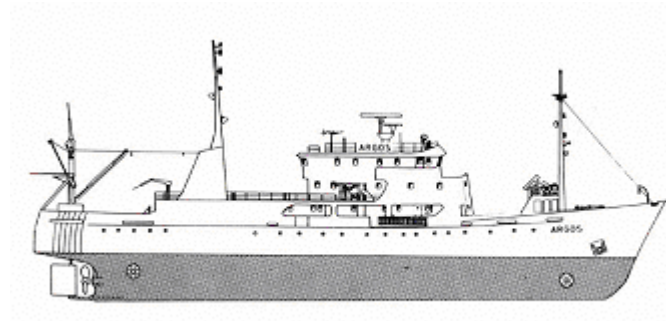


EXPEDITIONSRAPPORT FRÅN U/F ARGOS



Expeditionens varaktighet: 2006-09-04 - 2006-09-22
Survey period:

Undersökningsområde: Skagerrak, Kattegatt and the Sound
Survey area:

Uppdragsgivare: National Board of Fisheries
Principal: SMHI

SUMMARY

The expedition was included within the National Board of Fisheries International Bottom Trawl Survey and covered the Skagerrak and the Kattegat.

In the Skagerrak, 11 stations with complete hydrography were taken. In the Kattegat mapping of oxygen conditions in bottom water was performed, 10 stations with complete hydrography and 14 with oxygen and salinity near bottom were sampled.

The lowest oxygen concentration measured in the bottom water of the Skagerrak was 3.71 ml/l outside Lysekil in the eastern part, corresponding to a degree of saturation of 57%. The oxygen values of the Kattegat were not alarmingly low. The lowest values detected, between 2.2 and 3 ml/l were found in the Sound and in the south-eastern part of Kattegat.

PRELIMINÄRA RESULTAT

Expeditionen, som ingick i Fiskeriverkets beståndsuppskattning av bottenlevande fisk i Skagerak och Kattegatt med Öresund, startade i Göteborg den 4:e september och avslutades i samma hamn den 22:e september.

Vädret var under expeditionen var växlande. Perioder med svaga vindar avlöstes av några dygn med måttliga till friska vindar. Vindriktningen varierade i huvudsak mellan sydväst och nord. I Skagerak togs 11 stationer med fullständig hydrografi. I Kattegatt med Öresund utfördes kartering av syre i bottenvattnet och där togs 10 stationer med komplett hydrografi och 14 med enbart oxygen och salt nära botten.

Skagerrak

Ytvattentemperaturerna varierade från ca. 17°C utefter Bohuskusten till 15.5°C i de centrala delarna. Ytsalthalten var ca 33 psu i de västra och centrala delarna en av området och gick som lägst ned till ca 25 psu i den Baltiska strömmen.

Närsalthalterna i ytvattnet uppvisade för årstiden normala värden. Fosfat varierade mellan 0.02 och 0.25 $\mu\text{mol/l}$ med de högsta halterna utefter Jyllandskusten. Nitrat återfanns i Jyllandsströmmen, 0.2 $\mu\text{mol/l}$ utefter, i övriga Skagerrak låg koncentrationerna under detektionsgränsen ($<0.10 \mu\text{mol/l}$). Silikat varierade mellan 0.4 och 2.9 $\mu\text{mol/l}$.

Den lägsta syrehalten i bottenvattnet, 3.71 ml/l, uppmättes på 40 meters djup utanför Lysekil, svarande mot en mättnad av 57%.

Kattegatt

Ytvattentemperaturen varierade från 13.5°C, i Öresund till 17.5°C, i de norra delarna. Ytsalthalten avtog från ca. 31 psu i norr till 13 psu sydost (i Öresund 8.5 psu). En skarp haloklin återfanns på djup mellan 10 och 20 meter.

Fosfathalten i ytan varierade mellan 0.04 $\mu\text{mol/l}$ i de norra delarna till 0.12 $\mu\text{mol/l}$ i de södra, vilket är för årstiden normalt. I Öresund uppmättes 0.36 $\mu\text{mol/l}$ vilket är högre än normalt.

Nitratkoncentrationen i ytan låg under detektionsgränsen på 0.10 $\mu\text{mol/l}$ i hela området.

Ytsilikathalten var ca. 9 $\mu\text{mol/l}$ i Öresund medan den i övriga delar varierade den mellan 1 och 5 $\mu\text{mol/l}$.

Syrehalterna i öppna Kattegatts bottenvatten var inte alarmerande låga. De lägsta värdena registrerades i Öresund och i sydöstra Kattegatt, mellan 2.2 och 3 ml/l.

DELTAGARE

Namn		Från
Johan Håkansson	v 36	SMHI Oceanografiska lab
Arne Svensson	v 36	- ” -
Bodil Thorstensson	v 37	- ” -
Bengt Yhlen,	v 37	- ” -
Sari Sipilä	v 38	- ” -
Anna-Kerstin Thell	v 38	- ” -

BILAGOR

- Färdkarta
- Tabell över besökta stationer, meteorologiska förhållanden och provtagna parametrar under expeditionen
- Karta över syrehalter i bottenvattnet
- Temperatur och salthalt från ca 4 m djup längs rutten
- Profilplottar för vissa basstationer
- Månadsmedelvärdesplottar för vissa basstationer

TRACK CHART

Country: Sweden
Ship : Argos
Date : 20060904-20060922
Series : 0447-0500



Date: 2006-09-25
Time: 11:52

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0449	SKSX00IBT		30N HIRTSHALS	N5804.5	E0949.0	20060906	0440	255		25 6	16.6	1011	1630	x	13	x	x	-	x	x	x	x	x	-	x	-	
0450	SKSX00IBT		21.5NNW HIRTSHALS	N5755.45	E0944.40	20060906	0826	94		27 4	16.5	1012	2830	x	10	x	-	-	-	-	-	-	-	-	-	x	
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Date: 2006-09-25
Time: 11:52
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Ser no	Stat code	P ro j	Station-----	Lat-----	Lon-----	Date yyyymmdd	Time hhmm utc	Bottom depth m	Secchi depth m	Wind di ve	Air temp C	Air pres hPa	WCSI elec t aoae hd	C PPCPZZT Hrhhhoor Cilyyoo t motPBw PrP l	No de	T e a m l p i g	P h x y S P	O H 2 o o P	H P 4 t t	T N 2 o o P N	N N 3 o o P N	N T 4 o o P N	A S h o l k a 3	S H u i o m g n	L i u i o m g n	P T 0 O 0 C C	P T 0 O 0 C C	T O m m		
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Bottom water oxygen concentration (ml/l)

Country: Sweden

Ship : Argos

Date : 20060906-20060922

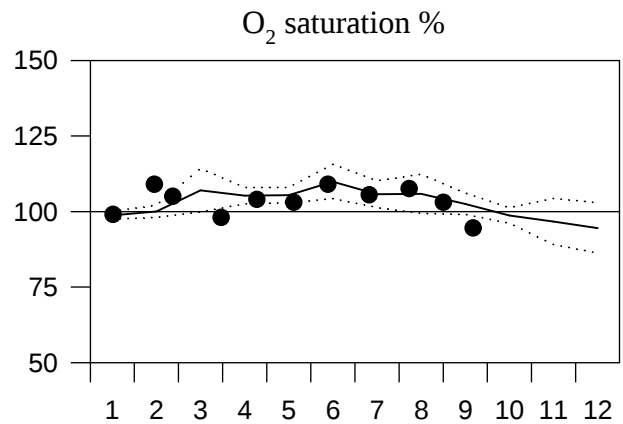
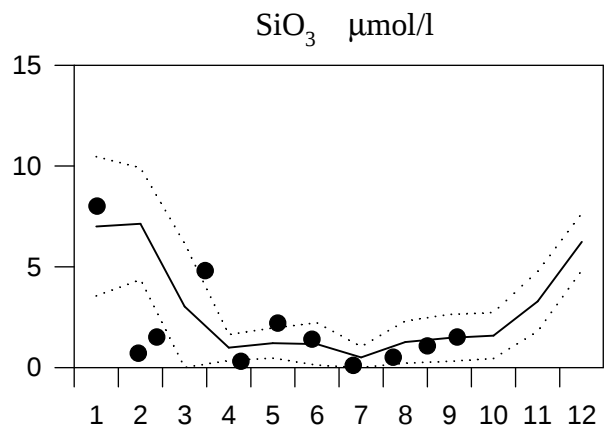
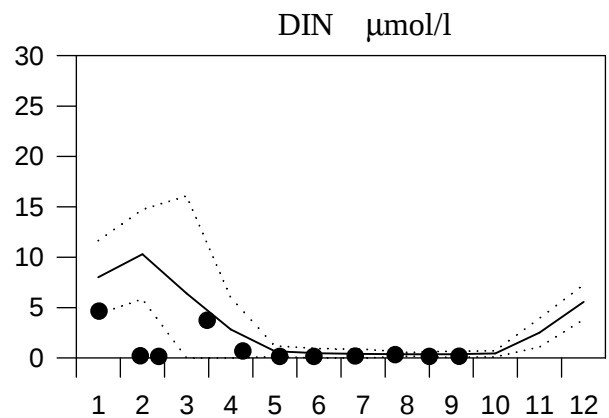
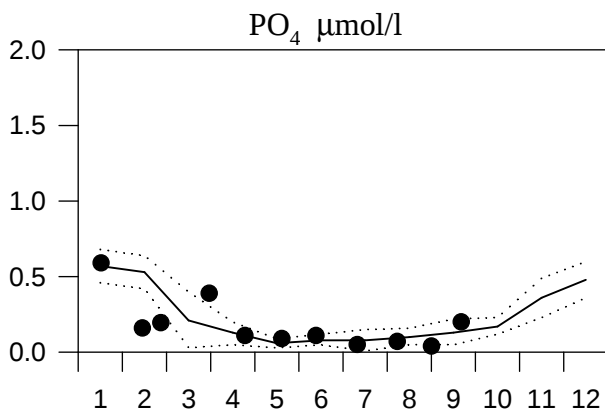
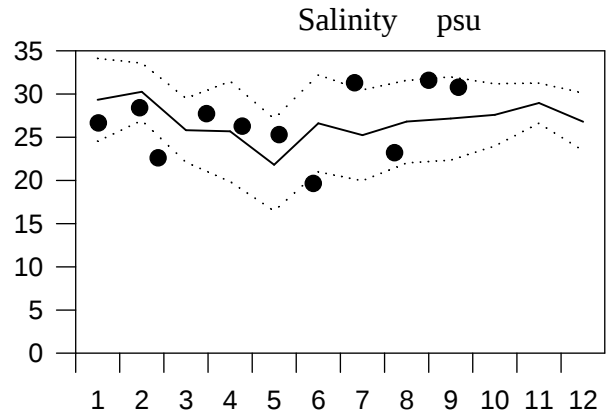
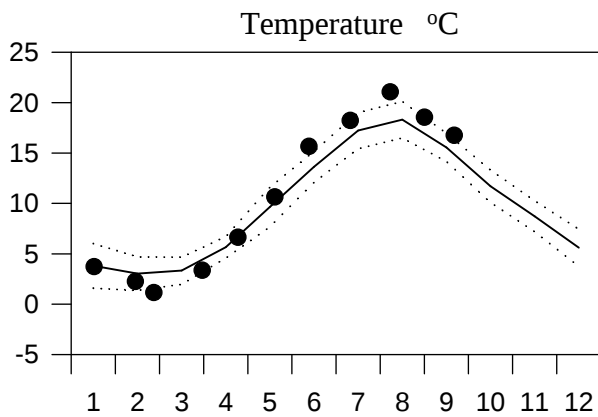
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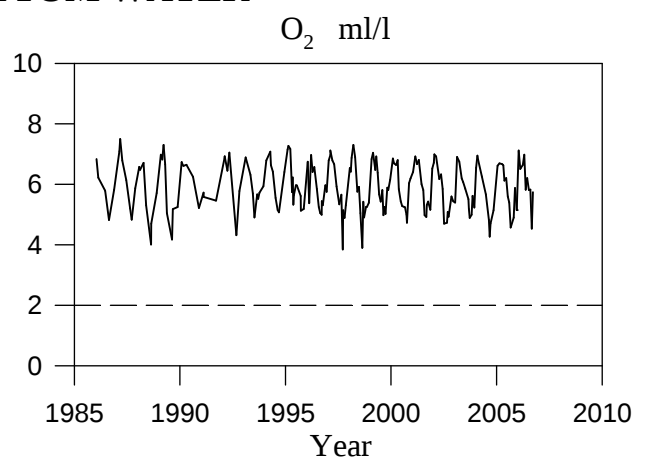
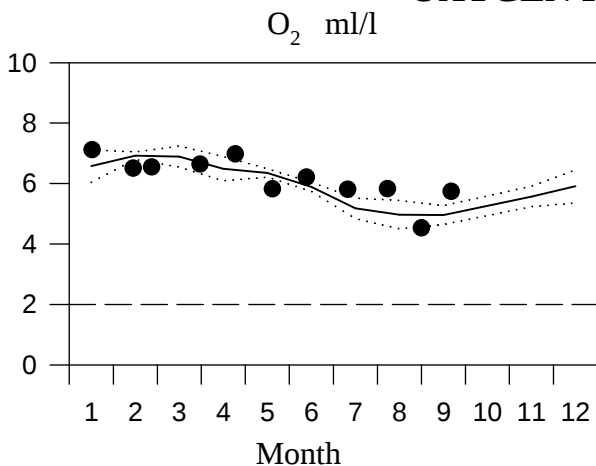
STATION P2 SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2006



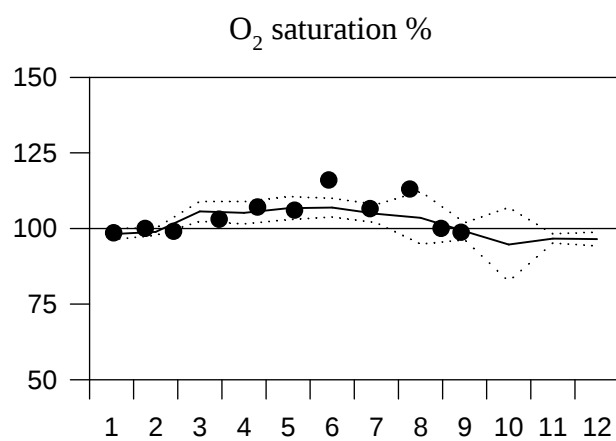
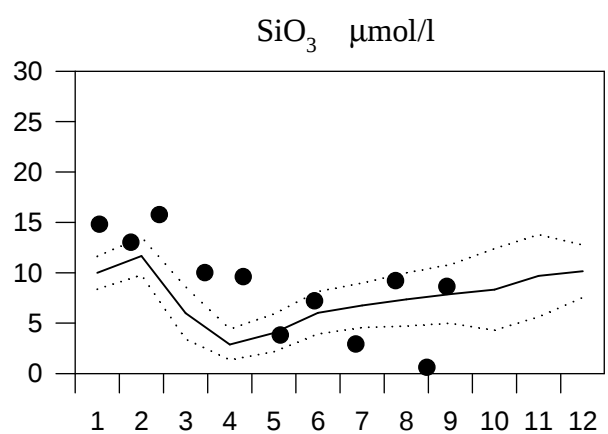
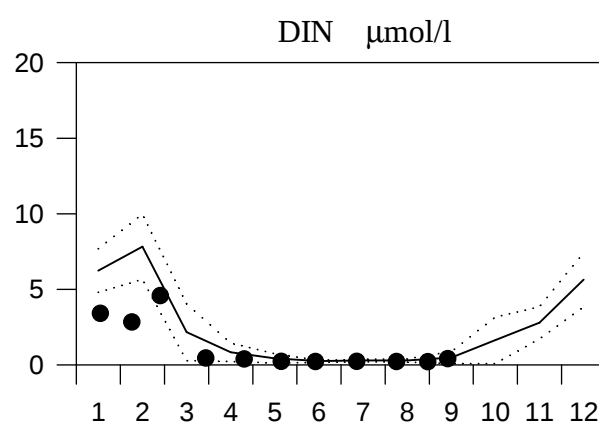
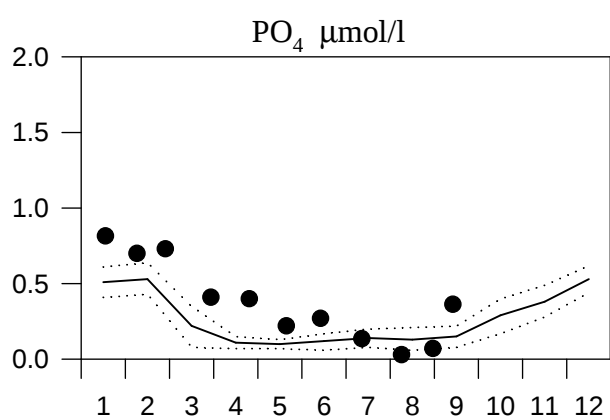
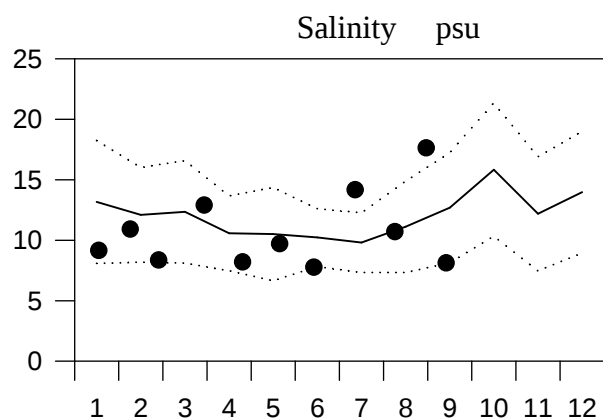
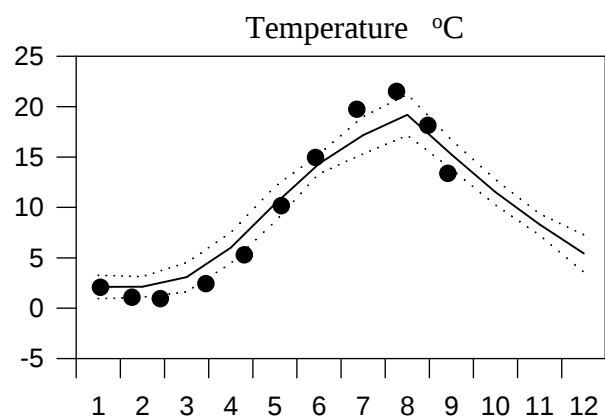
OXYGEN IN BOTTOM WATER



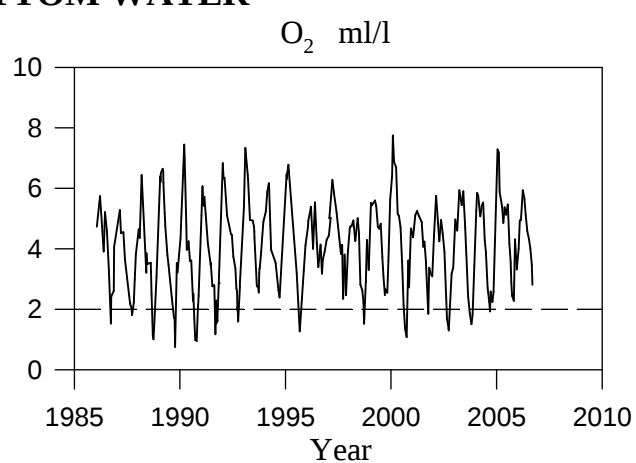
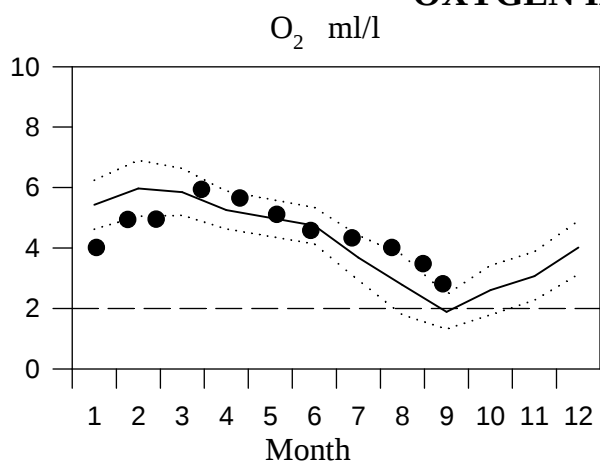
STATION W LANDSKRONA SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2006



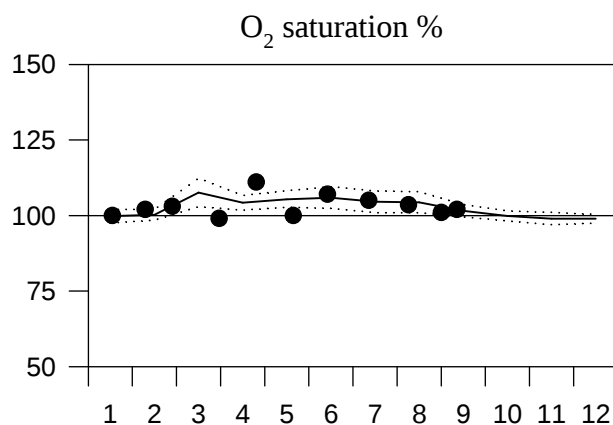
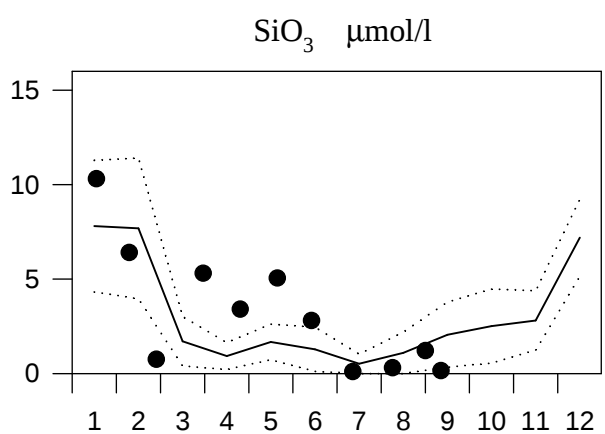
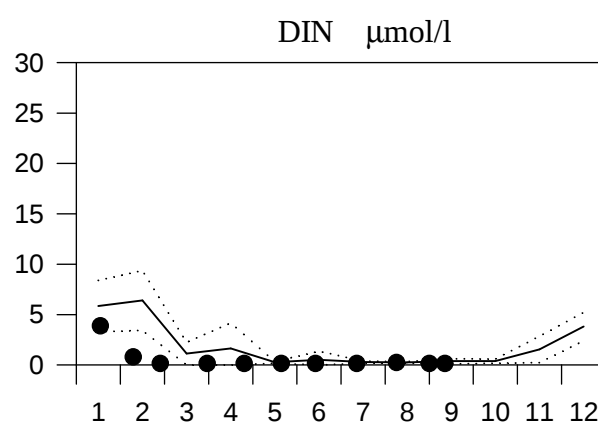
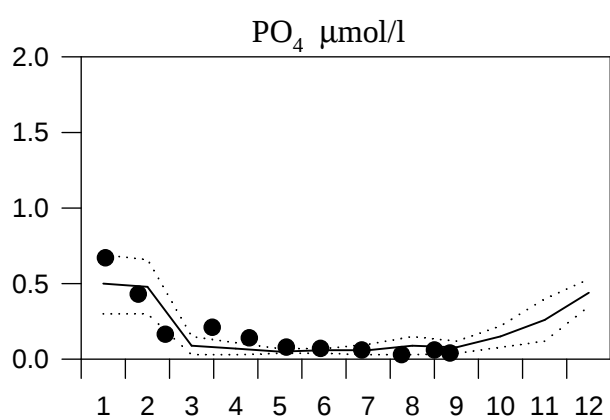
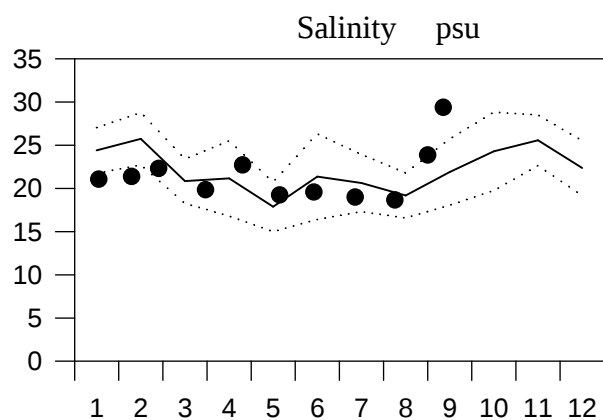
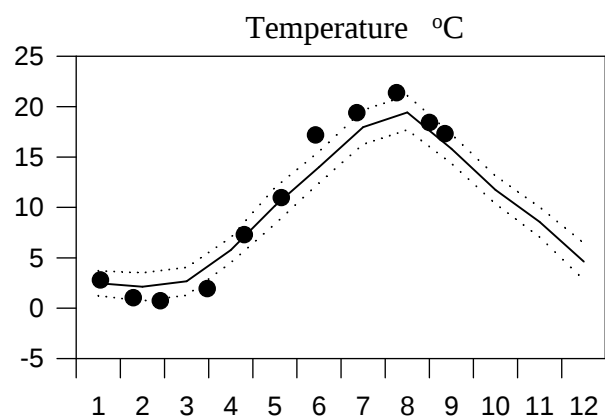
OXYGEN IN BOTTOM WATER



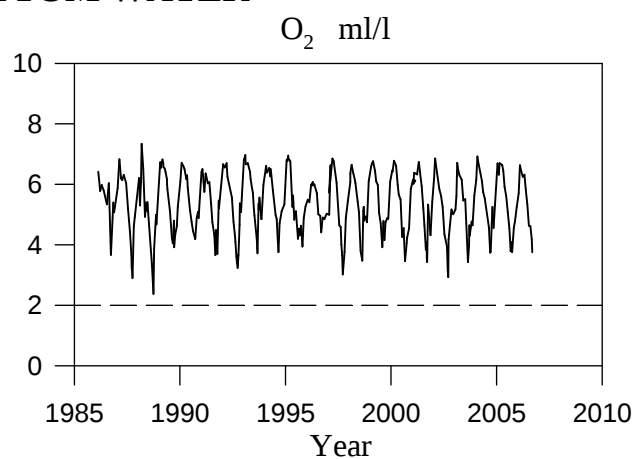
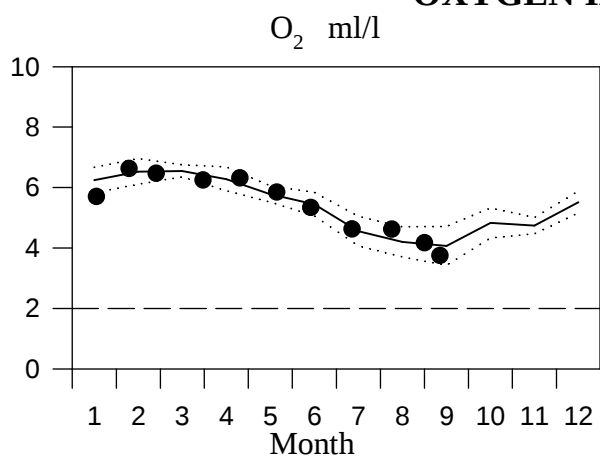
STATION FLADEN SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2006



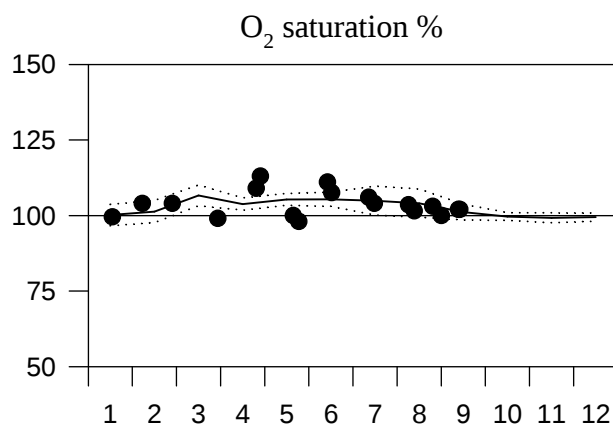
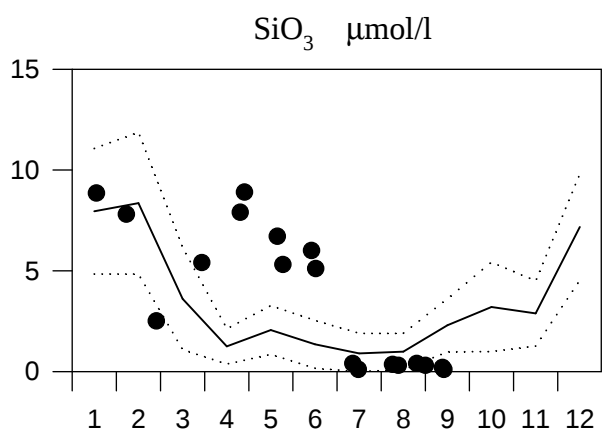
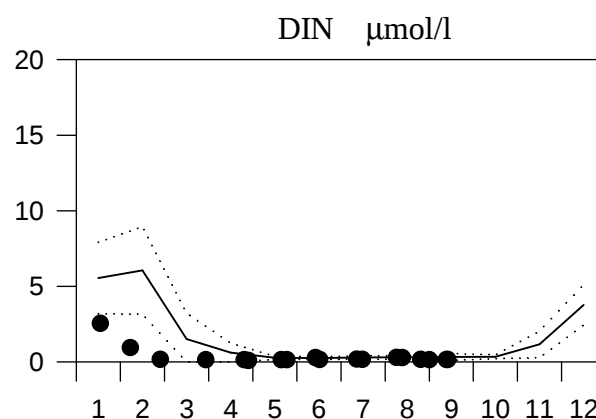
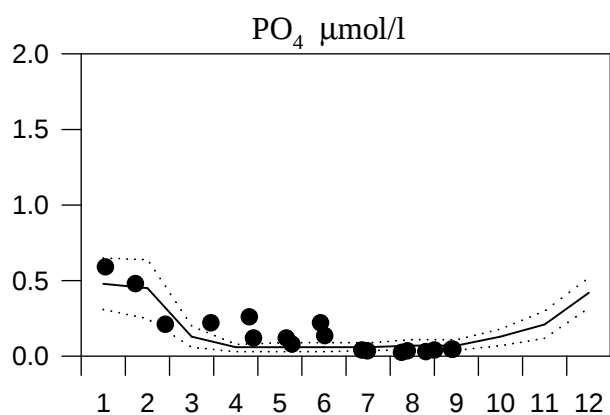
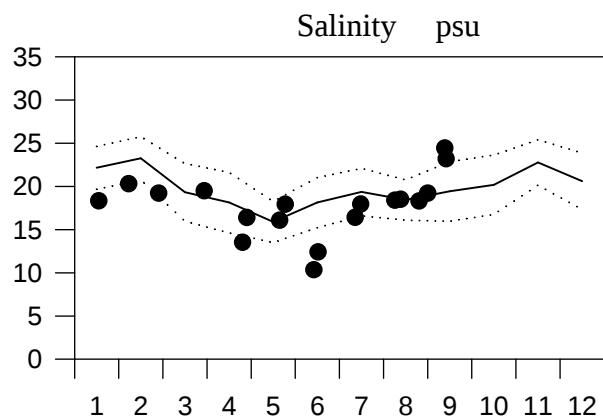
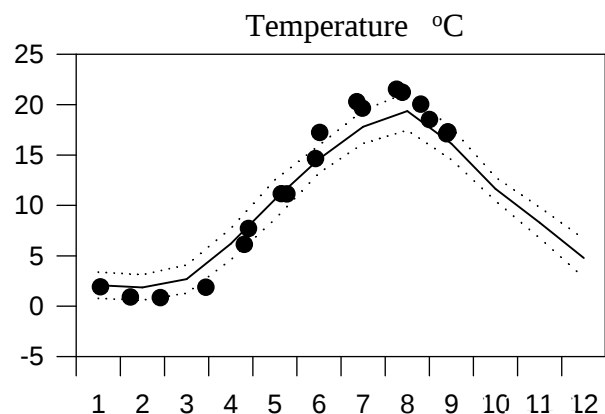
OXYGEN IN BOTTOM WATER



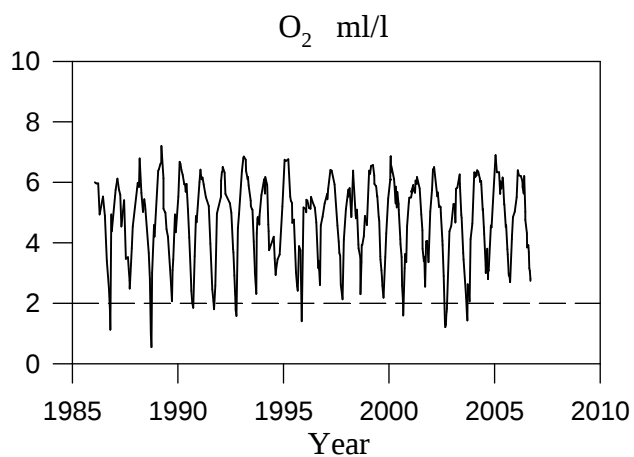
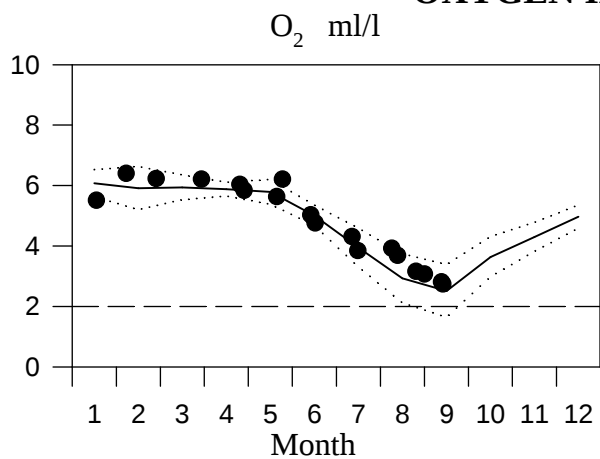
STATION ANHOLT E SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2006



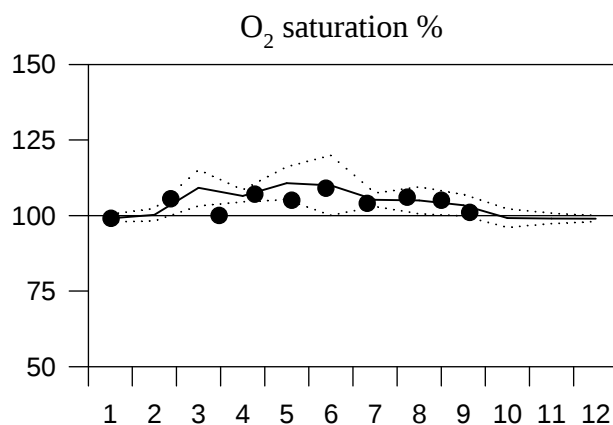
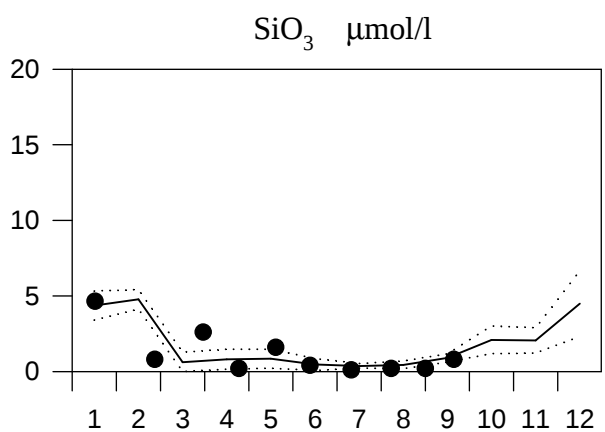
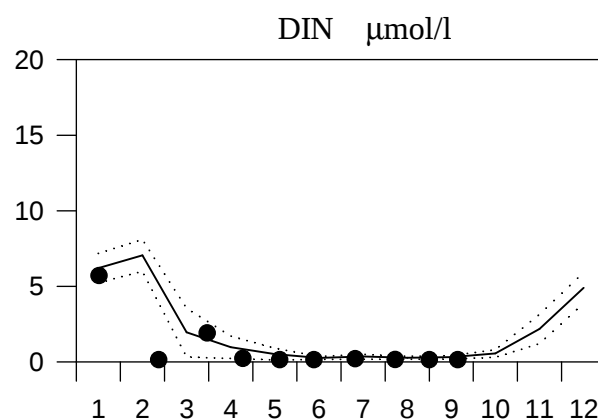
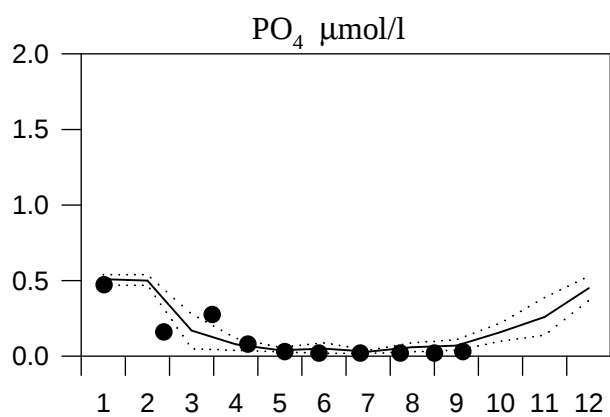
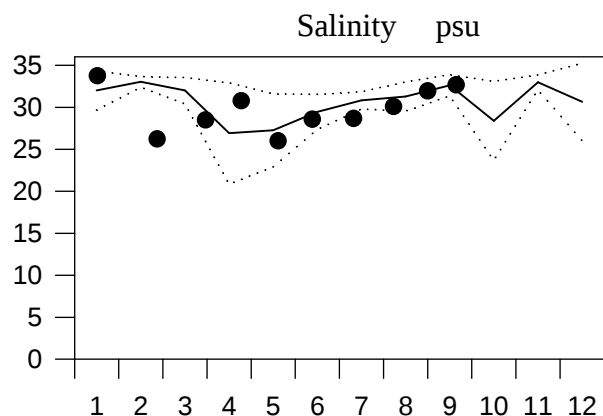
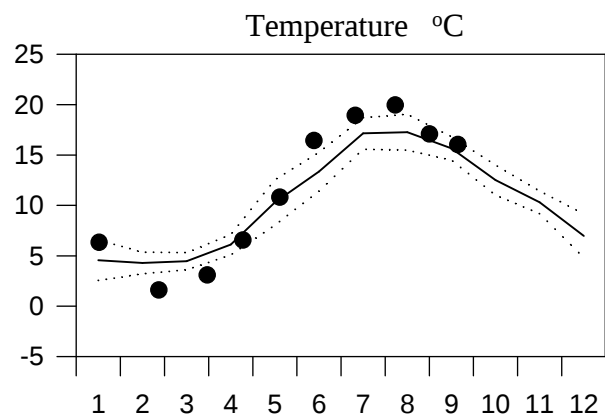
OXYGEN IN BOTTOM WATER



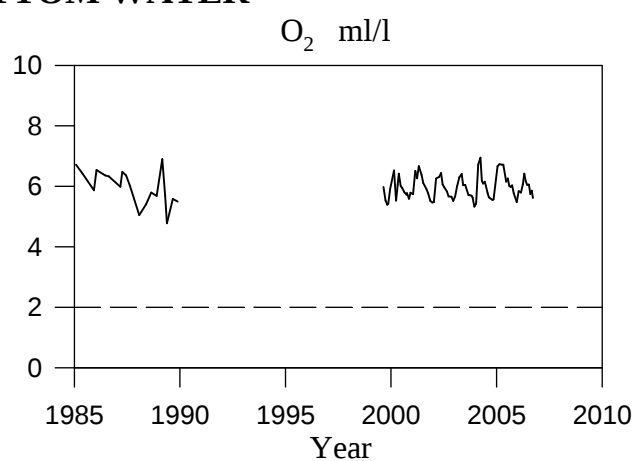
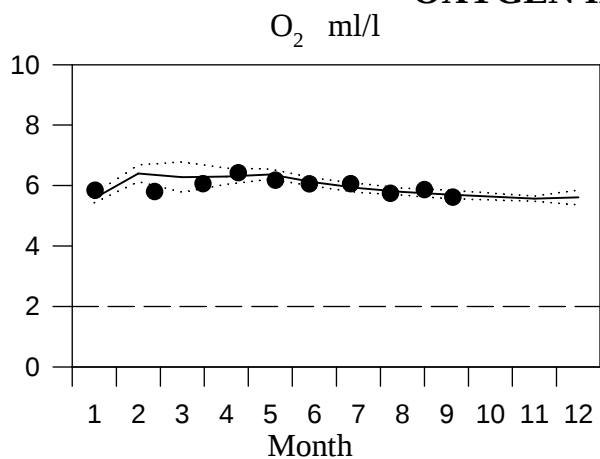
STATION Å17 SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2006

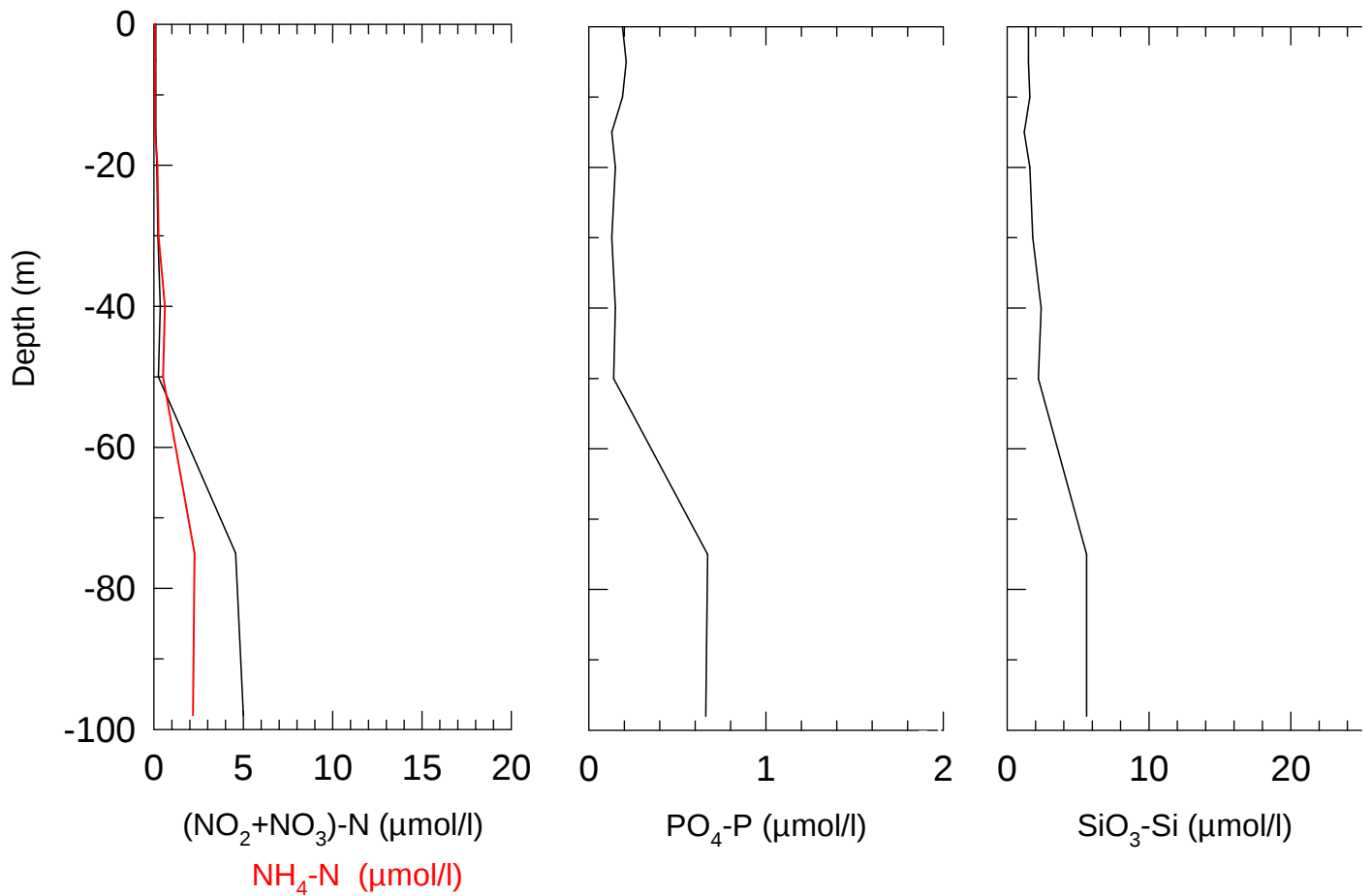
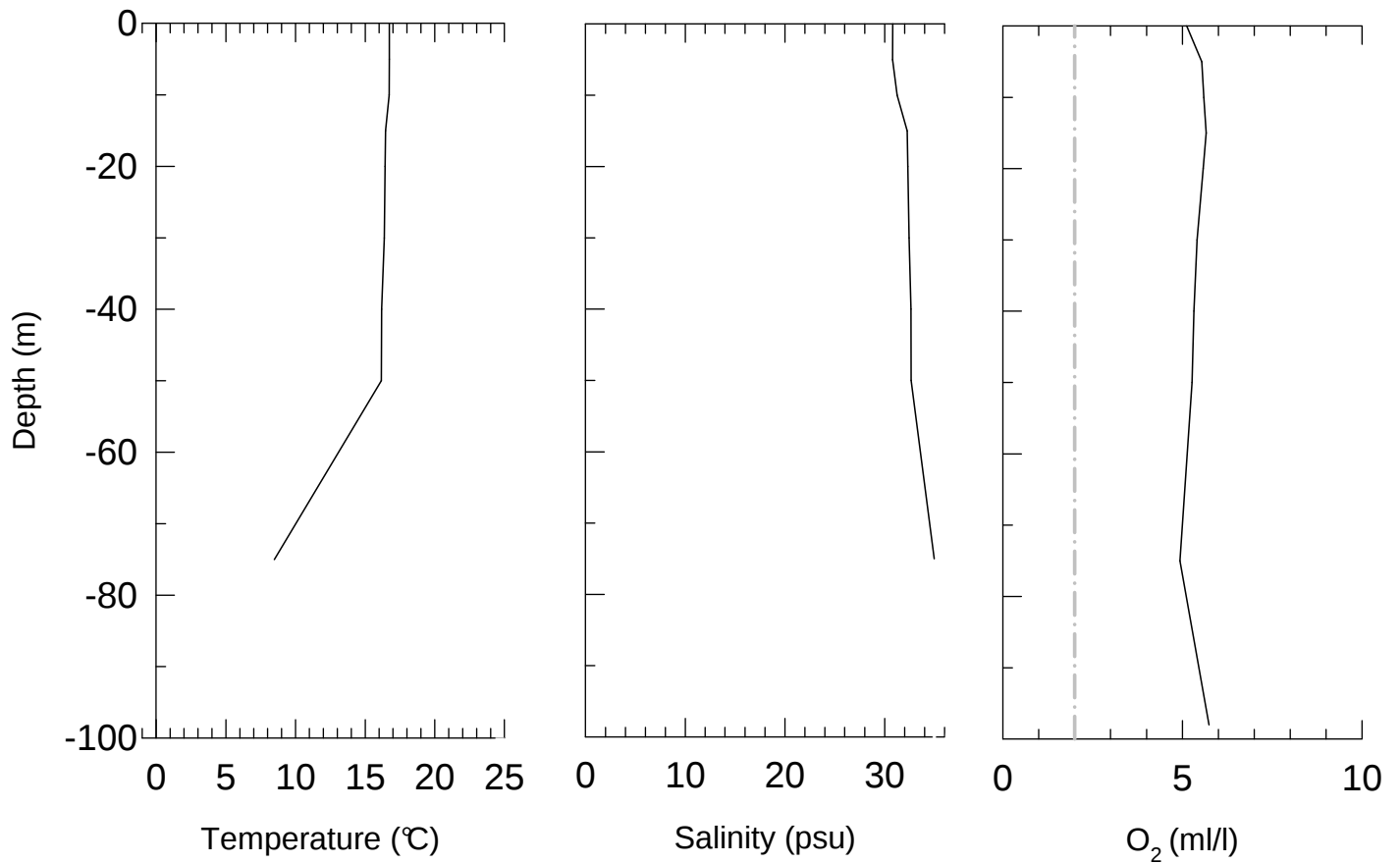


OXYGEN IN BOTTOM WATER



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———— P2 - - - - - Släggö



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—— Å13 - - - - - Å15 Å17

