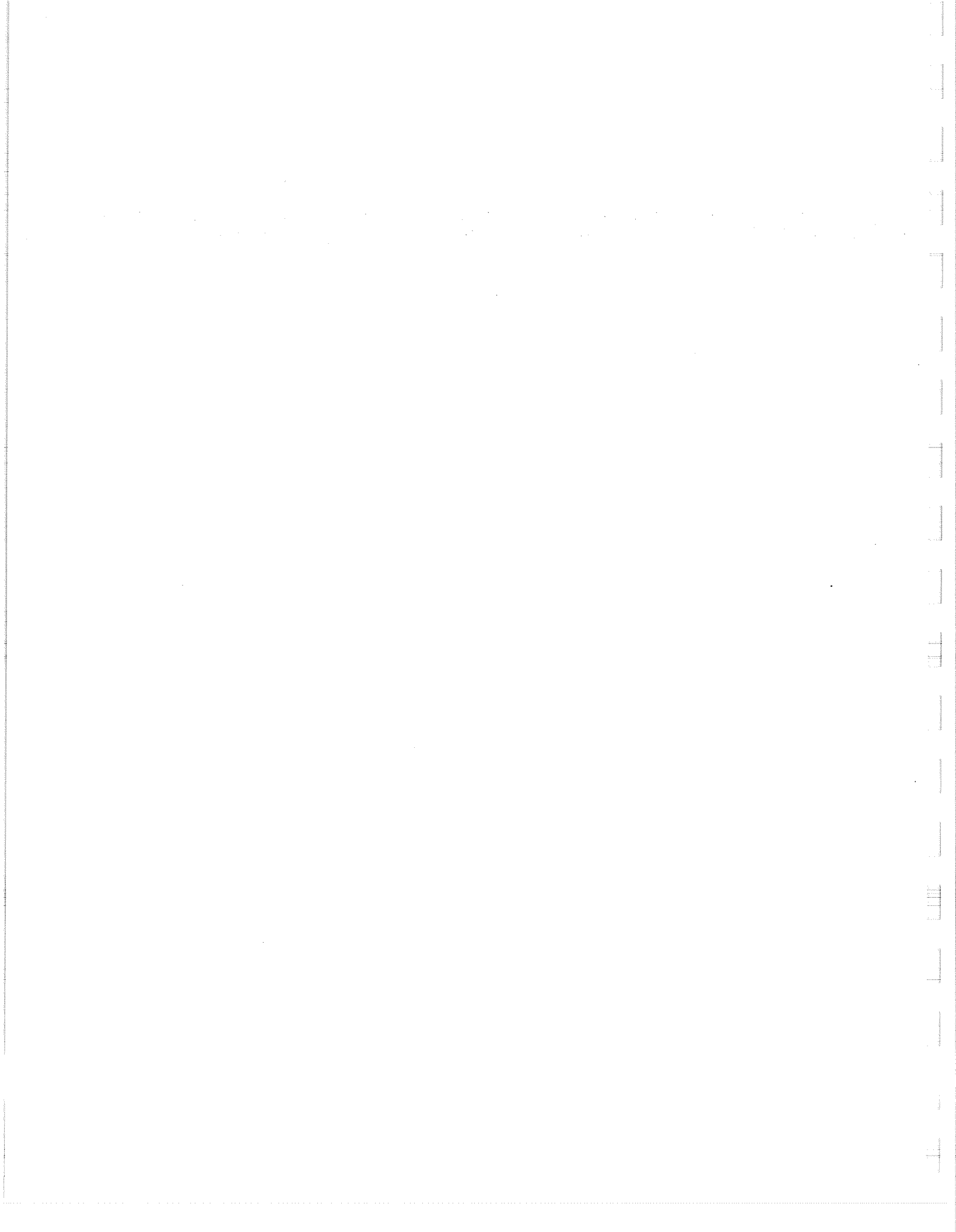
Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	966	6.87
2	694	6.54
3	541	6.29
4	427	6.06
5	359	5.88
6	273	5.61
7	226	5.42
8	189	5.24
9	157	5.06
10	134	4.90
11	112	4.72
12	95	4.56
13	82	4.40
14	71	4.26
15	61	4.11
16	52	3.95
17	43	3.76
18	33	3.49
19	25	3.22
20	19	2.97
21	15	2.71
22	12	2.47
23	9	2.22
24	7	1.98
25	5	1.67

Survey 96-02

Station 37



Depth (m)	Irradiance (µmol/s/m <sup>2</sup> )	Ln Irradiance
1	74	4.30
2	59	4.08
3	49	3.90
4	39	3.68
5	35	3.55
6	32	3.46
7	29	3.37
8	27	3.29
9	25	3.22
10	23	3.14
11	21	3.04
12	19	2.95
13	17	2.83
14	15	2.68
15	12	2.48
16	9	2.19
17	7	1.92
18	5	1.66
19	4	1.42
20	3	1.16
21	2	0.91
22	2	0.65
23	1	0.40
24	1	0.18



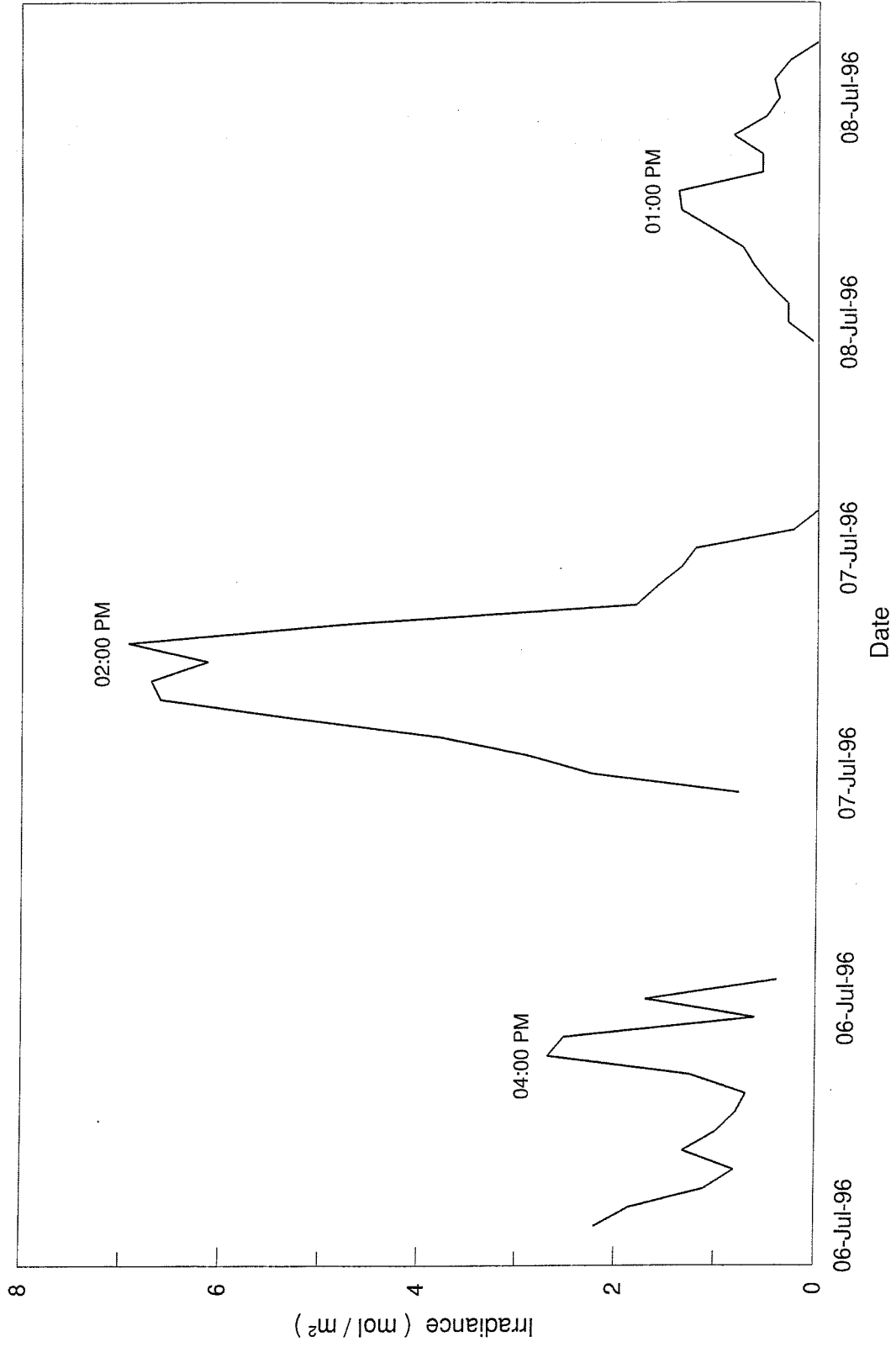


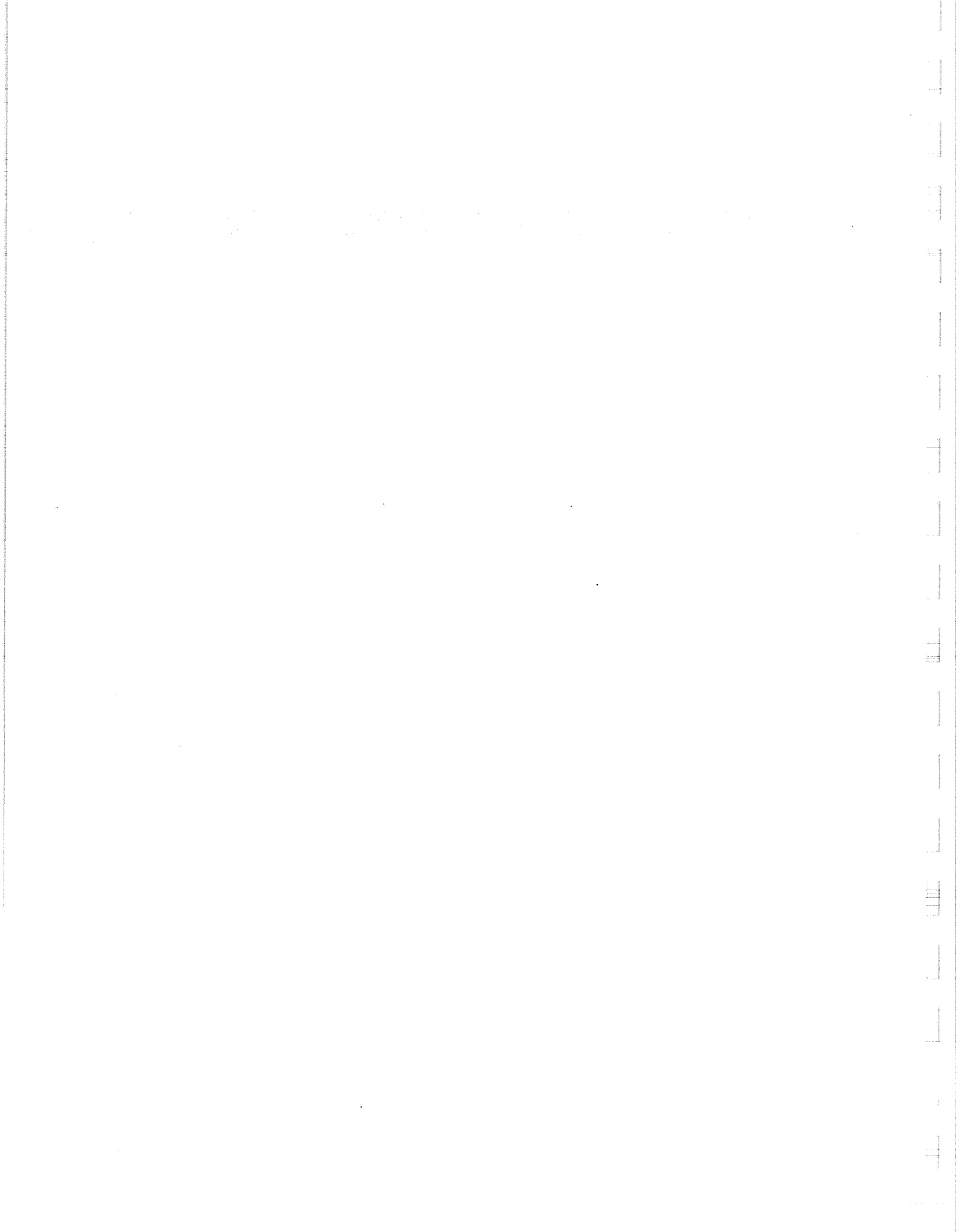
Appendix 6.3 Number of data points, slope ( $-k_2$ ), intercept, standard error of coefficients, standardized regression coefficients and  $R^2$  for the regression of  $\ln(\text{WaterIrradiance})$  vs. depth ( m ) for the 1996 irradiance profiles.

Survey	STATION	No. of data points	Slope ( $-k_2$ )	Intercept	Standard Error of Coefficients	Standardized Regression Coefficients	$R^2$
Survey 96-01	03	40	-0.16	5.13	0.11	0.00	0.97
	04	274	-0.15	4.08	0.06	0.00	0.98
	05	249	-0.14	3.80	0.06	0.00	0.98
	06	157	-0.17	4.25	0.06	0.00	0.97
	07	116	-0.20	5.65	0.04	0.00	0.99
	08	102	-0.22	5.29	0.04	0.00	0.99
	09	173	-0.14	3.07	0.05	0.00	0.98
	10	272	-0.14	4.32	0.04	0.00	0.99
	11	269	-0.14	3.90	0.05	0.00	0.99
	12	175	-0.15	4.54	0.04	0.00	0.99
	13	86	-0.20	3.95	0.06	0.00	0.98
	14	78	-0.21	4.85	0.04	0.00	0.99
	15	68	-0.21	5.82	0.09	0.01	0.96
	16	99	-0.20	5.72	0.05	0.00	0.98
	17	96	-0.19	6.66	0.04	0.00	0.99
	18	151	-0.14	5.94	0.04	0.00	0.98
	19	168	-0.13	5.12	0.04	0.00	0.98
	20	188	-0.13	5.38	0.03	0.00	0.99
	21	205	-0.16	4.57	0.04	0.00	0.99
	22	220	-0.16	3.77	0.04	0.00	0.99
	23	273	-0.15	4.34	0.03	0.00	0.99
	24	182	-0.15	3.41	0.04	0.00	0.98
	25	106	-0.19	4.19	0.03	0.00	0.99

Survey	STATION	No. of data points	Slope ( $-k_2$ )	Intercept	Standard Error of Coefficients	Standardized Regression Coefficients	R <sup>2</sup>
Survey 96-02	01	132	-0.15	6.29	0.03	0.00	0.99
	02	86	-0.09	4.29	0.05	0.00	0.87
	03	83	-0.23	4.75	0.03	0.00	0.99
	04	97	-0.19	5.16	0.02	0.00	0.99
	05	68	-0.20	5.87	0.02	0.00	1.00
	06	79	-0.26	7.34	0.02	0.00	1.00
	07	33	-0.29	7.11	0.03	0.00	1.00
	08	15	-0.33	4.26	0.07	0.02	0.95
	09	20	-0.27	4.94	0.03	0.01	0.98
	10	43	-0.27	6.69	0.02	0.00	1.00
	11	45	-0.26	6.26	0.03	0.00	0.99
	12	61	-0.25	6.99	0.03	0.00	0.99
	13	67	-0.20	5.86	0.02	0.00	1.00
	14	80	-0.22	4.48	0.03	0.00	0.99
	15	81	-0.23	5.06	0.02	0.00	1.00
	16	68	-0.26	6.14	0.02	0.00	1.00
	17	58	-0.22	5.65	0.03	0.00	0.99
	18	72	-0.19	5.89	0.02	0.00	0.99
	19	63	-0.28	5.94	0.05	0.00	0.98
	20	79	-0.28	6.51	0.03	0.00	0.99
	21	178	-0.27	6.08	0.04	0.00	1.00
	22	139	-0.25	7.30	0.04	0.00	0.99
	23	111	-0.17	6.36	0.03	0.00	0.99
	24	70	-0.22	6.24	0.06	0.00	0.97
	25	82	-0.22	4.92	0.01	0.00	1.00
	26	48	-0.32	6.97	0.04	0.00	0.99
	27	72	-0.25	3.10	0.02	0.00	1.00
	28	69	-0.17	4.21	0.02	0.00	1.00
	29	160	-0.20	6.09	0.05	0.00	0.98
	30	159	-0.18	6.71	0.05	0.00	0.98
	31	164	-0.17	6.36	0.02	0.00	1.00
	32	139	-0.18	6.97	0.02	0.00	1.00
	33	146	-0.12	5.36	0.07	0.00	0.91
	34	114	-0.18	7.01	0.04	0.00	0.99
	35	107	-0.12	4.97	0.09	0.01	0.82
	36	90	-0.20	6.93	0.03	0.00	0.99
	37	95	-0.17	4.65	0.06	0.00	0.96

Appendix 7.1.1 Irradiance ( mol / m<sup>2</sup> ) integrated every hour, 03-Jul-96 to 08-Jul-96, Survey 96-01.





Appendix 7.1.2 Sky irradiance ( mol / m<sup>2</sup> ) integrated hourly, 06-Jul-96 to 08-Jul-96,  
Survey 96-01.

Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )	Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )
<b>06-Jul-96</b>			<b>07-Jul-96</b>		
	6:00 PM	0.61		7:00 AM	2.25
	7:00 AM	2.20		12:00 PM	6.70
	7:00 PM	1.71		11:00 AM	6.61
	5:00 PM	2.52		10:00 AM	5.28
	4:00 PM	2.69		8:00 AM	2.89
	3:00 PM	1.26		6:00 AM	0.79
	2:00 PM	0.70		2:00 PM	6.93
	12:00 PM	1.00		3:00 PM	4.75
	11:00 AM	1.32		9:00 AM	3.81
	10:00 AM	0.81		4:00 PM	1.82
	8:00 AM	1.85		5:00 PM	1.61
	9:00 AM	1.11		6:00 PM	1.37
	1:00 PM	0.80		7:00 PM	1.23
	8:00 PM	0.39		8:00 PM	0.25
	<b>Daily Total:</b>	<b>18.96</b>		9:00 PM	0.01
				1:00 PM	6.13
				<b>Daily Total:</b>	<b>52.43</b>

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Date	Time	Hourly Integrated Irradiance (mol / m <sup>2</sup> )
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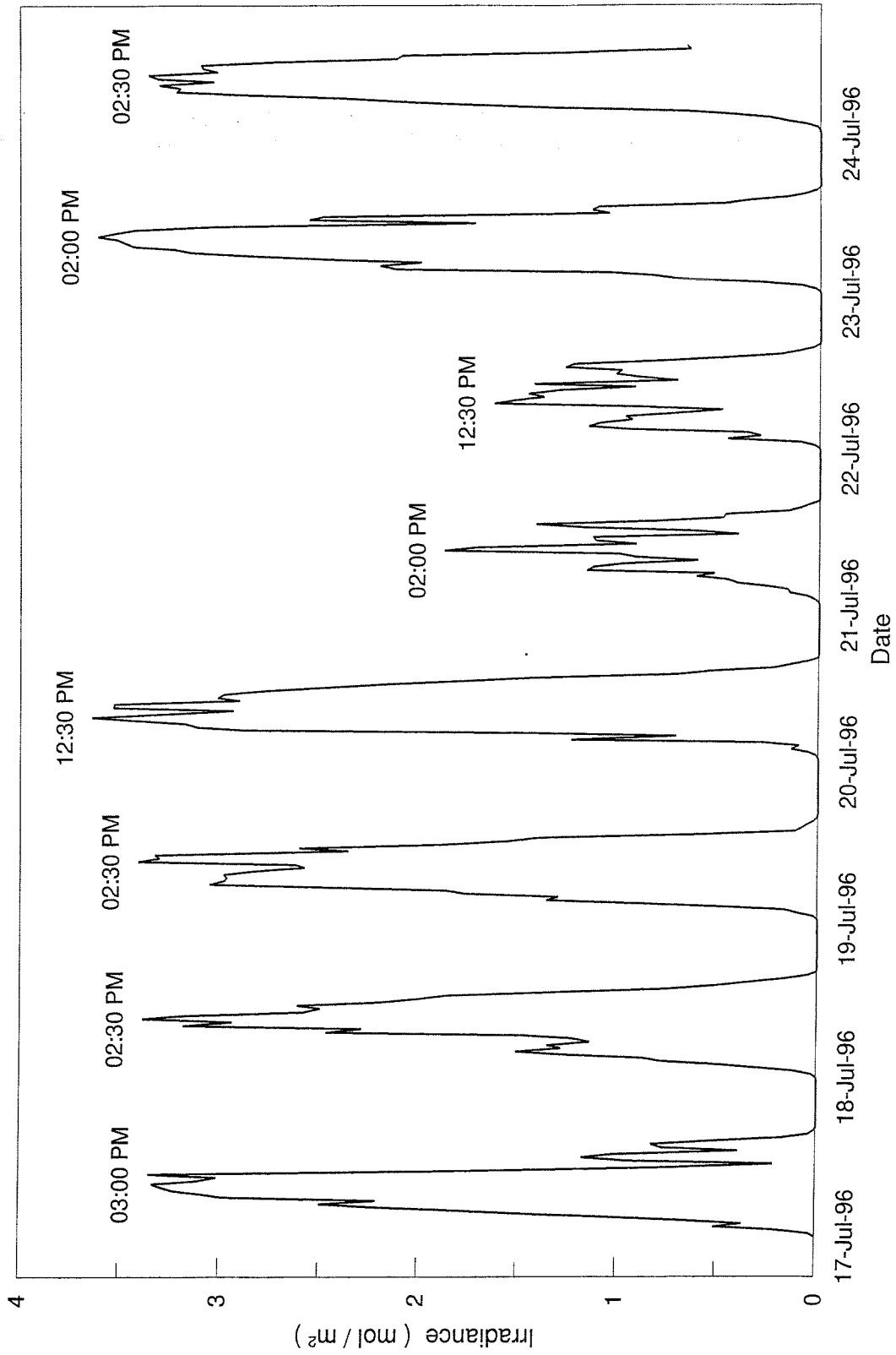
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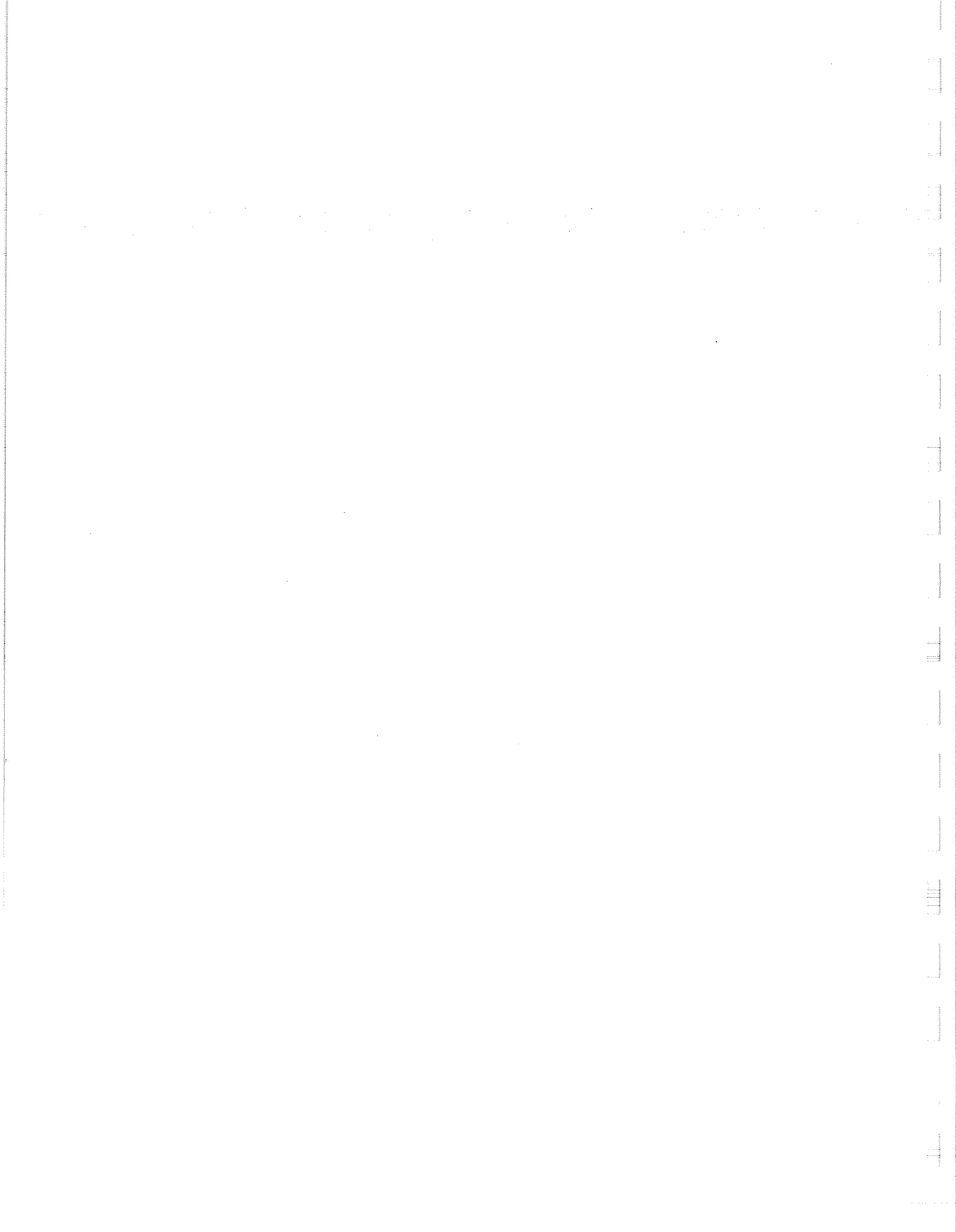
**08-Jul-96**

	10:00 AM	0.76
	8:00 PM	0.30
	7:00 PM	0.45
	6:00 PM	0.40
	5:00 PM	0.53
	4:00 PM	0.86
	3:00 PM	0.56
	2:00 PM	0.56
	1:00 PM	1.40
	11:00 AM	1.06
	9:00 PM	0.01
	9:00 AM	0.64
	8:00 AM	0.49
	7:00 AM	0.30
	6:00 AM	0.30
	5:00 AM	0.06
	12:00 PM	1.38
<b>Daily Total:</b>		<b>10.07</b>

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Appendix 7.2.1 Irradiance ( mol / m<sup>2</sup> ) integrated every 30 minutes, 17-Jul-96 to 24-Jul-96 Survey 96-02.







Appendix 7.2.2 Hourly sky irradiance ( mol / m<sup>2</sup> ) integrated every 30 minutes,  
17-Jul-96 to 24-Jul-96, Survey 96-02.

Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )	Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )
<b>17-Jul-96</b>			<b>18-Jul-96</b>		
	5:30 AM	0.00		12:00 AM	0.00
	6:00 AM	0.23		1:00 AM	0.00
	7:00 AM	0.87		2:00 AM	0.00
	8:00 AM	1.73		3:00 AM	0.00
	9:00 AM	3.29		4:00 AM	0.00
	10:00 AM	4.72		5:00 AM	0.00
	11:00 AM	5.20		6:00 AM	0.15
	12:00 PM	6.31		7:00 AM	0.77
	1:00 PM	6.62		8:00 AM	1.65
	2:00 PM	6.13		9:00 AM	2.75
	3:00 PM	5.20		10:00 AM	2.63
	4:00 PM	0.96		11:00 AM	2.37
	5:00 PM	2.12		12:00 PM	3.94
	6:00 PM	1.41		1:00 PM	5.47
	7:00 PM	1.59		2:00 PM	6.32
	8:00 PM	0.72		3:00 PM	5.75
	9:00 PM	0.05		4:00 PM	5.11
	10:00 PM	0.00		5:00 PM	4.21
	11:00 PM	0.00		6:00 PM	3.17
	<b>Daily Total:</b>	<b>47.16</b>		7:00 PM	1.26
				8:00 PM	0.51
				9:00 PM	0.05
				10:00 PM	0.00
				11:00 PM	0.00
				<b>Daily Total:</b>	<b>46.13</b>

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Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )	Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )
<b>19-Jul-96</b>			<b>20-Jul-96</b>		
	12:00 AM	0.00		12:00 AM	0.00
	1:00 AM	0.00		1:00 AM	0.00
	2:00 AM	0.00		2:00 AM	0.00
	3:00 AM	0.00		3:00 AM	0.00
	4:00 AM	0.00		4:00 AM	0.00
	5:00 AM	0.00		5:00 AM	0.00
	6:00 AM	0.12		6:00 AM	0.01
	7:00 AM	0.66		7:00 AM	0.18
	8:00 AM	2.27		8:00 AM	0.39
	9:00 AM	3.08		9:00 AM	1.95
	10:00 AM	4.33		10:00 AM	4.31
	11:00 AM	6.04		11:00 AM	6.30
	12:00 PM	5.95		12:00 PM	7.06
	1:00 PM	5.41		1:00 PM	6.18
	2:00 PM	6.03		2:00 PM	7.07
	3:00 PM	6.63		3:00 PM	5.92
	4:00 PM	4.97		4:00 PM	5.78
	5:00 PM	3.45		5:00 PM	4.68
	6:00 PM	1.98		6:00 PM	3.23
	7:00 PM	0.19		7:00 PM	1.25
	8:00 PM	0.07		8:00 PM	0.37
	9:00 PM	0.00		9:00 PM	0.05
	10:00 PM	0.00		10:00 PM	0.00
	11:00 PM	0.00		11:00 PM	0.00
	<b>Daily Total:</b>	<b>51.19</b>		<b>Daily Total:</b>	<b>54.73</b>

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Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )	Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )
<b>21-Jul-96</b>			<b>22-Jul-96</b>		
	12:00 AM	0.00		12:00 AM	0.00
	1:00 AM	0.00		1:00 AM	0.00
	2:00 AM	0.00		2:00 AM	0.00
	3:00 AM	0.00		3:00 AM	0.00
	4:00 AM	0.00		4:00 AM	0.00
	5:00 AM	0.00		5:00 AM	0.00
	6:00 AM	0.03		6:00 AM	0.12
	7:00 AM	0.21		7:00 AM	0.76
	8:00 AM	0.42		8:00 AM	1.31
	9:00 AM	0.87		9:00 AM	2.25
	10:00 AM	1.15		10:00 AM	1.92
	11:00 AM	2.29		11:00 AM	1.22
	12:00 PM	1.58		12:00 PM	2.54
	1:00 PM	1.93		1:00 PM	2.90
	2:00 PM	3.59		2:00 PM	2.76
	3:00 PM	2.04		3:00 PM	2.36
	4:00 PM	1.54		4:00 PM	1.61
	5:00 PM	1.80		5:00 PM	2.01
	6:00 PM	2.25		6:00 PM	2.51
	7:00 PM	0.95		7:00 PM	1.24
	8:00 PM	0.25		8:00 PM	0.32
	9:00 PM	0.05		9:00 PM	0.03
	10:00 PM	0.00		10:00 PM	0.00
	11:00 PM	0.00		11:00 PM	0.00
	<b>Daily Total:</b>	<b>20.96</b>		<b>Daily Total:</b>	<b>25.86</b>

Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )	Date	Time	Hourly Integrated Irradiance ( mol / m <sup>2</sup> )
<b>23-Jul-96</b>			<b>24-Jul-96</b>		
	12:00 AM	0.00		12:00 AM	0.00
	1:00 AM	0.00		1:00 AM	0.00
	2:00 AM	0.00		2:00 AM	0.00
	3:00 AM	0.00		3:00 AM	0.00
	4:00 AM	0.00		4:00 AM	0.00
	5:00 AM	0.00		5:00 AM	0.00
	6:00 AM	0.12		6:00 AM	0.02
	7:00 AM	1.03		7:00 AM	0.23
	8:00 AM	1.91		8:00 AM	0.68
	9:00 AM	4.34		9:00 AM	1.98
	10:00 AM	4.46		10:00 AM	3.84
	11:00 AM	5.99		11:00 AM	5.28
	12:00 PM	6.67		12:00 PM	6.42
	1:00 PM	7.00		1:00 PM	6.34
	2:00 PM	7.14		2:00 PM	6.67
	3:00 PM	6.44		3:00 PM	6.11
	4:00 PM	4.29		4:00 PM	5.87
	5:00 PM	3.55		5:00 PM	4.22
	6:00 PM	2.25		6:00 PM	1.88
	7:00 PM	0.84		7:00 PM	0.67
	8:00 PM	0.23		<b>Daily Total:</b>	<b>50.22</b>
	9:00 PM	0.02			
	10:00 PM	0.00			
	11:00 PM	0.00			
<b>Daily Total:</b>		<b>56.26</b>			