

## EXPEDITIONSRAPPORT FRÅN U/F ARGOS

### CRUISE REPORT FROM R/V ARGOS

**Expeditionens varaktighet:** 971110-971115  
**Survey period:**

**Undersökningsområde:** The Skagerrak, the Kattegat,  
**Survey area:** the Sound and the Baltic Proper

**Uppdragsgivare:** SMHI  
**Principal:**

#### SUMMARY

*The expedition was performed within SMHI's regular marine monitoring program and covered the Skagerrak, the Kattegatt, the Sound and the Baltic Proper. A special sampling program was performed in the Hanö Bight. The winds during the expedition were moderate and had most of the time a direction from between south and east. The weather was mild with an air temperature of about 8°C. The surface water temperatures were normal. The thermocline was found below 10 meters in the Kattegatt and in the Sound, and below 35-40 meters in the Baltic. The nutrient concentrations were mostly much above than the detection limit but had not reached the high winter levels. The oxygen concentrations in the Bornholm Basin were below 2 ml/l from a depth of 70m. Hydrogen sulphide was found in the deep water of the East Gotland Basin.*

## **PRELIMINÄRA RESULTAT**

Expeditionen, som ingick i SMHIs ordinarie övervakningsprogram, startade i Göteborg och avslutades i Karlskrona. Vindarna under expeditionen var måttliga och hade mestadels en riktning mellan syd och ost, vid Gotland omkring väst. Vädret var mildt med en temperatur omkring 8°C. Utöver det ordinarie monitoringprogrammet utfördes i Hanöbukten provtagning enligt Hanöbuktsprogrammet.

### **Skagerrak**

Ytvattentemperaturerna låg mellan 8.3 och 9.3°C. Fosfathalterna var fortfarande låga med en förhöjd halt vid station P2 i jämförelse med föregående mätning (0.31 µmol/l). Det fanns ingen kraftig termoklin och station HS5 vid danska kusten saknade helt skiktning.

### **Kattegatt och Öresund**

Ytvattentemperaturerna låg mellan 8.0 och 8.5°C. Vattnet var skiktat i hela området. Uttalade salt-och temperatursprång förelåg strax under 10m i Öresund och vid Läsö ränna. Fluorescensen i östra Kattegatt tydde på biologisk aktivitet. Närsaltshalterna var på en nivå mellan sommar-och vintervärden. Ammoniumvärdena var höga vid Läsö ränna, 1.3-1.4 µmol/l, och i Öresund, 1.0 µmol/l. Vid Kullen var nitrathalten högre än i övriga området (1.4-1.5 µmol/l). De lägsta syrevärdena i Kattegatt återfanns vid Anholt E 20m, 3.90 ml/l (61% mättnad) och Kullen 15m, 2.47 ml/l (41% mättnad). I Öresund hade W Landskrona på 44m ett mättnadsvärde på 41% (2.47 ml/l).

### **Östersjön**

Temperaturvariationen i ytvattnet i Östersjön låg mellan 6.7 och 9.1°C, värden från BY29 i norr och från Arkona i söder. Termoklinen låg på 35-40m i hela Östersjön. Fluorescensen var högre än i övrigt i södra Östersjön och vid Ölands södra udde (BY39). Nitrathalten låg på mellan 0.2 och 1.0 µmol/l, utom vid BY1, där den var under detektionsgränsen. För fosfat var gränserna 0.17-0.32 µmol/l, för silikat 6.2 till 8.5 µmol/l. I Bornholmsbassängen var syrehalten under 2 ml/l från 70m och djupare, vilket innebar en syremättnad mindre än 28%. Svavelväte återfanns i östra Gotlandsbassängen på 150m vid Fårödjupet, på 175m vid Gotlandsdjupet och på 140m vid BY10.

## DELTAGARE

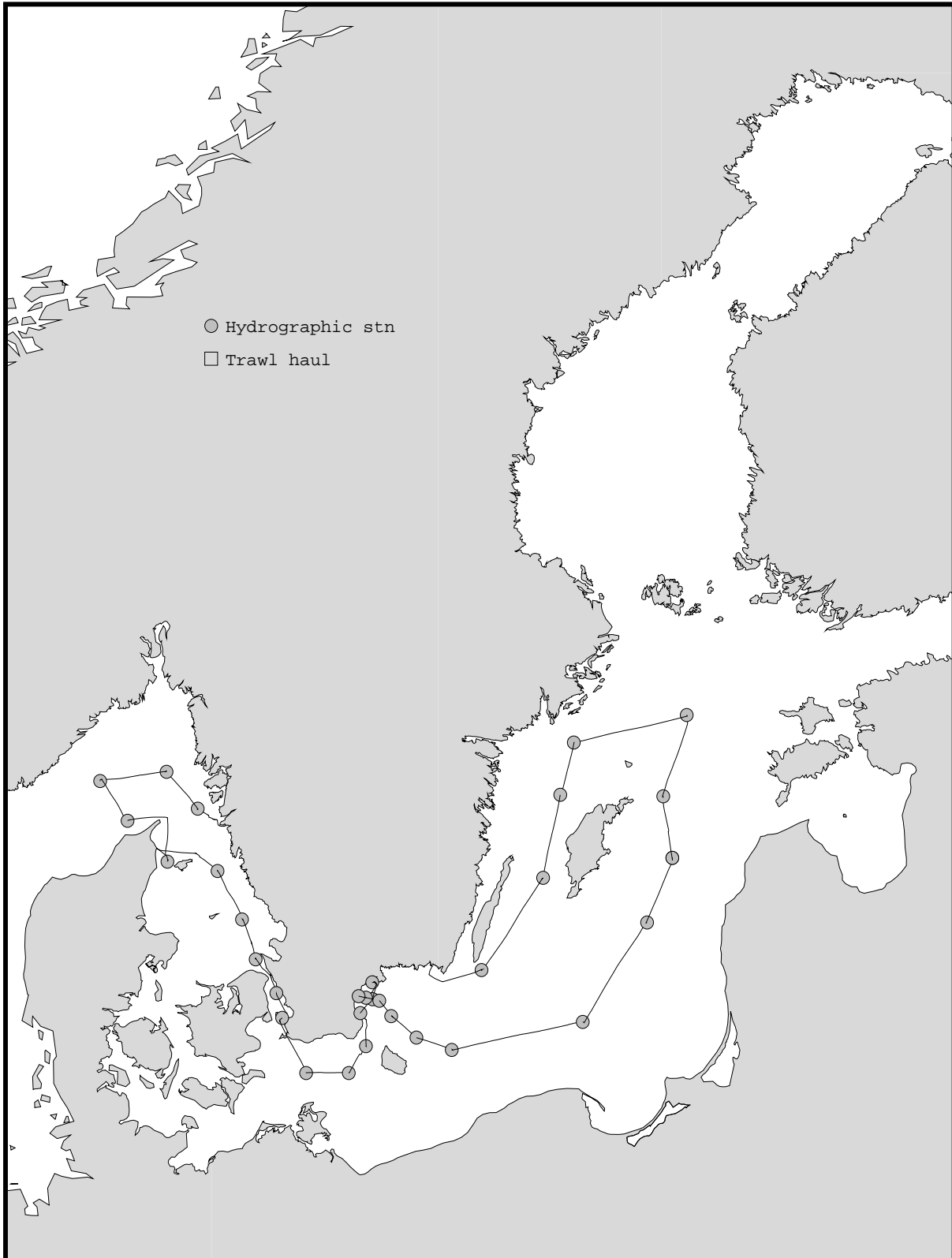
Namn	Från
Bodil Thorstensson, expeditionsledare	SMHI Oceanografiska lab.
Tuulikki Jaako	- " -
Mats Ohlson	- " -
Björn Sjöberg	- " -
Jan Szaron	- " -

## BILAGOR

- Färdkarta
- Tabell över stationer, antal parametrar och provtagningsdjup
- Karta över syrehalter i bottenvattnet
- Profilplottar för basstationer
- Månadsmedelvärdesplottar för vissa basstationer

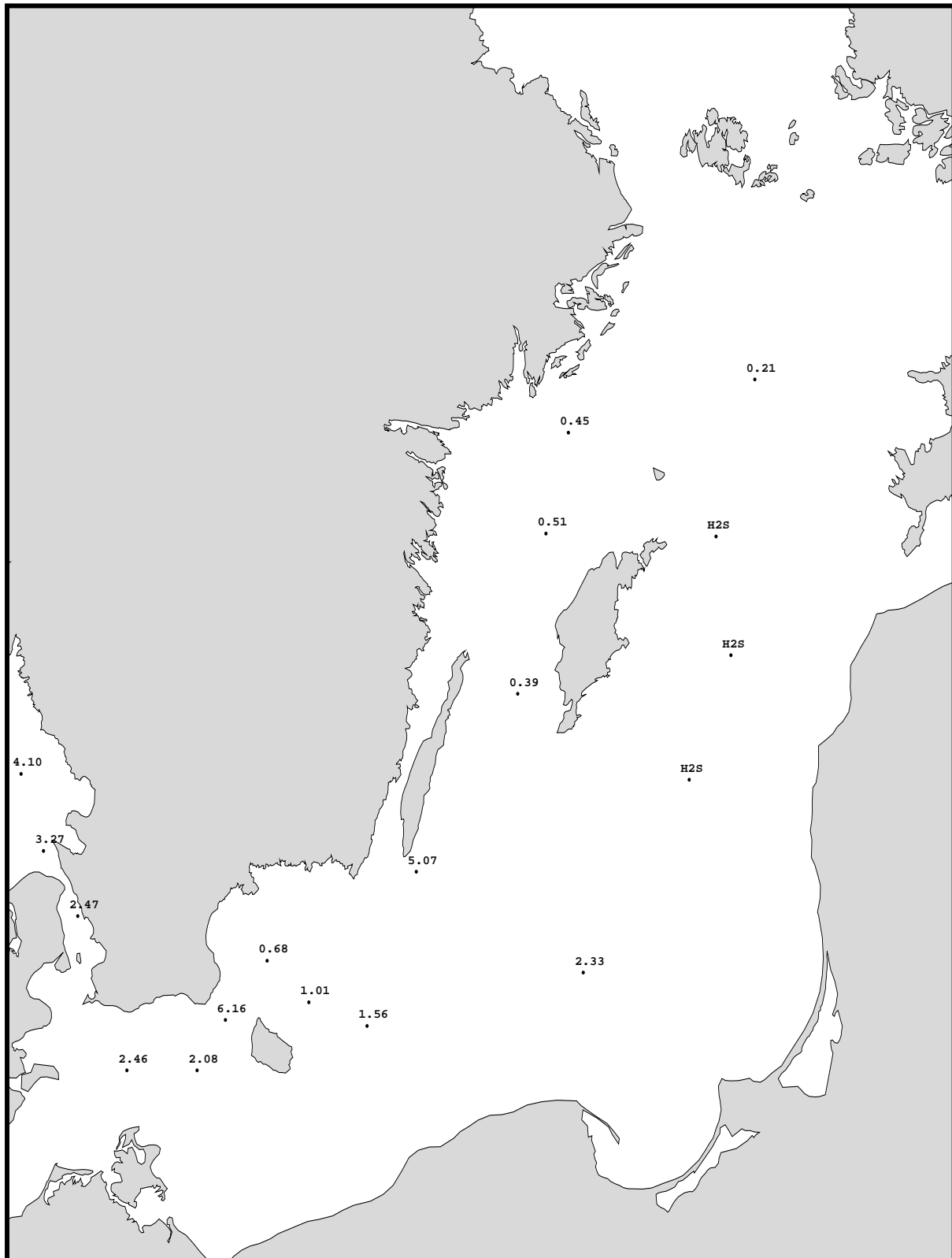
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Ship : Argos  
Date : 971110-971115  
Series : 0695-0726



# Bottom water oxygen concentration (ml/l)

Country: Sweden  
Ship: Argos  
Date: 971110-971115  
Series: 0695-0726



SMHI  
 Ocean lab

\*\*\*\*\* Hydrographic Ship: 14-Argos  
 \*\*\*\*\* series Year: 1997

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Date: 1997-11-17  
 Time: 08:37

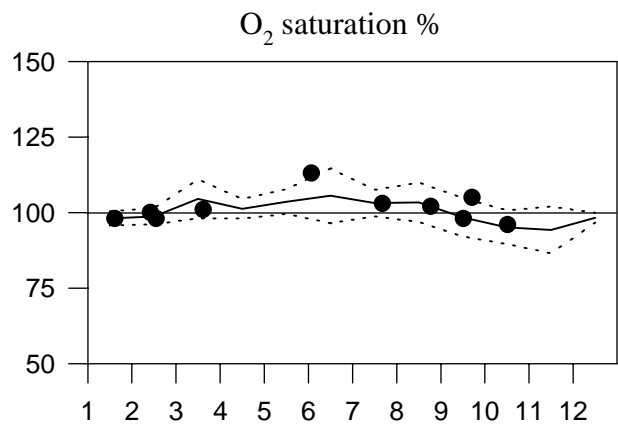
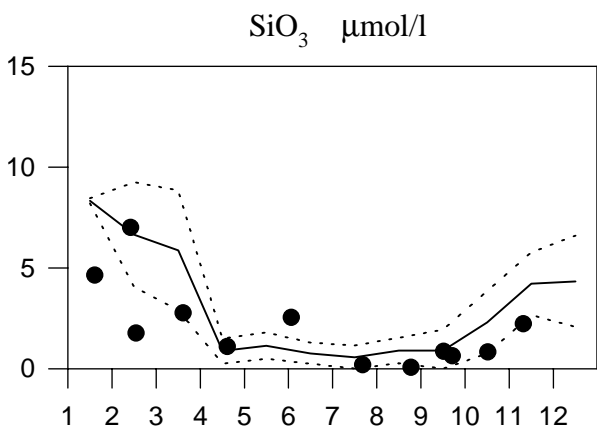
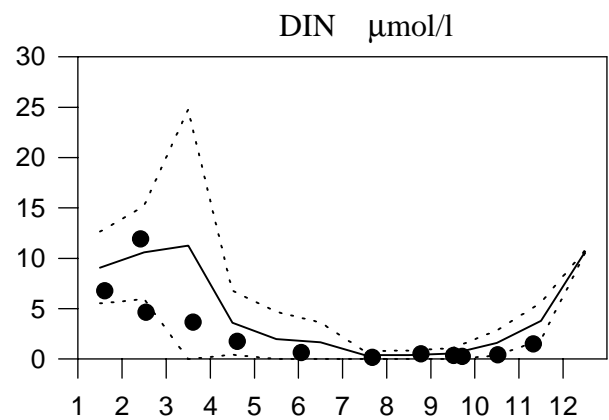
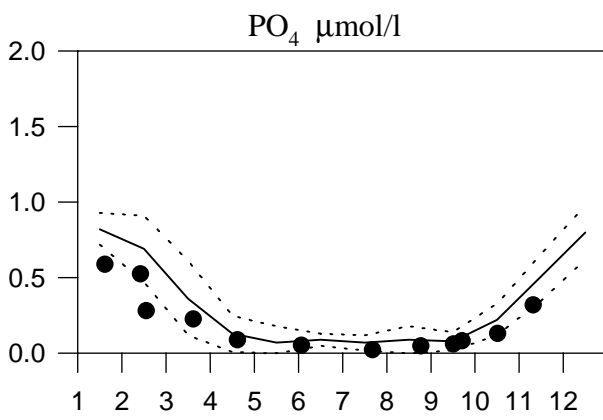
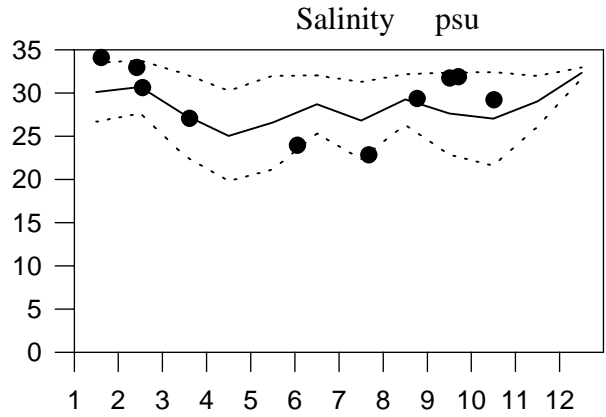
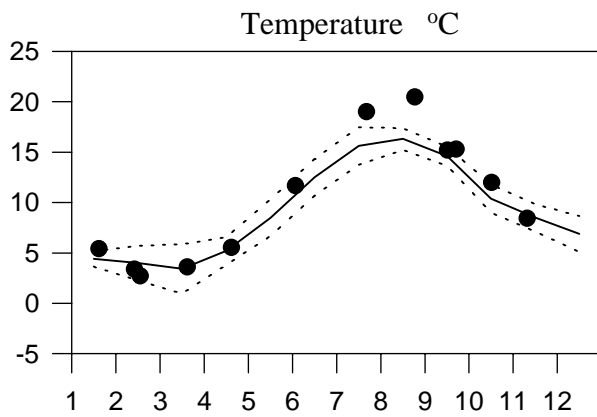
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		j				yy	mm	dd	hh	mm	deph	C	hPa	aoae	t d	Cily	ooa	m l	y S	4 t	2 3	4 t	2 3	4 t	2 3	4 t	k O m	g N	C C	m				
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0696	SKEX17PMK	Å16		N5816	E1043.5	971110	1445	200			14	10	9.2	996	2830	x	14	xx	-	x	x	x	x	x	x	x	x	-	x	-	-	-	-	
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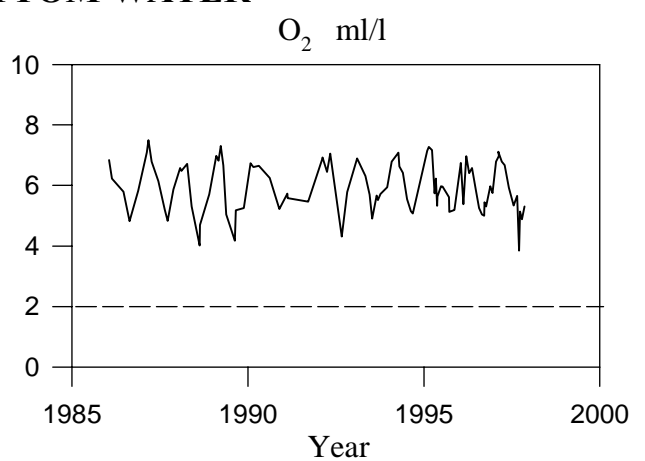
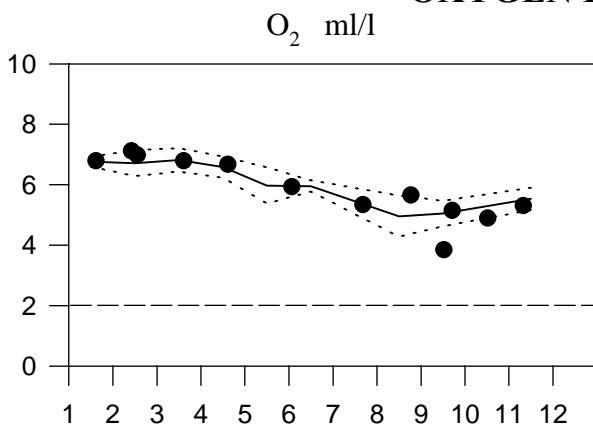
# STATION P2 SURFACE WATER (0-15 m)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



## OXYGEN IN BOTTOM WATER

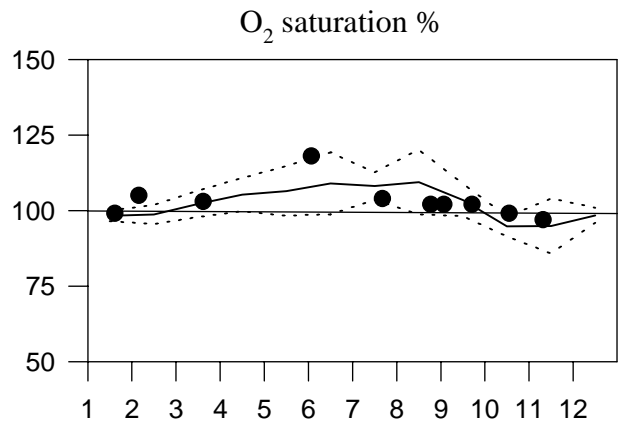
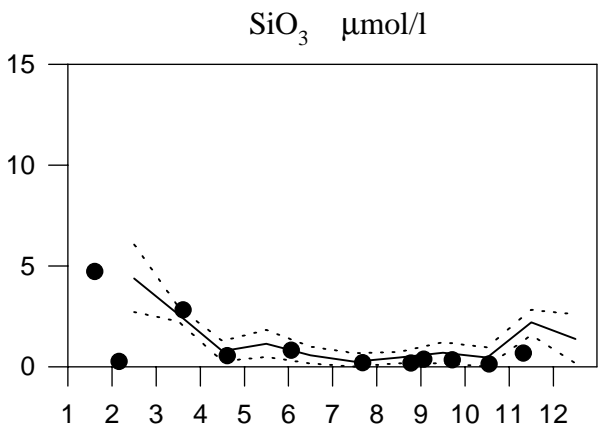
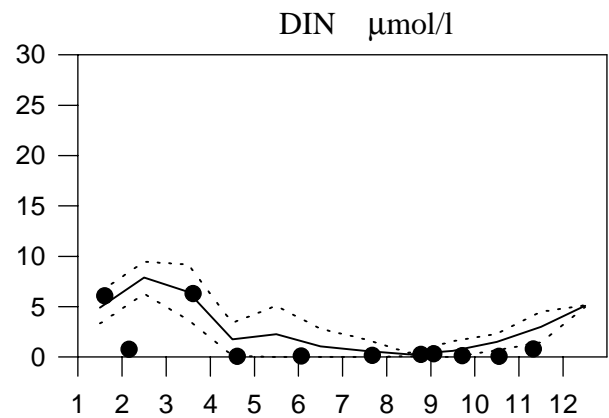
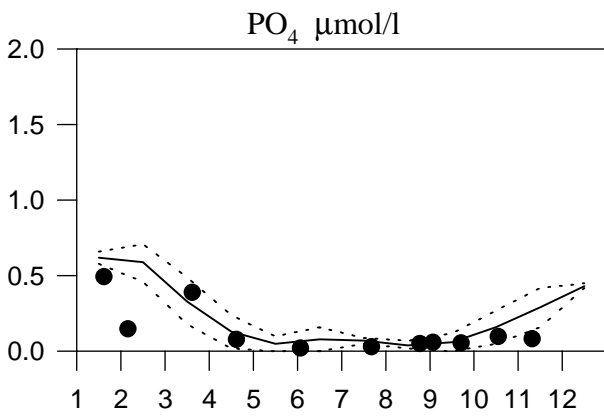
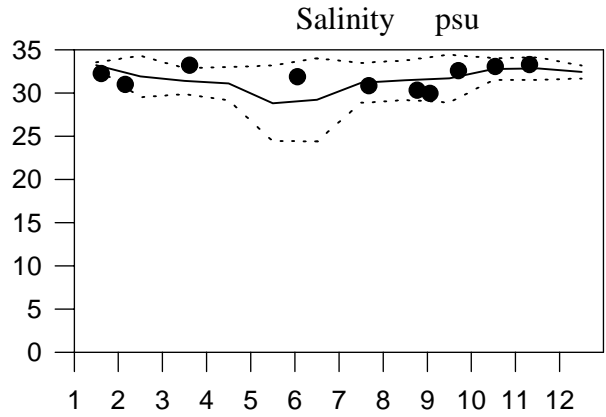
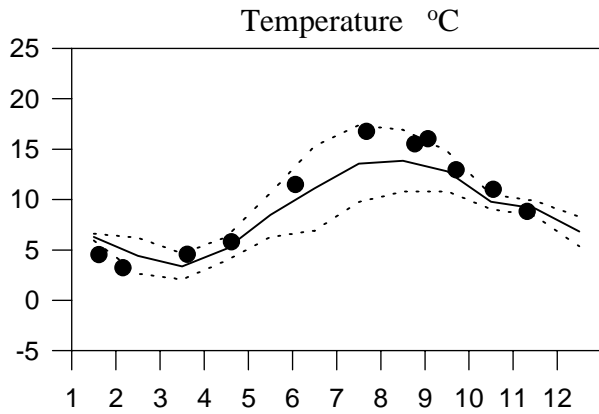




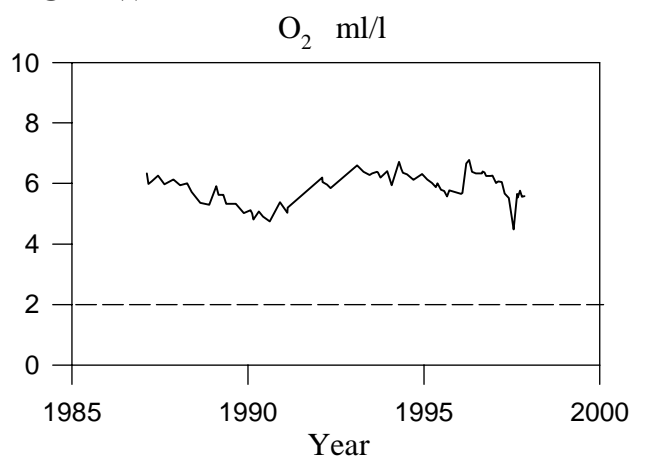
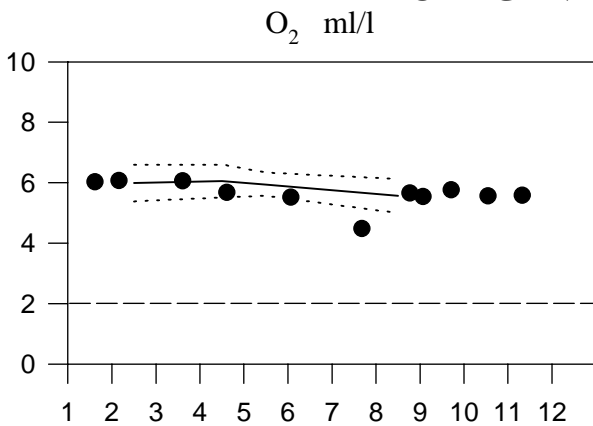
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## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



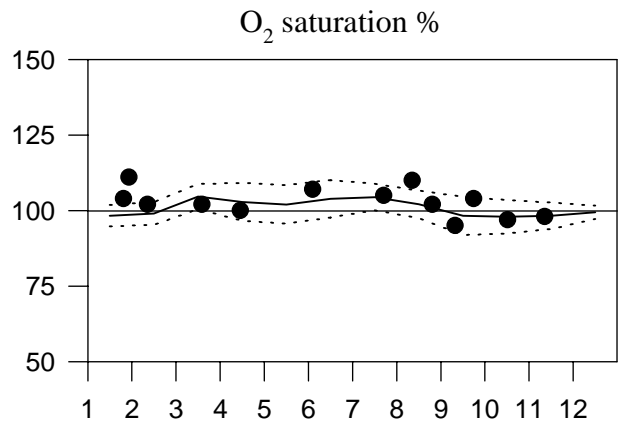
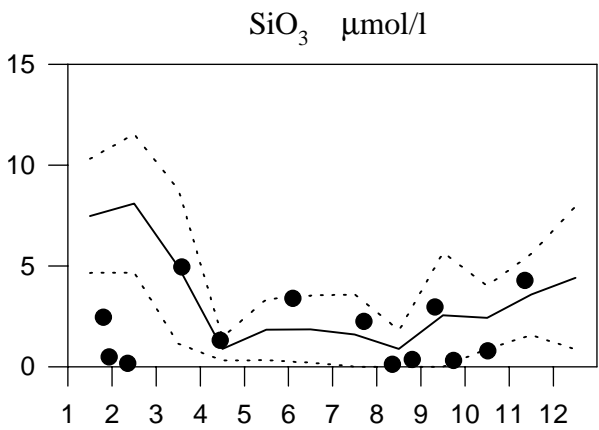
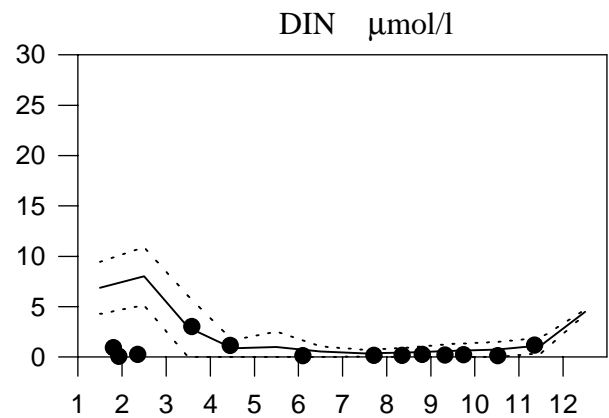
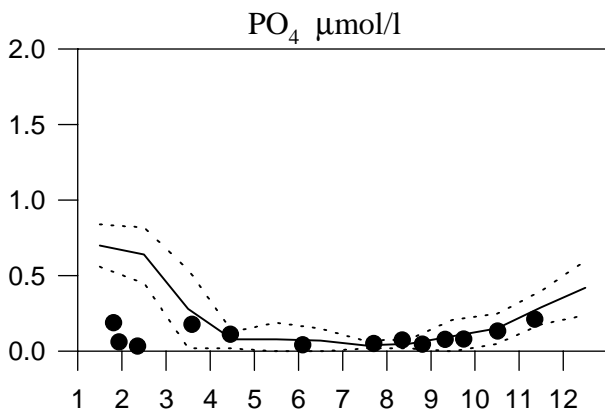
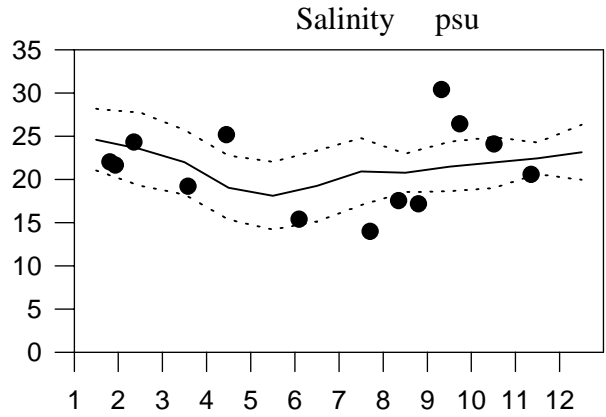
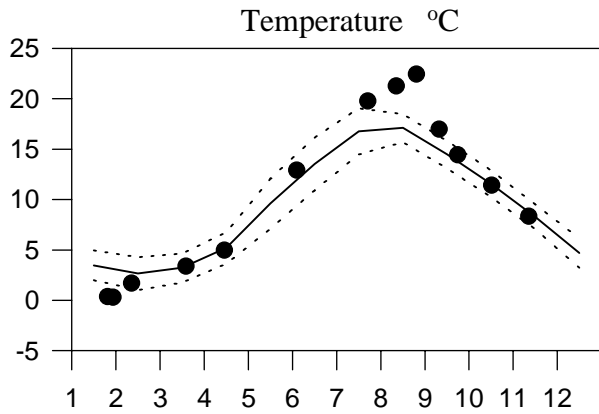
## OXYGEN IN BOTTOM WATER



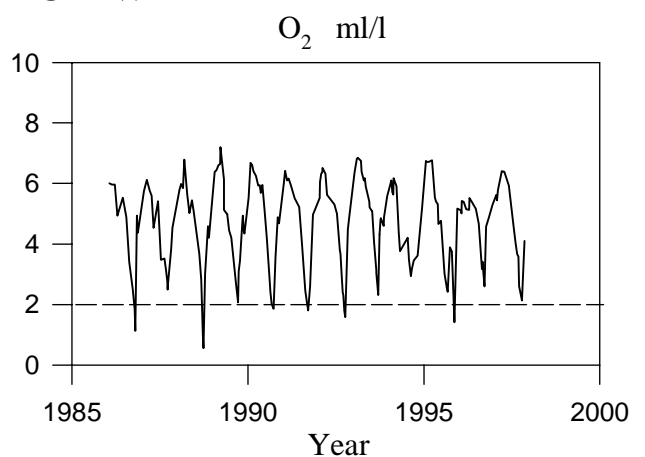
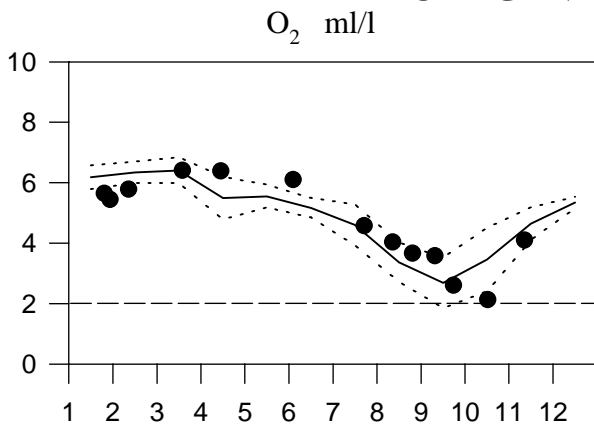
# STATION ANHOLT E SURFACE WATER (above halocline)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



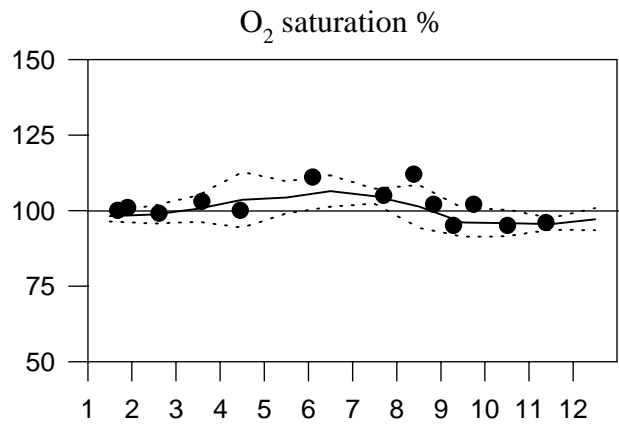
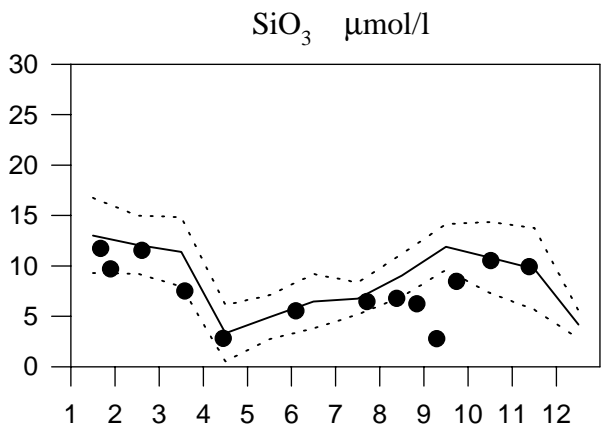
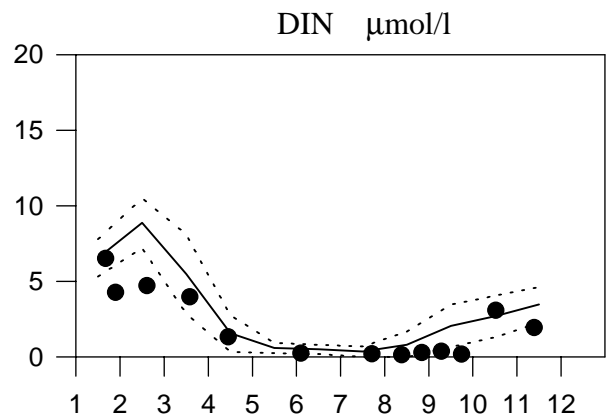
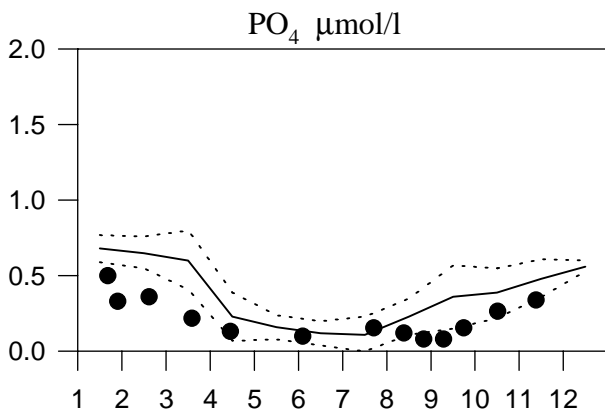
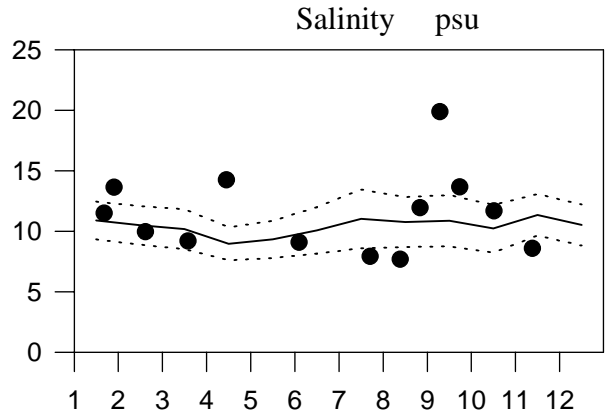
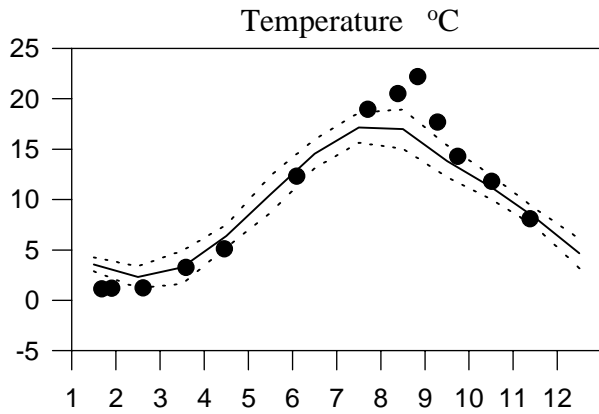
## OXYGEN IN BOTTOM WATER



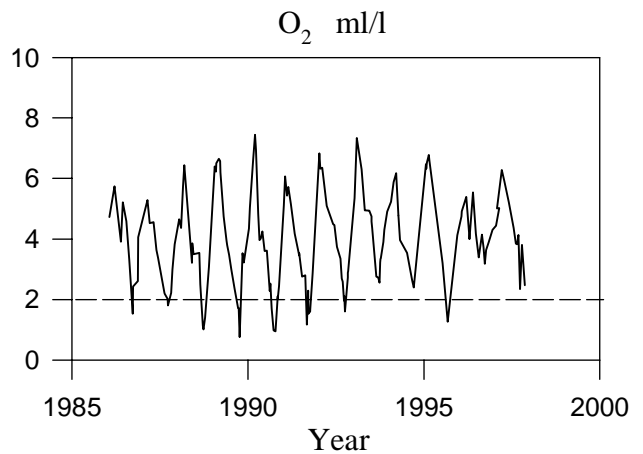
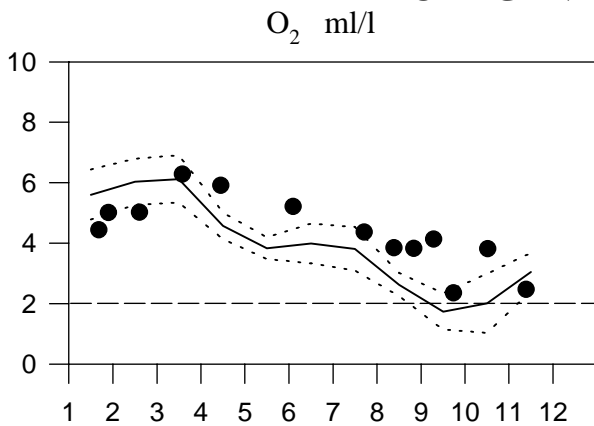
# STATION W LANDSKRONA SURFACE WATER (0-15 m)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



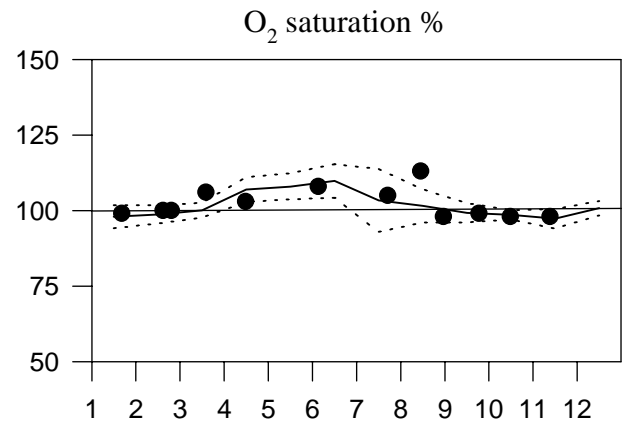
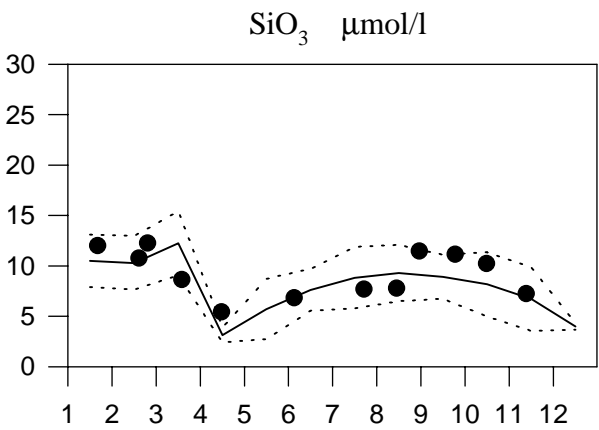
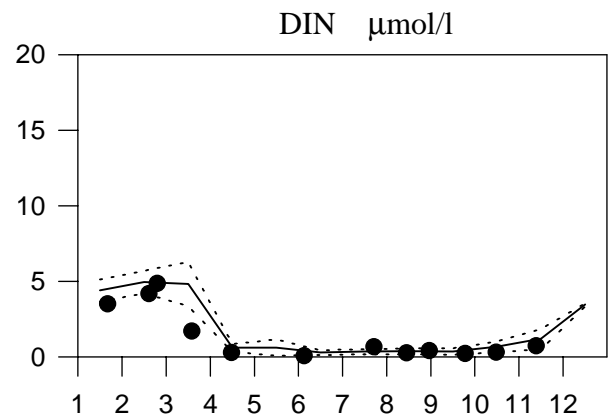
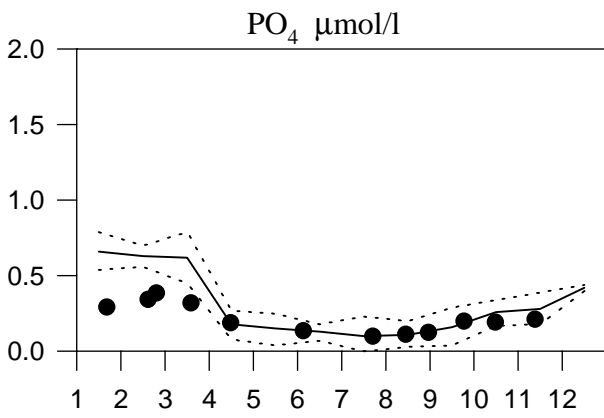
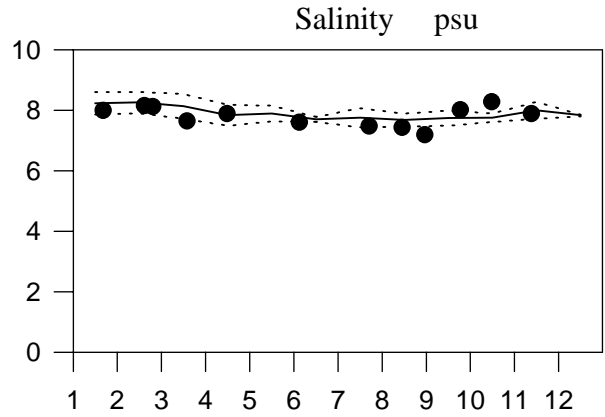
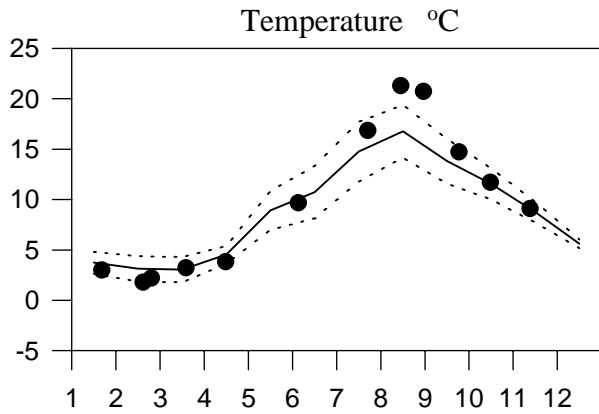
## OXYGEN IN BOTTOM WATER



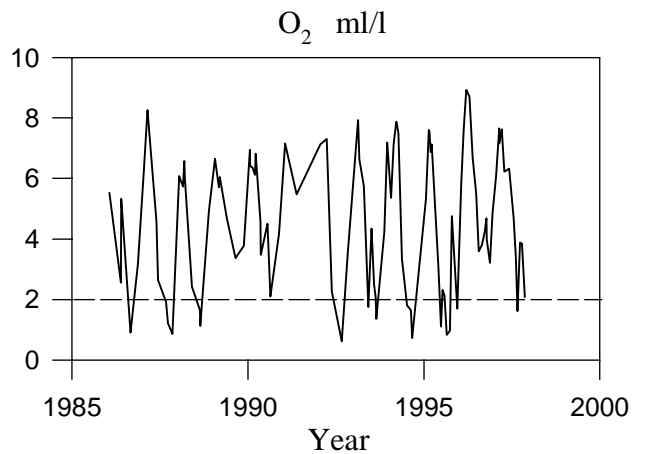
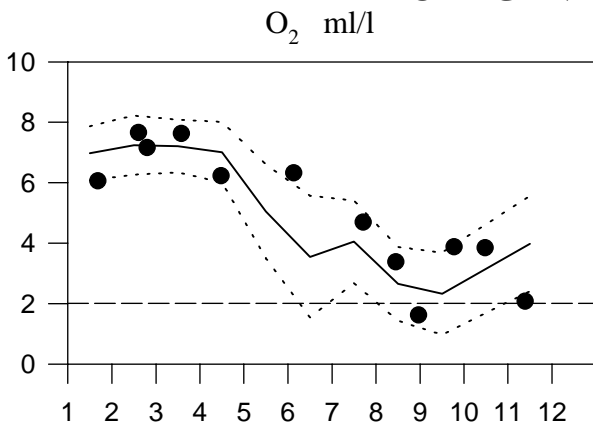
# STATION BY2 SURFACE WATER (0-15 m)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



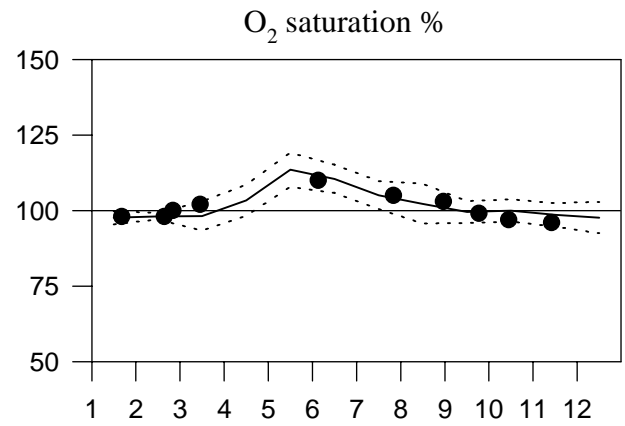
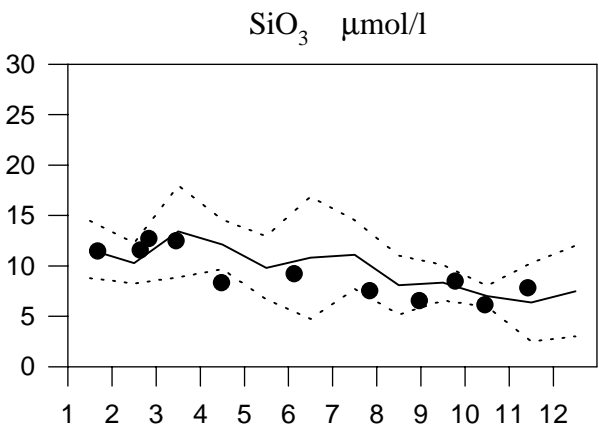
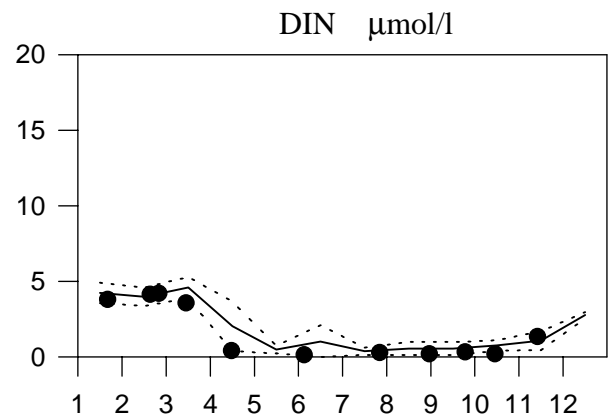
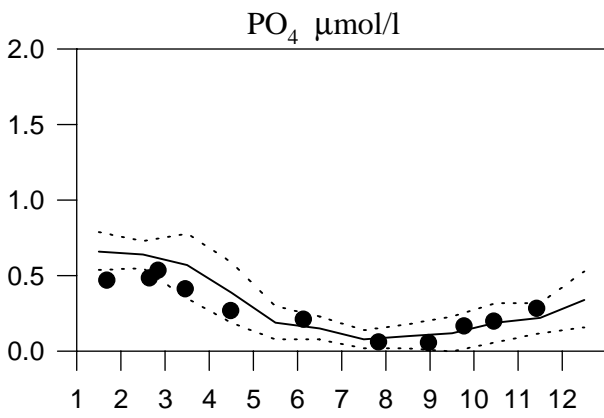
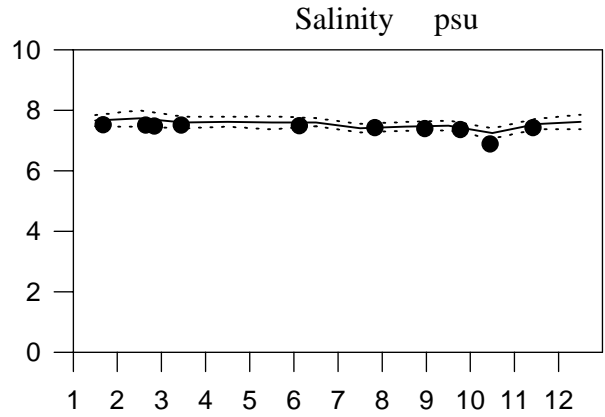
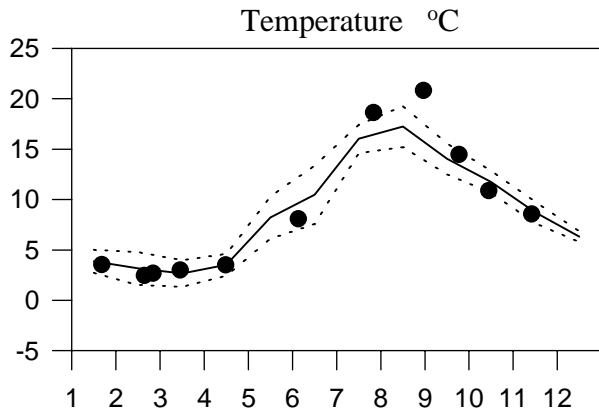
## OXYGEN IN BOTTOM WATER



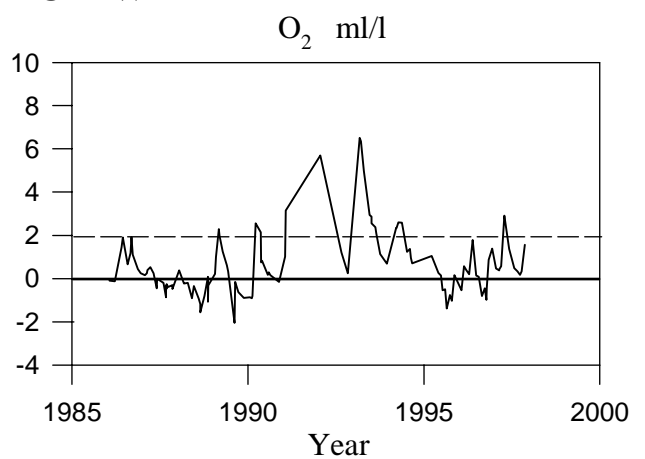
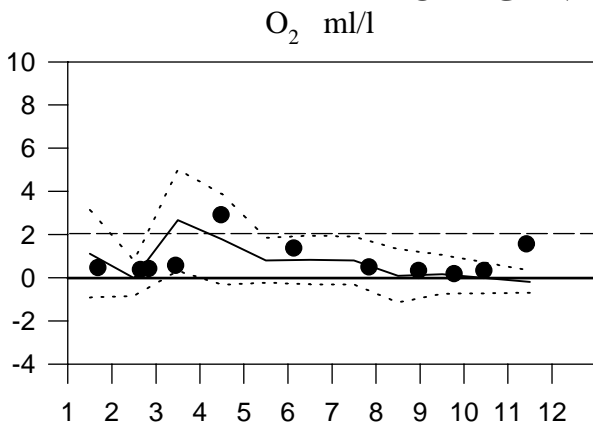
# STATION BY5 SURFACE WATER (0-15 m)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



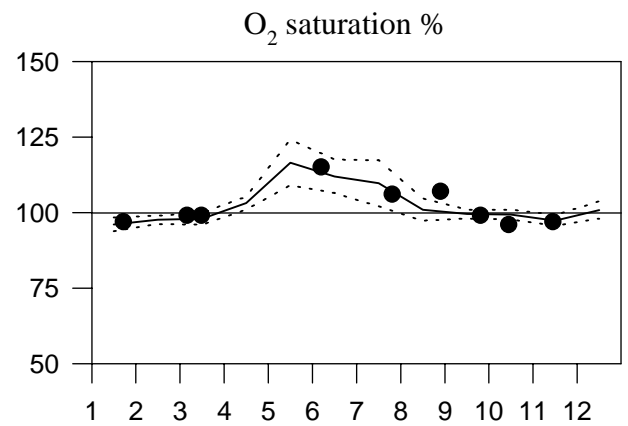
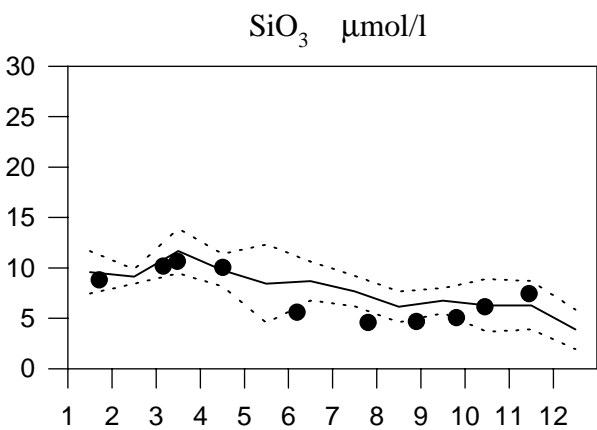
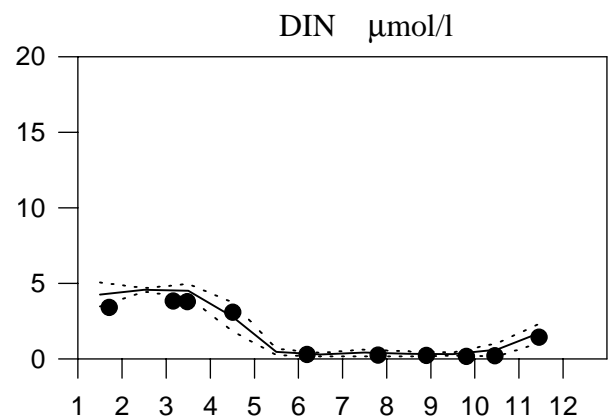
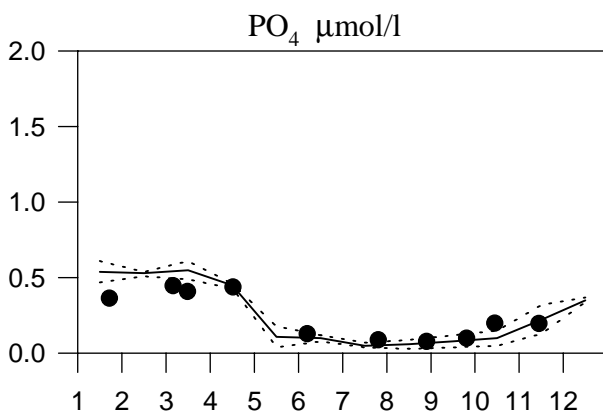
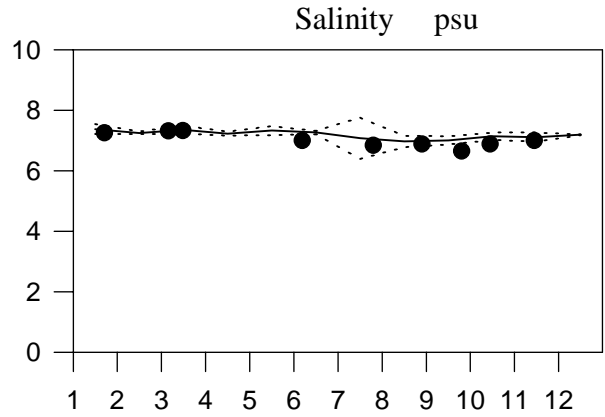
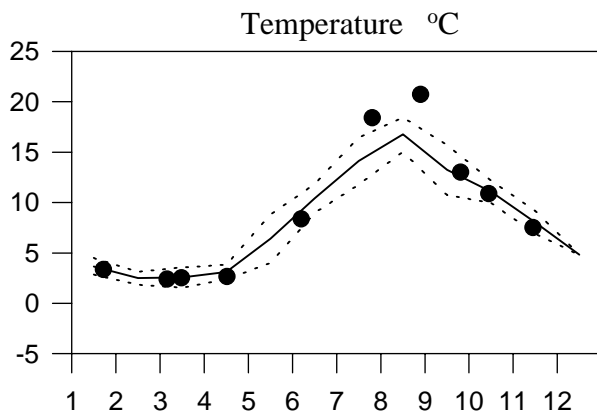
## OXYGEN IN BOTTOM WATER



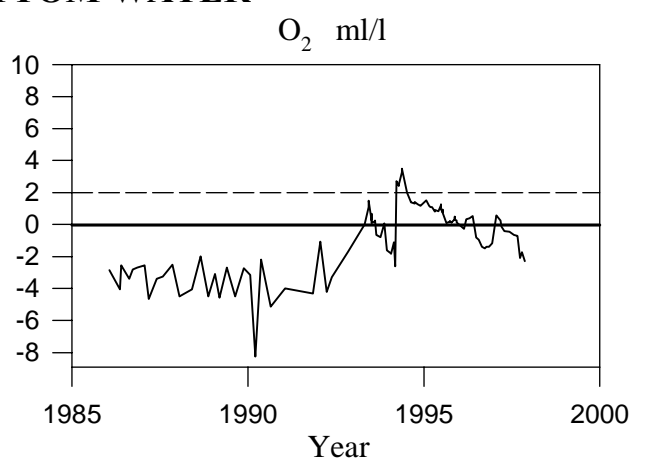
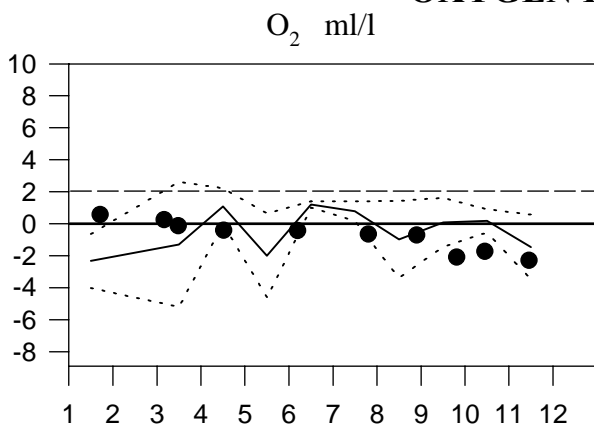
# STATION BY15 SURFACE WATER (0-15 m)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997



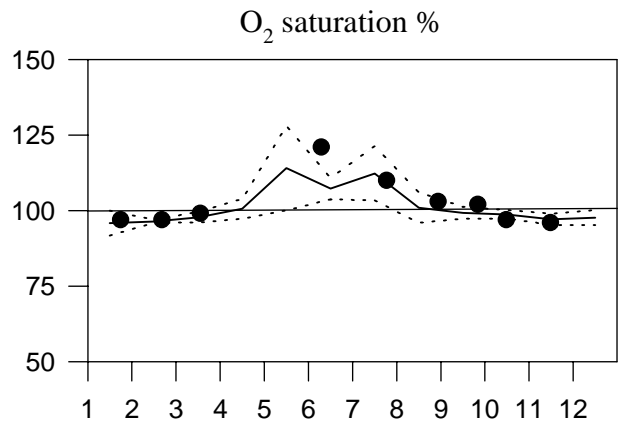
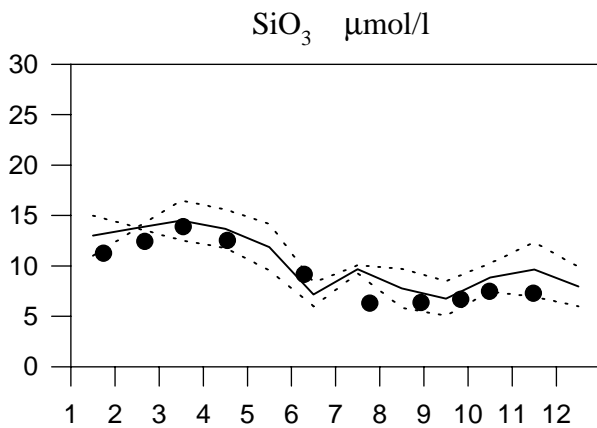
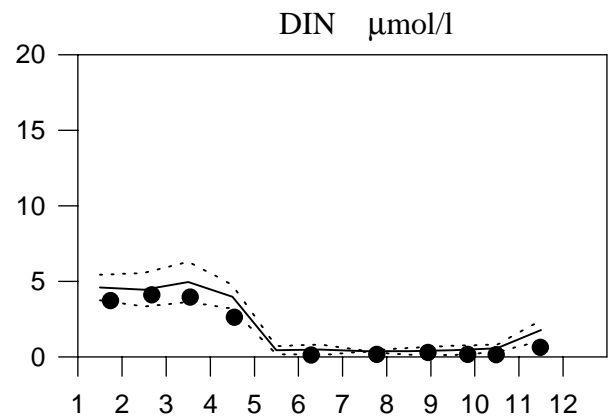
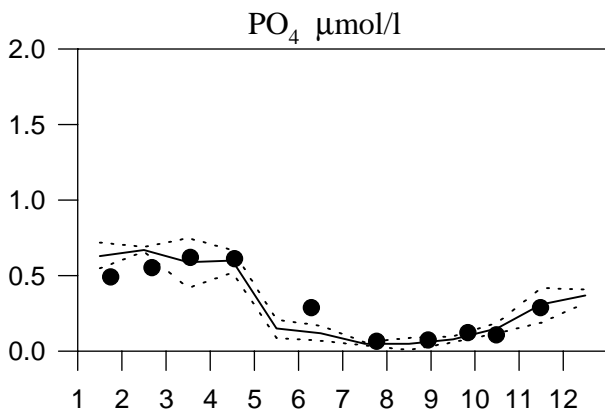
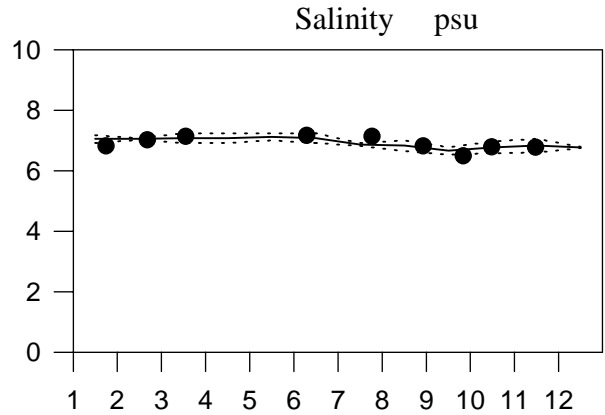
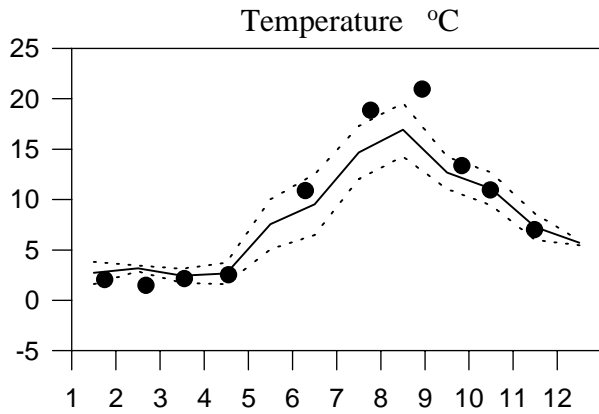
## OXYGEN IN BOTTOM WATER



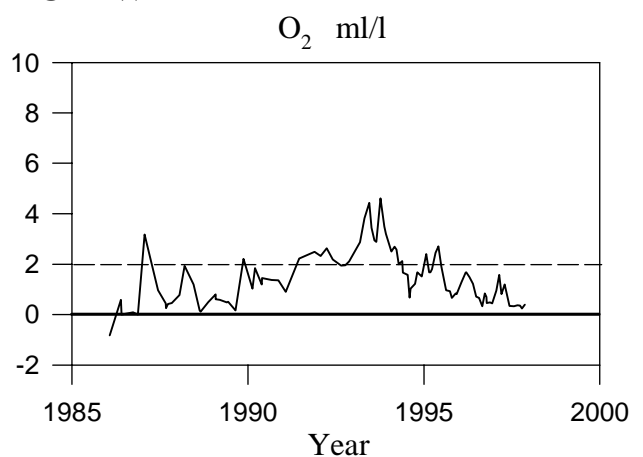
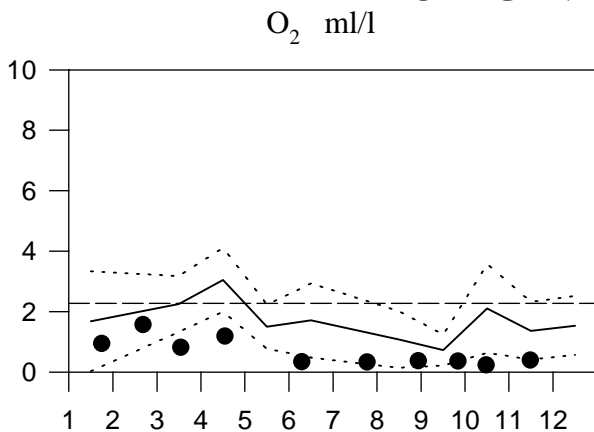
# STATION BY38 SURFACE WATER (0-15 m)

## Annual Cycles

— Mean 1986-1995    - - - St.Dev.    ● 1997

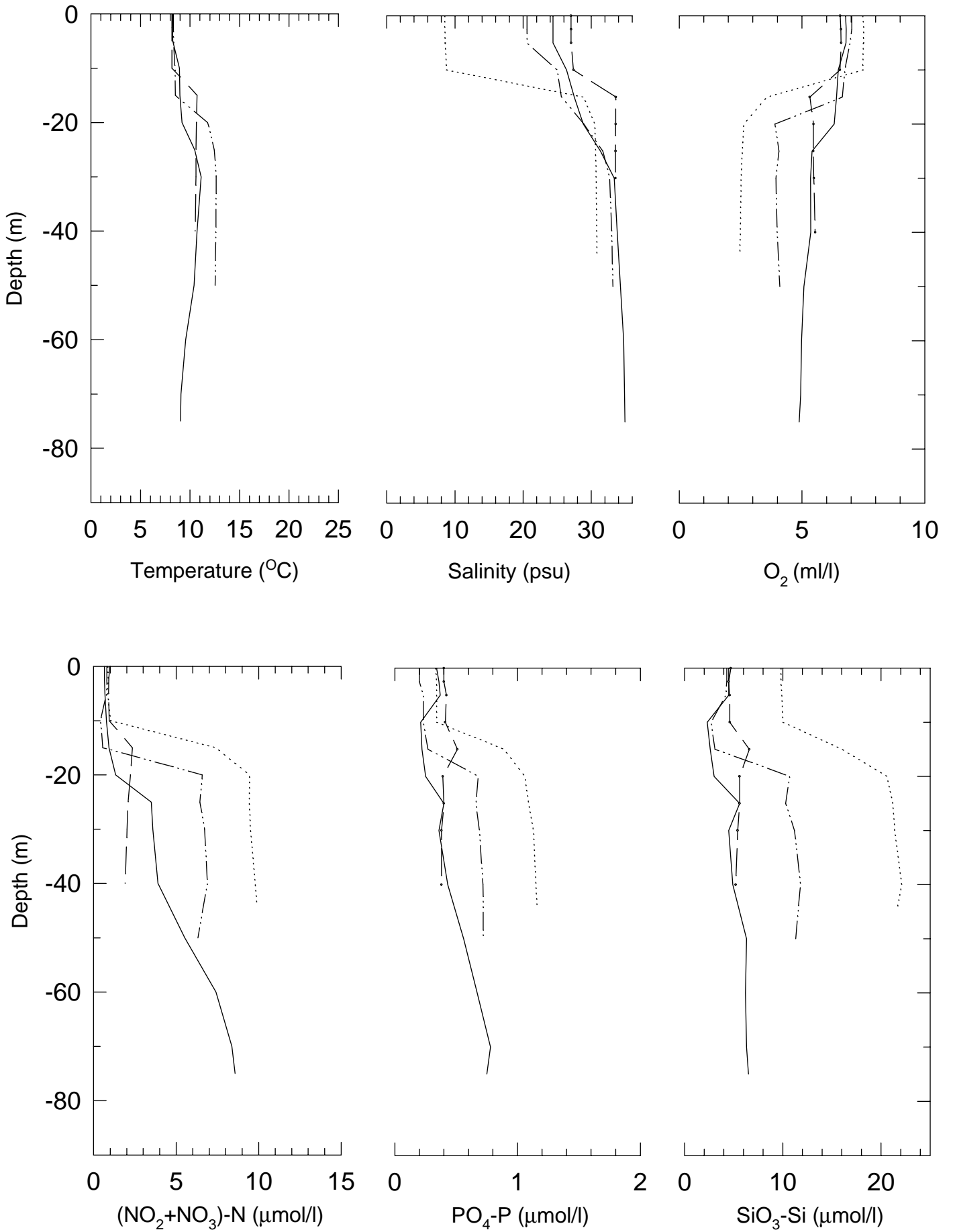


## OXYGEN IN BOTTOM WATER



# KATTEGAT and THE SOUND week 46 -97

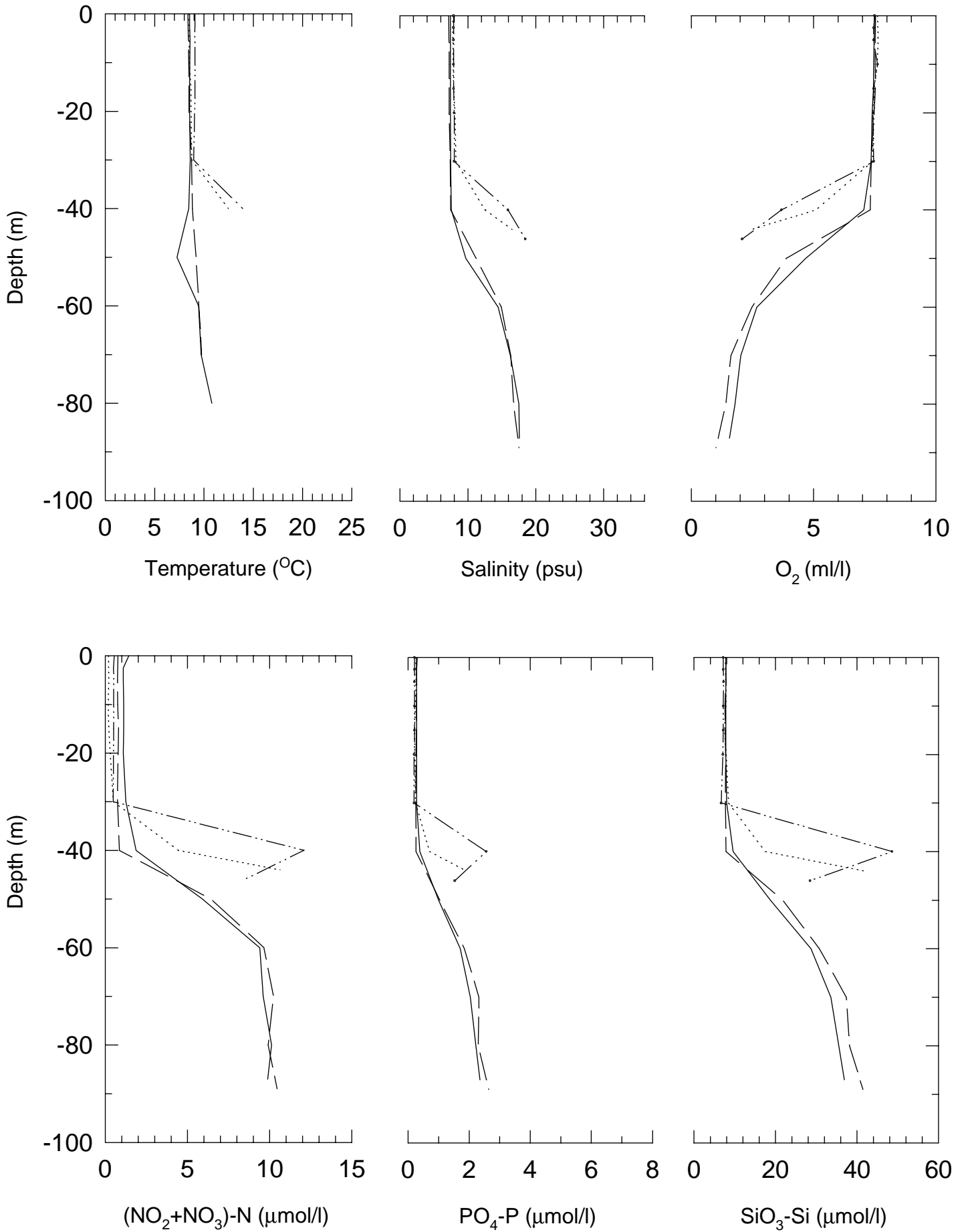
———— Fladen    - - - - Läsö    - · - · - Anholt E    ······ Landskrona





# SOUTH BALTIC week 46 -97

— BY5    - - - BY4    ····· BY2    ····· BY1



# EAST BALTIC week 46 -97

— — — BY20    ————— BY15    - · - · - · BY10    ······ BCS III-10

