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## **Water quality in Chesapeake Bay : Virginia portion, water year 1991 : a report to the Virginia Water Control Board**

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# WATER QUALITY IN CHESAPEAKE BAY VIRGINIA PORTION

## Water Year 1991

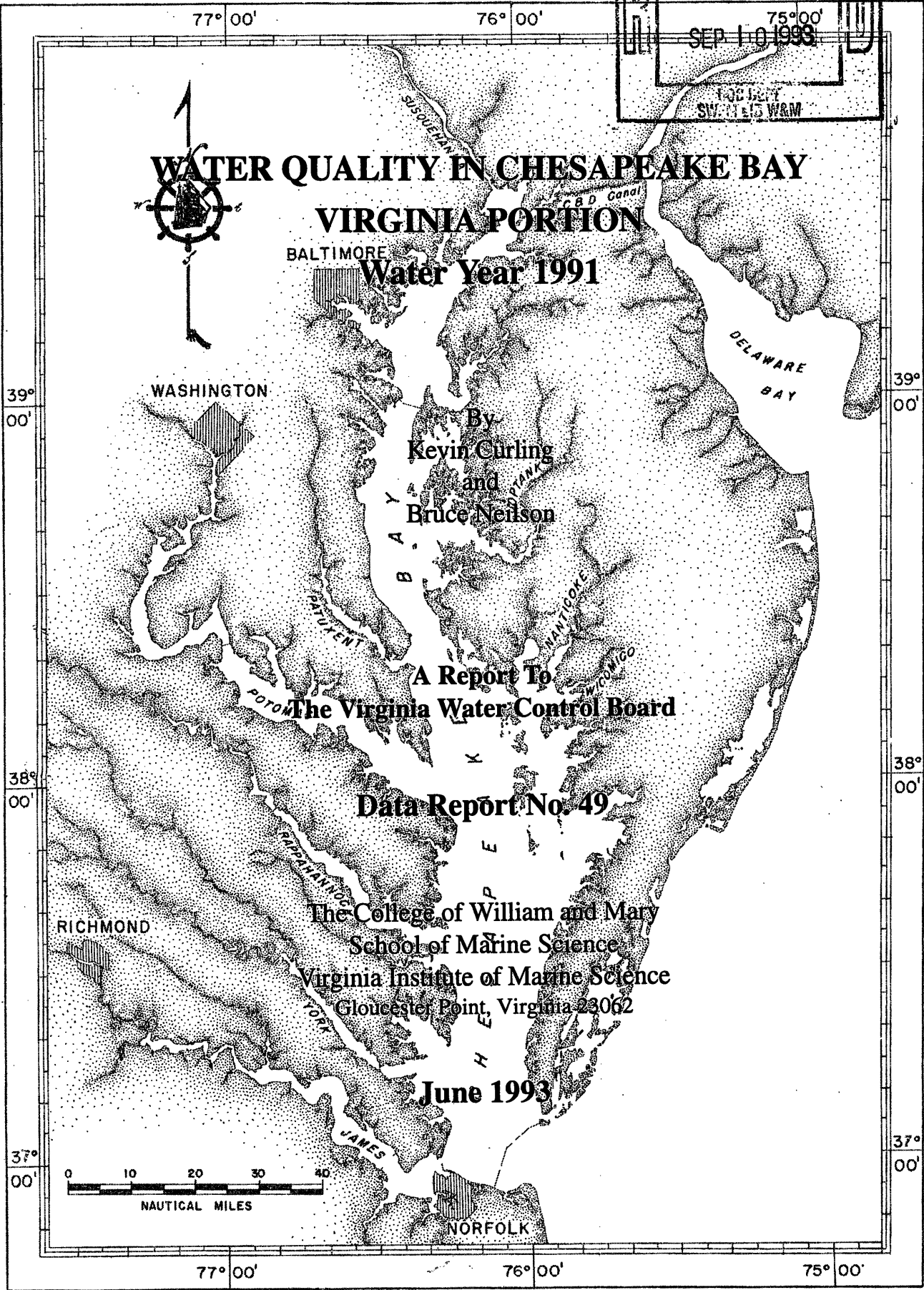
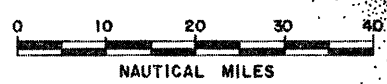
By  
**Kevin Carling**  
and  
**Bruce Neilson**

A Report To  
**The Virginia Water Control Board**

### Data Report No. 49

The College of William and Mary  
School of Marine Science  
Virginia Institute of Marine Science  
Gloucester Point, Virginia 23062

### June 1993



WATER QUALITY IN CHESAPEAKE BAY  
Virginia Portion  
Water Year 1991

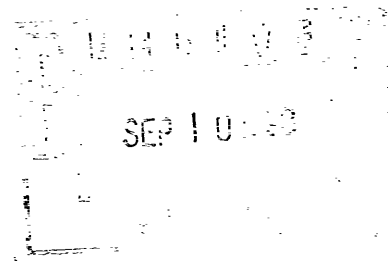
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| Particulate Nitrogen . . . . .       | 83  |
| Total Dissolved Nitrogen . . . . .   | 90  |
| Ammonia . . . . .                    | 97  |
| Nitrate + Nitrite . . . . .          | 104 |
| Nitrite . . . . .                    | 111 |
| Dissolved Silica . . . . .           | 118 |
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| Total Suspended Solids . . . . .     | 139 |
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## **INTRODUCTION**

In the summer of 1984 a comprehensive water quality monitoring program was initiated for the Chesapeake Bay system. Funding for monitoring of the main stem of Chesapeake Bay was provided by the U.S. Environmental Protection Agency, while monitoring of the tributaries to the bay was supported by the states of Virginia and Maryland, and the District of Columbia. This monitoring program had three goals:

- (1) characterization of water quality conditions,
- (2) detection of trends in water quality,
- (3) creation of a data base that would allow scientists to propose hypotheses regarding the processes controlling water quality.

The purpose of this report is to characterize water quality conditions during the 1991 water year, October 1990 through September 1991. Most information is provided in graphical format and only data for the Virginia portion of Chesapeake Bay is included. No interpretation is included, since data analysis is the stated purpose of several other reports.

This report and companion data reports provide to both scientists and managers ready access to a portion of the data. It is possible, for example, to quickly examine seasonal patterns, compare conditions at two stations, or see if surface and bottom conditions differ significantly. Trends, inter-annual variations and other important considerations are treated in other reports.

## DESCRIPTION OF THE MONITORING PROGRAM

The Chesapeake Bay monitoring program includes some fifty stations within the bay proper or at the confluence of a tributary and the bay. Twenty-seven of those stations are located in Virginia. The responsibility for the monitoring in Virginia is shared between the Virginia Institute of Marine Science (VIMS) and Old Dominion University (ODU). VIMS samples the mid-portion of the bay, Mobjack Bay, and at the mouths of the Great Wicomico, Rappahannock, Piankatank, York, Poquoson, and Back Rivers. ODU samples the lower portion of the bay and at the mouth of the James River. Station locations and depths are listed in Table 1, and locations are shown in Figure 1.

This report covers the 1991 water year (October 1990 through September 1991). Sampling occurred twice per month during the warmer part of the year (May - September) and once per month during colder months (October - March) (see Table 2). All of the institutions attempt to complete the sampling at all bay and tributary stations within a three day window, typically Monday through Wednesday of the chosen week. These sampling periods are determined in advance with scheduling dictated in large part by the availability of research vessels. The time of sampling within the three day period is determined by each institution, with weather conditions frequently playing a major role in timing. No attempt is made to schedule the sampling at any lunar phase or to sample individual stations at particular tidal phases. Note that the twice per month frequency means that roughly the same stage of the lunar cycle will be captured, except when there is a three week interval, and the sampling switches to a different phase of the lunar cycle.

At each station, a standard protocol for sampling is followed. (See the Field Procedures Manual and the Instrument Calibration Manual for details.) Observations on sea state, weather conditions, and water clarity (Secchi depth reading) are made at each station when possible. The physical setting is monitored using continuous profiling instruments. Water temperature, conductivity, dissolved oxygen (DO), and pH readings are recorded at one meter intervals beginning at one meter below the surface (the surface sample) and continuing until one meter above the bottom (the bottom sample). At stations greater than 15 meters deep, measurements are recorded at one meter intervals for the first 15 meters, and two meters thereafter.

Water samples are collected at each station to determine water quality conditions. Each sample is

analyzed for nutrients (carbon, nitrogen, phosphorus, silica), chlorophyll, and suspended solids. The complete list of analyses is given in Table 3 (See the Laboratory Procedures Manual for further details on nutrient analyses).

Samples are collected one meter below the surface and one meter above the bottom at all stations. Additional samples are collected at the deep "main stem" stations - CB5.4, CB5.5, CB6.1, CB6.2, CB6.3, CB6.4, CB7.3, and CB7.4. If the water column shows little density stratification, the additional samples are collected at 1/3rd and 2/3rd depths. If there is appreciable stratification, the samples are collected one meter above and one meter below the pycnocline, the layer within which density changes rapidly. The precise depths for sample collection are determined using the algorithm in Table 4.

Table 1. Location of Chesapeake Bay Water Quality Monitoring Stations

| <u>Sampled by VIMS</u> |                 |                  |                  |
|------------------------|-----------------|------------------|------------------|
| <u>Station</u>         | <u>Latitude</u> | <u>Longitude</u> | <u>Depth (M)</u> |
| CB5.4                  | 37 48.0         | 76 10.5          | 33               |
| CB5.5                  | 37 41.5         | 76 11.4          | 20               |
| CB6.1                  | 37 35.3         | 76 9.8           | 13               |
| CB6.2                  | 37 29.2         | 76 9.4           | 11               |
| CB6.3                  | 37 24.7         | 76 9.6           | 12               |
| EE3.1 **               | 37 54.5         | 75 47.5          | 4                |
| EE3.2 **               | 37 47.6         | 75 50.6          | 26               |
| CB7.1N                 | 37 46.5         | 75 58.5          | 32               |
| CB7.1                  | 37 41.0         | 75 59.4          | 25               |
| CB7.1S                 | 37 34.9         | 76 3.5           | 16               |
| CB5.4W                 | 37 48.8         | 76 17.7          | 5                |
| CB7.2                  | 37 24.7         | 76 4.8           | 23               |
| CB7.2E                 | 37 24.7         | 76 1.5           | 14               |
| LE3.6                  | 37 35.8         | 76 17.1          | 10               |
| LE3.7                  | 37 31.8         | 76 18.4          | 8                |
| WE4.1                  | 37 18.7         | 76 20.8          | 6                |
| WE4.2                  | 37 14.5         | 76 23.2          | 15               |
| WE4.3                  | 37 10.6         | 76 22.4          | 6                |
| WE4.4                  | 37 6.6          | 76 17.6          | 8                |

\*\* These stations are referred to as EE3.4 and EE3.5 in Chesapeake Bay Program (CBP) reports.

| <u>Sampled by ODU</u> |                 |                  |                  |
|-----------------------|-----------------|------------------|------------------|
| <u>Station</u>        | <u>Latitude</u> | <u>Longitude</u> | <u>Depth (M)</u> |
| CB6.4                 | 37 14.2         | 76 12.5          | 11               |
| CB7.3                 | 37 7.0          | 76 7.5           | 14               |
| CB7.4                 | 36 59.6         | 76 0.6           | 14               |
| CB7.4N                | 37 3.5          | 75 58.4          | 13               |
| CB8.1E                | 36 56.7         | 76 1.5           | 18               |
| CB8.1                 | 36 59.3         | 76 10.1          | 9                |
| CB7.3E                | 37 13.7         | 76 3.3           | 20               |
| LE5.5                 | 36 59.8         | 76 18.2          | 21               |



Figure 1. Map of Monitoring Stations

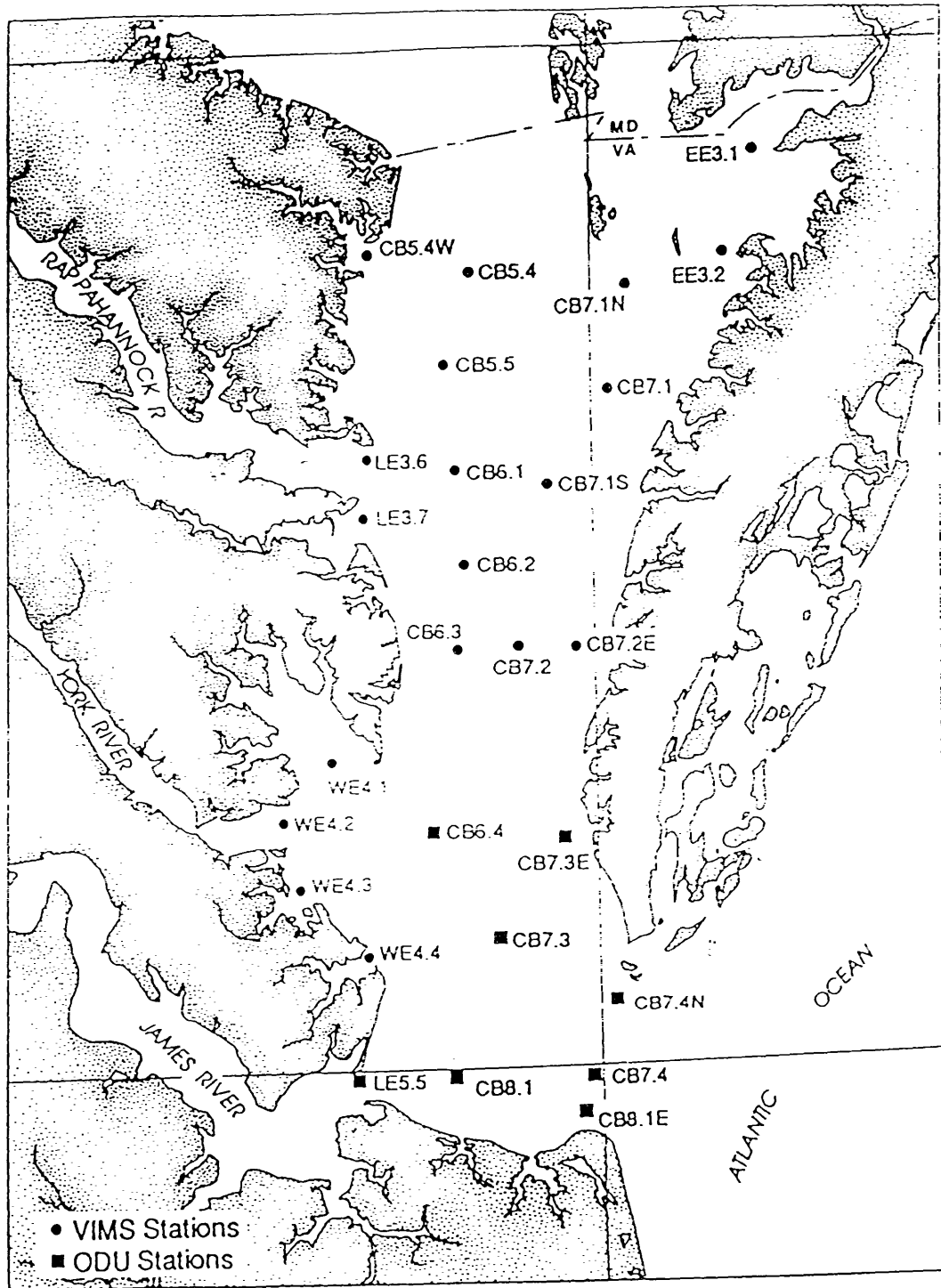


Table 2. Date when each station was sampled during each month of the 1991 water year.

|        | Oct.<br>90 | Nov.<br>90 | Dec.<br>90 | Jan.<br>91 | Feb.<br>91 | March<br>91 |
|--------|------------|------------|------------|------------|------------|-------------|
| CB5.4  | 15         | 15         | 10         | 15         | 11         | 12          |
| CB5.5  | 15         | 14         | 10         | 16         | 11         | 13          |
| CB6.1  | 15         | 14         | 10         | 15         | 11         | 12          |
| CB6.2  | 15         | 13         | 10         | 15         | 11         | 12          |
| CB6.3  | 16         | 15         | 11         | 15         | 12         | 12          |
| CB6.4  | 15         | 16         | 11         | 14         | 13         | 13          |
| CB7.3  | 15         | 16         | 11         | 14         | 13         | 13          |
| CB7.4  | 15         | 16         | 10         | 14         | 13         | 13          |
| CB7.4N | 15         | 16         | 10         | 14         | 13         | 13          |
| CB8.1E | 15         | 16         | 10         | 14         | 13         | 13          |
| CB8.1  | 15         | 16         | 10         | 14         | 11         | 13          |
| EE3.1  | 16         | 15         | 11         | 15         | 12         | 12          |
| EE3.2  | 16         | 15         | 11         | 15         | 12         | 12          |
| CB7.1N | 15         | 15         | 11         | 15         | 11         | 12          |
| CB7.1  | 16         | 15         | 10         | 15         | 11         | 12          |
| CB7.1S | 15         | 15         | 10         | 15         | 11         | 12          |
| CB5.4W | 15         | 14         | 10         | 15         | 11         | 13          |
| CB7.2  | 16         | 13         | 11         | 15         | 12         | 12          |
| CB7.2E | 16         | 15         | 11         | 15         | 12         | 12          |
| CB7.3E | 15         | 16         | 11         | 14         | 13         | 13          |
| LE3.6  | 15         | 13         | 10         | 16         | 12         | 13          |
| LE3.7  | 15         | 13         | 10         | 16         | 12         | 13          |
| WE4.1  | 16         | 15         | 10         | 16         | 11         | 13          |
| WE4.2  | 15         | 13         | 10         | 16         | 11         | 12          |
| WE4.3  | 16         | 13         | 11         | 16         | 12         | 12          |
| WE4.4  | 17         | 13         | 11         | 16         | 12         | 12          |
| LE5.5  | 15         | 16         | 10         | 14         | 11         | 13          |

Table 2 (cont.). Date when each station was sampled during each month of the 1991 water year.

|        | April<br>91 | May<br>91 | June<br>91 | July<br>91 | Aug.<br>91 | Sep.<br>91 |
|--------|-------------|-----------|------------|------------|------------|------------|
| CB5.4  | 9, 22       | 6, 21     | 5, 17      | 9, 22      | 5, 21      | 4, 17      |
| CB5.5  | 9, 22       | 6, 21     | 5, 17      | 9, 23      | 5, 20      | 4, 16      |
| CB6.1  | 9, 22       | 6, 21     | 5, 17      | 9, 23      | 5, 20      | 4, 16      |
| CB6.2  | 10, 22      | 6, 22     | 3, 18      | 9, 23      | 6, 20      | 4, 17      |
| CB6.3  | 8, 22       | 6, 22     | 6, 18      | 9, 23      | 6, 20      | 4, 17      |
| CB6.4  | 8, 23       | 8, 21     | 6, 18      | 11, 23     | 6, 21      | 4, 16      |
| CB7.3  | 8, 23       | 8, 21     | 6, 18      | 9, 23      | 6, 21      | 4, 16      |
| CB7.4  | 8, 23       | 8, 21     | 4, 18      | 11, 23     | 6, 21      | 4, 16      |
| CB7.4N | 8, 23       | 8, 21     | 4, 18      | 11, 23     | 6, 21      | 4, 16      |
| CB8.1E | 8, 23       | 8, 21     | 4, 18      | 11, 23     | 6, 21      | 4, 16      |
| CB8.1  | 8, 23       | 7, 21     | 4, 18      | 11, 23     | 6, 21      | 4, 16      |
| EE3.1  | 9, 23       | 7, 20     | 3, 17      | 8, 22      | 6, 21      | 3, 17      |
| EE3.2  | 9, 23       | 7, 20     | 3, 17      | 8, 22      | 5, 21      | 3, 17      |
| CB7.1N | 8, 22       | 7, 21     | 3, 17      | 9, 22      | 5, 21      | 3, 17      |
| CB7.1  | 8, 23       | 7, 20     | 3, 18      | 8, 22      | 6, 21      | 3, 17      |
| CB7.1S | 8, 23       | 7, 20     | 3, 18      | 8, 22      | 6, 21      | 3, 17      |
| CB5.4W | 9, 22       | 6, 21     | 4, 17      | 9, 23      | 5, 20      | 4, 17      |
| CB7.2  | 8, 23       | 8, 20     | 3, 18      | 8, 22      | 6, 21      | 3, 16      |
| CB7.2E | 8, 23       | 8, 20     | 3, 18      | 8, 22      | 6, 21      | 3, 16      |
| CB7.3E | 8, 23       | 8, 21     | 6, 18      | 11, 23     | 6, 21      | 4, 16      |
| LE3.6  | 9, 22       | 7, 21     | 5, 17      | 9, 23      | 5, 20      | 4, 16      |
| LE3.7  | 9, 22       | 8, 21     | 5, 17      | 9, 23      | 5, 20      | 4, 16      |
| WE4.1  | 10, 22      | 8, 20     | 3, 18      | 8, 22      | 5, 20      | 3, 16      |
| WE4.2  | 8, 22       | 6, 20     | 3, 18      | 8, 22      | 5, 20      | 3, 16      |
| WE4.3  | 8, 23       | 6, 22     | 6, 18      | 9, 23      | 6, 22      | 5, 18      |
| WE4.4  | 8, 23       | 6, 22     | 6, 18      | 9, 23      | 6, 22      | 5, 18      |
| LE5.5  | 8, 23       | 8, 21     | 6, 18      | 9, 23      | 6, 21      | 4, 16      |

Table 3. Water Quality Analyses

Carbon

Particulate carbon  
Dissolved organic carbon

Nitrogen

Particulate nitrogen  
Total dissolved nitrogen  
Ammonia-nitrogen  
Nitrite-nitrogen  
Nitrate+nitrite-nitrogen

Phosphorus

Particulate phosphorus  
Total dissolved phosphorus  
Ortho-phosphate

Silica

Dissolved silica

Chlorophyll-A

Total suspended solids

Table 4. Algorithm to determine pycnocline location and sampling depths

$$\frac{(\text{Cond. at Bottom} - \text{Cond. at Surface})}{(\text{Total Depth} - 0.5)} \times 2 = \text{Threshold value}$$

where cond. = conductivity.

If the threshold value is less than 0.5, then samples are taken at one-third and two-thirds depths.

If the threshold value is greater than 0.5, then a sample is taken one meter above the first occurrence (proceeding from the surface to the bottom) where the change in conductivity between depths is greater than the threshold value and another sample is taken one meter below the last occurrence where the change in conductivity between depths is greater than the threshold value.

## RESULTS

The monitoring results are presented in tables and figures in the appendices and are arranged by water quality analysis. For each measure of water quality, the maximum, mean, and minimum values observed at each station during the year are listed in the table. These statistics are given for both the surface and bottom sampling points. These tables then show the range of values encountered during the year, the mean conditions, and they also show whether there are surface to bottom differences.

Following the table, the data for each station has been plotted, so that the seasonal cycle can be seen. When there were two cruises during a month, the data from the two cruises have been combined. The surface and bottom values are presented independently, along with the monthly maximum, minimum, and mean concentrations. The maximum and minimum values at the surface are presented as "whiskers" and the maximum and minimum values at the bottom are presented as "boxes".

Only data for the surface and bottom samples have been tabulated and plotted; no pycnocline results are included. This difference is noted so there is no confusion with surface mixed layer or bottom mixed layer values, which would be determined by averaging the surface and above pycnocline results, or the below pycnocline and bottom results.

Perhaps the single most important measure of water quality is the dissolved oxygen (DO) concentration. For estuarine waters in Virginia, state water quality standards specify that the daily average DO concentration should be 5.0 mg/l or greater, and that no observation should be below 4.0 mg/l. The portion of the observations below 5 mg/l and below 4 mg/l have been calculated for each station and are included in the DO section.

In addition to the water quality parameters measured directly, several other parameters have been calculated and plotted. Salinity is determined using water temperature and conductivity observations and the UNESCO Equations of State (UNESCO, 1983). Total phosphorus and total nitrogen have been calculated by summing the values for the particulate and total dissolved fractions. Chlorophyll-a has been calculated using a trichromatic formulate (ASTM, 1979; method D 3731-79).

## REFERENCES

- Field Procedures Manual. 1989. Data Acquisition and Instrumentation Group, Physical Oceanography Division, VIMS.
- Instrument Calibration Manual. 1989. Data Acquisition and Instrumentation Group, Physical Oceanography Division, VIMS.
- Laboratory Procedures Manual. 1989. Nutrient Analysis Laboratory, Physical Oceanography Division, VIMS.
- ASTM, 1979; D 3731-79: Standard Practices for Measurement of Chlorophyll Content of Algae in Surface Waters. In: 1979 Annual Book of ASTM Standards, Part 31, Water. American Society for Testing and Materials, Philadelphia, Pennsylvania.
- UNESCO, 1983. UNESCO Technical Papers in Marine Science 44. Algorithms for Computation of Fundamental Properties of Seawater.

## **SECCHI DISK**

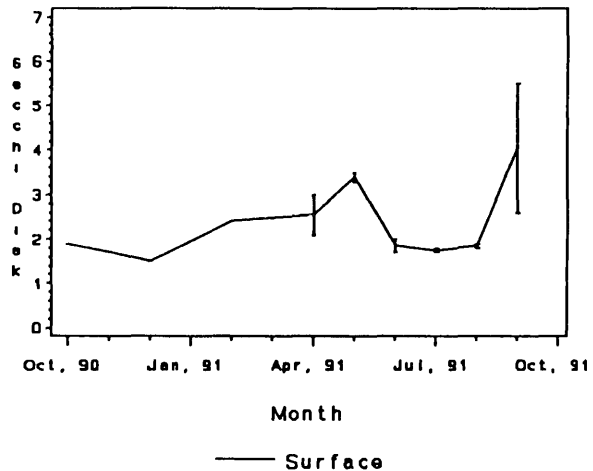
Values reported as meters.

Secchi Disk  
October, 1990 - September, 1991

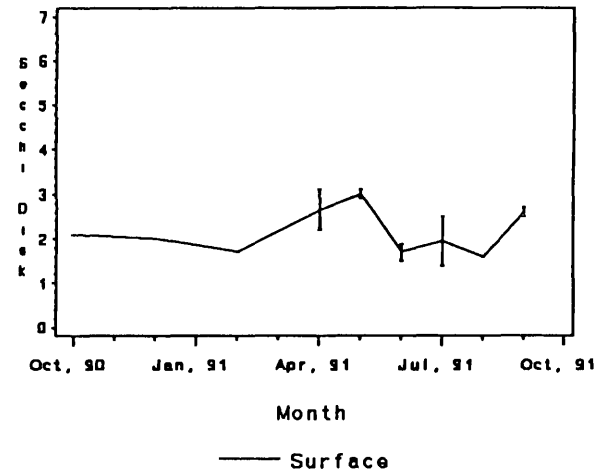
|             | Secchi Disk<br>(m) |      |      |
|-------------|--------------------|------|------|
|             | Max                | Mean | Min  |
| CB5.4.....  | 5.50               | 2.40 | 1.50 |
| CB5.5.....  | 3.10               | 2.19 | 1.40 |
| CB6.1.....  | 3.20               | 2.42 | 1.70 |
| CB6.2.....  | 4.00               | 2.01 | 1.00 |
| CB6.3.....  | 3.50               | 1.93 | 1.10 |
| CB6.4.....  | 3.60               | 2.09 | 1.20 |
| CB7.3.....  | 4.90               | 2.47 | 1.10 |
| CB7.4.....  | 4.60               | 2.76 | 1.40 |
| CB7.4N..... | 4.60               | 2.37 | 1.10 |
| CB8.1E..... | 2.60               | 1.89 | 1.10 |
| CB8.1.....  | 3.60               | 2.01 | 1.00 |
| EE3.1.....  | 1.90               | 1.08 | 0.60 |
| EE3.2.....  | 3.40               | 1.56 | 0.90 |
| CB7.1N..... | 2.90               | 1.86 | 1.30 |
| CB7.1.....  | 4.00               | 2.23 | 1.10 |
| CB7.1S..... | 4.00               | 2.34 | 1.10 |
| CB5.4W..... | 2.50               | 1.33 | 0.70 |
| CB7.2.....  | 3.70               | 2.42 | 1.50 |
| CB7.2E..... | 3.80               | 2.32 | 1.30 |
| CB7.3E..... | 6.50               | 2.57 | 1.50 |
| LE3.6.....  | 3.10               | 1.92 | 1.10 |
| LE3.7.....  | 2.20               | 1.66 | 1.10 |
| WE4.1.....  | 2.20               | 1.47 | 1.00 |
| WE4.2.....  | 2.60               | 1.73 | 1.00 |
| WE4.3.....  | 3.70               | 1.54 | 0.90 |
| WE4.4.....  | 2.50               | 1.24 | 0.70 |
| LE5.5.....  | 3.10               | 1.57 | 1.00 |



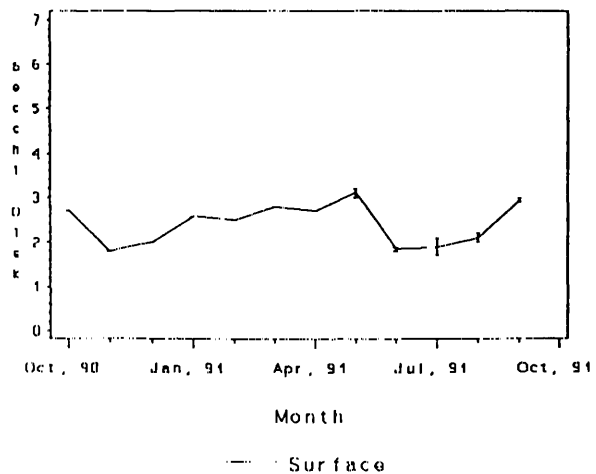
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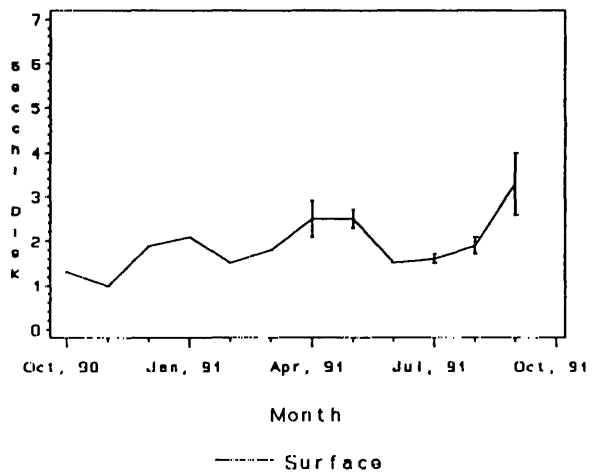
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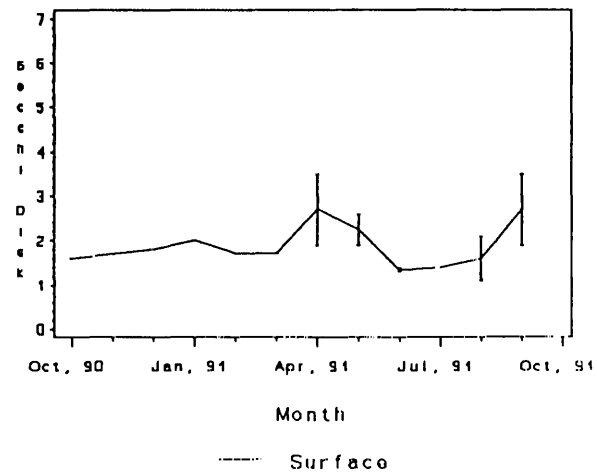
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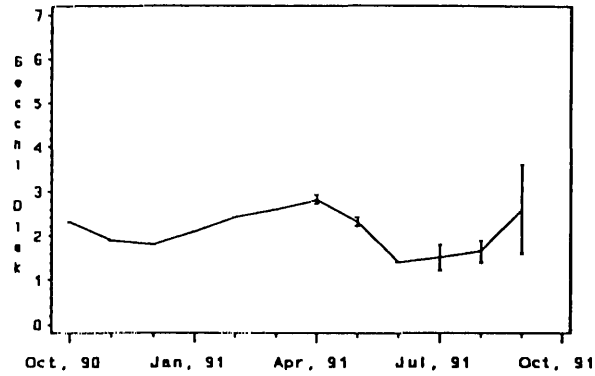
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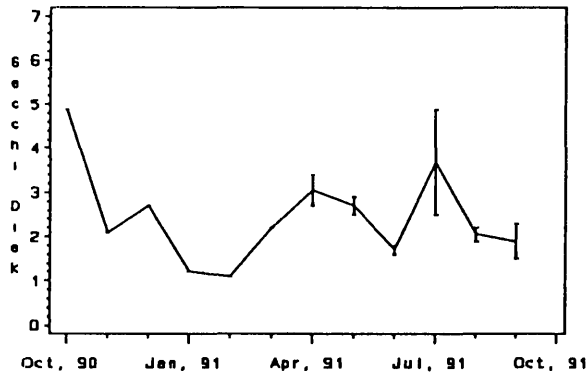


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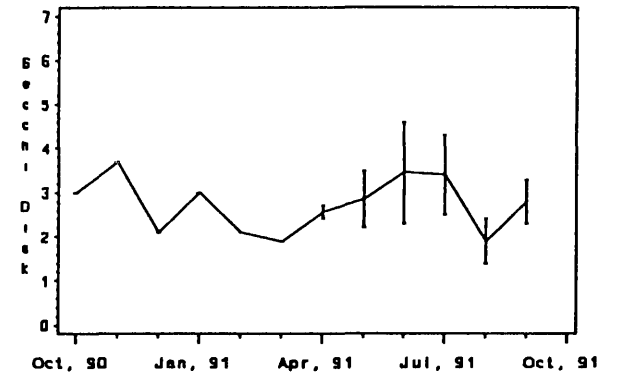
Month  
— Surface

Station Id=CB7.3



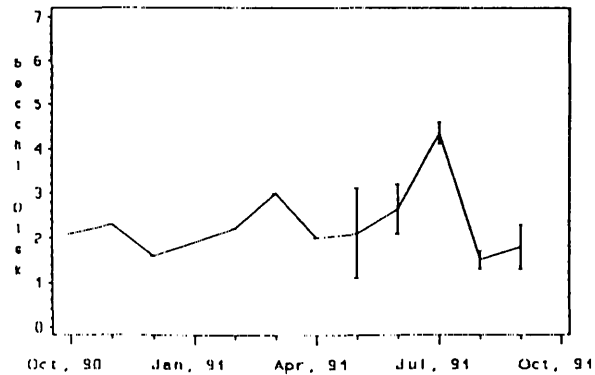
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— Surface

Station Id=CB7.4



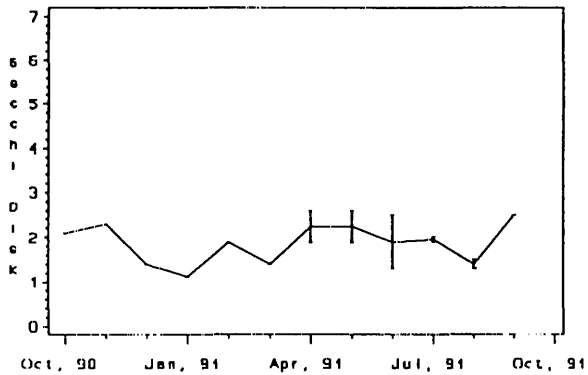
Month  
— Surface

Station Id=CB7.4N



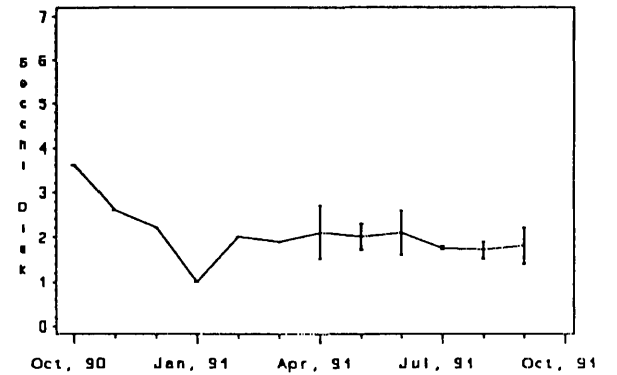
Month  
— Surface

Station Id=CB8.1E



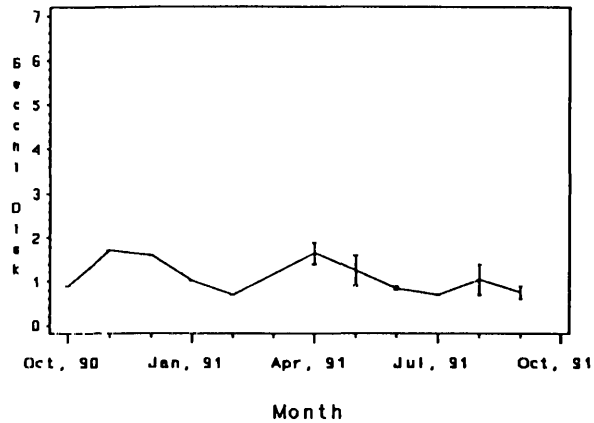
Month  
— Surface

Station Id=CB8.1



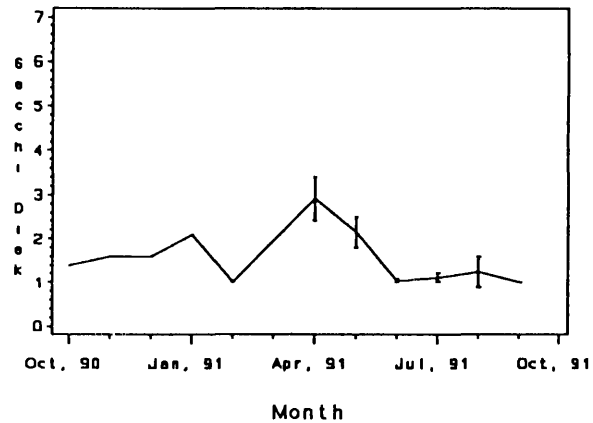
Month  
— Surface

Station Id=EE3.1



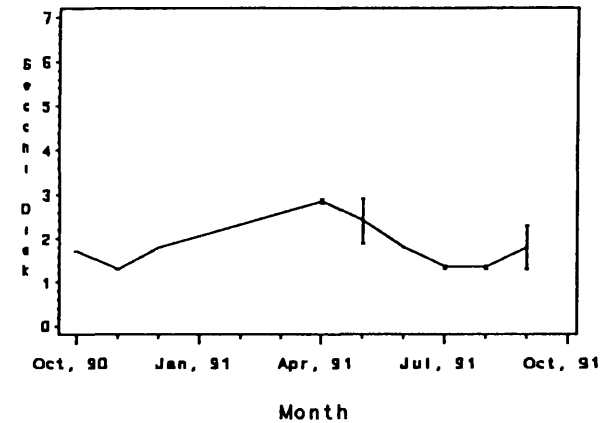
— Surface

Station Id=EE3.2



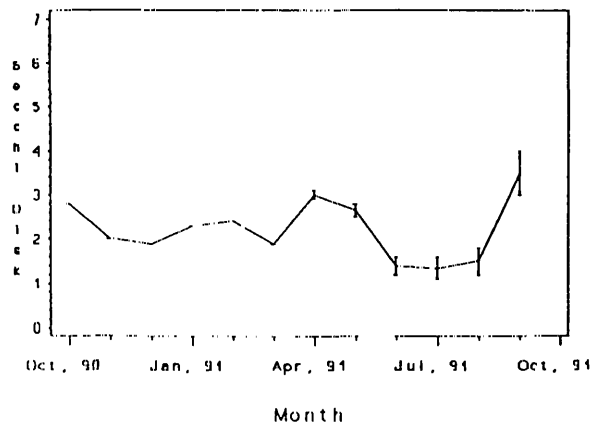
— Surface

Station Id=CB7.1N



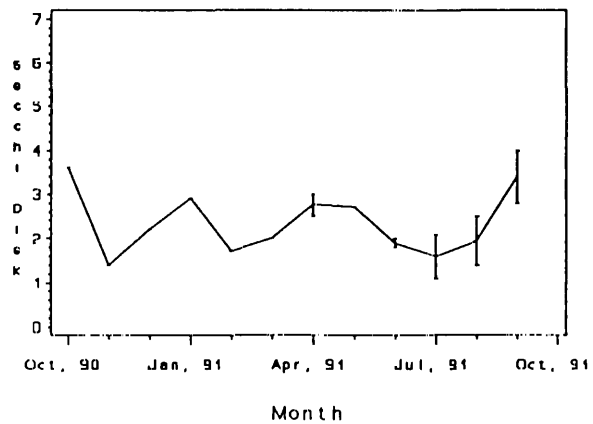
— Surface

Station Id=CB7.1



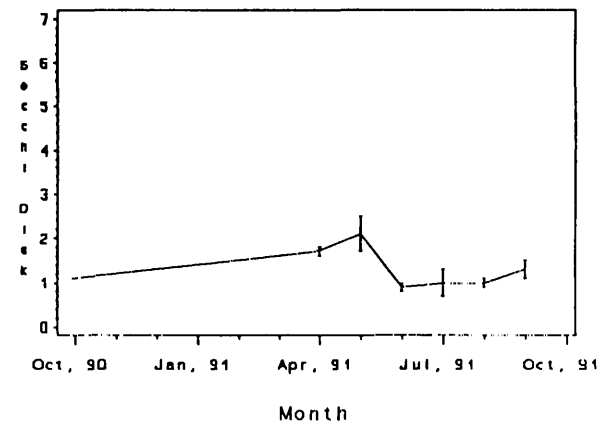
— Surface

Station Id=CB7.1S



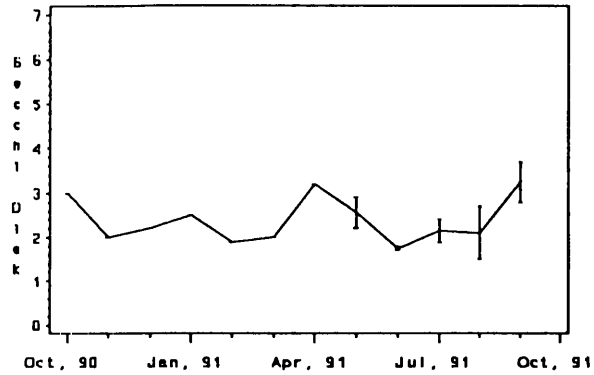
— Surface

Station Id=CB5.4W



— Surface

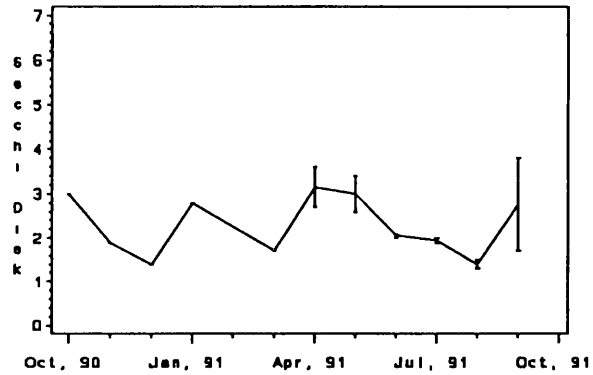
Station Id=CB7.2



Month

— Surface

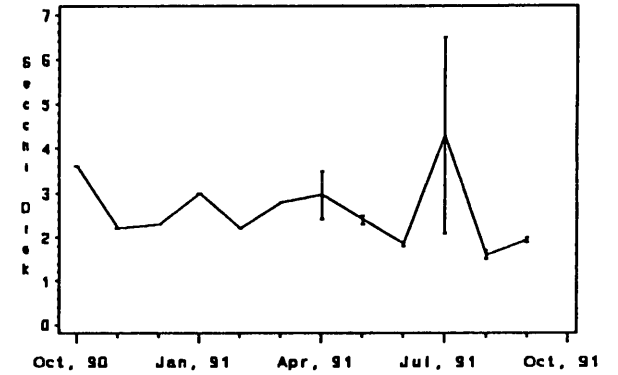
Station Id=CB7.2E



Month

— Surface

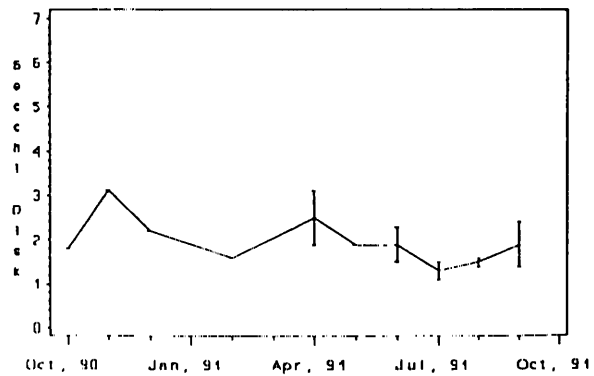
Station Id=CB7.3E



Month

— Surface

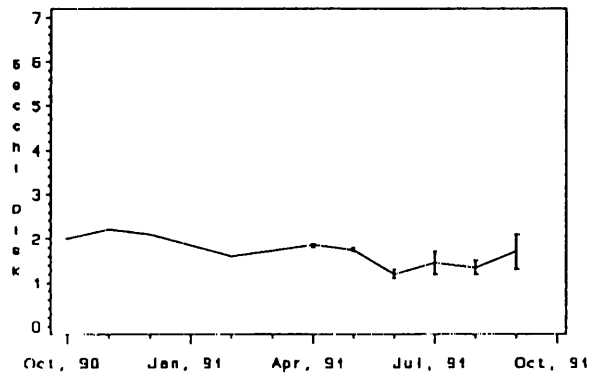
Station Id=LE3.6



Month

— Surface

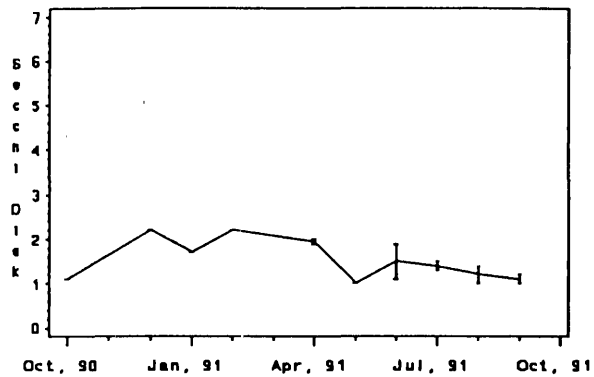
Station Id=LE3.7



Month

— Surface

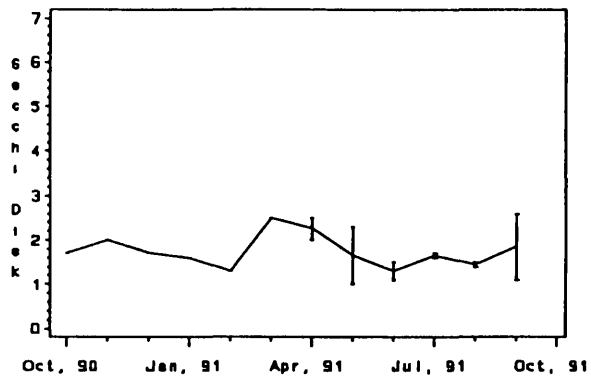
Station Id=WE4.1



Month

— Surface

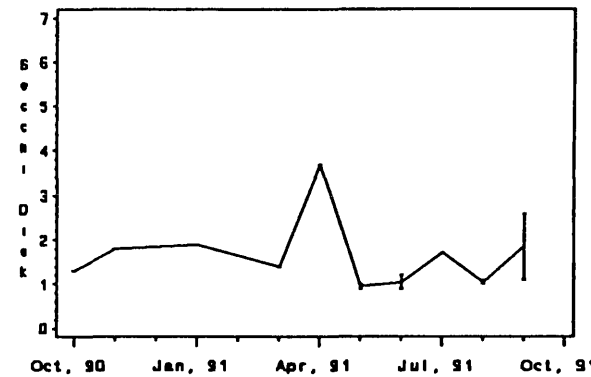
Station Id=WE4.2



Month

— Surface

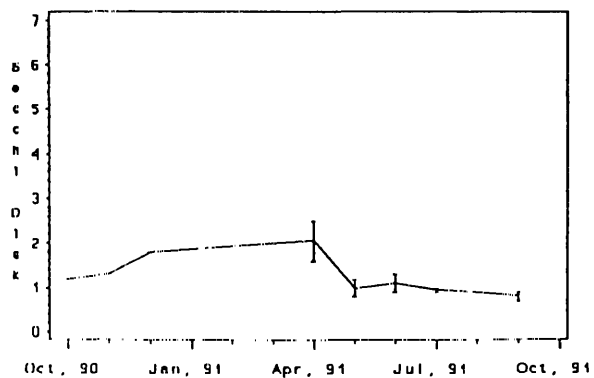
Station Id=WE4.3



Month

— Surface

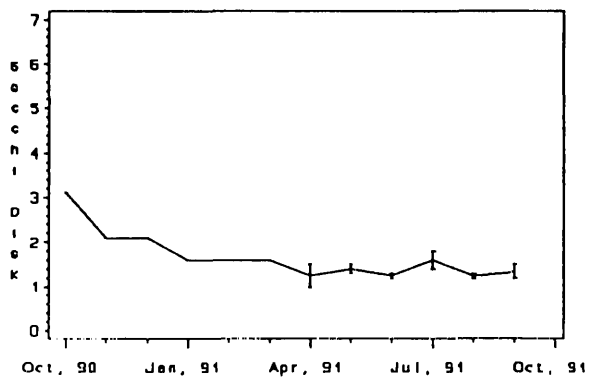
Station Id=WE4.4



Month

--- Surface

Station Id=LE5.5



Month

--- Surface

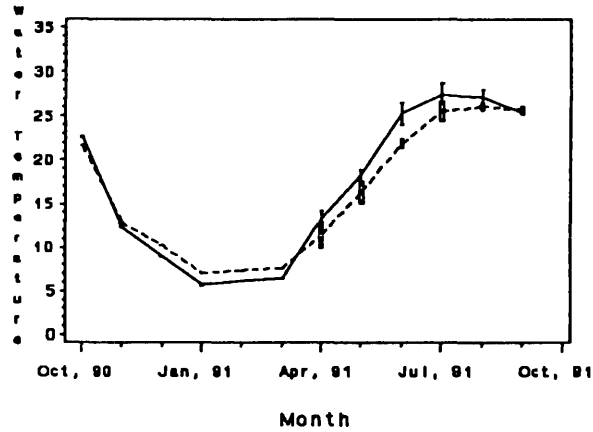
## **WATER TEMPERATURE**

Values reported as degrees Centigrade.

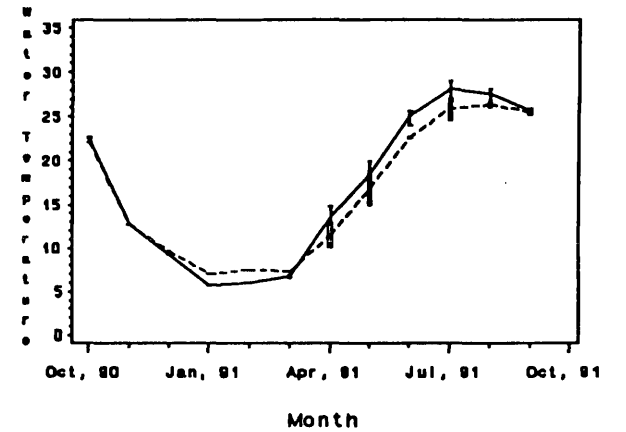
Water Temperature  
October, 1990 - September, 1991

|             | Water Temperature<br>(°C) |       |      |        |       |      |
|-------------|---------------------------|-------|------|--------|-------|------|
|             | Surface                   |       |      | Bottom |       |      |
|             | Max                       | Mean  | Min  | Max    | Mean  | Min  |
| CB5.4.....  | 28.76                     | 18.64 | 5.61 | 26.65  | 17.77 | 7.00 |
| CB5.5.....  | 29.07                     | 19.74 | 5.69 | 27.11  | 17.98 | 7.00 |
| CB6.1.....  | 28.71                     | 19.00 | 5.85 | 27.27  | 17.89 | 6.53 |
| CB6.2.....  | 29.53                     | 20.01 | 5.84 | 27.39  | 18.12 | 6.55 |
| CB6.3.....  | 29.99                     | 18.83 | 5.90 | 27.27  | 17.90 | 6.64 |
| CB6.4.....  | 29.41                     | 18.97 | 6.16 | 26.40  | 17.50 | 6.73 |
| CB7.3.....  | 29.47                     | 18.72 | 6.66 | 25.53  | 17.05 | 6.91 |
| CB7.4.....  | 25.92                     | 17.47 | 6.59 | 24.69  | 16.59 | 6.91 |
| CB7.4N..... | 26.47                     | 18.18 | 6.91 | 26.15  | 17.64 | 6.83 |
| CB8.1E..... | 26.67                     | 18.52 | 6.16 | 24.10  | 16.84 | 7.29 |
| CB8.1.....  | 27.44                     | 18.92 | 6.41 | 26.49  | 17.71 | 7.30 |
| EE3.1.....  | 30.12                     | 20.06 | 5.37 | 29.34  | 19.05 | 5.39 |
| EE3.2.....  | 30.18                     | 19.52 | 4.83 | 28.33  | 18.20 | 6.21 |
| CB7.1N..... | 30.54                     | 19.47 | 6.05 | 27.76  | 18.05 | 6.60 |
| CB7.1.....  | 29.46                     | 19.69 | 6.18 | 27.83  | 18.52 | 7.35 |
| CB7.1S..... | 29.12                     | 19.72 | 6.02 | 27.30  | 17.89 | 7.11 |
| CB5.4W..... | 29.56                     | 20.10 | 5.74 | 29.57  | 18.97 | 5.83 |
| CB7.2.....  | 28.53                     | 19.45 | 5.60 | 27.24  | 17.85 | 7.17 |
| CB7.2E..... | 28.36                     | 18.99 | 5.45 | 27.83  | 18.20 | 6.90 |
| CB7.3E..... | 28.00                     | 18.59 | 6.32 | 26.79  | 18.10 | 6.35 |
| LE3.6.....  | 29.57                     | 19.85 | 5.95 | 27.83  | 18.58 | 5.90 |
| LE3.7.....  | 30.50                     | 19.00 | 6.16 | 28.37  | 18.54 | 6.12 |
| WE4.1.....  | 28.84                     | 20.15 | 6.50 | 28.11  | 19.07 | 6.51 |
| WE4.2.....  | 28.70                     | 19.45 | 6.83 | 27.20  | 17.89 | 7.35 |
| WE4.3.....  | 29.00                     | 19.29 | 5.86 | 29.01  | 19.10 | 6.16 |
| WE4.4.....  | 30.60                     | 19.85 | 5.77 | 30.42  | 19.21 | 5.80 |
| LE5.5.....  | 28.33                     | 19.12 | 7.25 | 24.71  | 16.74 | 7.36 |

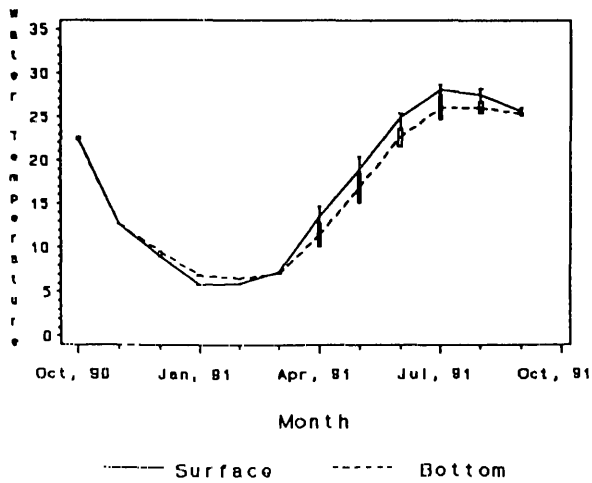
Station Id=CB5.4



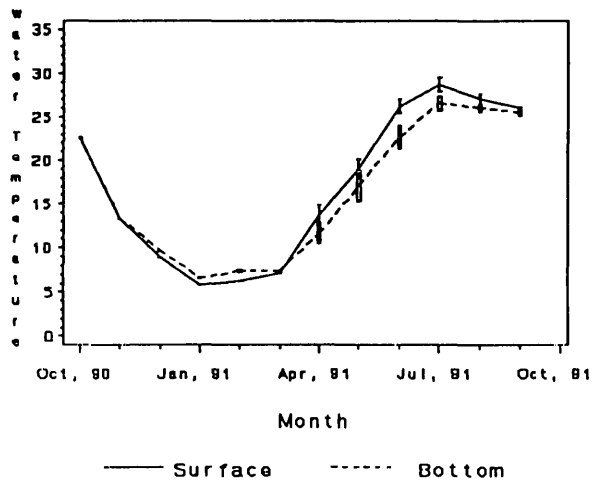
Station Id=CB5.5



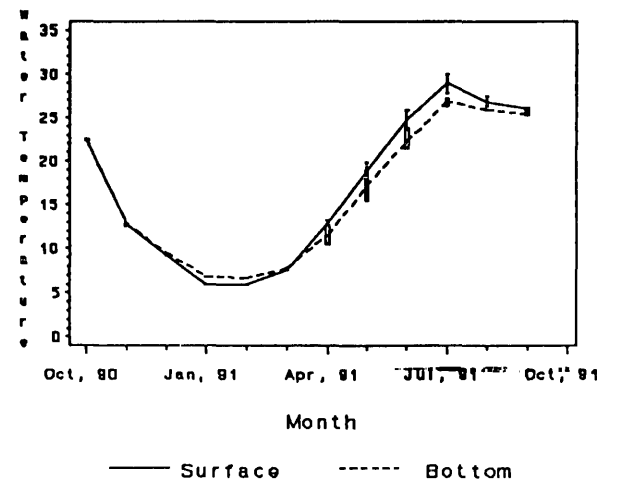
Station Id=CB6.1



Station Id=CB6.2

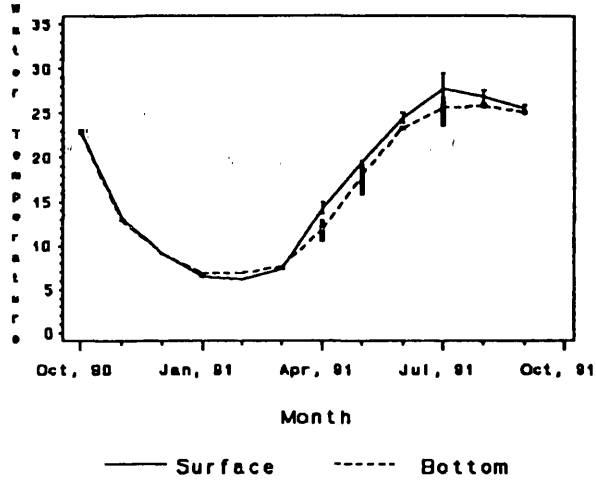


Station Id=CB6.3

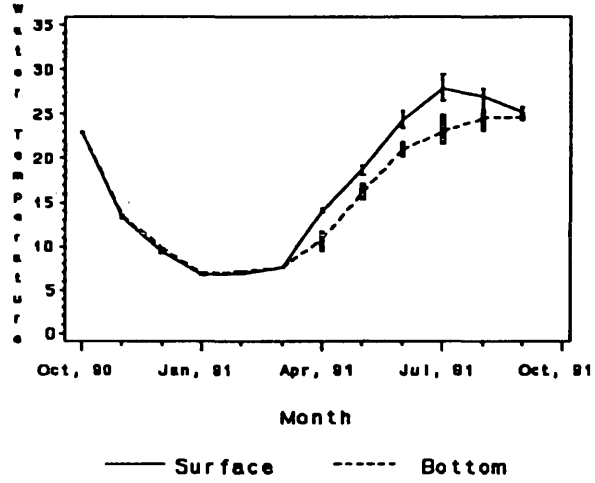




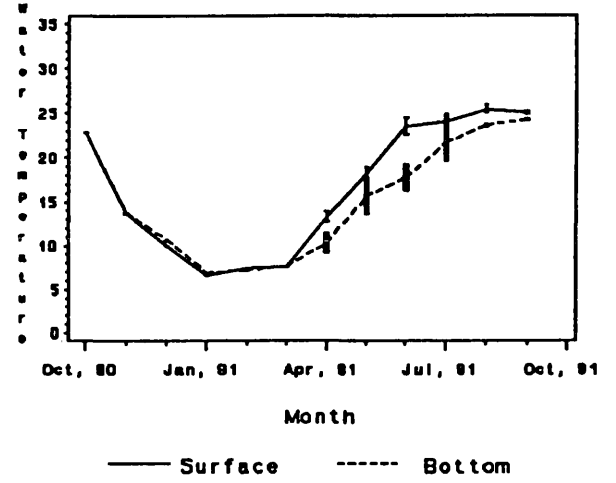
Station Id=CB6.4



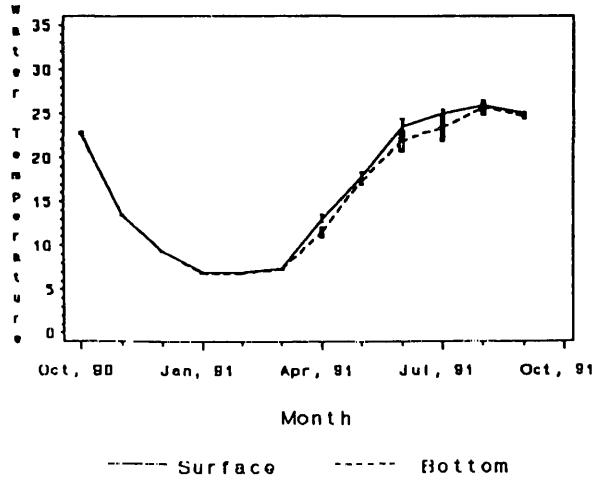
Station Id=CB7.3



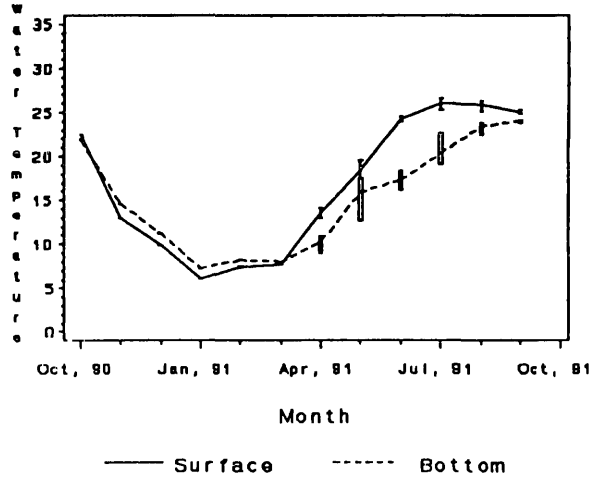
Station Id=CB7.4



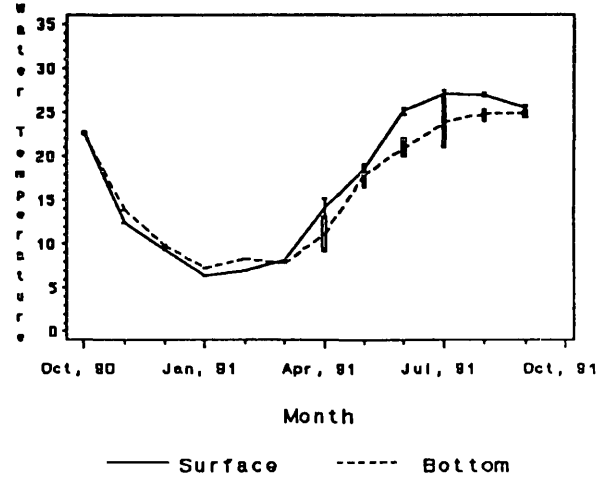
Station Id=CB7.4N



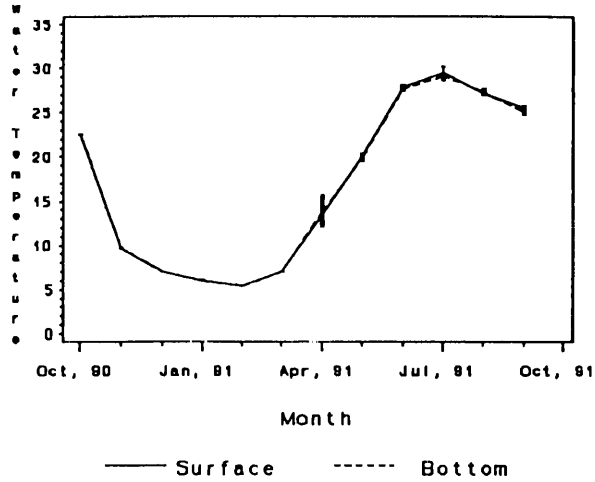
Station Id=CB8.1E



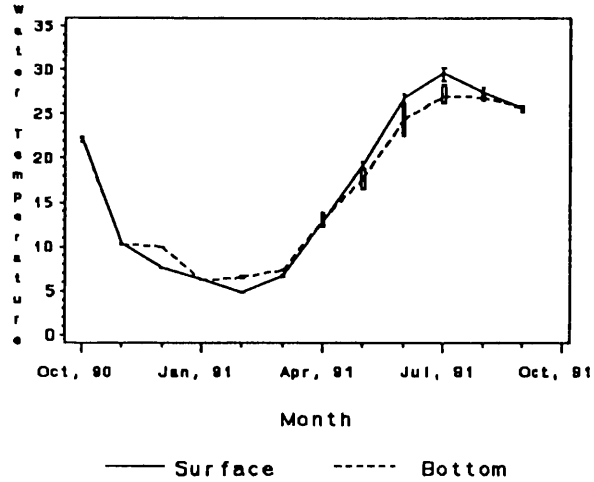
Station Id=CB8.1



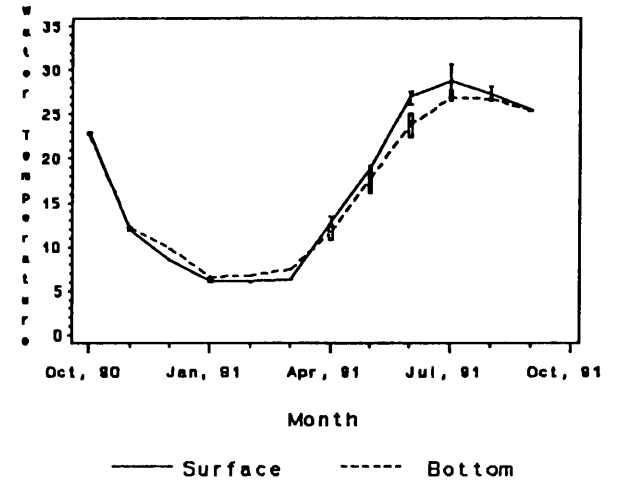
Station Id=EE3.1



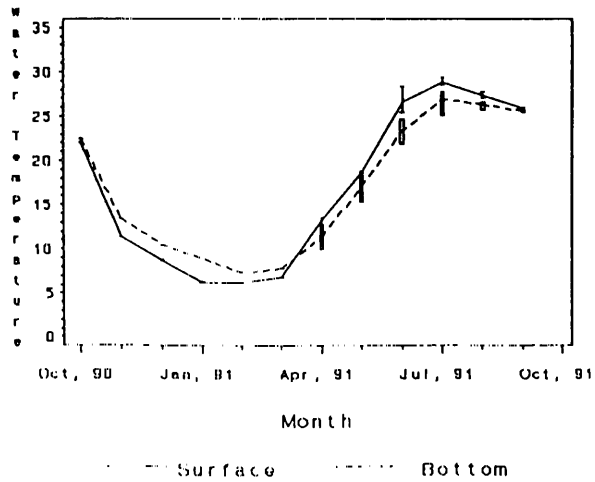
Station Id=EE3.2



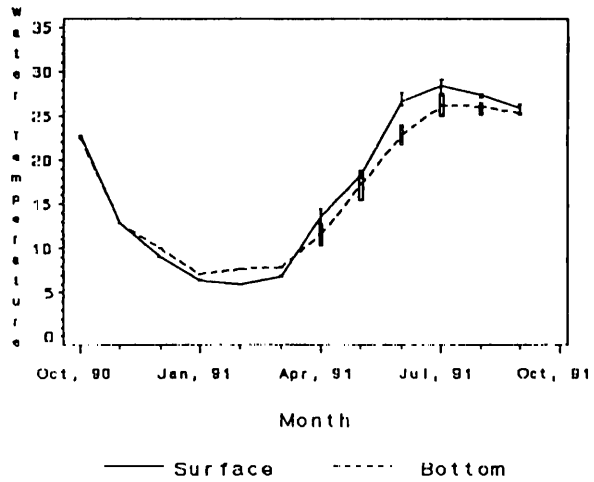
Station Id=CB7.1N



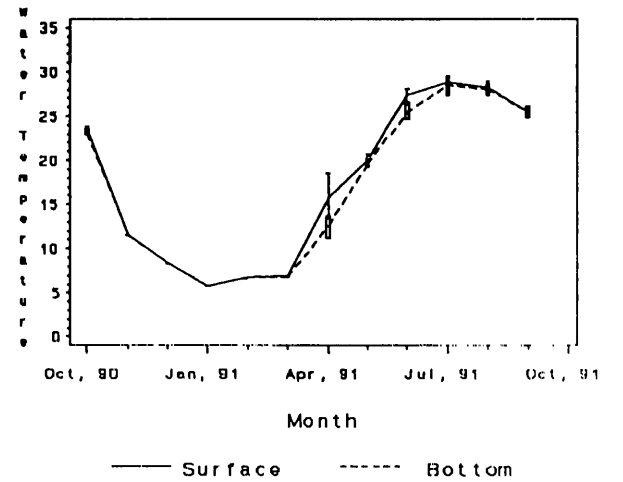
Station Id=CB7.1



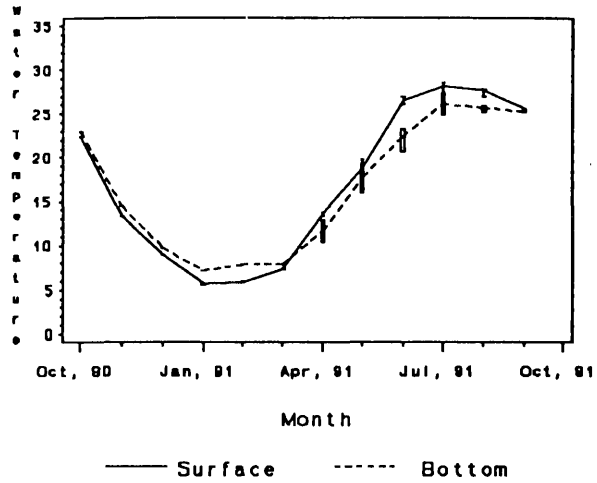
Station Id=CB7.1S



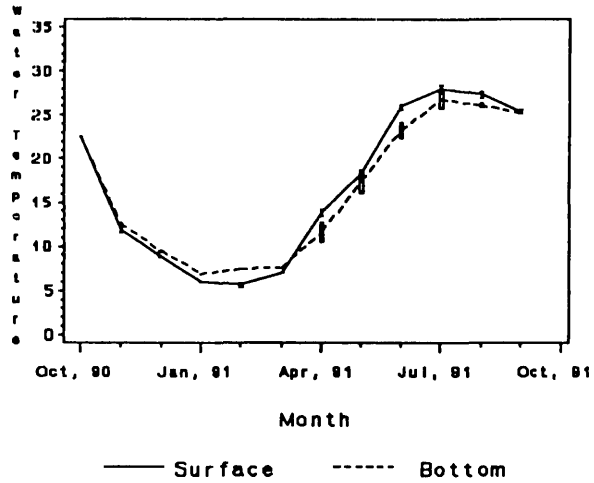
Station Id=CB5.4W



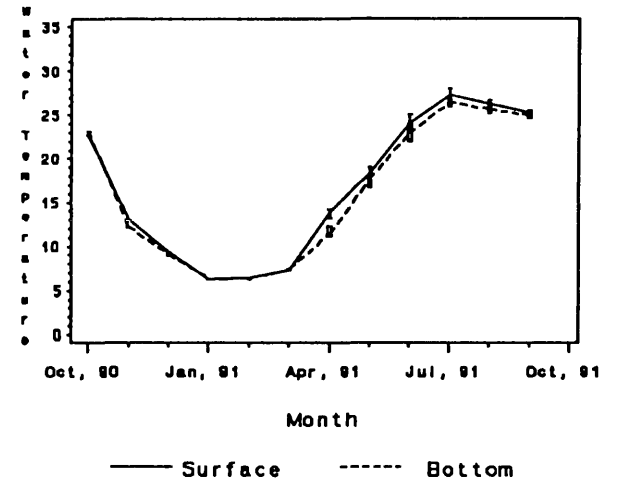
Station Id=CB7.2



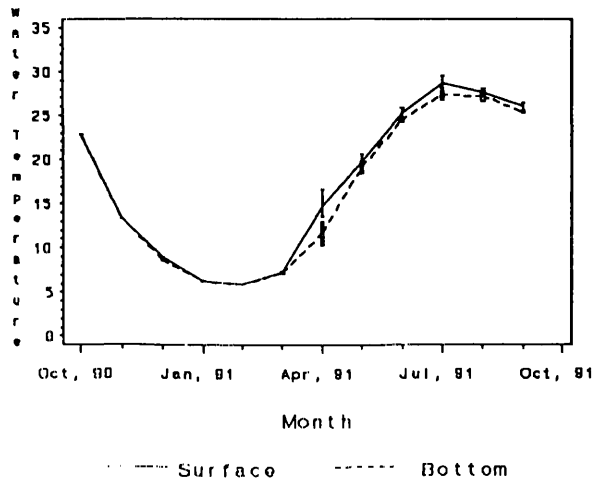
Station Id=CB7.2E



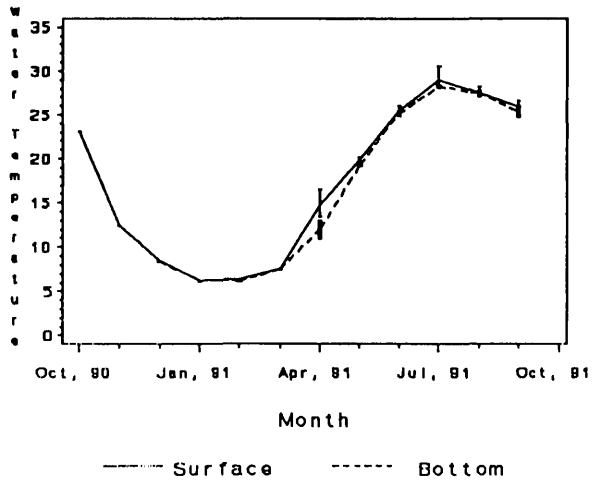
Station Id=CB7.3E



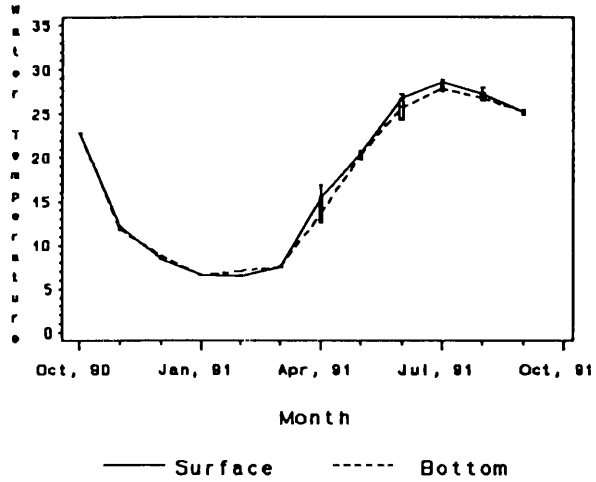
Station Id=LE3.6



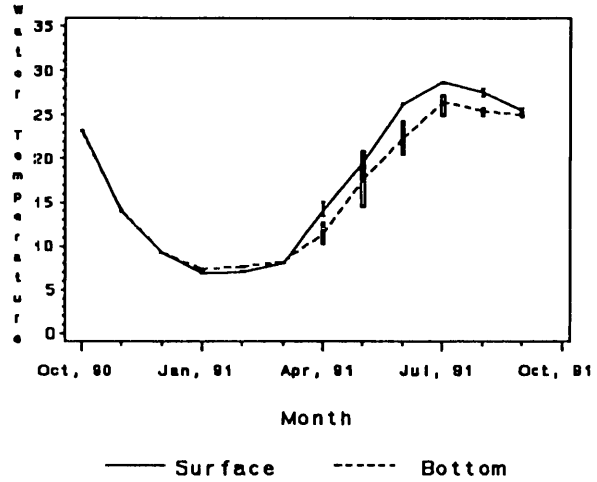
Station Id=LE3.7



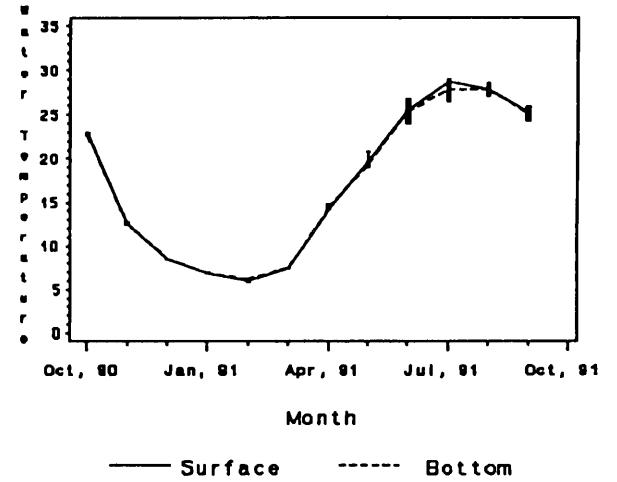
Station Id=WE4.1



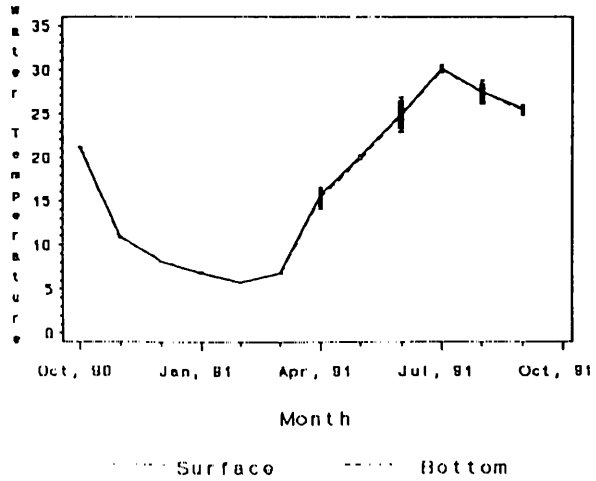
Station Id=WE4.2



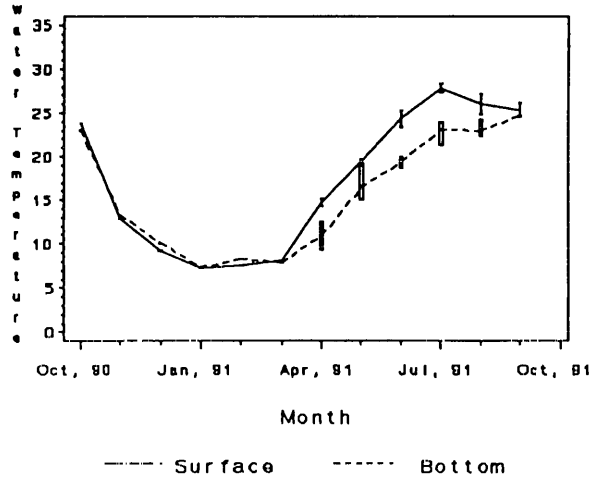
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5



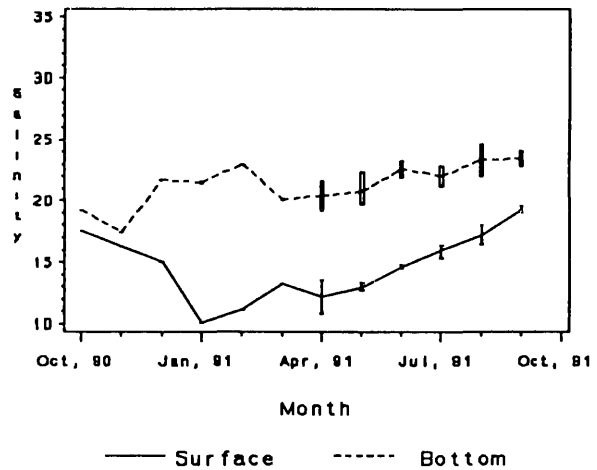
## **SALINITY**

Salinity is calculated using UNESCO 83 EOS and is reported as practical salinity (PS).

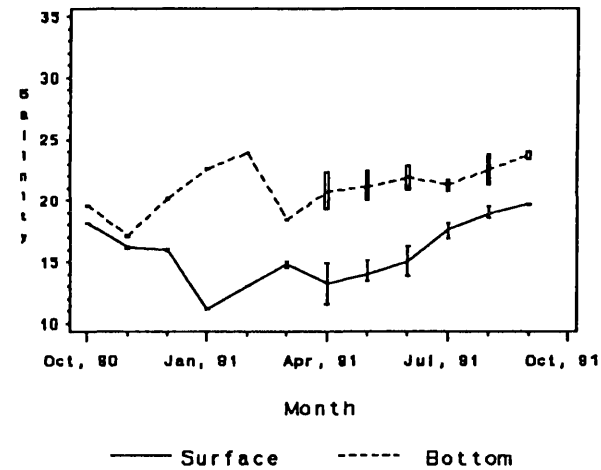
Salinity  
October, 1990 - September, 1991

|             | Salinity<br>(PS) |       |       |        |       |       |
|-------------|------------------|-------|-------|--------|-------|-------|
|             | Surface          |       |       | Bottom |       |       |
|             | Max              | Mean  | Min   | Max    | Mean  | Min   |
| CB5.4.....  | 19.58            | 14.79 | 10.04 | 24.67  | 21.55 | 17.42 |
| CB5.5.....  | 19.76            | 15.96 | 11.12 | 24.01  | 21.34 | 17.05 |
| CB6.1.....  | 20.32            | 16.42 | 11.93 | 24.98  | 21.61 | 17.26 |
| CB6.2.....  | 20.87            | 17.07 | 12.89 | 24.84  | 22.29 | 18.31 |
| CB6.3.....  | 20.73            | 17.40 | 13.31 | 25.38  | 22.22 | 18.84 |
| CB6.4.....  | 23.30            | 19.01 | 14.10 | 28.60  | 22.39 | 17.50 |
| CB7.3.....  | 26.50            | 20.97 | 14.90 | 31.20  | 28.11 | 24.80 |
| CB7.4.....  | 30.90            | 26.23 | 15.40 | 32.20  | 30.00 | 27.10 |
| CB7.4N..... | 32.00            | 27.59 | 16.50 | 32.30  | 29.44 | 26.60 |
| CB8.1E..... | 27.50            | 23.56 | 16.80 | 32.70  | 30.61 | 27.00 |
| CB8.1.....  | 24.20            | 21.09 | 13.30 | 31.30  | 26.43 | 19.80 |
| EE3.1.....  | 18.95            | 16.64 | 13.03 | 18.99  | 16.83 | 13.16 |
| EE3.2.....  | 20.49            | 17.52 | 13.99 | 21.97  | 19.22 | 15.25 |
| CB7.1N..... | 20.73            | 16.38 | 12.69 | 22.33  | 19.36 | 15.78 |
| CB7.1.....  | 22.21            | 17.69 | 13.22 | 24.88  | 21.76 | 18.03 |
| CB7.1S..... | 23.40            | 17.80 | 11.98 | 26.31  | 23.00 | 19.95 |
| CB5.4W..... | 18.57            | 14.53 | 10.64 | 18.64  | 14.97 | 11.19 |
| CB7.2.....  | 22.60            | 18.26 | 12.94 | 29.10  | 25.52 | 22.60 |
| CB7.2E..... | 24.91            | 19.85 | 13.85 | 25.09  | 22.95 | 19.69 |
| CB7.3E..... | 25.90            | 22.09 | 14.80 | 30.90  | 26.06 | 21.00 |
| LE3.6.....  | 19.47            | 15.51 | 11.08 | 20.30  | 16.60 | 12.86 |
| LE3.7.....  | 19.77            | 15.68 | 12.26 | 19.98  | 16.16 | 12.31 |
| WE4.1.....  | 22.12            | 18.95 | 16.09 | 22.90  | 19.50 | 16.45 |
| WE4.2.....  | 22.93            | 19.32 | 15.44 | 25.77  | 23.18 | 18.44 |
| WE4.3.....  | 23.16            | 19.55 | 15.75 | 23.21  | 19.62 | 15.95 |
| WE4.4.....  | 23.72            | 19.59 | 15.99 | 23.77  | 19.77 | 16.09 |
| LE5.5.....  | 23.40            | 19.58 | 12.30 | 30.30  | 27.01 | 19.90 |

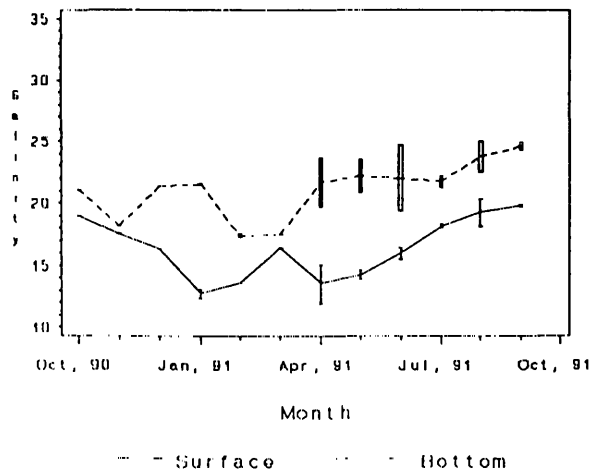
Station Id=CB5.4



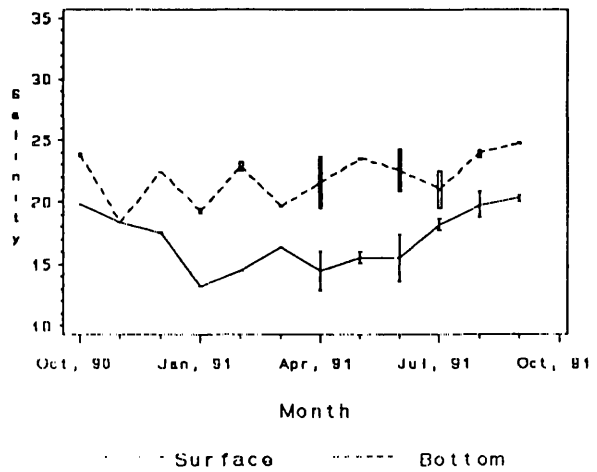
Station Id=CB5.5



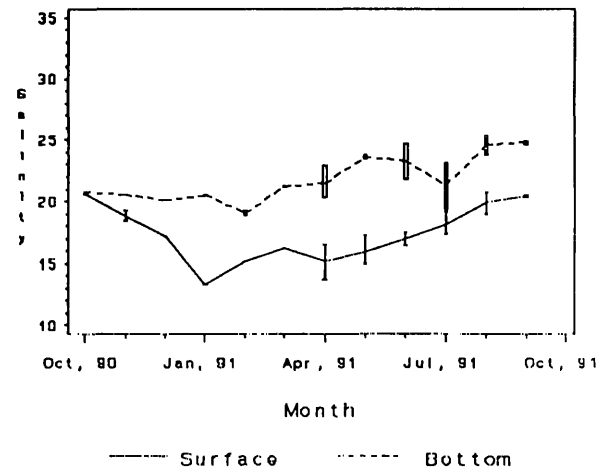
Station Id=CB6.1



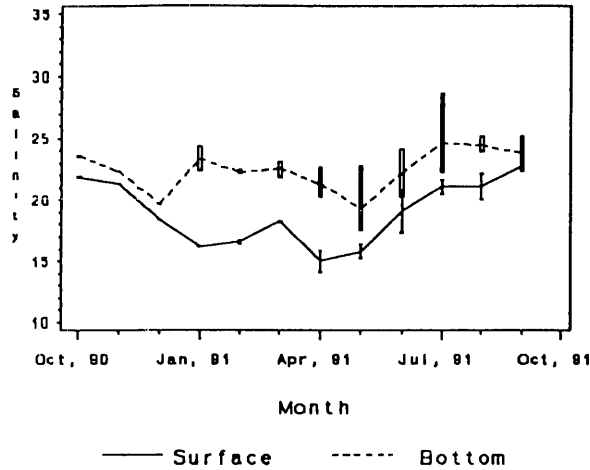
Station Id=CB6.2



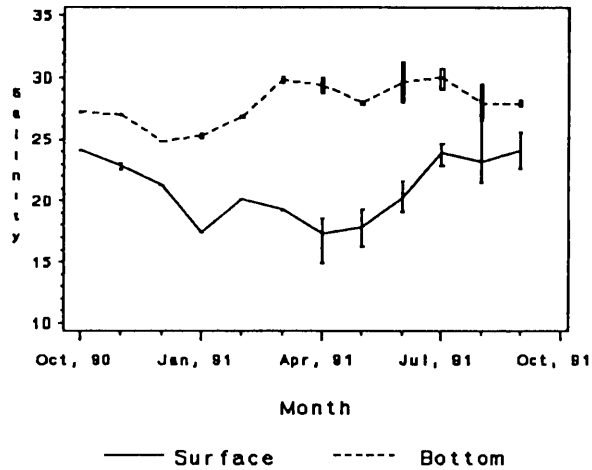
Station Id=CB6.3



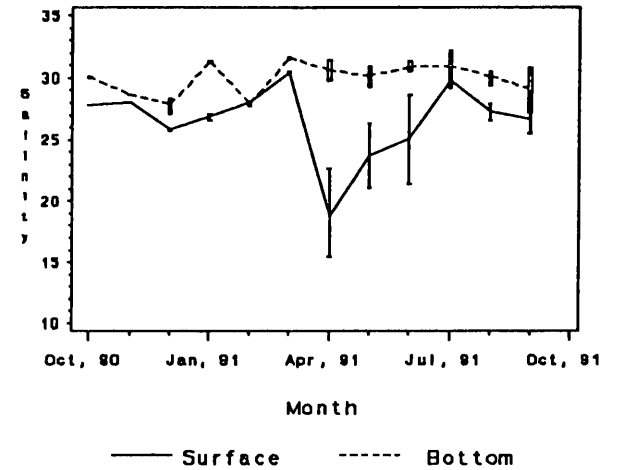
Station Id=CB6.4



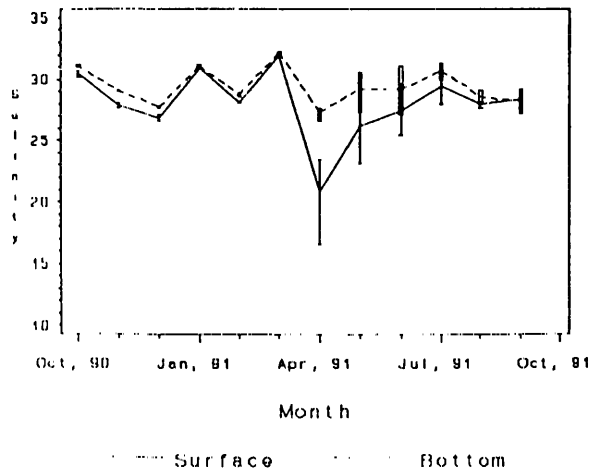
Station Id=CB7.3



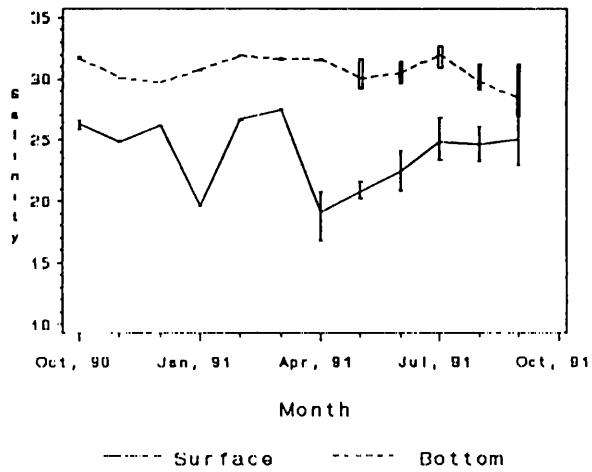
Station Id=CB7.4



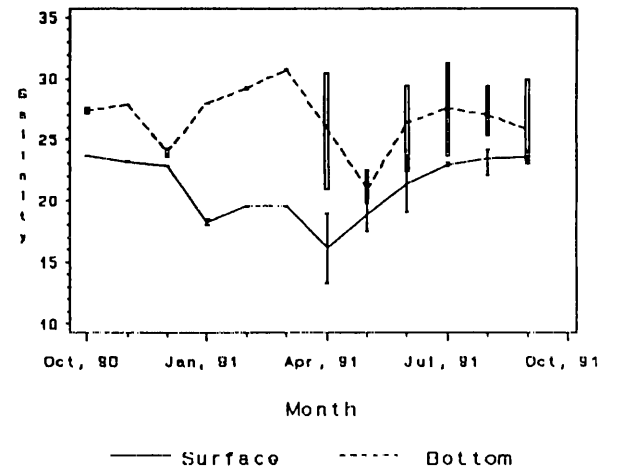
Station Id=CB7.4N



Station Id=CB8.1E

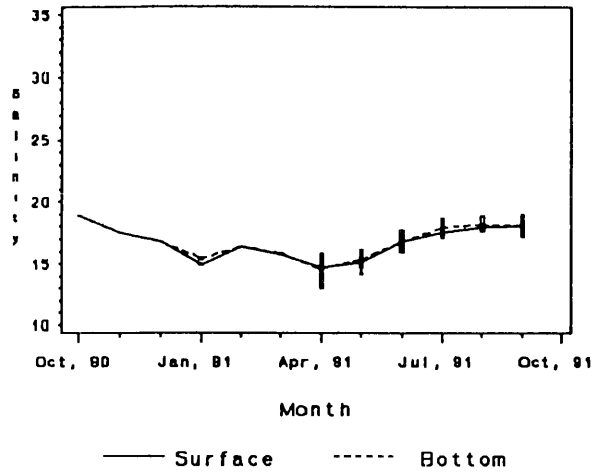


Station Id=CB8.1

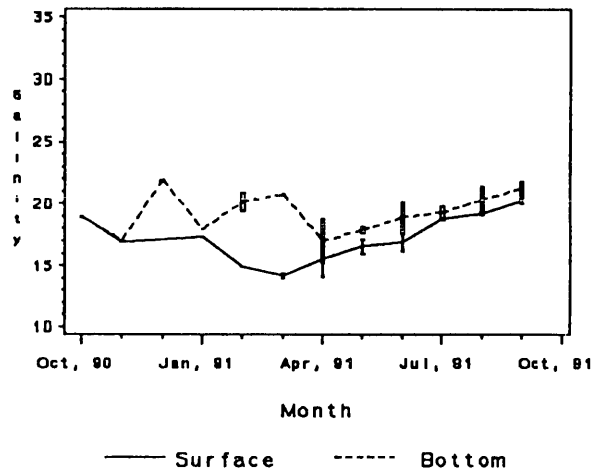




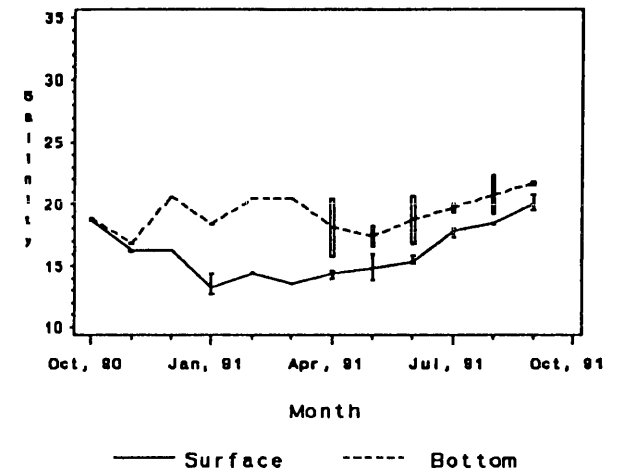
Station Id=EE3.1



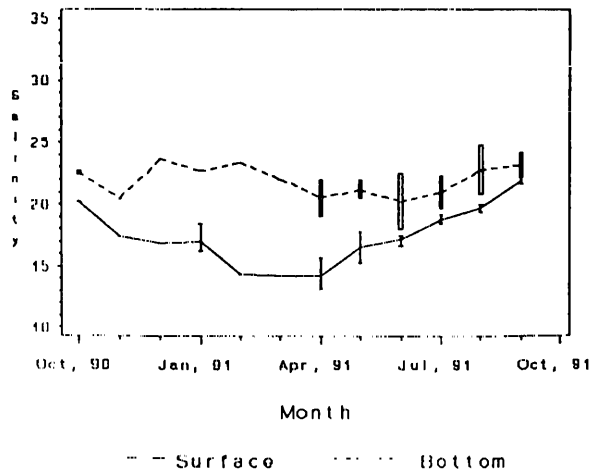
Station Id=EE3.2



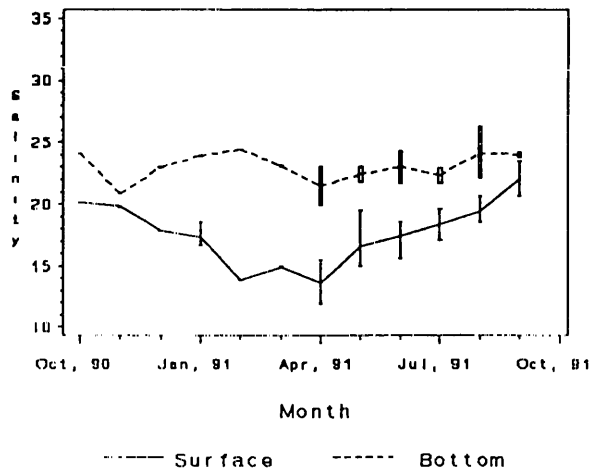
Station Id=CB7.1N



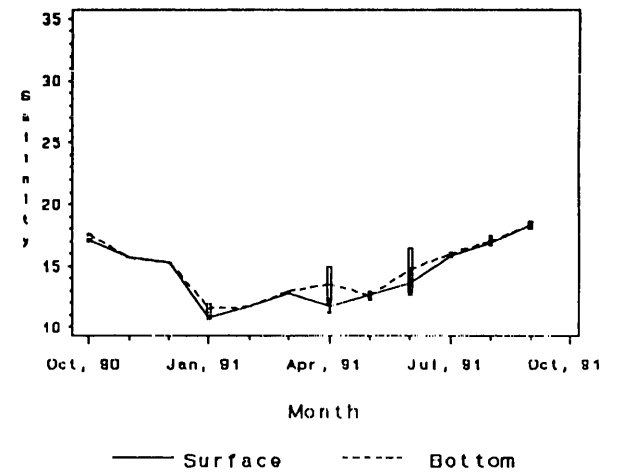
Station Id=CB7.1



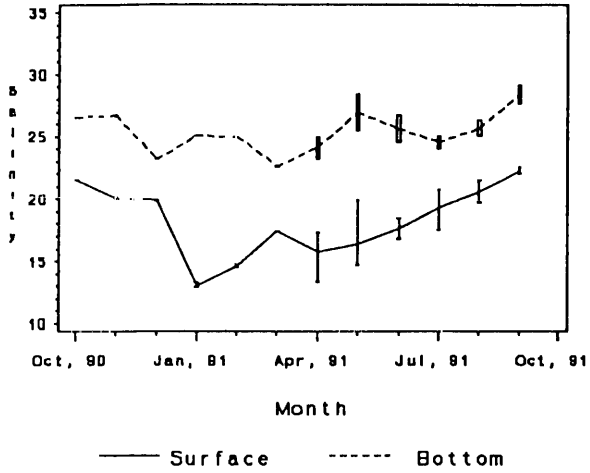
Station Id=CB7.1S



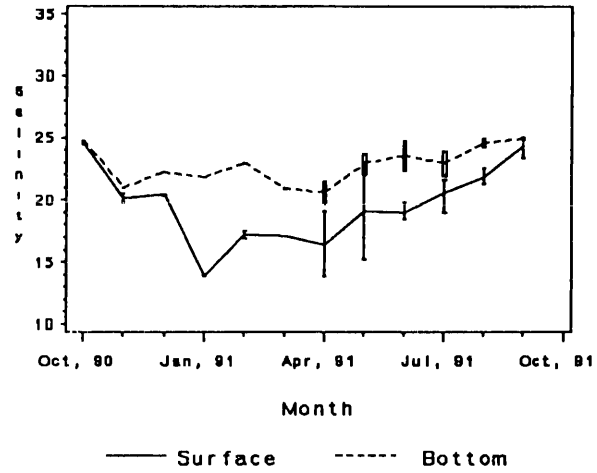
Station Id=CB5.4W



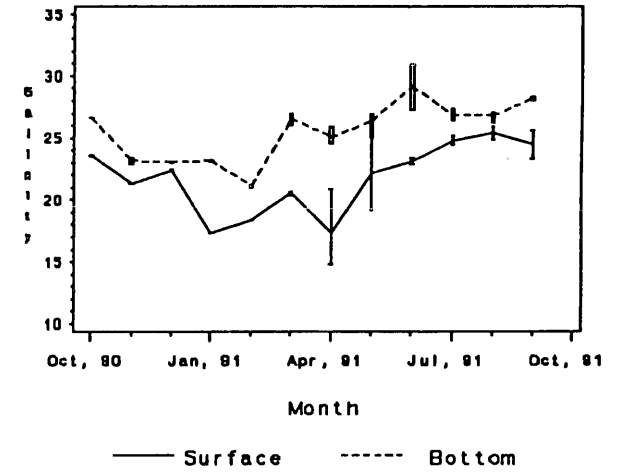
Station Id=CB7.2



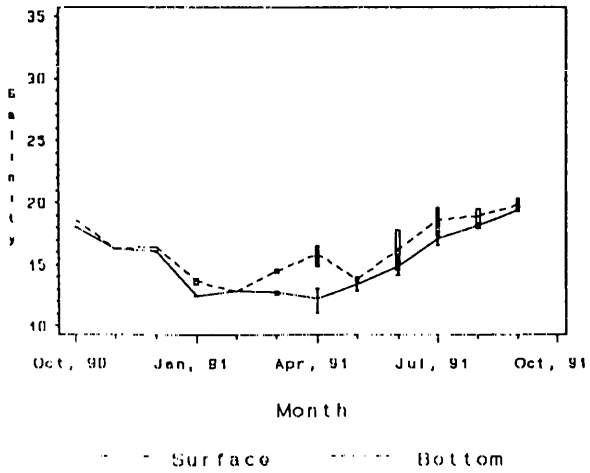
Station Id=CB7.2E



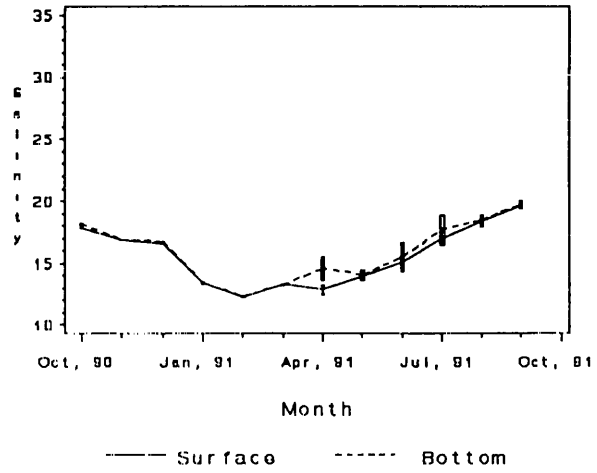
Station Id=CB7.3E



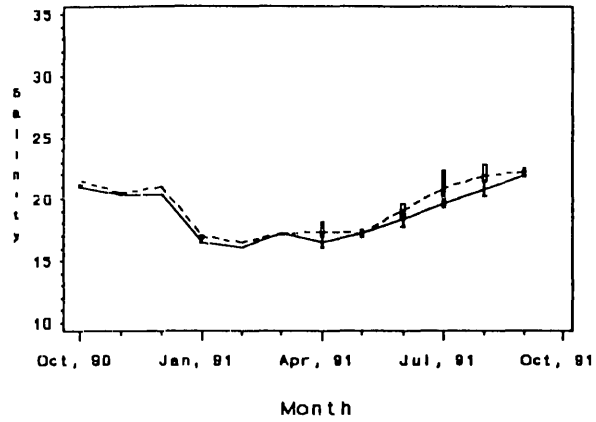
Station Id=LE3.6



Station Id=LE3.7

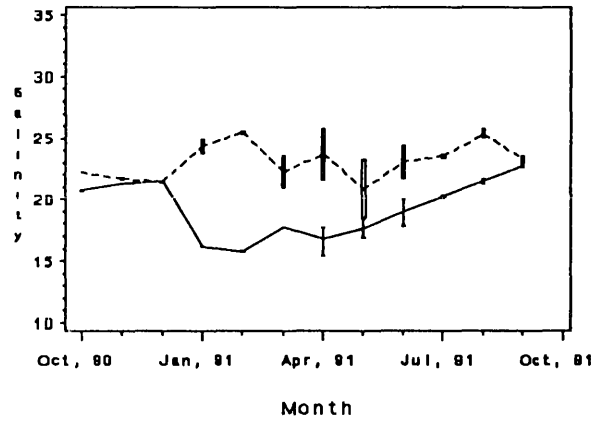


Station Id=WE4.1



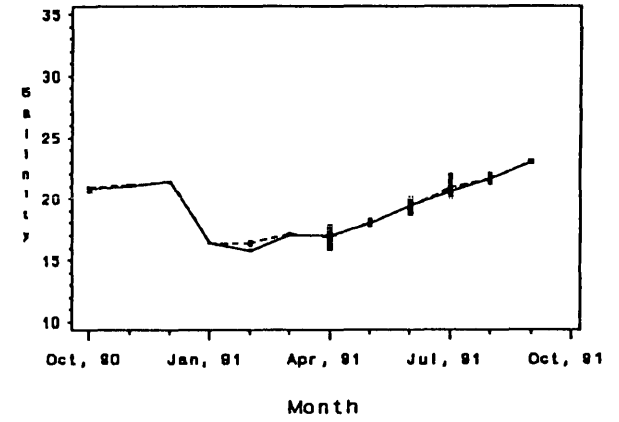
— Surface    - - - - Bottom

Station Id=WE4.2



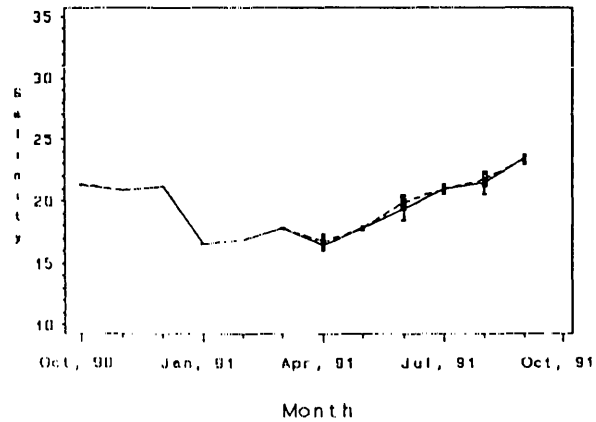
— Surface    - - - - Bottom

Station Id=WE4.3



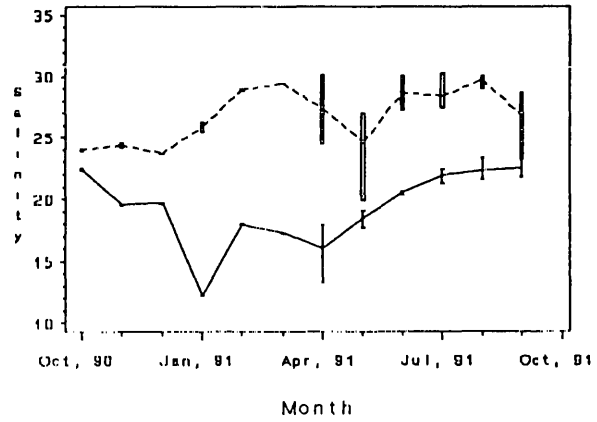
— Surface    - - - - Bottom

Station Id=WE4.4



— Surface    - - - - Bottom

Station Id=LE5.5



— Surface    - - - - Bottom

## DISSOLVED OXYGEN

Values reported as mg/l.

- \* When no observations were made at a station (Total Obs. = 0) no percentages can be calculated.

Dissolved Oxygen  
October, 1990 - September, 1991

|             | Dissolved Oxygen<br>(mg/l) |      |      |        |      |      |
|-------------|----------------------------|------|------|--------|------|------|
|             | Surface                    |      |      | Bottom |      |      |
|             | Max                        | Mean | Min  | Max    | Mean | Min  |
| CB5.4.....  | 12.69                      | 9.03 | 5.80 | 9.09   | 4.63 | 0.18 |
| CB5.5.....  | 12.54                      | 9.22 | 6.80 | 10.07  | 5.05 | 0.48 |
| CB6.1.....  | 12.31                      | 9.22 | 7.28 | 11.14  | 6.12 | 0.48 |
| CB6.2.....  | 12.15                      | 9.02 | 6.40 | 10.56  | 6.27 | 1.89 |
| CB6.3.....  | 12.00                      | 9.02 | 5.93 | 10.04  | 6.71 | 3.57 |
| CB6.4.....  | 11.93                      | 8.61 | 6.00 | 10.09  | 6.94 | 2.68 |
| CB7.3.....  | 11.17                      | 8.73 | 6.18 | 9.69   | 7.07 | 4.43 |
| CB7.4.....  | 10.24                      | 8.35 | 6.41 | 9.67   | 7.33 | 5.17 |
| CB7.4N..... | 10.17                      | 8.11 | 6.43 | 9.76   | 7.73 | 6.10 |
| CB8.1E..... | 11.00                      | 8.17 | 5.25 | 9.08   | 6.84 | 4.40 |
| CB8.1.....  | 11.18                      | 8.43 | 5.53 | 9.38   | 7.14 | 4.42 |
| EE3.1.....  | 12.02                      | 8.57 | 6.30 | 11.90  | 8.35 | 5.68 |
| EE3.2.....  | 11.74                      | 8.68 | 5.64 | 10.98  | 6.97 | 3.39 |
| CB7.1N..... | 12.34                      | 8.79 | 5.57 | 10.07  | 6.66 | 3.07 |
| CB7.1.....  | 12.34                      | 8.99 | 6.69 | 10.70  | 6.12 | 2.50 |
| CB7.1S..... | 12.48                      | 9.21 | 6.73 | 9.40   | 6.23 | 2.27 |
| CB5.4W..... | 13.03                      | 8.99 | 6.43 | 13.03  | 8.66 | 5.05 |
| CB7.2.....  | 11.87                      | 9.12 | 6.48 | 9.54   | 6.27 | 3.18 |
| CB7.2E..... | 11.74                      | 8.75 | 5.85 | 10.02  | 7.00 | 4.18 |
| CB7.3E..... | 11.59                      | 8.45 | 6.12 | 10.81  | 7.22 | 4.96 |
| LE3.6.....  | 12.19                      | 8.97 | 6.59 | 12.09  | 7.55 | 2.33 |
| LE3.7.....  | 12.14                      | 8.95 | 6.61 | 12.23  | 8.05 | 1.89 |
| WE4.1.....  | 12.13                      | 8.56 | 6.08 | 11.92  | 7.79 | 3.24 |
| WE4.2.....  | 13.24                      | 8.43 | 5.64 | 9.84   | 5.80 | 0.52 |
| WE4.3.....  | 12.65                      | 8.89 | 6.21 | 12.65  | 8.53 | 4.79 |
| WE4.4.....  | 12.09                      | 8.40 | 5.58 | 12.09  | 8.21 | 5.51 |
| LE5.5.....  | 11.44                      | 8.14 | 5.98 | 9.00   | 6.52 | 3.99 |

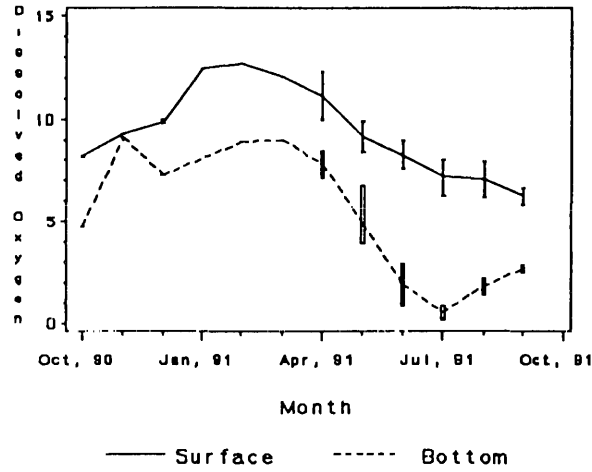
Dissolved Oxygen  
October, 1990 - September, 1991

|                | CB7.4N | CB7.4 | CB8.1E | CB8.1 | CB7.3 | CB7.3E | CB6.4 | CB6.3 | CB7.2 | CB7.2E | CB6.2 | CB6.1 | CB5.5 | CB5.4 |
|----------------|--------|-------|--------|-------|-------|--------|-------|-------|-------|--------|-------|-------|-------|-------|
| Oct, 1990      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 62.50  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 16.00 |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 10     | 6     | 16     | 9     | 11    | 17     | 8     | 11    | 18    | 12     | 10    | 11    | 16    | 25    |
| Nov, 1990      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 13     | 12    | 16     | 15    | 13    | 13     | 9     | 12    | 18    | 12     | 9     | 12    | 16    | 23    |
| Dec, 1990      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 12     | 9     | 16     | 8     | 15    | 17     | 9     | 12    | 18    | 12     | 10    | 12    | 17    | 25    |
| Jan, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 13     | 11    | 17     | 15    | 11    | 16     | 9     | 12    | 19    | 12     | 10    | 12    | 16    | 20    |
| Feb, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 11     | 10    | 16     | 9     | 10    | 11     | 10    | 12    | 19    | 12     | 10    | 12    | 16    | 24    |
| Mar, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 14     | 12    | 15     | 10    | 13    | 17     | 9     | 11    | 19    | 12     | 10    | 12    | 17    | 25    |
| Apr, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 23     | 21    | 33     | 16    | 22    | 31     | 17    | 21    | 37    | 24     | 20    | 23    | 33    | 46    |
| May, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 16.67 |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 2.08  |
| Total Obs..... | 22     | 24    | 30     | 15    | 24    | 28     | 16    | 22    | 36    | 25     | 20    | 24    | 32    | 48    |
| Jun, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 25.00 | 42.31 | 0.00  | 0.00   | 33.33 | 20.00 | 41.18 | 57.45 |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00   | 4.76  | 0.00  | 29.41 | 51.06 |
| Total Obs..... | 22     | 28    | 28     | 17    | 25    | 39     | 16    | 26    | 38    | 25     | 21    | 25    | 34    | 47    |
| Jul, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 4.00  | 0.00   | 44.44 | 34.78 | 62.16 | 20.00  | 40.00 | 37.50 | 57.58 | 75.00 |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 33.33 | 4.35  | 37.84 | 0.00   | 35.00 | 37.50 | 54.55 | 68.75 |
| Total Obs..... | 27     | 25    | 33     | 18    | 25    | 35     | 18    | 23    | 37    | 25     | 20    | 24    | 33    | 48    |
| Aug, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 15.63  | 12.50 | 24.00 | 31.43  | 23.53 | 33.33 | 57.89 | 44.00  | 20.00 | 41.67 | 38.71 | 59.57 |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 11.76 | 16.67 | 5.26  | 0.00   | 10.00 | 33.33 | 25.81 | 53.19 |
| Total Obs..... | 19     | 23    | 32     | 16    | 25    | 35     | 17    | 24    | 38    | 25     | 20    | 24    | 31    | 47    |
| Sep, 1991      |        |       |        |       |       |        |       |       |       |        |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 19.35  | 11.76 | 0.00  | 0.00   | 5.56  | 18.18 | 21.05 | 0.00   | 35.00 | 37.50 | 34.38 | 56.00 |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 13.64 | 0.00  | 0.00   | 15.00 | 20.83 | 15.63 | 50.00 |
| Total Obs..... | 26     | 23    | 31     | 17    | 28    | 29     | 18    | 22    | 38    | 24     | 20    | 24    | 32    | 50    |

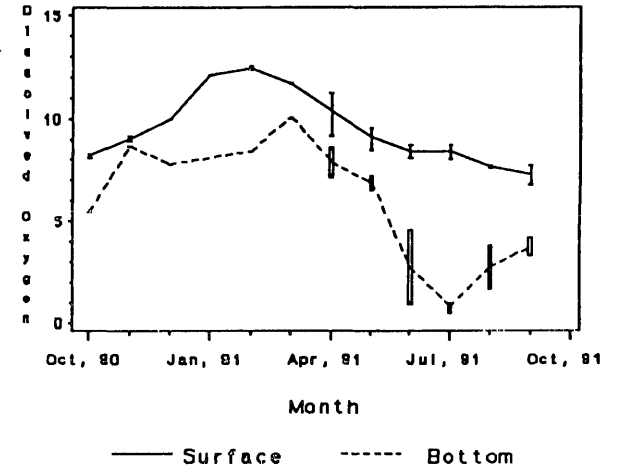
Dissolved Oxygen  
October, 1990 - September, 1991

|                | CB7.1S | CB7.1 | CB7.1N | EE3.2 | EE3.1 | CB5.4W | LE3.6 | LE3.7 | WE4.1 | WE4.2 | WE4.3 | WE4.4 | LE5.5 |
|----------------|--------|-------|--------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| Oct, 1990      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 15     | 20    | 25     | 21    | 5     | 4      | 8     | 6     | 5     | 16    | 5     | 6     | 18    |
| Nov, 1990      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 15     | 20    | 25     | 21    | 4     | 4      | 8     | 6     | 5     | 13    | 4     | 7     | 15    |
| Dec, 1990      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 15     | 20    | 24     | 20    | 3     | 4      | 9     | 6     | 6     | 13    | 5     | 6     | 17    |
| Jan, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 15     | 20    | 20     | 19    | 3     | 5      | 9     | 5     | 6     | 14    | 5     | 4     | 16    |
| Feb, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 14     | 20    | 22     | 20    | 3     | 4      | 8     | 6     | 5     | 14    | 5     | 7     | 19    |
| Mar, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 15     | 20    | 22     | 21    | 4     | 4      | 9     | 7     | 5     | 13    | 5     | 7     | 16    |
| Apr, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 31     | 40    | 48     | 42    | 8     | 9      | 18    | 14    | 10    | 32    | 9     | 13    | 36    |
| May, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 29     | 42    | 46     | 42    | 9     | 8      | 17    | 13    | 10    | 29    | 9     | 12    | 36    |
| Jun, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 6.25   | 57.50 | 22.92  | 44.19 | 0.00  | 0.00   | 16.67 | 0.00  | 10.00 | 40.74 | 0.00  | 0.00  | 0.00  |
| % < 4.....     | 0.00   | 0.00  | 12.50  | 16.28 | 0.00  | 0.00   | 0.00  | 0.00  | 10.00 | 25.93 | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 32     | 40    | 48     | 43    | 9     | 9      | 18    | 14    | 10    | 27    | 11    | 14    | 34    |
| Jul, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 53.57  | 56.41 | 39.13  | 16.28 | 0.00  | 0.00   | 23.53 | 15.38 | 0.00  | 54.84 | 10.00 | 0.00  | 50.00 |
| % < 4.....     | 53.57  | 33.33 | 10.87  | 6.98  | 0.00  | 0.00   | 17.65 | 15.38 | 0.00  | 32.26 | 0.00  | 0.00  | 2.78  |
| Total Obs..... | 28     | 39    | 46     | 43    | 7     | 9      | 17    | 13    | 10    | 31    | 10    | 13    | 36    |
| Aug, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 59.38  | 53.85 | 6.25   | 13.95 | 0.00  | 0.00   | 0.00  | 0.00  | 10.00 | 40.74 | 0.00  | 0.00  | 42.11 |
| % < 4.....     | 18.75  | 33.33 | 4.17   | 4.65  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 33.33 | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 32     | 39    | 48     | 43    | 6     | 8      | 17    | 14    | 10    | 27    | 10    | 14    | 38    |
| Sep, 1991      |        |       |        |       |       |        |       |       |       |       |       |       |       |
| % < 5.....     | 28.12  | 19.51 | 21.74  | 14.29 | 0.00  | 0.00   | 5.88  | 0.00  | 0.00  | 6.45  | 0.00  | 0.00  | 10.53 |
| % < 4.....     | 25.00  | 4.88  | 0.00   | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Total Obs..... | 32     | 41    | 46     | 42    | 8     | 8      | 17    | 14    | 10    | 31    | 10    | 13    | 38    |

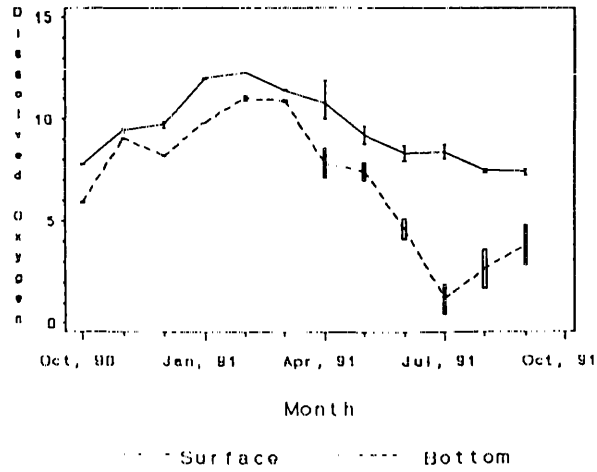
Station Id=CB5.4



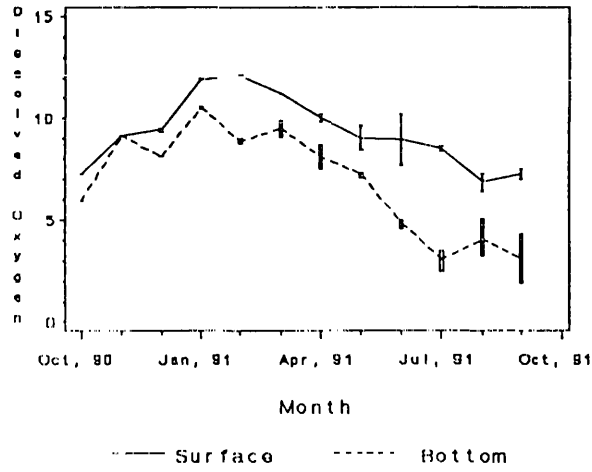
Station Id=CB5.5



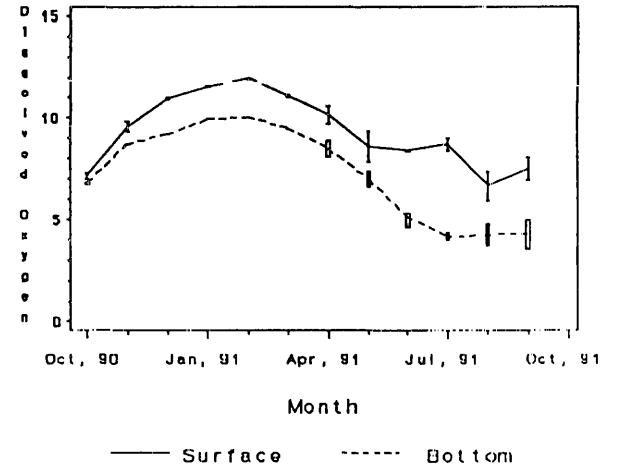
Station Id=CB6.1



Station Id=CB6.2

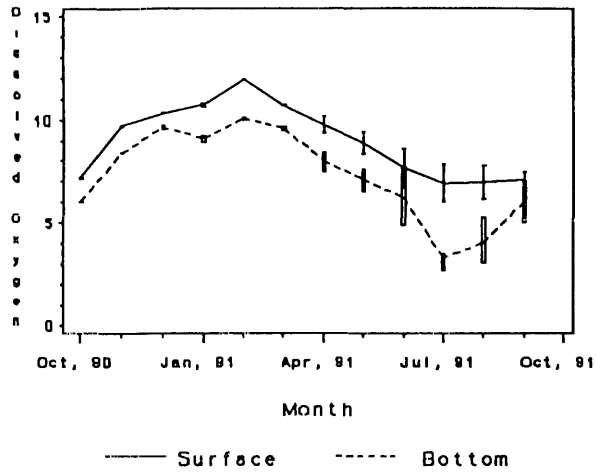


Station Id=CB6.3

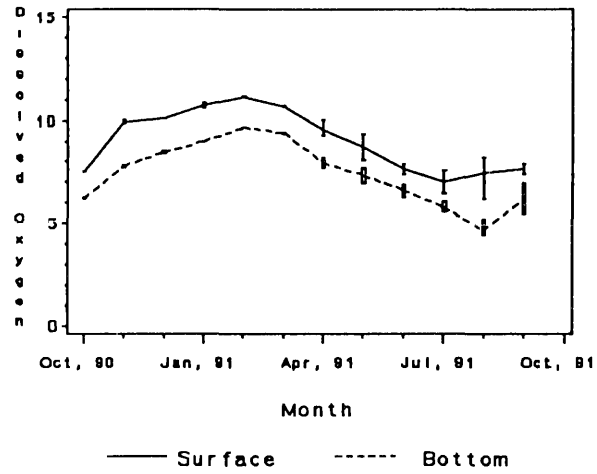




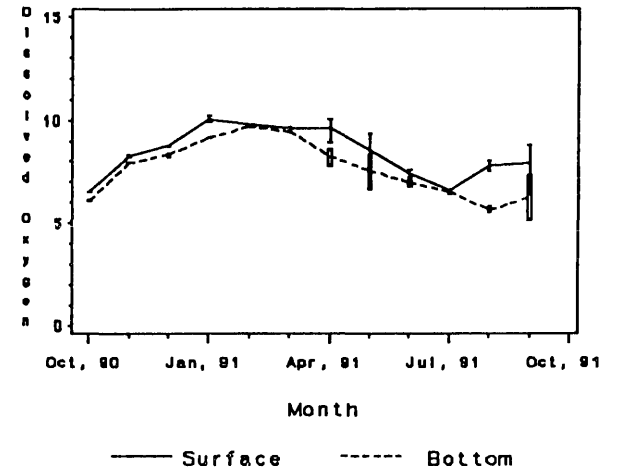
Station Id=CB6.4



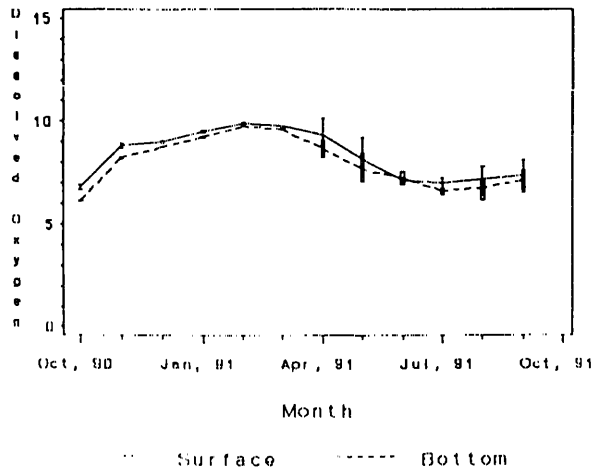
Station Id=CB7.3



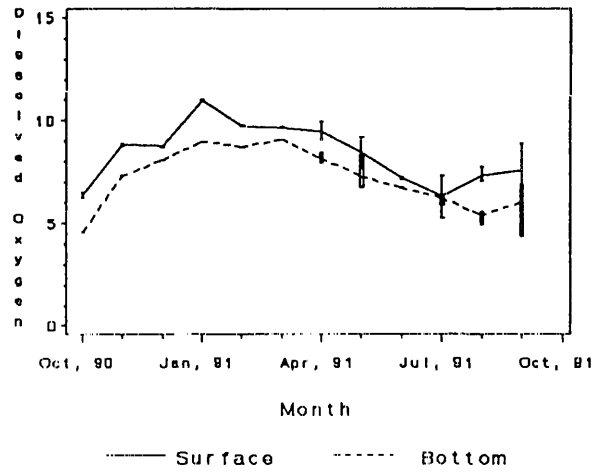
Station Id=CB7.4



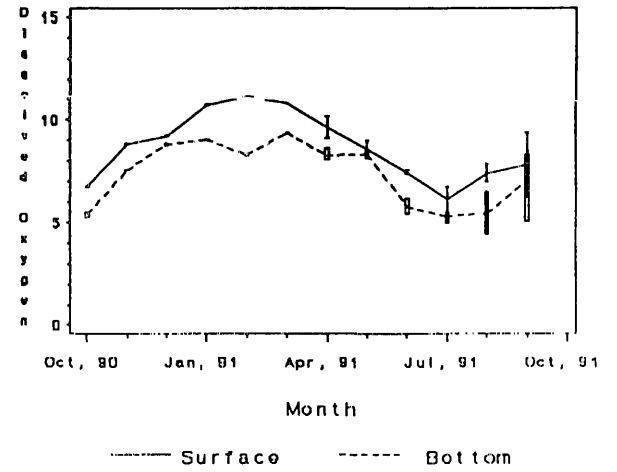
Station Id=CB7.4N



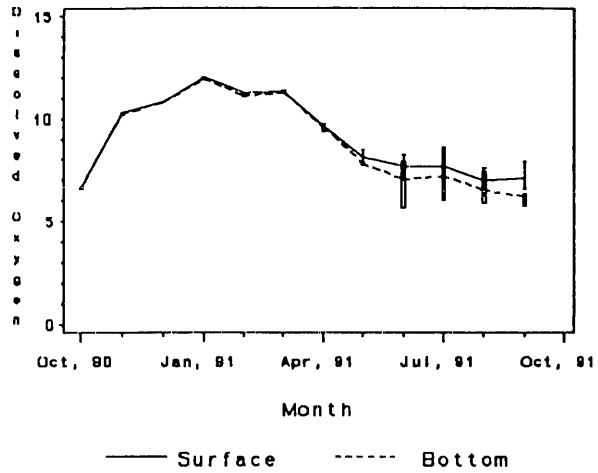
Station Id=CB8.1E



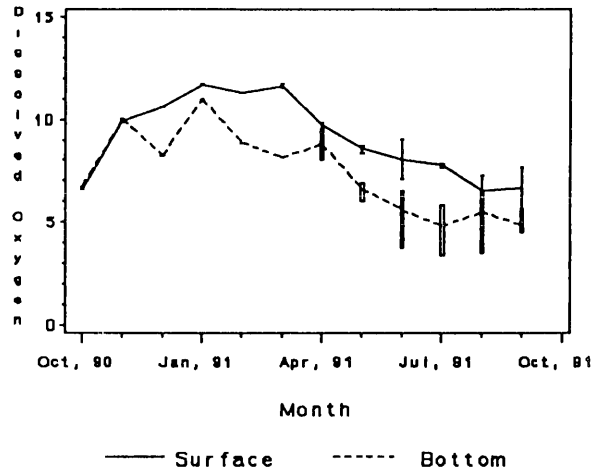
Station Id=CB8.1



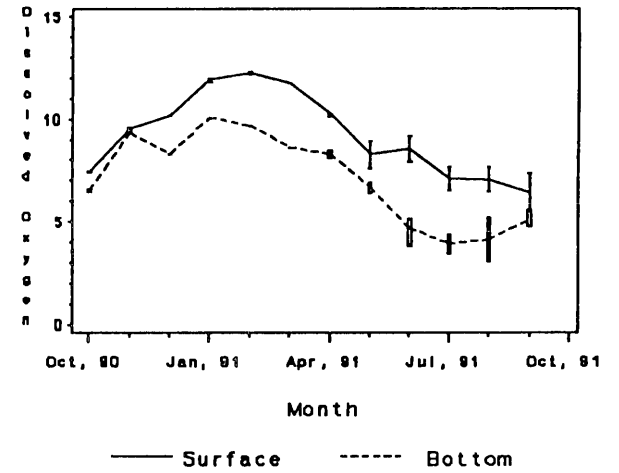
Station Id=EE3.1



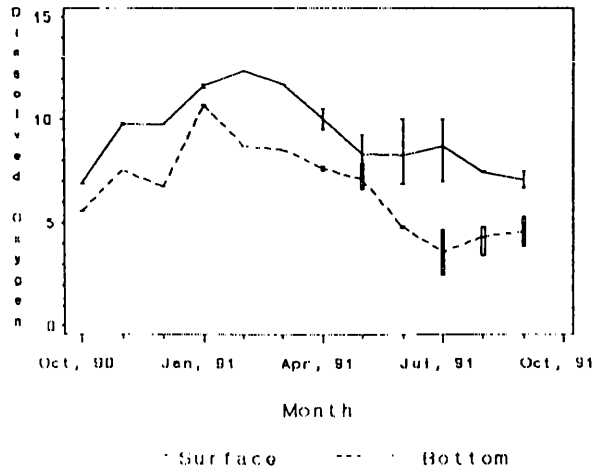
Station Id=EE3.2



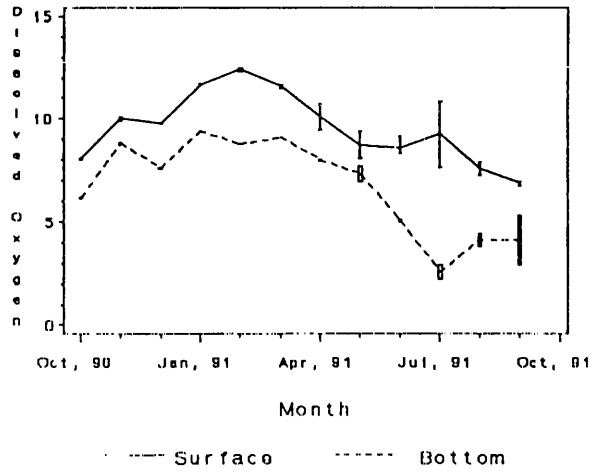
Station Id=CB7.1N



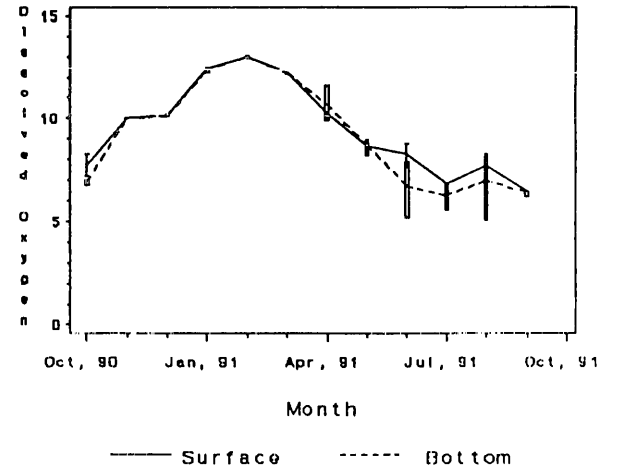
Station Id=CB7.1



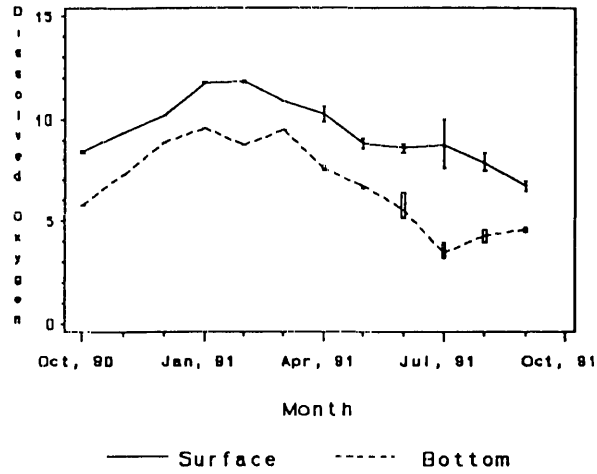
Station Id=CB7.1S



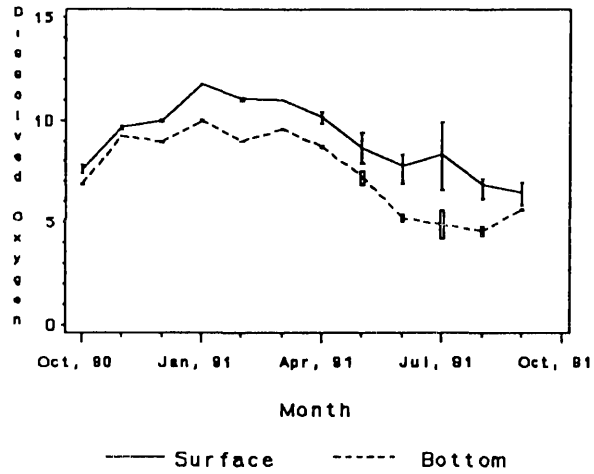
Station Id=CB5.4W



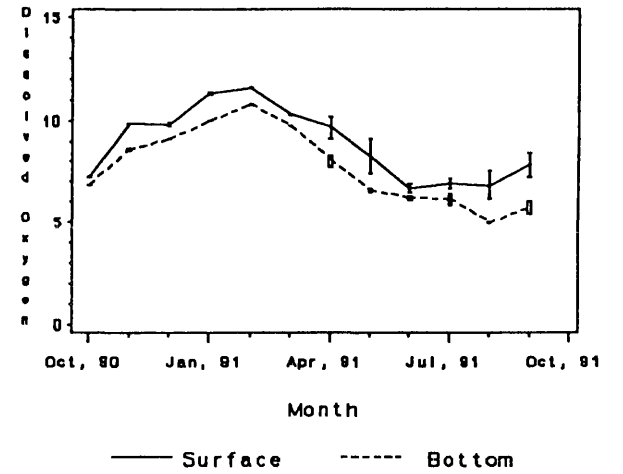
Station Id=CB7.2



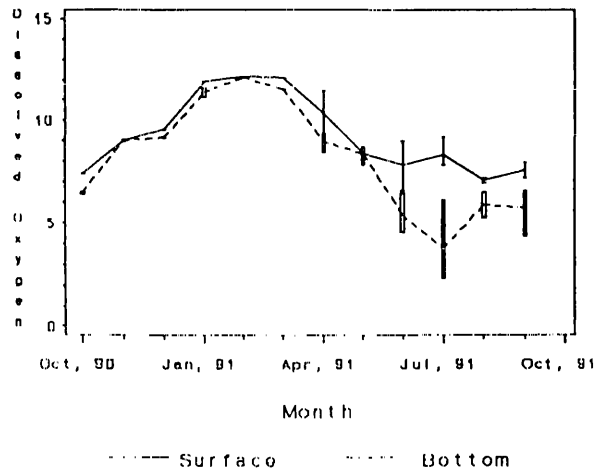
Station Id=CB7.2E



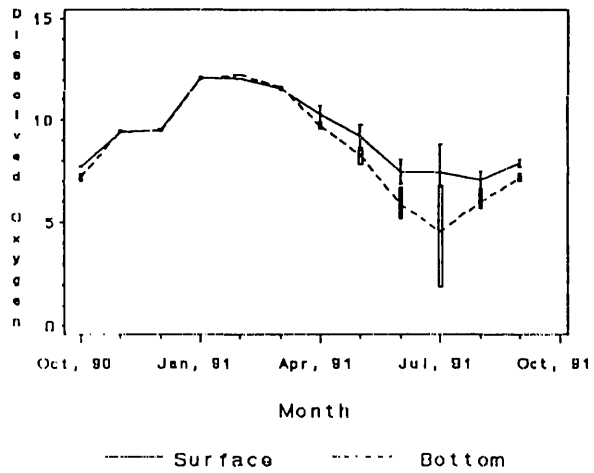
Station Id=CB7.3E



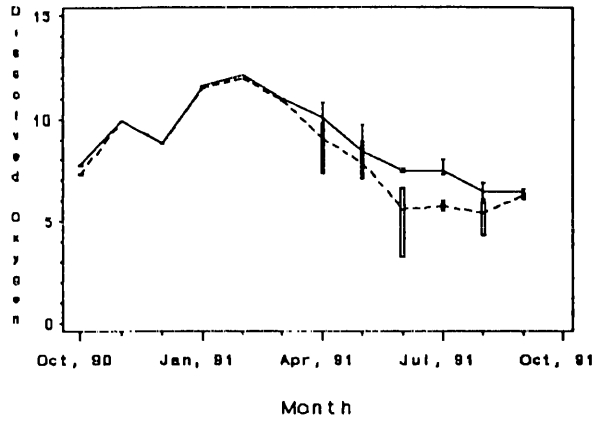
Station Id=LE3.6



Station Id=LE3.7

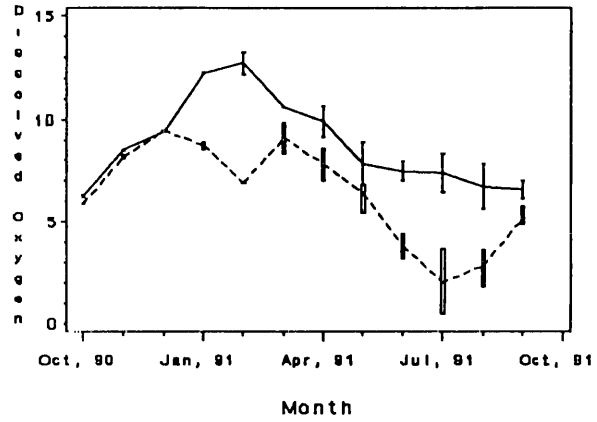


Station Id=WE4.1



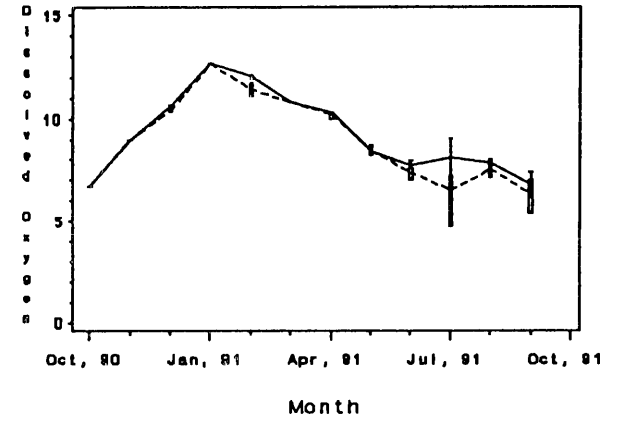
— Surface    - - - - Bottom

Station Id=WE4.2



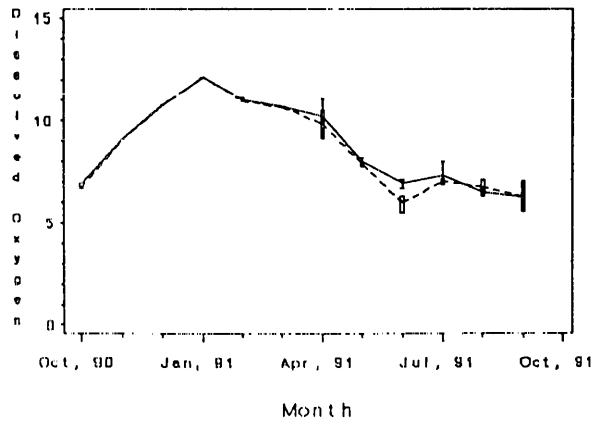
— Surface    - - - - Bottom

Station Id=WE4.3



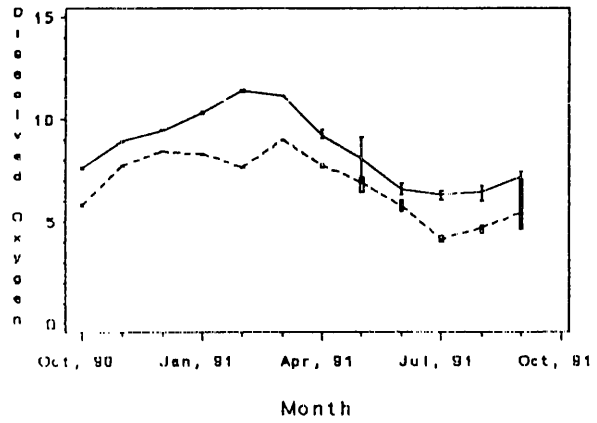
— Surface    - - - - Bottom

Station Id=WE4.4



— Surface    - - - - Bottom

Station Id=LE5.5



— Surface    - - - - Bottom

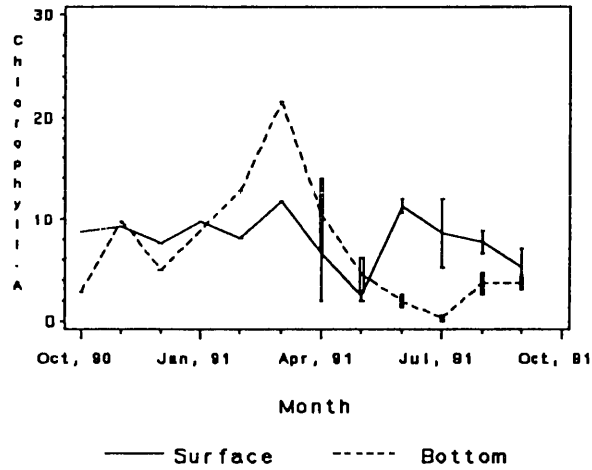
**CHLOROPHYLL-A**

Values reported as ug/l.

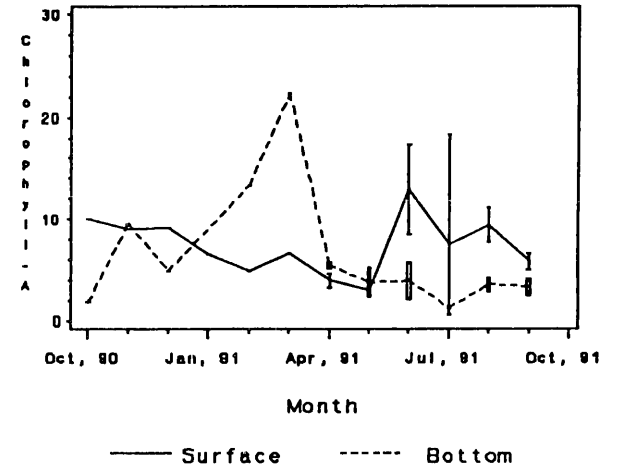
Chlorophyll-A  
October, 1990 - September, 1991

|             | Chlorophyll-A<br>(ug/l) |       |      |        |       |      |
|-------------|-------------------------|-------|------|--------|-------|------|
|             | Surface                 |       |      | Bottom |       |      |
|             | Max                     | Mean  | Min  | Max    | Mean  | Min  |
| CB5.4.....  | 11.98                   | 7.78  | 1.95 | 21.66  | 5.99  | 0.00 |
| CB5.5.....  | 18.33                   | 6.93  | 0.59 | 22.39  | 5.58  | 1.26 |
| CB6.1.....  | 13.12                   | 6.35  | 2.26 | 16.92  | 6.05  | 1.11 |
| CB6.2.....  | 11.89                   | 6.67  | 2.95 | 11.80  | 5.17  | 0.61 |
| CB6.3.....  | 12.18                   | 7.47  | 2.18 | 14.24  | 6.44  | 2.00 |
| CB6.4.....  | 13.82                   | 6.53  | 0.45 | 11.53  | 5.28  | 0.65 |
| CB7.3.....  | 16.15                   | 5.90  | 1.01 | 11.09  | 4.52  | 0.00 |
| CB7.4.....  | 9.21                    | 3.95  | 1.75 | 11.21  | 4.56  | 0.57 |
| CB7.4N..... | 9.87                    | 3.79  | 1.13 | 12.50  | 4.54  | 0.63 |
| CB8.1E..... | 12.48                   | 5.84  | 2.26 | 11.21  | 4.01  | 0.61 |
| CB8.1.....  | 19.02                   | 6.66  | 3.24 | 17.09  | 5.46  | 1.00 |
| EE3.1.....  | 28.26                   | 11.77 | 5.16 | 27.66  | 11.89 | 4.15 |
| EE3.2.....  | 17.49                   | 8.82  | 3.03 | 41.09  | 10.94 | 1.50 |
| CB7.1N..... | 15.15                   | 8.22  | 3.20 | 25.04  | 10.82 | 3.87 |
| CB7.1.....  | 36.53                   | 8.70  | 2.03 | 47.58  | 8.81  | 0.67 |
| CB7.1S..... | 29.72                   | 8.17  | 2.34 | 12.92  | 5.73  | 1.38 |
| CB5.4W..... | 17.94                   | 9.63  | 2.00 | 28.32  | 11.55 | 3.84 |
| CB7.2.....  | 11.71                   | 6.06  | 1.94 | 13.97  | 5.19  | 1.81 |
| CB7.2E..... | 16.29                   | 6.96  | 2.13 | 22.20  | 7.26  | 1.36 |
| CB7.3E..... | 14.91                   | 6.94  | 1.57 | 14.30  | 6.17  | 1.72 |
| LE3.6.....  | 22.13                   | 9.32  | 2.08 | 15.36  | 8.28  | 3.36 |
| LE3.7.....  | 14.61                   | 8.86  | 4.67 | 13.76  | 8.67  | 4.17 |
| WE4.1.....  | 11.28                   | 8.58  | 3.52 | 22.69  | 11.03 | 5.08 |
| WE4.2.....  | 12.28                   | 6.76  | 2.67 | 21.05  | 8.64  | 2.67 |
| WE4.3.....  | 14.86                   | 7.99  | 2.48 | 14.37  | 8.01  | 3.36 |
| WE4.4.....  | 13.03                   | 7.70  | 3.10 | 13.36  | 6.93  | 1.94 |
| LE5.5.....  | 19.36                   | 8.69  | 3.92 | 13.53  | 5.15  | 0.83 |

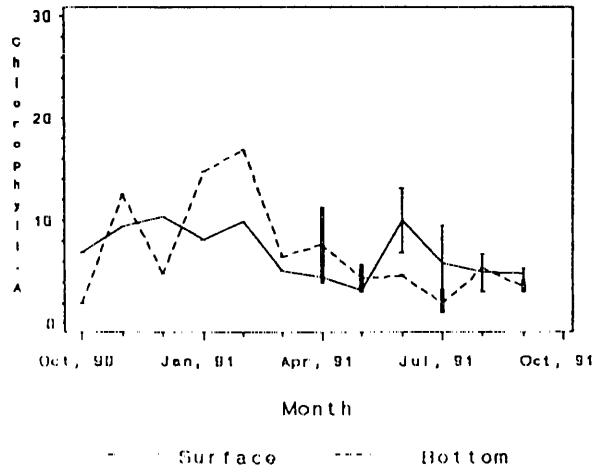
Station Id=CB5.4



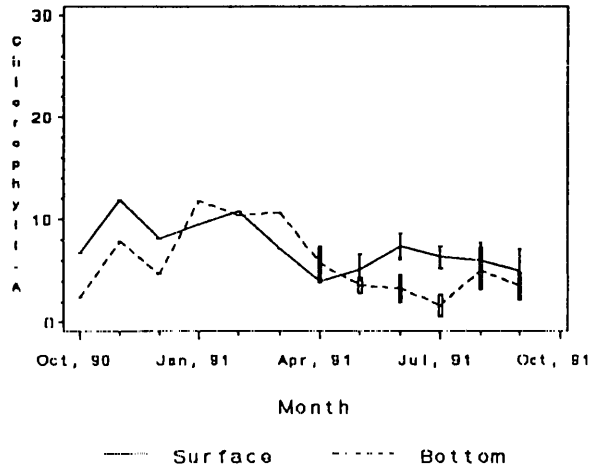
Station Id=CB5.5



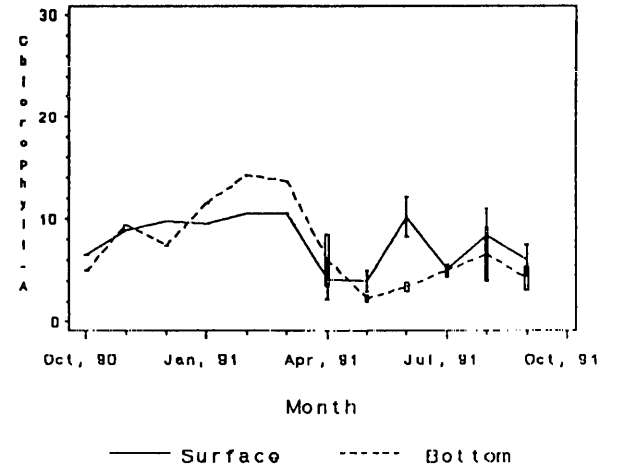
Station Id=CB6.1



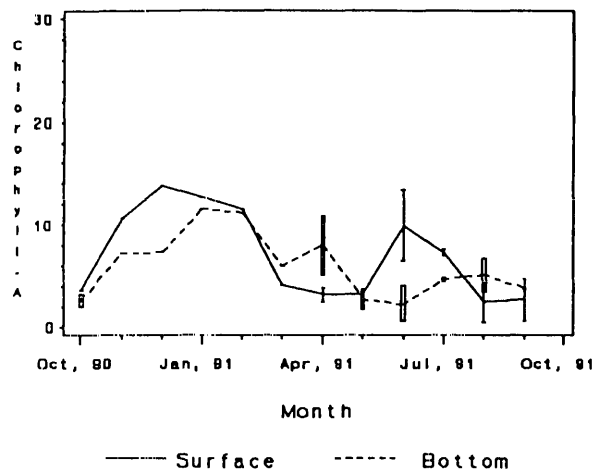
Station Id=CB6.2



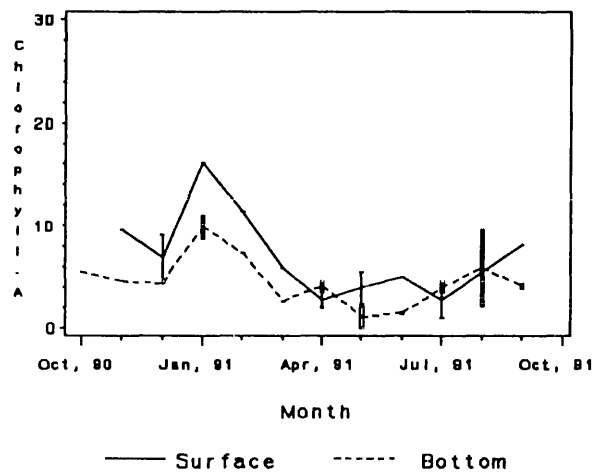
Station Id=CB6.3



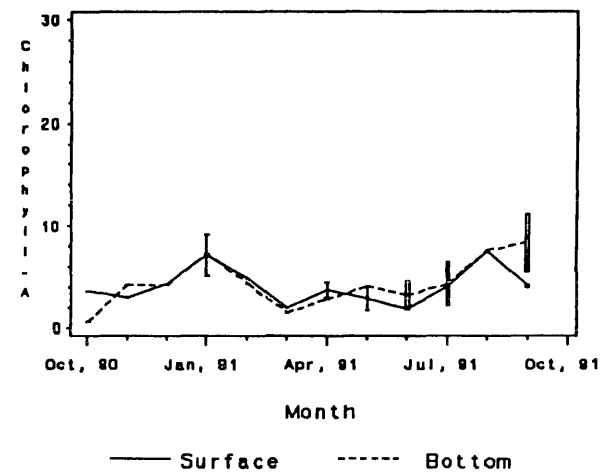
Station Id=CB6.4



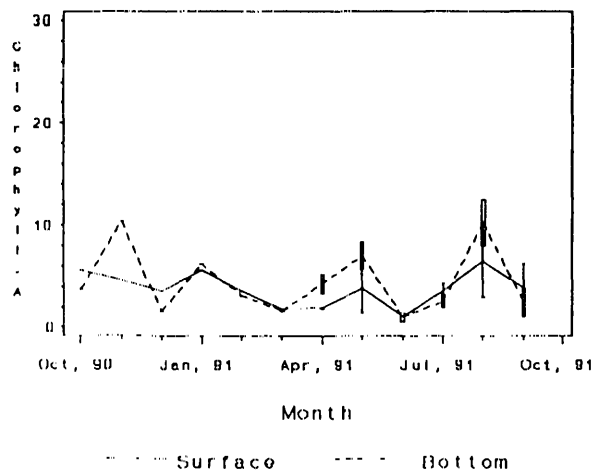
Station Id=CB7.3



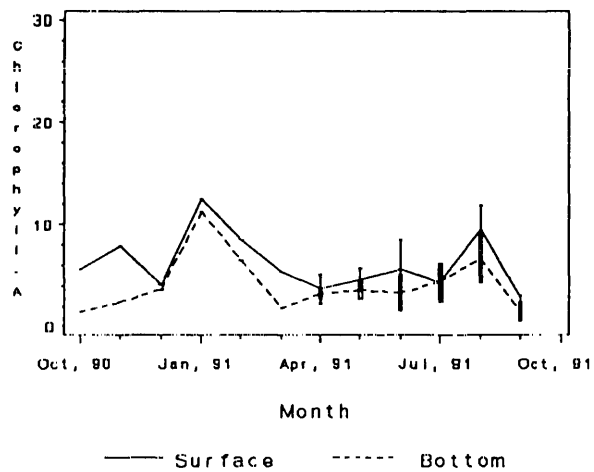
Station Id=CB7.4



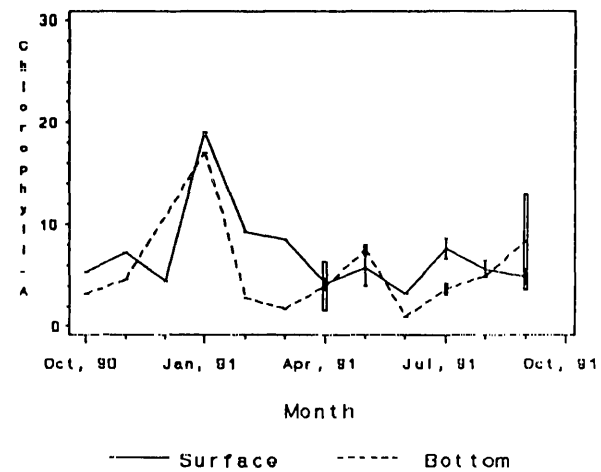
Station Id=CB7.4N



Station Id=CB8.1E

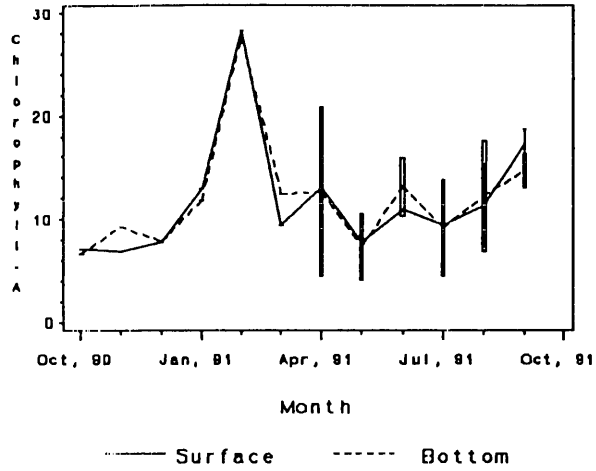


Station Id=CB8.1

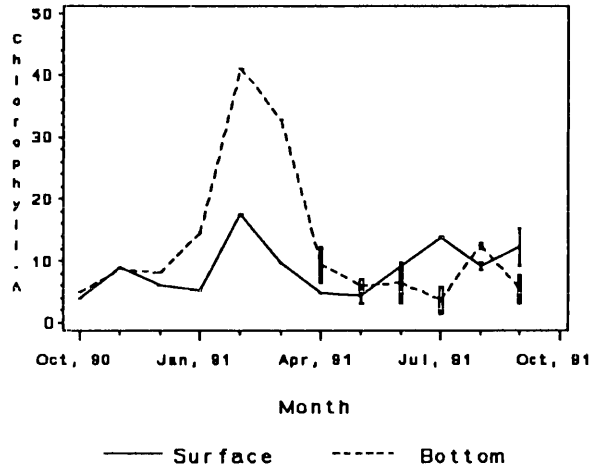




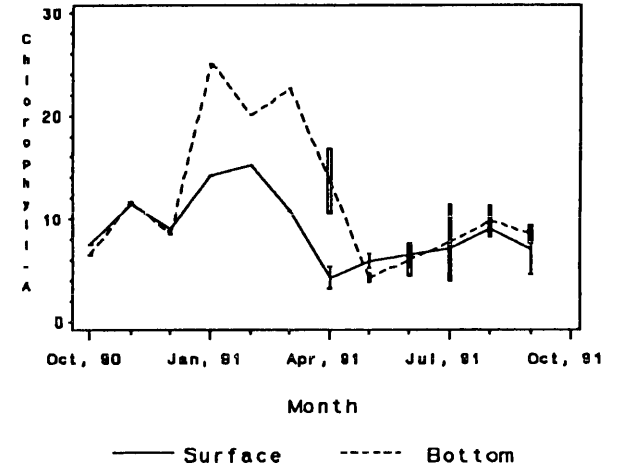
Station Id=EE3.1



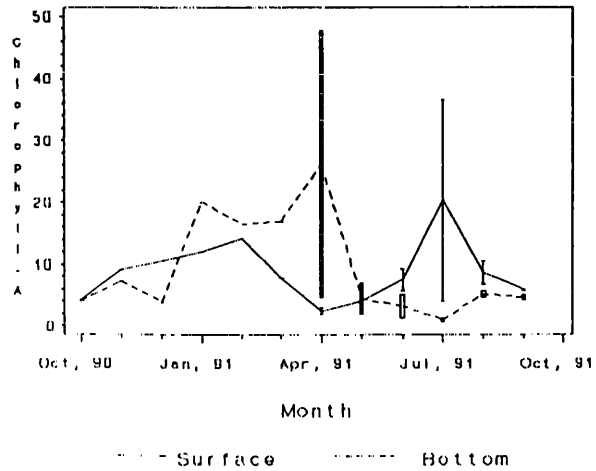
Station Id=EE3.2



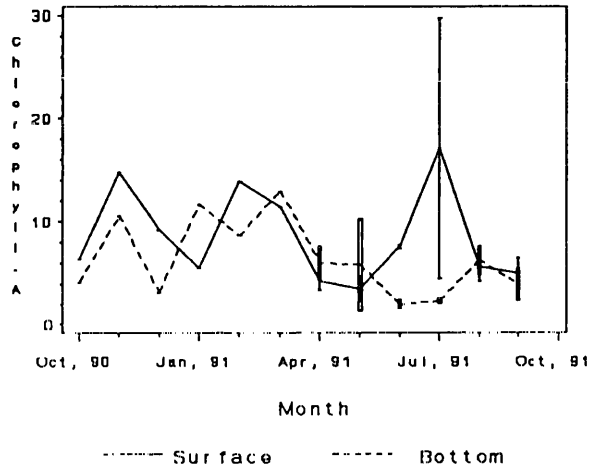
Station Id=CB7.1N



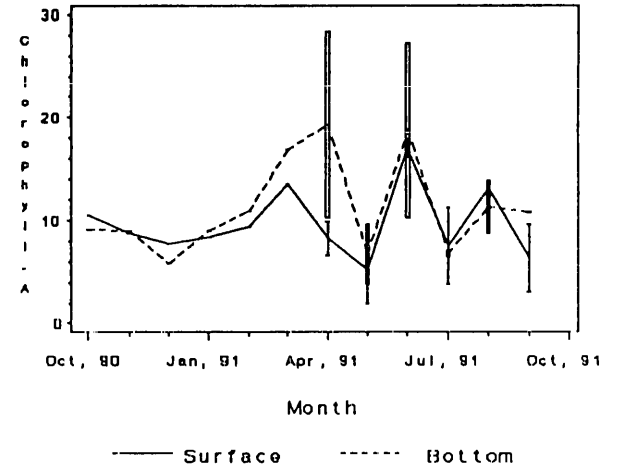
Station Id=CB7.1



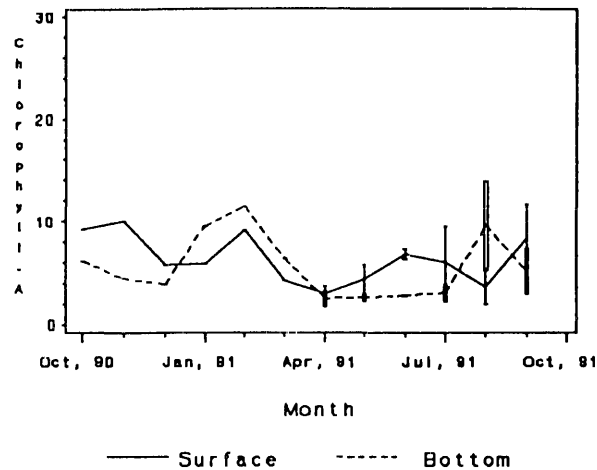
Station Id=CB7.1S



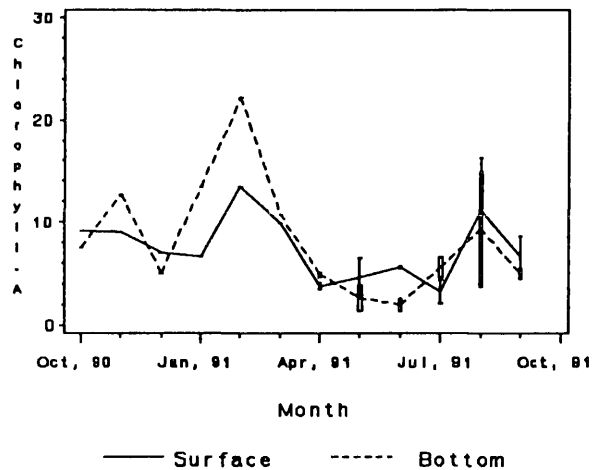
Station Id=CB5.4W



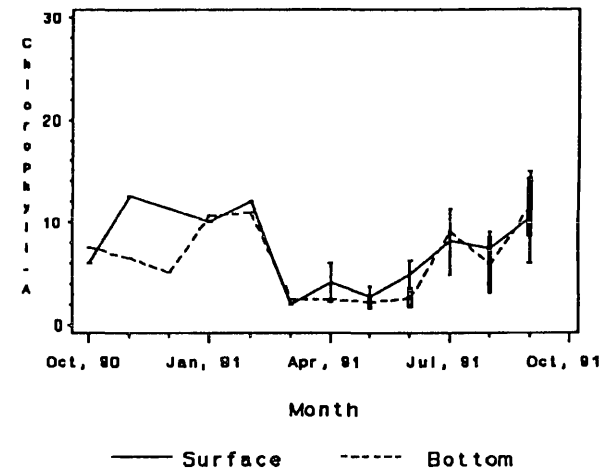
Station Id=CB7.2



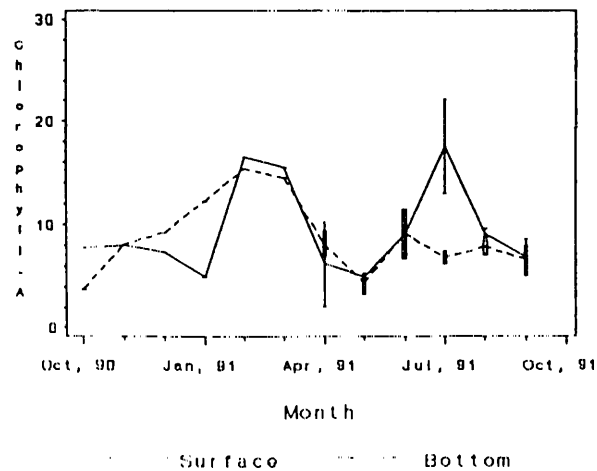
Station Id=CB7.2E



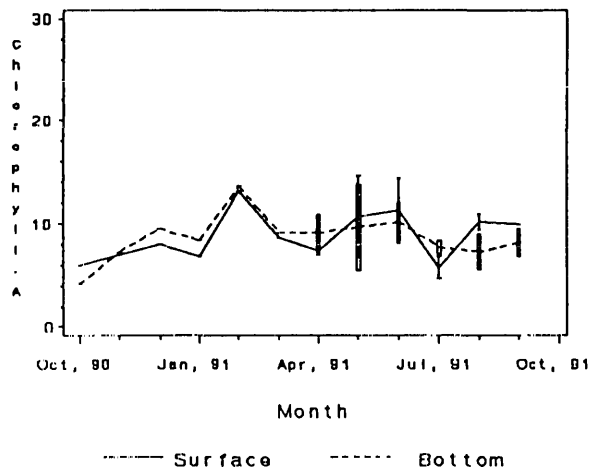
Station Id=CB7.3E



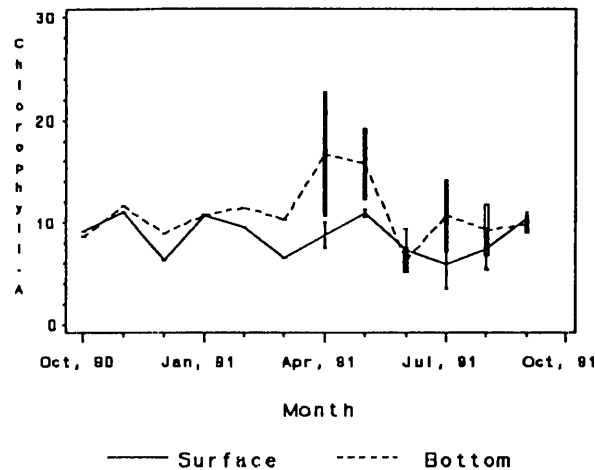
Station Id=LE3.6



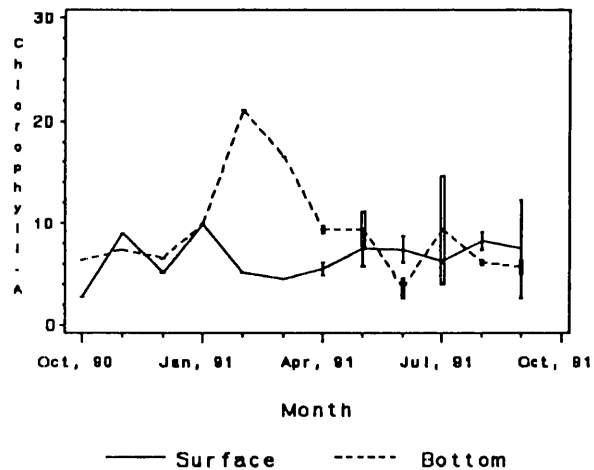
Station Id=LE3.7



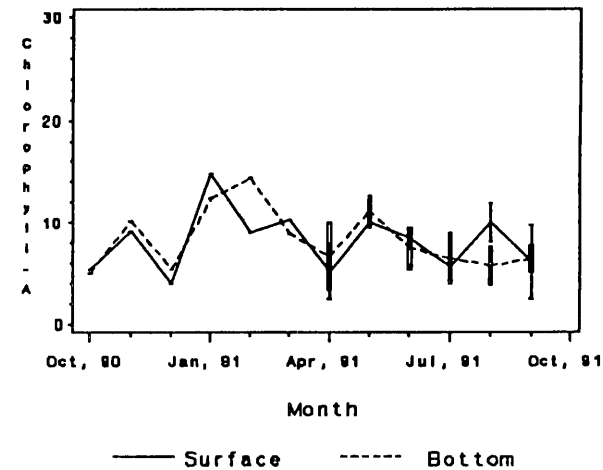
Station Id=WE4.1



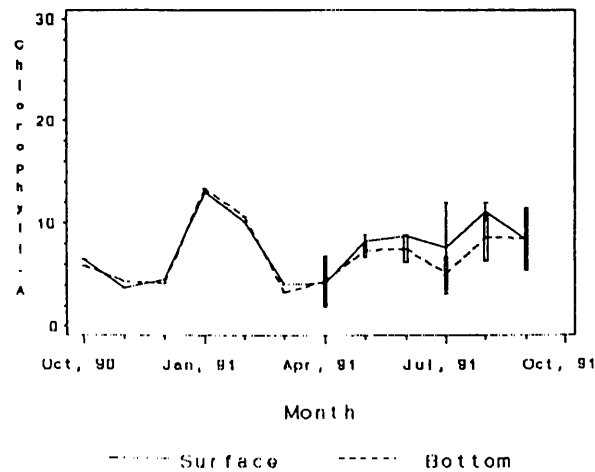
Station Id=WE4.2



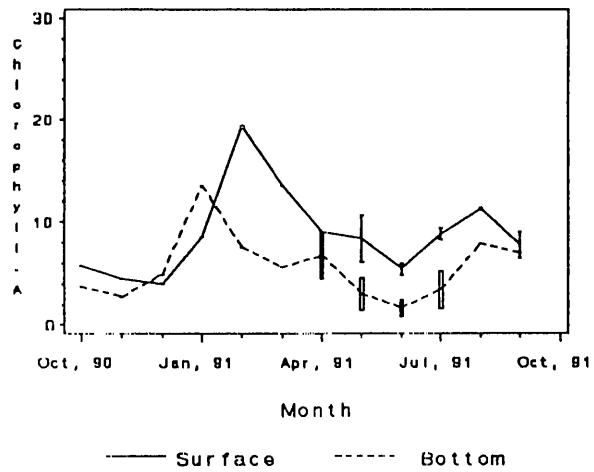
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5



## TOTAL PHOSPHORUS

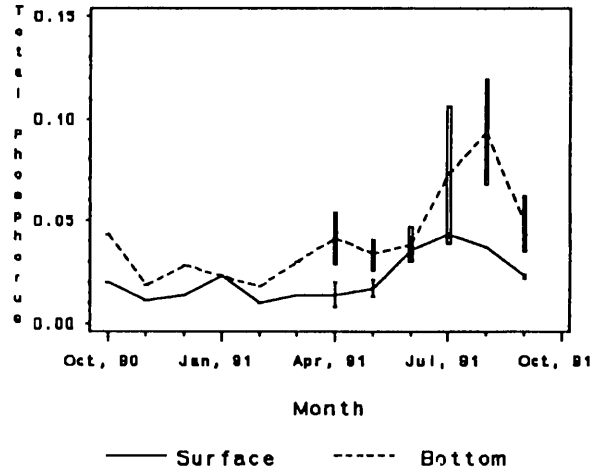
Total Phosphorus is the sum of  
Particulate Phosphorus and Total Dissolved Phosphorus.

Values reported as mg/l.

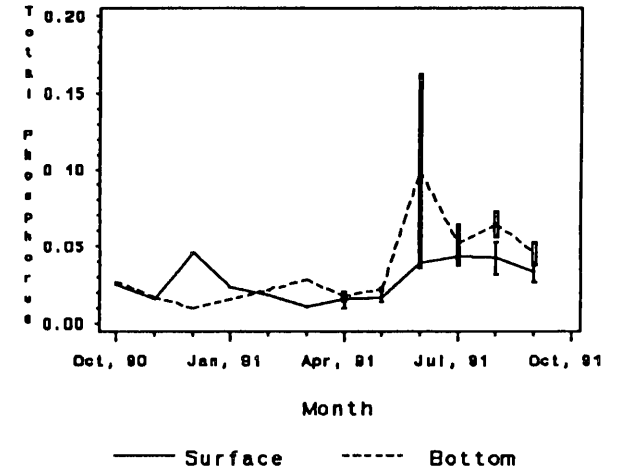
Total Phosphorus  
October, 1990 - September, 1991

|             | Total Phosphorus<br>(mg/l) |        |        |        |        |        |
|-------------|----------------------------|--------|--------|--------|--------|--------|
|             | Surface                    |        |        | Bottom |        |        |
|             | Max                        | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.0440                     | 0.0240 | 0.0080 | 0.1190 | 0.0467 | 0.0180 |
| CB5.5.....  | 0.0530                     | 0.0284 | 0.0100 | 0.1620 | 0.0415 | 0.0100 |
| CB6.1.....  | 0.1190                     | 0.0307 | 0.0080 | 0.0710 | 0.0352 | 0.0150 |
| CB6.2.....  | 0.0470                     | 0.0262 | 0.0100 | 0.0710 | 0.0381 | 0.0100 |
| CB6.3.....  | 0.0570                     | 0.0301 | 0.0140 | 0.1040 | 0.0414 | 0.0150 |
| CB6.4.....  | 0.0450                     | 0.0230 | 0.0095 | 0.0710 | 0.0366 | 0.0130 |
| CB7.3.....  | 0.0410                     | 0.0230 | 0.0060 | 0.0640 | 0.0339 | 0.0125 |
| CB7.4.....  | 0.0400                     | 0.0243 | 0.0060 | 0.1180 | 0.0421 | 0.0180 |
| CB7.4N..... | 0.0480                     | 0.0273 | 0.0115 | 0.1320 | 0.0463 | 0.0125 |
| CB8.1E..... | 0.0560                     | 0.0321 | 0.0180 | 0.0700 | 0.0390 | 0.0155 |
| CB8.1.....  | 0.0510                     | 0.0308 | 0.0140 | 0.0810 | 0.0392 | 0.0160 |
| EE3.1.....  | 0.1070                     | 0.0427 | 0.0110 | 0.0750 | 0.0389 | 0.0120 |
| EE3.2.....  | 0.0620                     | 0.0314 | 0.0090 | 0.1100 | 0.0452 | 0.0130 |
| CB7.1N..... | 0.0450                     | 0.0261 | 0.0110 | 0.1620 | 0.0525 | 0.0180 |
| CB7.1.....  | 0.0730                     | 0.0272 | 0.0060 | 0.1030 | 0.0442 | 0.0170 |
| CB7.1S..... | 0.1040                     | 0.0286 | 0.0070 | 0.1020 | 0.0394 | 0.0035 |
| CB5.4W..... | 0.0740                     | 0.0324 | 0.0120 | 0.0650 | 0.0329 | 0.0100 |
| CB7.2.....  | 0.0450                     | 0.0257 | 0.0100 | 0.1150 | 0.0481 | 0.0150 |
| CB7.2E..... | 0.0500                     | 0.0282 | 0.0070 | 0.0770 | 0.0349 | 0.0080 |
| CB7.3E..... | 0.0460                     | 0.0261 | 0.0160 | 0.0660 | 0.0354 | 0.0160 |
| LE3.6.....  | 0.0850                     | 0.0317 | 0.0140 | 0.0760 | 0.0316 | 0.0120 |
| LE3.7.....  | 0.0700                     | 0.0304 | 0.0100 | 0.0690 | 0.0307 | 0.0110 |
| WE4.1.....  | 0.0560                     | 0.0293 | 0.0120 | 0.0690 | 0.0340 | 0.0120 |
| WE4.2.....  | 0.0590                     | 0.0329 | 0.0180 | 0.0830 | 0.0466 | 0.0230 |
| WE4.3.....  | 0.0560                     | 0.0330 | 0.0110 | 0.0740 | 0.0351 | 0.0110 |
| WE4.4.....  | 0.0610                     | 0.0328 | 0.0150 | 0.0660 | 0.0351 | 0.0120 |
| LE5.5.....  | 0.0750                     | 0.0436 | 0.0270 | 0.0910 | 0.0534 | 0.0270 |

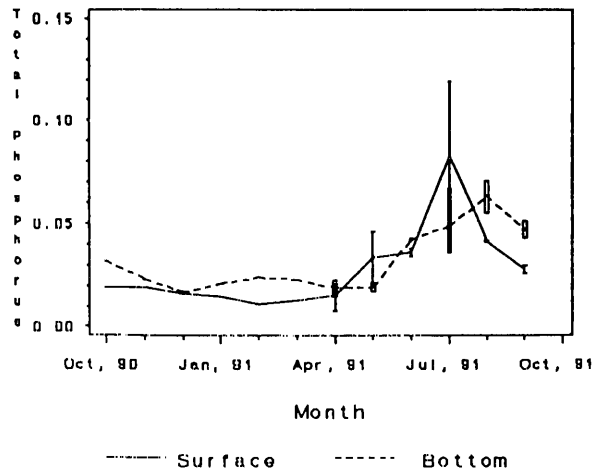
Station Id=CB5.4



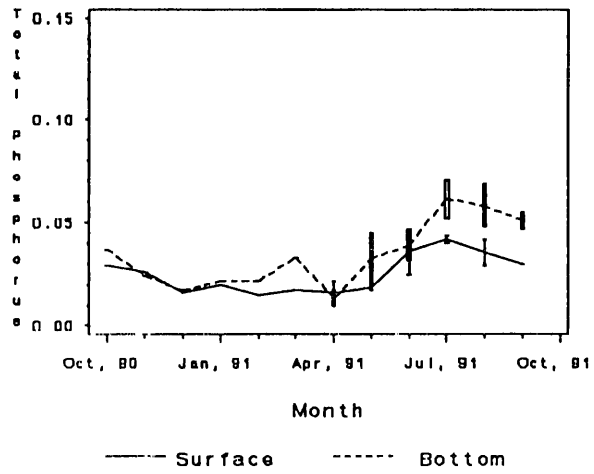
Station Id=CB5.5



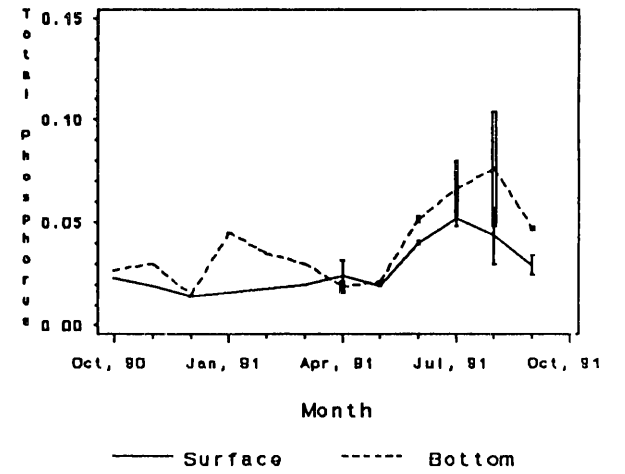
Station Id=CB6.1



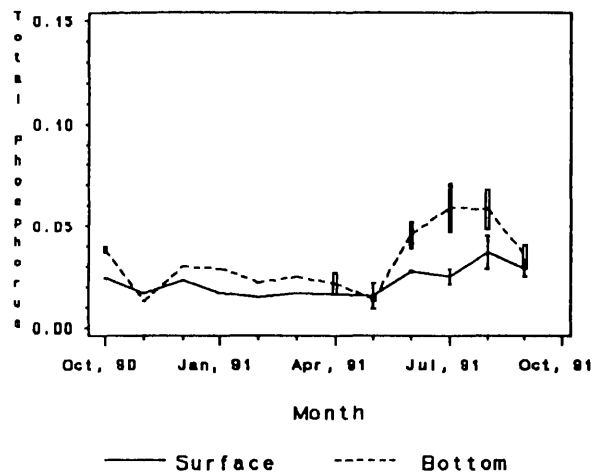
Station Id=CB6.2



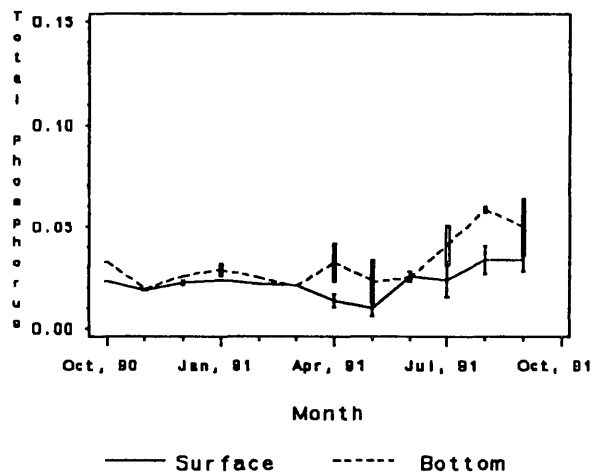
Station Id=CB6.3



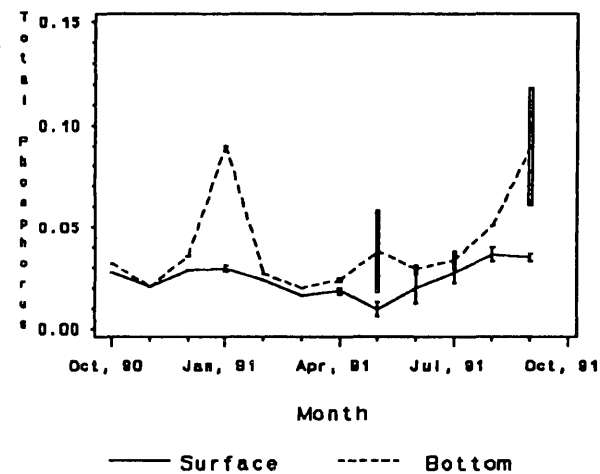
Station Id=CB6.4



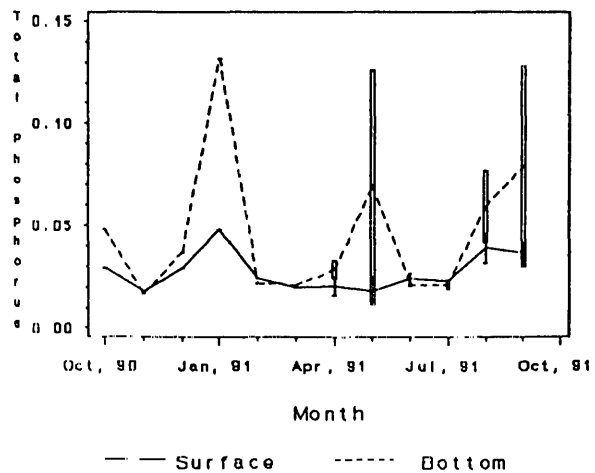
Station Id=CB7.3



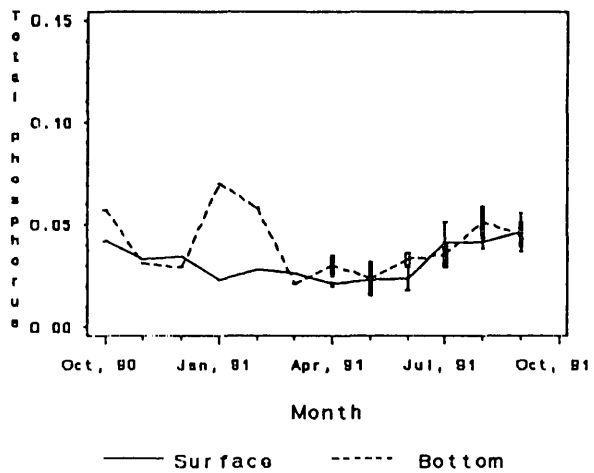
Station Id=CB7.4



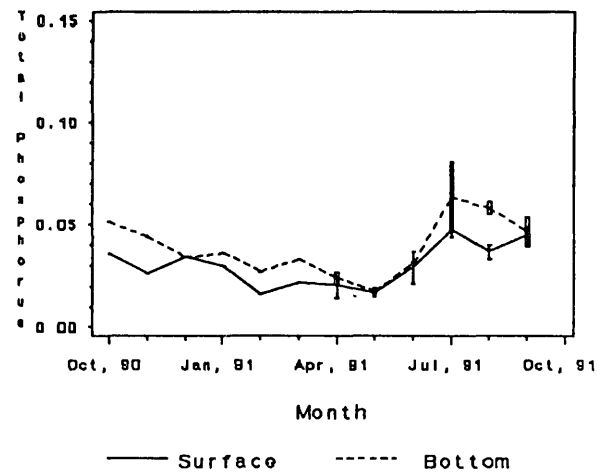
Station Id=CB7.4N



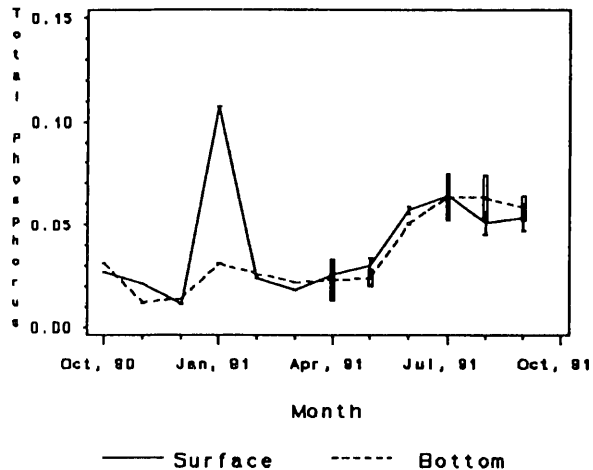
Station Id=CBB.1E



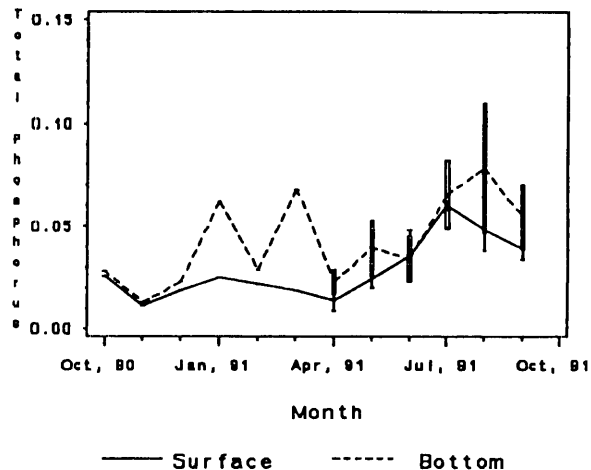
Station Id=CBB.1



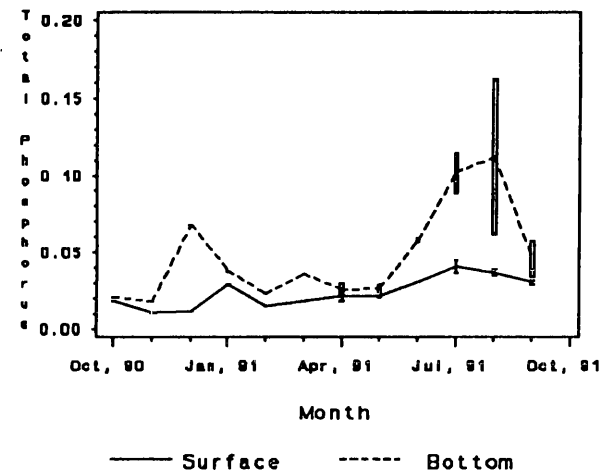
Station Id=EE3.1



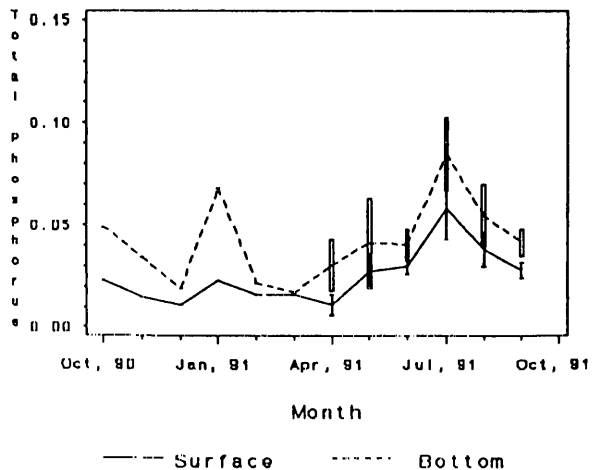
Station Id=EE3.2



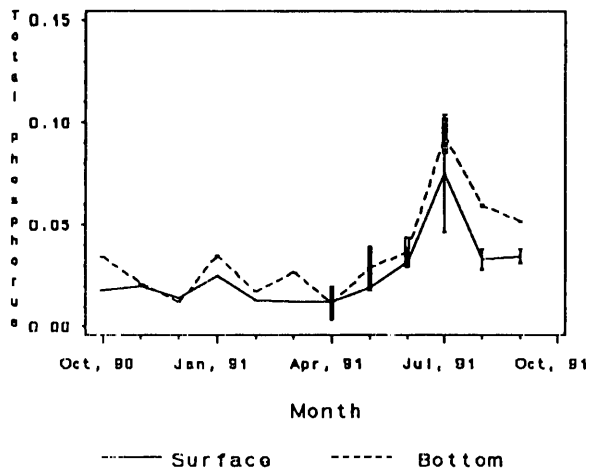
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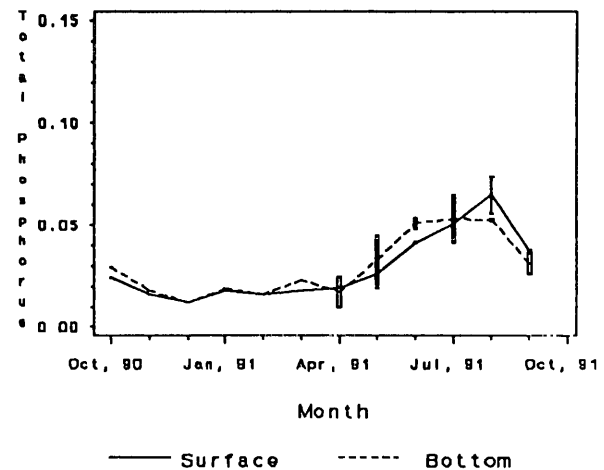
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Station Id=CB7.1S

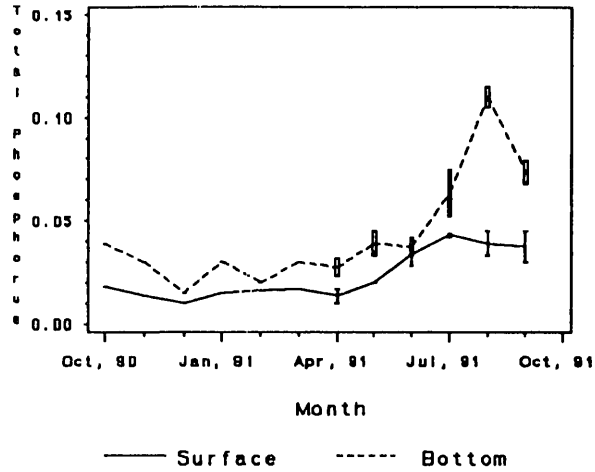


Station Id=CB5.4W

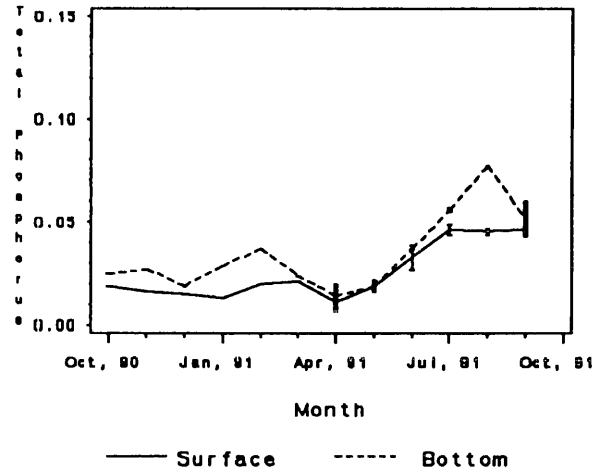




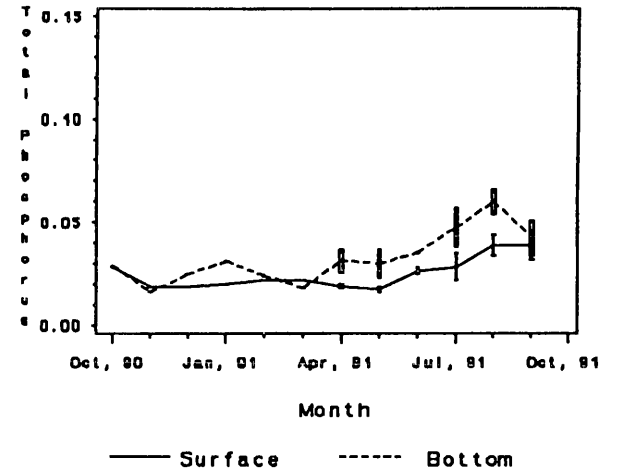
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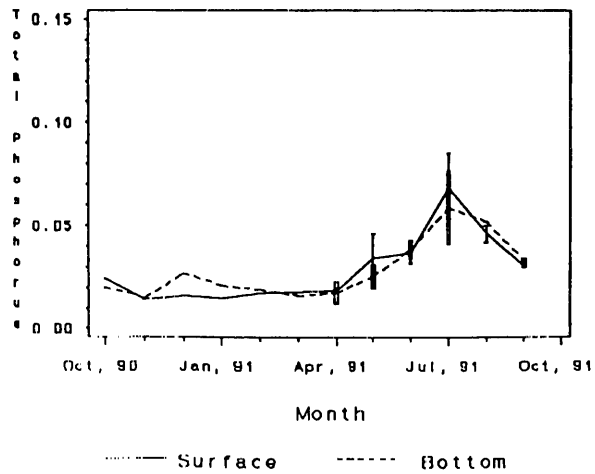
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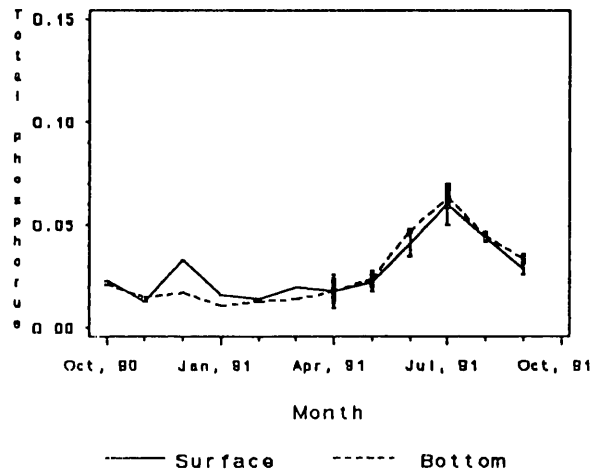
Station Id=CB7.3E



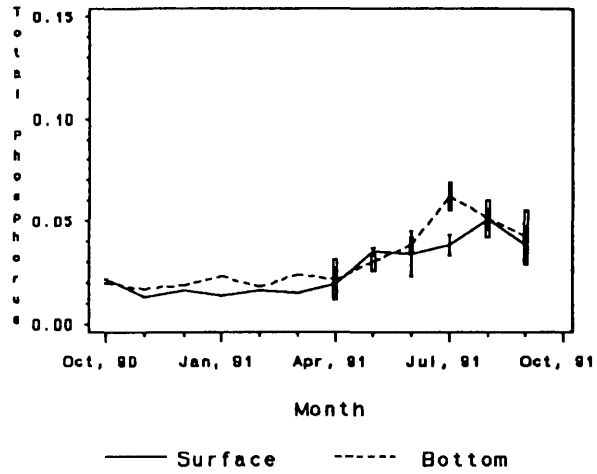
Station Id=LE3.6



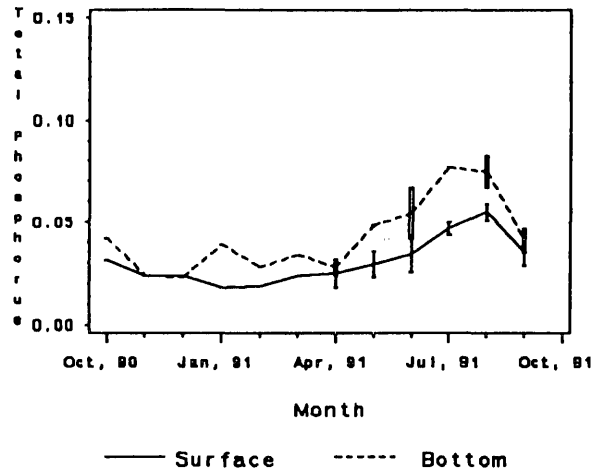
Station Id=LE3.7



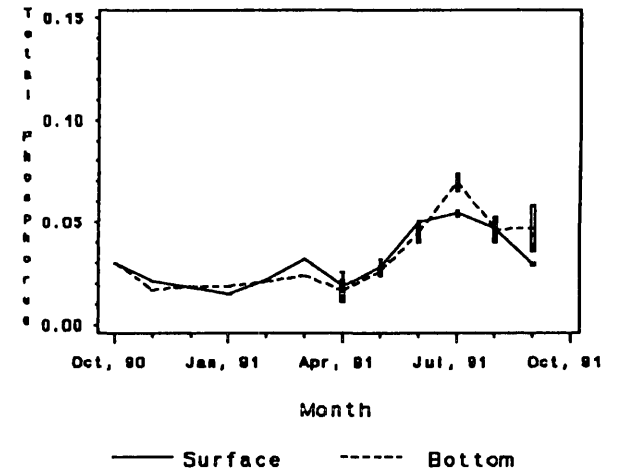
Station Id=WE4.1



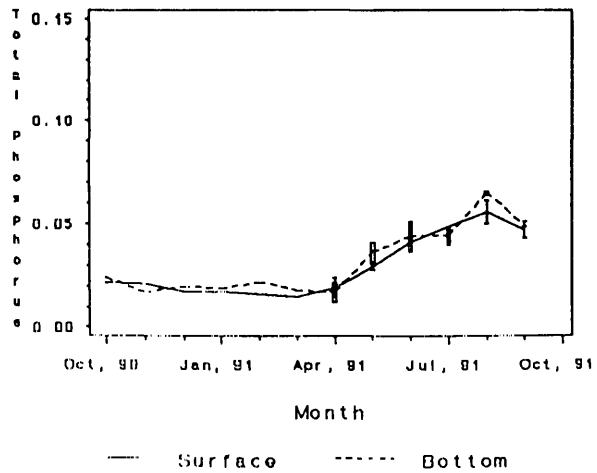
Station Id=WE4.2



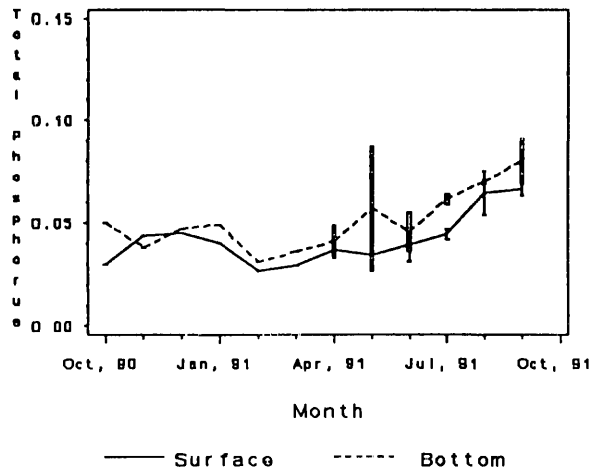
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5

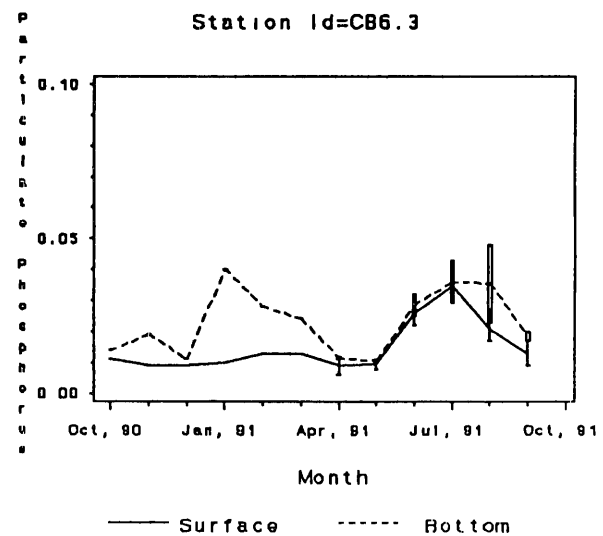
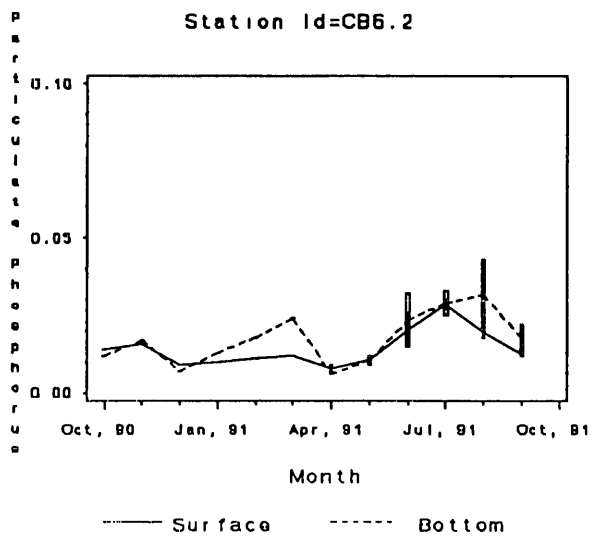
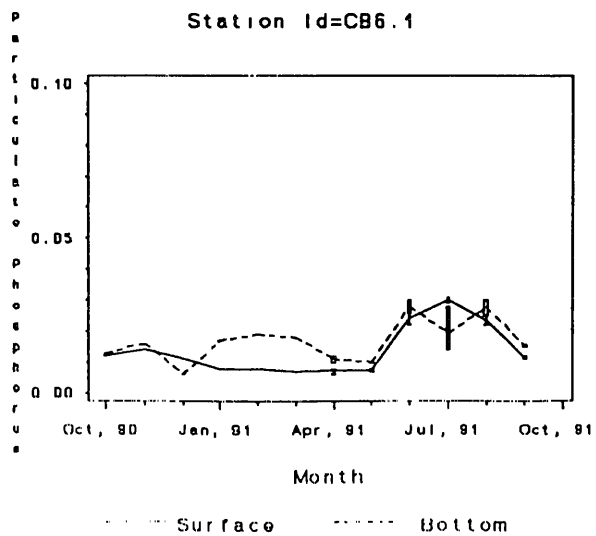
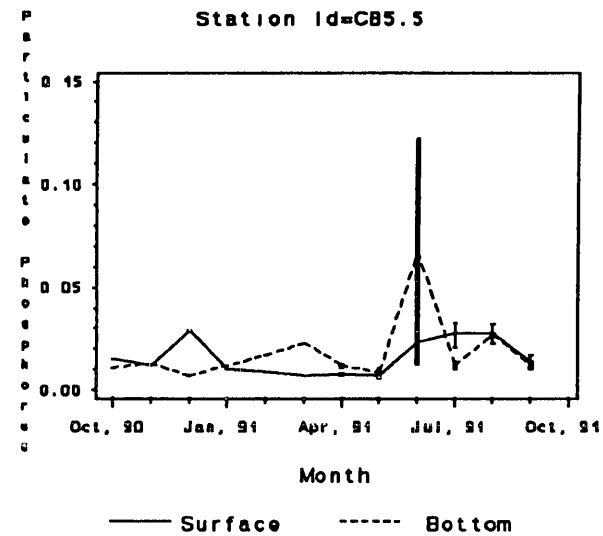
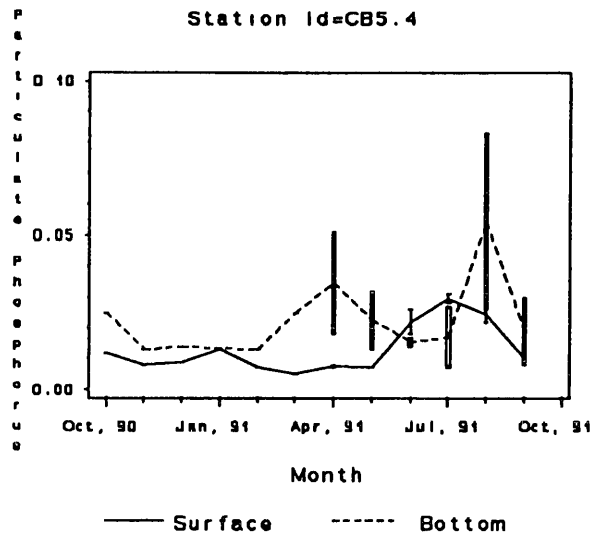


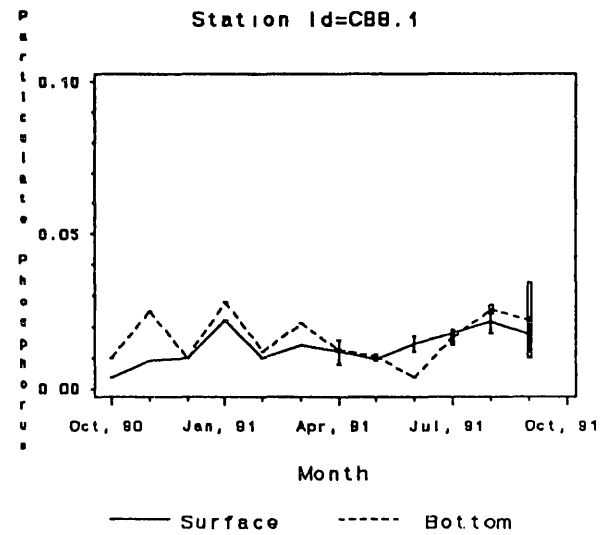
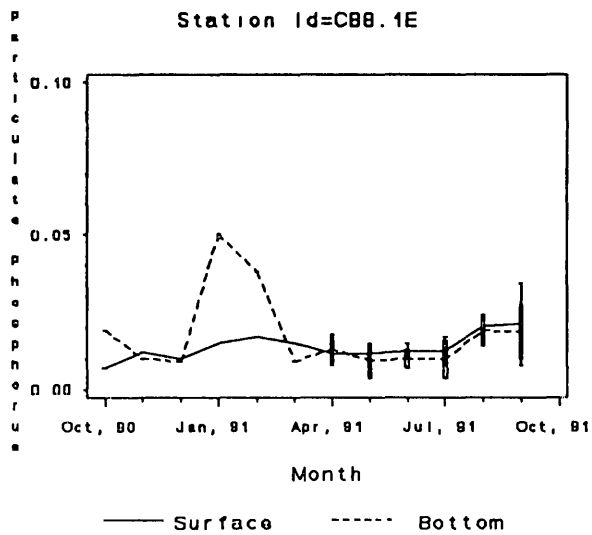
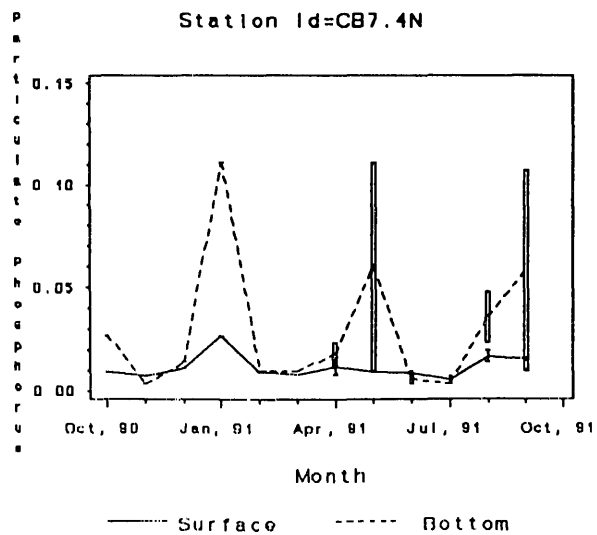
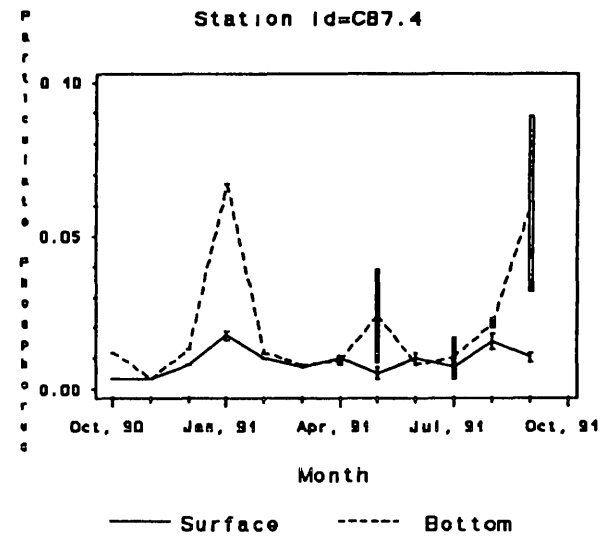
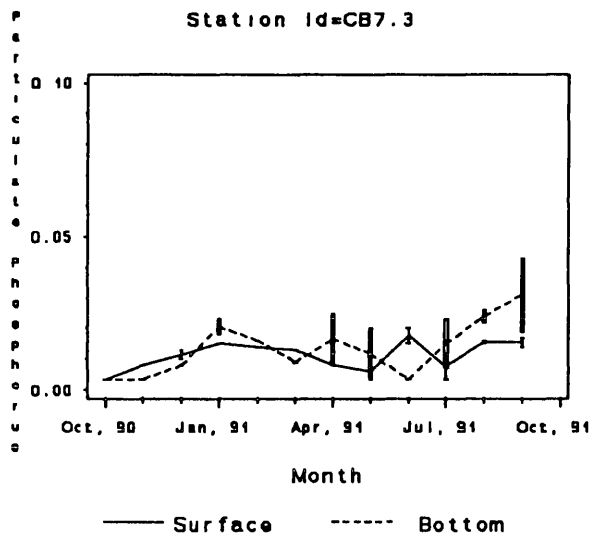
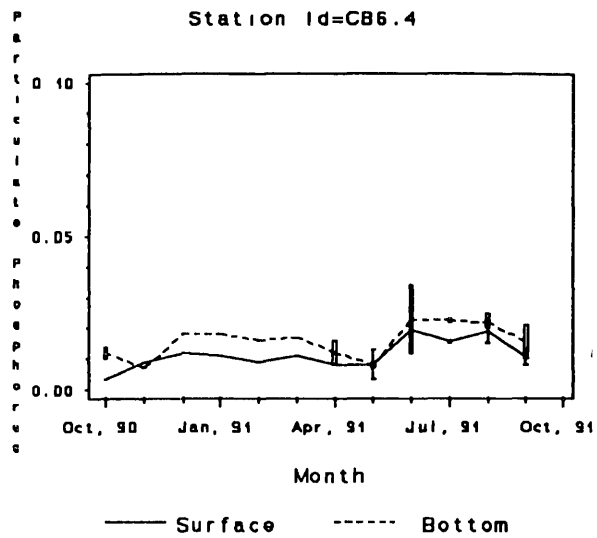
## **PARTICULATE PHOSPHORUS**

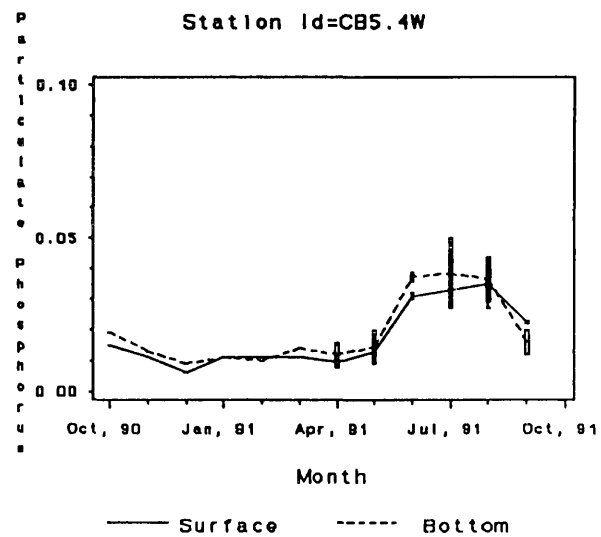
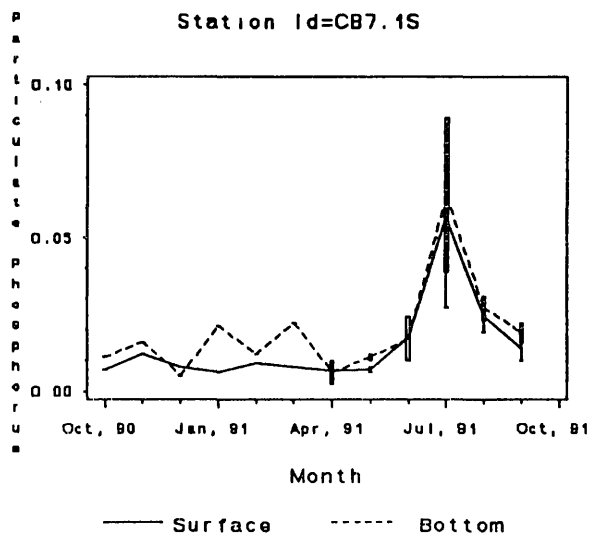
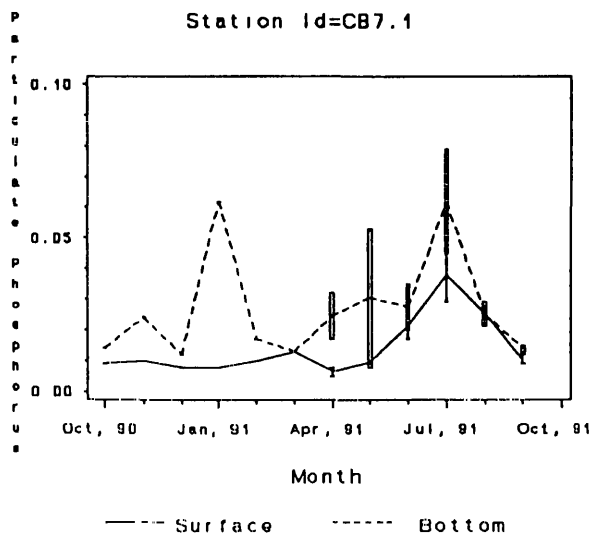
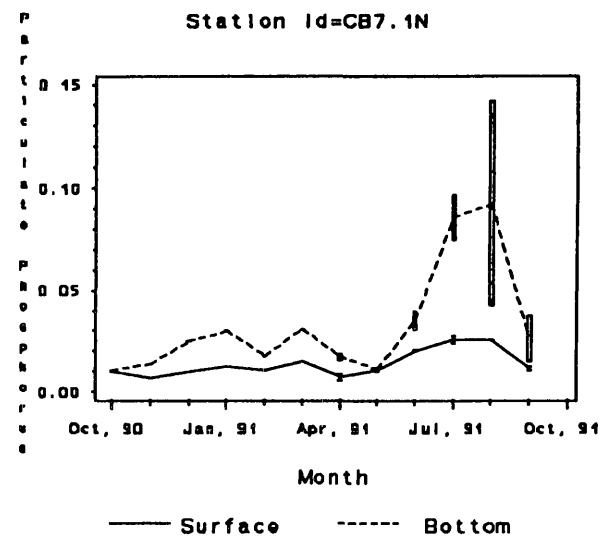
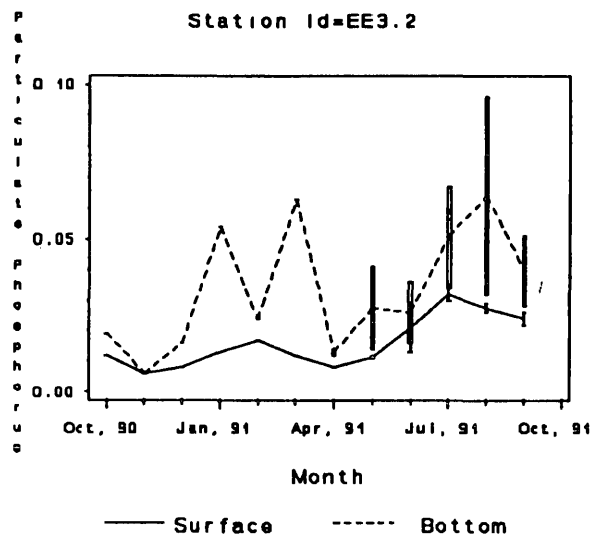
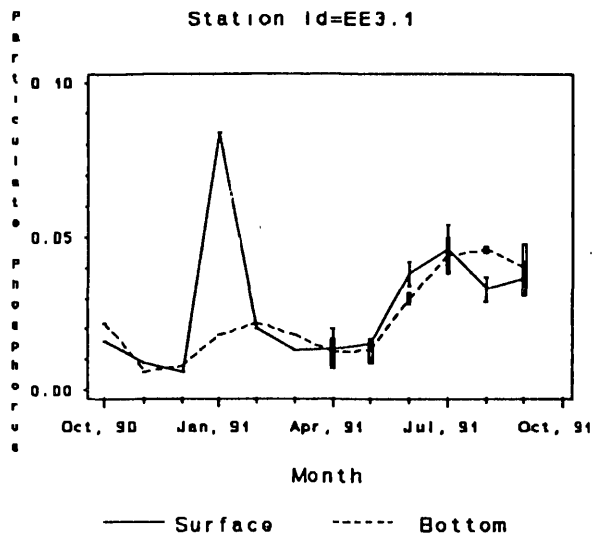
Values reported as mg/l.

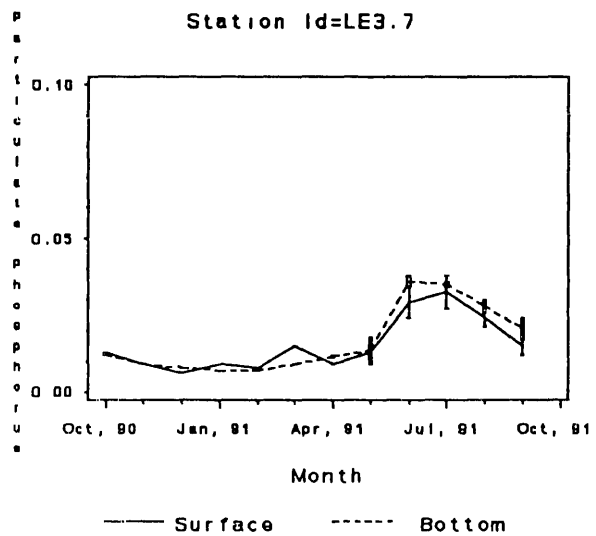
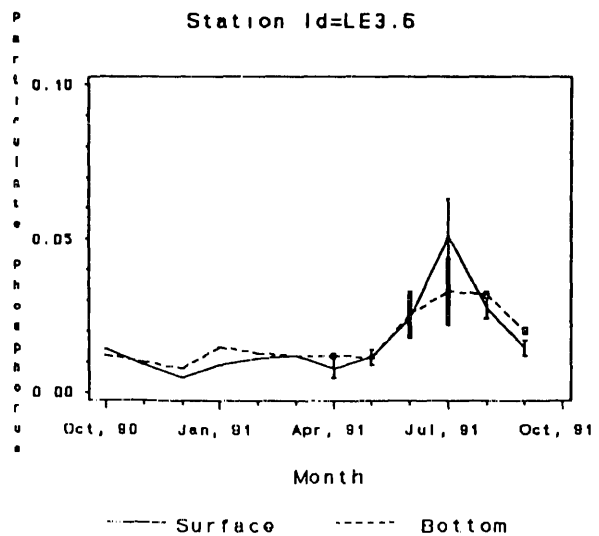
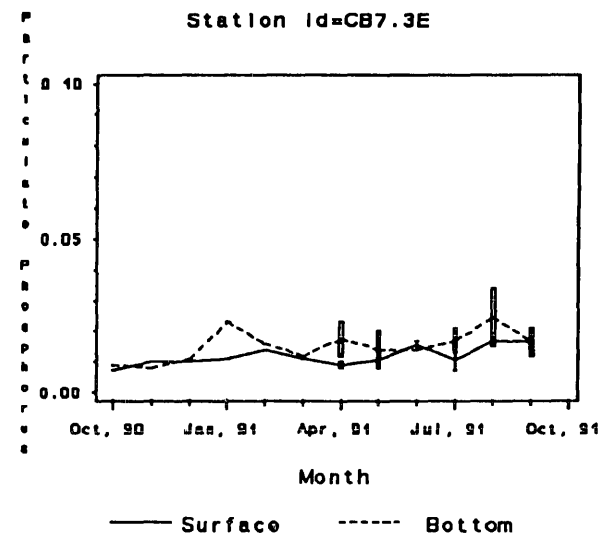
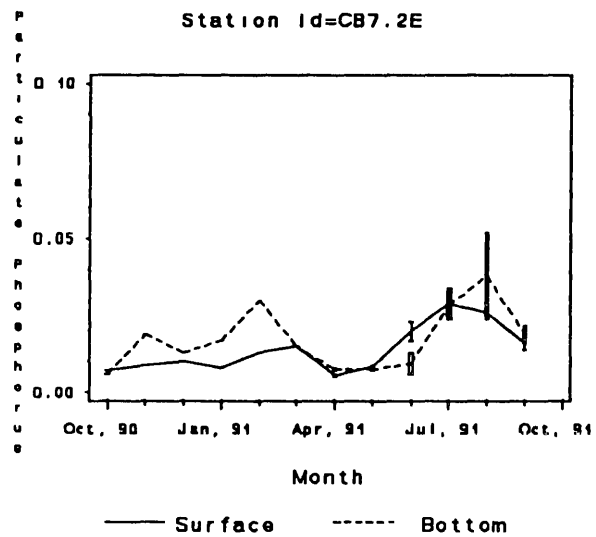
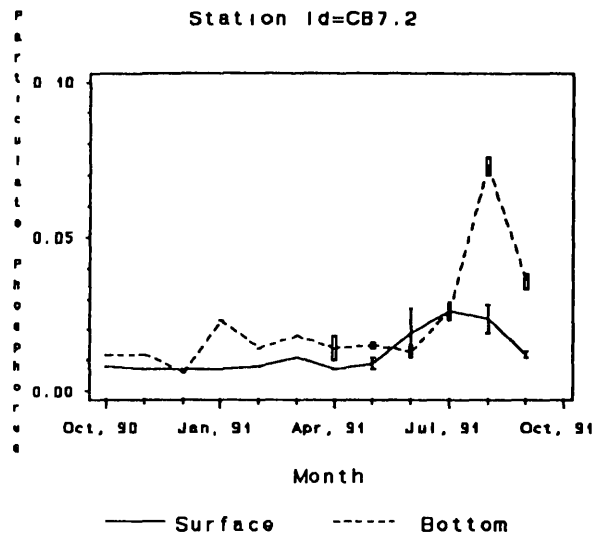
Particulate Phosphorus  
October, 1990 - September, 1991

|             | Particulate Phosphorus<br>(mg/l) |        |        |        |        |        |
|-------------|----------------------------------|--------|--------|--------|--------|--------|
|             | Surface                          |        |        | Bottom |        |        |
|             | Max                              | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.0310                           | 0.0142 | 0.0050 | 0.0830 | 0.0245 | 0.0070 |
| CB5.5.....  | 0.0330                           | 0.0162 | 0.0060 | 0.1220 | 0.0205 | 0.0060 |
| CB6.1.....  | 0.0310                           | 0.0145 | 0.0060 | 0.0300 | 0.0174 | 0.0060 |
| CB6.2.....  | 0.0300                           | 0.0148 | 0.0070 | 0.0430 | 0.0189 | 0.0060 |
| CB6.3.....  | 0.0360                           | 0.0164 | 0.0060 | 0.0480 | 0.0232 | 0.0100 |
| CB6.4.....  | 0.0230                           | 0.0121 | 0.0035 | 0.0340 | 0.0166 | 0.0070 |
| CB7.3.....  | 0.0200                           | 0.0110 | 0.0035 | 0.0430 | 0.0154 | 0.0035 |
| CB7.4.....  | 0.0190                           | 0.0098 | 0.0035 | 0.0890 | 0.0213 | 0.0035 |
| CB7.4N..... | 0.0270                           | 0.0115 | 0.0035 | 0.1110 | 0.0300 | 0.0035 |
| CB8.1E..... | 0.0340                           | 0.0142 | 0.0070 | 0.0500 | 0.0163 | 0.0035 |
| CB8.1.....  | 0.0250                           | 0.0141 | 0.0035 | 0.0340 | 0.0159 | 0.0035 |
| EE3.1.....  | 0.0840                           | 0.0284 | 0.0060 | 0.0500 | 0.0258 | 0.0060 |
| EE3.2.....  | 0.0340                           | 0.0176 | 0.0060 | 0.0960 | 0.0347 | 0.0060 |
| CB7.1N..... | 0.0280                           | 0.0151 | 0.0060 | 0.1420 | 0.0371 | 0.0110 |
| CB7.1.....  | 0.0470                           | 0.0155 | 0.0050 | 0.0790 | 0.0283 | 0.0080 |
| CB7.1S..... | 0.0870                           | 0.0167 | 0.0060 | 0.0890 | 0.0209 | 0.0025 |
| CB5.4W..... | 0.0430                           | 0.0196 | 0.0060 | 0.0500 | 0.0214 | 0.0080 |
| CB7.2.....  | 0.0280                           | 0.0134 | 0.0070 | 0.0760 | 0.0243 | 0.0060 |
| CB7.2E..... | 0.0340                           | 0.0151 | 0.0050 | 0.0520 | 0.0178 | 0.0060 |
| CB7.3E..... | 0.0210                           | 0.0123 | 0.0070 | 0.0340 | 0.0159 | 0.0080 |
| LE3.6.....  | 0.0630                           | 0.0185 | 0.0050 | 0.0440 | 0.0188 | 0.0080 |
| LE3.7.....  | 0.0380                           | 0.0169 | 0.0060 | 0.0380 | 0.0189 | 0.0070 |
| WE4.1.....  | 0.0290                           | 0.0162 | 0.0070 | 0.0530 | 0.0208 | 0.0090 |
| WE4.2.....  | 0.0320                           | 0.0166 | 0.0080 | 0.0450 | 0.0241 | 0.0100 |
| WE4.3.....  | 0.0360                           | 0.0189 | 0.0090 | 0.0470 | 0.0217 | 0.0070 |
| WE4.4.....  | 0.0470                           | 0.0209 | 0.0070 | 0.0450 | 0.0217 | 0.0080 |
| LE5.5.....  | 0.0340                           | 0.0193 | 0.0070 | 0.0670 | 0.0276 | 0.0100 |

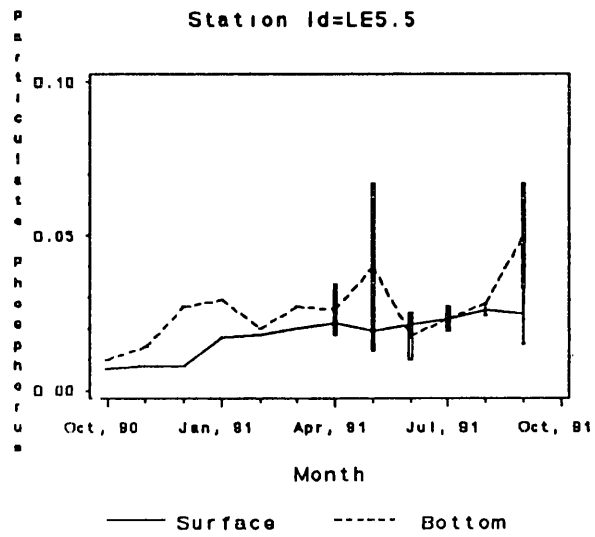
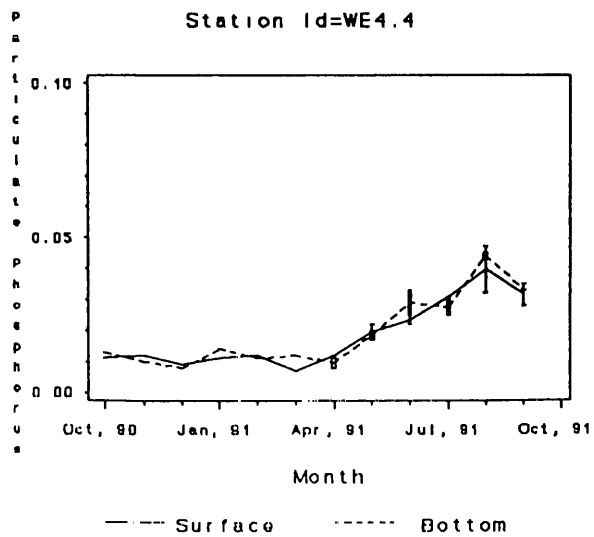
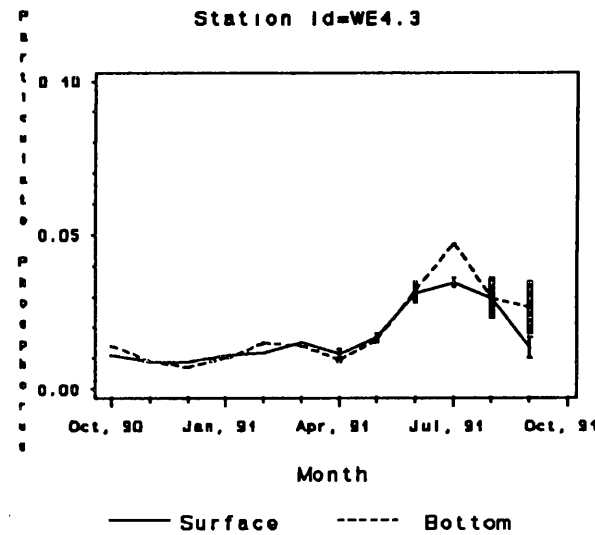
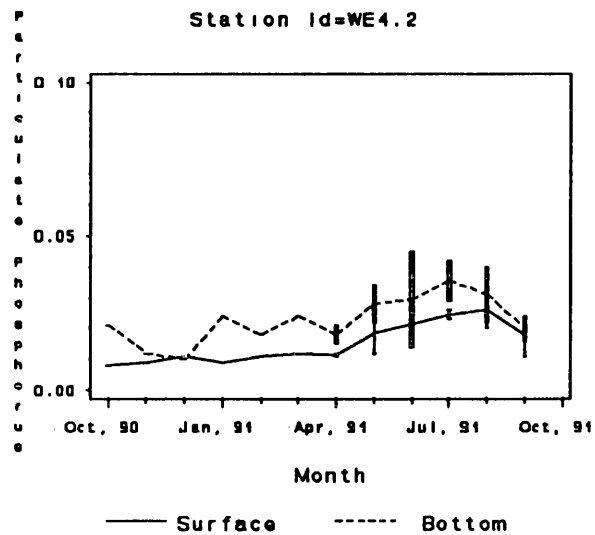
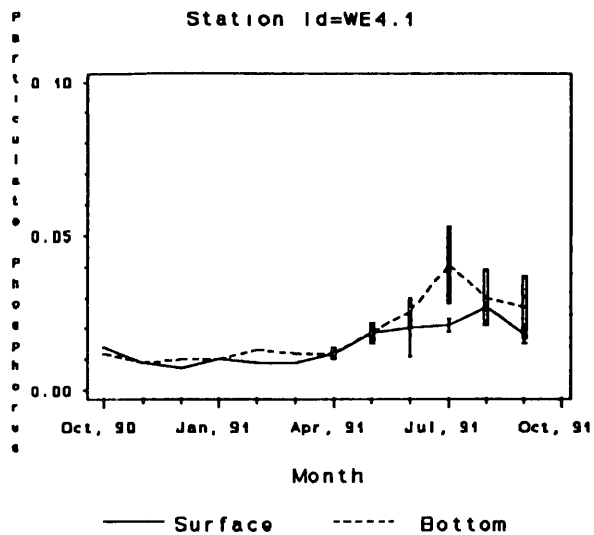










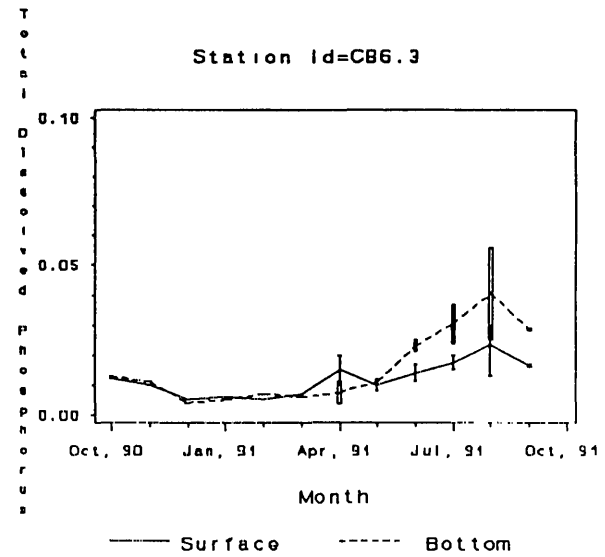
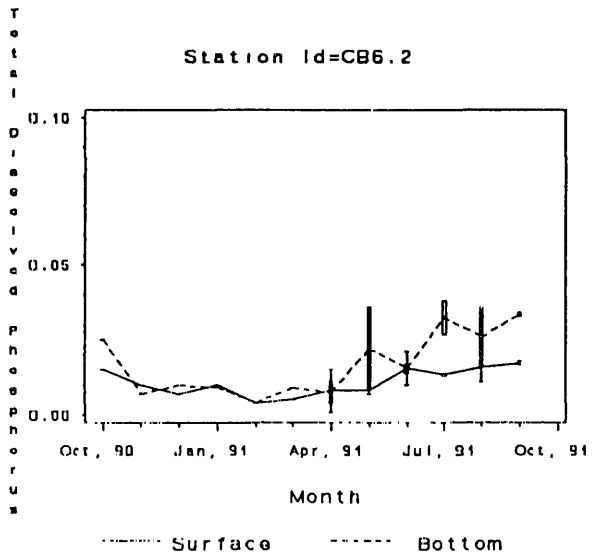
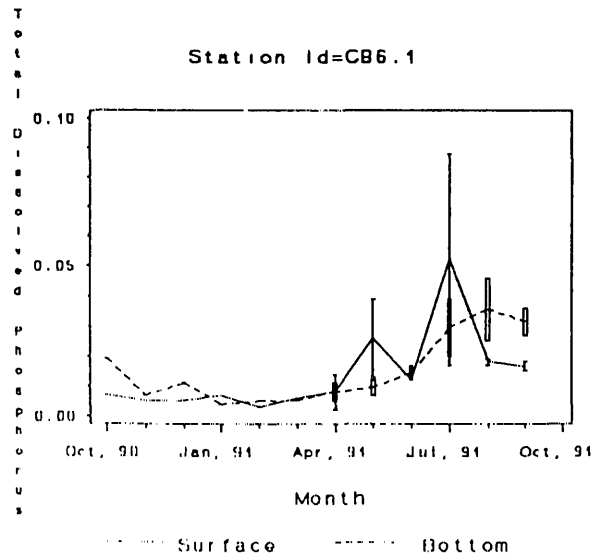
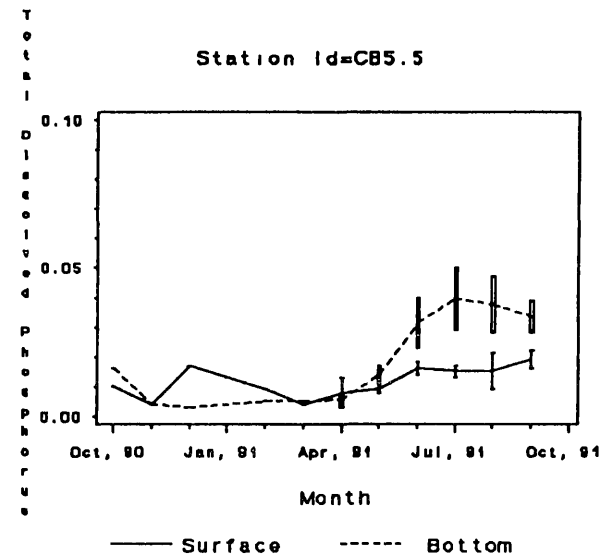
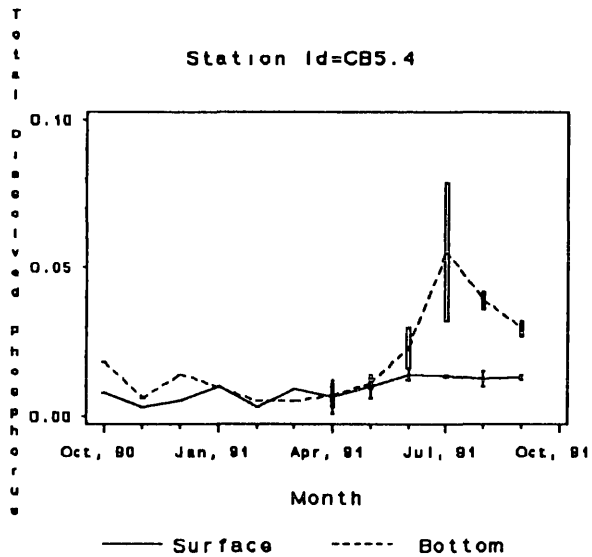


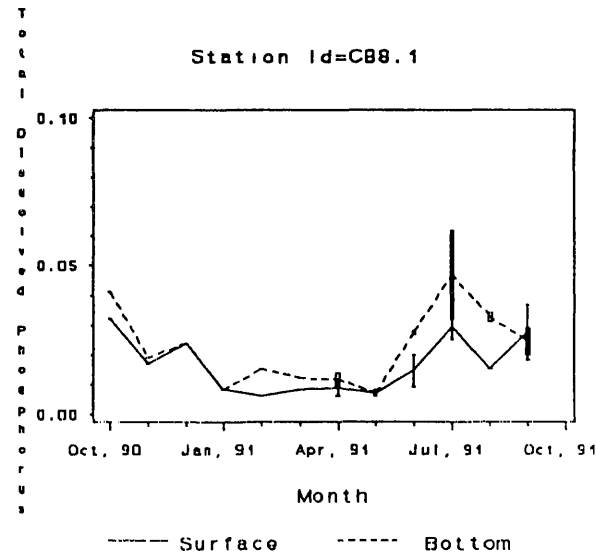
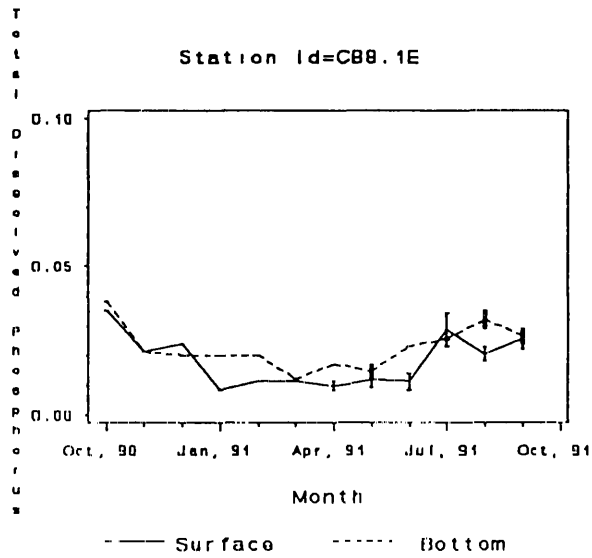
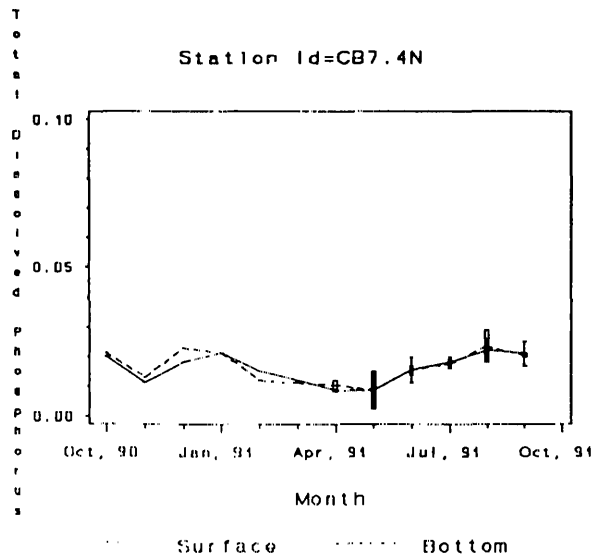
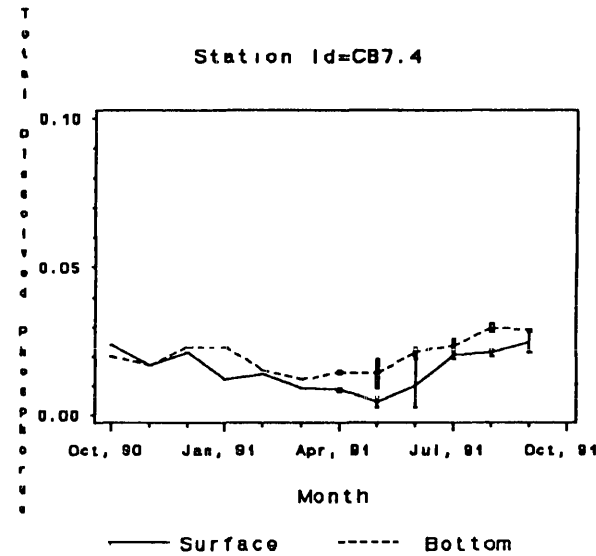
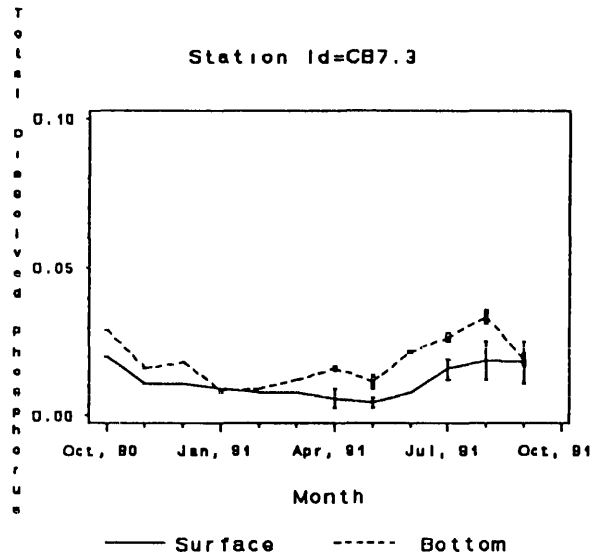
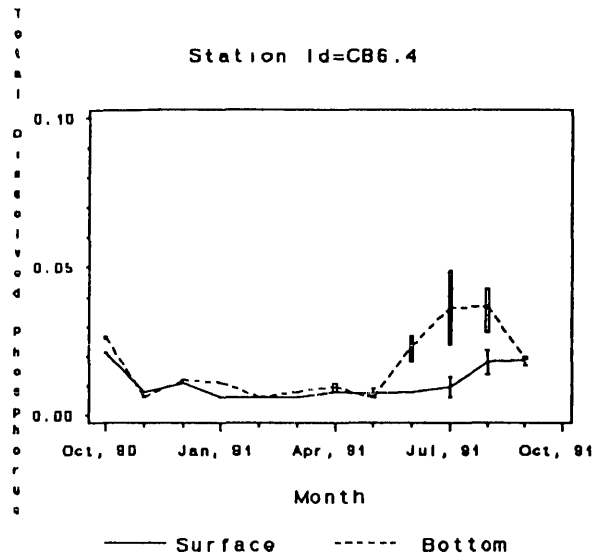
TOTAL DISSOLVED PHOSPHORUS

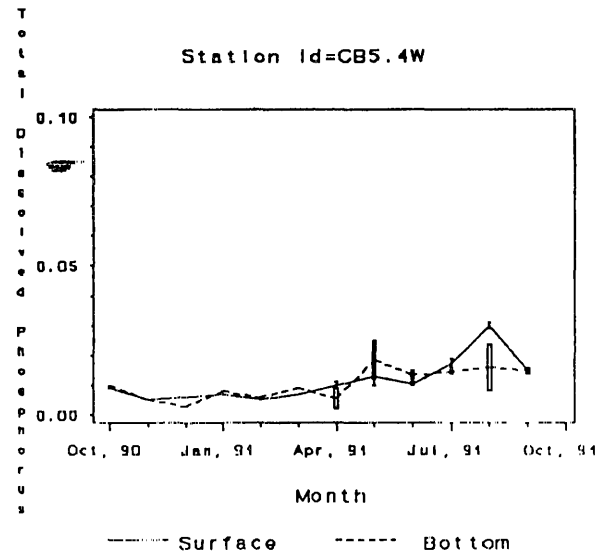
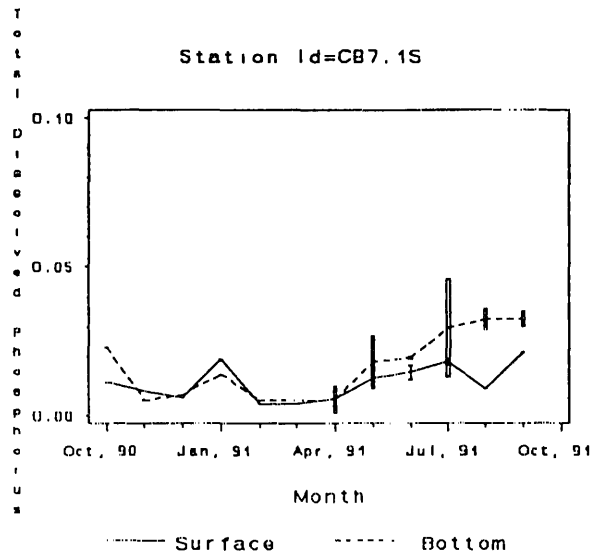
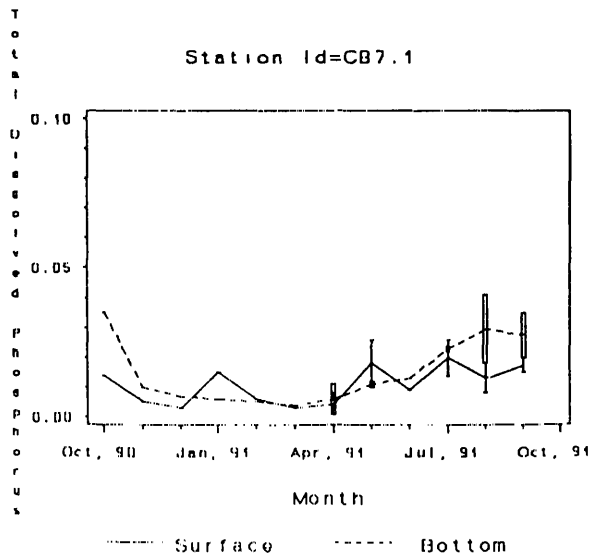
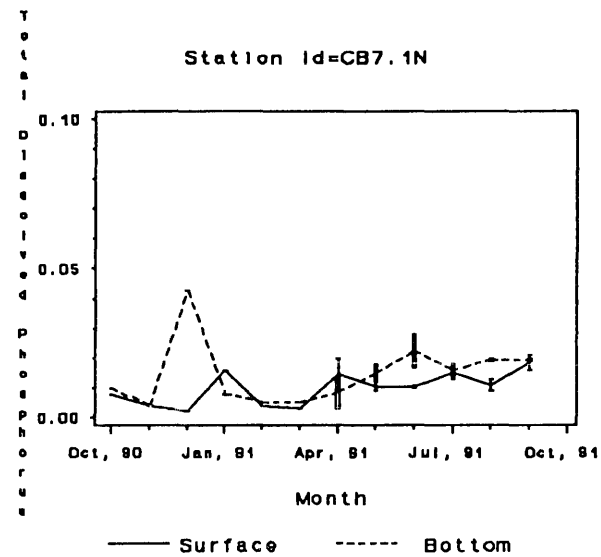
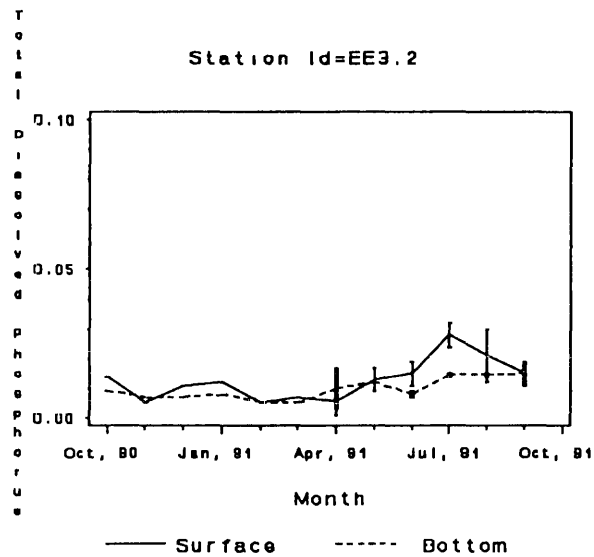
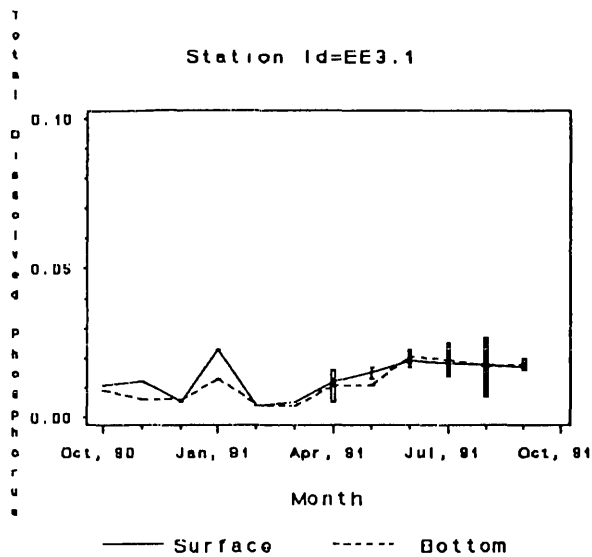
Values reported as mg/l.

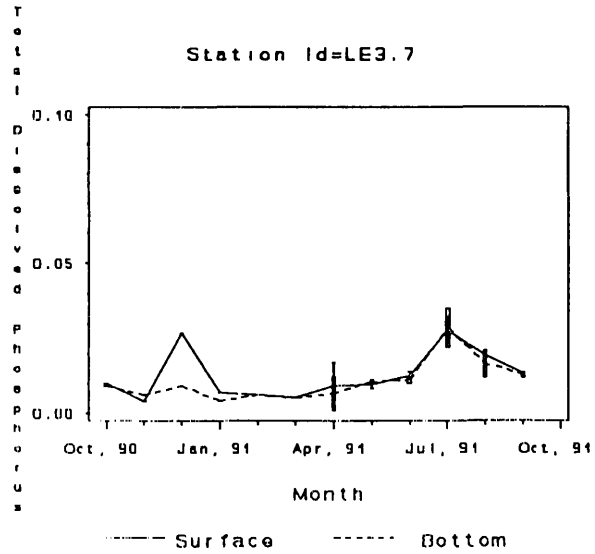
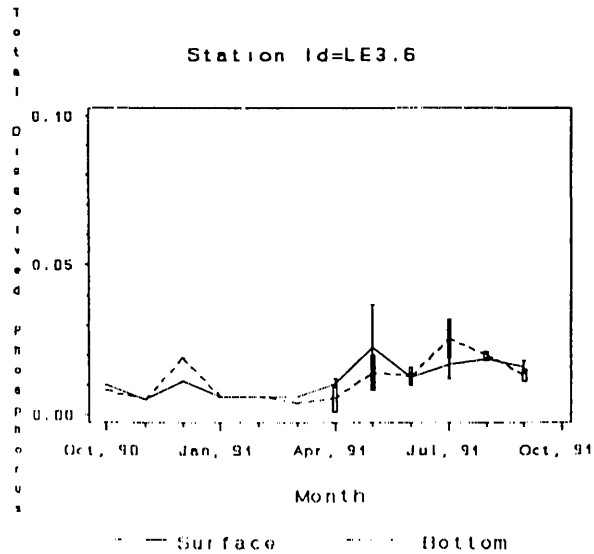
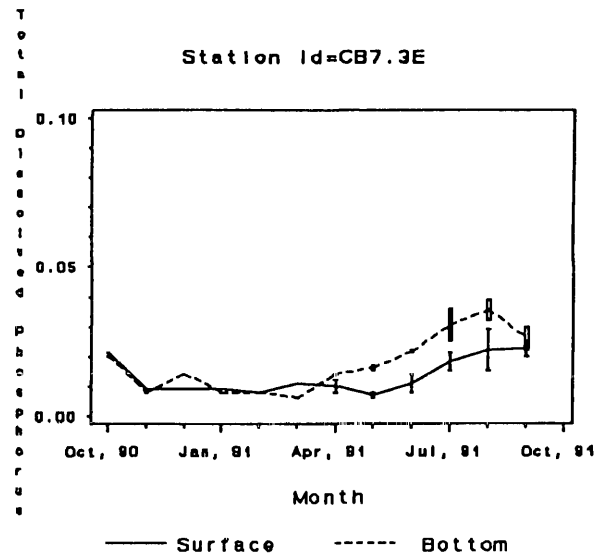
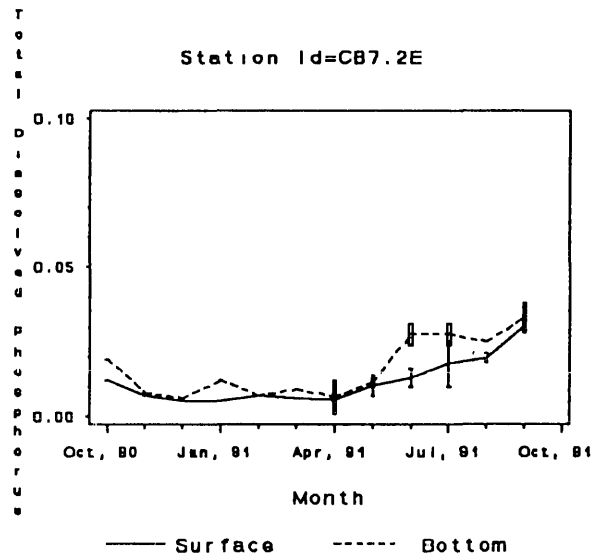
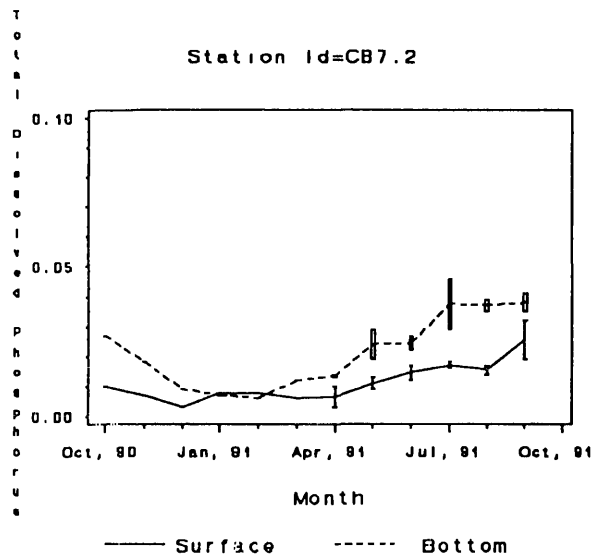
Total Dissolved Phosphorus  
October, 1990 - September, 1991

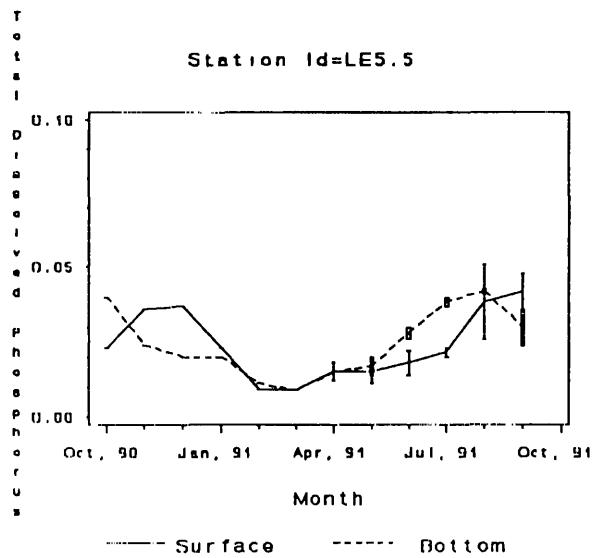
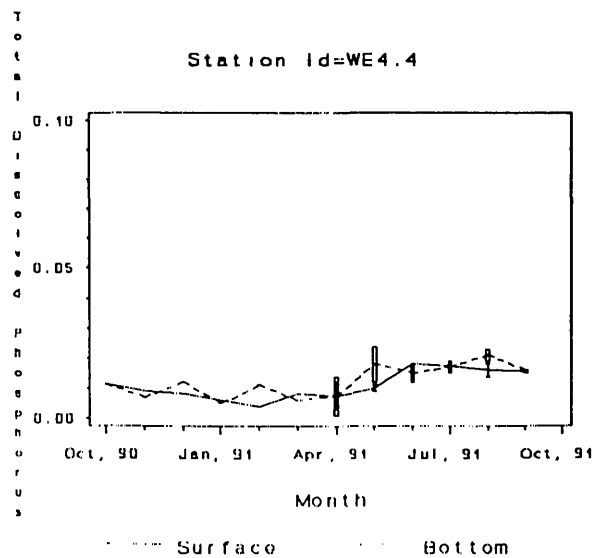
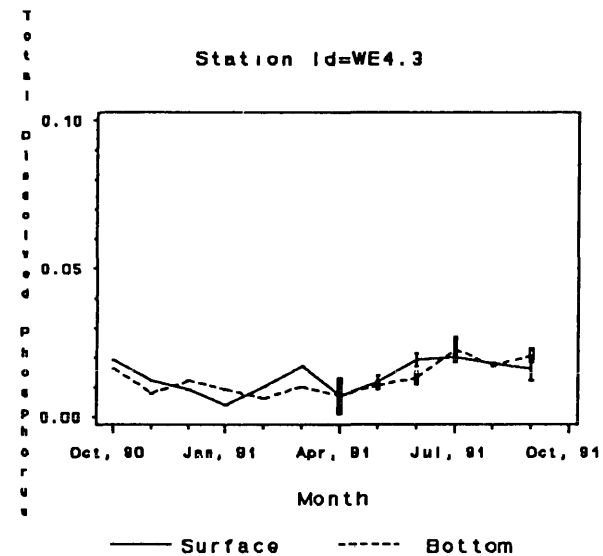
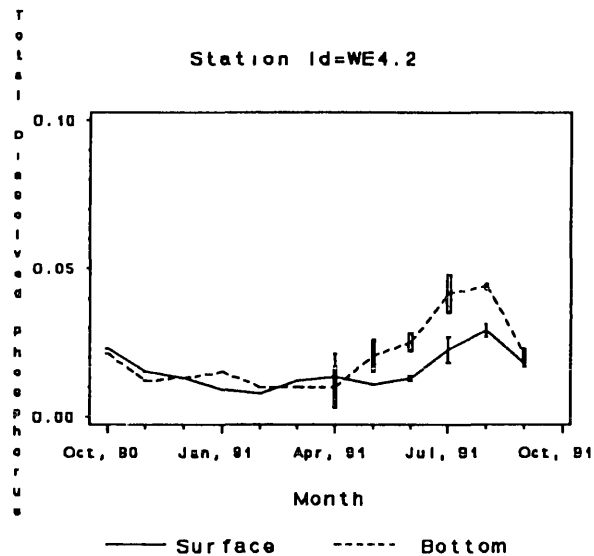
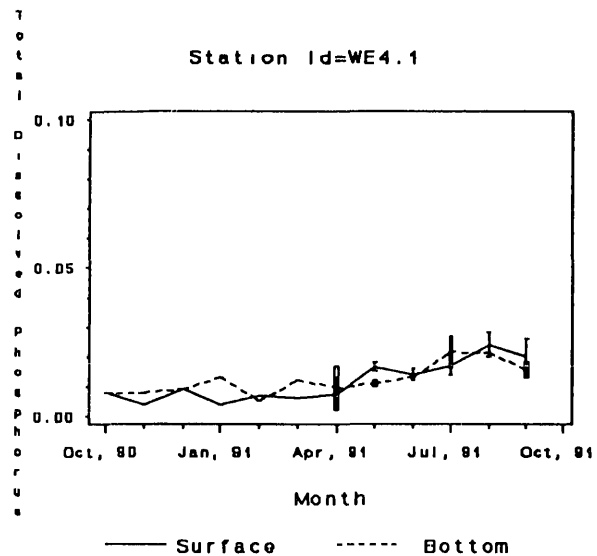
|             | Total Dissolved Phosphorus<br>(mg/l) |        |        |        |        |        |
|-------------|--------------------------------------|--------|--------|--------|--------|--------|
|             | Surface                              |        |        | Bottom |        |        |
|             | Max                                  | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.0160                               | 0.0098 | 0.0010 | 0.0790 | 0.0222 | 0.0030 |
| CB5.5.....  | 0.0220                               | 0.0122 | 0.0030 | 0.0500 | 0.0209 | 0.0030 |
| CB6.1.....  | 0.0880                               | 0.0162 | 0.0020 | 0.0460 | 0.0177 | 0.0040 |
| CB6.2.....  | 0.0210                               | 0.0114 | 0.0010 | 0.0380 | 0.0192 | 0.0040 |
| CB6.3.....  | 0.0300                               | 0.0137 | 0.0050 | 0.0560 | 0.0182 | 0.0040 |
| CB6.4.....  | 0.0220                               | 0.0109 | 0.0060 | 0.0490 | 0.0200 | 0.0060 |
| CB7.3.....  | 0.0250                               | 0.0120 | 0.0025 | 0.0360 | 0.0188 | 0.0080 |
| CB7.4.....  | 0.0280                               | 0.0145 | 0.0025 | 0.0310 | 0.0208 | 0.0090 |
| CB7.4N..... | 0.0260                               | 0.0158 | 0.0025 | 0.0290 | 0.0163 | 0.0025 |
| CB8.1E..... | 0.0350                               | 0.0179 | 0.0080 | 0.0380 | 0.0227 | 0.0120 |
| CB8.1.....  | 0.0370                               | 0.0166 | 0.0060 | 0.0620 | 0.0233 | 0.0060 |
| EE3.1.....  | 0.0270                               | 0.0143 | 0.0040 | 0.0270 | 0.0131 | 0.0040 |
| EE3.2.....  | 0.0320                               | 0.0138 | 0.0010 | 0.0190 | 0.0105 | 0.0030 |
| CB7.1N..... | 0.0210                               | 0.0109 | 0.0020 | 0.0430 | 0.0154 | 0.0030 |
| CB7.1.....  | 0.0260                               | 0.0117 | 0.0010 | 0.0410 | 0.0159 | 0.0010 |
| CB7.1S..... | 0.0210                               | 0.0118 | 0.0010 | 0.0460 | 0.0186 | 0.0010 |
| CB5.4W..... | 0.0310                               | 0.0128 | 0.0050 | 0.0250 | 0.0115 | 0.0020 |
| CB7.2.....  | 0.0320                               | 0.0123 | 0.0030 | 0.0460 | 0.0238 | 0.0060 |
| CB7.2E..... | 0.0320                               | 0.0131 | 0.0010 | 0.0380 | 0.0175 | 0.0010 |
| CB7.3E..... | 0.0290                               | 0.0138 | 0.0060 | 0.0390 | 0.0195 | 0.0060 |
| LE3.6.....  | 0.0370                               | 0.0132 | 0.0050 | 0.0320 | 0.0128 | 0.0010 |
| LE3.7.....  | 0.0320                               | 0.0134 | 0.0010 | 0.0350 | 0.0117 | 0.0010 |
| WE4.1.....  | 0.0280                               | 0.0131 | 0.0020 | 0.0270 | 0.0132 | 0.0020 |
| WE4.2.....  | 0.0310                               | 0.0163 | 0.0060 | 0.0480 | 0.0225 | 0.0030 |
| WE4.3.....  | 0.0210                               | 0.0141 | 0.0010 | 0.0270 | 0.0134 | 0.0010 |
| WE4.4.....  | 0.0180                               | 0.0119 | 0.0030 | 0.0240 | 0.0134 | 0.0010 |
| LE5.5.....  | 0.0510                               | 0.0243 | 0.0090 | 0.0430 | 0.0258 | 0.0090 |













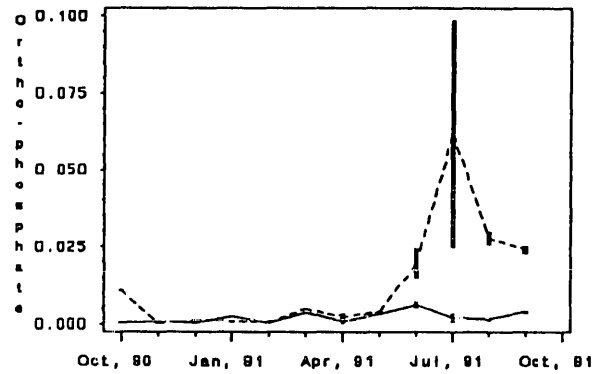
**ORTHO-PHOSPHATE**

Values reported as mg/l.

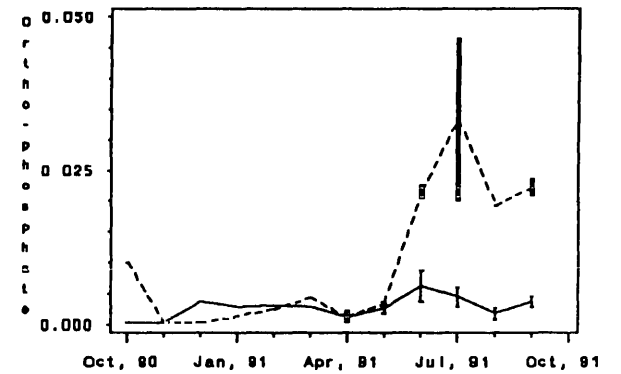
Ortho-phosphate  
October, 1990 - September, 1991

|             | Ortho-phosphate<br>(mg/l) |        |        |        |        |        |
|-------------|---------------------------|--------|--------|--------|--------|--------|
|             | Surface                   |        |        | Bottom |        |        |
|             | Max                       | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.0069                    | 0.0024 | 0.0003 | 0.0984 | 0.0175 | 0.0003 |
| CB5.5.....  | 0.0088                    | 0.0031 | 0.0003 | 0.0464 | 0.0129 | 0.0003 |
| CB6.1.....  | 0.0060                    | 0.0022 | 0.0003 | 0.0346 | 0.0117 | 0.0006 |
| CB6.2.....  | 0.0060                    | 0.0027 | 0.0003 | 0.0323 | 0.0112 | 0.0009 |
| CB6.3.....  | 0.0103                    | 0.0031 | 0.0003 | 0.0301 | 0.0099 | 0.0003 |
| CB6.4.....  | 0.0170                    | 0.0061 | 0.0025 | 0.0430 | 0.0155 | 0.0025 |
| CB7.3.....  | 0.0130                    | 0.0059 | 0.0025 | 0.0300 | 0.0139 | 0.0025 |
| CB7.4.....  | 0.0170                    | 0.0080 | 0.0025 | 0.0250 | 0.0141 | 0.0060 |
| CB7.4N..... | 0.0150                    | 0.0087 | 0.0025 | 0.0170 | 0.0106 | 0.0060 |
| CB8.1E..... | 0.0270                    | 0.0094 | 0.0025 | 0.0310 | 0.0175 | 0.0080 |
| CB8.1.....  | 0.0210                    | 0.0088 | 0.0025 | 0.0370 | 0.0163 | 0.0025 |
| EE3.1.....  | 0.0099                    | 0.0035 | 0.0003 | 0.0044 | 0.0023 | 0.0003 |
| EE3.2.....  | 0.0075                    | 0.0026 | 0.0003 | 0.0090 | 0.0037 | 0.0003 |
| CB7.1N..... | 0.0066                    | 0.0023 | 0.0003 | 0.0116 | 0.0048 | 0.0003 |
| CB7.1.....  | 0.0087                    | 0.0032 | 0.0003 | 0.0275 | 0.0087 | 0.0003 |
| CB7.1S..... | 0.0085                    | 0.0032 | 0.0003 | 0.0383 | 0.0128 | 0.0003 |
| CB5.4W..... | 0.0056                    | 0.0023 | 0.0003 | 0.0057 | 0.0029 | 0.0003 |
| CB7.2.....  | 0.0177                    | 0.0035 | 0.0003 | 0.0401 | 0.0158 | 0.0019 |
| CB7.2E..... | 0.0195                    | 0.0046 | 0.0003 | 0.0229 | 0.0091 | 0.0003 |
| CB7.3E..... | 0.0160                    | 0.0061 | 0.0025 | 0.0270 | 0.0136 | 0.0025 |
| LE3.6.....  | 0.0075                    | 0.0026 | 0.0003 | 0.0240 | 0.0035 | 0.0003 |
| LE3.7.....  | 0.0056                    | 0.0023 | 0.0003 | 0.0238 | 0.0035 | 0.0003 |
| WE4.1.....  | 0.0066                    | 0.0028 | 0.0003 | 0.0117 | 0.0044 | 0.0003 |
| WE4.2.....  | 0.0217                    | 0.0065 | 0.0010 | 0.0393 | 0.0124 | 0.0022 |
| WE4.3.....  | 0.0096                    | 0.0036 | 0.0003 | 0.0163 | 0.0042 | 0.0003 |
| WE4.4.....  | 0.0075                    | 0.0028 | 0.0003 | 0.0075 | 0.0028 | 0.0003 |
| LE5.5.....  | 0.0400                    | 0.0178 | 0.0060 | 0.0380 | 0.0198 | 0.0060 |

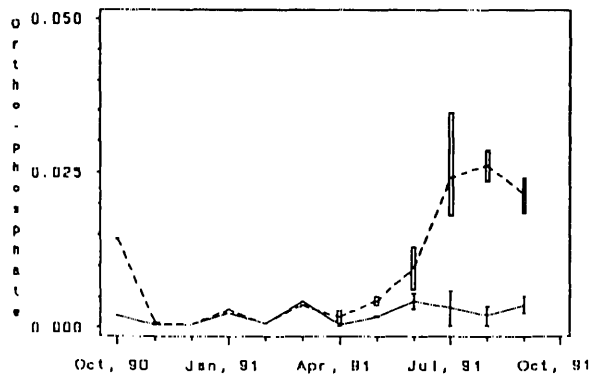
Station Id=CB5.4



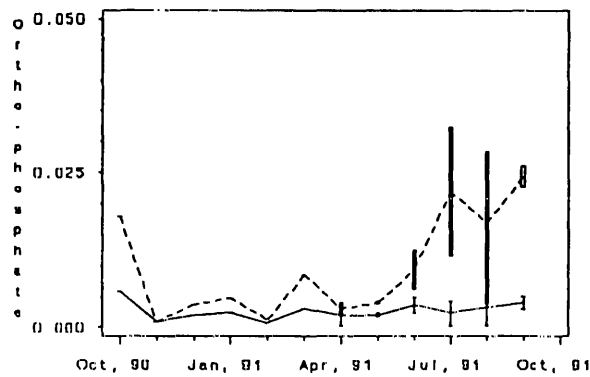
Station Id=CB5.5



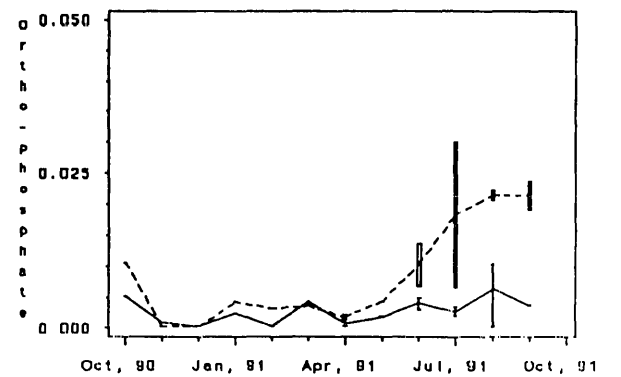
Station Id=CB6.1



Station Id=CB6.2



Station Id=CB6.3



— Surface    - - - - Bottom

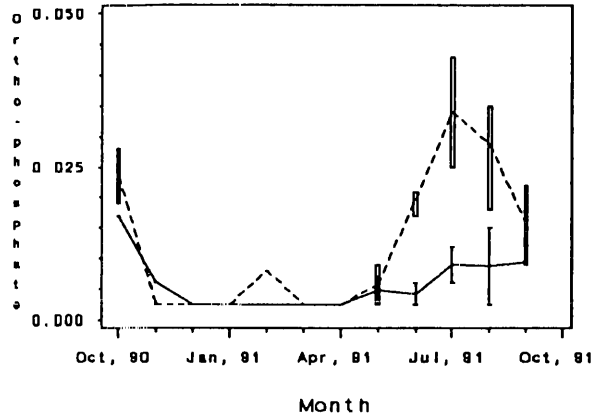
— Surface    - - - - Bottom

— Surface    - - - - Bottom

— Surface    - - - - Bottom

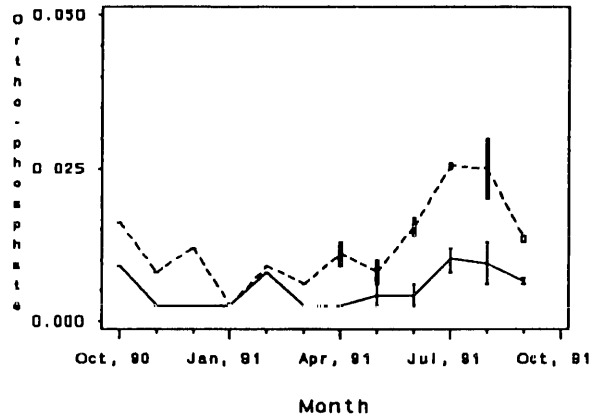
— Surface    - - - - Bottom

Station Id=CB6.4



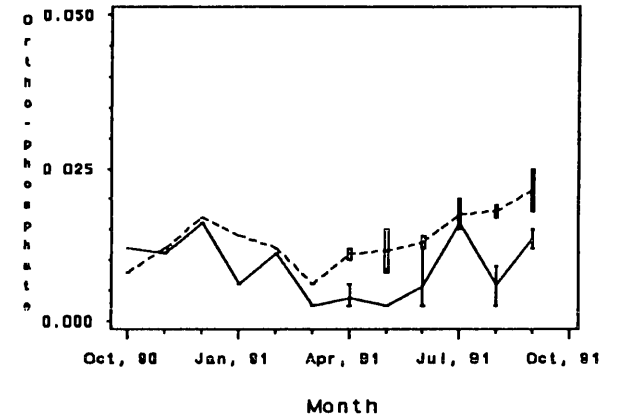
— Surface    - - - - Bottom

Station Id=CB7.3



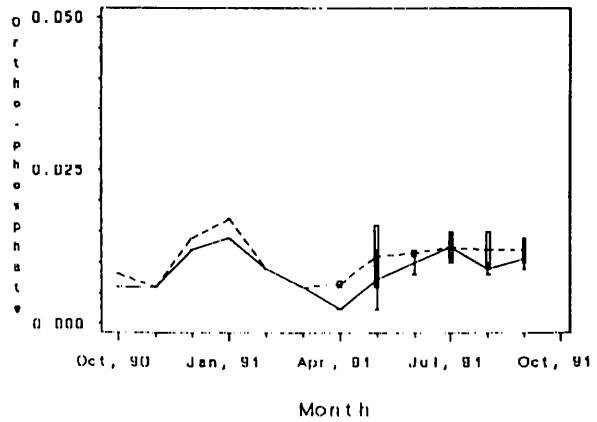
— Surface    - - - - Bottom

Station Id=CB7.4



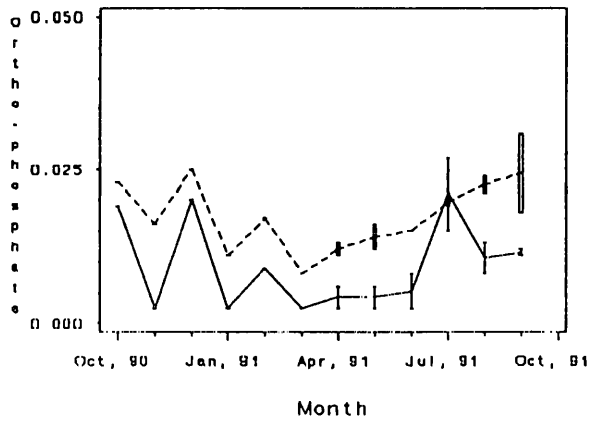
— Surface    - - - - Bottom

Station Id=CB7.4N



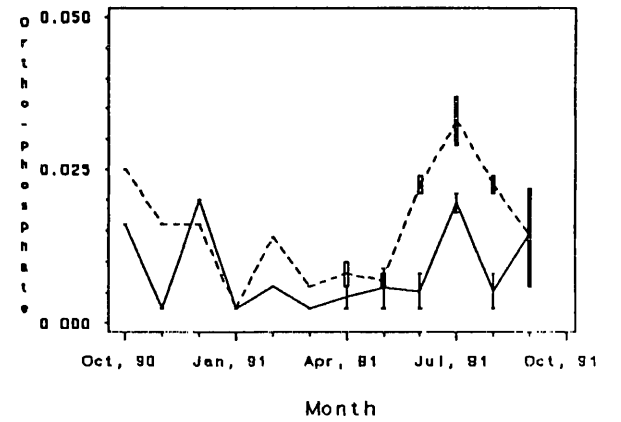
— Surface    - - - - Bottom

Station Id=CB8.1E



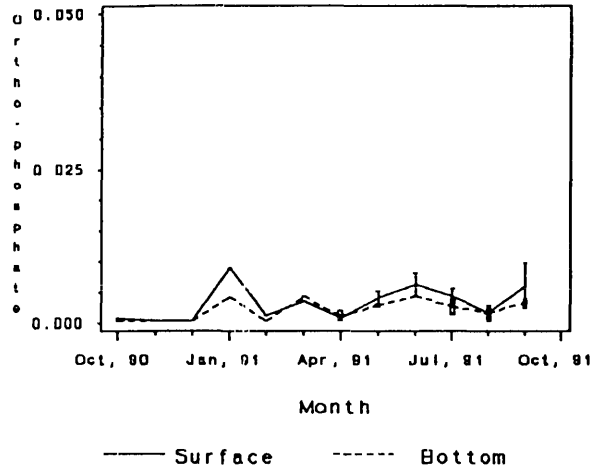
— Surface    - - - - Bottom

Station Id=CB8.1

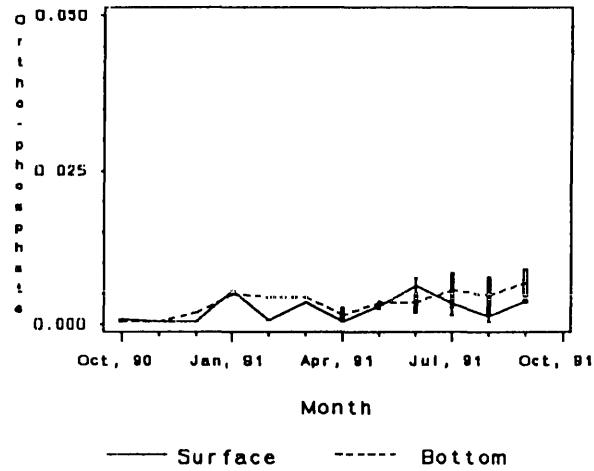


— Surface    - - - - Bottom

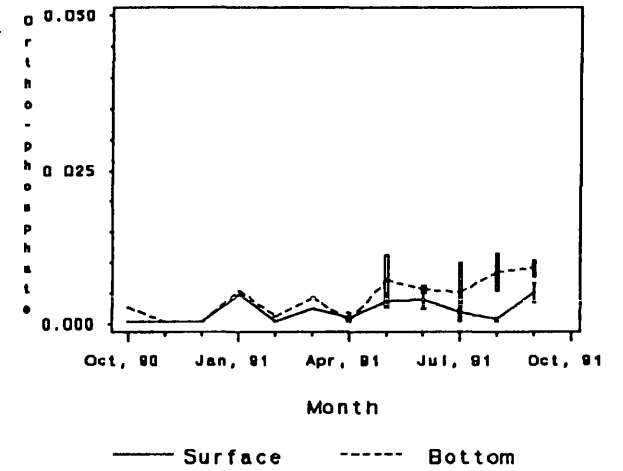
Station Id=EE3.1



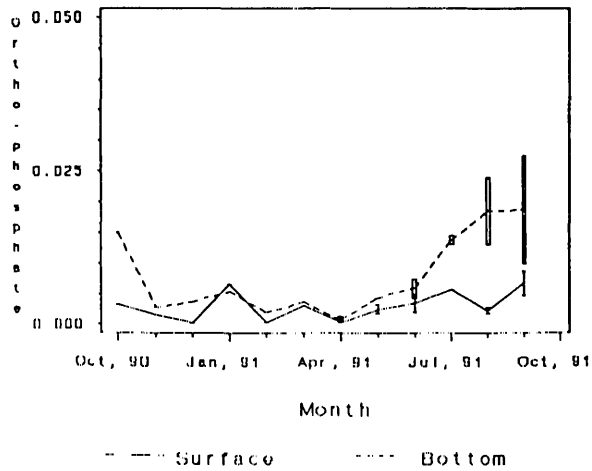
Station Id=EE3.2



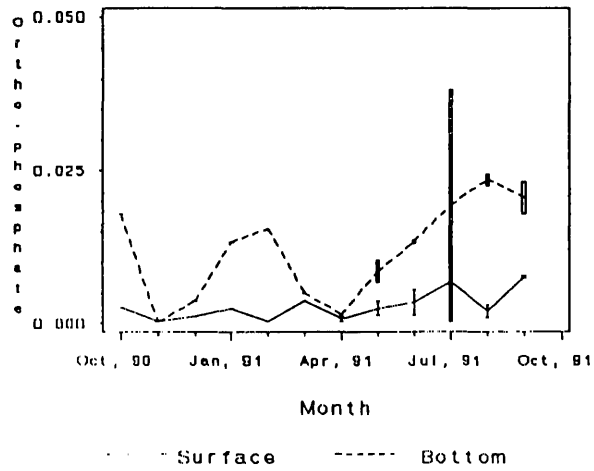
Station Id=CB7.1N



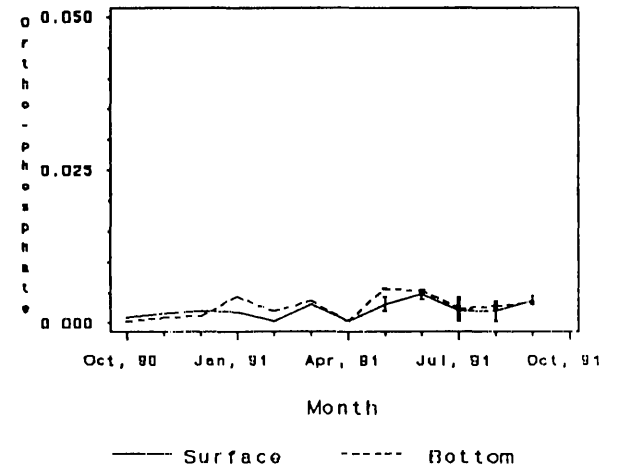
Station Id=CB7.1



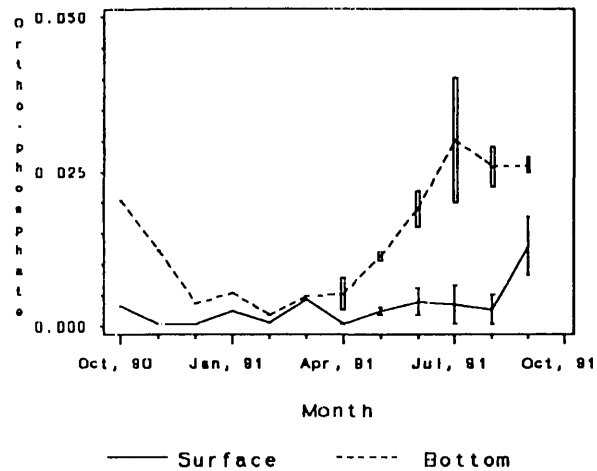
Station Id=CB7.1S



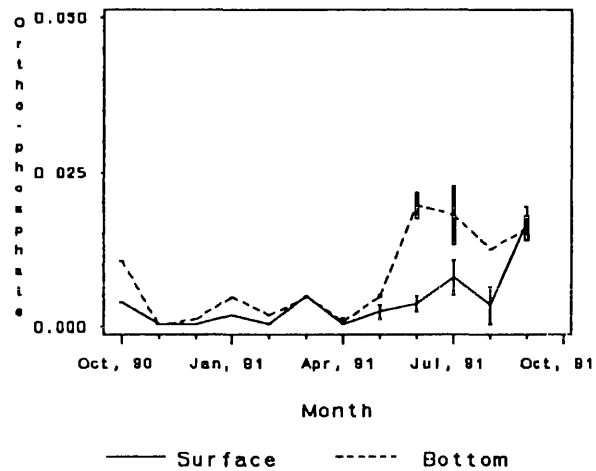
Station Id=CB5.4W



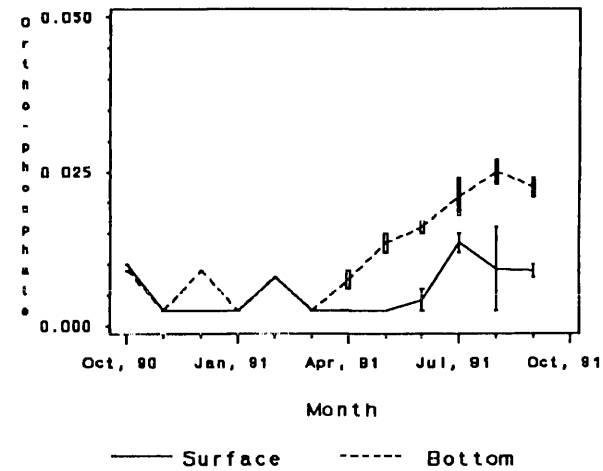
Station Id=CB7.2



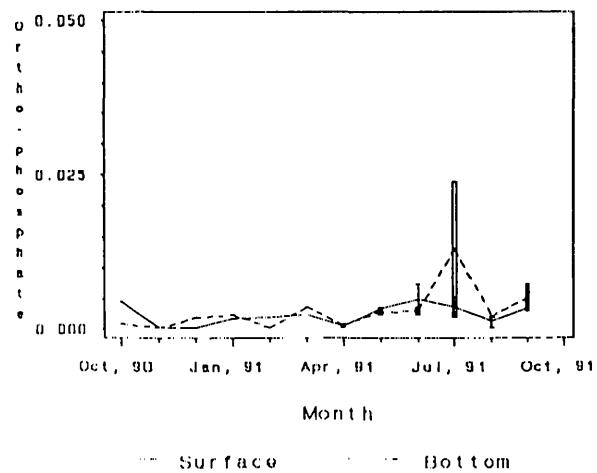
Station Id=CB7.2E



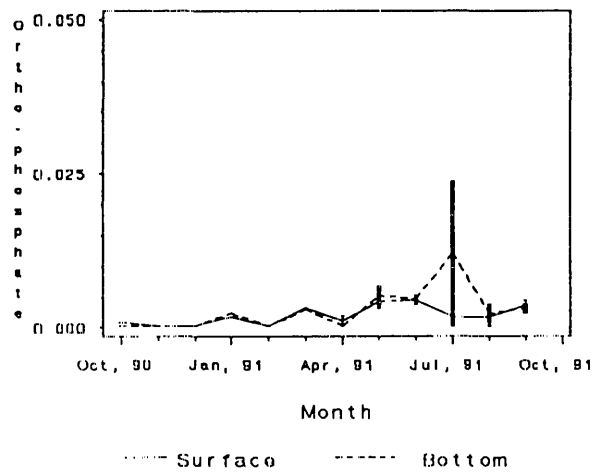
Station Id=CB7.3E



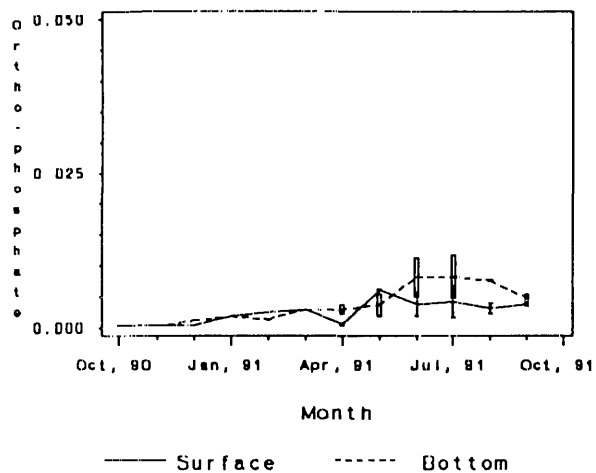
Station Id=LE3.6



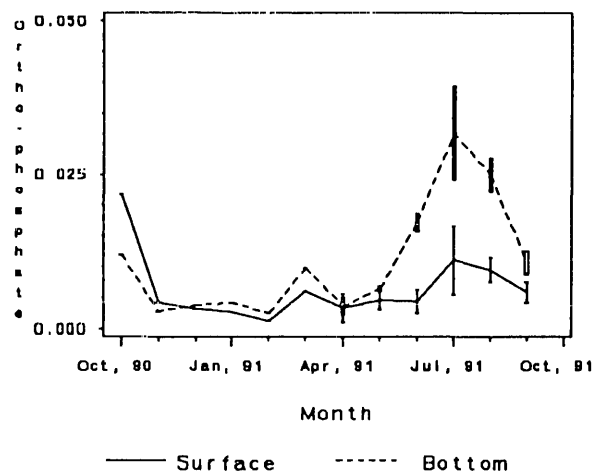
Station Id=LE3.7



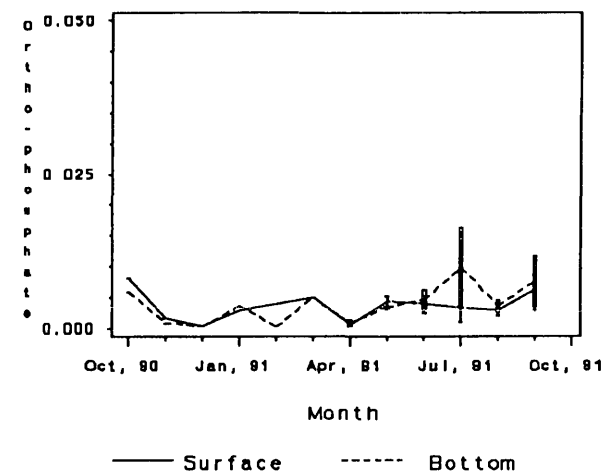
Station Id=WE4.1



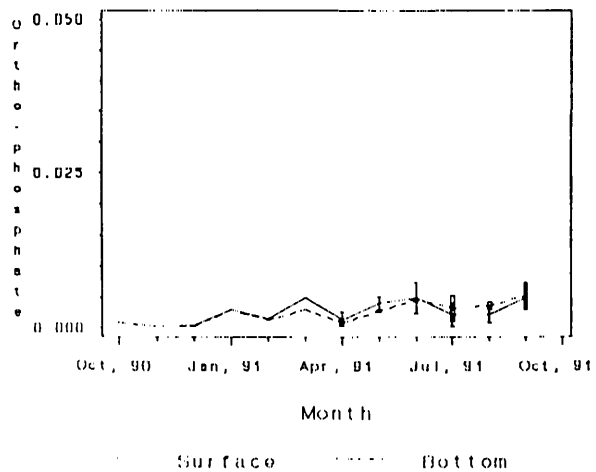
Station Id=WE4.2



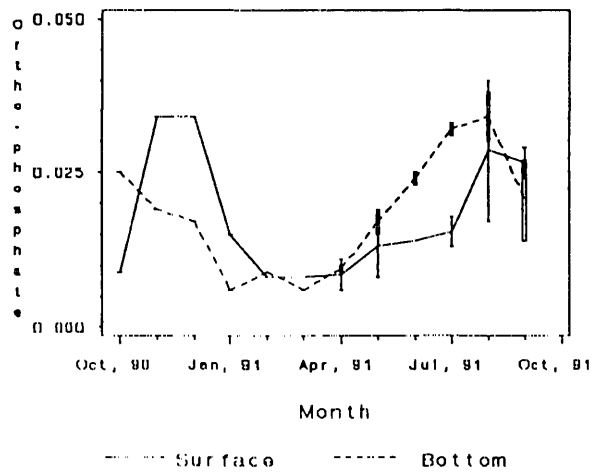
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5



## TOTAL NITROGEN

Total Nitrogen is the sum of  
Particulate Nitrogen and Total Dissolved Nitrogen.

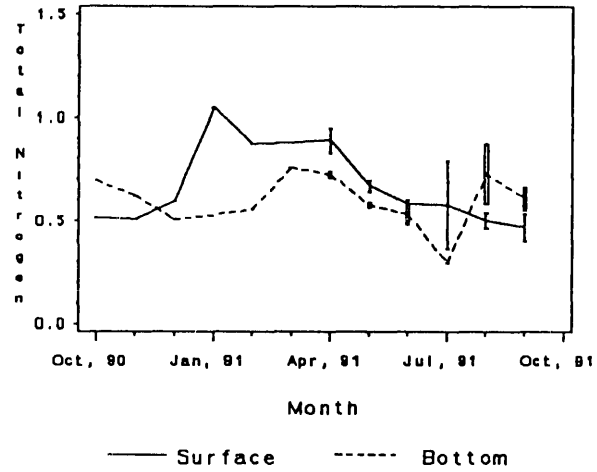
Values reported as mg/l.



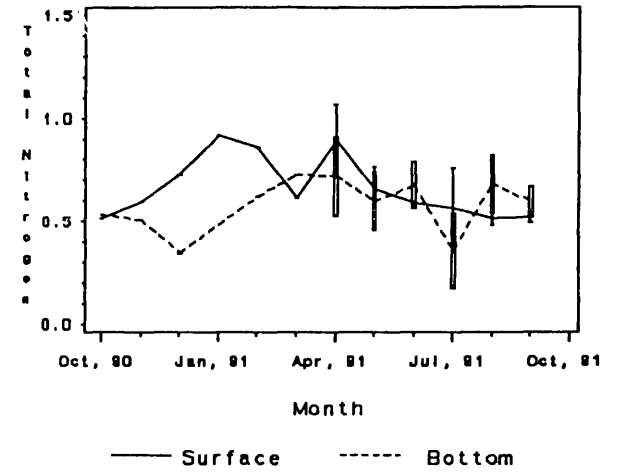
Total Nitrogen  
October, 1990 - September, 1991

|             | Total Nitrogen<br>(mg/l) |        |        |        |        |        |
|-------------|--------------------------|--------|--------|--------|--------|--------|
|             | Surface                  |        |        | Bottom |        |        |
|             | Max                      | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 1.0490                   | 0.6553 | 0.3660 | 0.8750 | 0.6103 | 0.2940 |
| CB5.5.....  | 1.0690                   | 0.6473 | 0.3530 | 0.9080 | 0.5879 | 0.1720 |
| CB6.1.....  | 0.9070                   | 0.5922 | 0.4120 | 0.8000 | 0.5133 | 0.0955 |
| CB6.2.....  | 0.8000                   | 0.5837 | 0.3420 | 0.6740 | 0.5308 | 0.2670 |
| CB6.3.....  | 0.7300                   | 0.5613 | 0.3710 | 0.8200 | 0.5593 | 0.3400 |
| CB6.4.....  | 0.5660                   | 0.4448 | 0.3030 | 0.5450 | 0.4123 | 0.2960 |
| CB7.3.....  | 0.5500                   | 0.3743 | 0.2730 | 0.4150 | 0.3047 | 0.1610 |
| CB7.4.....  | 0.4330                   | 0.3163 | 0.1900 | 0.4780 | 0.2817 | 0.1380 |
| CB7.4N..... | 0.4300                   | 0.2849 | 0.1480 | 0.6230 | 0.3034 | 0.1690 |
| CB8.1E..... | 0.4490                   | 0.3599 | 0.1760 | 0.4700 | 0.2882 | 0.1740 |
| CB8.1.....  | 0.5560                   | 0.4135 | 0.3090 | 0.5220 | 0.3371 | 0.1610 |
| EE3.1.....  | 1.1910                   | 0.7011 | 0.4520 | 0.8500 | 0.6833 | 0.4540 |
| EE3.2.....  | 0.8150                   | 0.6314 | 0.4530 | 1.1640 | 0.7384 | 0.4400 |
| CB7.1N..... | 0.9230                   | 0.6368 | 0.3300 | 0.9050 | 0.7223 | 0.5700 |
| CB7.1.....  | 0.7590                   | 0.5689 | 0.3980 | 0.9790 | 0.5982 | 0.3000 |
| CB7.1S..... | 0.9050                   | 0.6039 | 0.4540 | 1.2210 | 0.5552 | 0.3260 |
| CB5.4W..... | 1.0960                   | 0.7030 | 0.4180 | 0.9710 | 0.7113 | 0.3860 |
| CB7.2.....  | 0.8050                   | 0.5679 | 0.3150 | 0.7180 | 0.4959 | 0.2020 |
| CB7.2E..... | 0.7830                   | 0.5465 | 0.2250 | 0.7210 | 0.4876 | 0.2470 |
| CB7.3E..... | 0.5570                   | 0.3812 | 0.2290 | 0.5130 | 0.3609 | 0.1790 |
| LE3.6.....  | 0.9410                   | 0.5953 | 0.3230 | 0.8190 | 0.6018 | 0.3240 |
| LE3.7.....  | 0.7990                   | 0.5738 | 0.3860 | 0.7990 | 0.5773 | 0.3710 |
| WE4.1.....  | 0.6330                   | 0.5194 | 0.3340 | 0.8150 | 0.5642 | 0.3300 |
| WE4.2.....  | 0.6980                   | 0.5504 | 0.4060 | 0.8690 | 0.6113 | 0.2650 |
| WE4.3.....  | 0.7040                   | 0.5199 | 0.3090 | 0.7940 | 0.5409 | 0.3230 |
| WE4.4.....  | 0.6680                   | 0.5279 | 0.3260 | 0.7360 | 0.5384 | 0.3030 |
| LE5.5.....  | 0.6930                   | 0.4699 | 0.3240 | 0.6540 | 0.4162 | 0.2490 |

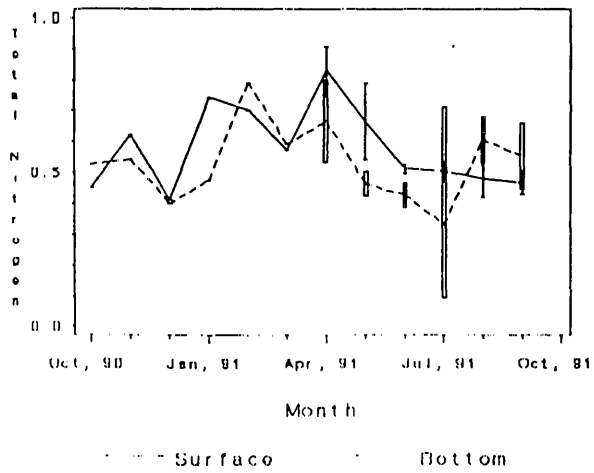
Station Id=CB5.4



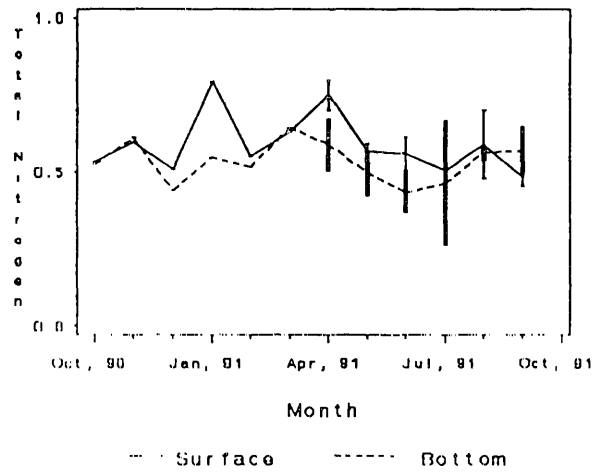
Station Id=CB5.5



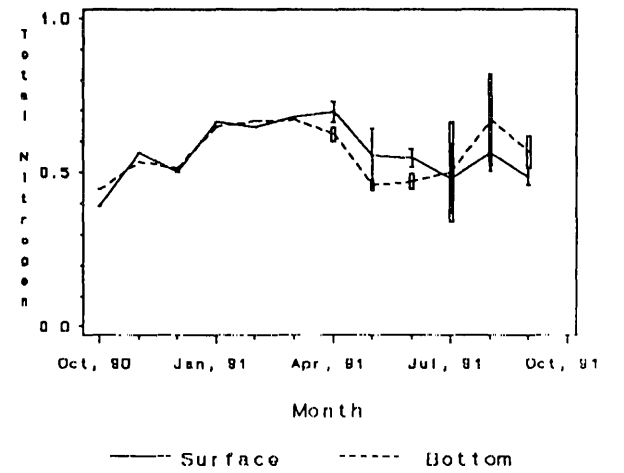
Station Id=CB6.1



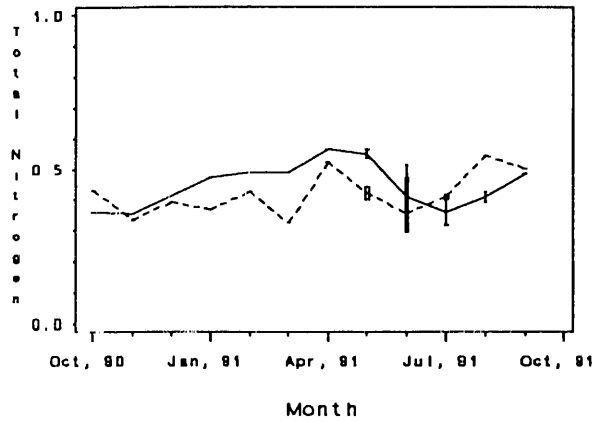
Station Id=CB6.2



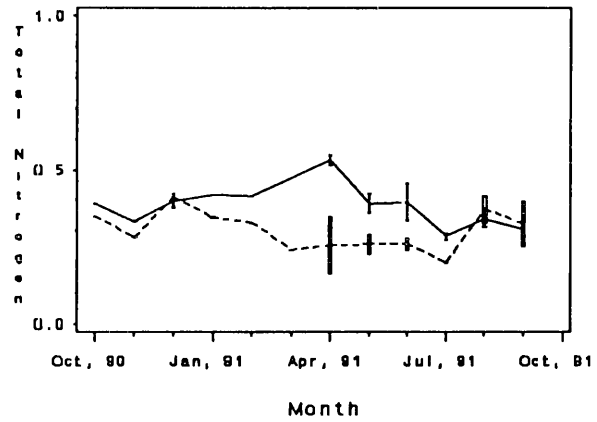
Station Id=CB6.3



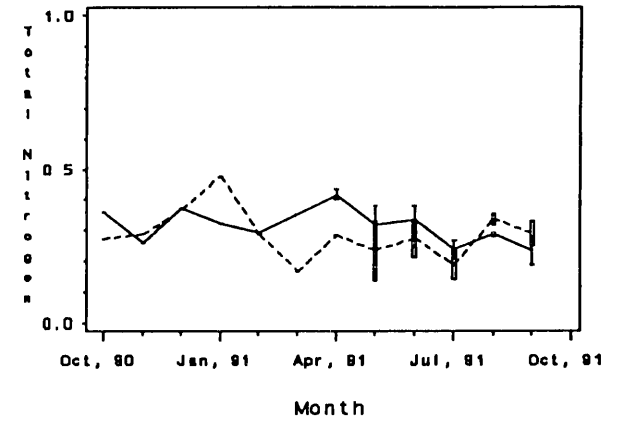
Station Id=CB6.4



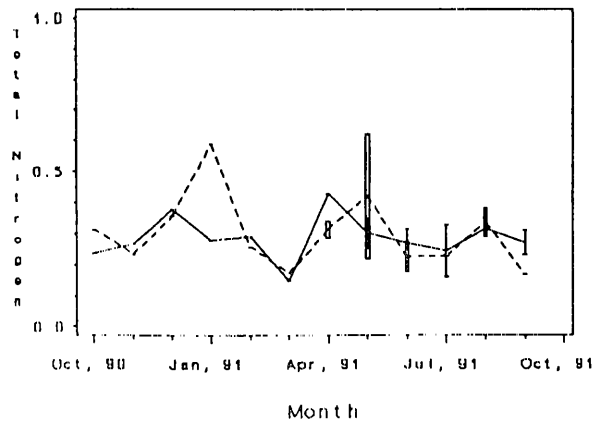
Station Id=CB7.3



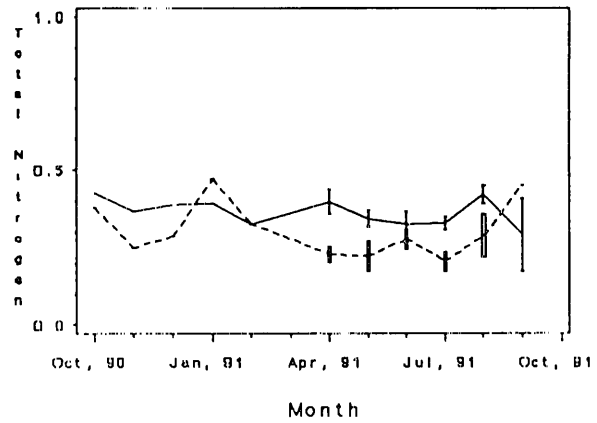
Station Id=CB7.4



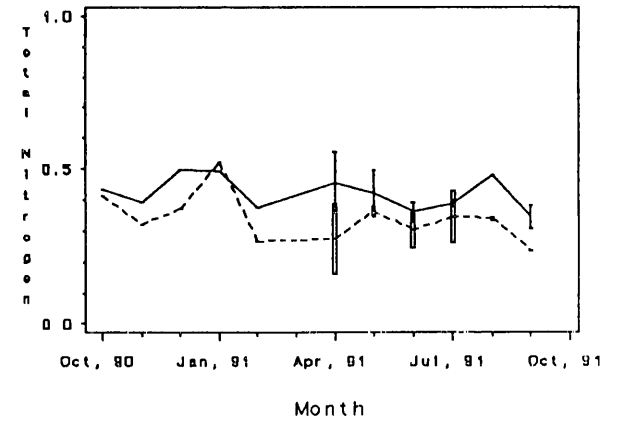
Station Id=CB7.4N



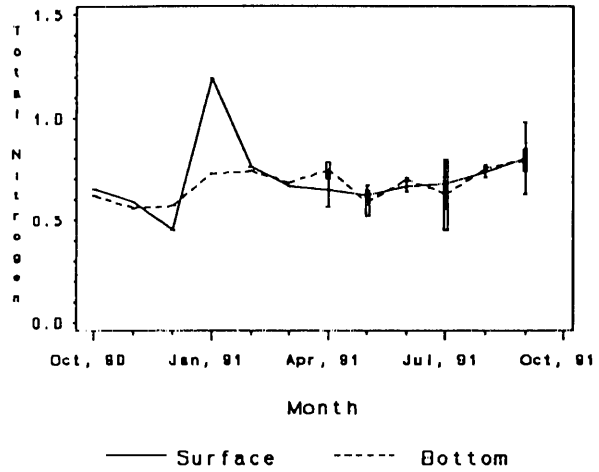
Station Id=CB8.1E



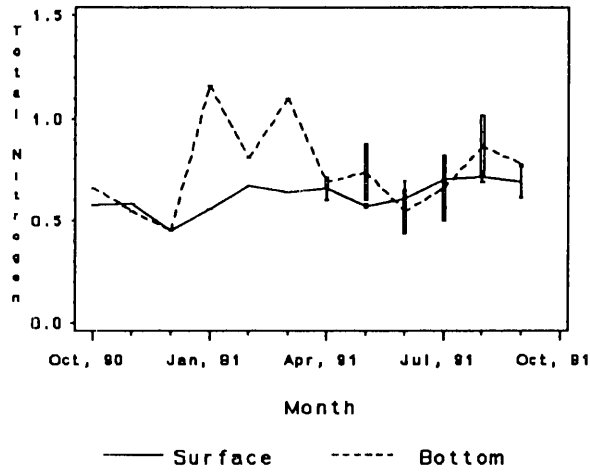
Station Id=CB8.1



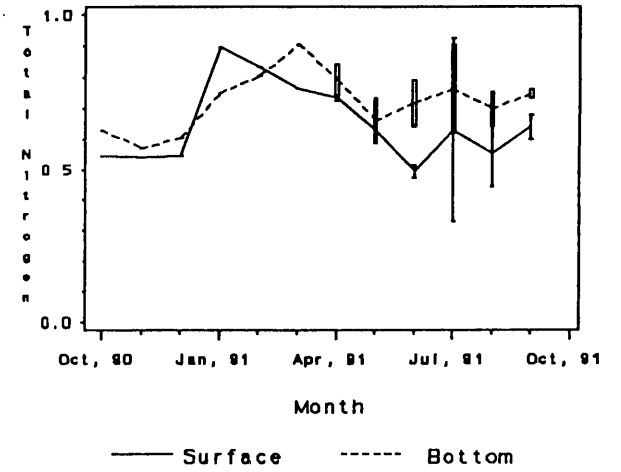
Station Id=EE3.1



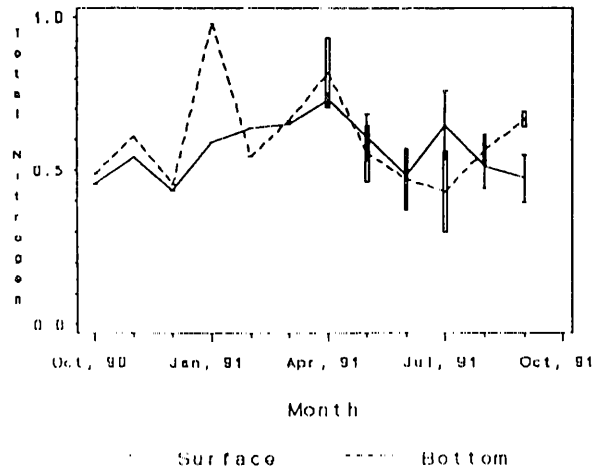
Station Id=EE3.2



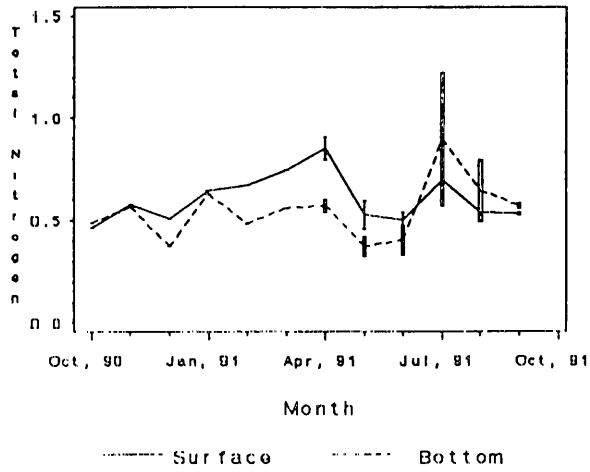
Station Id=CB7.1N



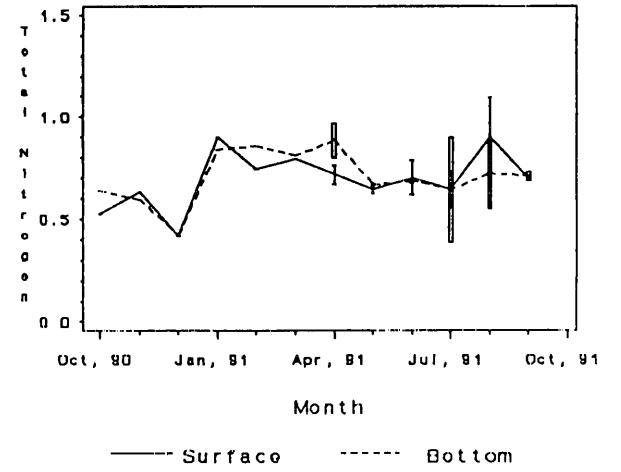
Station Id=CB7.1



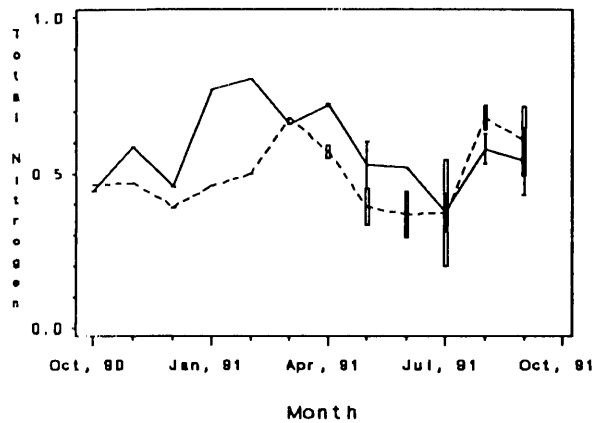
Station Id=CB7.1S



Station Id=CB5.4W

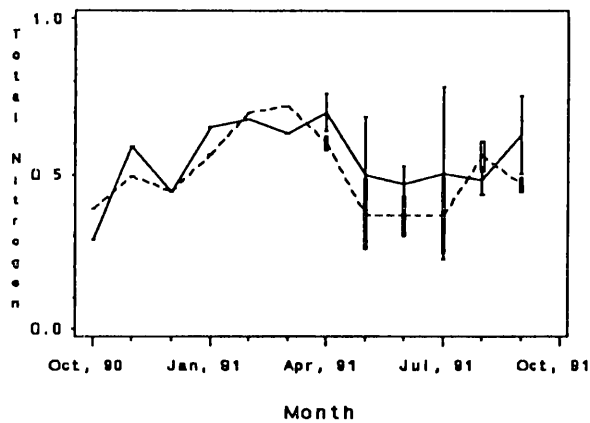


Station Id=CB7.2



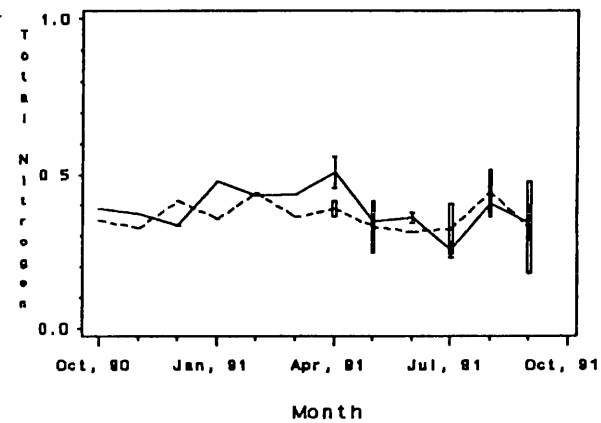
— Surface    - - - - Bottom

Station Id=CB7.2E



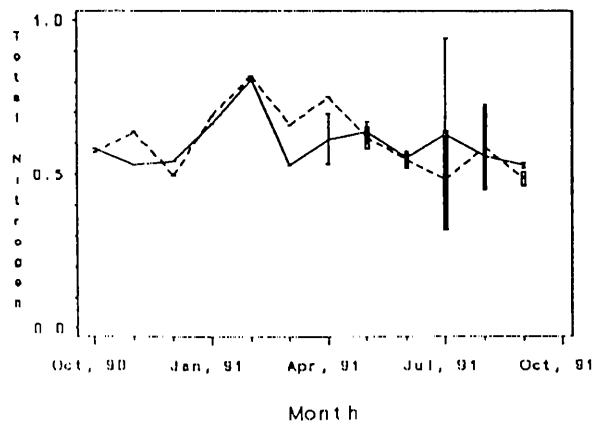
— Surface    - - - - Bottom

Station Id=CB7.3E



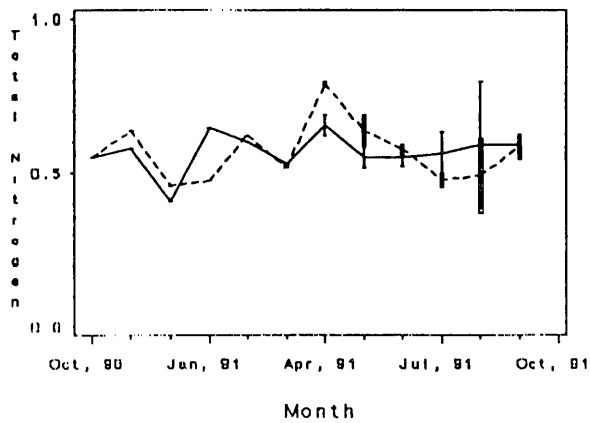
— Surface    - - - - Bottom

Station Id=LE3.6



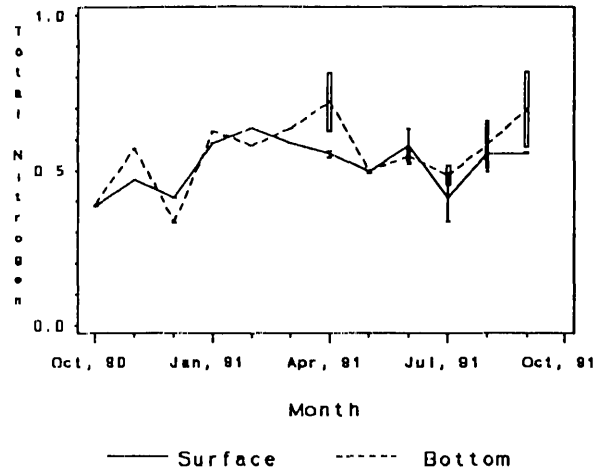
— Surface    - - - - Bottom

Station Id=LE3.7

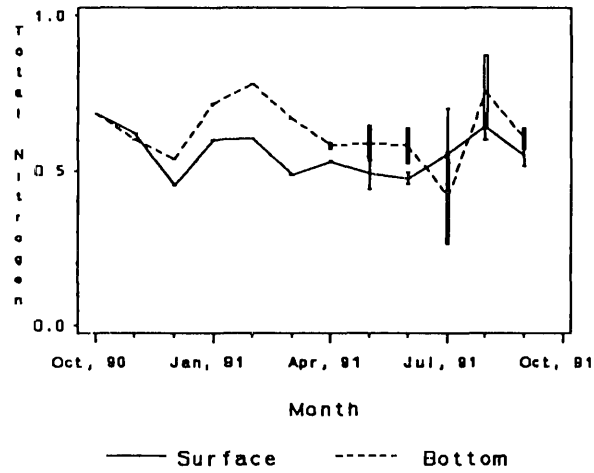


— Surface    - - - - Bottom

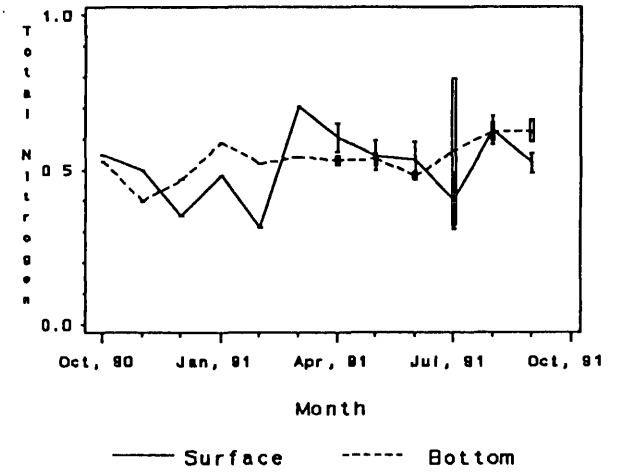
Station Id=WE4.1



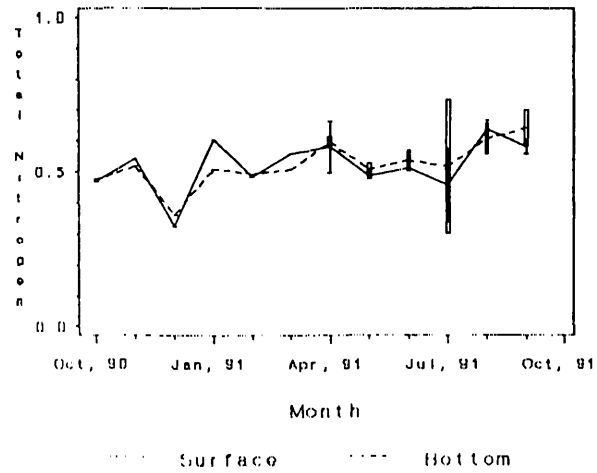
Station Id=WE4.2



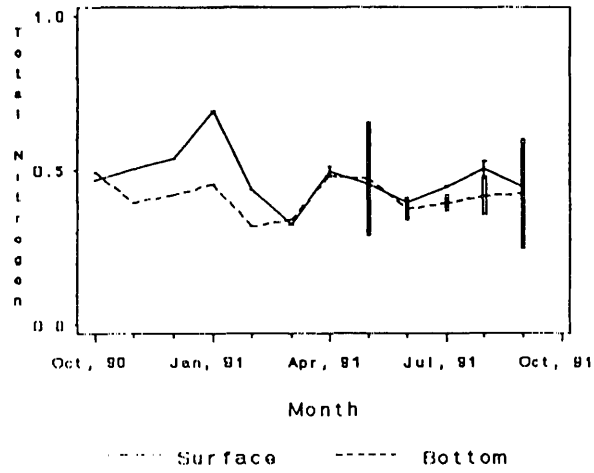
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5



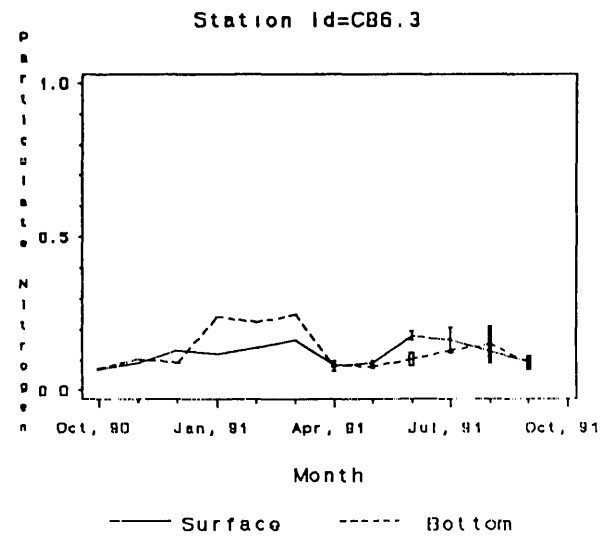
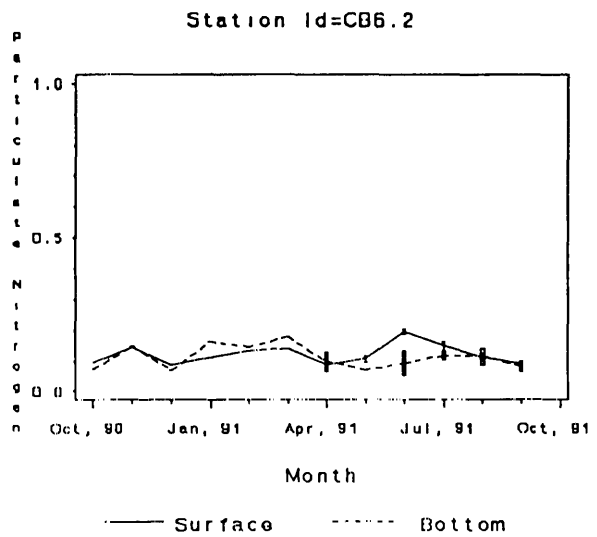
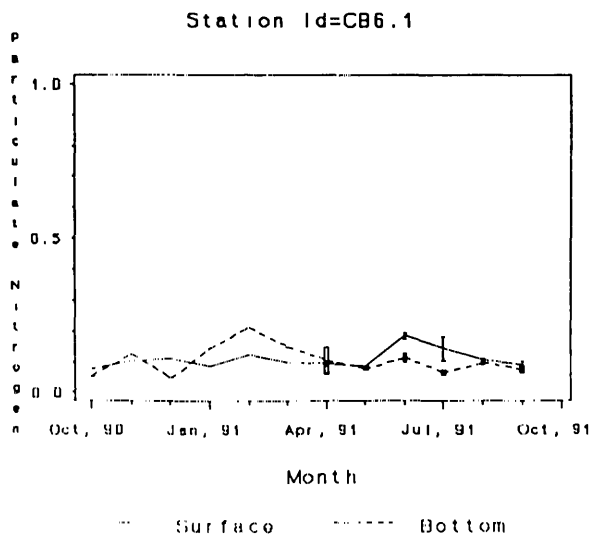
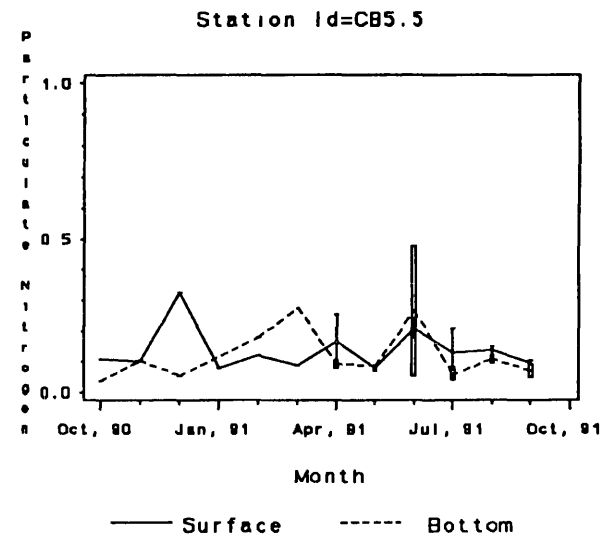
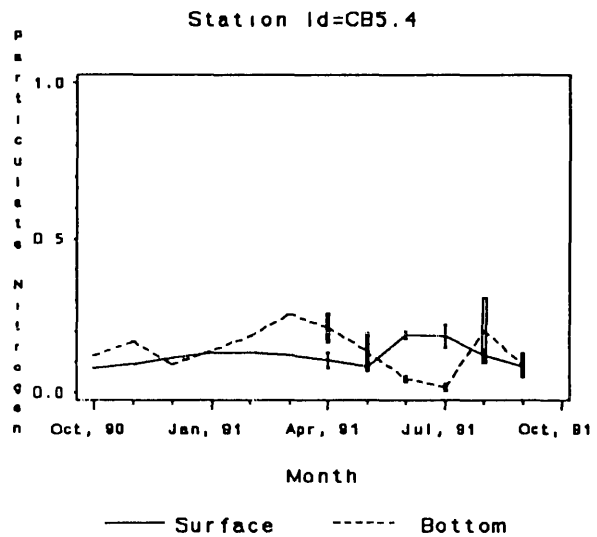
## **PARTICULATE NITROGEN**

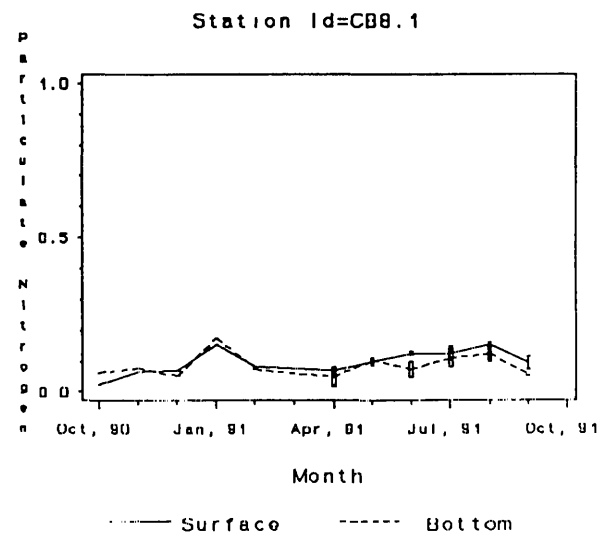
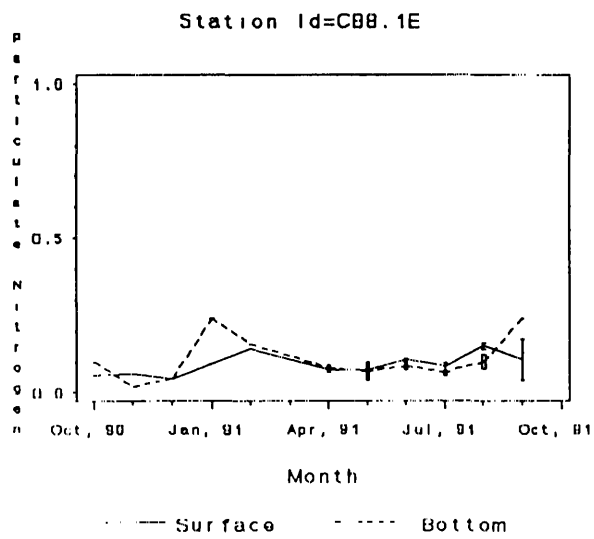
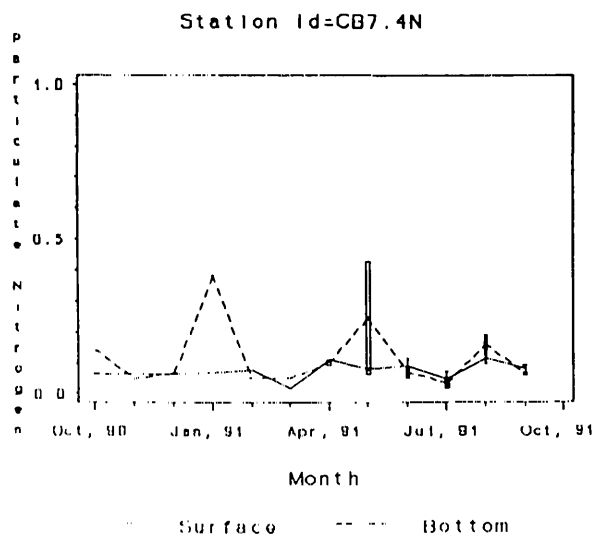
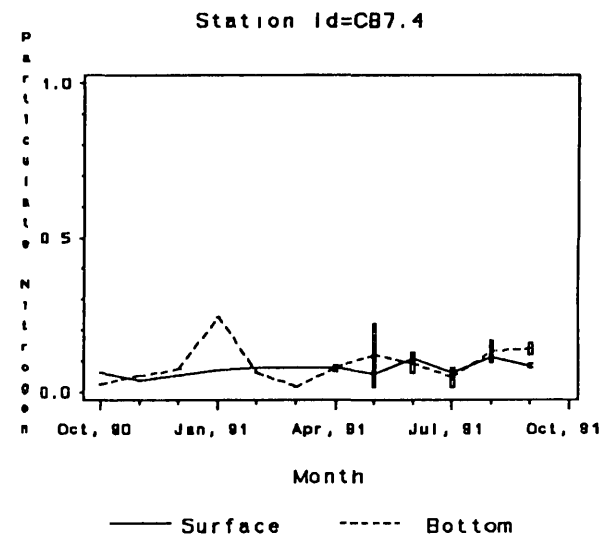
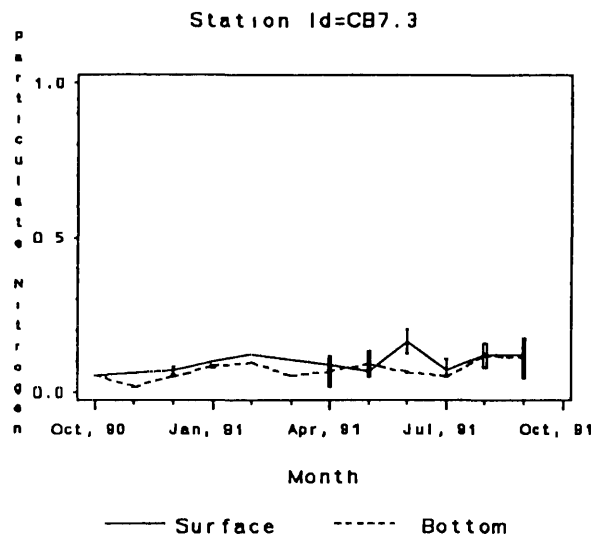
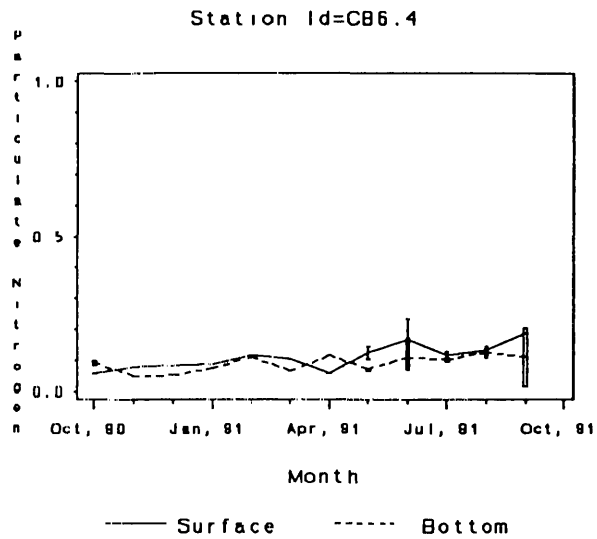
Values reported as mg/l.

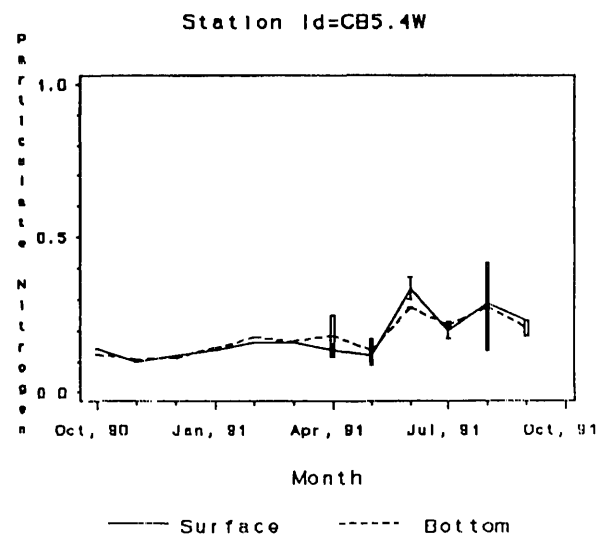
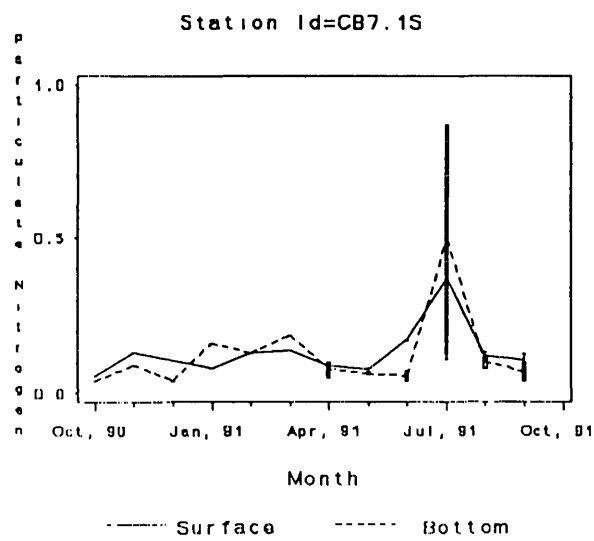
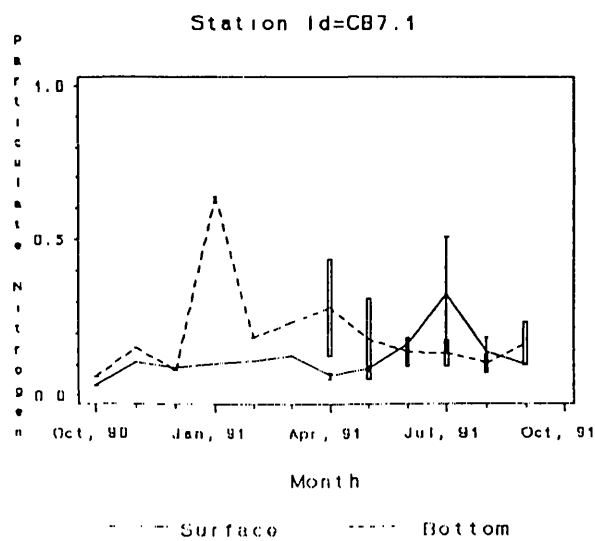
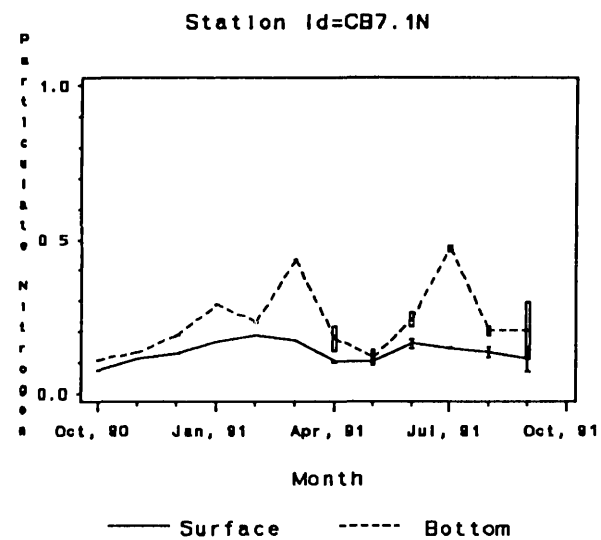
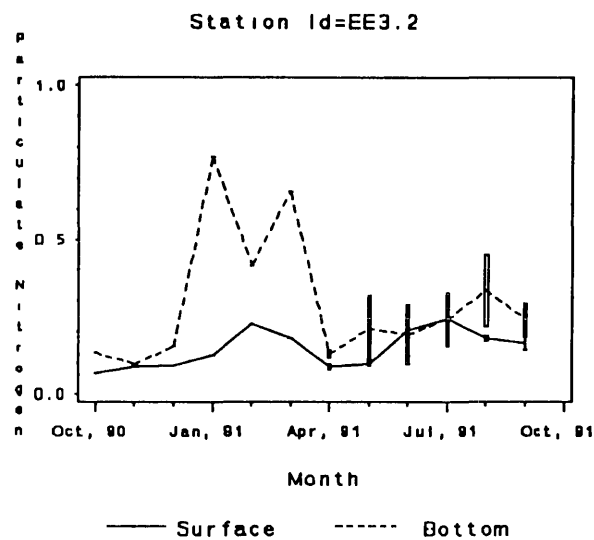
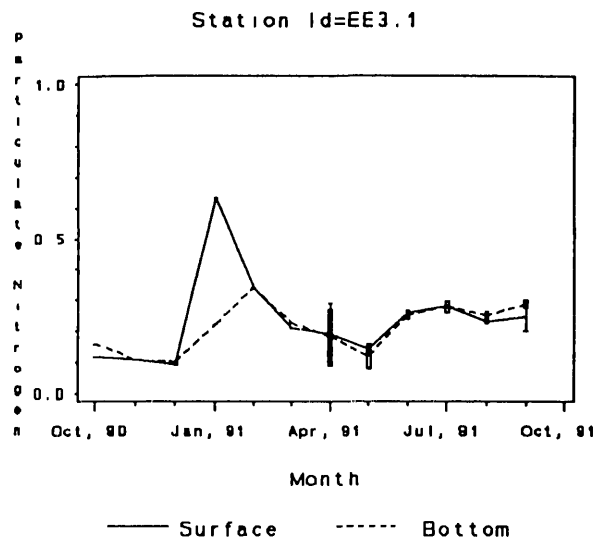
Particulate Nitrogen  
October, 1990 - September, 1991

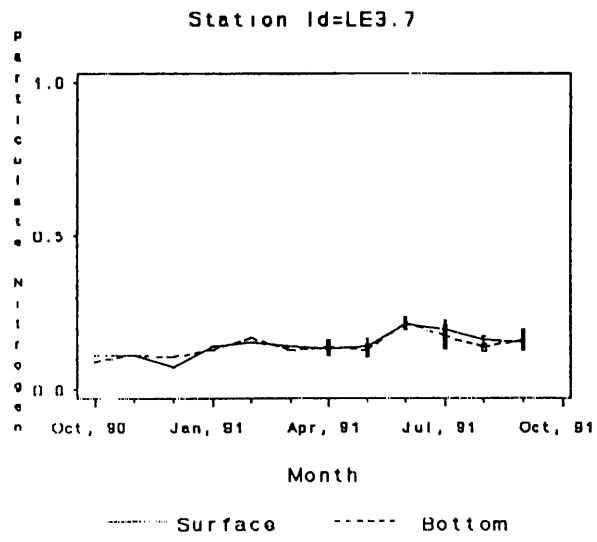
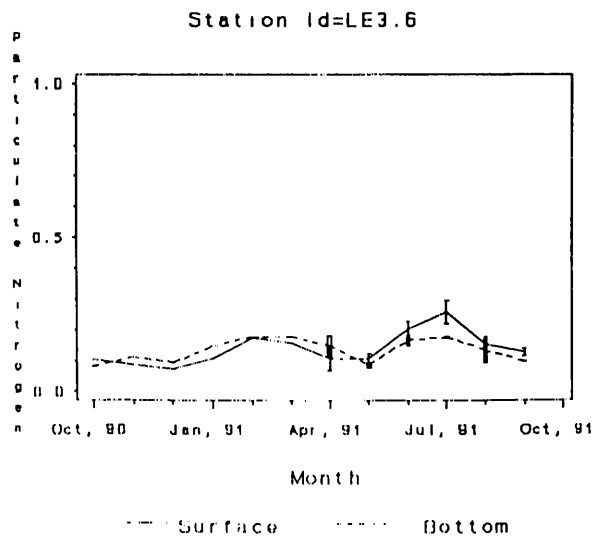
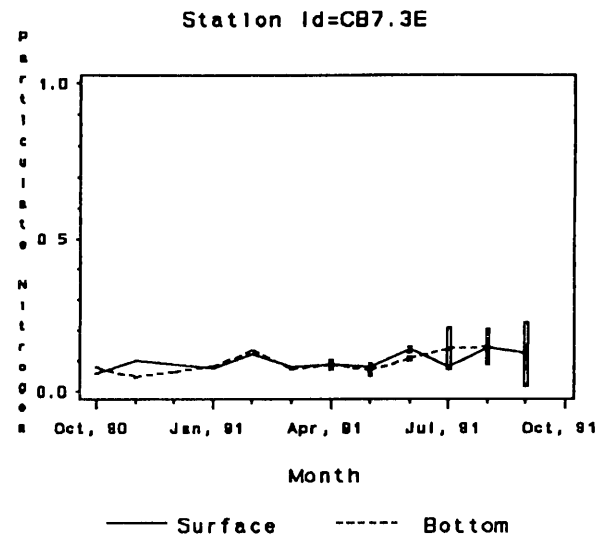
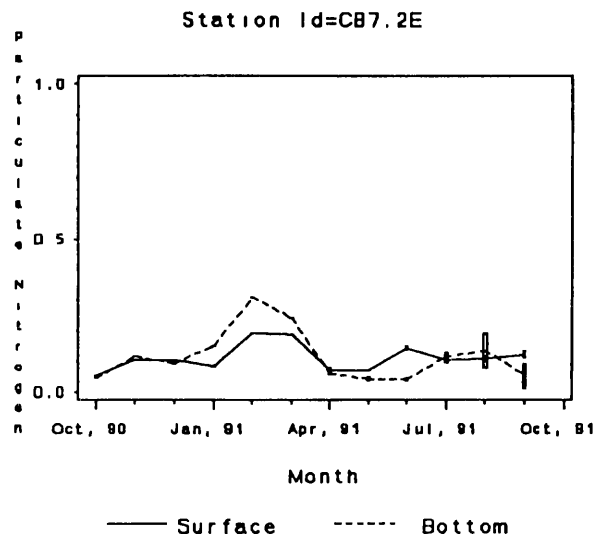
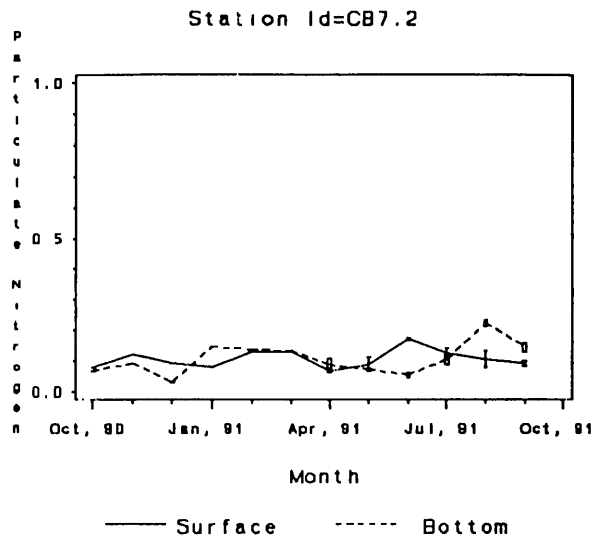
|             | Particulate Nitrogen<br>(mg/l) |        |        |        |        |        |
|-------------|--------------------------------|--------|--------|--------|--------|--------|
|             | Surface                        |        |        | Bottom |        |        |
|             | Max                            | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.2220                         | 0.1214 | 0.0580 | 0.3100 | 0.1297 | 0.0030 |
| CB5.5.....  | 0.3260                         | 0.1308 | 0.0690 | 0.4780 | 0.1181 | 0.0360 |
| CB6.1.....  | 0.1950                         | 0.1112 | 0.0780 | 0.2130 | 0.0977 | 0.0470 |
| CB6.2.....  | 0.2020                         | 0.1203 | 0.0800 | 0.1780 | 0.1068 | 0.0510 |
| CB6.3.....  | 0.2060                         | 0.1227 | 0.0670 | 0.2490 | 0.1257 | 0.0700 |
| CB6.4.....  | 0.2350                         | 0.1184 | 0.0580 | 0.2040 | 0.0950 | 0.0180 |
| CB7.3.....  | 0.2030                         | 0.0943 | 0.0520 | 0.1750 | 0.0791 | 0.0180 |
| CB7.4.....  | 0.1290                         | 0.0784 | 0.0360 | 0.2440 | 0.0952 | 0.0180 |
| CB7.4N..... | 0.1300                         | 0.0767 | 0.0180 | 0.4300 | 0.1202 | 0.0180 |
| CB8.1E..... | 0.1750                         | 0.0944 | 0.0400 | 0.2430 | 0.1003 | 0.0180 |
| CB8.1.....  | 0.1600                         | 0.1012 | 0.0250 | 0.1760 | 0.0877 | 0.0180 |
| EE3.1.....  | 0.6300                         | 0.2326 | 0.0880 | 0.3400 | 0.2161 | 0.0800 |
| EE3.2.....  | 0.2520                         | 0.1511 | 0.0650 | 0.7690 | 0.2728 | 0.0960 |
| CB7.1N..... | 0.1860                         | 0.1311 | 0.0720 | 0.4820 | 0.2337 | 0.0930 |
| CB7.1.....  | 0.5100                         | 0.1297 | 0.0330 | 0.6400 | 0.1879 | 0.0520 |
| CB7.1S..... | 0.6270                         | 0.1406 | 0.0590 | 0.8710 | 0.1330 | 0.0390 |
| CB5.4W..... | 0.3690                         | 0.1908 | 0.0920 | 0.4160 | 0.1900 | 0.0980 |
| CB7.2.....  | 0.1770                         | 0.1072 | 0.0630 | 0.2350 | 0.1097 | 0.0300 |
| CB7.2E..... | 0.1920                         | 0.1093 | 0.0550 | 0.3080 | 0.1027 | 0.0140 |
| CB7.3E..... | 0.1810                         | 0.1007 | 0.0570 | 0.2250 | 0.1006 | 0.0180 |
| LE3.6.....  | 0.2940                         | 0.1453 | 0.0690 | 0.1840 | 0.1339 | 0.0790 |
| LE3.7.....  | 0.2240                         | 0.1508 | 0.0740 | 0.2370 | 0.1470 | 0.0920 |
| WE4.1.....  | 0.1750                         | 0.1383 | 0.0910 | 0.2790 | 0.1604 | 0.0780 |
| WE4.2.....  | 0.1920                         | 0.1147 | 0.0240 | 0.3140 | 0.1558 | 0.0620 |
| WE4.3.....  | 0.2160                         | 0.1420 | 0.0630 | 0.2610 | 0.1492 | 0.0480 |
| WE4.4.....  | 0.2590                         | 0.1432 | 0.0580 | 0.2460 | 0.1433 | 0.0530 |
| LE5.5.....  | 0.1980                         | 0.1167 | 0.0180 | 0.3100 | 0.1274 | 0.0180 |

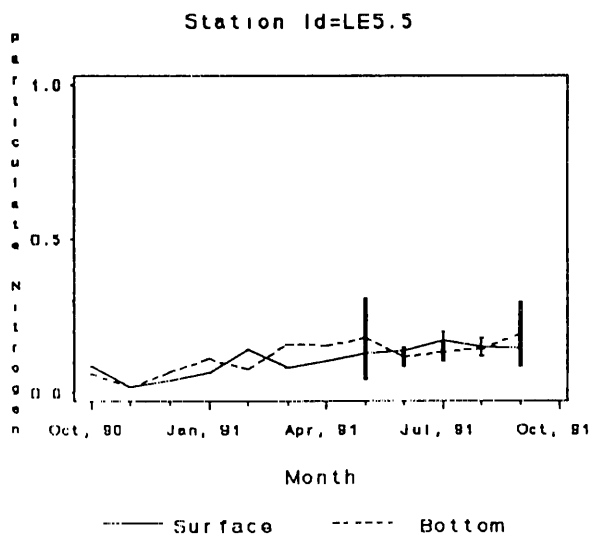
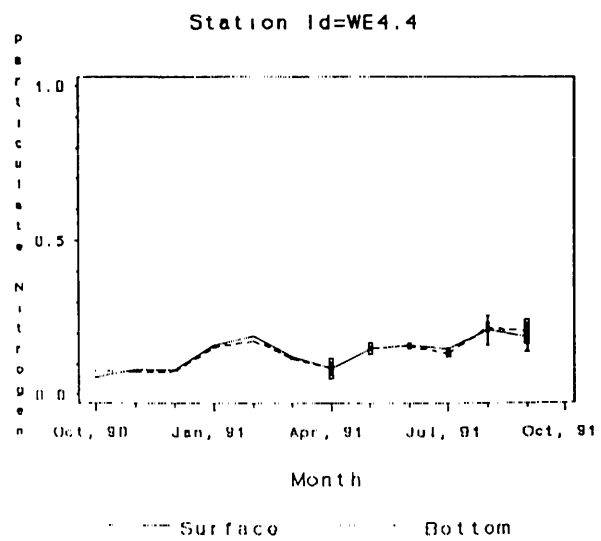
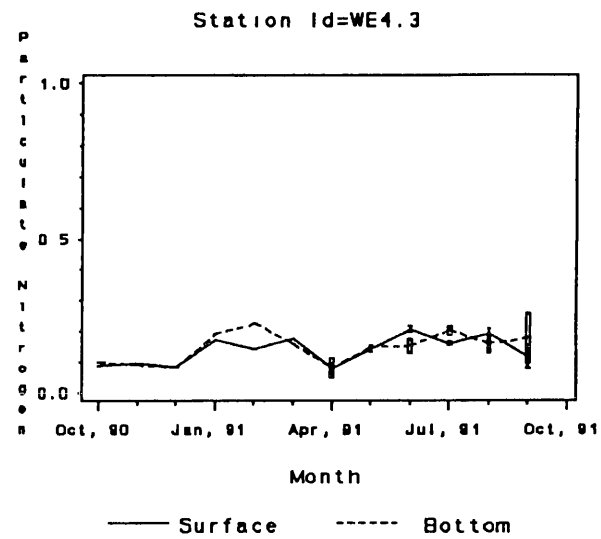
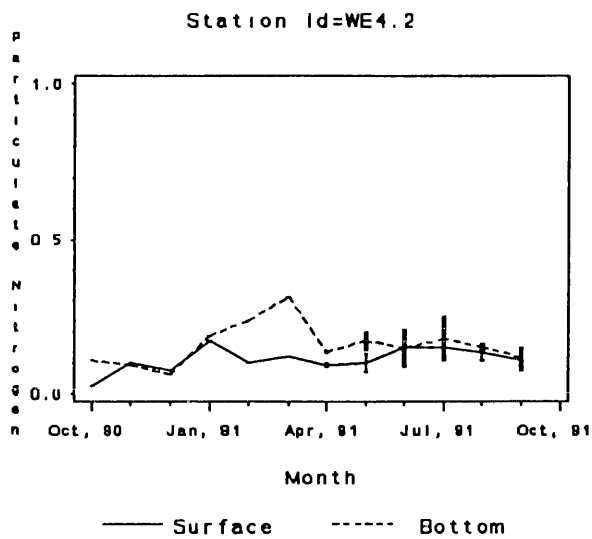
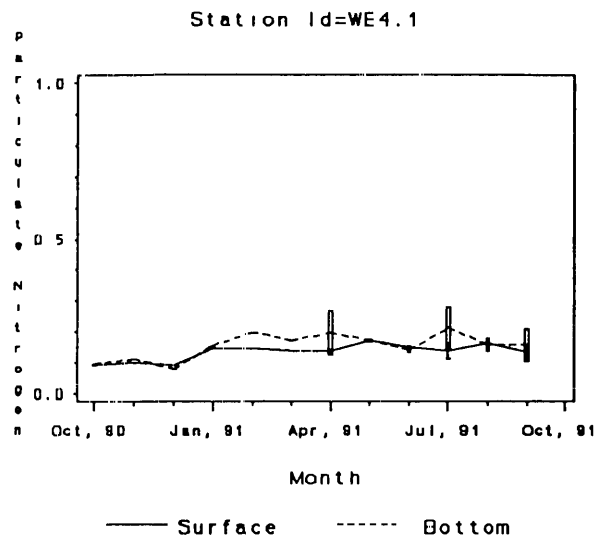










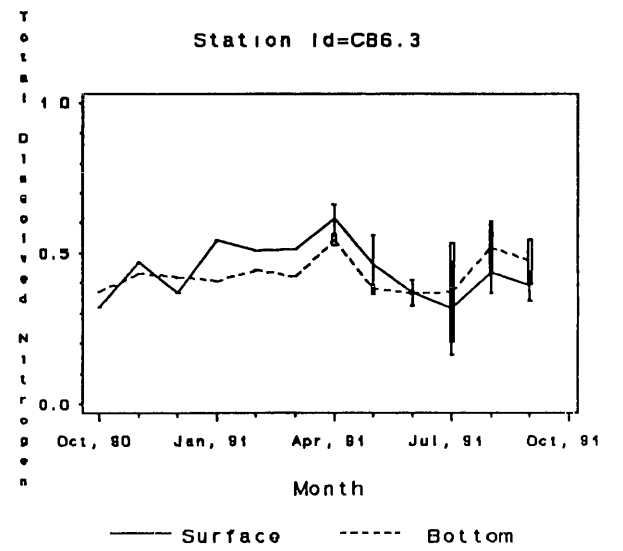
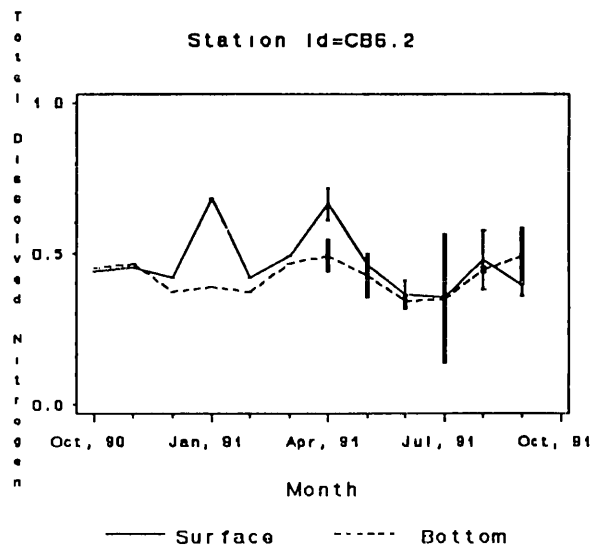
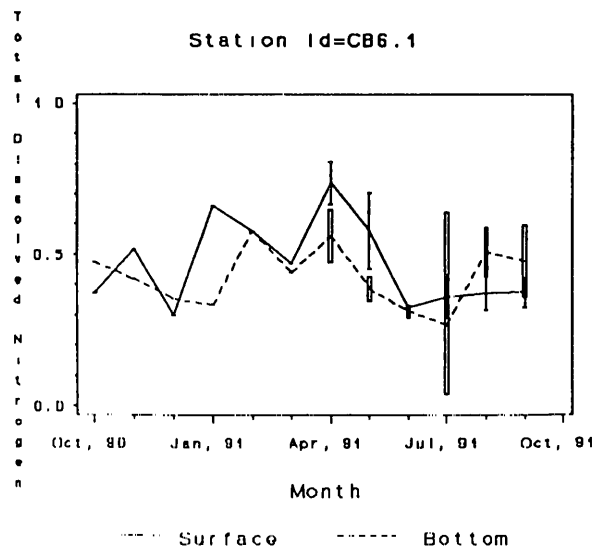
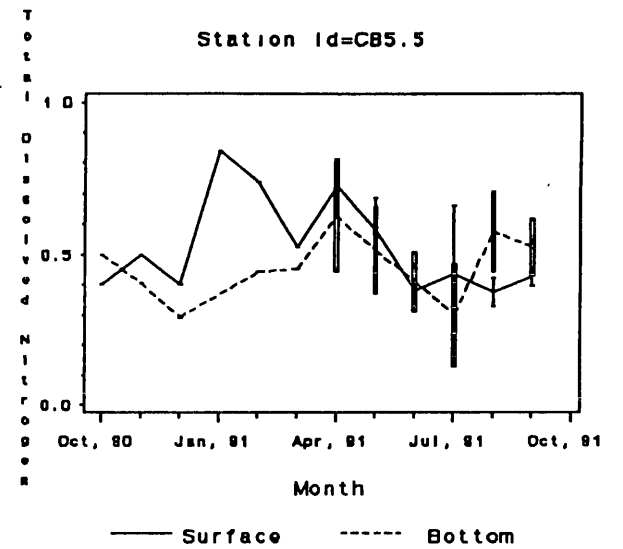
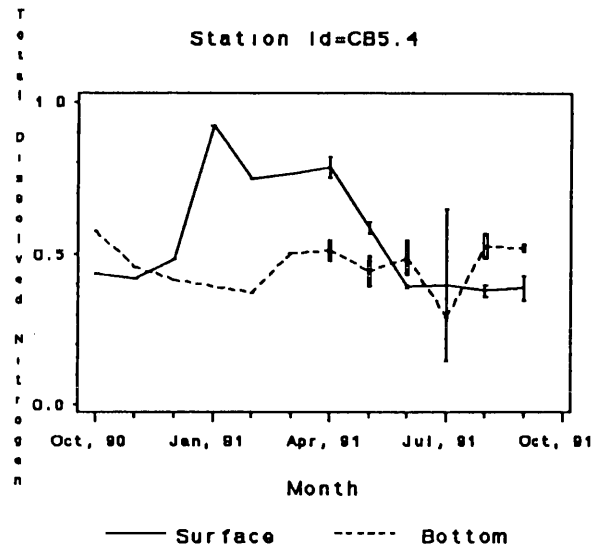


**TOTAL DISSOLVED NITROGEN**

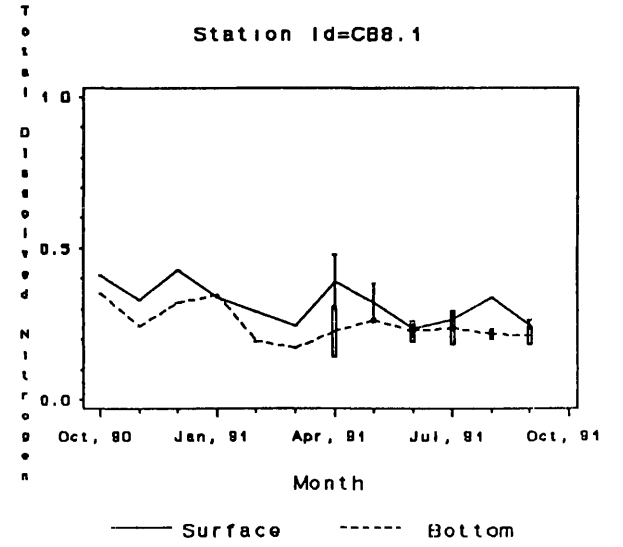
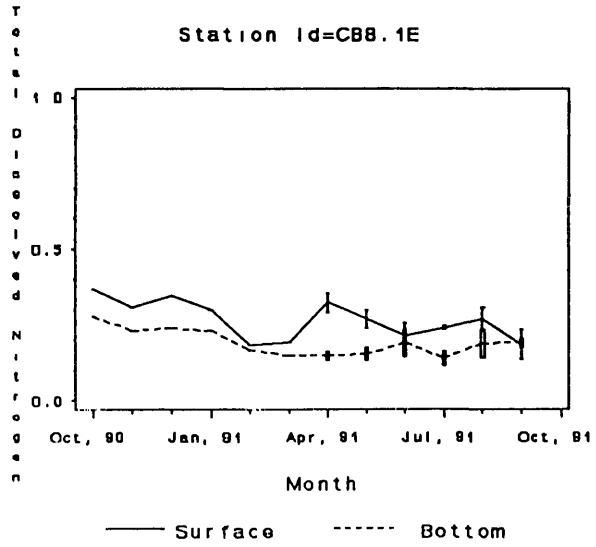
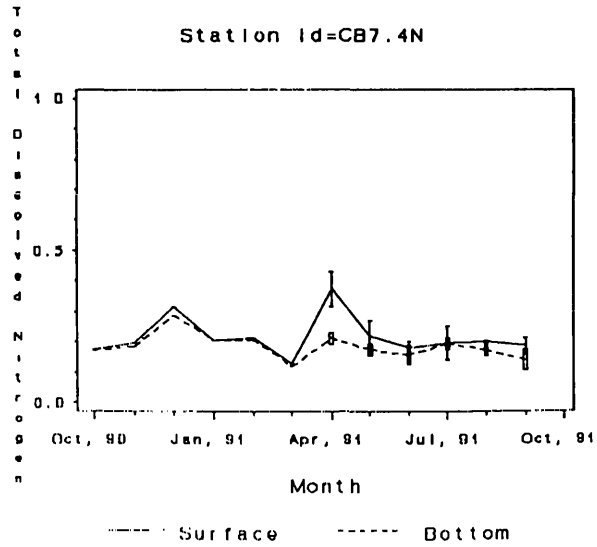
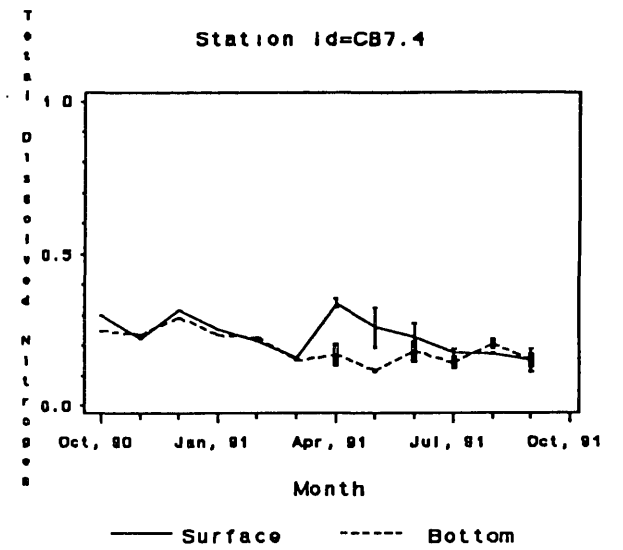
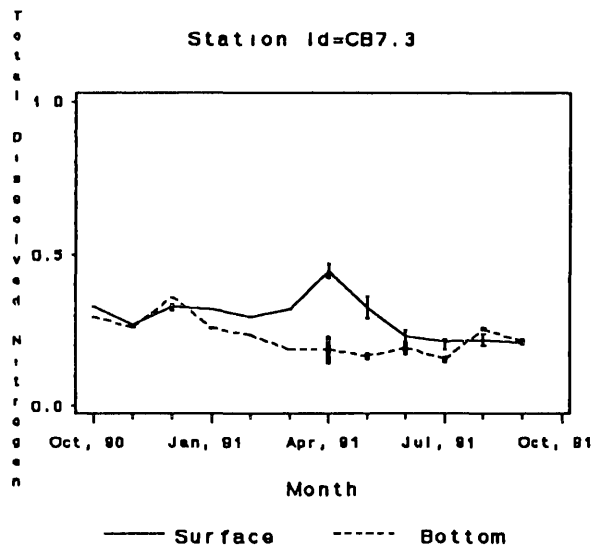
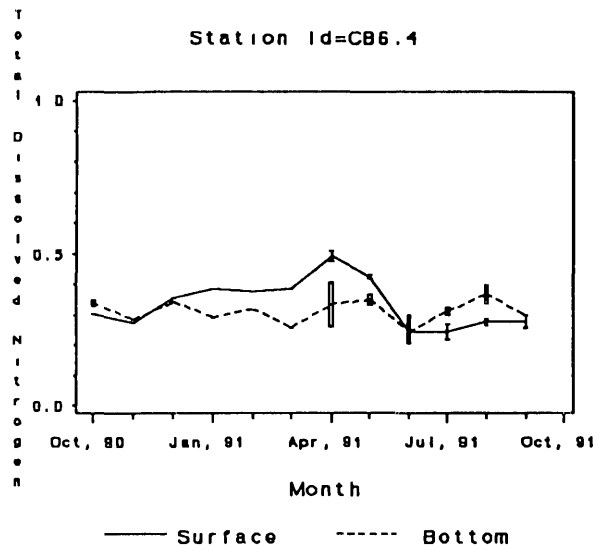
Values reported as mg/l.

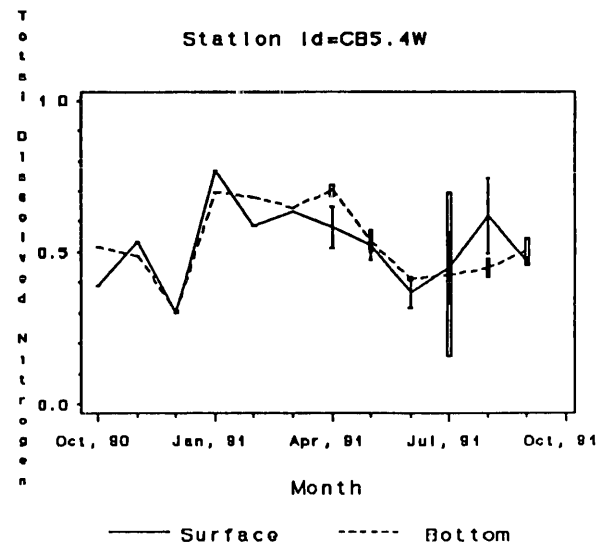
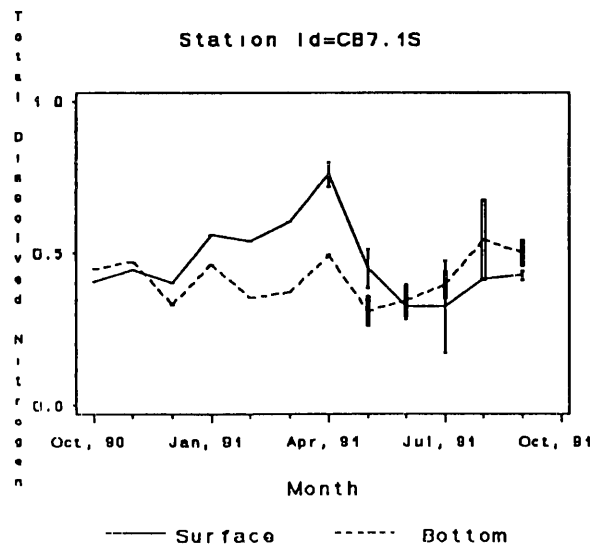
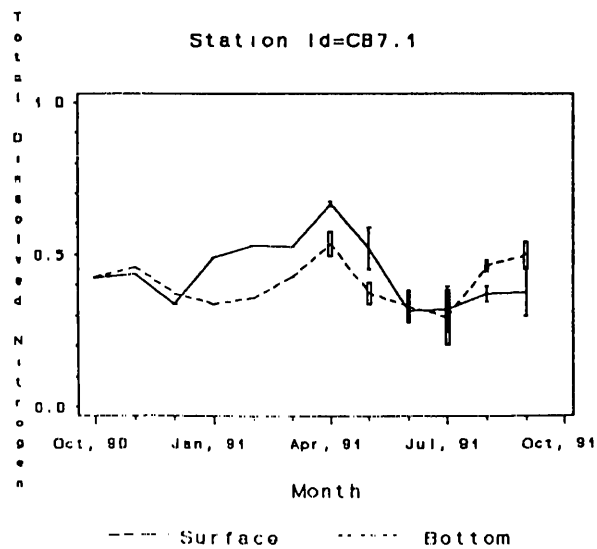
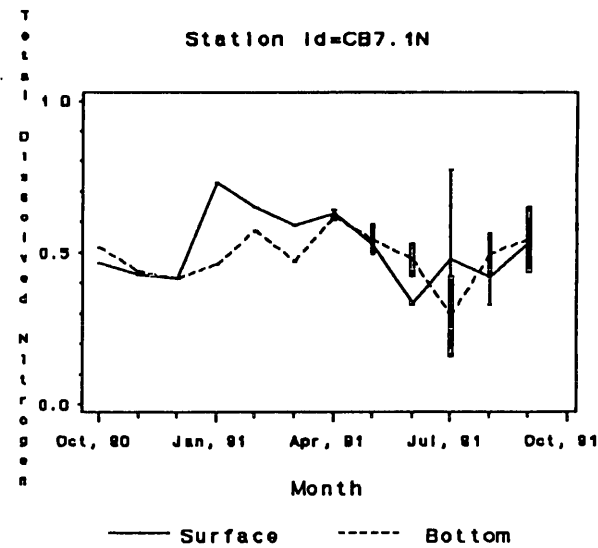
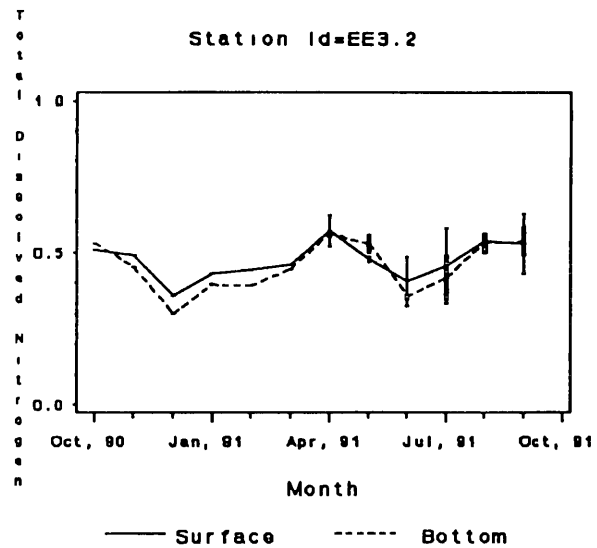
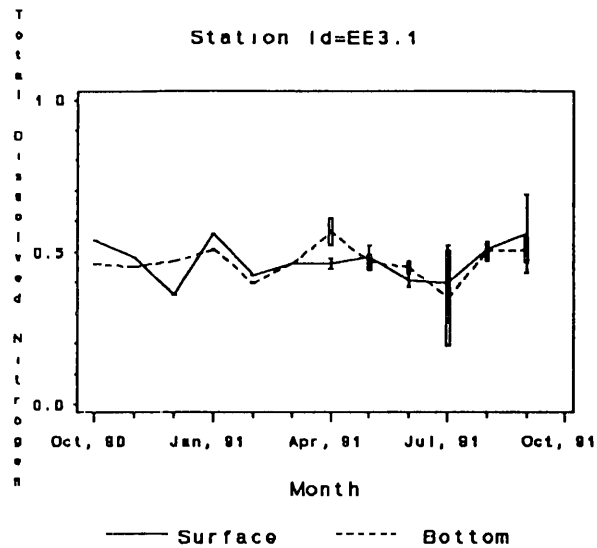
Total Dissolved Nitrogen  
October, 1990 - September, 1991

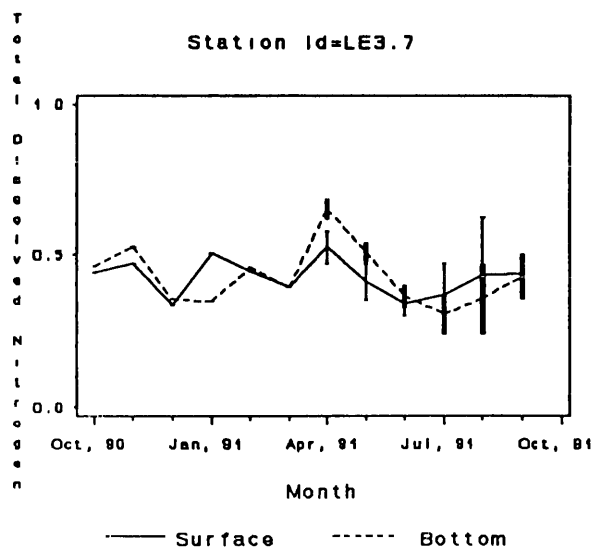
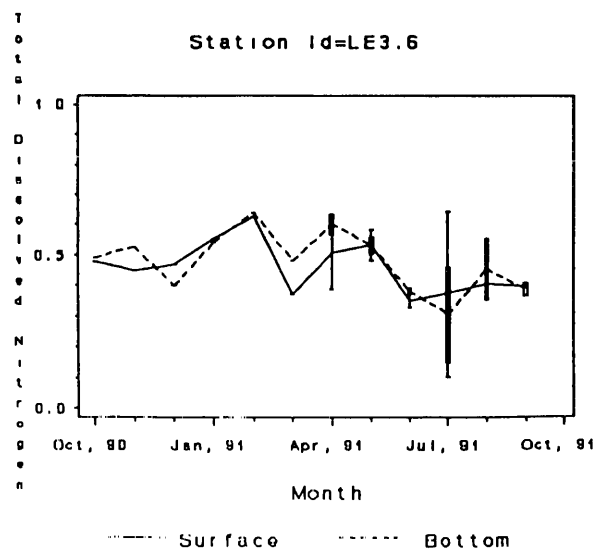
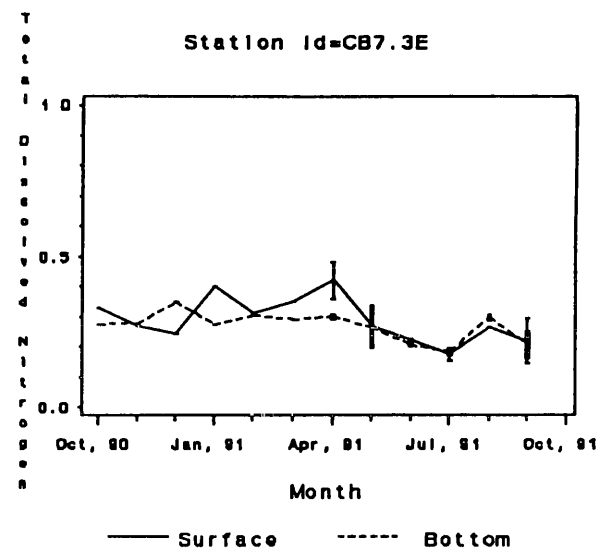
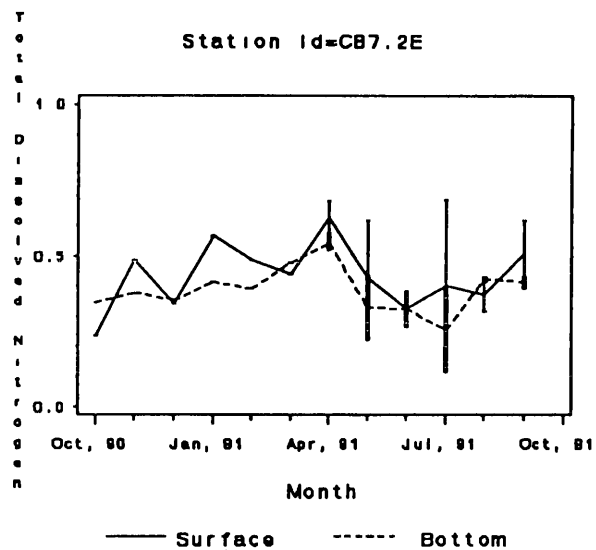
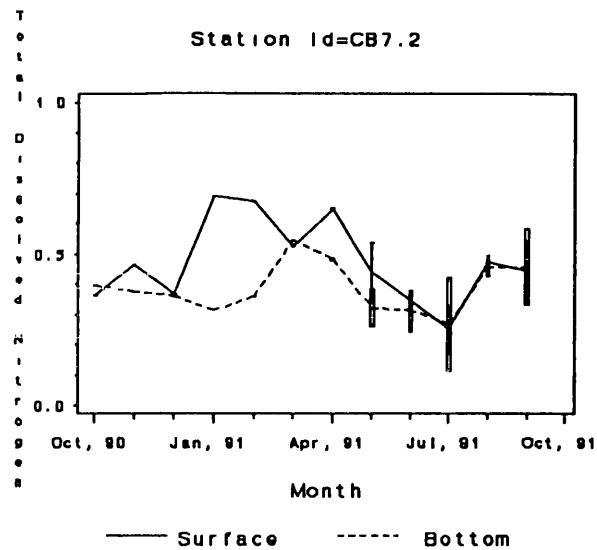
|             | Total Dissolved Nitrogen<br>(mg/l) |        |        |        |        |        |
|-------------|------------------------------------|--------|--------|--------|--------|--------|
|             | Surface                            |        |        | Bottom |        |        |
|             | Max                                | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.9200                             | 0.5339 | 0.1440 | 0.5740 | 0.4744 | 0.2910 |
| CB5.5.....  | 0.8390                             | 0.5166 | 0.1440 | 0.8060 | 0.4698 | 0.1300 |
| CB6.1.....  | 0.8060                             | 0.4810 | 0.2910 | 0.6500 | 0.4156 | 0.0375 |
| CB6.2.....  | 0.7170                             | 0.4634 | 0.1790 | 0.5840 | 0.4240 | 0.1370 |
| CB6.3.....  | 0.6630                             | 0.4386 | 0.1650 | 0.6070 | 0.4336 | 0.2070 |
| CB6.4.....  | 0.5080                             | 0.3320 | 0.2040 | 0.4060 | 0.3119 | 0.2080 |
| CB7.3.....  | 0.4680                             | 0.2848 | 0.1860 | 0.3610 | 0.2225 | 0.1430 |
| CB7.4.....  | 0.3530                             | 0.2341 | 0.1120 | 0.2920 | 0.1836 | 0.1110 |
| CB7.4N..... | 0.4330                             | 0.2207 | 0.1300 | 0.2880 | 0.1828 | 0.1080 |
| CB8.1E..... | 0.3660                             | 0.2613 | 0.1360 | 0.2780 | 0.1851 | 0.1160 |
| CB8.1.....  | 0.4790                             | 0.3116 | 0.2120 | 0.3500 | 0.2447 | 0.1430 |
| EE3.1.....  | 0.6860                             | 0.4685 | 0.2700 | 0.6110 | 0.4673 | 0.1930 |
| EE3.2.....  | 0.6260                             | 0.4804 | 0.3240 | 0.5840 | 0.4656 | 0.2990 |
| CB7.1N..... | 0.7730                             | 0.5057 | 0.1860 | 0.6500 | 0.4887 | 0.1580 |
| CB7.1.....  | 0.6760                             | 0.4392 | 0.2490 | 0.5780 | 0.4102 | 0.2070 |
| CB7.1S..... | 0.8000                             | 0.4634 | 0.1720 | 0.6750 | 0.4222 | 0.2600 |
| CB5.4W..... | 0.7670                             | 0.5122 | 0.2990 | 0.7220 | 0.5213 | 0.1580 |
| CB7.2.....  | 0.6910                             | 0.4608 | 0.1720 | 0.5840 | 0.3862 | 0.1160 |
| CB7.2E..... | 0.6870                             | 0.4372 | 0.1160 | 0.5650 | 0.3849 | 0.1160 |
| CB7.3E..... | 0.4810                             | 0.2805 | 0.1450 | 0.3490 | 0.2603 | 0.1610 |
| LE3.6.....  | 0.6470                             | 0.4499 | 0.1020 | 0.6420 | 0.4679 | 0.1510 |
| LE3.7.....  | 0.6250                             | 0.4231 | 0.2400 | 0.6840 | 0.4303 | 0.2420 |
| WE4.1.....  | 0.4900                             | 0.3811 | 0.1720 | 0.6050 | 0.4038 | 0.1720 |
| WE4.2.....  | 0.6570                             | 0.4357 | 0.2140 | 0.7060 | 0.4554 | 0.1580 |
| WE4.3.....  | 0.5520                             | 0.3779 | 0.1440 | 0.5750 | 0.3917 | 0.1370 |
| WE4.4.....  | 0.5590                             | 0.3847 | 0.1890 | 0.6140 | 0.3951 | 0.1580 |
| LE5.5.....  | 0.6290                             | 0.3532 | 0.2430 | 0.4300 | 0.2817 | 0.1610 |

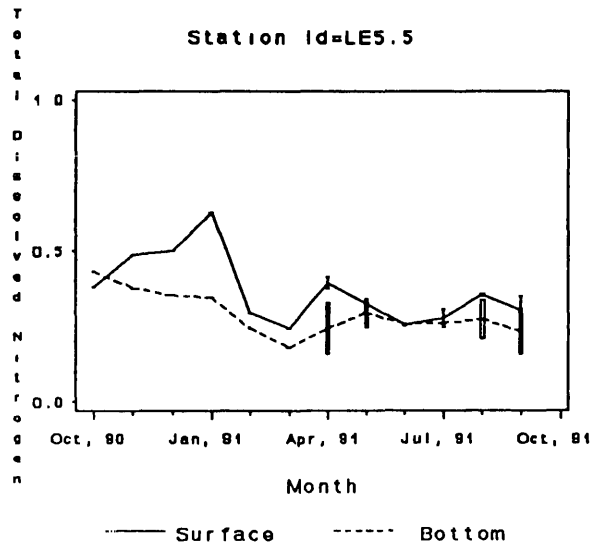
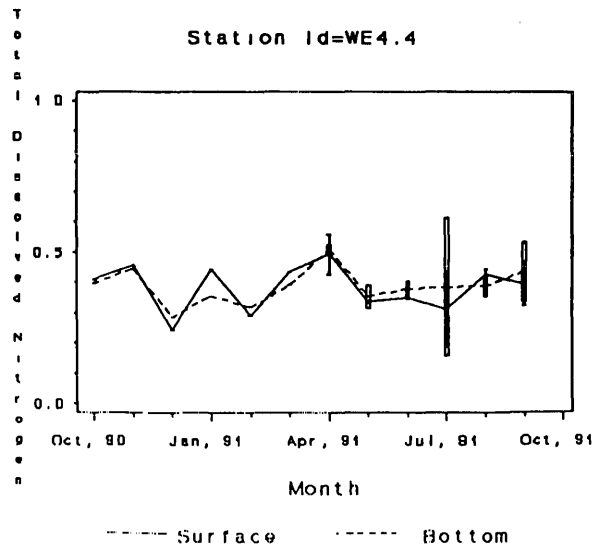
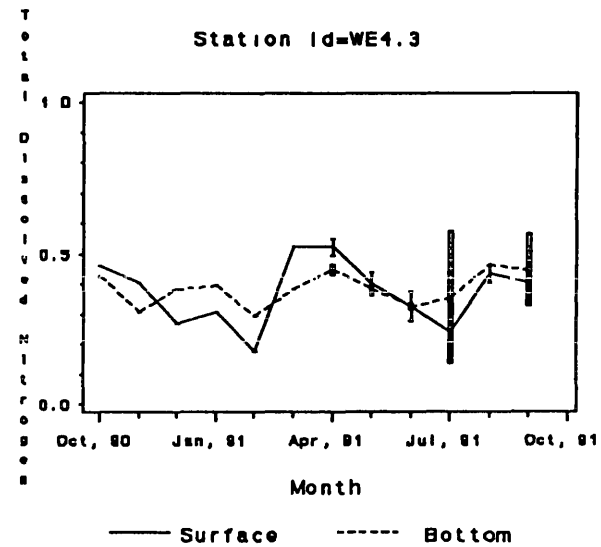
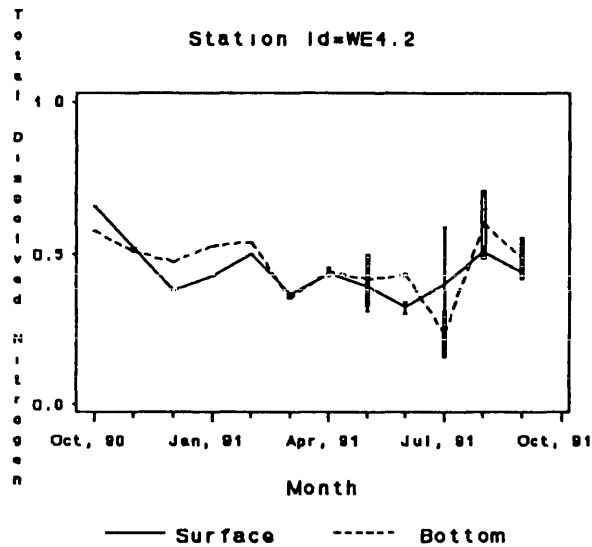
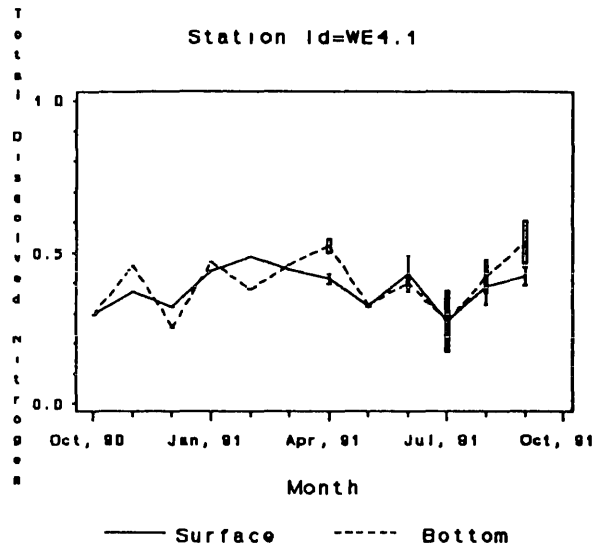












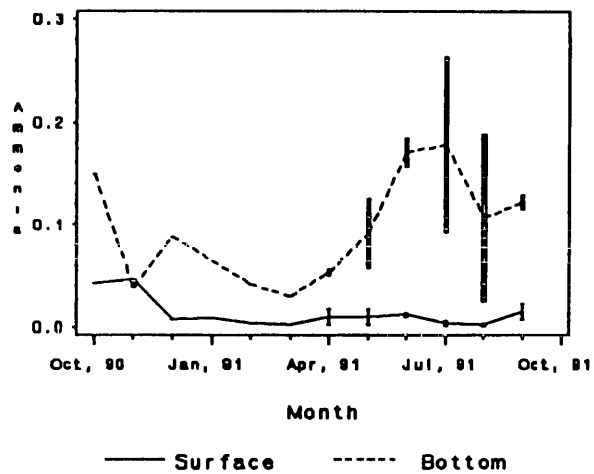
## **AMMONIA**

Values reported as mg/l.

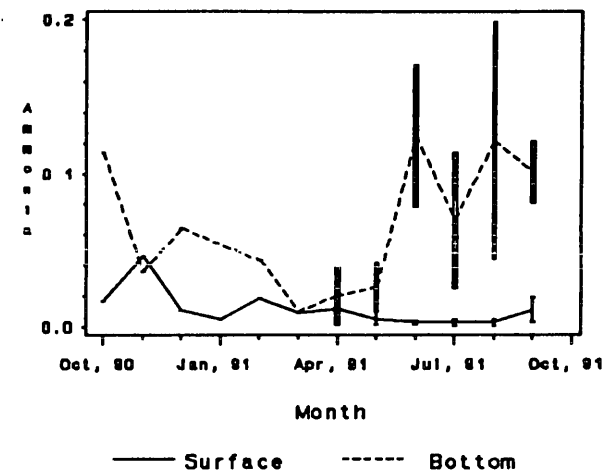
Ammonia  
October, 1990 - September, 1991

|             | Ammonia<br>(mg/l) |        |        |        |        |        |
|-------------|-------------------|--------|--------|--------|--------|--------|
|             | Surface           |        |        | Bottom |        |        |
|             | Max               | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.0470            | 0.0120 | 0.0010 | 0.2630 | 0.1054 | 0.0250 |
| CB5.5.....  | 0.0460            | 0.0092 | 0.0010 | 0.1980 | 0.0702 | 0.0020 |
| CB6.1.....  | 0.0300            | 0.0076 | 0.0010 | 0.1970 | 0.0534 | 0.0050 |
| CB6.2.....  | 0.0520            | 0.0086 | 0.0010 | 0.1500 | 0.0568 | 0.0070 |
| CB6.3.....  | 0.0390            | 0.0102 | 0.0010 | 0.1150 | 0.0525 | 0.0080 |
| CB6.4.....  | 0.0560            | 0.0120 | 0.0030 | 0.1430 | 0.0503 | 0.0090 |
| CB7.3.....  | 0.0370            | 0.0105 | 0.0030 | 0.0830 | 0.0327 | 0.0030 |
| CB7.4.....  | 0.0700            | 0.0119 | 0.0030 | 0.0560 | 0.0192 | 0.0030 |
| CB7.4N..... | 0.0610            | 0.0086 | 0.0030 | 0.0510 | 0.0099 | 0.0030 |
| CB8.1E..... | 0.0780            | 0.0171 | 0.0030 | 0.0760 | 0.0264 | 0.0030 |
| CB8.1.....  | 0.0820            | 0.0180 | 0.0030 | 0.1010 | 0.0383 | 0.0030 |
| EE3.1.....  | 0.0730            | 0.0128 | 0.0010 | 0.0850 | 0.0186 | 0.0010 |
| EE3.2.....  | 0.0880            | 0.0216 | 0.0020 | 0.1720 | 0.0661 | 0.0040 |
| CB7.1N..... | 0.0680            | 0.0168 | 0.0010 | 0.1420 | 0.0625 | 0.0060 |
| CB7.1.....  | 0.0750            | 0.0163 | 0.0010 | 0.1400 | 0.0697 | 0.0290 |
| CB7.1S..... | 0.0300            | 0.0089 | 0.0010 | 0.1230 | 0.0593 | 0.0010 |
| CB5.4W..... | 0.0550            | 0.0102 | 0.0010 | 0.1360 | 0.0211 | 0.0010 |
| CB7.2.....  | 0.0820            | 0.0121 | 0.0010 | 0.1690 | 0.0715 | 0.0100 |
| CB7.2E..... | 0.1020            | 0.0137 | 0.0010 | 0.1190 | 0.0434 | 0.0090 |
| CB7.3E..... | 0.0380            | 0.0127 | 0.0030 | 0.0810 | 0.0329 | 0.0030 |
| LE3.6.....  | 0.0790            | 0.0167 | 0.0010 | 0.1220 | 0.0335 | 0.0020 |
| LE3.7.....  | 0.0610            | 0.0091 | 0.0010 | 0.1110 | 0.0236 | 0.0010 |
| WE4.1.....  | 0.0140            | 0.0057 | 0.0010 | 0.0760 | 0.0171 | 0.0020 |
| WE4.2.....  | 0.1560            | 0.0278 | 0.0050 | 0.2070 | 0.0702 | 0.0220 |
| WE4.3.....  | 0.0740            | 0.0106 | 0.0010 | 0.0830 | 0.0112 | 0.0010 |
| WE4.4.....  | 0.0460            | 0.0084 | 0.0010 | 0.0520 | 0.0111 | 0.0010 |
| LE5.5.....  | 0.0860            | 0.0323 | 0.0030 | 0.1100 | 0.0573 | 0.0170 |

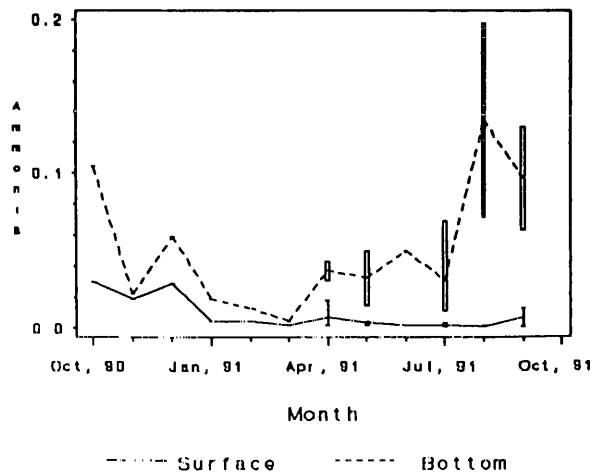
Station Id=CB5.4



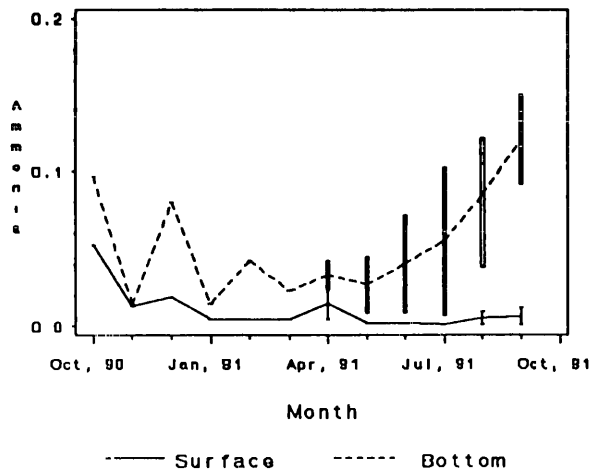
Station Id=CB5.5



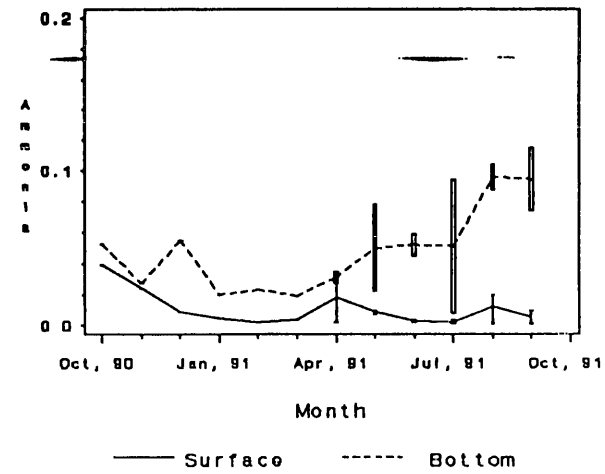
Station Id=CB6.1



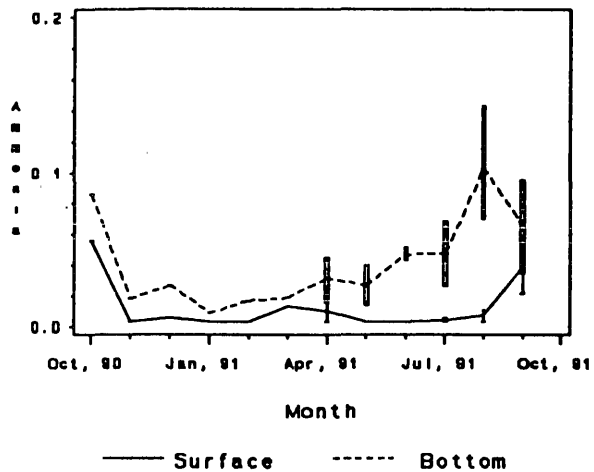
Station Id=CB6.2



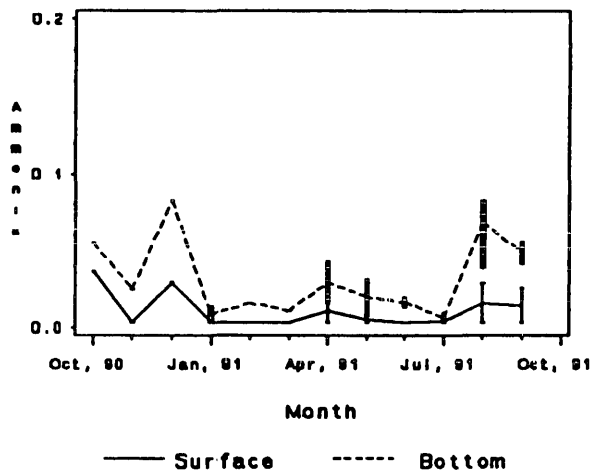
Station Id=CB6.3



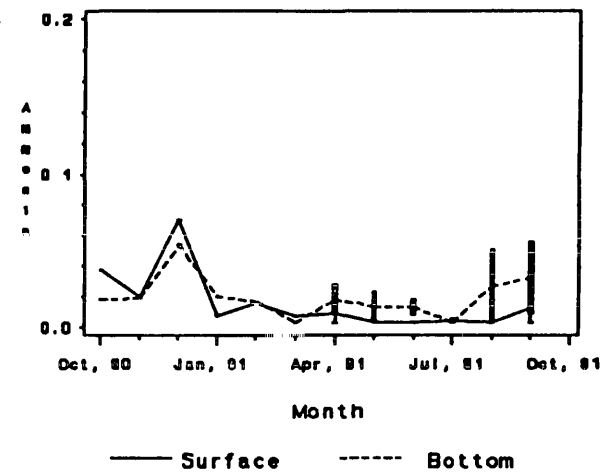
Station Id=CB6.4



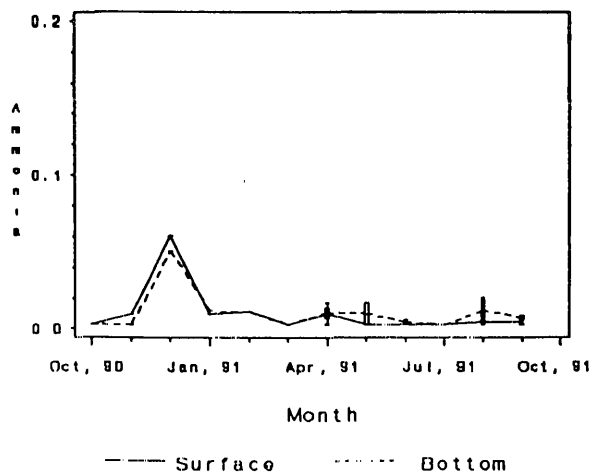
Station Id=CB7.3



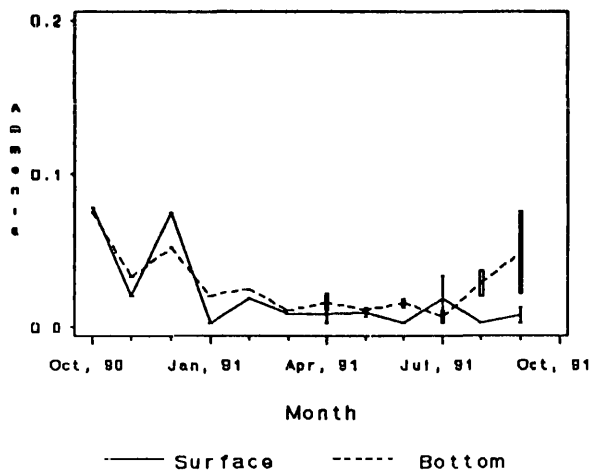
Station Id=CB7.4



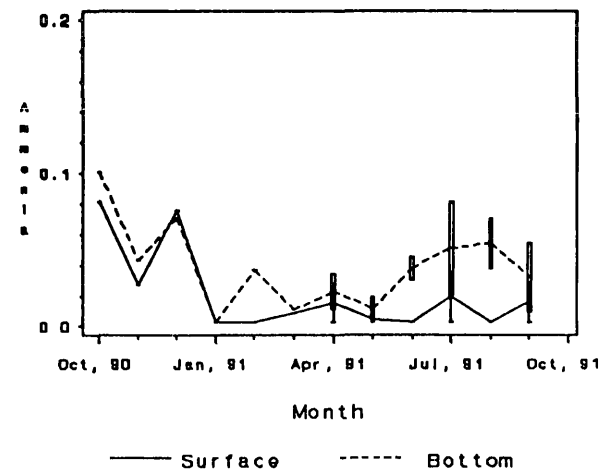
Station Id=CB7.4N



Station Id=CB8.1E

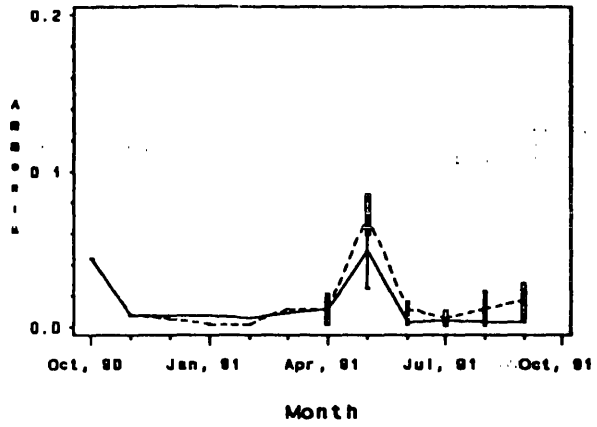


Station Id=CB8.1

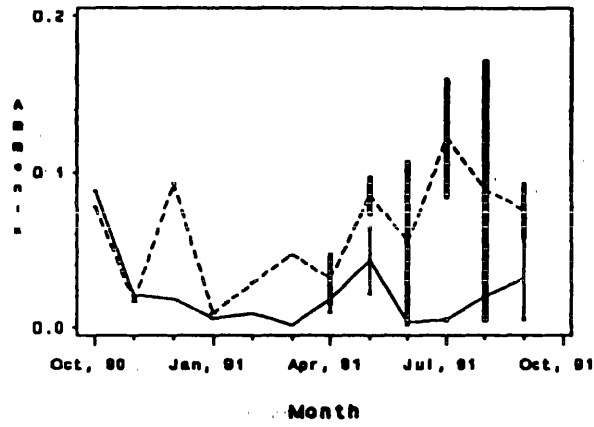




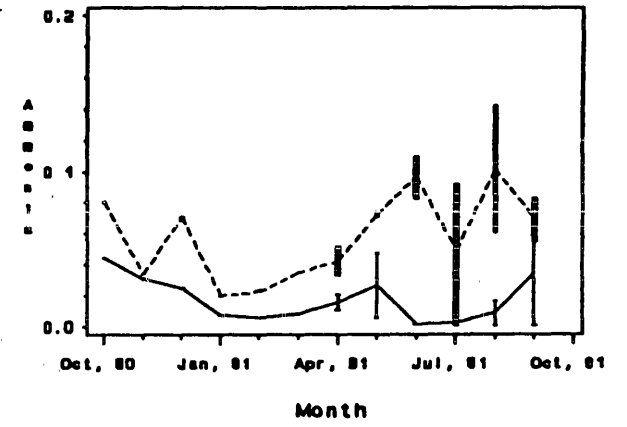
Station Id=EE3.1



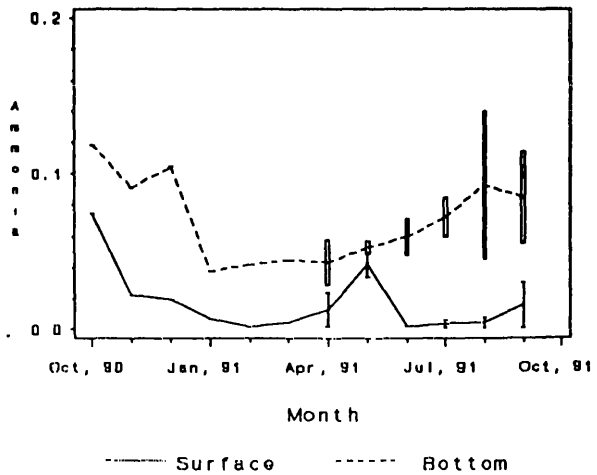
Station Id=EE3.2



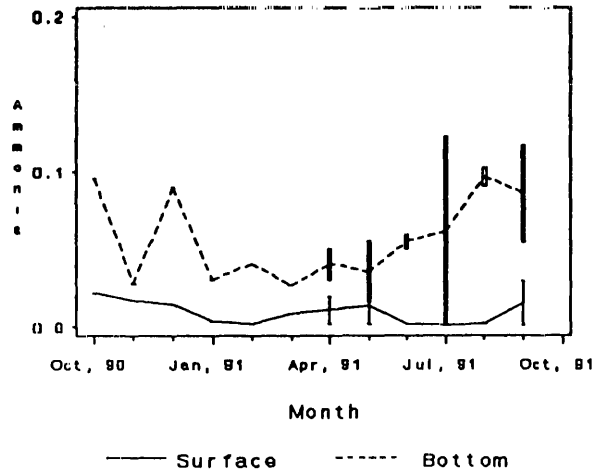
Station Id=CB7.1N



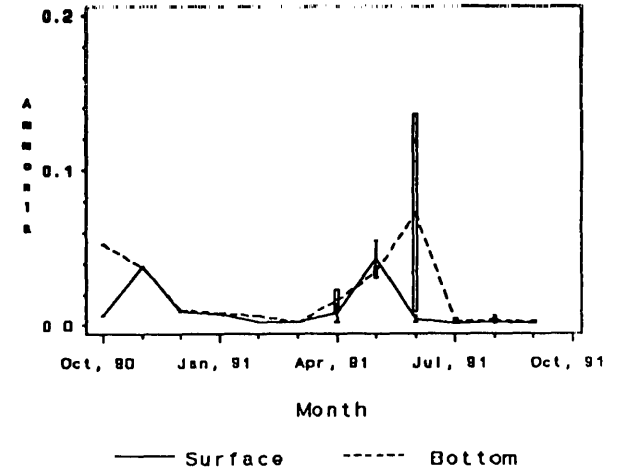
Station Id=CB7.1



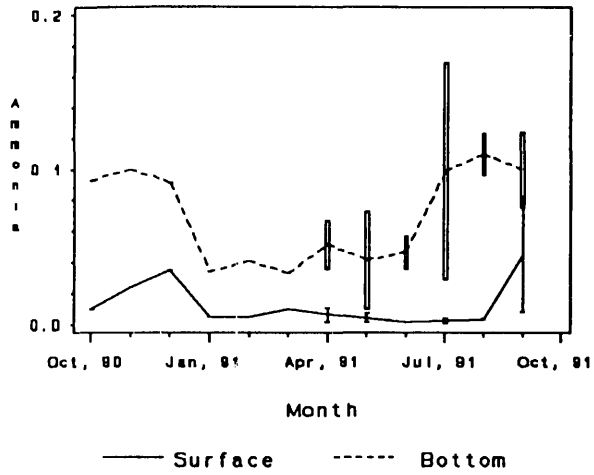
Station Id=CB7.1S



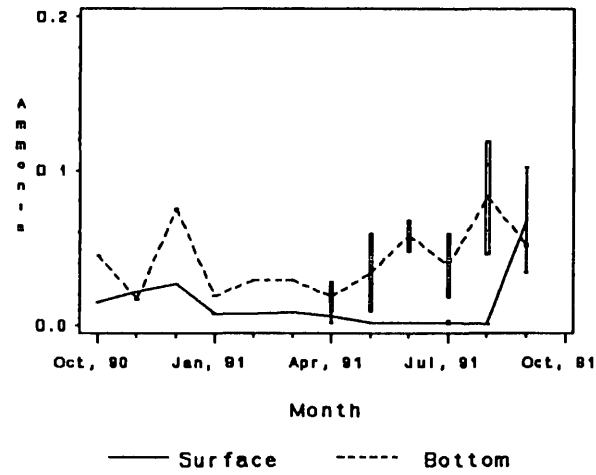
Station Id=CB5.4W



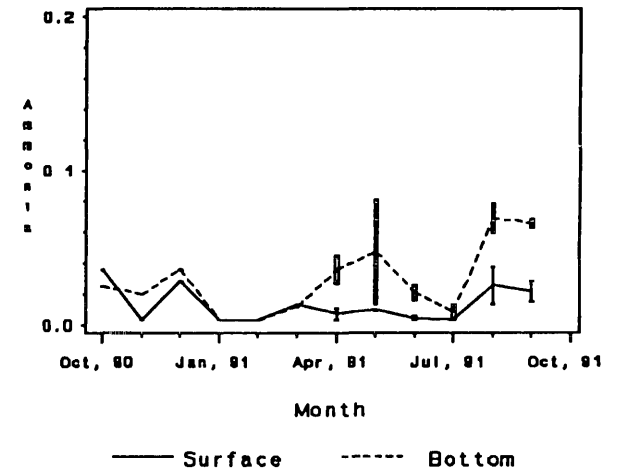
Station Id=CB7.2



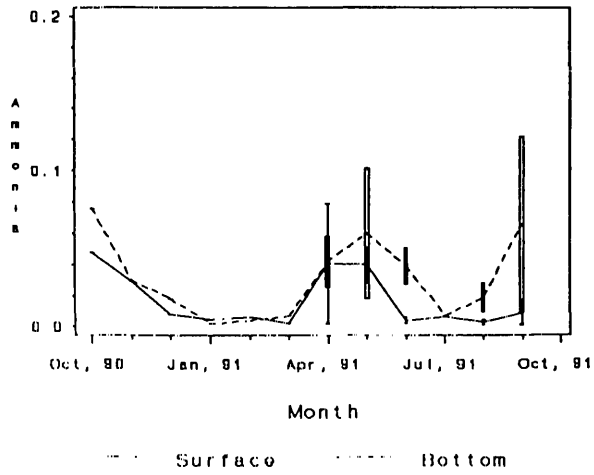
Station Id=CB7.2E



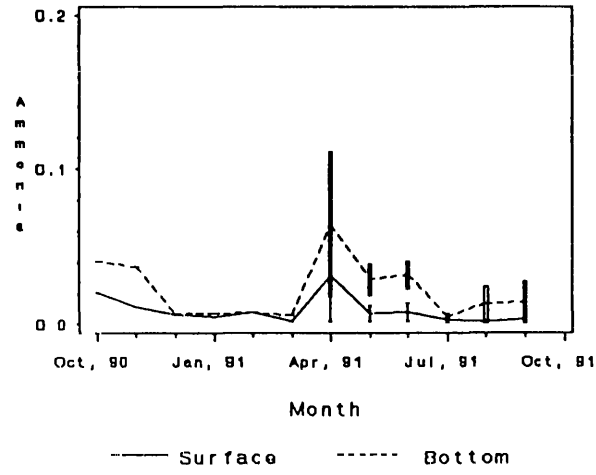
Station Id=CB7.3E



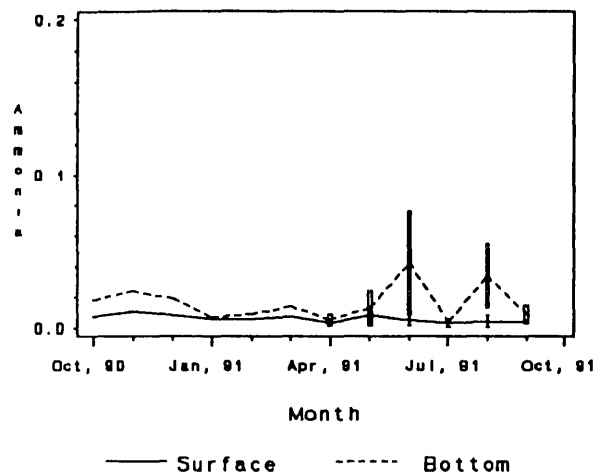
Station Id=LE3.6



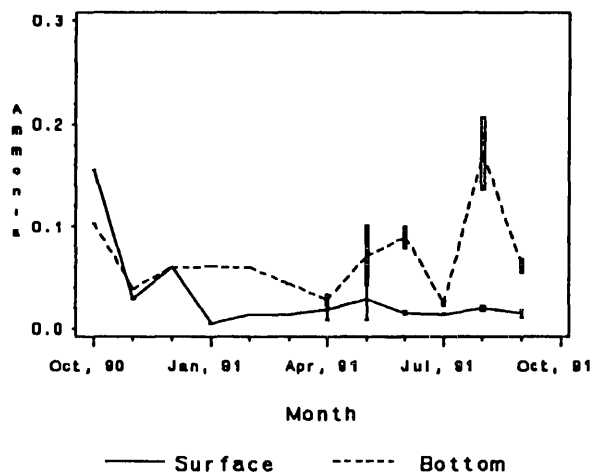
Station Id=LE3.7



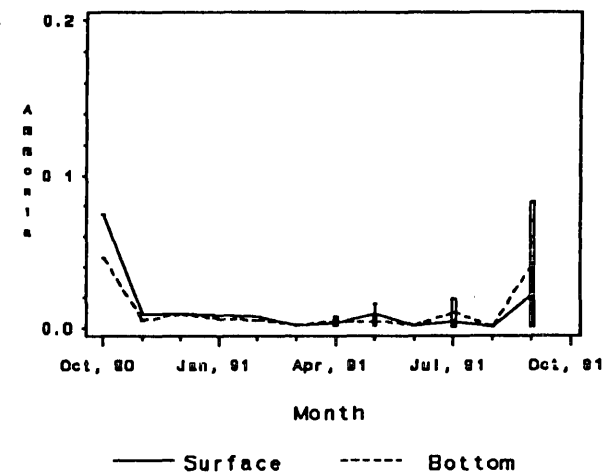
Station Id=WE4.1



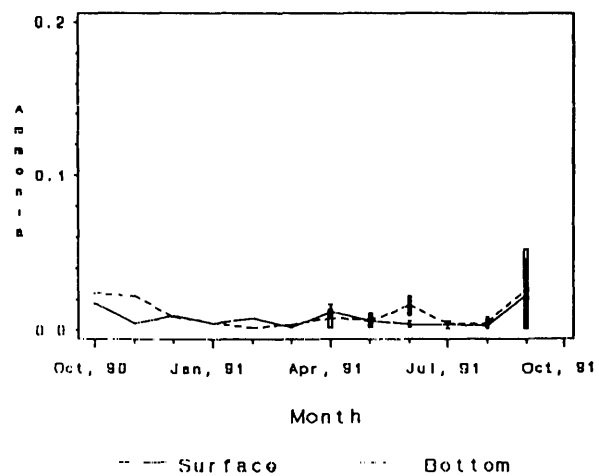
Station Id=WE4.2



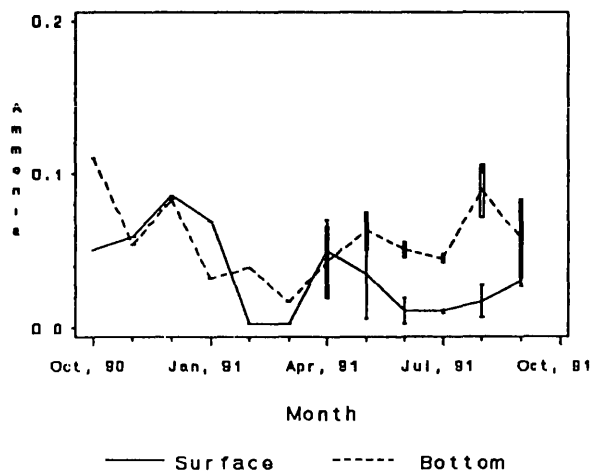
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5



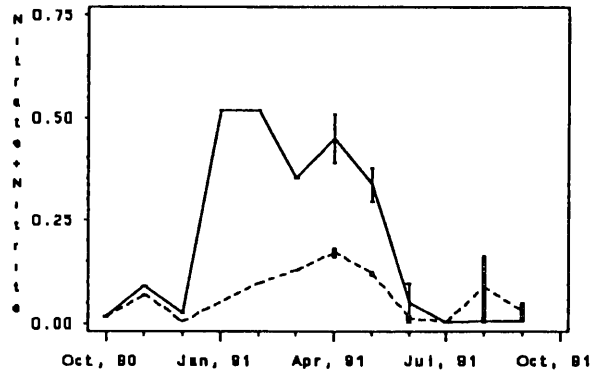
**NITRATE + NITRITE**

Values reported as mg/l.

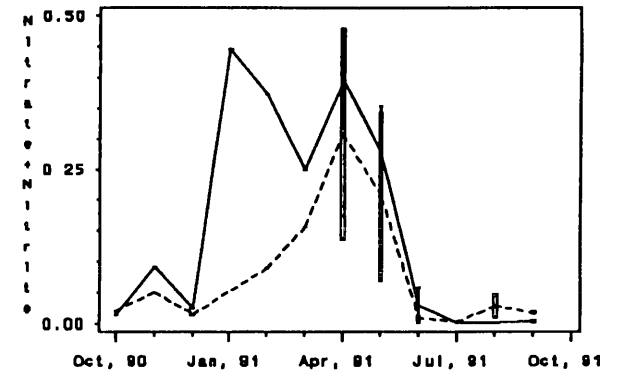
Nitrate+Nitrite  
October, 1990 - September, 1991

|             | Nitrate+Nitrite<br>(mg/l) |        |        |        |        |        |
|-------------|---------------------------|--------|--------|--------|--------|--------|
|             | Surface                   |        |        | Bottom |        |        |
|             | Max                       | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.5193                    | 0.1791 | 0.0012 | 0.1833 | 0.0688 | 0.0012 |
| CB5.5.....  | 0.4712                    | 0.1511 | 0.0012 | 0.4789 | 0.0868 | 0.0012 |
| CB6.1.....  | 0.4595                    | 0.1321 | 0.0012 | 0.1902 | 0.0557 | 0.0012 |
| CB6.2.....  | 0.2950                    | 0.0917 | 0.0012 | 0.1943 | 0.0473 | 0.0012 |
| CB6.3.....  | 0.3509                    | 0.0890 | 0.0012 | 0.1774 | 0.0502 | 0.0012 |
| CB6.4.....  | 0.3271                    | 0.0903 | 0.0012 | 0.1720 | 0.0427 | 0.0044 |
| CB7.3.....  | 0.2594                    | 0.0566 | 0.0012 | 0.0689 | 0.0188 | 0.0025 |
| CB7.4.....  | 0.1498                    | 0.0376 | 0.0012 | 0.0632 | 0.0111 | 0.0012 |
| CB7.4N..... | 0.2773                    | 0.0344 | 0.0012 | 0.0647 | 0.0136 | 0.0012 |
| CB8.1E..... | 0.1450                    | 0.0363 | 0.0012 | 0.0515 | 0.0090 | 0.0012 |
| CB8.1.....  | 0.2073                    | 0.0518 | 0.0012 | 0.0913 | 0.0230 | 0.0027 |
| EE3.1.....  | 0.1602                    | 0.0421 | 0.0012 | 0.1510 | 0.0435 | 0.0012 |
| EE3.2.....  | 0.3198                    | 0.0692 | 0.0012 | 0.1716 | 0.0542 | 0.0012 |
| CB7.1N..... | 0.3338                    | 0.0903 | 0.0012 | 0.2205 | 0.0676 | 0.0012 |
| CB7.1.....  | 0.3664                    | 0.0944 | 0.0012 | 0.1867 | 0.0501 | 0.0012 |
| CB7.1S..... | 0.4634                    | 0.1078 | 0.0012 | 0.1751 | 0.0441 | 0.0012 |
| CB5.4W..... | 0.4313                    | 0.1032 | 0.0012 | 0.3741 | 0.1255 | 0.0012 |
| CB7.2.....  | 0.3237                    | 0.0911 | 0.0012 | 0.1297 | 0.0342 | 0.0012 |
| CB7.2E..... | 0.2634                    | 0.0682 | 0.0012 | 0.1902 | 0.0457 | 0.0012 |
| CB7.3E..... | 0.3095                    | 0.0628 | 0.0012 | 0.1058 | 0.0318 | 0.0012 |
| LE3.6.....  | 0.3624                    | 0.0763 | 0.0012 | 0.3461 | 0.1033 | 0.0012 |
| LE3.7.....  | 0.1835                    | 0.0436 | 0.0012 | 0.2493 | 0.0666 | 0.0012 |
| WE4.1.....  | 0.1362                    | 0.0315 | 0.0012 | 0.1949 | 0.0414 | 0.0012 |
| WE4.2.....  | 0.1511                    | 0.0383 | 0.0012 | 0.1373 | 0.0338 | 0.0012 |
| WE4.3.....  | 0.1751                    | 0.0230 | 0.0012 | 0.1227 | 0.0195 | 0.0012 |
| WE4.4.....  | 0.0848                    | 0.0166 | 0.0012 | 0.1031 | 0.0180 | 0.0012 |
| LE5.5.....  | 0.2078                    | 0.0742 | 0.0037 | 0.0860 | 0.0280 | 0.0039 |

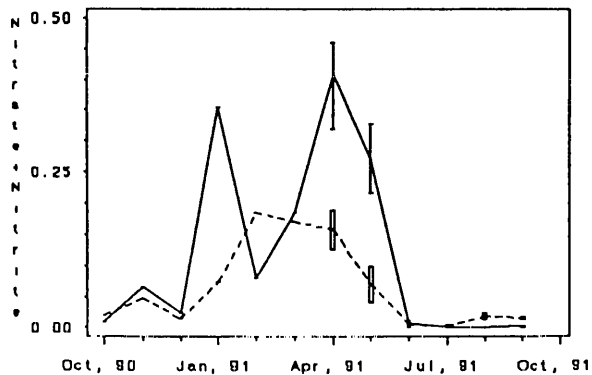
Station Id=CB5.4



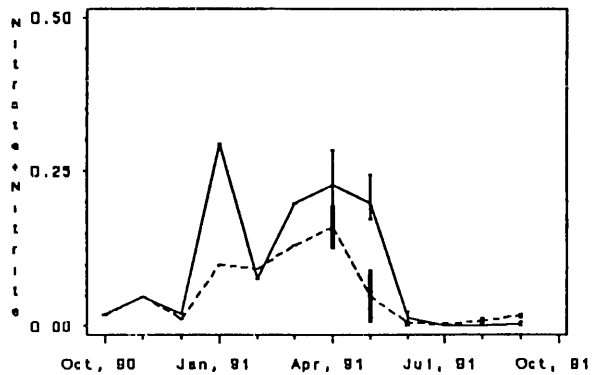
Station Id=CB5.5



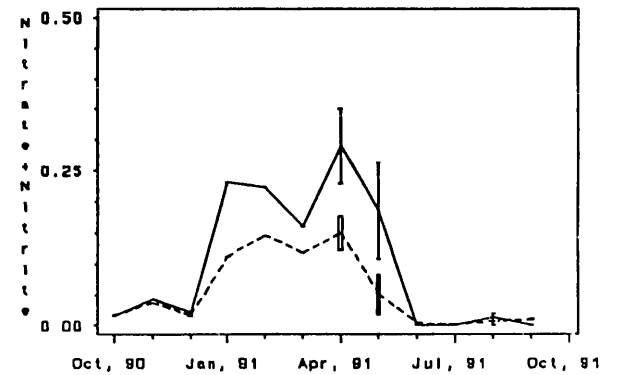
Station Id=CB6.1



Station Id=CB6.2



Station Id=CB6.3



— Surface    - - - - Bottom

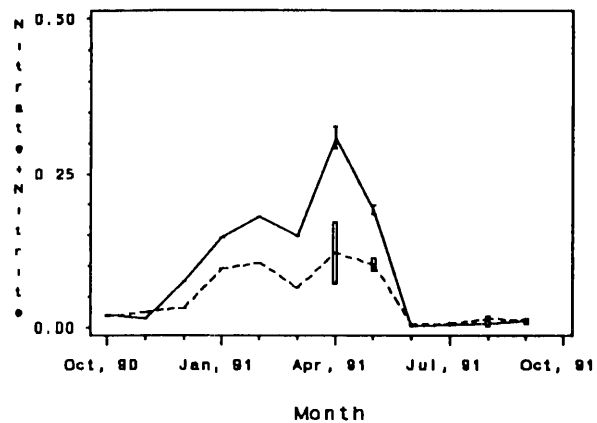
— Surface    - - - - Bottom

— Surface    - - - - Bottom

— Surface    - - - - Bottom

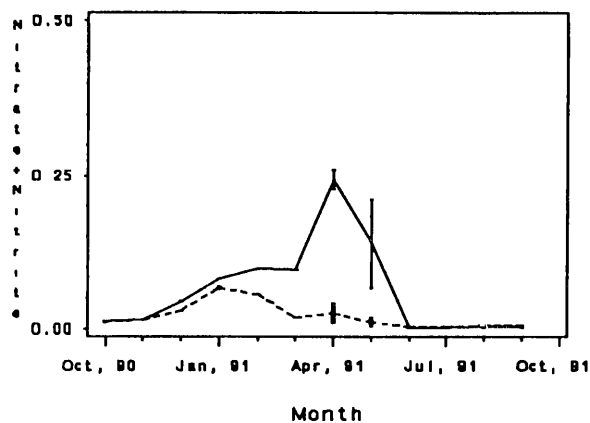
— Surface    - - - - Bottom

Station Id=CB6.4



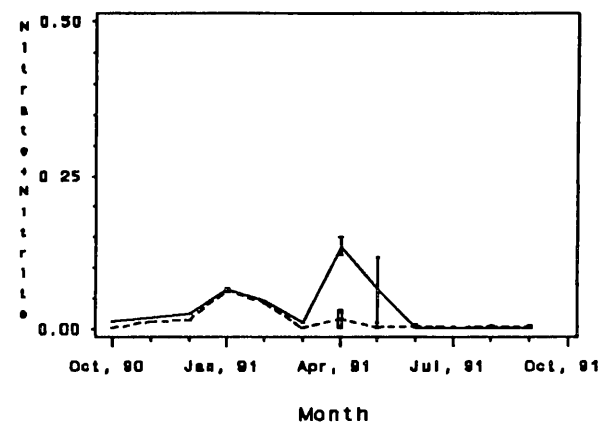
— Surface    - - - - Bottom

Station Id=CB7.3



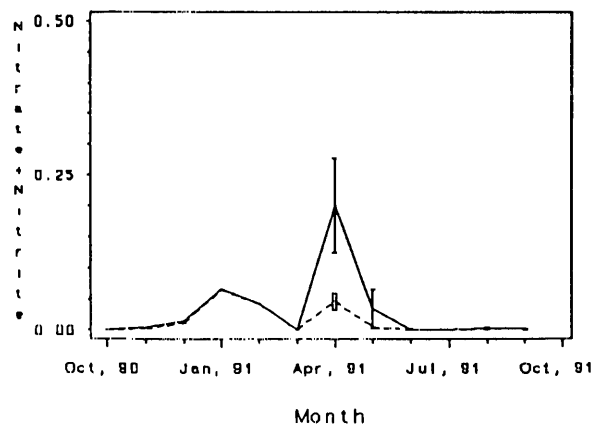
— Surface    - - - - Bottom

Station Id=CB7.4



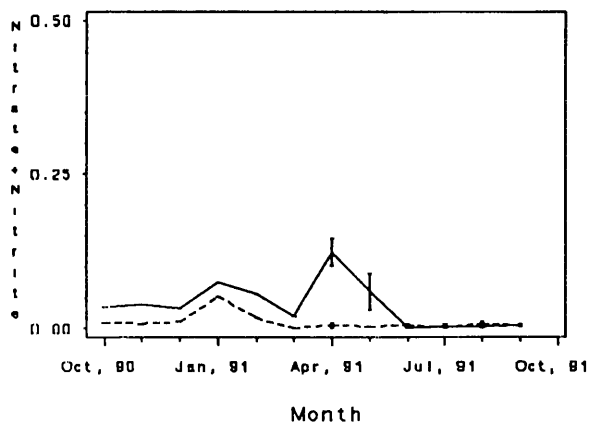
— Surface    - - - - Bottom

Station Id=CB7.4N



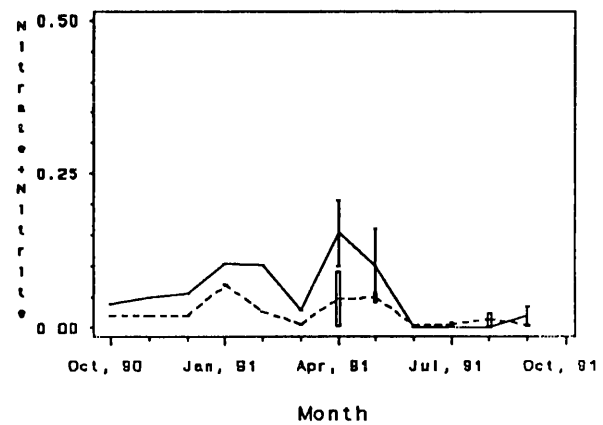
— Surface    - - - - Bottom

Station Id=CB8.1E



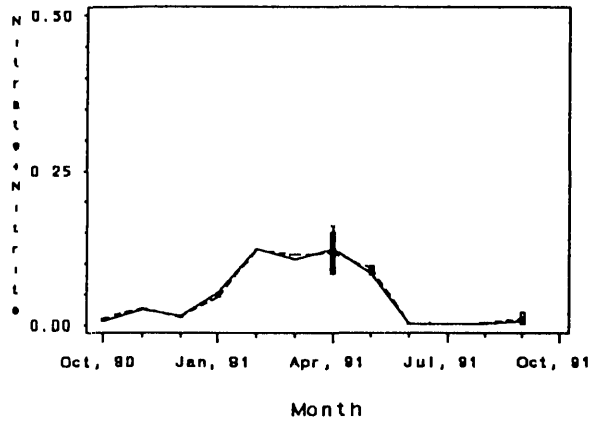
— Surface    - - - - Bottom

Station Id=CB8.1



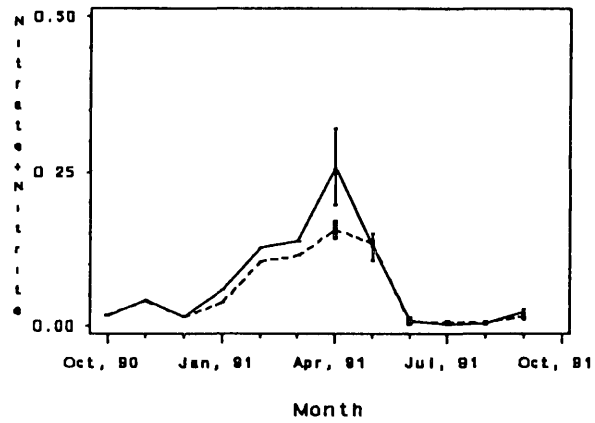
— Surface    - - - - Bottom

Station Id=EE3.1



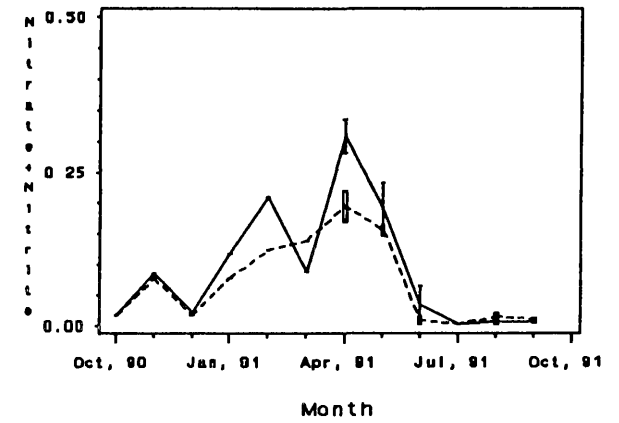
— Surface    - - - - Bottom

Station Id=EE3.2



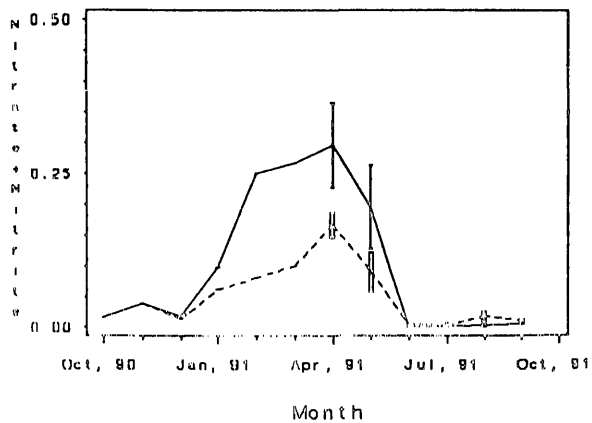
— Surface    - - - - Bottom

Station Id=CB7.1N



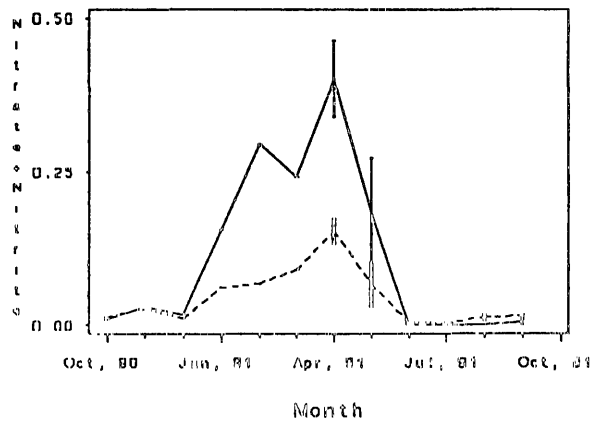
— Surface    - - - - Bottom

Station Id=CB7.1



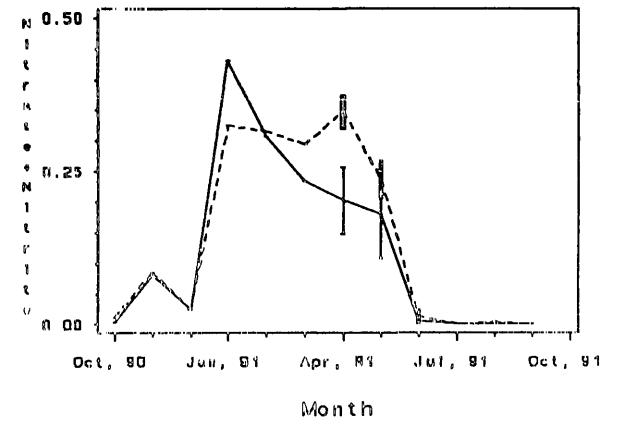
— Surface    - - - - Bottom

Station Id=CB7.1S



— Surface    - - - - Bottom

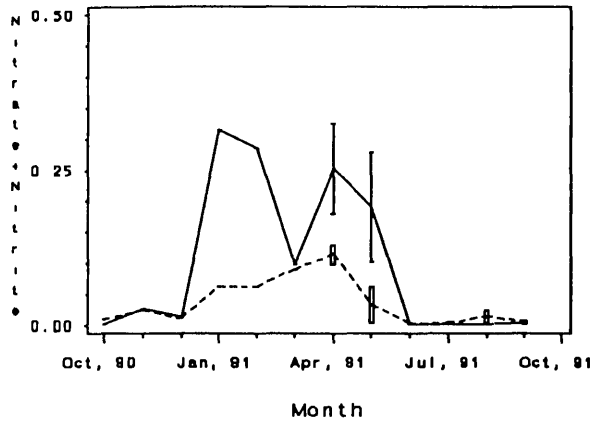
Station Id=CB5.4W



— Surface    - - - - Bottom

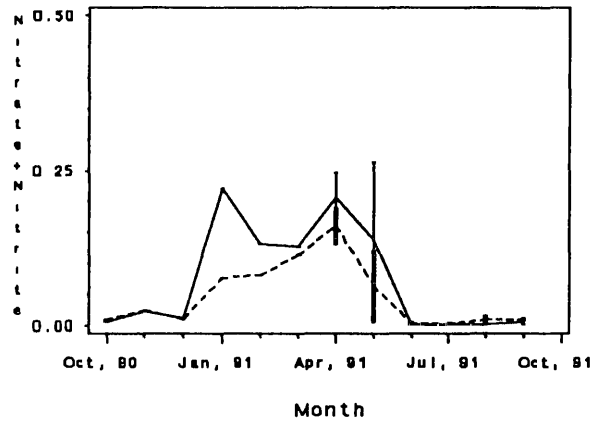


Station Id=CB7.2



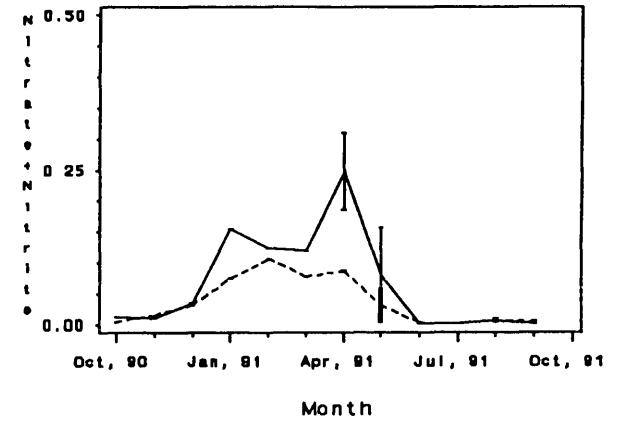
— Surface    - - - - Bottom

Station Id=CB7.2E



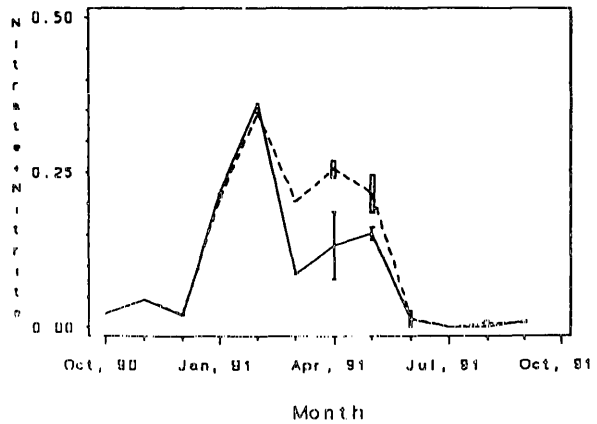
— Surface    - - - - Bottom

Station Id=CB7.3E



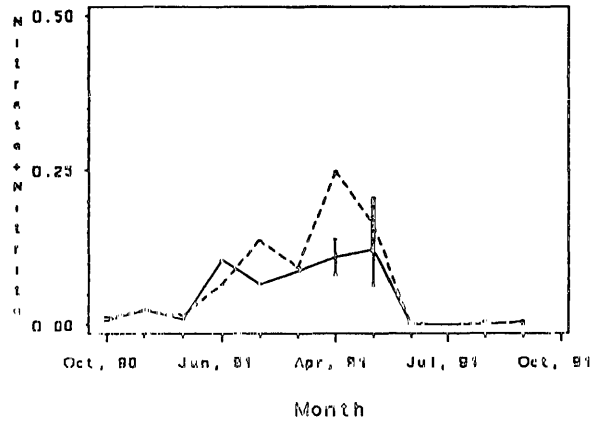
— Surface    - - - - Bottom

Station Id=LE3.6



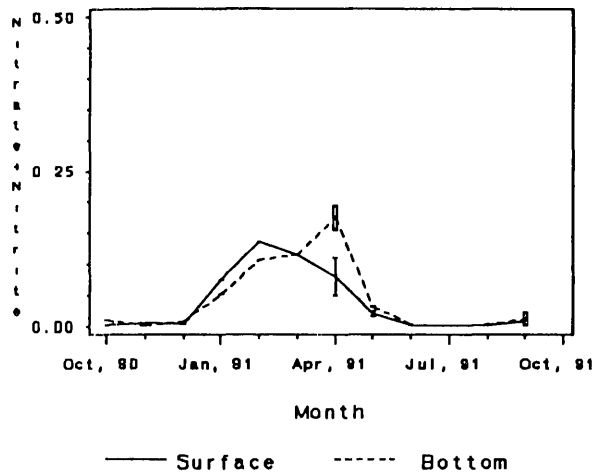
— Surface    - - - - Bottom

Station Id=LE3.7

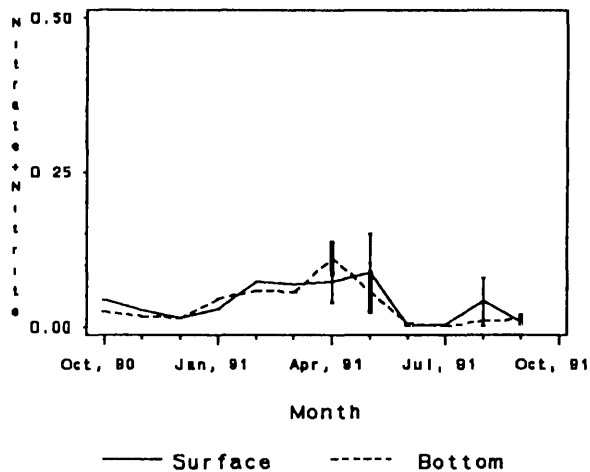


— Surface    - - - - Bottom

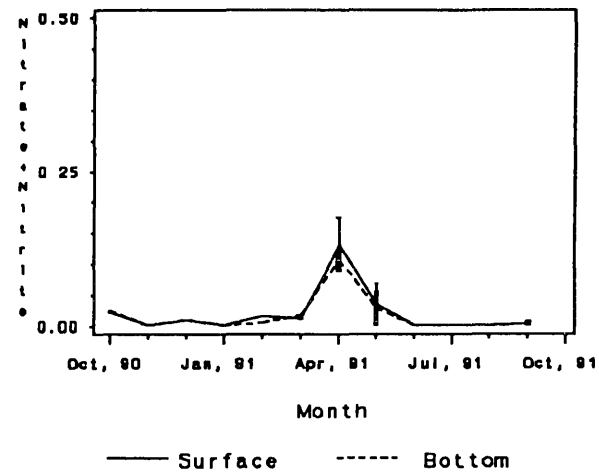
Station Id=WE4.1



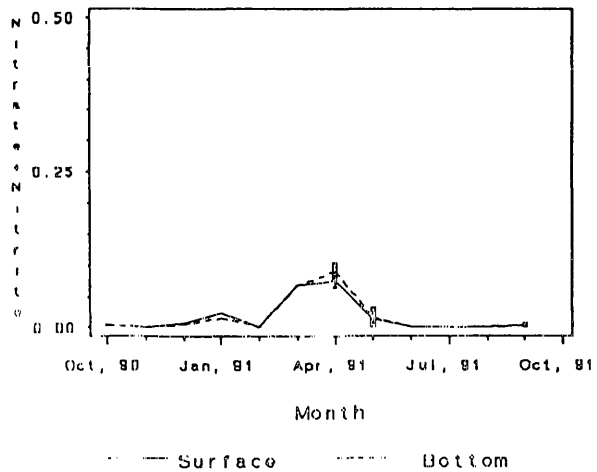
Station Id=WE4.2



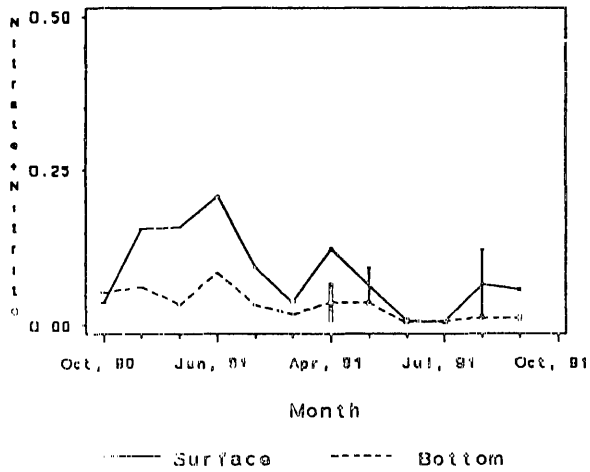
Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5



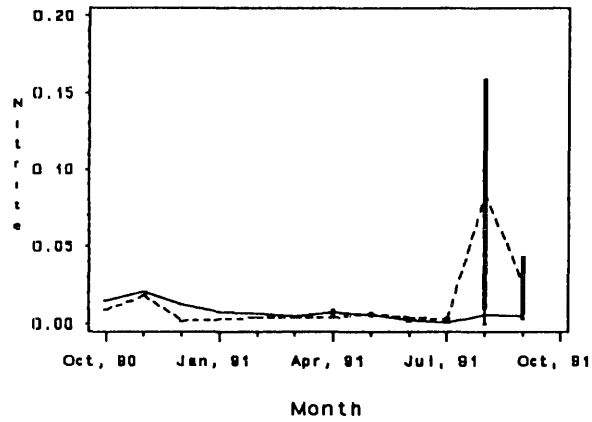
## **NITRITE**

Values reported as mg/l.

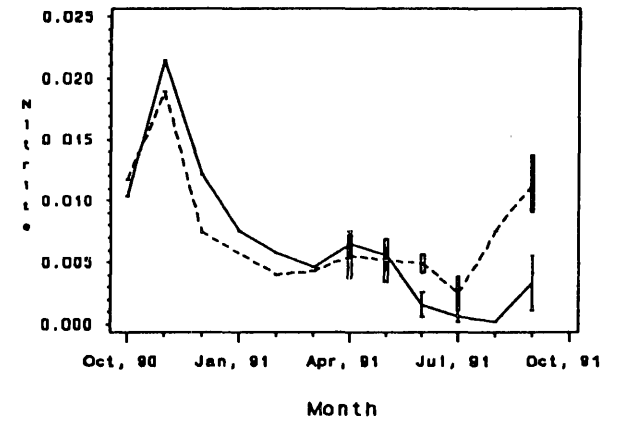
Nitrite  
October, 1990 - September, 1991

|             | Nitrite<br>(mg/l) |        |        |        |        |        |
|-------------|-------------------|--------|--------|--------|--------|--------|
|             | Surface           |        |        | Bottom |        |        |
|             | Max               | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.0205            | 0.0067 | 0.0003 | 0.1591 | 0.0172 | 0.0016 |
| CB5.5.....  | 0.0214            | 0.0052 | 0.0003 | 0.0461 | 0.0093 | 0.0011 |
| CB6.1.....  | 0.0167            | 0.0046 | 0.0003 | 0.0242 | 0.0067 | 0.0005 |
| CB6.2.....  | 0.0136            | 0.0045 | 0.0003 | 0.0139 | 0.0058 | 0.0003 |
| CB6.3.....  | 0.0175            | 0.0056 | 0.0003 | 0.0113 | 0.0052 | 0.0007 |
| CB6.4.....  | 0.0244            | 0.0058 | 0.0005 | 0.0145 | 0.0052 | 0.0005 |
| CB7.3.....  | 0.0087            | 0.0033 | 0.0005 | 0.0060 | 0.0024 | 0.0005 |
| CB7.4.....  | 0.0054            | 0.0023 | 0.0005 | 0.0053 | 0.0013 | 0.0005 |
| CB7.4N..... | 0.0050            | 0.0017 | 0.0005 | 0.0047 | 0.0012 | 0.0005 |
| CB8.1E..... | 0.0098            | 0.0029 | 0.0005 | 0.0069 | 0.0017 | 0.0005 |
| CB8.1.....  | 0.0150            | 0.0037 | 0.0005 | 0.0129 | 0.0030 | 0.0005 |
| EE3.1.....  | 0.0073            | 0.0034 | 0.0003 | 0.0156 | 0.0044 | 0.0003 |
| EE3.2.....  | 0.0215            | 0.0049 | 0.0003 | 0.0170 | 0.0054 | 0.0003 |
| CB7.1N..... | 0.0184            | 0.0051 | 0.0003 | 0.0189 | 0.0063 | 0.0015 |
| CB7.1.....  | 0.0104            | 0.0044 | 0.0003 | 0.0259 | 0.0065 | 0.0009 |
| CB7.1S..... | 0.0117            | 0.0043 | 0.0003 | 0.0161 | 0.0056 | 0.0003 |
| CB5.4W..... | 0.0184            | 0.0043 | 0.0003 | 0.0178 | 0.0050 | 0.0005 |
| CB7.2.....  | 0.0094            | 0.0032 | 0.0003 | 0.0110 | 0.0044 | 0.0009 |
| CB7.2E..... | 0.0078            | 0.0033 | 0.0003 | 0.0115 | 0.0044 | 0.0009 |
| CB7.3E..... | 0.0076            | 0.0032 | 0.0005 | 0.0060 | 0.0026 | 0.0005 |
| LE3.6.....  | 0.0113            | 0.0043 | 0.0003 | 0.0120 | 0.0057 | 0.0010 |
| LE3.7.....  | 0.0065            | 0.0027 | 0.0003 | 0.0075 | 0.0038 | 0.0003 |
| WE4.1.....  | 0.0115            | 0.0026 | 0.0003 | 0.0203 | 0.0037 | 0.0003 |
| WE4.2.....  | 0.0738            | 0.0088 | 0.0003 | 0.0184 | 0.0052 | 0.0003 |
| WE4.3.....  | 0.0099            | 0.0022 | 0.0003 | 0.0091 | 0.0021 | 0.0003 |
| WE4.4.....  | 0.0048            | 0.0017 | 0.0003 | 0.0040 | 0.0016 | 0.0003 |
| LE5.5.....  | 0.0723            | 0.0107 | 0.0005 | 0.0135 | 0.0041 | 0.0011 |

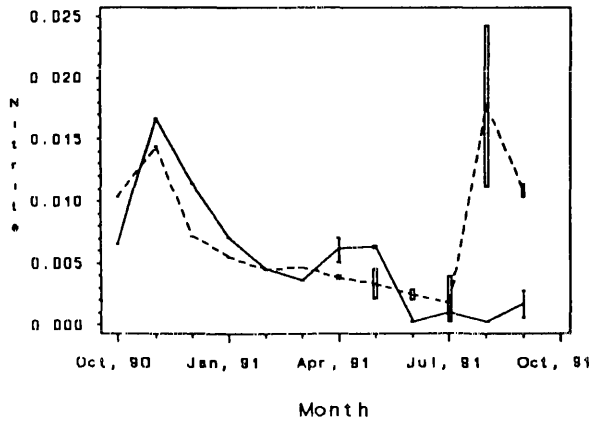
Station Id=CB5.4



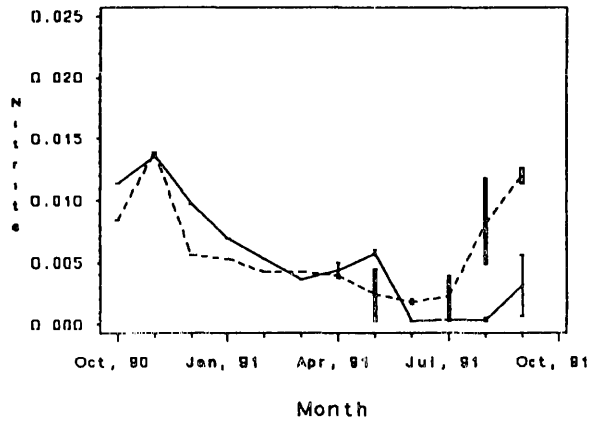
Station Id=CB5.5



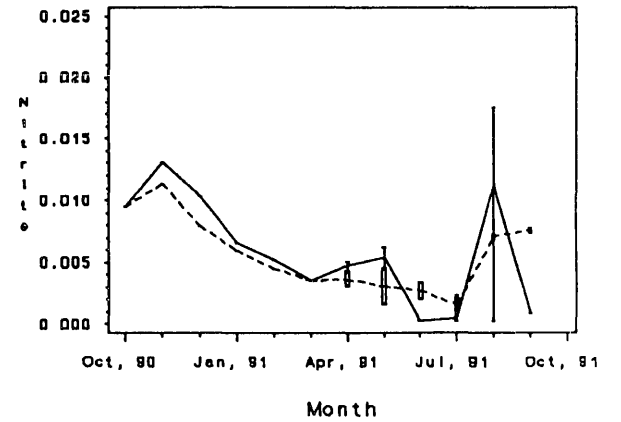
Station Id=CB6.1



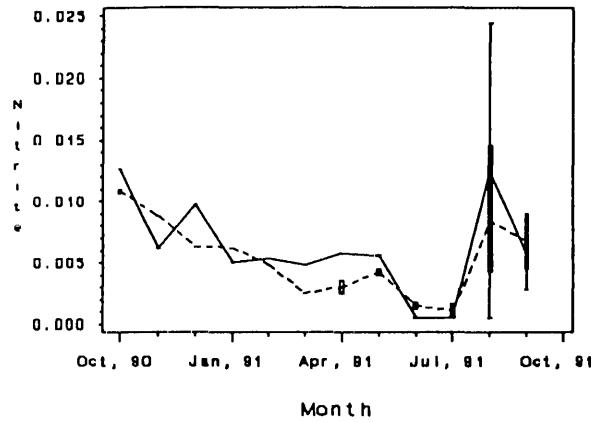
Station Id=CB6.2



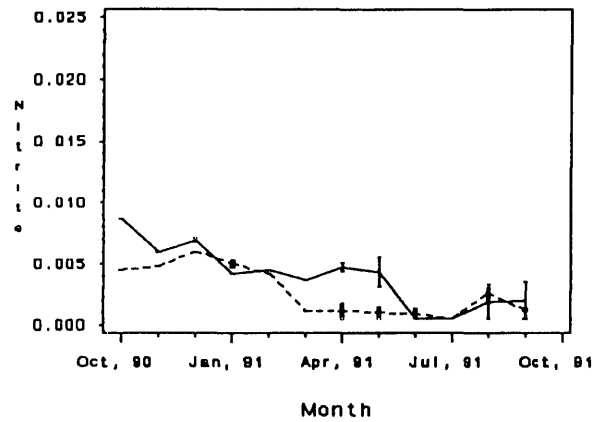
Station Id=CB6.3



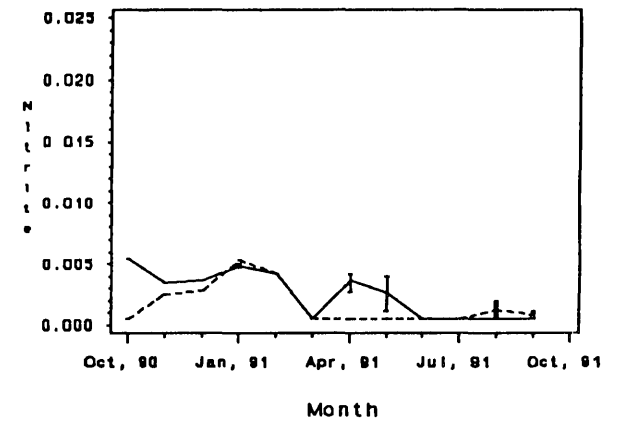
Station Id=CB6.4



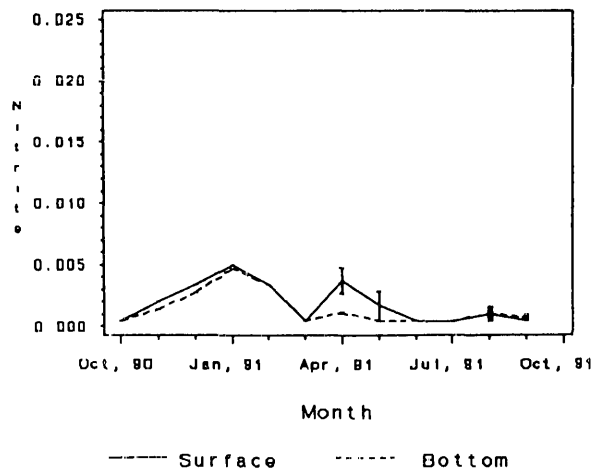
Station Id=CB7.3



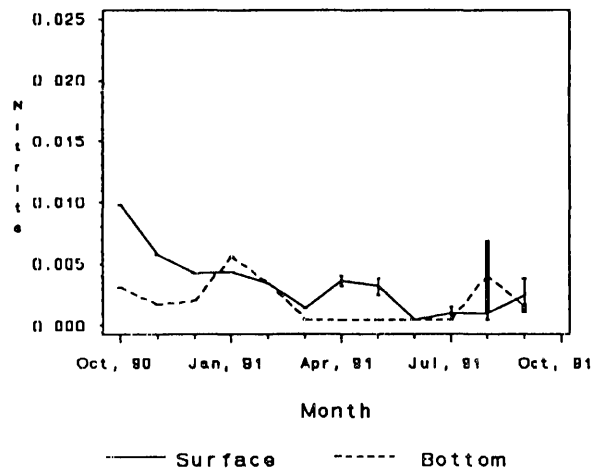
Station Id=CB7.4



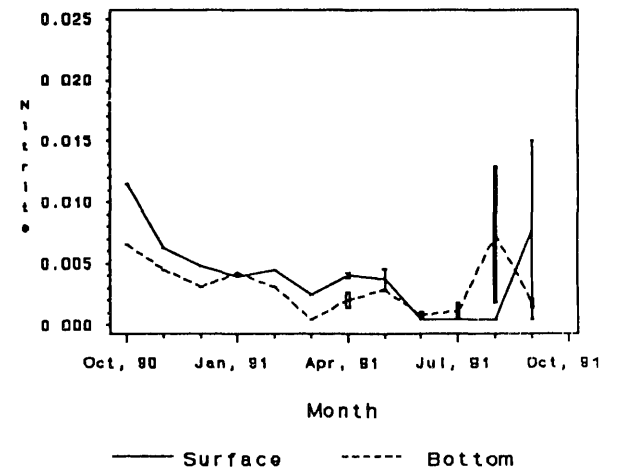
Station Id=CB7.4N



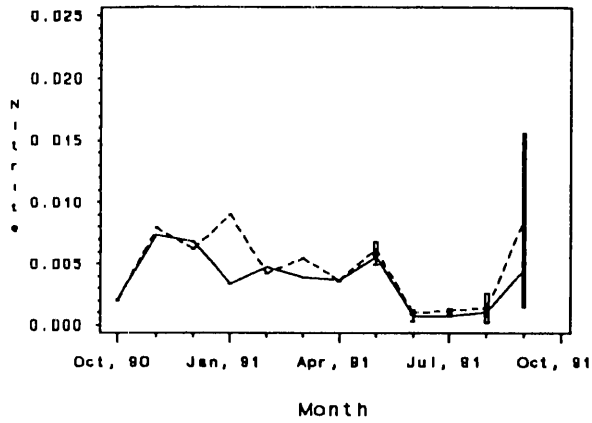
Station Id=CB8.1E



Station Id=CB8.1

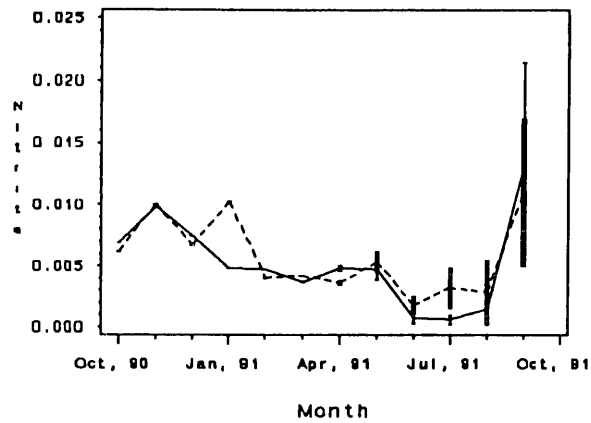


Station Id=EE3.1



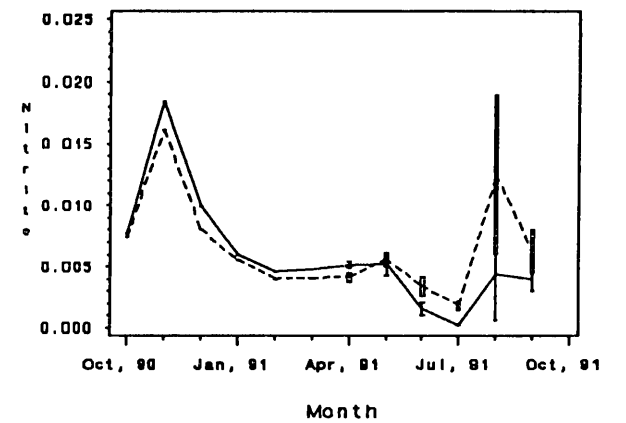
— Surface    - - - - Bottom

Station Id=EE3.2



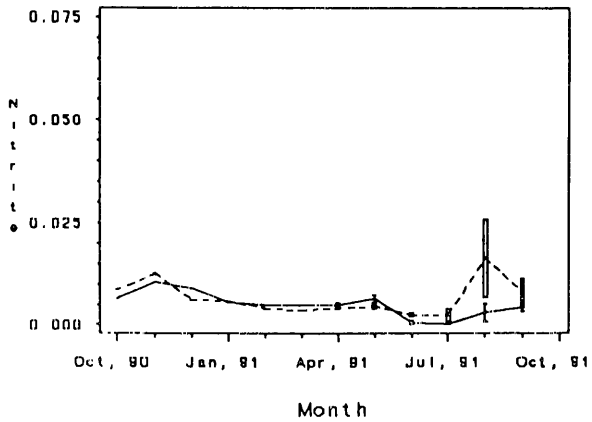
— Surface    - - - - Bottom

Station Id=CB7.1N



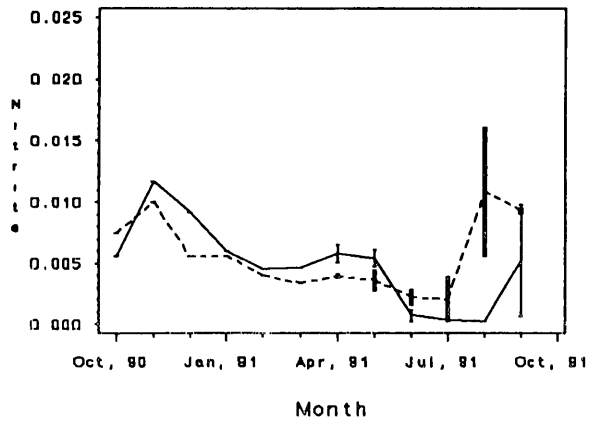
— Surface    - - - - Bottom

Station Id=CB7.1



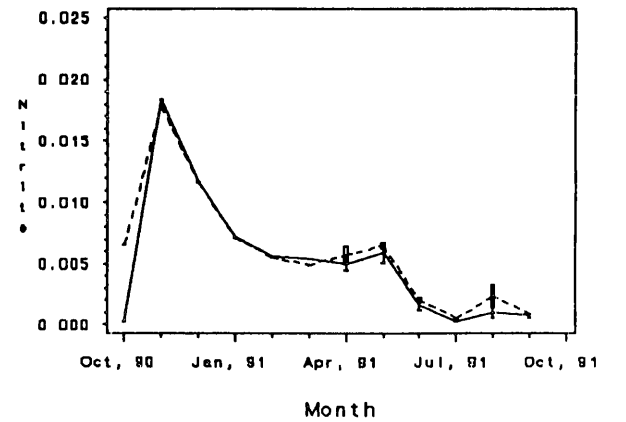
— Surface    - - - - Bottom

Station Id=CB7.1S



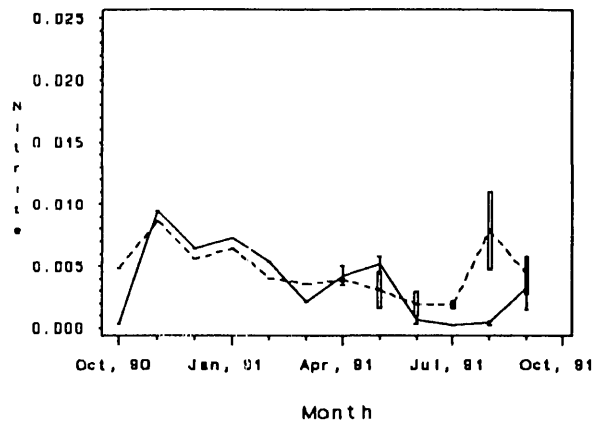
— Surface    - - - - Bottom

Station Id=CB5.4W



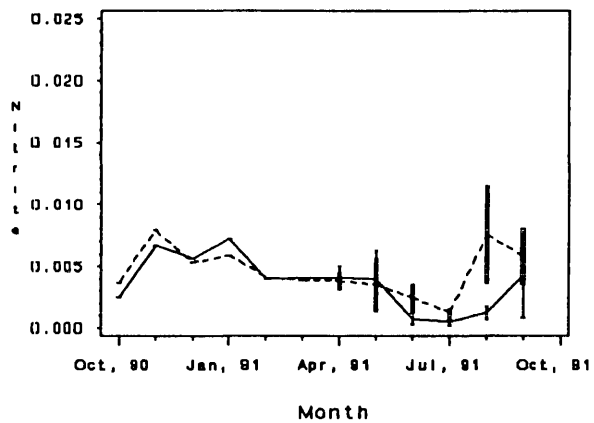
— Surface    - - - - Bottom

Station Id=CB7.2



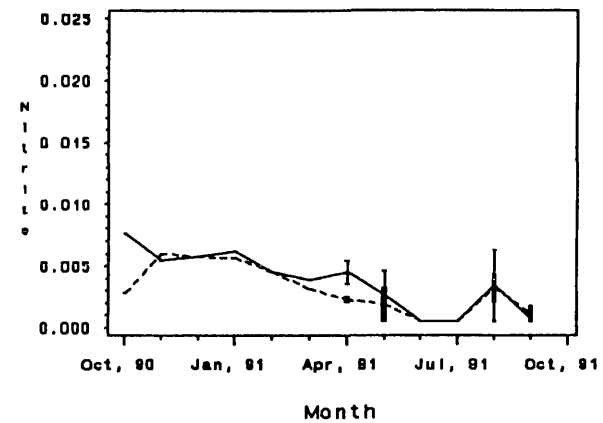
— Surface    - - - - Bottom

Station Id=CB7.2E



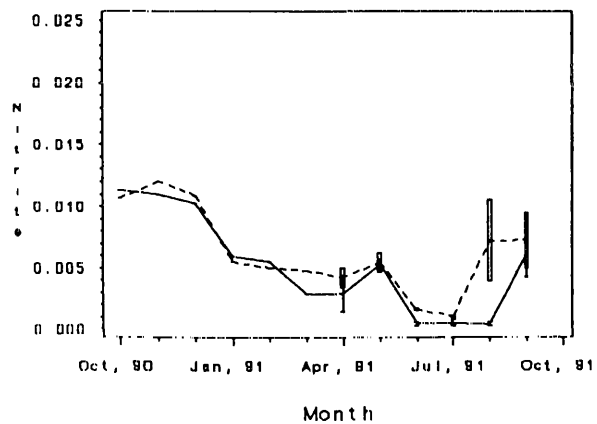
— Surface    - - - - Bottom

Station Id=CB7.3E



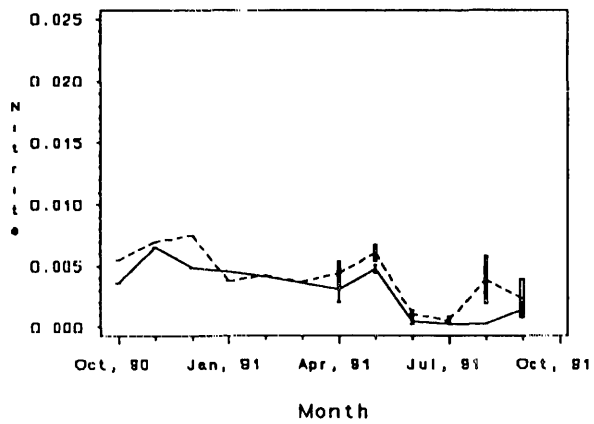
— Surface    - - - - Bottom

Station Id=LE3.6



— Surface    - - - - Bottom

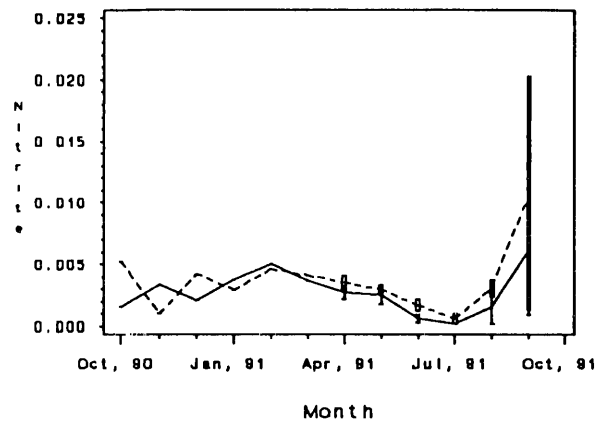
Station Id=LE3.7



— Surface    - - - - Bottom

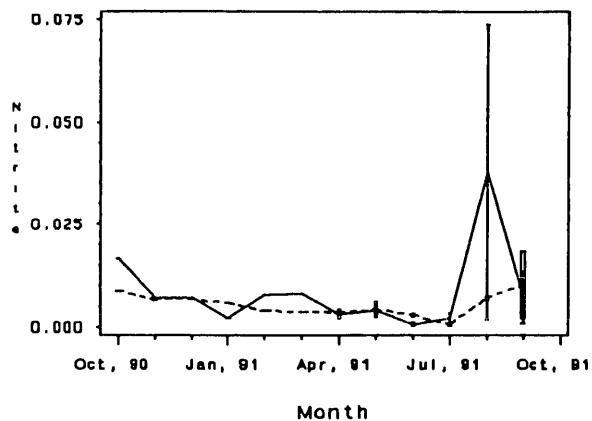


Station Id=WE4.1



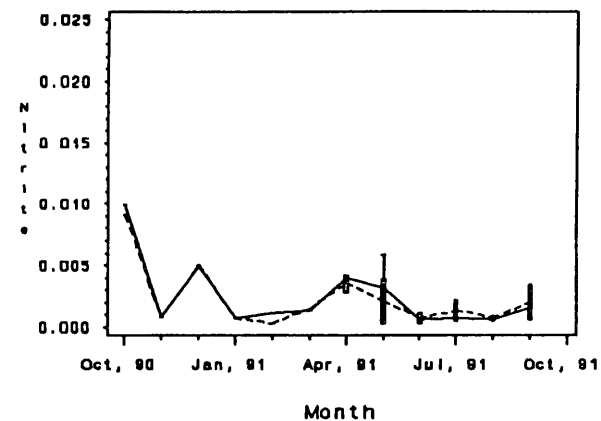
— Surface    - - - - Bottom

Station Id=WE4.2



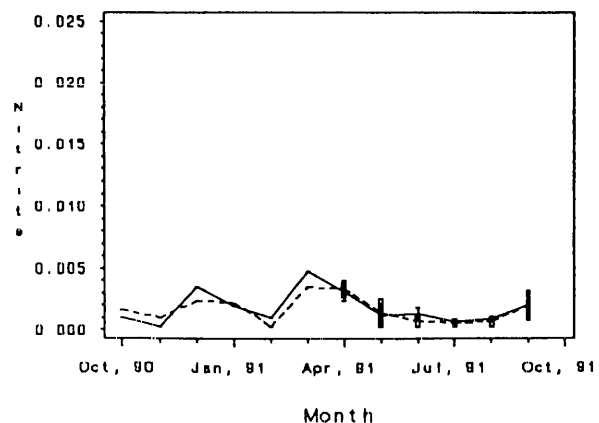
— Surface    - - - - Bottom

Station Id=WE4.3



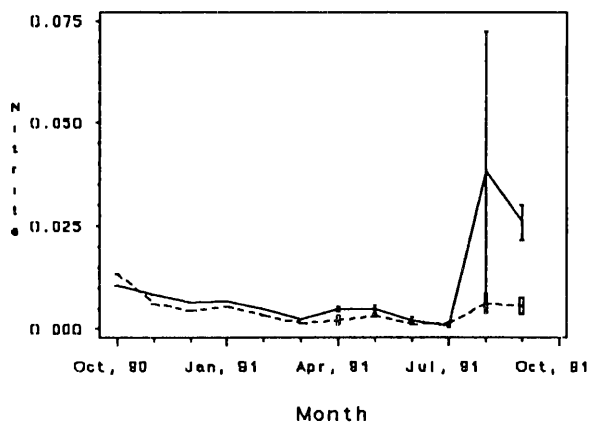
— Surface    - - - - Bottom

Station Id=WE4.4



— Surface    - - - - Bottom

Station Id=LE5.5



— Surface    - - - - Bottom

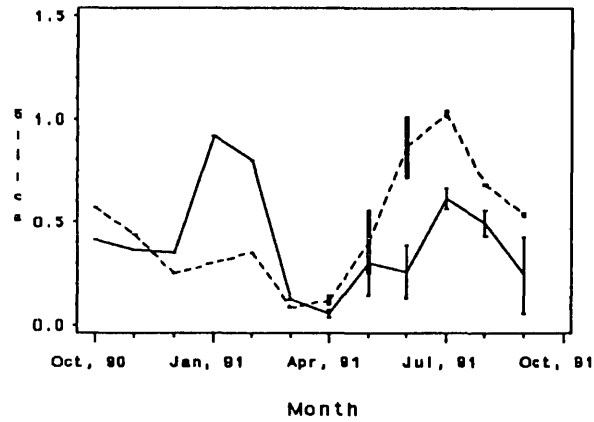
## DISSOLVED SILICA

Values reported as mg/l.

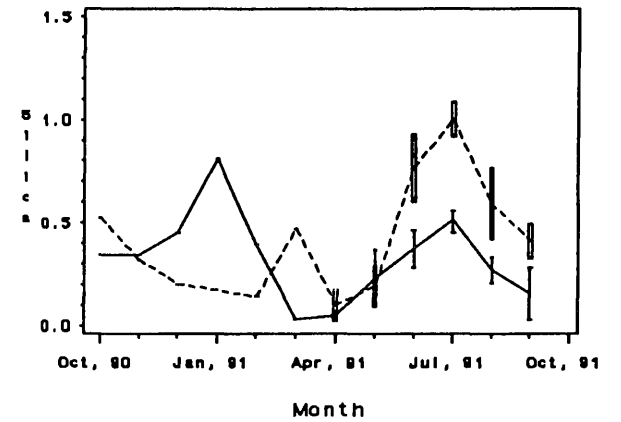
Silica  
October, 1990 - September, 1991

|             | Dissolved Silica<br>(mg/l) |        |        |        |        |        |
|-------------|----------------------------|--------|--------|--------|--------|--------|
|             | Surface                    |        |        | Bottom |        |        |
|             | Max                        | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 0.9140                     | 0.3832 | 0.0350 | 1.0450 | 0.5269 | 0.0850 |
| CB5.5.....  | 0.8120                     | 0.3117 | 0.0310 | 1.0840 | 0.4582 | 0.0260 |
| CB6.1.....  | 0.6070                     | 0.2435 | 0.0240 | 1.1300 | 0.4209 | 0.0470 |
| CB6.2.....  | 0.4670                     | 0.2481 | 0.0350 | 0.9130 | 0.3692 | 0.0960 |
| CB6.3.....  | 0.6780                     | 0.2555 | 0.0270 | 0.7230 | 0.3116 | 0.1110 |
| CB6.4.....  | 0.5560                     | 0.2064 | 0.0140 | 0.6590 | 0.3424 | 0.0320 |
| CB7.3.....  | 0.4060                     | 0.1673 | 0.0360 | 0.3950 | 0.1894 | 0.0140 |
| CB7.4.....  | 0.7290                     | 0.1535 | 0.0115 | 0.2780 | 0.1391 | 0.0320 |
| CB7.4N..... | 0.2070                     | 0.0896 | 0.0140 | 0.2940 | 0.0986 | 0.0115 |
| CB8.1E..... | 0.6160                     | 0.2187 | 0.0400 | 0.5110 | 0.1783 | 0.0580 |
| CB8.1.....  | 1.1730                     | 0.3219 | 0.0460 | 0.6390 | 0.2496 | 0.0720 |
| EE3.1.....  | 1.0630                     | 0.4865 | 0.0210 | 1.0980 | 0.4849 | 0.0250 |
| EE3.2.....  | 0.9980                     | 0.3109 | 0.0230 | 1.1570 | 0.3410 | 0.0240 |
| CB7.1N..... | 0.7310                     | 0.2470 | 0.0210 | 0.9100 | 0.3522 | 0.0490 |
| CB7.1.....  | 0.6930                     | 0.2099 | 0.0210 | 0.9130 | 0.3504 | 0.0700 |
| CB7.1S..... | 0.4350                     | 0.2097 | 0.0150 | 0.6270 | 0.3153 | 0.0850 |
| CB5.4W..... | 0.8100                     | 0.4314 | 0.0330 | 1.2530 | 0.4177 | 0.0290 |
| CB7.2.....  | 0.4870                     | 0.1946 | 0.0340 | 0.4630 | 0.2844 | 0.0960 |
| CB7.2E..... | 0.5360                     | 0.1846 | 0.0290 | 0.4360 | 0.2321 | 0.0690 |
| CB7.3E..... | 0.3090                     | 0.1383 | 0.0140 | 0.3150 | 0.1793 | 0.0140 |
| LE3.6.....  | 0.6390                     | 0.3918 | 0.0480 | 0.8390 | 0.3698 | 0.0610 |
| LE3.7.....  | 0.7590                     | 0.3719 | 0.0230 | 0.9520 | 0.3602 | 0.0290 |
| WE4.1.....  | 0.9400                     | 0.3157 | 0.0380 | 1.0770 | 0.2871 | 0.0330 |
| WE4.2.....  | 0.7920                     | 0.3192 | 0.0500 | 0.9190 | 0.3868 | 0.1240 |
| WE4.3.....  | 0.7360                     | 0.2630 | 0.0530 | 0.8470 | 0.2730 | 0.0690 |
| WE4.4.....  | 0.5560                     | 0.2192 | 0.0180 | 0.6150 | 0.2256 | 0.0260 |
| LE5.5.....  | 1.5230                     | 0.5513 | 0.1770 | 0.5330 | 0.3226 | 0.0960 |

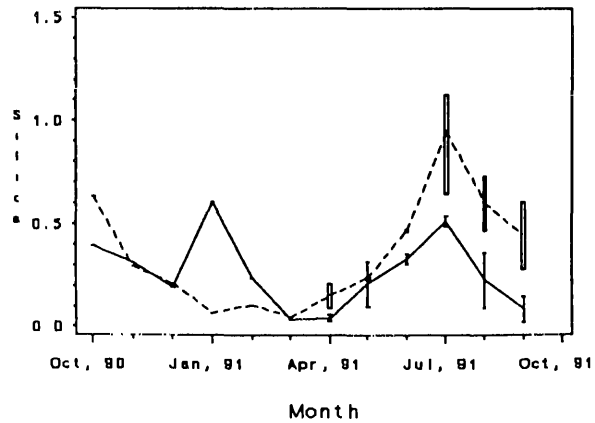
Station Id=CB5.4



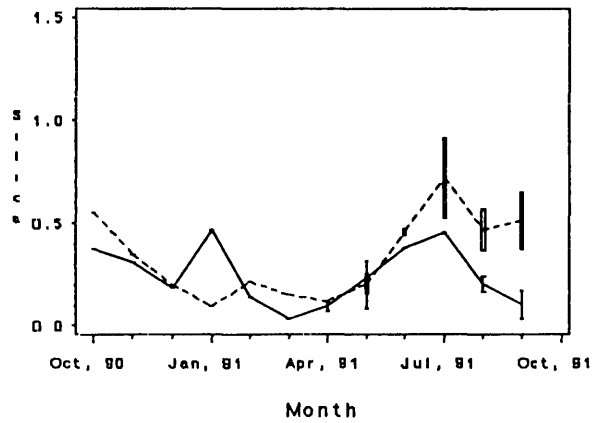
Station Id=CB5.5



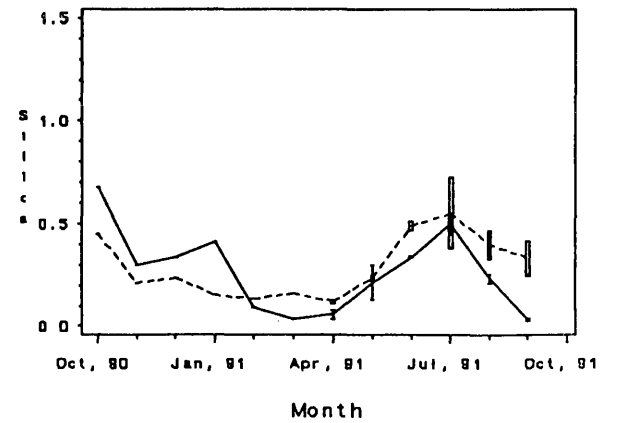
Station Id=CB6.1



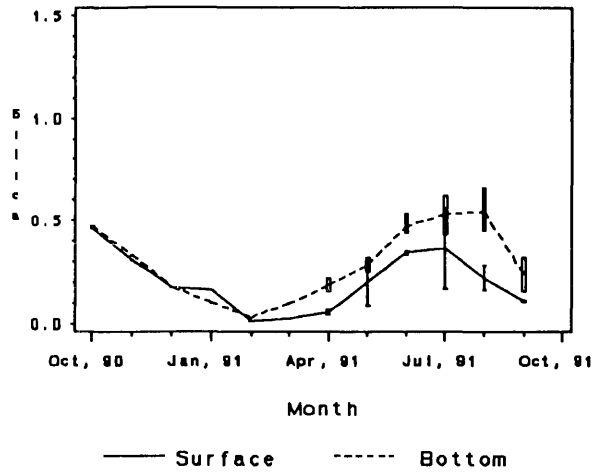
Station Id=CB6.2



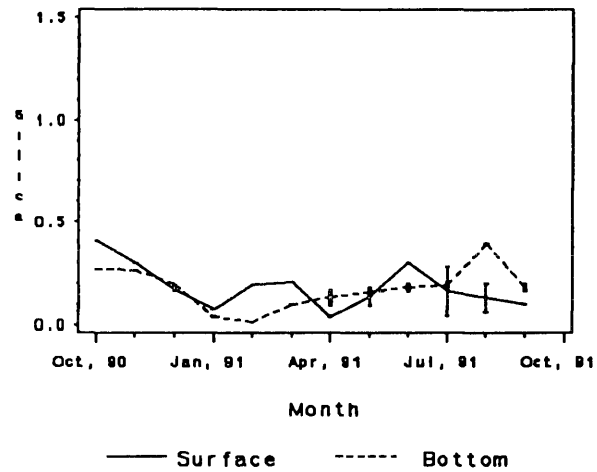
Station Id=CB6.3



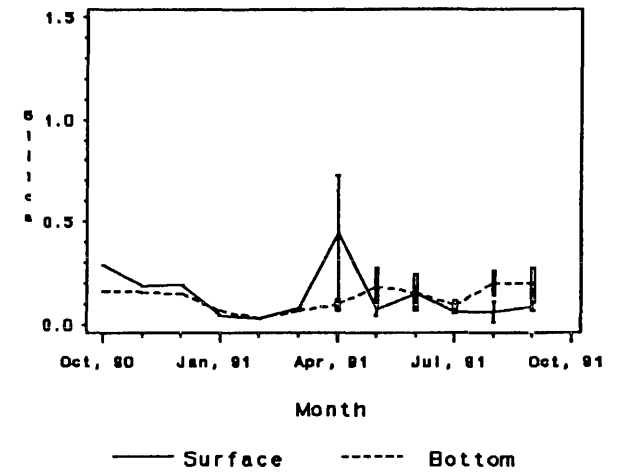
Station Id=CB6.4



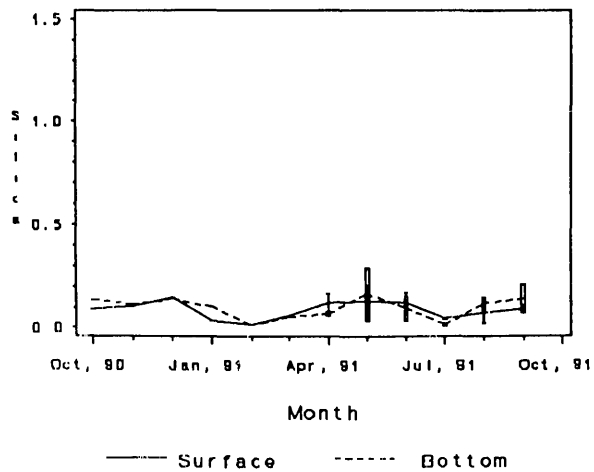
Station Id=CB7.3



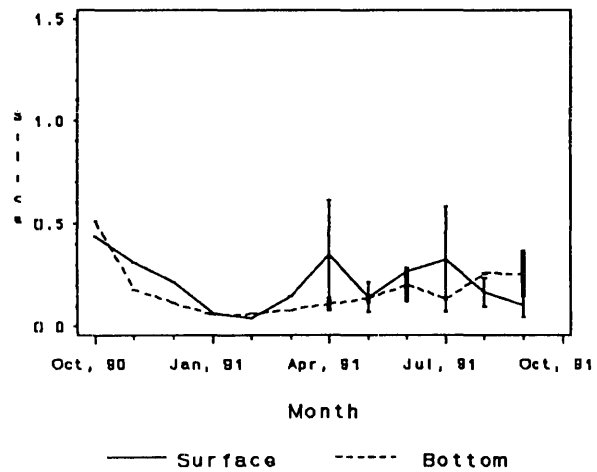
Station Id=CB7.4



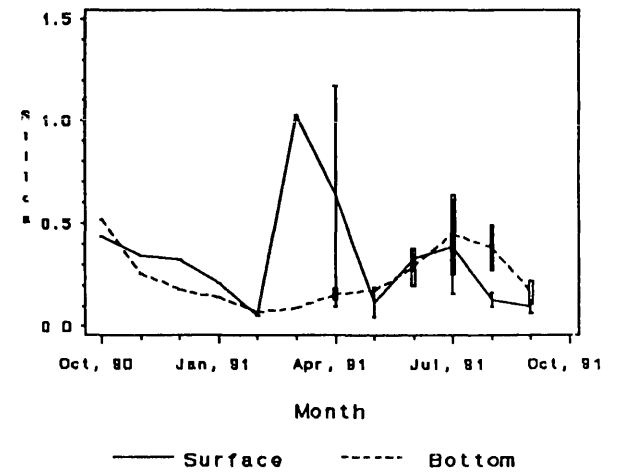
Station Id=CB7.4N



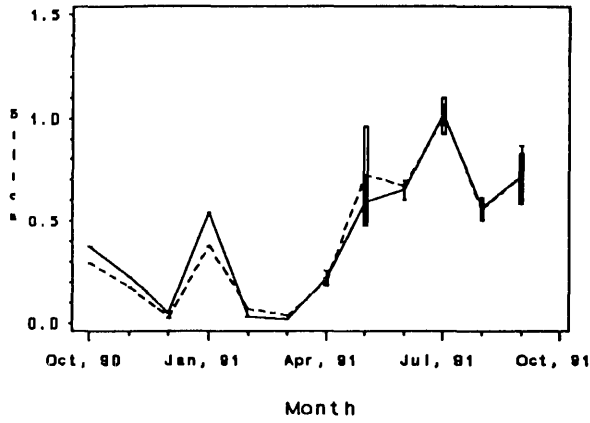
Station Id=CB8.1E



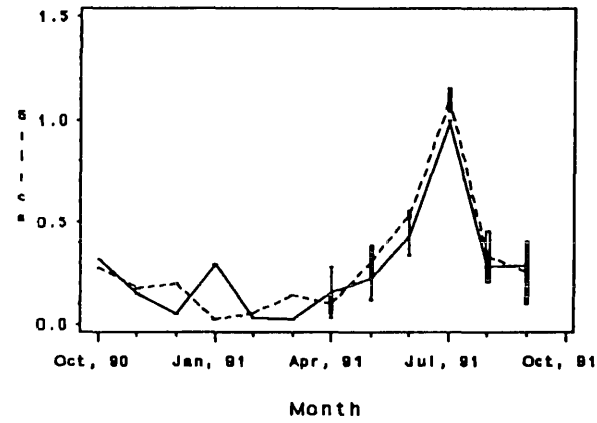
Station Id=CB8.1



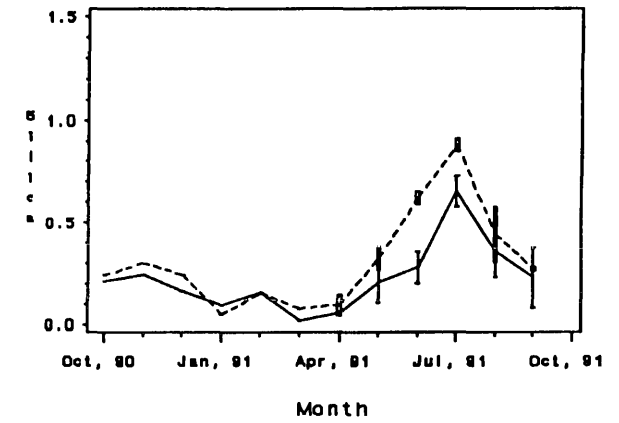
Station Id=EE3.1



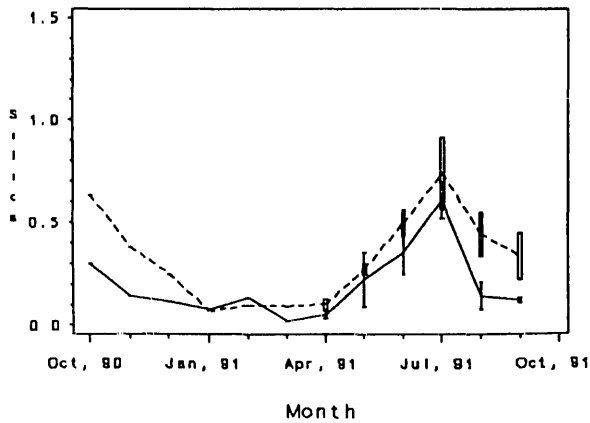
Station Id=EE3.2



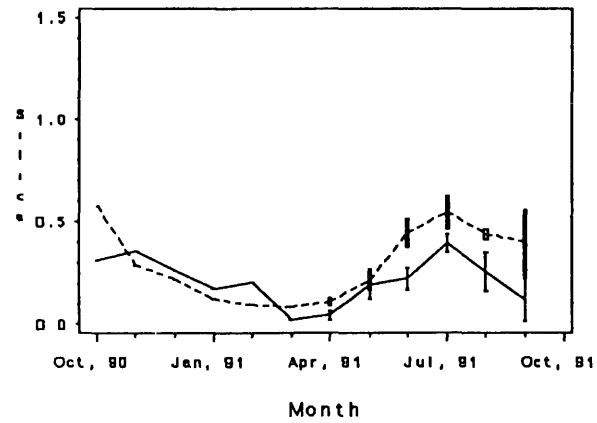
Station Id=CB7.1N



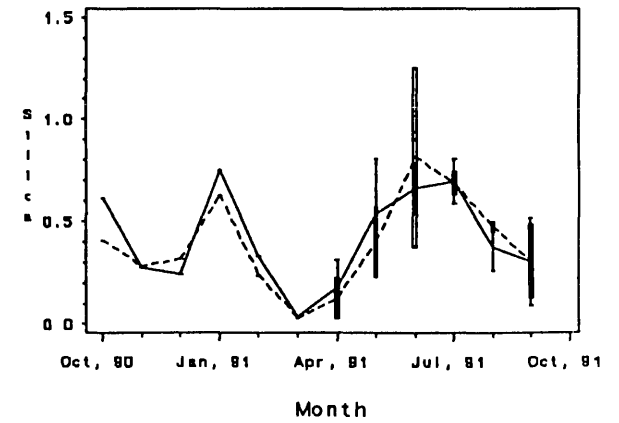
Station Id=CB7.1



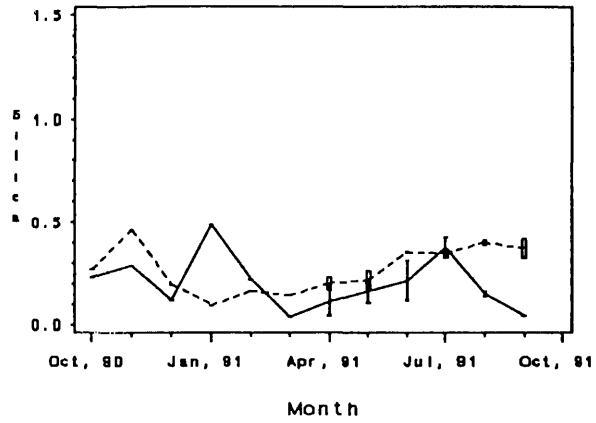
Station Id=CB7.1S



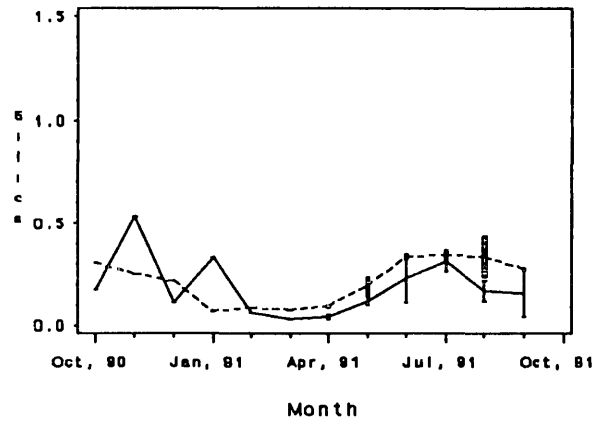
Station Id=CB5.4W



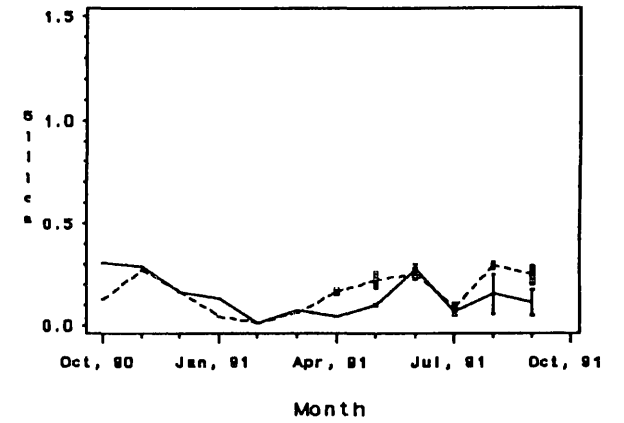
Station Id=CB7.2



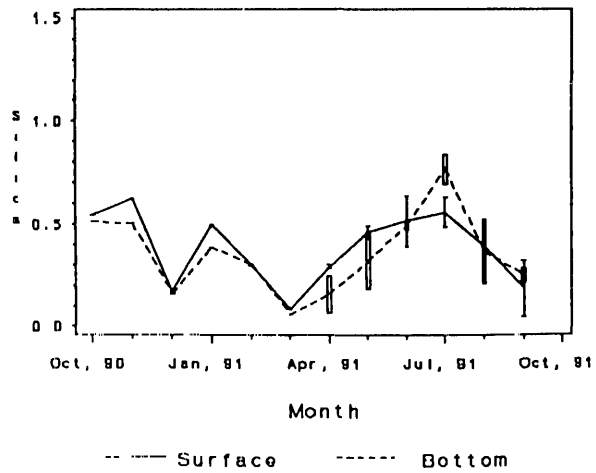
Station Id=CB7.2E



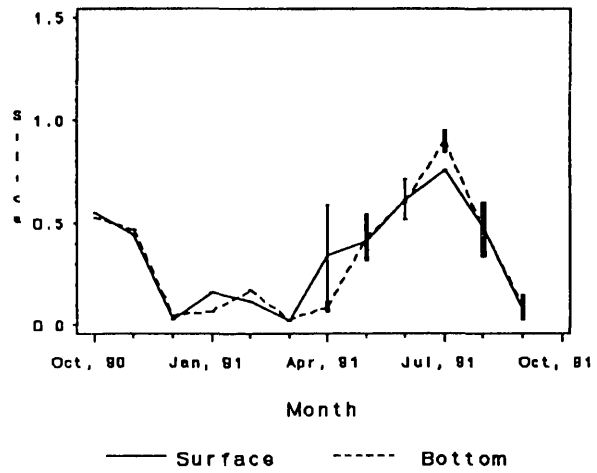
Station Id=CB7.3E



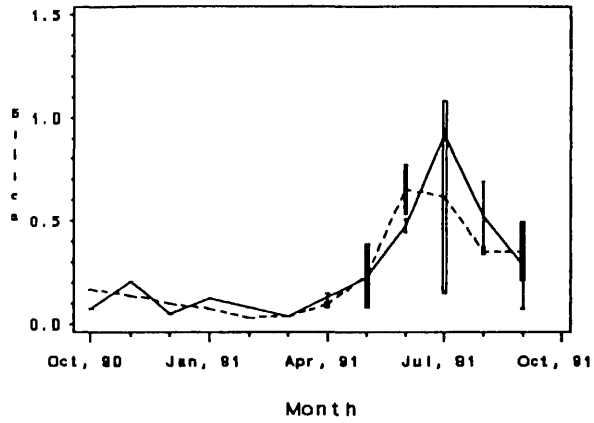
Station Id=LE3.6



Station Id=LE3.7

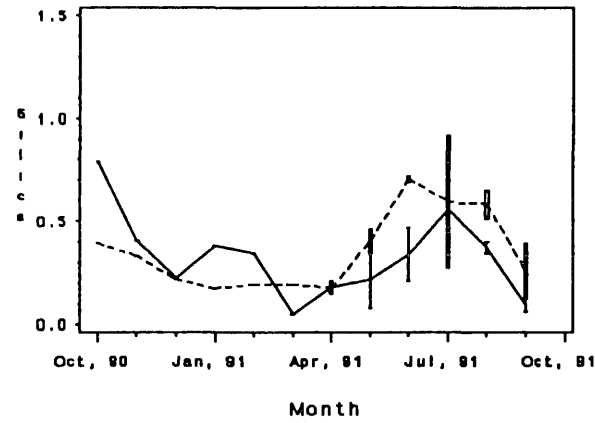


Station Id=WE4.1



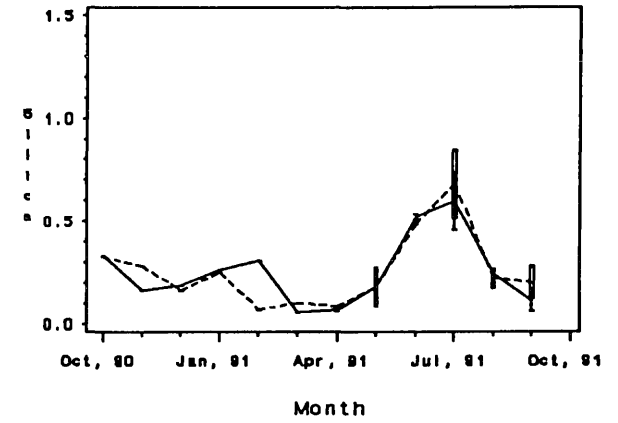
— Surface    - - - - Bottom

Station Id=WE4.2



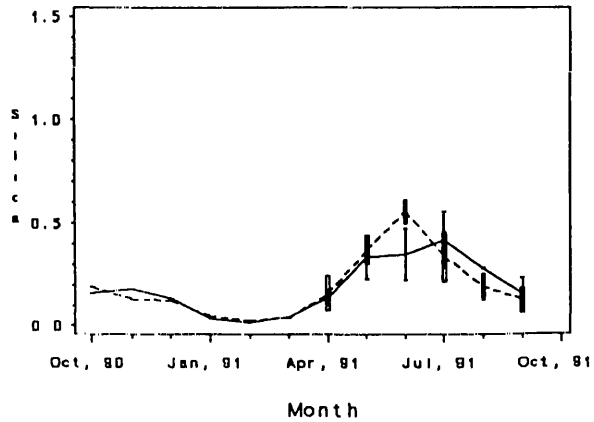
— Surface    - - - - Bottom

Station Id=WE4.3



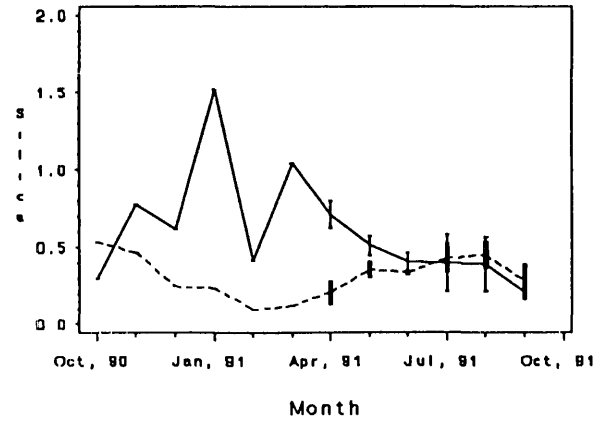
— Surface    - - - - Bottom

Station Id=WE4.4



— Surface    - - - - Bottom

Station Id=LE5.5



— Surface    - - - - Bottom

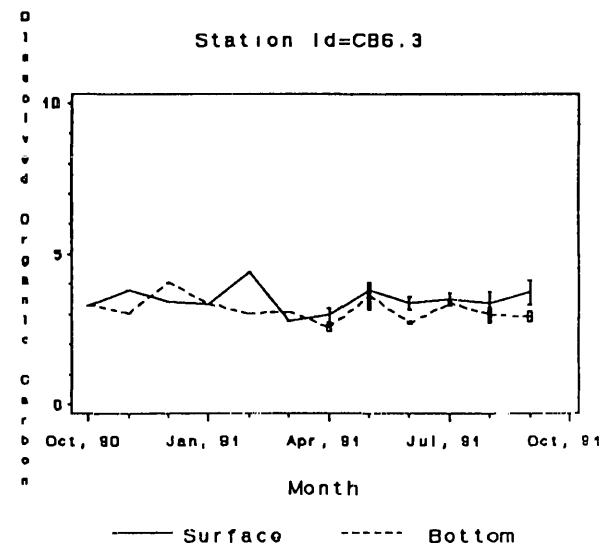
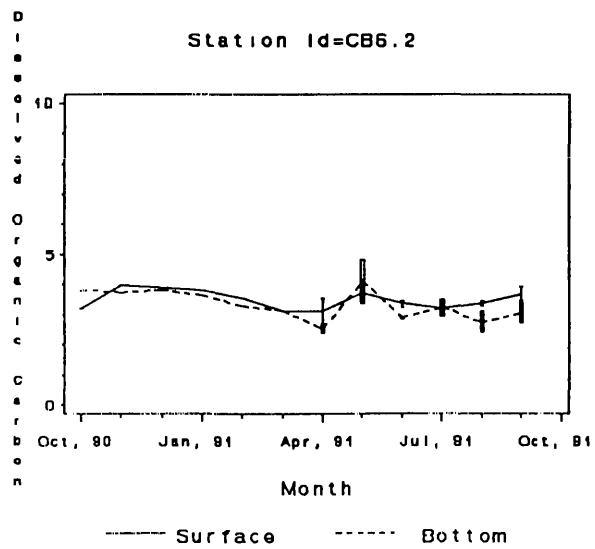
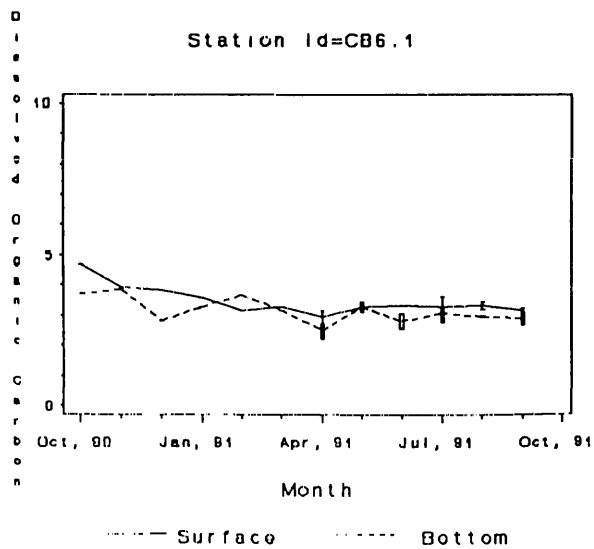
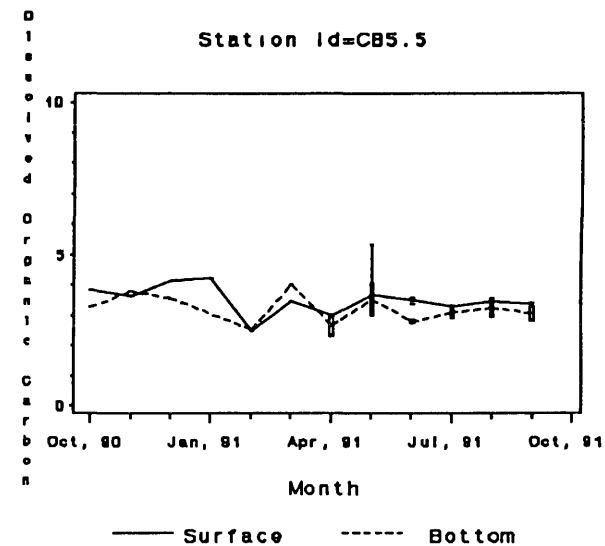
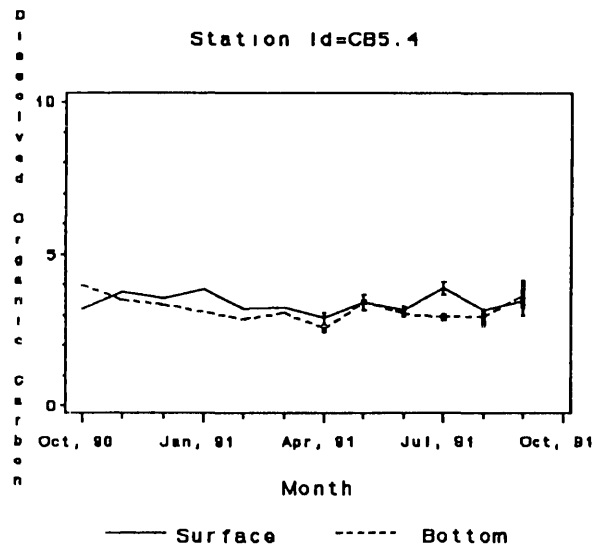


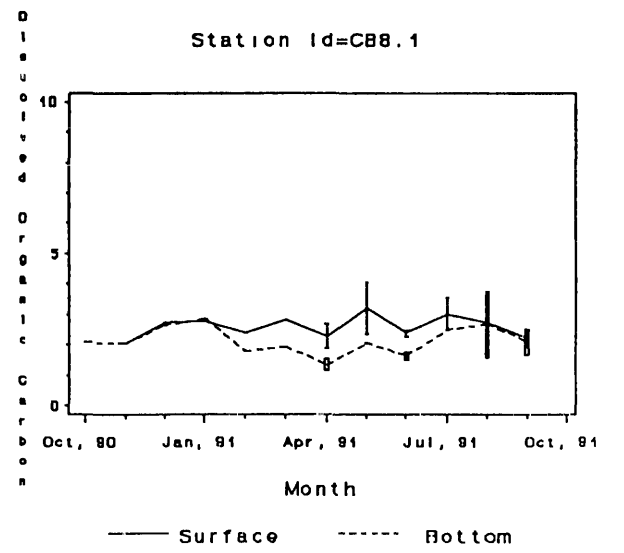
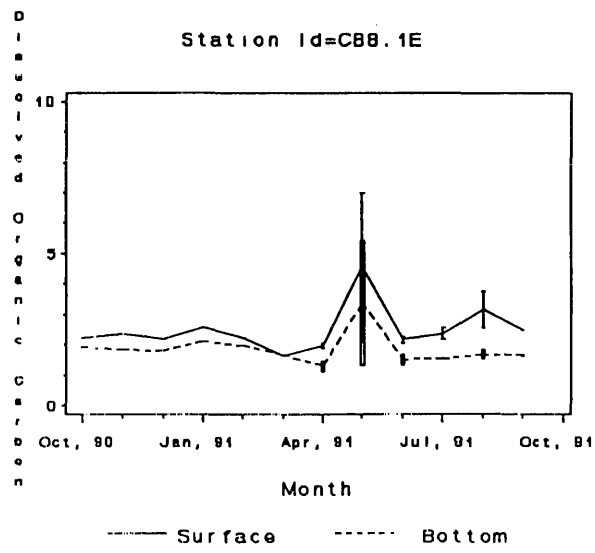
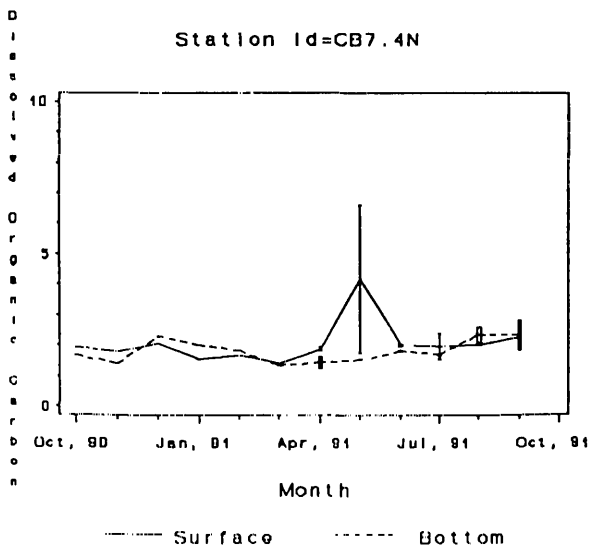
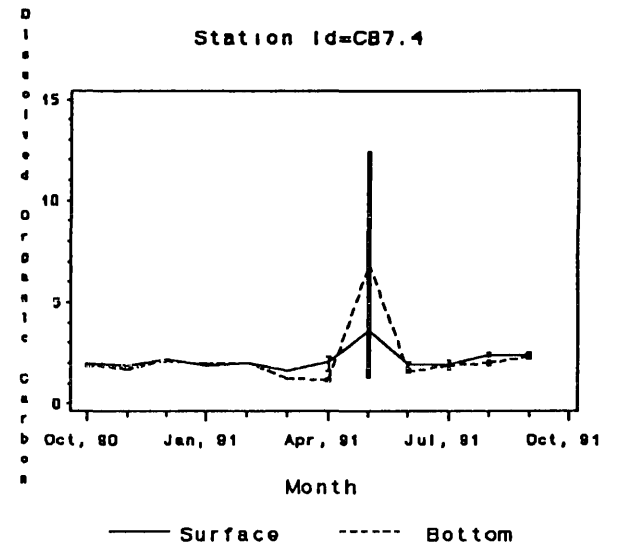
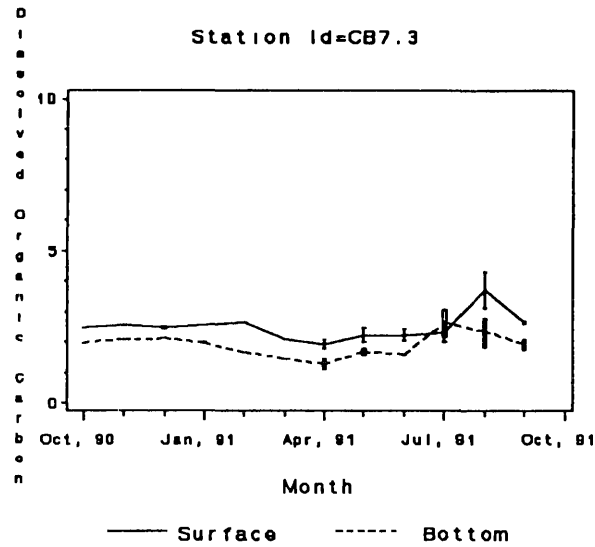
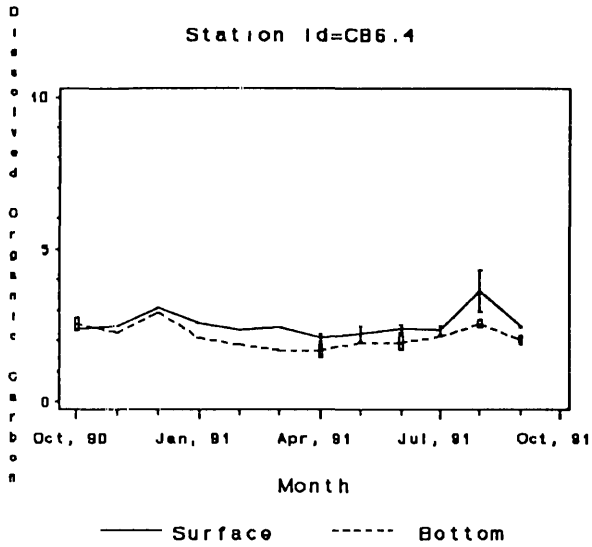
DISSOLVED ORGANIC CARBON

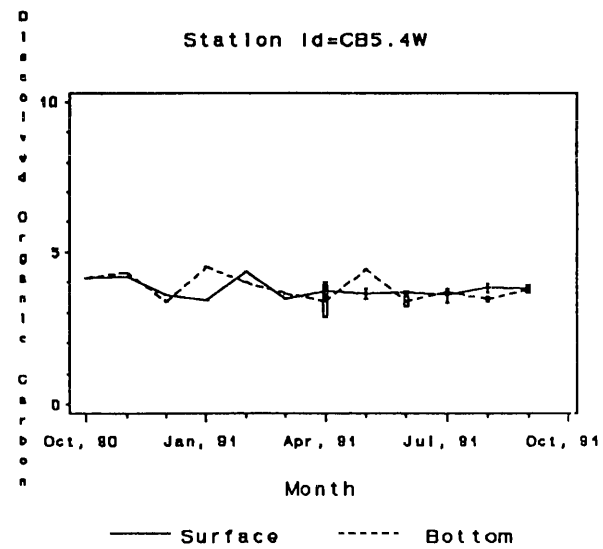
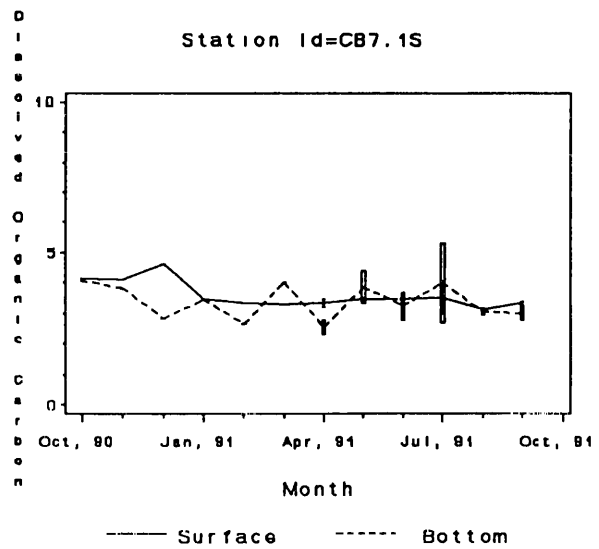
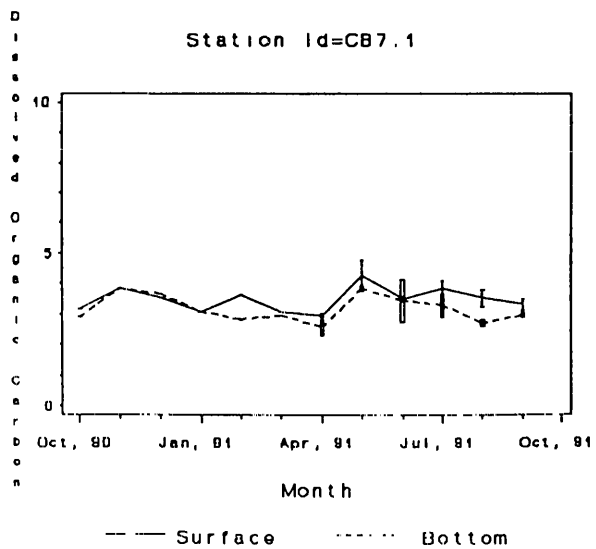
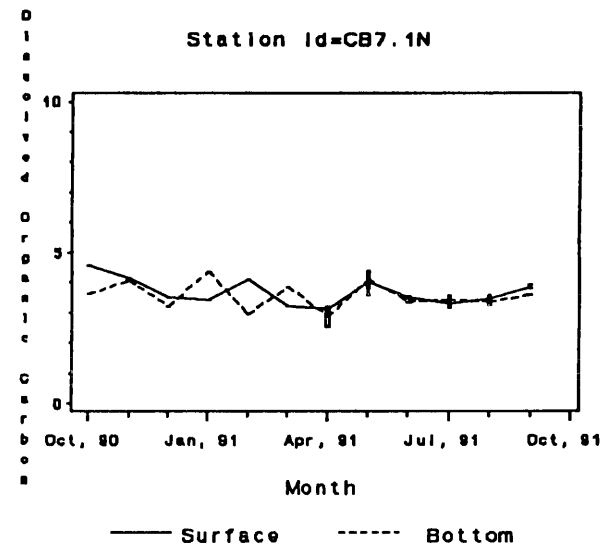
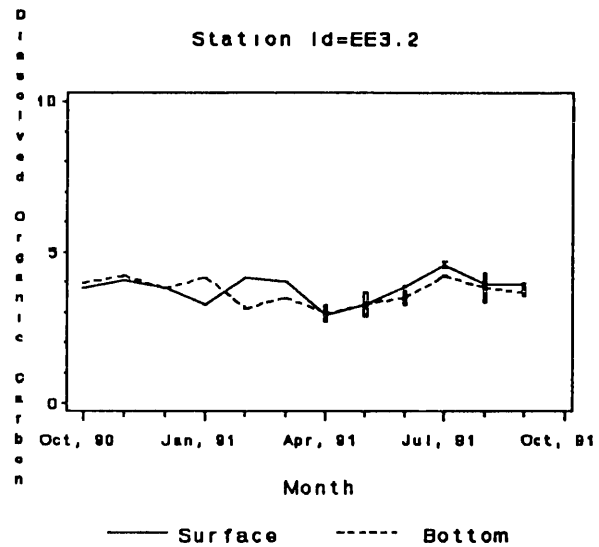
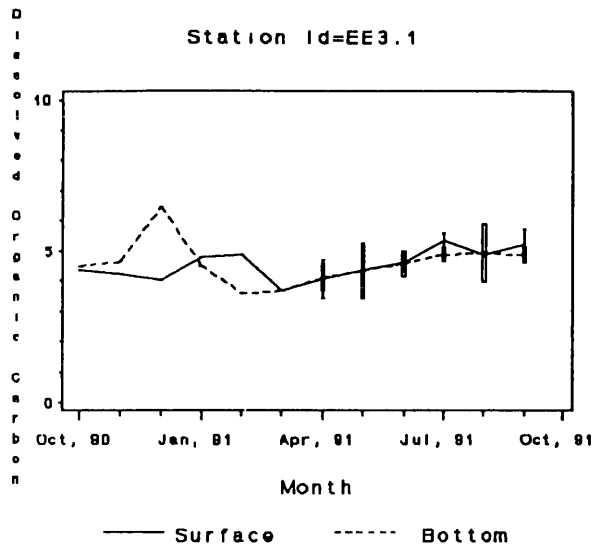
Values reported as mg/l.

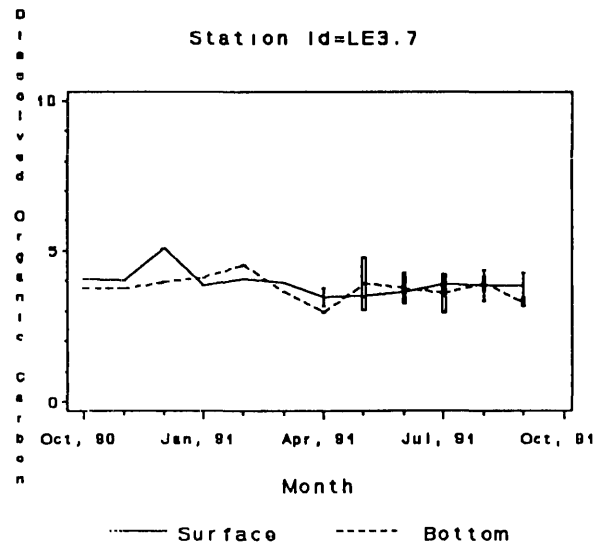
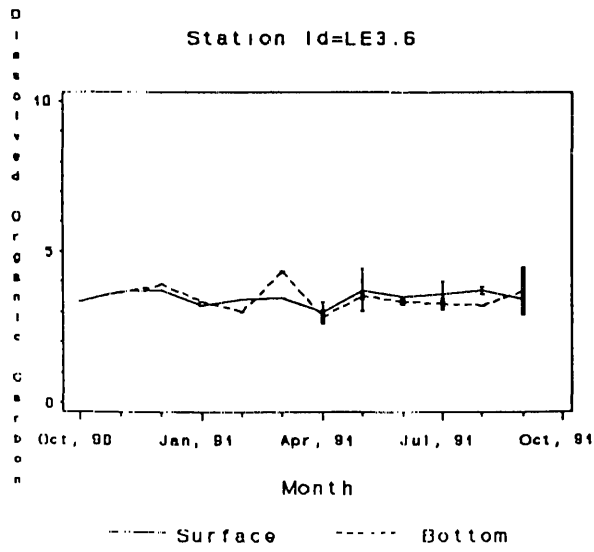
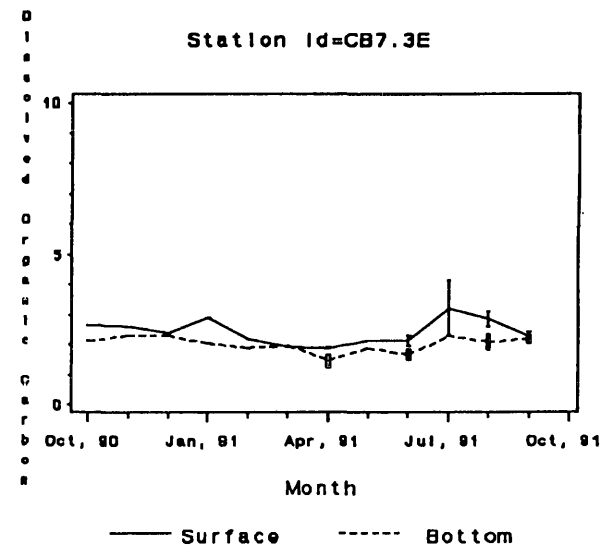
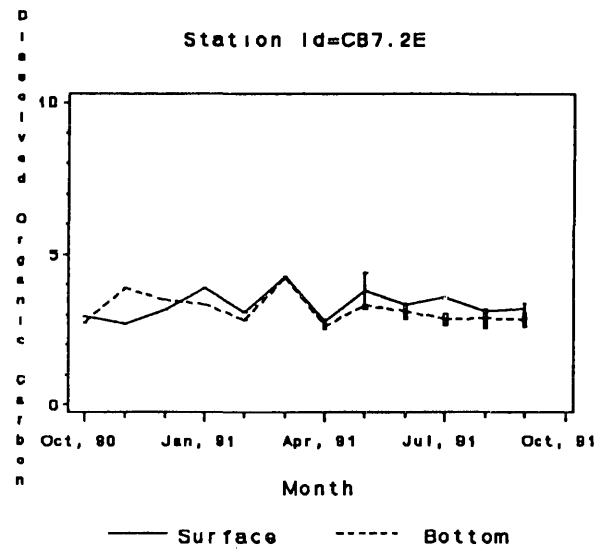
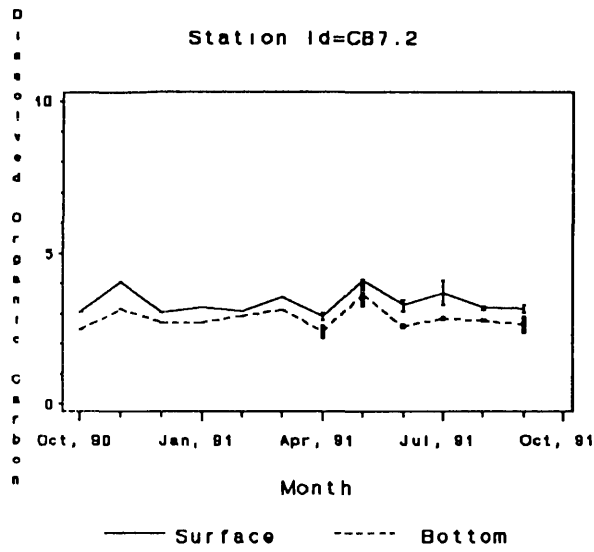
Dissolved Organic Carbon  
October, 1990 - September, 1991

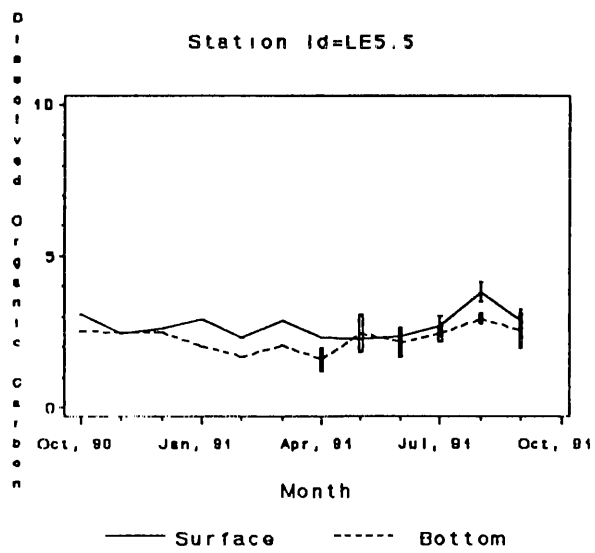
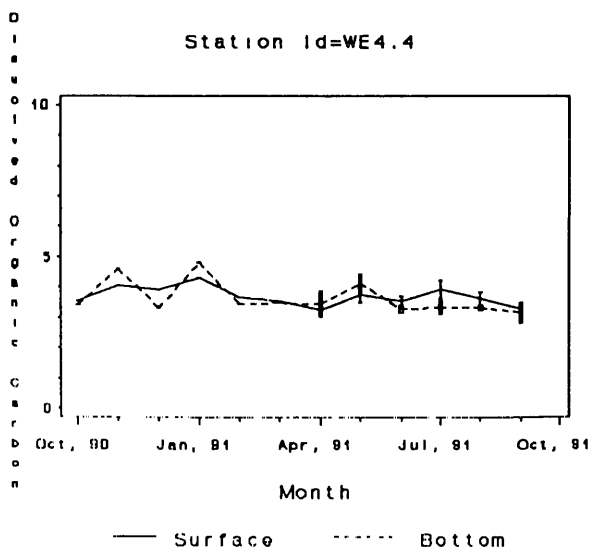
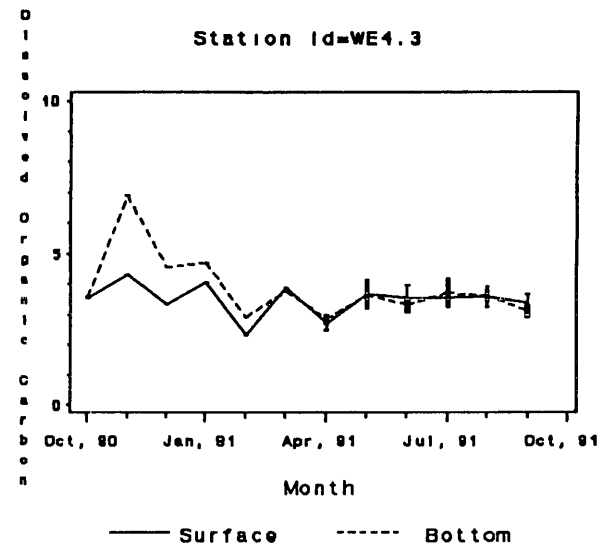
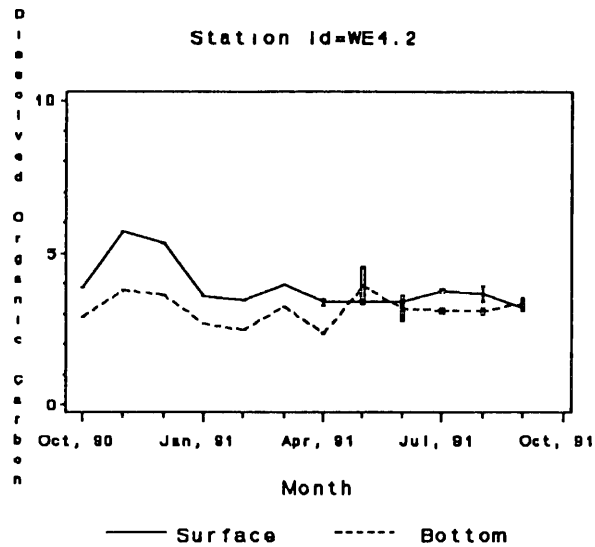
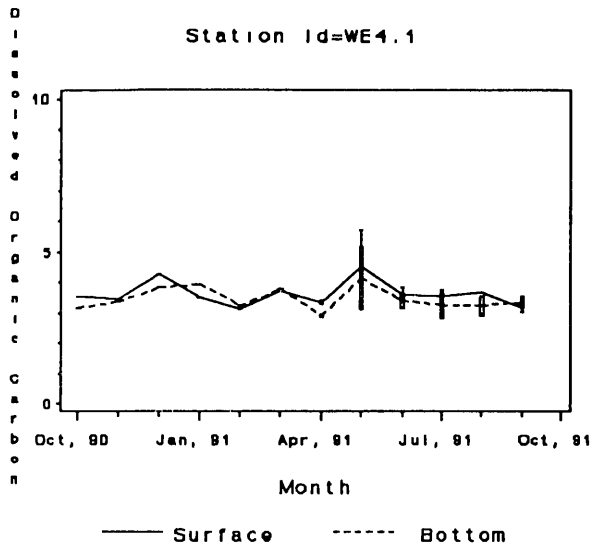
|             | Dissolved Organic Carbon<br>(mg/l) |       |       |        |       |       |
|-------------|------------------------------------|-------|-------|--------|-------|-------|
|             | Surface                            |       |       | Bottom |       |       |
|             | Max                                | Mean  | Min   | Max    | Mean  | Min   |
| CB5.4.....  | 4.080                              | 3.380 | 2.710 | 4.140  | 3.168 | 2.460 |
| CB5.5.....  | 5.340                              | 3.476 | 2.500 | 4.050  | 3.169 | 2.330 |
| CB6.1.....  | 4.680                              | 3.383 | 2.590 | 3.850  | 3.092 | 2.250 |
| CB6.2.....  | 4.150                              | 3.486 | 2.700 | 4.830  | 3.228 | 2.390 |
| CB6.3.....  | 4.420                              | 3.479 | 2.740 | 4.080  | 3.132 | 2.460 |
| CB6.4.....  | 4.300                              | 2.534 | 1.960 | 2.920  | 2.149 | 1.480 |
| CB7.3.....  | 4.330                              | 2.478 | 1.810 | 3.070  | 1.948 | 1.100 |
| CB7.4.....  | 5.120                              | 2.188 | 1.580 | 12.440 | 2.384 | 1.070 |
| CB7.4N..... | 6.630                              | 2.188 | 1.410 | 2.840  | 1.859 | 1.240 |
| CB8.1E..... | 7.010                              | 2.594 | 1.640 | 5.420  | 1.881 | 1.140 |
| CB8.1.....  | 4.080                              | 2.624 | 1.870 | 3.780  | 2.092 | 1.150 |
| EE3.1.....  | 5.720                              | 4.597 | 3.410 | 6.440  | 4.588 | 3.480 |
| EE3.2.....  | 4.690                              | 3.779 | 2.910 | 4.280  | 3.638 | 2.690 |
| CB7.1N..... | 4.580                              | 3.635 | 3.050 | 4.400  | 3.519 | 2.510 |
| CB7.1.....  | 4.795                              | 3.515 | 2.900 | 4.150  | 3.169 | 2.320 |
| CB7.1S..... | 4.610                              | 3.523 | 2.990 | 5.280  | 3.345 | 2.300 |
| CB5.4W..... | 4.350                              | 3.757 | 3.350 | 4.510  | 3.792 | 2.860 |
| CB7.2.....  | 4.120                              | 3.366 | 2.770 | 4.000  | 2.819 | 2.190 |
| CB7.2E..... | 4.410                              | 3.308 | 2.650 | 4.230  | 3.098 | 2.510 |
| CB7.3E..... | 4.150                              | 2.439 | 1.860 | 2.350  | 1.976 | 1.250 |
| LE3.6.....  | 4.440                              | 3.487 | 2.620 | 4.470  | 3.414 | 2.620 |
| LE3.7.....  | 5.100                              | 3.857 | 3.160 | 4.770  | 3.702 | 2.945 |
| WE4.1.....  | 5.720                              | 3.626 | 3.020 | 5.170  | 3.435 | 2.810 |
| WE4.2.....  | 5.730                              | 3.759 | 3.150 | 4.550  | 3.158 | 2.350 |
| WE4.3.....  | 4.330                              | 3.458 | 2.310 | 6.900  | 3.716 | 2.700 |
| WE4.4.....  | 4.320                              | 3.659 | 3.050 | 4.810  | 3.585 | 2.830 |
| LE5.5.....  | 4.130                              | 2.719 | 2.220 | 3.130  | 2.307 | 1.210 |











PARTICULATE CARBON

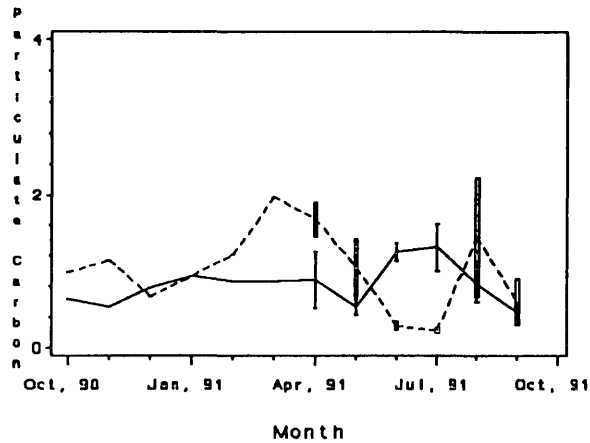
Values reported as mg/l.



Particulate Carbon  
October, 1990 - September, 1991

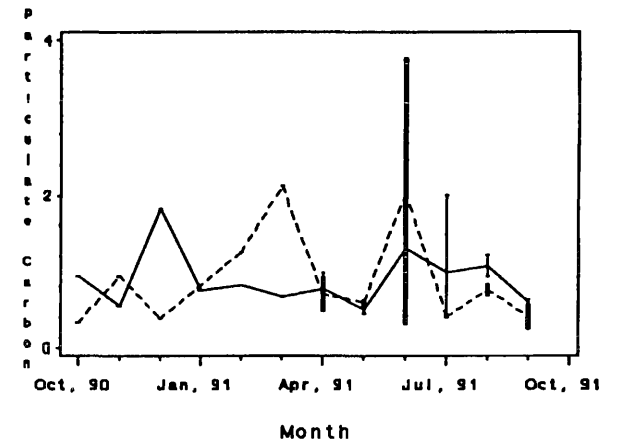
|             | Particulate Carbon<br>(mg/l) |        |        |        |        |        |
|-------------|------------------------------|--------|--------|--------|--------|--------|
|             | Surface                      |        |        | Bottom |        |        |
|             | Max                          | Mean   | Min    | Max    | Mean   | Min    |
| CB5.4.....  | 1.6240                       | 0.8435 | 0.3390 | 2.2230 | 0.9730 | 0.1930 |
| CB5.5.....  | 2.0150                       | 0.8568 | 0.4310 | 3.7660 | 0.8739 | 0.2500 |
| CB6.1.....  | 1.4350                       | 0.7939 | 0.4990 | 1.7190 | 0.6881 | 0.3210 |
| CB6.2.....  | 1.3230                       | 0.8263 | 0.5460 | 1.3200 | 0.7226 | 0.2890 |
| CB6.3.....  | 2.0650                       | 0.8745 | 0.4140 | 1.8760 | 0.8978 | 0.3620 |
| CB6.4.....  | 1.8300                       | 0.7765 | 0.3500 | 0.9000 | 0.6742 | 0.3900 |
| CB7.3.....  | 1.2400                       | 0.6595 | 0.3400 | 1.2700 | 0.5605 | 0.2400 |
| CB7.4.....  | 0.8900                       | 0.5225 | 0.2400 | 2.5800 | 0.7606 | 0.2500 |
| CB7.4N..... | 1.0000                       | 0.5839 | 0.3500 | 7.0700 | 1.1641 | 0.3000 |
| CB8.1E..... | 1.5200                       | 0.6533 | 0.3400 | 1.9700 | 0.7094 | 0.2500 |
| CB8.1.....  | 1.1300                       | 0.6928 | 0.2700 | 1.1800 | 0.6206 | 0.3300 |
| EE3.1.....  | 3.4310                       | 1.6164 | 0.6410 | 2.7020 | 1.5006 | 0.5510 |
| EE3.2.....  | 1.8940                       | 1.0371 | 0.4910 | 5.7450 | 1.9970 | 0.5800 |
| CB7.1N..... | 1.5690                       | 0.9579 | 0.3780 | 3.6750 | 1.7118 | 0.5860 |
| CB7.1.....  | 5.0930                       | 0.9874 | 0.2200 | 4.9370 | 1.4983 | 0.2910 |
| CB7.1S..... | 6.2090                       | 1.0780 | 0.3790 | 8.0490 | 1.0632 | 0.1400 |
| CB5.4W..... | 2.2500                       | 1.2572 | 0.6380 | 3.6480 | 1.3599 | 0.6810 |
| CB7.2.....  | 1.2700                       | 0.7651 | 0.4570 | 1.8520 | 0.8308 | 0.3180 |
| CB7.2E..... | 1.6500                       | 0.7614 | 0.3810 | 2.1260 | 0.7577 | 0.0485 |
| CB7.3E..... | 1.2400                       | 0.6850 | 0.3600 | 1.5000 | 0.6853 | 0.3200 |
| LE3.6.....  | 2.3930                       | 1.0589 | 0.4510 | 1.4930 | 0.9471 | 0.5830 |
| LE3.7.....  | 1.7710                       | 1.0914 | 0.6760 | 1.7050 | 0.9730 | 0.5690 |
| WE4.1.....  | 1.3970                       | 0.9294 | 0.6150 | 2.5350 | 1.1164 | 0.5200 |
| WE4.2.....  | 1.2720                       | 0.7401 | 0.2380 | 2.3790 | 1.0222 | 0.4440 |
| WE4.3.....  | 1.7780                       | 1.0723 | 0.4130 | 2.0670 | 1.1236 | 0.4060 |
| WE4.4.....  | 1.7430                       | 0.9472 | 0.1710 | 1.7280 | 1.0207 | 0.4020 |
| LE5.5.....  | 1.0700                       | 0.7612 | 0.2300 | 2.6000 | 0.9361 | 0.3600 |

Station Id=CB5.4



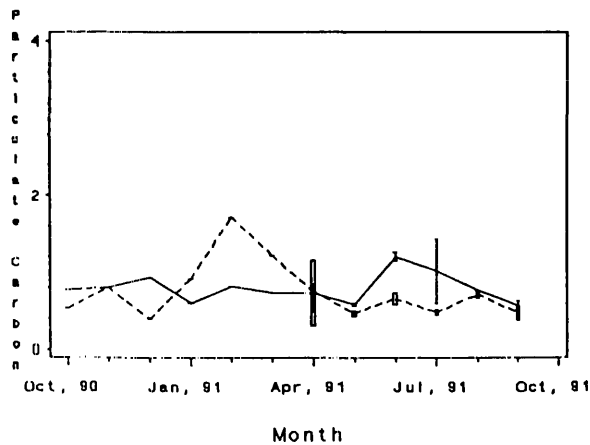
— Surface    - - - Bottom

Station Id=CB5.5



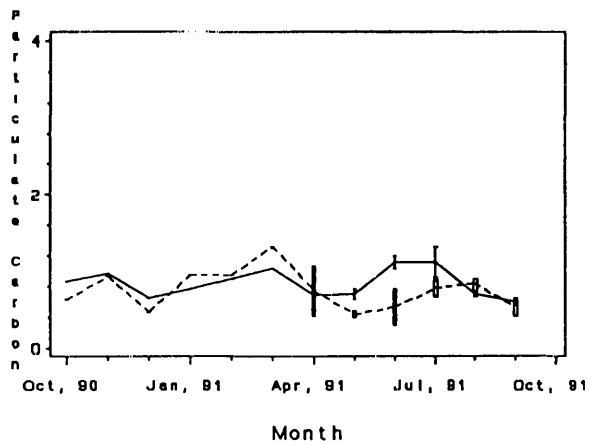
— Surface    - - - Bottom

Station Id=CB6.1



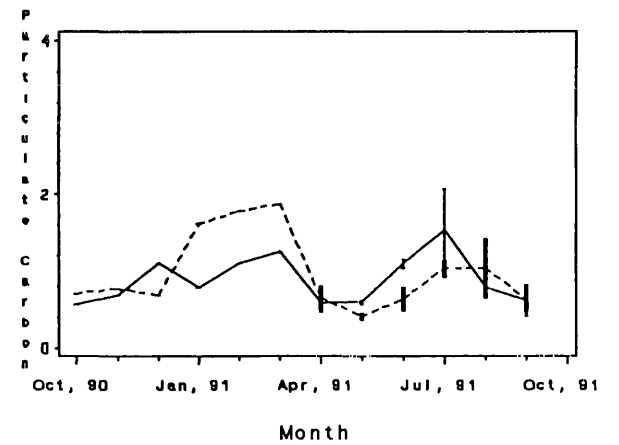
— Surface    - - - Bottom

Station Id=CB6.2



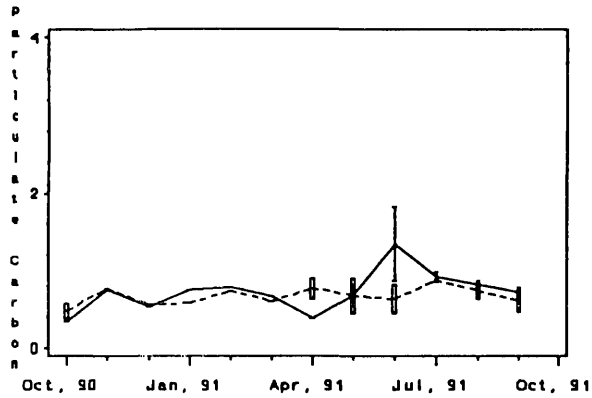
— Surface    - - - Bottom

Station Id=CB6.3



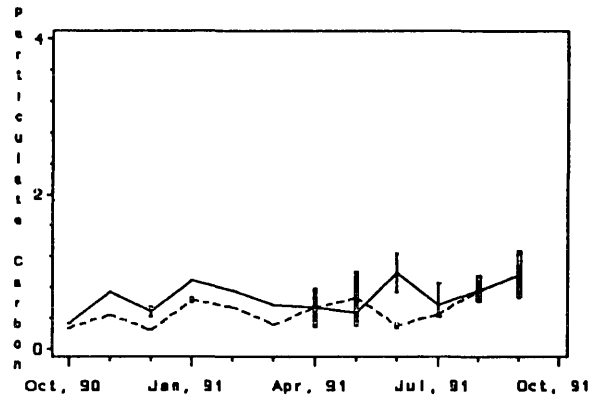
— Surface    - - - Bottom

Station Id=CB6.4



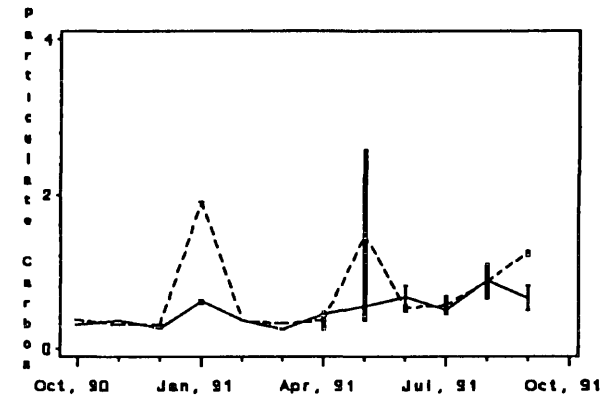
— Surface    - - - - Bottom

Station Id=CB7.3



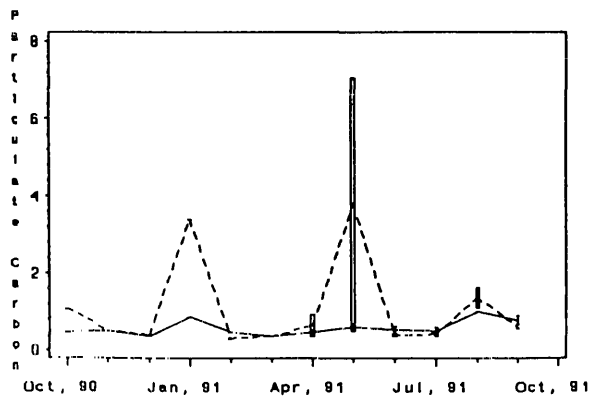
— Surface    - - - - Bottom

Station Id=CB7.4



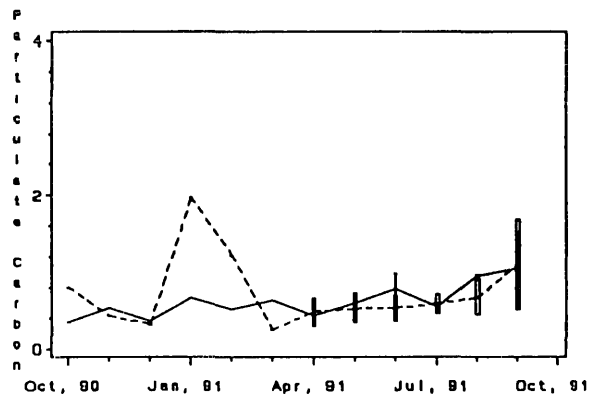
— Surface    - - - - Bottom

Station Id=CB7.4N



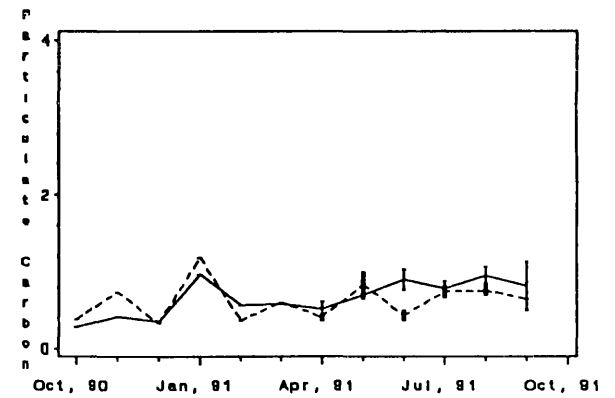
— Surface    - - - - Bottom

Station Id=CB8.1E



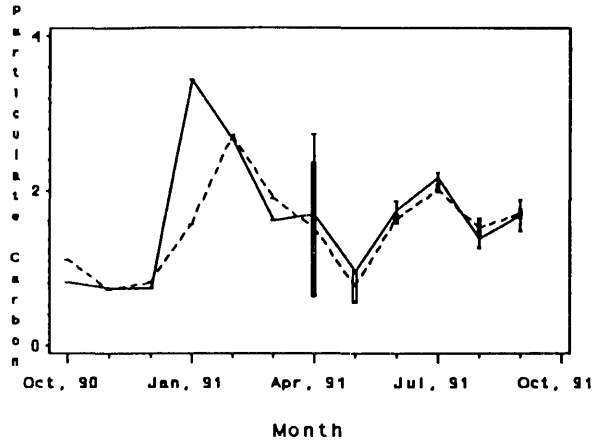
— Surface    - - - - Bottom

Station Id=CB8.1



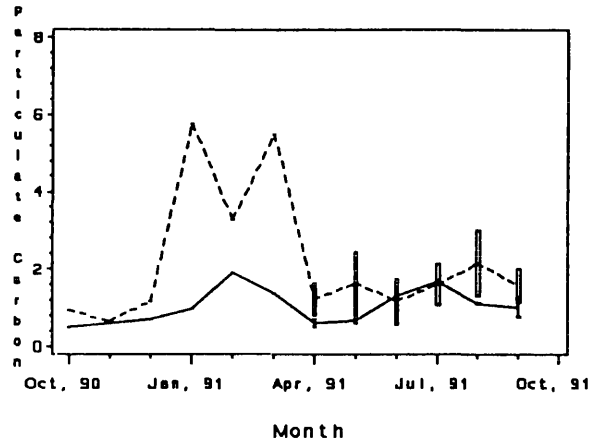
— Surface    - - - - Bottom

Station Id=EE3.1



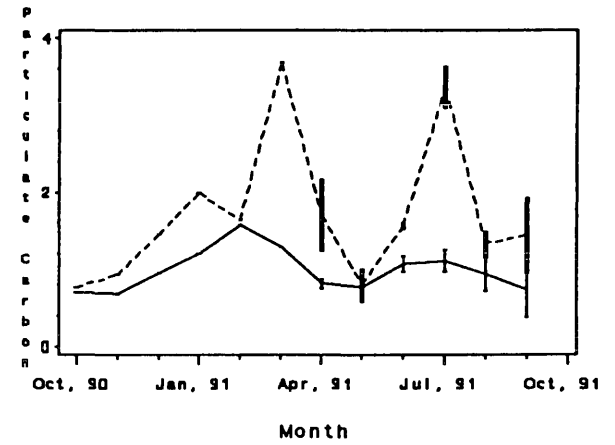
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Station Id=EE3.2



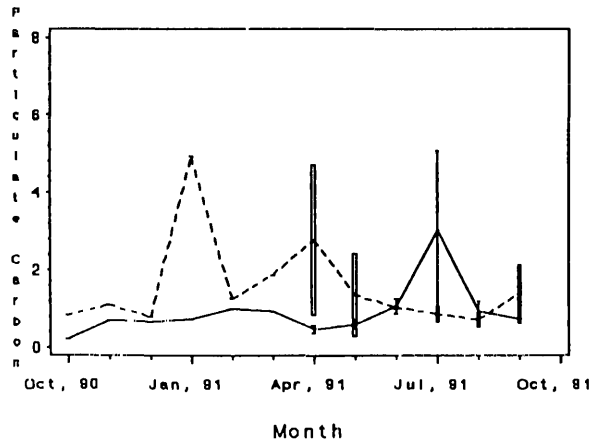
— Surface    - - - - Bottom

Station Id=CB7.1N



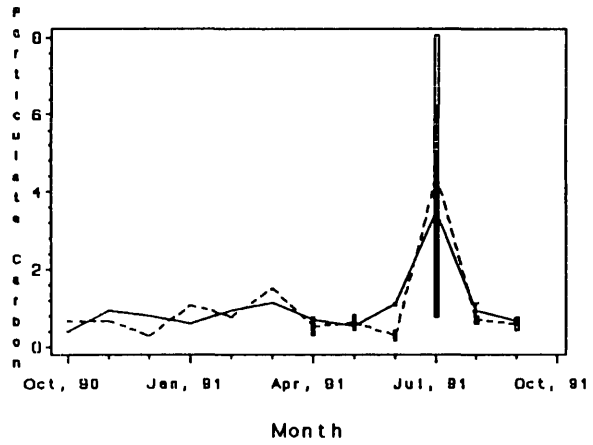
— Surface    - - - - Bottom

Station Id=CB7.1



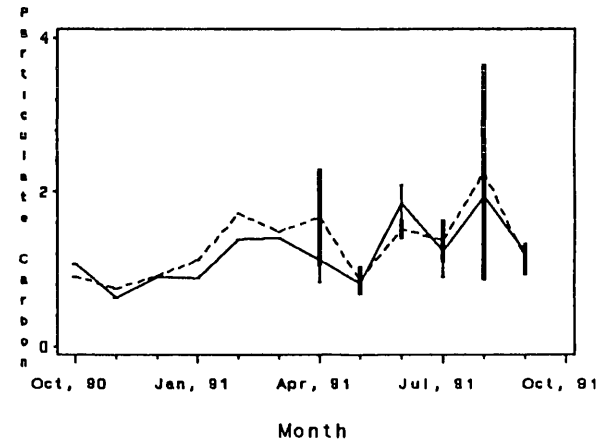
— Surface    - - - - Bottom

Station Id=CB7.1S



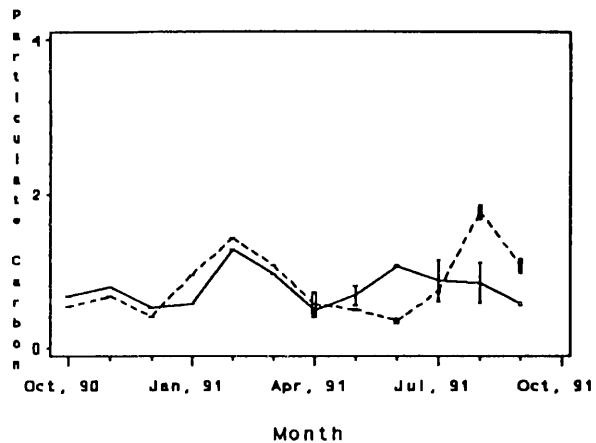
— Surface    - - - - Bottom

Station Id=CB5.4W



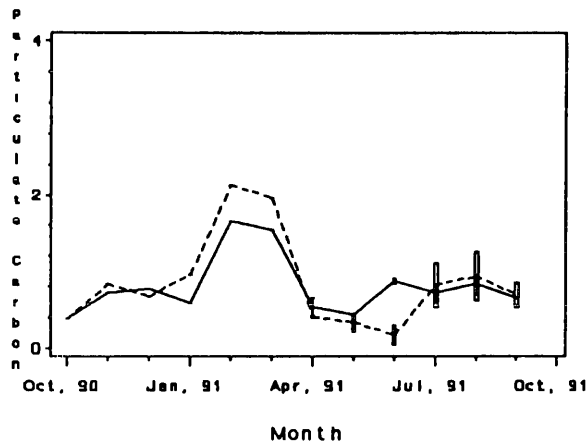
— Surface    - - - - Bottom

Station Id=CB7.2



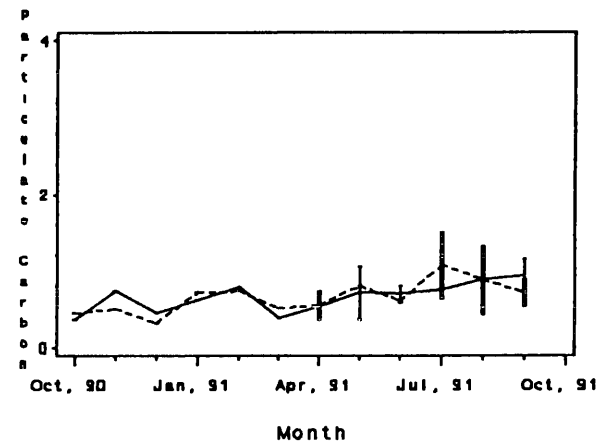
— Surface    - - - - Bottom

Station Id=CB7.2E



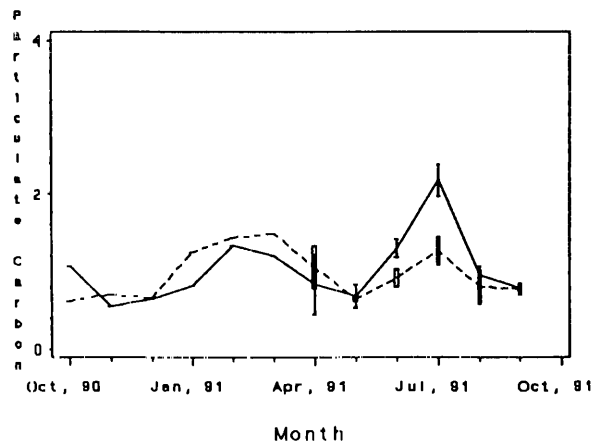
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Station Id=CB7.3E



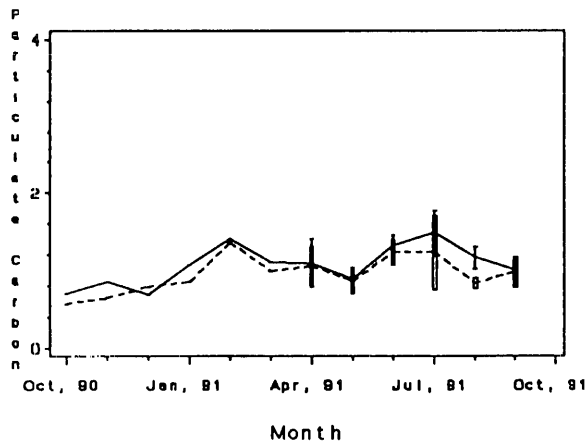
— Surface    - - - - Bottom

Station Id=LE3.6



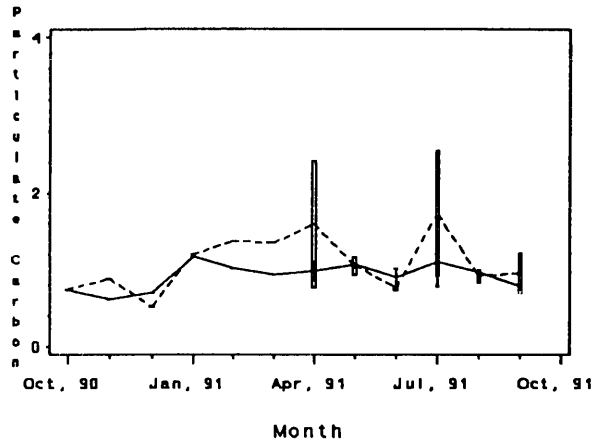
— Surface    - - - - Bottom

Station Id=LE3.7



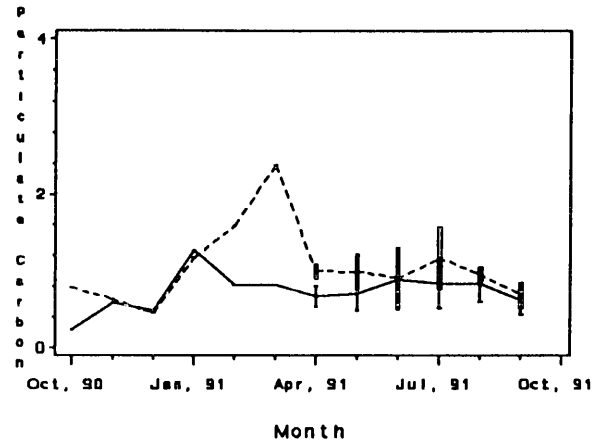
— Surface    - - - - Bottom

Station Id=WE4.1



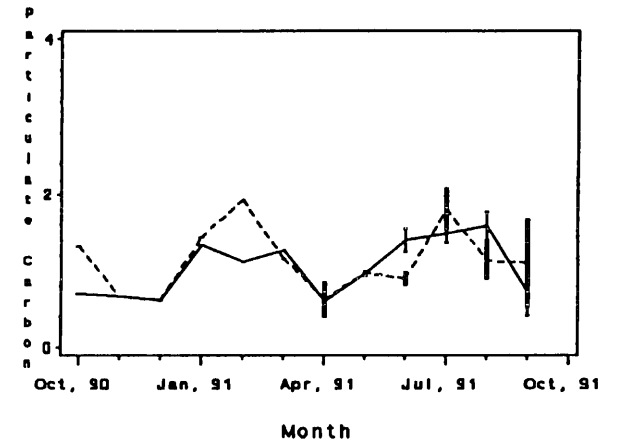
— Surface    - - - - Bottom

Station Id=WE4.2



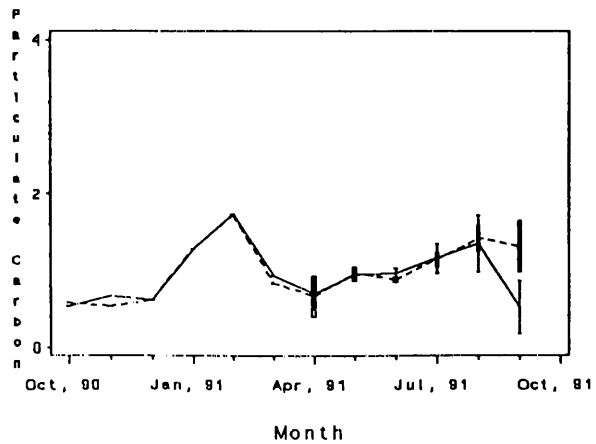
— Surface    - - - - Bottom

Station Id=WE4.3



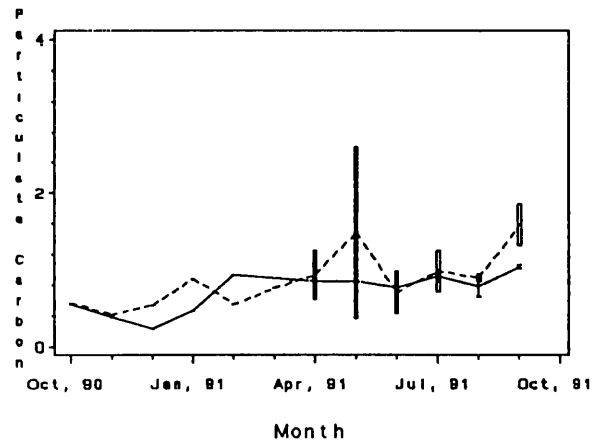
— Surface    - - - - Bottom

Station Id=WE4.4



— Surface    - - - - Bottom

Station Id=LE5.5



— Surface    - - - - Bottom

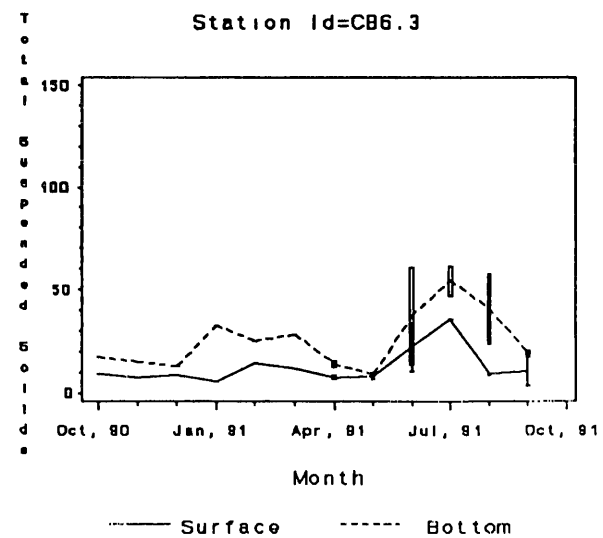
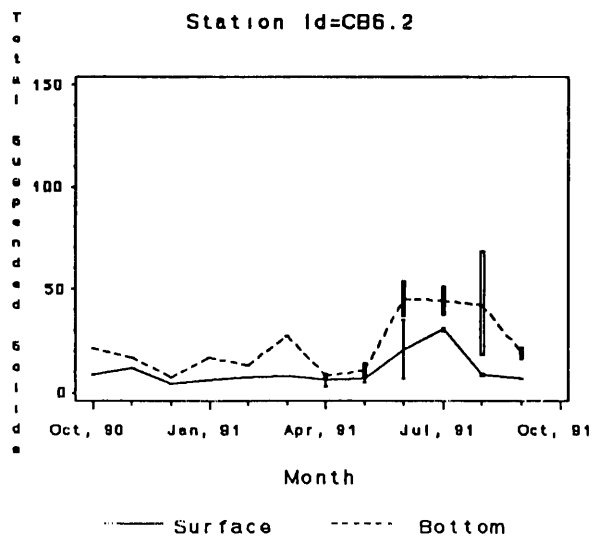
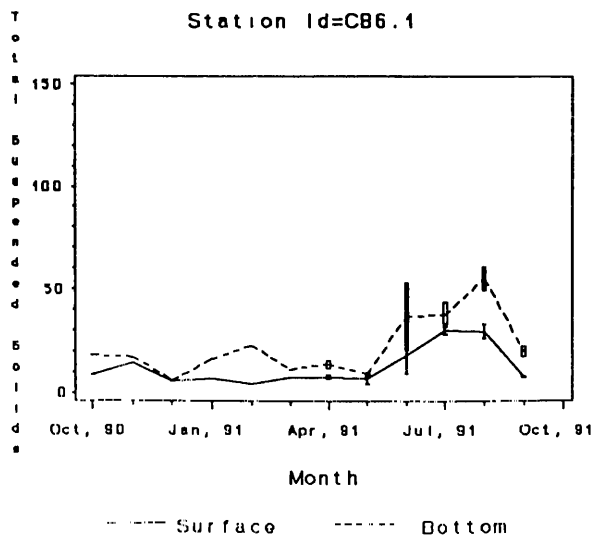
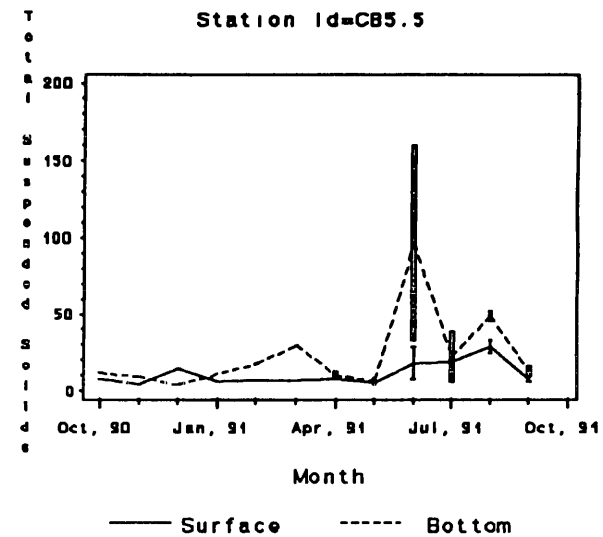
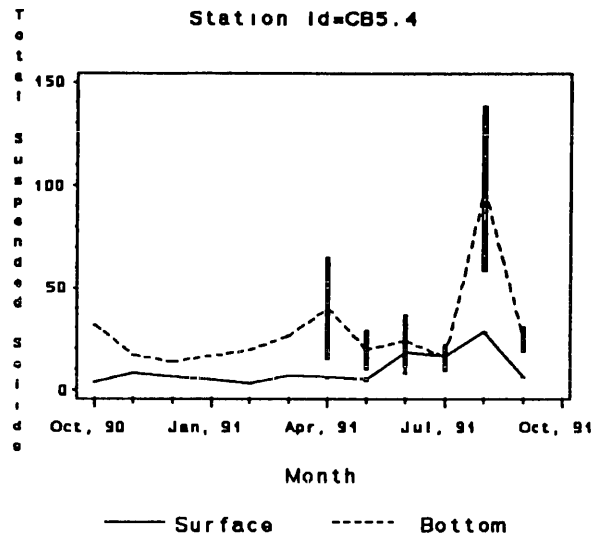
TOTAL SUSPENDED SOLIDS

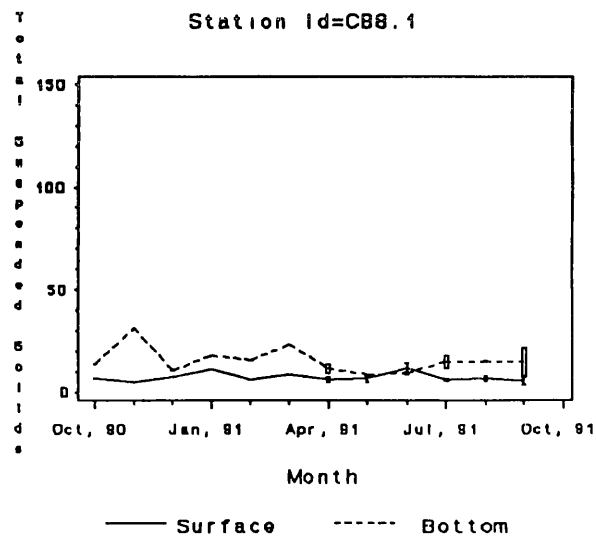
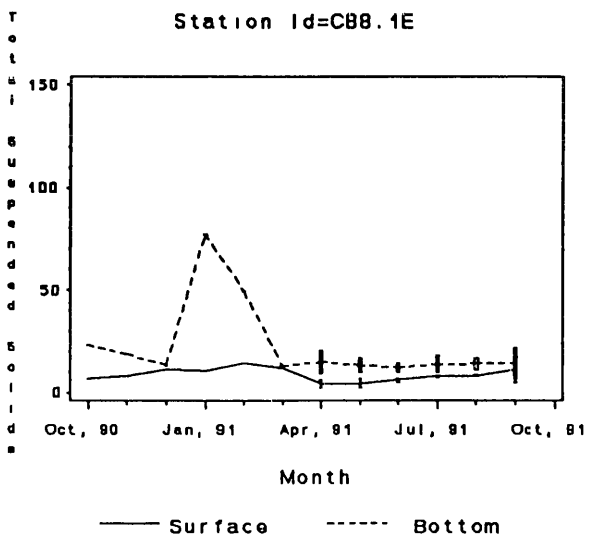
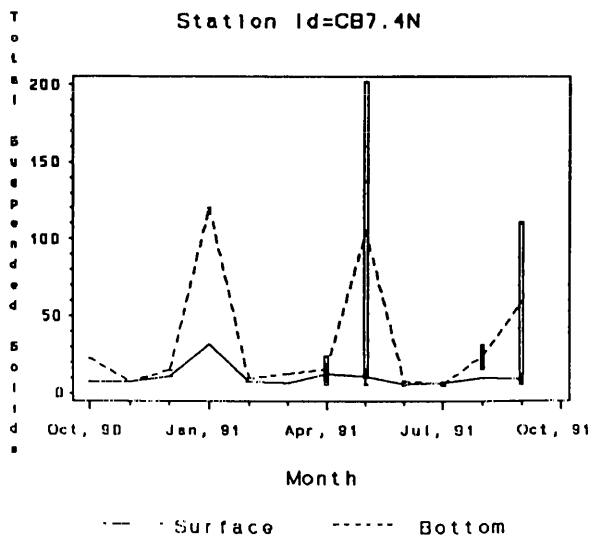
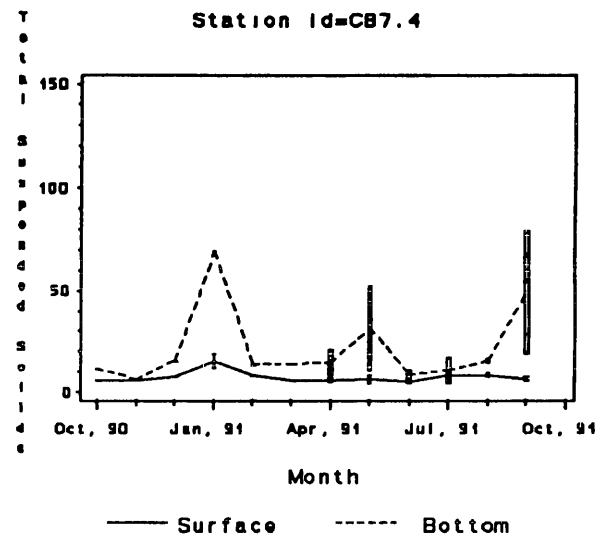
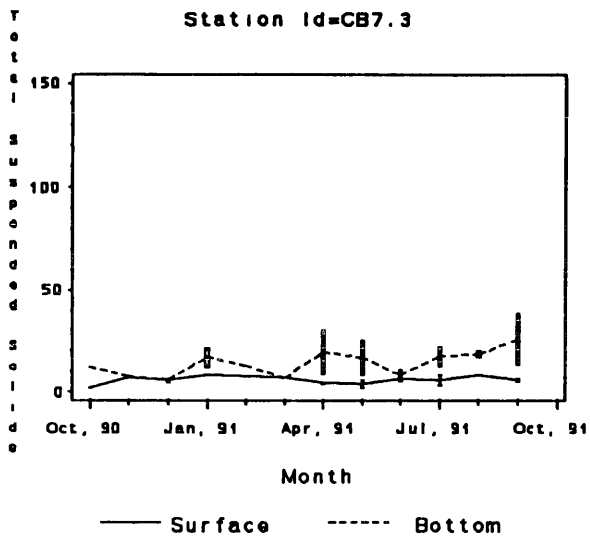
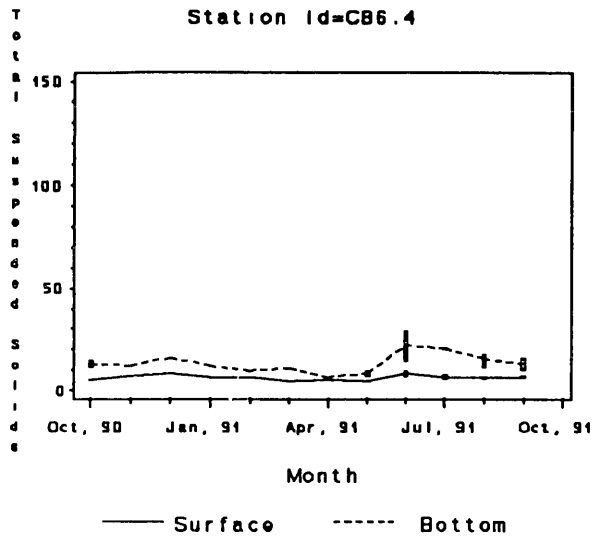
Values reported as mg/l.

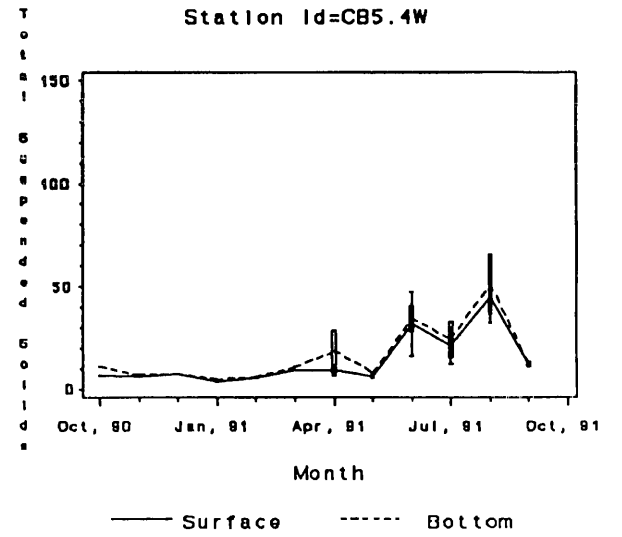
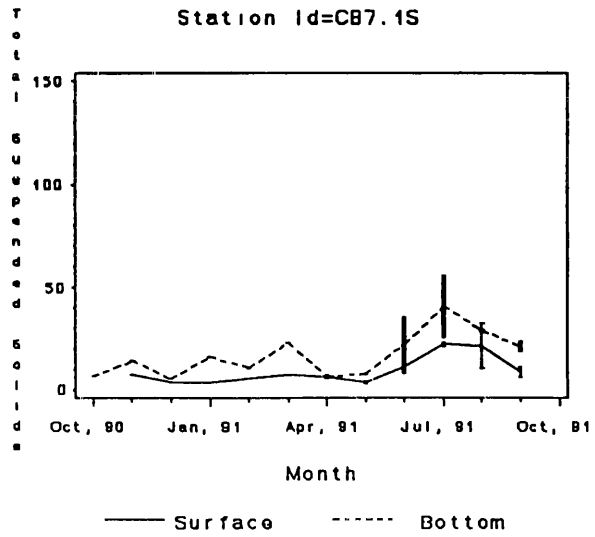
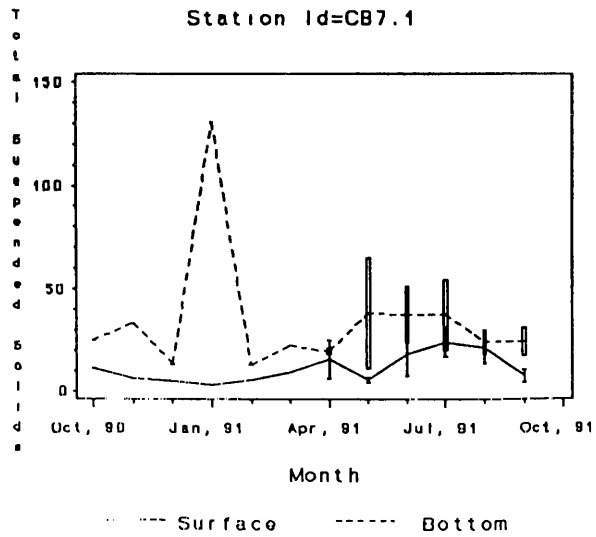
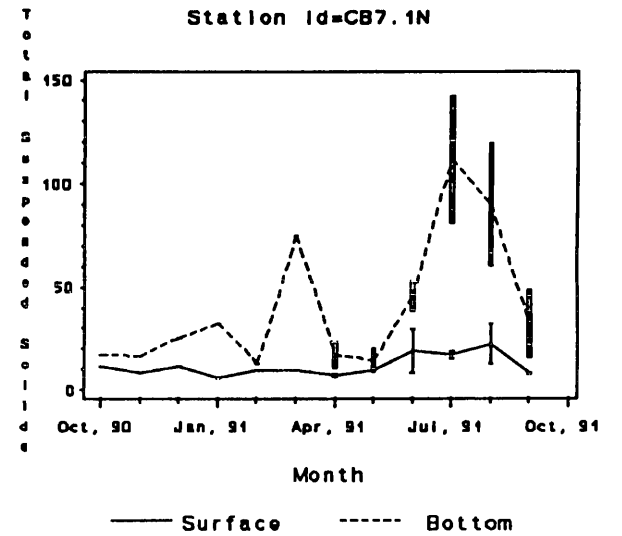
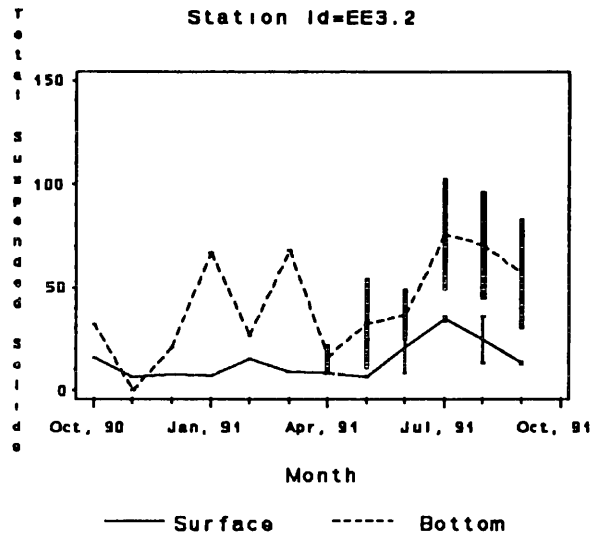
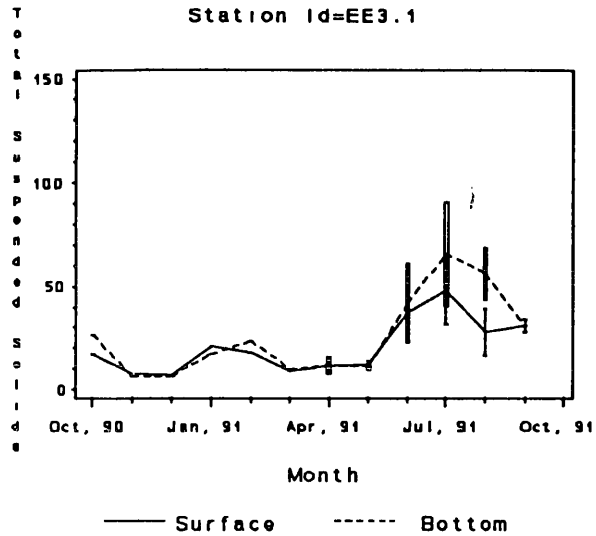
Total Suspended Solids  
October, 1990 - September, 1991

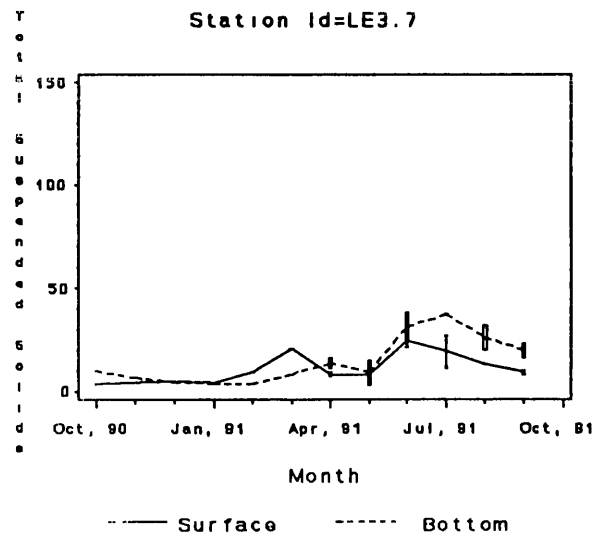
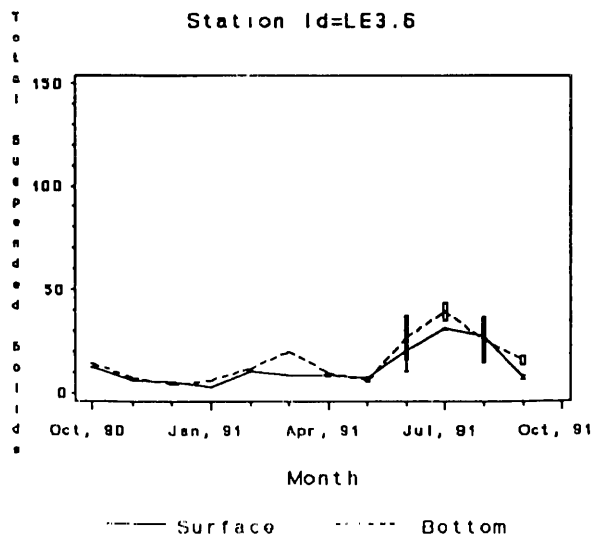
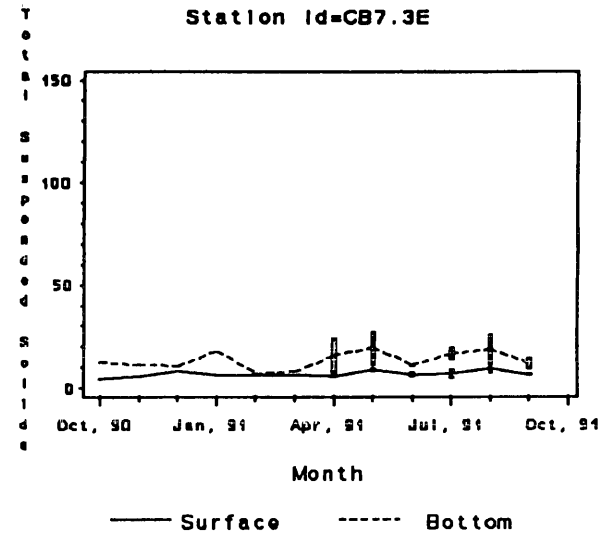
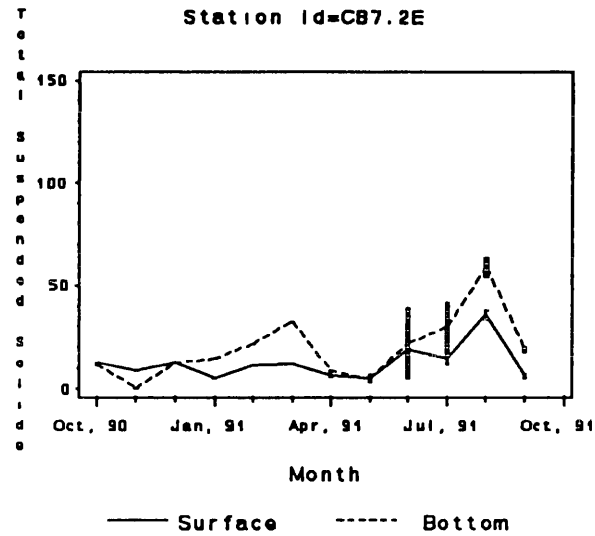
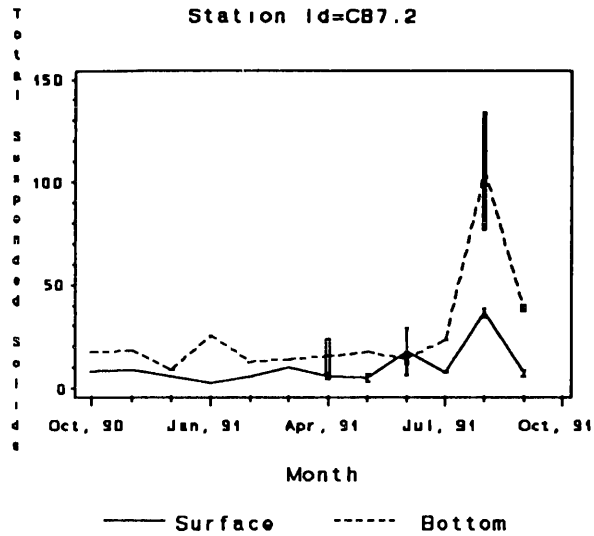
|             | Total Suspended Solids<br>(mg/l) |       |      |        |       |       |
|-------------|----------------------------------|-------|------|--------|-------|-------|
|             | Surface                          |       |      | Bottom |       |       |
|             | Max                              | Mean  | Min  | Max    | Mean  | Min   |
| CB5.4.....  | 28.80                            | 11.18 | 3.00 | 138.40 | 32.59 | 9.80  |
| CB5.5.....  | 32.80                            | 11.69 | 4.00 | 160.00 | 27.32 | 4.00  |
| CB6.1.....  | 32.80                            | 13.21 | 4.00 | 60.60  | 24.87 | 6.00  |
| CB6.2.....  | 35.00                            | 11.31 | 3.00 | 68.60  | 25.40 | 6.80  |
| CB6.3.....  | 35.80                            | 13.20 | 3.80 | 61.60  | 26.70 | 7.80  |
| CB6.4.....  | 9.50                             | 6.23  | 4.40 | 28.80  | 14.13 | 6.40  |
| CB7.3.....  | 8.50                             | 5.97  | 2.00 | 38.40  | 15.49 | 5.30  |
| CB7.4.....  | 18.80                            | 7.47  | 4.40 | 79.30  | 21.73 | 4.60  |
| CB7.4N..... | 31.80                            | 9.88  | 4.80 | 201.70 | 34.64 | 4.50  |
| CB8.1E..... | 17.60                            | 8.03  | 2.00 | 77.00  | 19.89 | 6.90  |
| CB8.1.....  | 14.40                            | 7.15  | 3.60 | 31.30  | 14.44 | 7.10  |
| EE3.1.....  | 63.60                            | 22.94 | 7.00 | 90.80  | 29.16 | 6.40  |
| EE3.2.....  | 36.20                            | 15.46 | 6.60 | 102.40 | 43.94 | 0.00  |
| CB7.1N..... | 32.20                            | 12.32 | 5.60 | 142.40 | 44.56 | 8.80  |
| CB7.1.....  | 31.20                            | 12.31 | 3.00 | 130.80 | 33.24 | 10.80 |
| CB7.1S..... | 32.20                            | 10.16 | 3.00 | 55.40  | 18.21 | 5.20  |
| CB5.4W..... | 57.60                            | 16.08 | 3.60 | 65.60  | 19.11 | 5.00  |
| CB7.2.....  | 38.40                            | 11.18 | 2.60 | 134.00 | 29.31 | 7.00  |
| CB7.2E..... | 37.80                            | 13.14 | 3.40 | 63.80  | 21.10 | 0.40  |
| CB7.3E..... | 11.70                            | 7.07  | 4.30 | 27.40  | 14.22 | 7.20  |
| LE3.6.....  | 31.40                            | 13.93 | 3.00 | 43.80  | 17.29 | 4.20  |
| LE3.7.....  | 27.20                            | 11.56 | 3.40 | 38.00  | 17.13 | 3.00  |
| WE4.1.....  | 46.80                            | 13.37 | 3.40 | 54.20  | 18.88 | 6.00  |
| WE4.2.....  | 34.60                            | 12.71 | 5.20 | 94.00  | 23.06 | 6.00  |
| WE4.3.....  | 46.60                            | 17.60 | 6.40 | 45.60  | 20.99 | 4.80  |
| WE4.4.....  | 57.20                            | 22.08 | 7.20 | 62.80  | 23.11 | 6.80  |
| LE5.5.....  | 18.80                            | 9.52  | 2.00 | 76.50  | 25.43 | 11.70 |

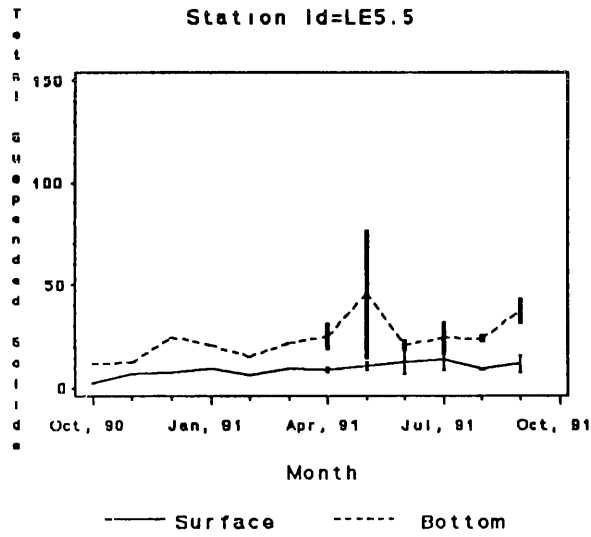
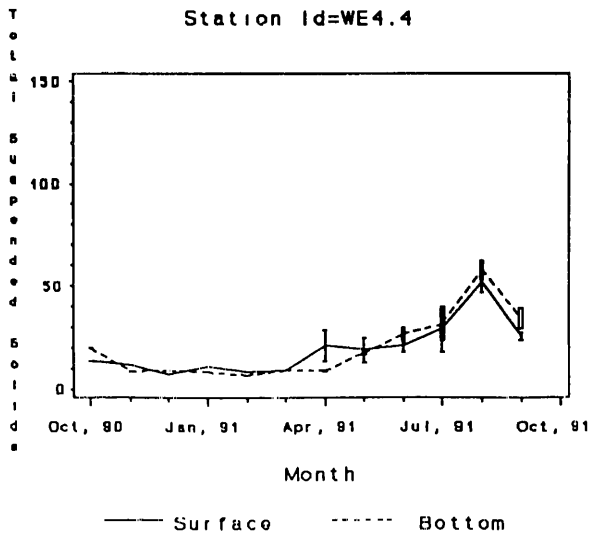
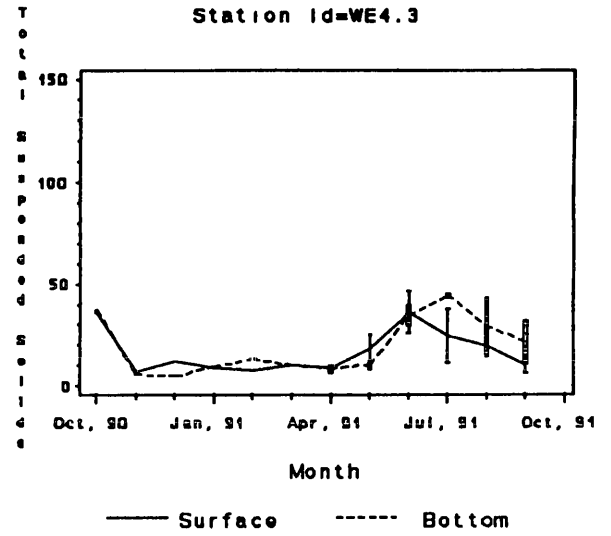
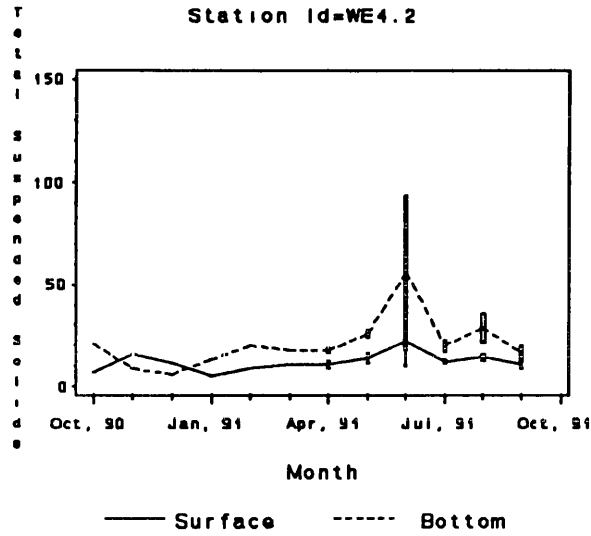
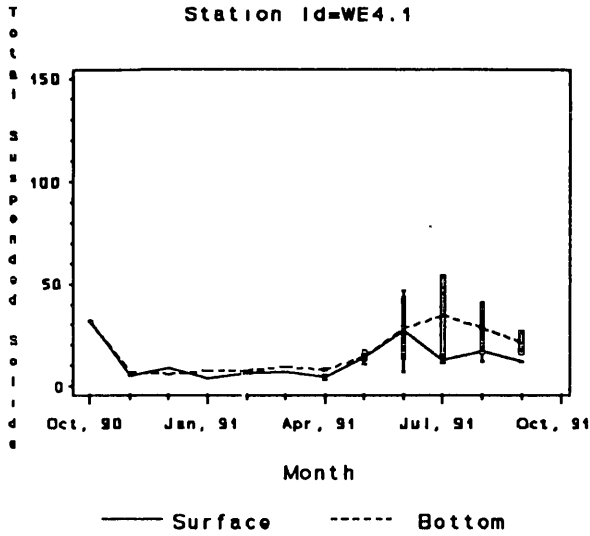










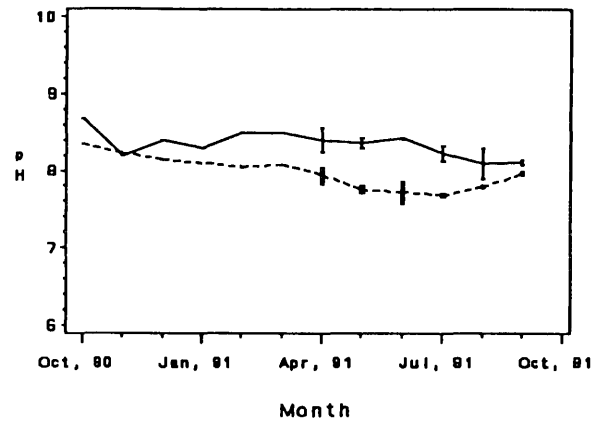


202  
201

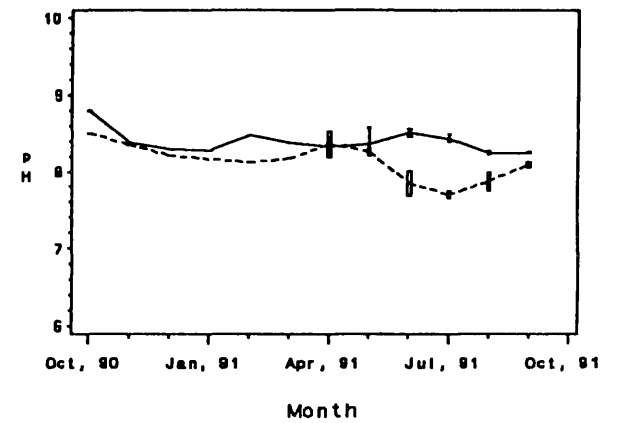
pH  
October, 1990 - September, 1991

|             | pH      |      |      |        |      |      |
|-------------|---------|------|------|--------|------|------|
|             | Surface |      |      | Bottom |      |      |
|             | Max     | Mean | Min. | Max    | Mean | Min  |
| CB5.4.....  | 8.67    | 8.32 | 7.89 | 8.34   | 7.91 | 7.58 |
| CB5.5.....  | 8.79    | 8.38 | 8.20 | 8.52   | 8.10 | 7.65 |
| CB6.1.....  | 8.74    | 8.38 | 8.14 | 8.54   | 8.06 | 7.57 |
| CB6.2.....  | 8.67    | 8.38 | 8.14 | 8.51   | 8.09 | 7.87 |
| CB6.3.....  | 8.72    | 8.33 | 7.98 | 8.66   | 8.13 | 7.88 |
| CB6.4.....  | 8.37    | 8.14 | 7.80 | 8.27   | 7.97 | 7.61 |
| CB7.3.....  | 8.32    | 8.13 | 7.85 | 8.04   | 7.92 | 7.76 |
| CB7.4.....  | 8.27    | 8.03 | 7.86 | 8.05   | 7.89 | 6.92 |
| CB7.4N..... | 8.21    | 8.01 | 7.90 | 8.07   | 7.96 | 7.83 |
| CB8.1E..... | 8.24    | 8.02 | 7.84 | 8.00   | 7.88 | 7.71 |
| CB8.1.....  | 8.32    | 8.06 | 7.72 | 8.26   | 7.92 | 7.73 |
| EE3.1.....  | 8.48    | 8.22 | 7.99 | 8.49   | 8.18 | 7.98 |
| EE3.2.....  | 8.37    | 8.16 | 7.89 | 8.62   | 8.04 | 7.74 |
| CB7.1N..... | 8.75    | 8.24 | 7.93 | 8.71   | 8.11 | 7.87 |
| CB7.1.....  | 8.72    | 8.34 | 8.06 | 8.52   | 8.09 | 7.86 |
| CB7.1S..... | 8.79    | 8.38 | 8.10 | 8.80   | 8.18 | 7.91 |
| CB5.4W..... | 8.82    | 8.35 | 7.66 | 8.66   | 8.31 | 8.08 |
| CB7.2.....  | 8.89    | 8.35 | 8.04 | 8.58   | 8.11 | 7.93 |
| CB7.2E..... | 8.81    | 8.34 | 8.07 | 8.69   | 8.16 | 7.95 |
| CB7.3E..... | 8.29    | 8.09 | 7.95 | 8.13   | 7.95 | 7.76 |
| LE3.6.....  | 8.67    | 8.33 | 8.04 | 8.53   | 8.20 | 7.83 |
| LE3.7.....  | 8.71    | 8.33 | 8.02 | 8.65   | 8.23 | 7.74 |
| WE4.1.....  | 8.50    | 8.24 | 7.98 | 8.49   | 8.15 | 7.84 |
| WE4.2.....  | 8.84    | 8.28 | 7.95 | 8.56   | 8.02 | 7.69 |
| WE4.3.....  | 8.73    | 8.26 | 8.04 | 8.68   | 8.24 | 8.02 |
| WE4.4.....  | 8.67    | 8.17 | 7.79 | 8.67   | 8.17 | 7.90 |
| LE5.5.....  | 8.40    | 8.00 | 7.56 | 8.01   | 7.85 | 7.60 |

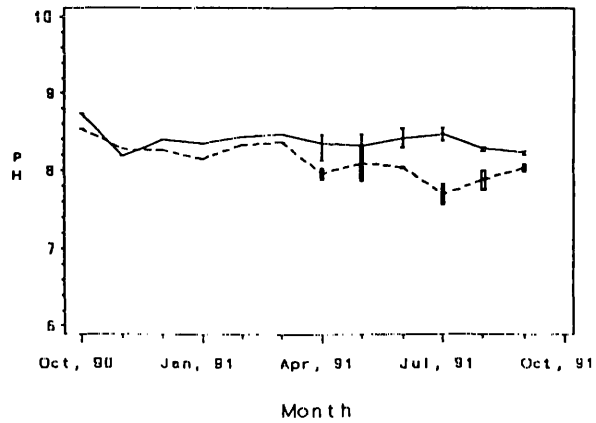
Station Id=CB5.4



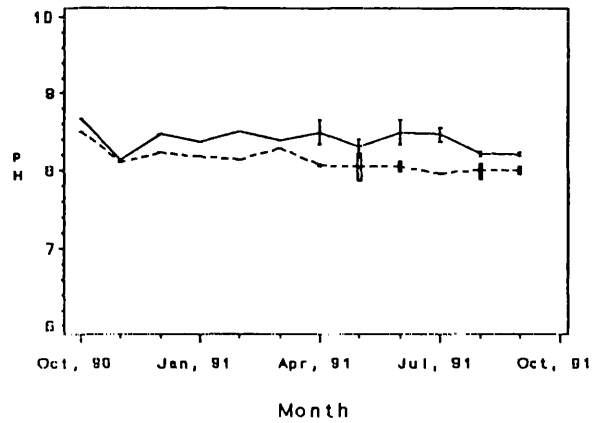
Station Id=CB5.5



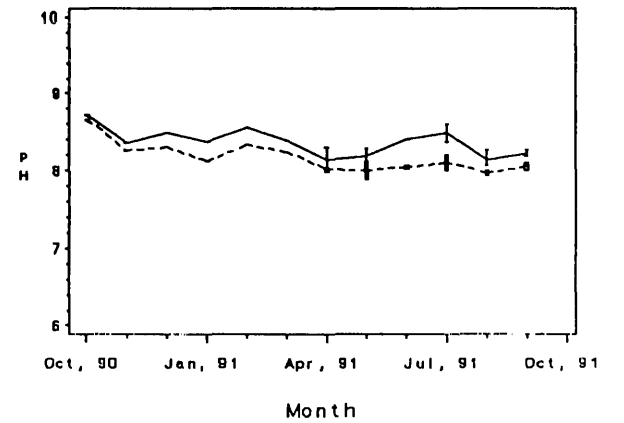
Station Id=CB6.1



Station Id=CB6.2

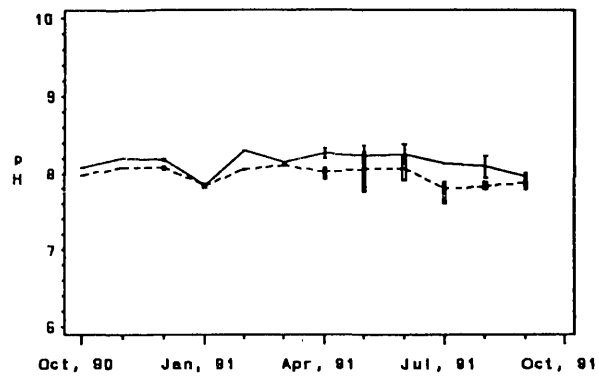


Station Id=CB6.3



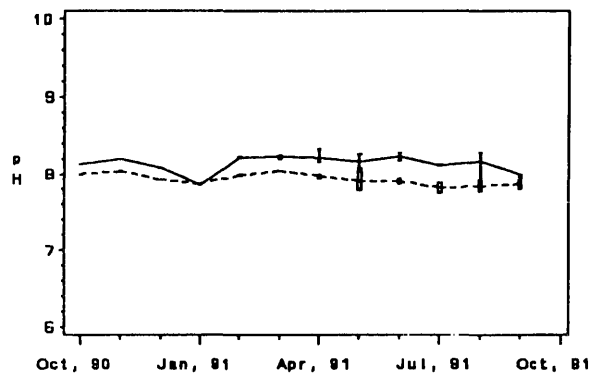


Station Id=CB6.4



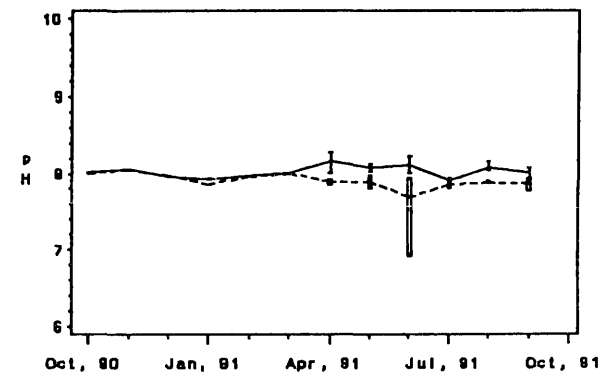
Month  
— Surface    - - - - Bottom

Station Id=CB7.3



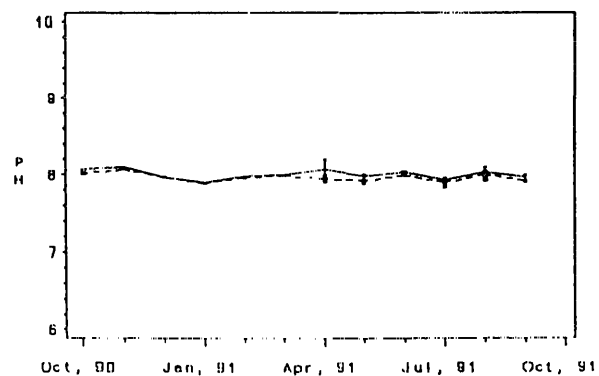
Month  
— Surface    - - - - Bottom

Station Id=CB7.4



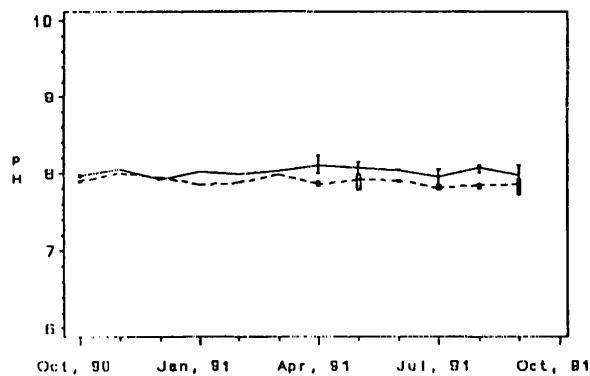
Month  
— Surface    - - - - Bottom

Station Id=CB7.4N



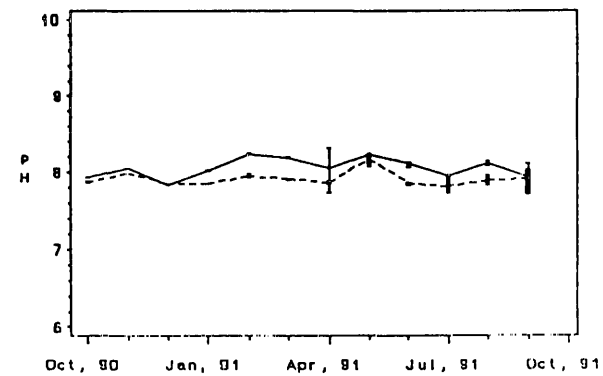
Month  
— Surface    - - - - Bottom

Station Id=CB8.1E



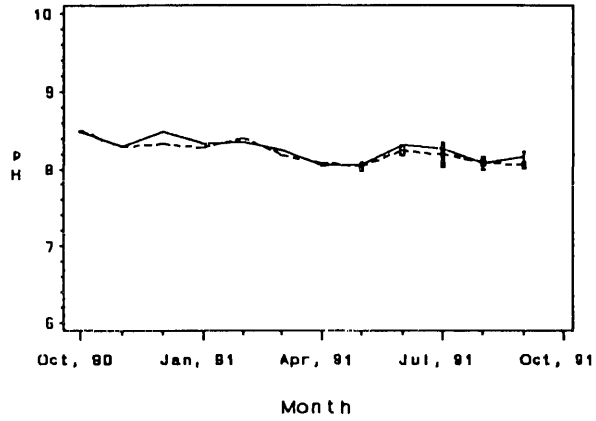
Month  
— Surface    - - - - Bottom

Station Id=CB8.1



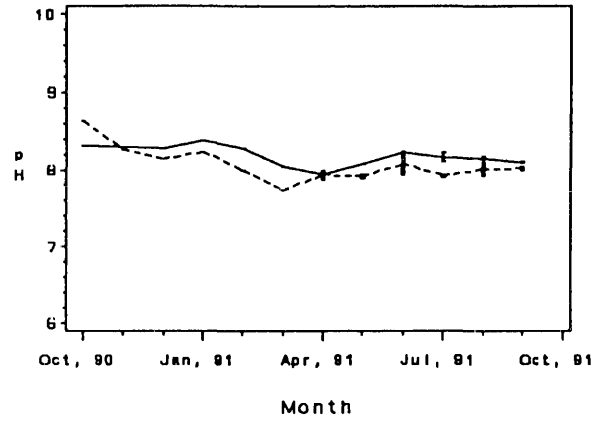
Month  
— Surface    - - - - Bottom

Station Id=EE3.1



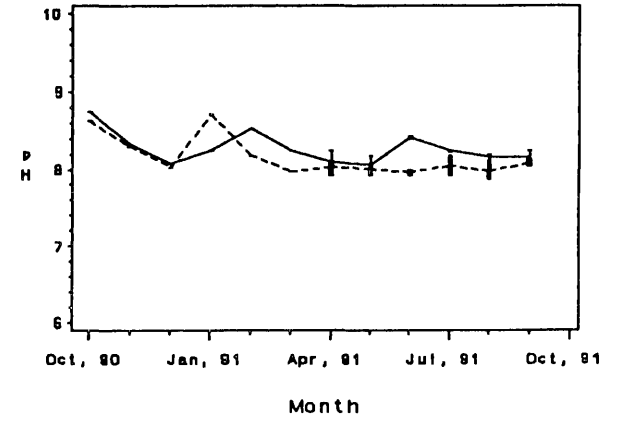
— Surface    - - - - Bottom

Station Id=EE3.2



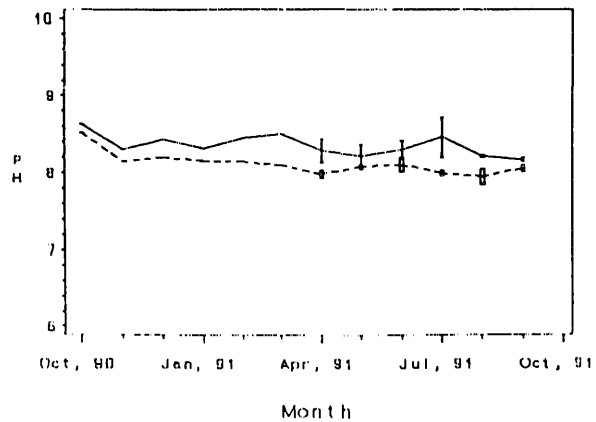
— Surface    - - - - Bottom

Station Id=CB7.1N



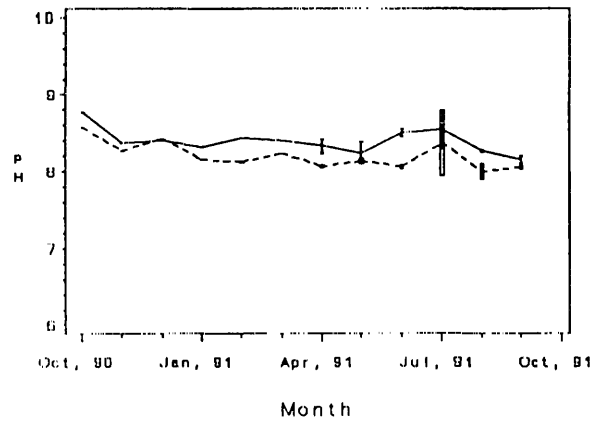
— Surface    - - - - Bottom

Station Id=CB7.1



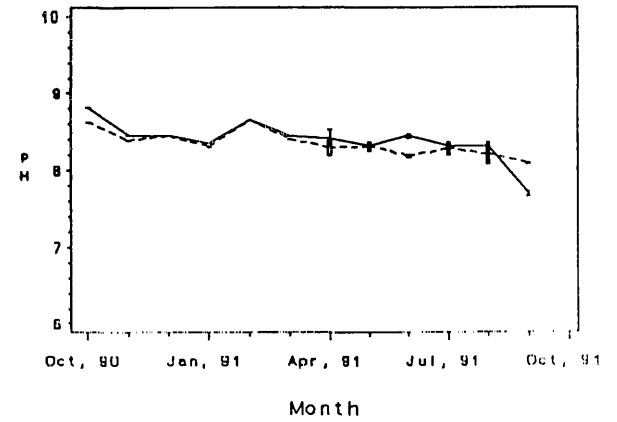
— Surface    - - - - Bottom

Station Id=CB7.1S



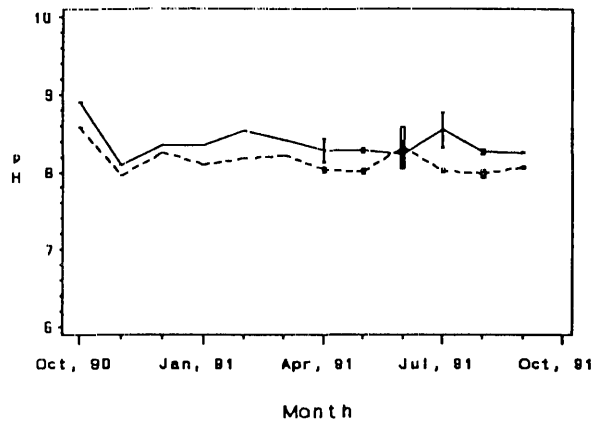
— Surface    - - - - Bottom

Station Id=CB5.4W



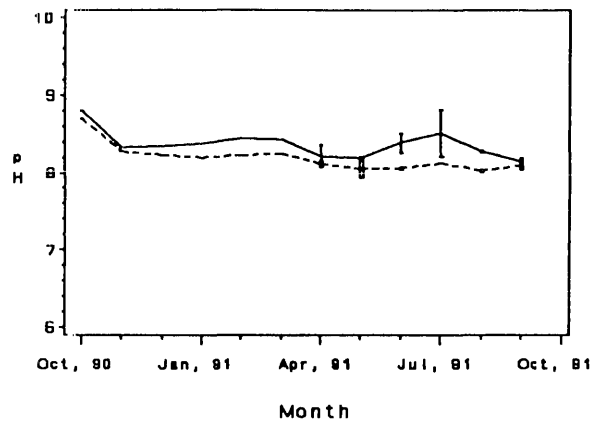
— Surface    - - - - Bottom

Station Id=CB7.2



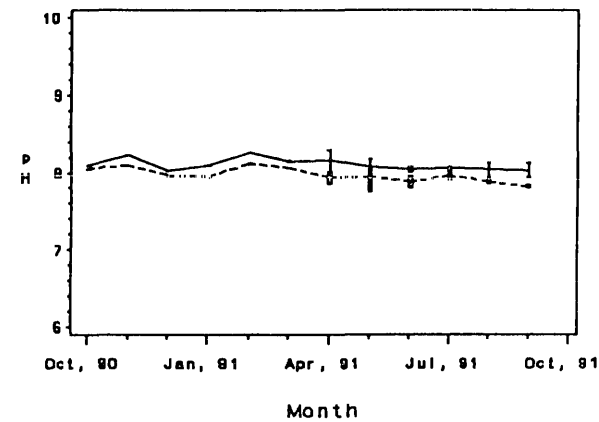
— Surface    - - - - Bottom

Station Id=CB7.2E



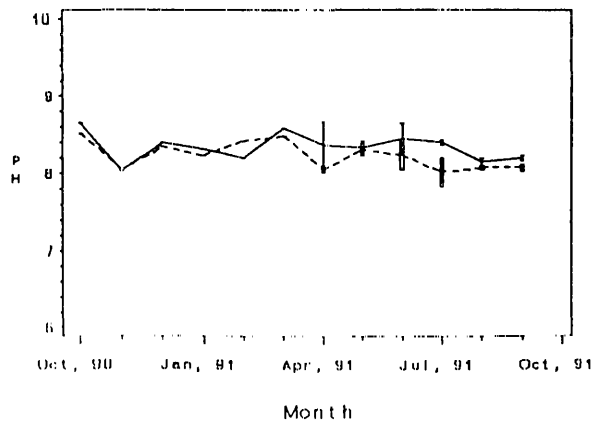
— Surface    - - - - Bottom

Station Id=CB7.3E



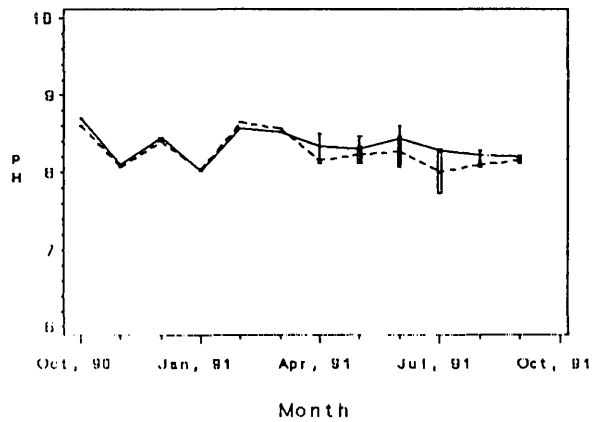
— Surface    - - - - Bottom

Station Id=LE3.6



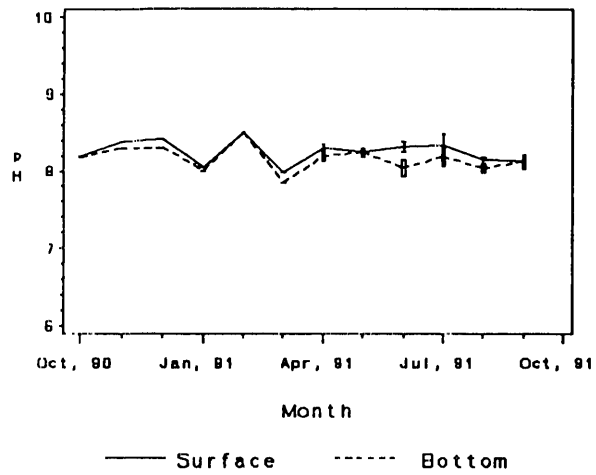
— Surface    - - - - Bottom

Station Id=LE3.7

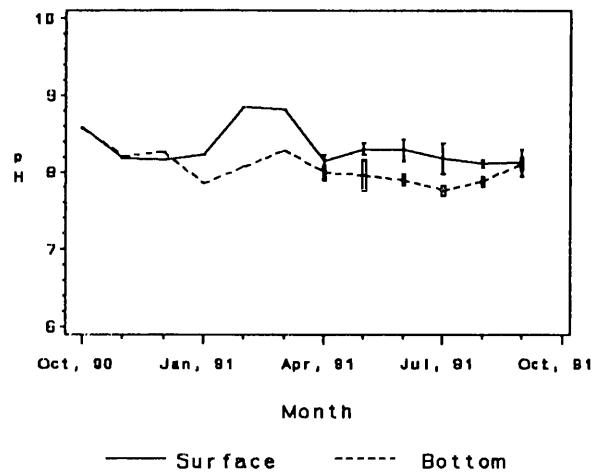


— Surface    - - - - Bottom

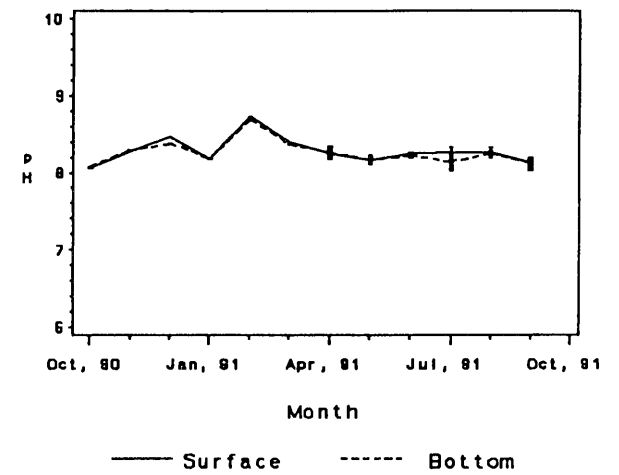
Station Id=WE4.1



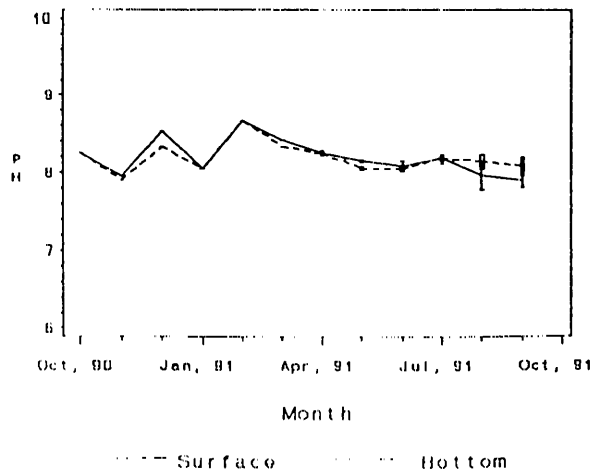
Station Id=WE4.2



Station Id=WE4.3



Station Id=WE4.4



Station Id=LE5.5

