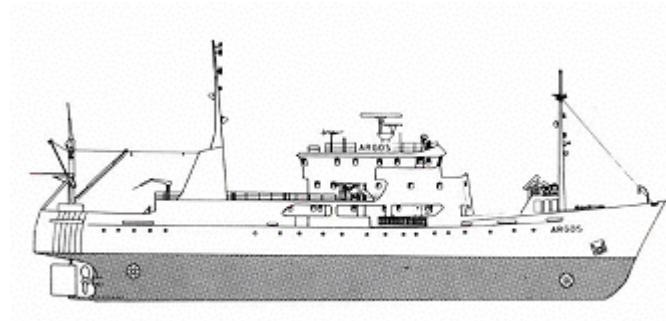


EXPEDITIONSRAPPORT FRÅN U/F ARGOS



Expeditionens varaktighet: 2008-08-25 - 2008-09-12
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, 9 stations with complete hydrography were taken. In the Kattegat mapping of oxygen conditions in bottom water was performed, 13 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 3.67 ml/l at the station Släggö in the mouth of the Gullmarn fjord. Low oxygen values were measured in the Laholm Bay and in Skälderviken in the south-eastern part of Kattegat, 1.58 and 1.78 ml/l respectively.

The lowest oxygen value detected, 1.37 ml/l were found in the Sound (Lundåkrabukten).

Data presented in this report have been subject to preliminary quality control procedures only.

The next ordinary SMHI expedition is scheduled for September 18 to 23, 2008.

PRELIMINÄRA RESULTAT

Expeditionen, som ingick i Fiskeriverkets beståndsuppskattning av bottenlevande fisk i Skagerrak och Kattegatt med Öresund, startade i Göteborg den 25:e augusti och avslutades i samma hamn den 12:e september.

Vädret var under expeditionen var växlande. Perioder med svaga vindar avlöstes av vindar med upp till kulingstyrka speciellt under andra veckan. Vindriktningen varierade i huvudsak mellan nordost och sydväst.

I Skagerrak togs 9 stationer med fullständig hydrografi. I Kattegatt med Öresund utfördes kartering av syre i bottenvattnet och där togs 13 stationer med komplett hydrografi och 14 med enbart oxygen och salt nära botten.

Skagerrak

Ytvattentemperaturerna varierade från strax över 16°C utefter Bohuskusten till 18.5°C i de centrala delarna. Ytsalthalten låg kring 33.5 psu i de västra och centrala delarna av området och gick som lägst ned till ca. 23 psu närmast den svenska kusten.

Närsalthalterna i ytvattnet uppvisade, i huvudsak, normala värden för årstiden. Fosfat-koncentrationerna låg mellan 0.04 µmol/l och 0.10 µmol/l, förutom i Jyllandsströmmen där halterna var förhöjda, strax under 0.30 µmol/l. Koncentrationen av nitrat låg under detektionsgränsen (<0.10 µmol/l) i hela området. Silikat varierade mellan 0.3 och 1.9 µmol/l.

Den lägsta syrehalten i bottenvattnet, 3.67 ml/l, uppmättes vid botten på station Släggö i Gullmarfjordens mynning.

Kattegatt

Ytvattentemperaturen varierade mellan 16.8 °C och 17.9°C. Ytsalthalten avtog från 31 psu i norr till 13.8 psu sydost, i Öresund låg salthalten på 9.5 psu. En skarp haloklin återfanns på djup mellan 10 och 20 meter.

Fosfathalten i ytan varierade mellan 0.05 µmol/l i de norra delarna till 0.15 µmol/l i de södra, vilket är normalt för årstiden. I Öresund uppmättes 0.31 µmol/l vilket är högre än normalt. Nitrat-koncentrationen i ytan låg under detektionsgränsen (<0.10 µmol/l) i hela området. Ytsilikathalten var 12.6 µmol/l i Öresund, vilket är högre än normalt. I övriga delar av området varierade den mellan 0.04 µmol/l och 2.7 µmol/l, vilket å andra sidan är något under det normala för årstiden.

Syrehalterna i öppna Kattegatts bottenvatten var normala, vid Anholt E registrerades 3.03 ml/l vid första provtagningen medan 3.14 ml/l registrerades under expeditionens sista vecka. De lägsta syrehalterna registrerades på stationen Lundåkrabukten i Öresund 1.37 ml/l. Vid ytterligare några stationer i sydöstra Kattegatt registrerades syrehalter i bottenvattnet under 2.00 ml/l (Laholmsbukten samt Skälderviken, 1.58 respektive 1.78 ml/l) Vid övriga provtagna stationer uppmättes syrevärden över 2.4 ml/l i bottenvattnet.

DELTAGARE

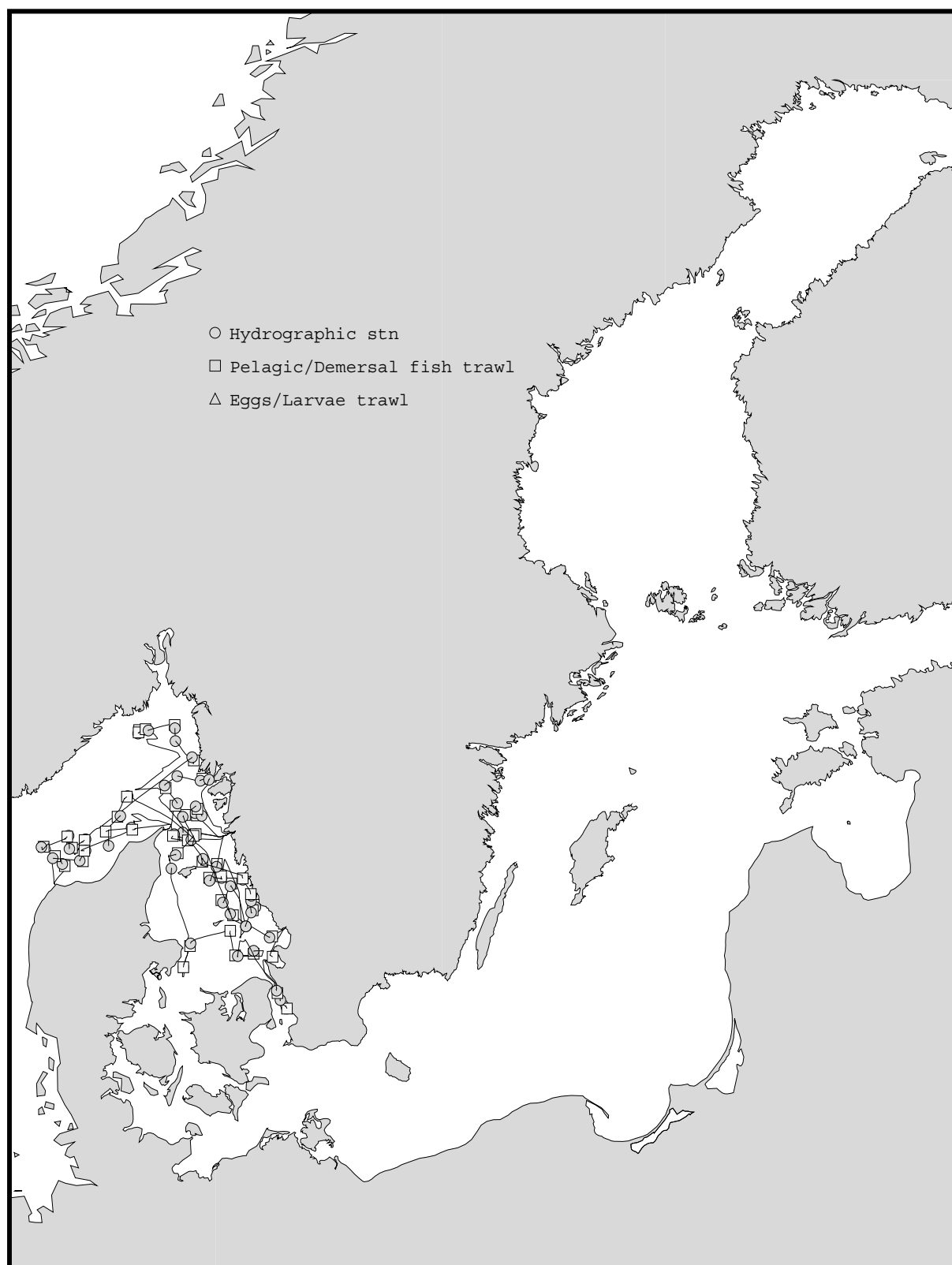
Namn		Från
Sara Johansson	v 35	SMHI Oceanografiska lab
Jan Szaron	v 35	- ” -
Johan Håkansson	v 36	- ” -
Sari Sipilä	v 36	- ” -
Lars Andersson	v 37	- ” -
Bengt Yhlen	v 37	- ” -

BILAGOR

- Färdkarta
- Tabell över besökta stationer, meteorologiska förhållanden och provtagna parametrar under expeditionen
- Karta över syrehalter i bottenvattnet
- Profilplottar för vissa basstationer
- Månadsmedelvärdesplottar för vissa basstationer

TRACK CHART

Country: Sweden
Ship : Argos
Date : 20080825-20080911
Series : 0442-0502



SMHI
Ocean enh

Hydrographic
series

Ship: 14-Argos
Year: 2008

Date: 2008-09-15
Time: 13:40

Ser no	Stat code	P r o 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 aoe tu hd	PCPZZT C Hrhh oor de	No de	T e m p	S e a h x m l	P o l y S	O 4 t	H 2 3	P t 2	N 3	N 4	N t k	A h o l i u i n a 3 u n l s i	S h o l d m g N	L i u i n C	P t 0 0 0 0	C c m m			
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0443	KANX00IBT		HERTAS FLAK	N5741.14	E1057.29	20080825	1355	30		17 6	17.7	1012	2820 x	-----B	7	x	x	-	x	-	-	-	-	-	-	-	-	-	-	-	-	x
0444	SKEX00IBT		11S SVENNER	N5845.58	E1007.71	20080826	0428	249		18 7	16.8	1008	6840 x	-----B	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x
0445	SKEX00IBT		11SSE SVENNER	N5847.53	E1019.11	20080826	0805	154		24 7	17.5	1008	1530 x	-----B	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x
0446	SKEX00IBT		2SSW GRISBÄDARNA	N5849.01	E1048.57	20080826	1040	95		23 9	17.7	1009	1330 x	-----B	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x
0447	SKEX00IBT		PERSGRUNDEN	N5840.64	E1049.17	20080826	1145	97		22 10	17.7	1010	1330 x	--X----	10	x	x	-	x	x	x	x	x	x	-	x	-	-	-	-	-	-
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0449	SKEX00IBT		NW SKÄGGA	N5830.02	E1107.51	20080826	1450	59		22 10	17.7	1010	1340 x	--X----	9	x	x	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-
0450	SKSX00IBT		27W HIRTSHALS	N5736.67	E0909.76	20080827	0445	34		99	15.2	1010	2820 x	-----B	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x
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Date: 2008-09-15
Time: 13:40
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[illegible]

Bottom water oxygen concentration (ml/l)

Country: Sweden

Ship : Argos

Date : 20080825-20080911

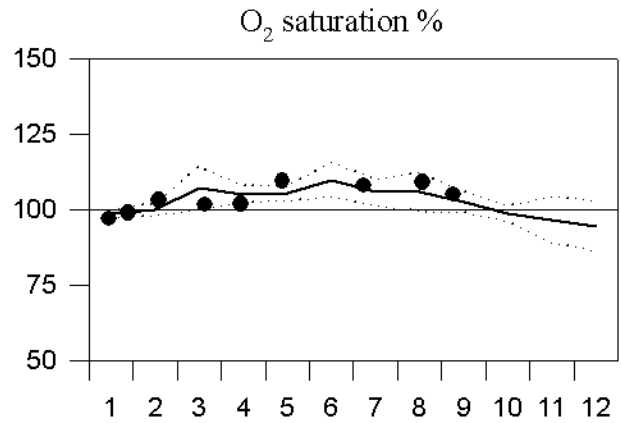
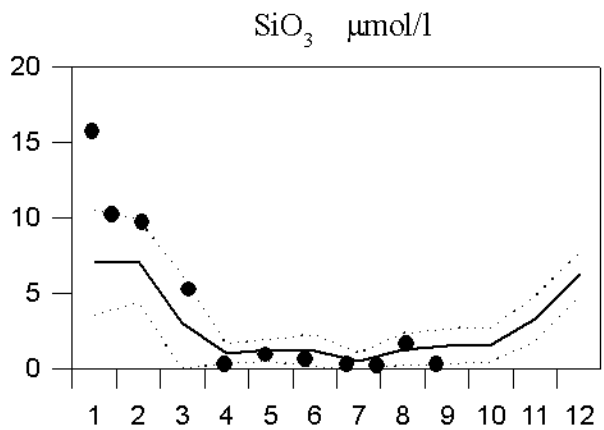
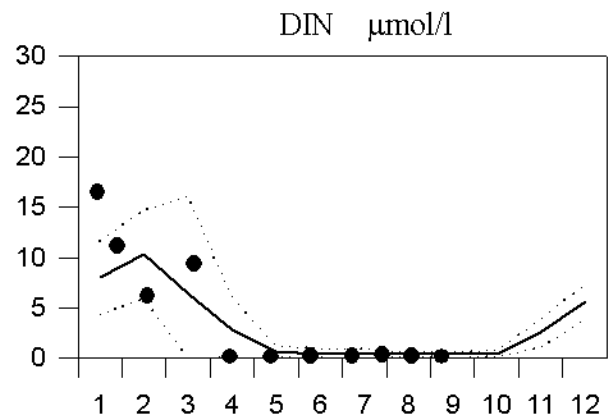
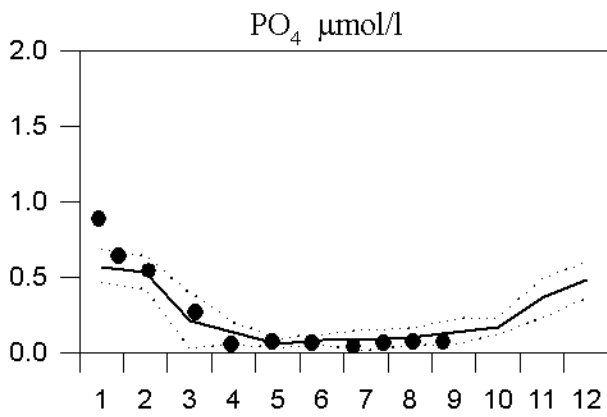
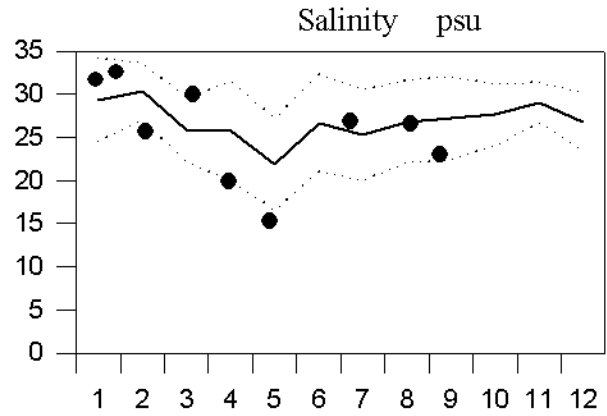
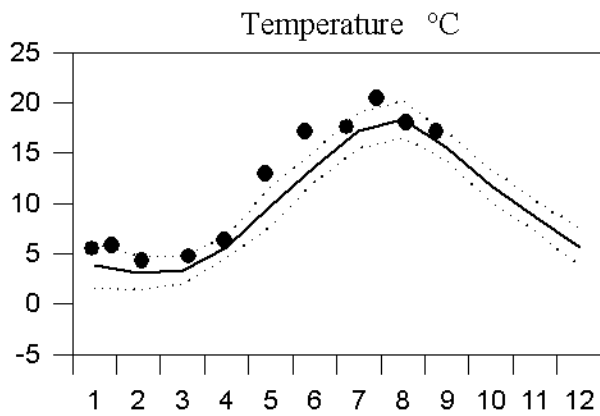
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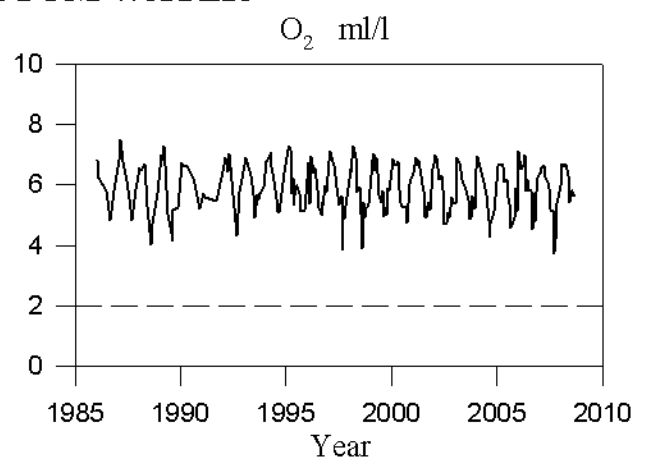
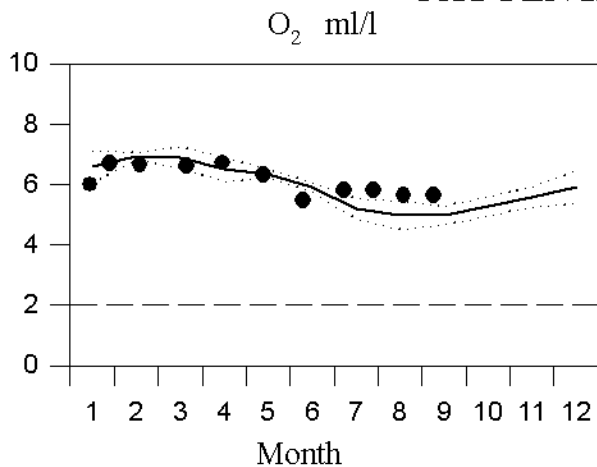
STATION P2 SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2008



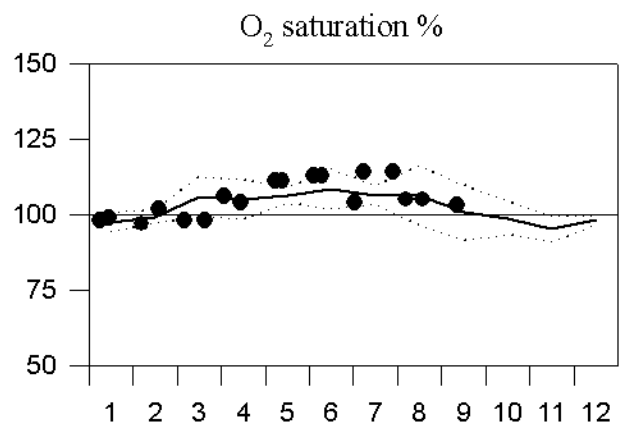
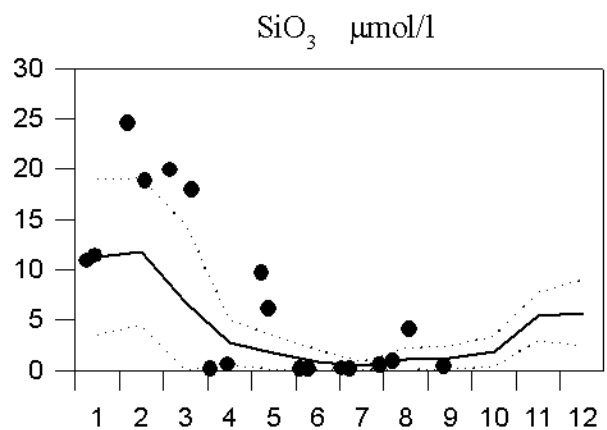
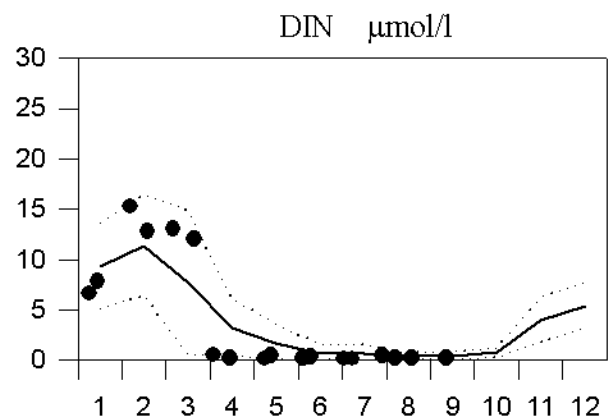
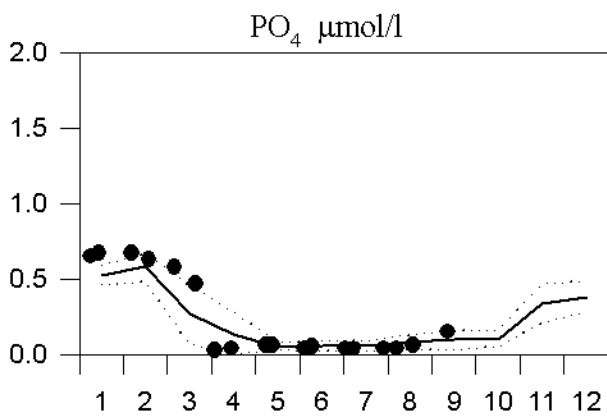
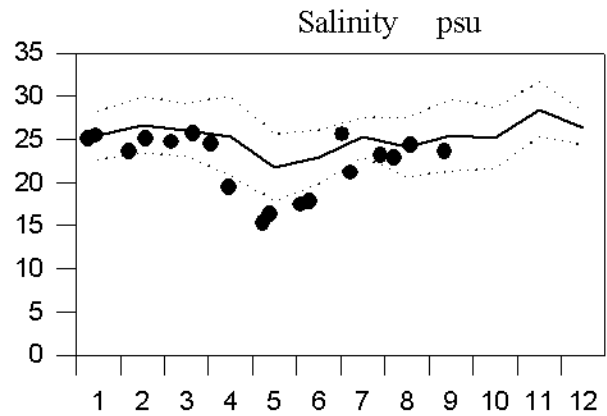
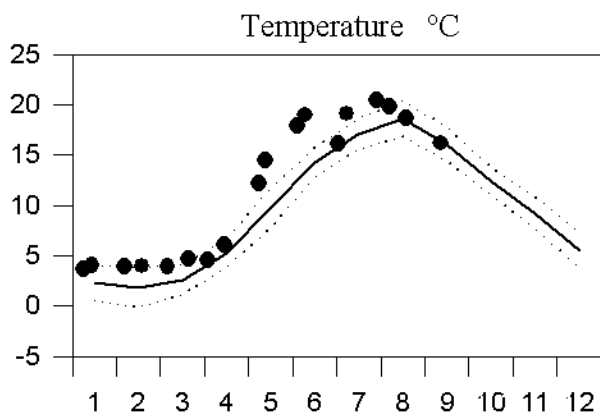
OXYGEN IN BOTTOM WATER



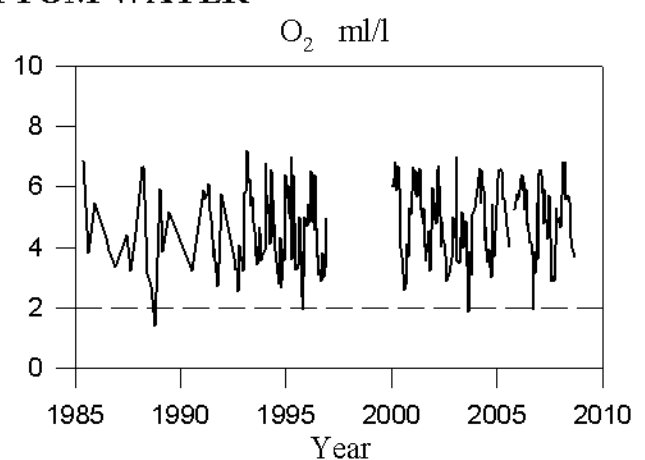
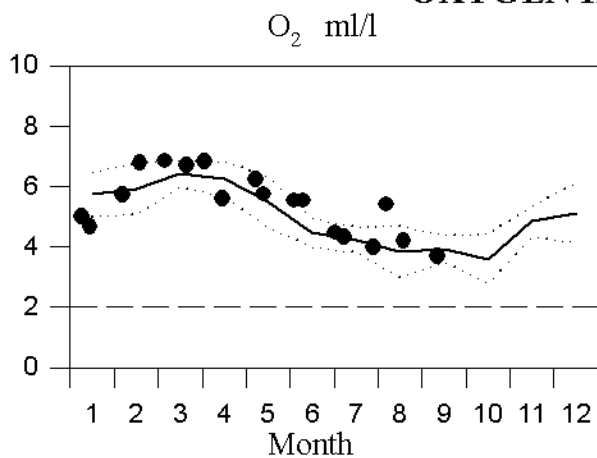
STATION SLÄGGÖ SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2008



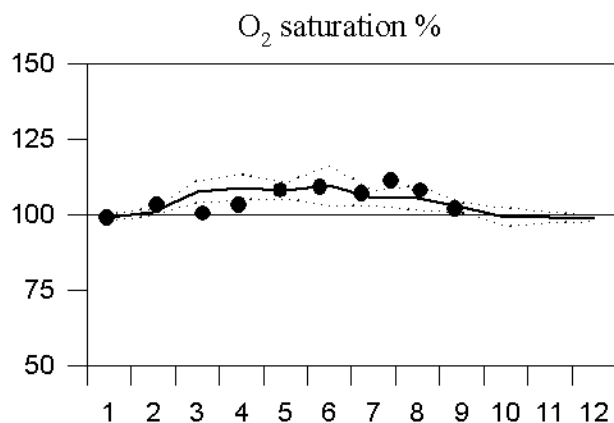
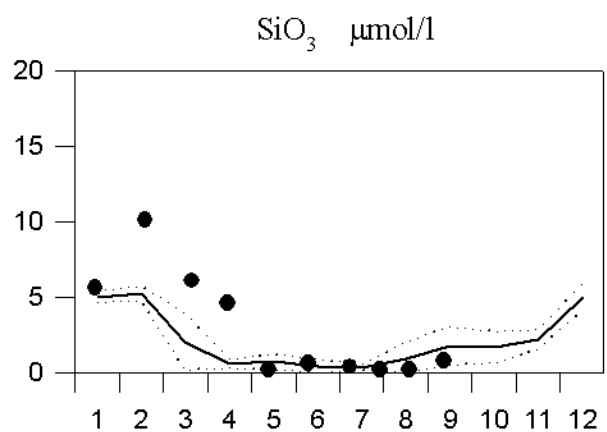
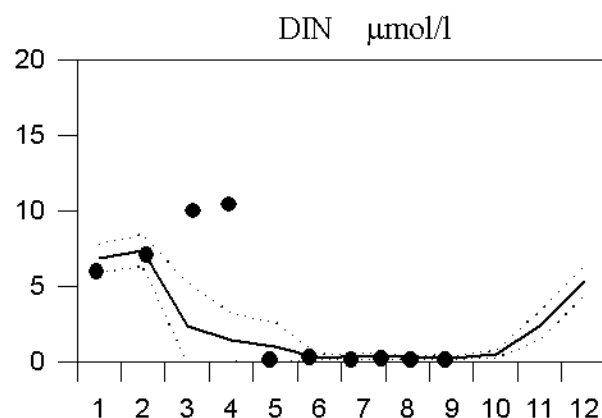
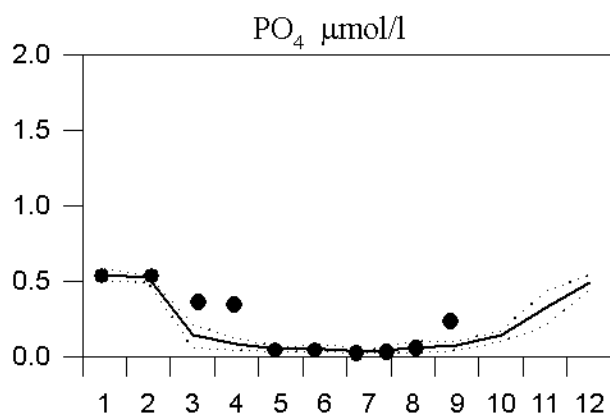
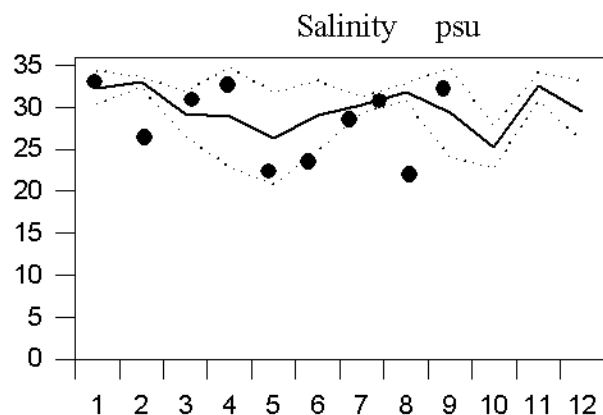
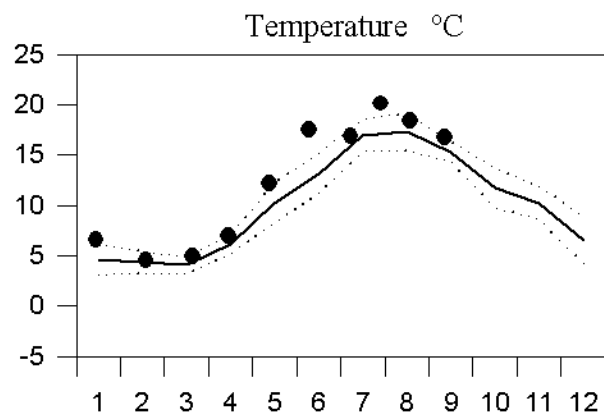
OXYGEN IN BOTTOM WATER



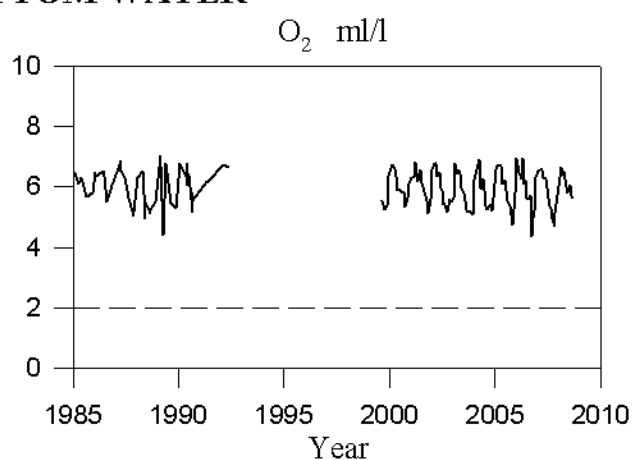
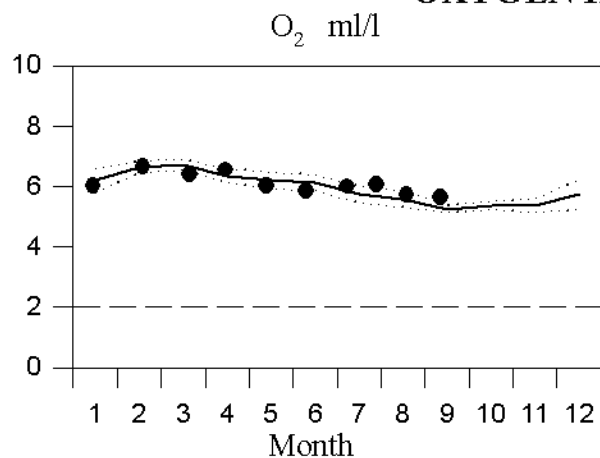
STATION Å15 SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2008



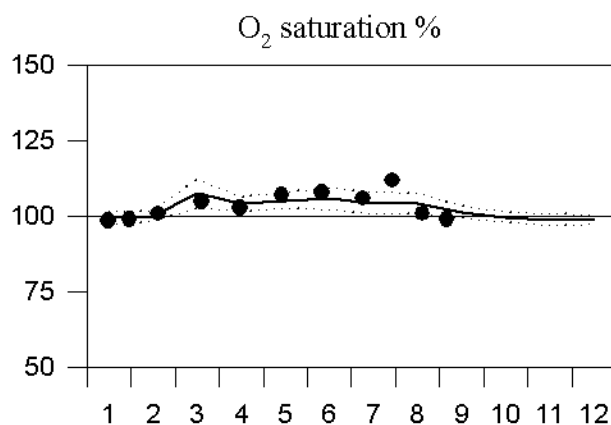
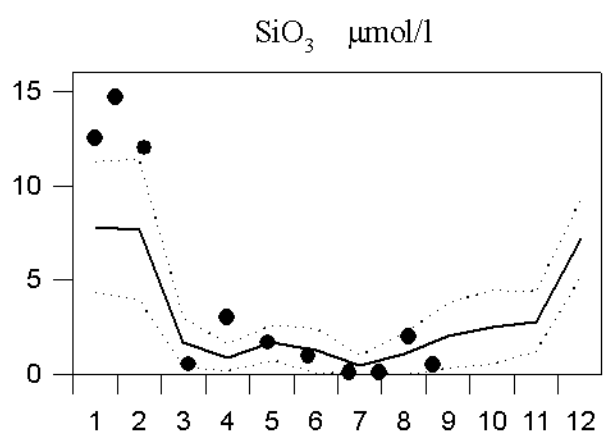
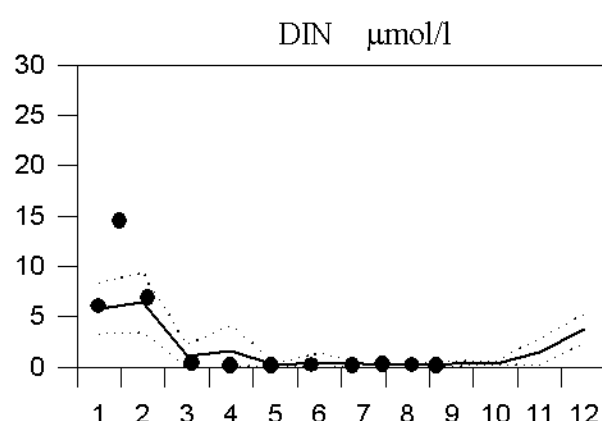
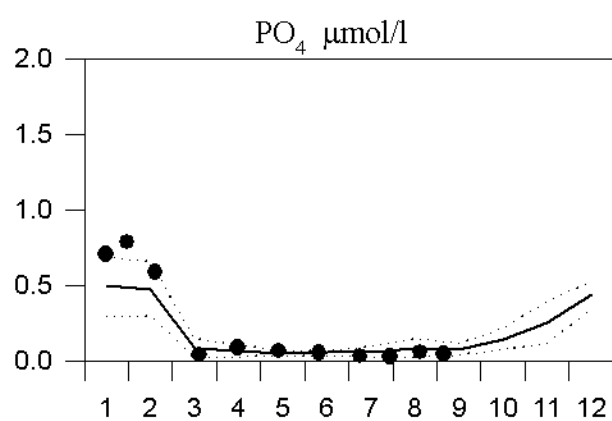
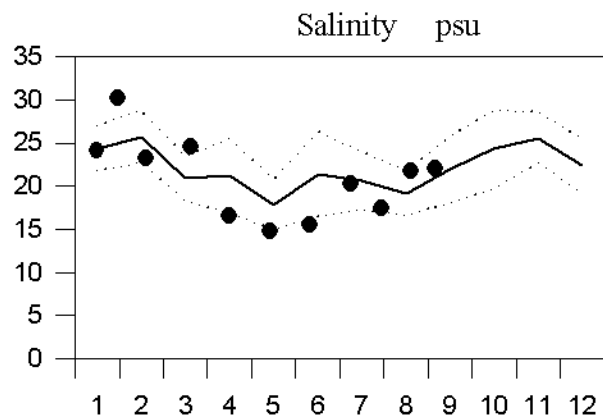
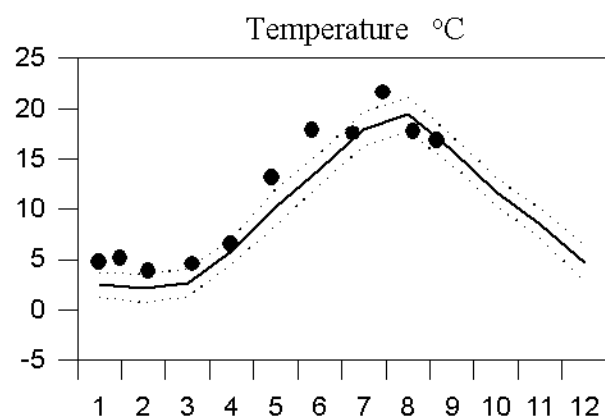
OXYGEN IN BOTTOM WATER



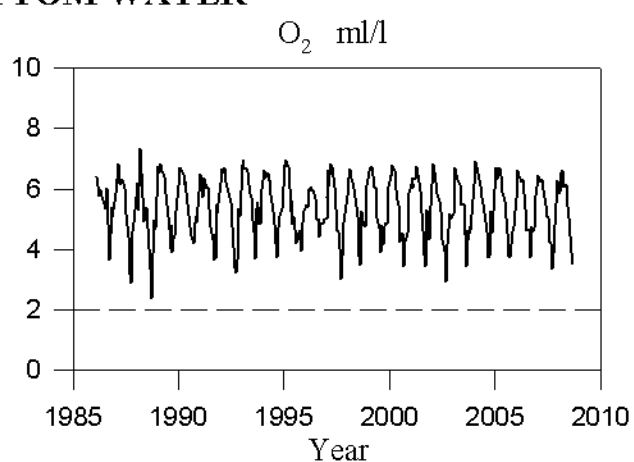
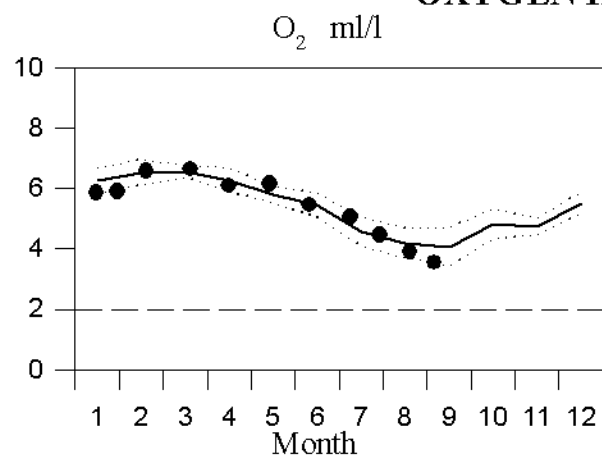
STATION FLADEN SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2008



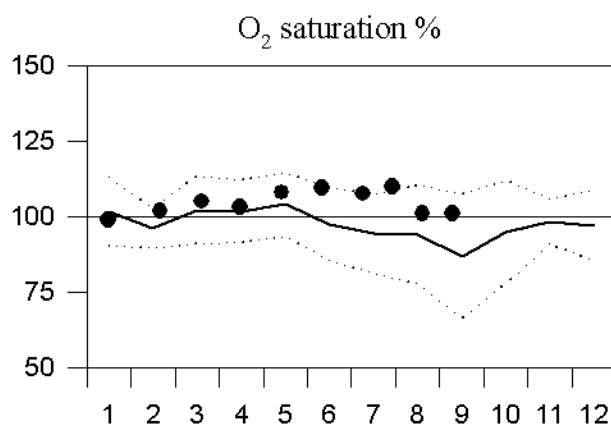
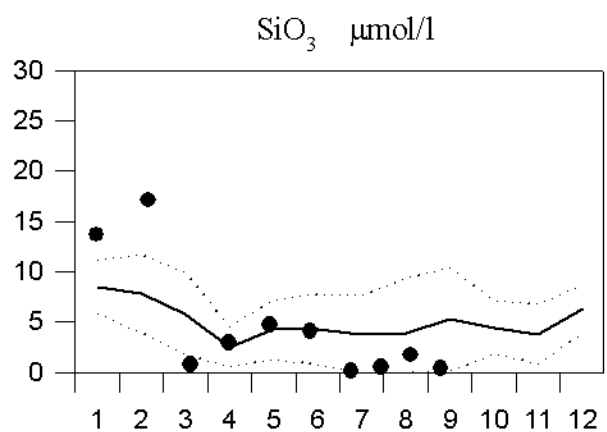
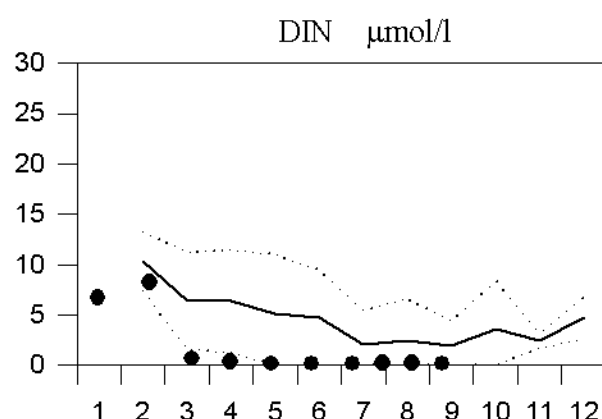
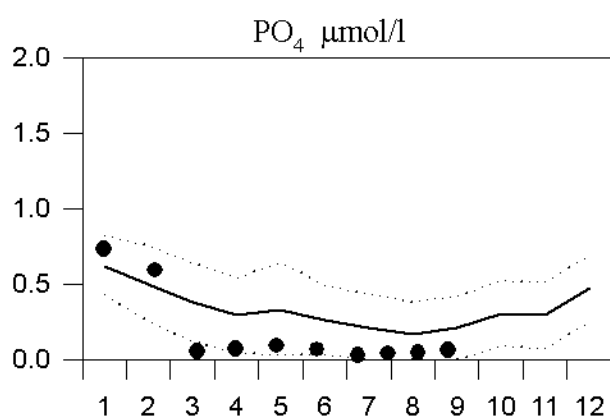
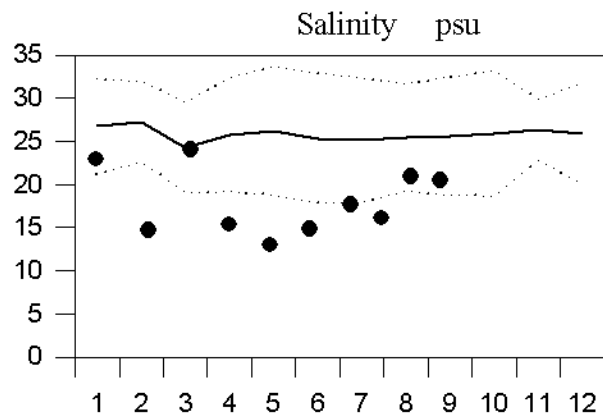
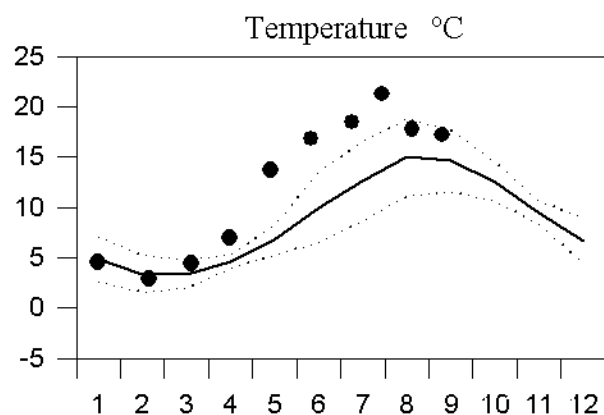
OXYGEN IN BOTTOM WATER



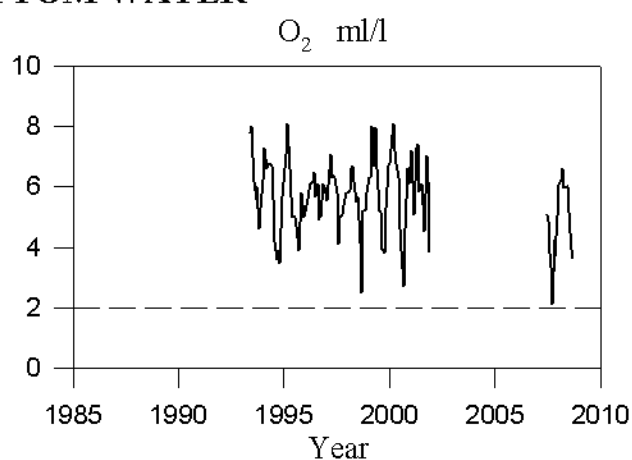
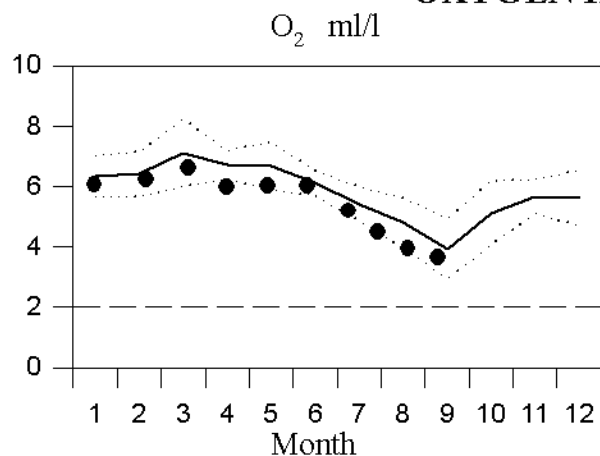
STATION N14 Falkenberg SURFACE WATER

— Mean 1995-2001 St.Dev. **Annual Cycles** • 2008

Mean and st.dev. based on data
from other source than SMHI.



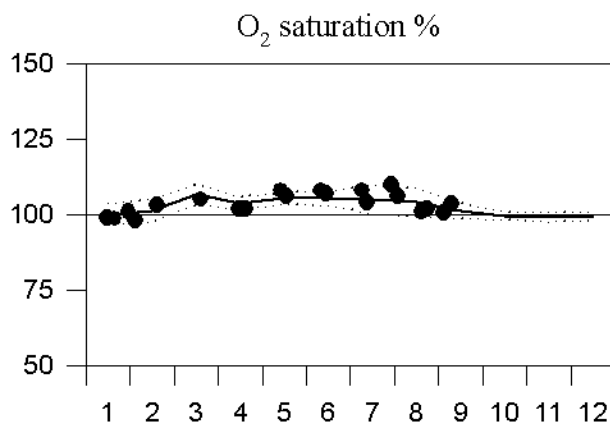
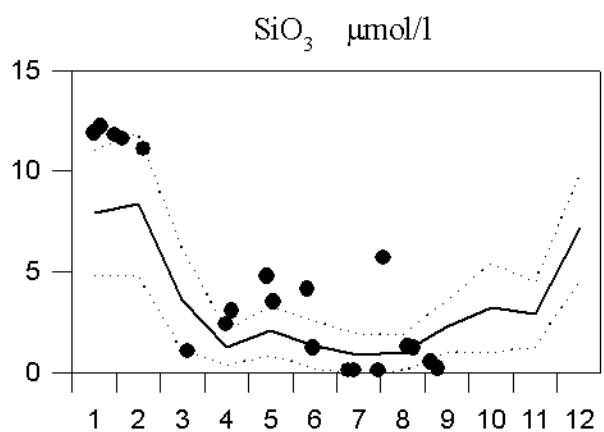
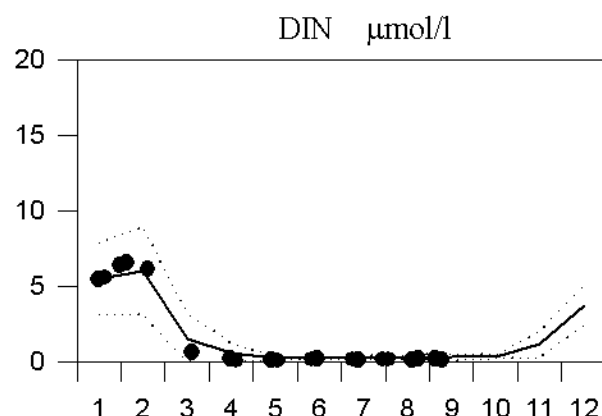
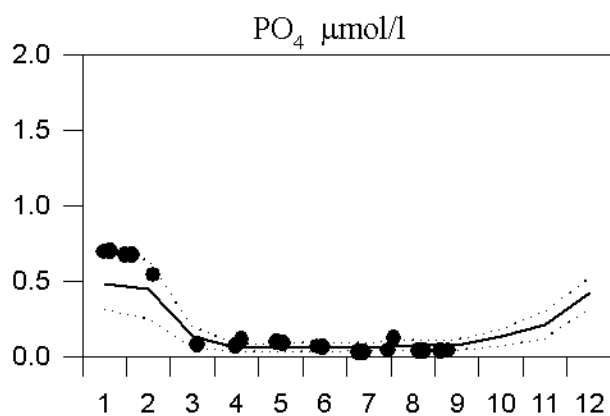
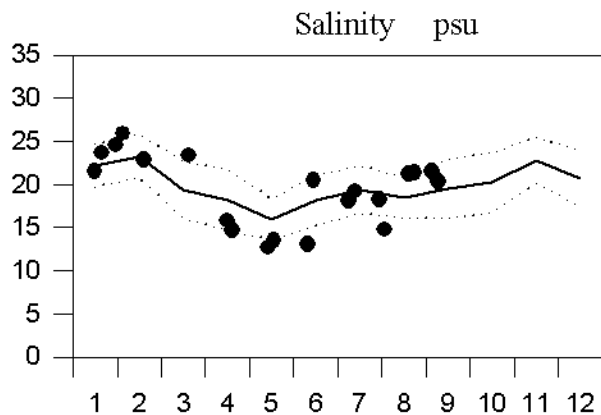
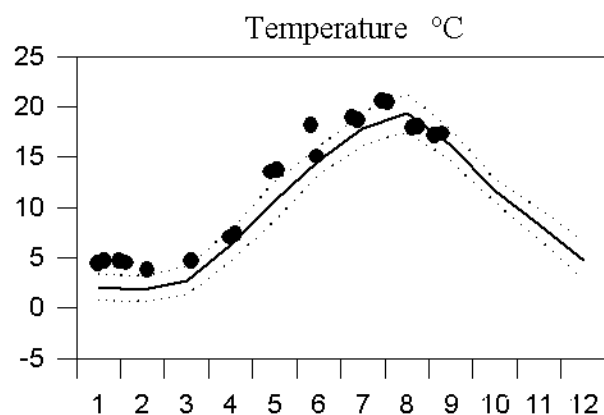
OXYGEN IN BOTTOM WATER



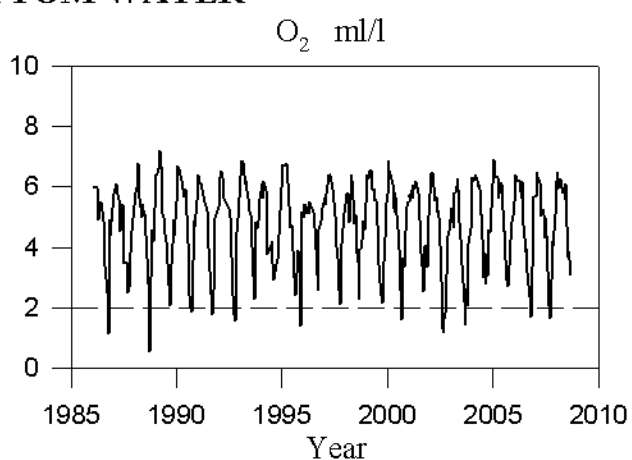
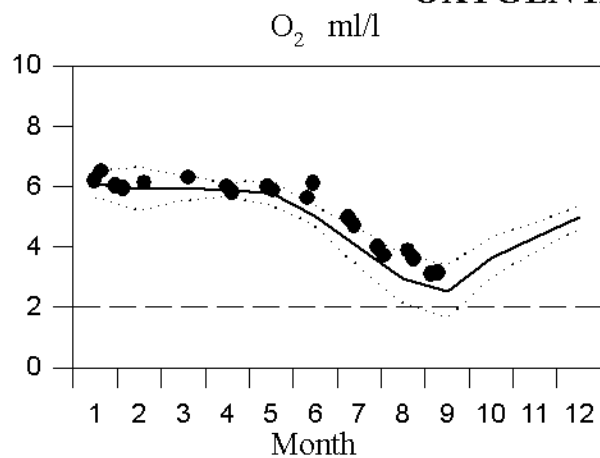
STATION ANHOLT E SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. ● 2008



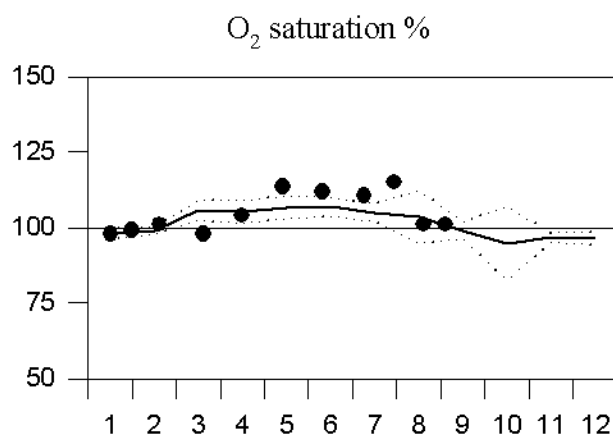
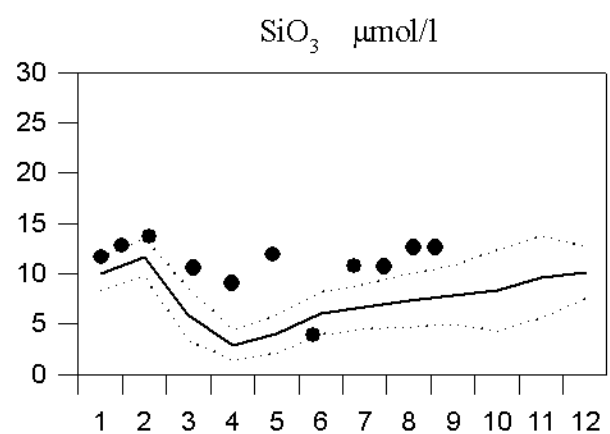
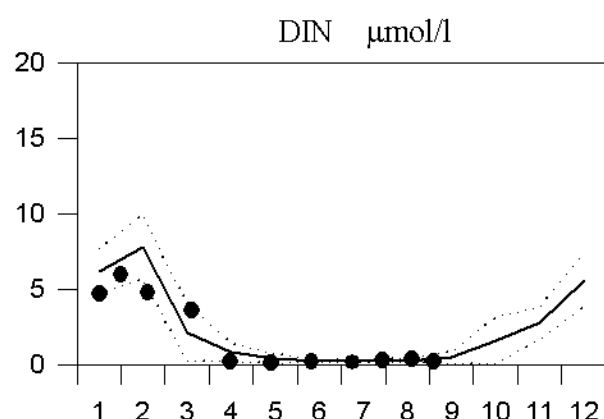
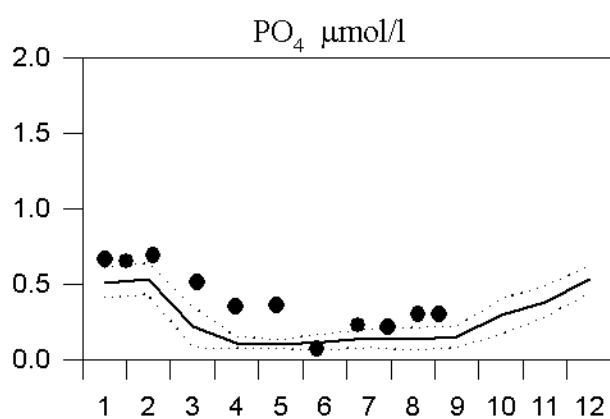
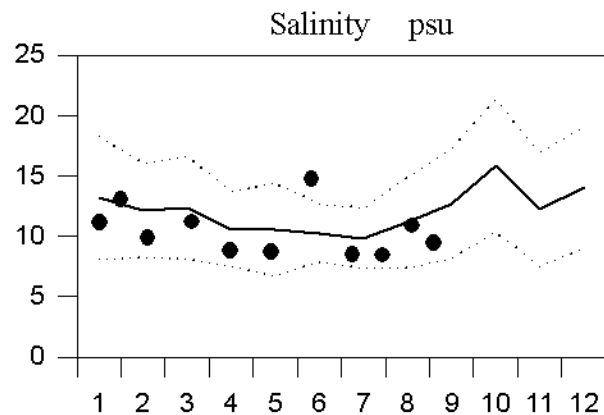
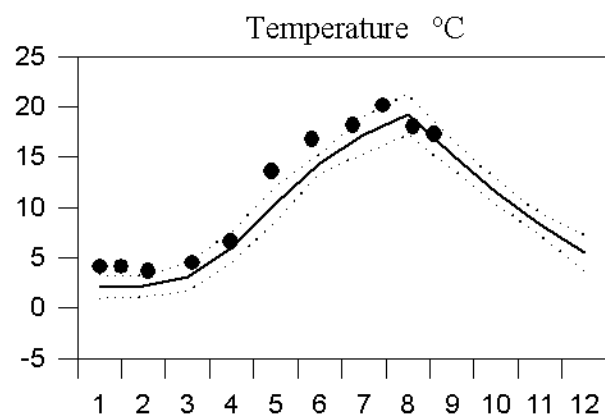
OXYGEN IN BOTTOM WATER



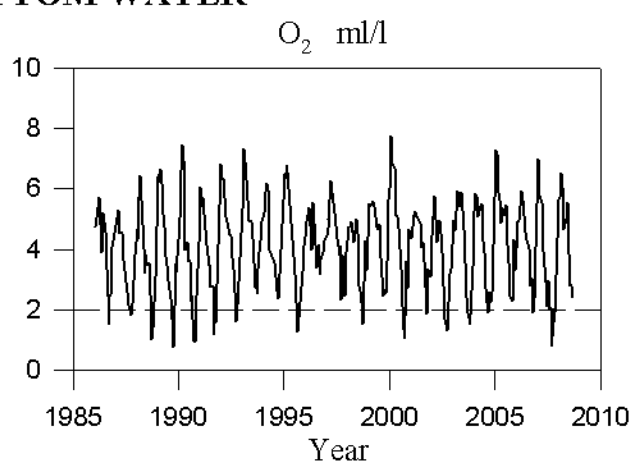
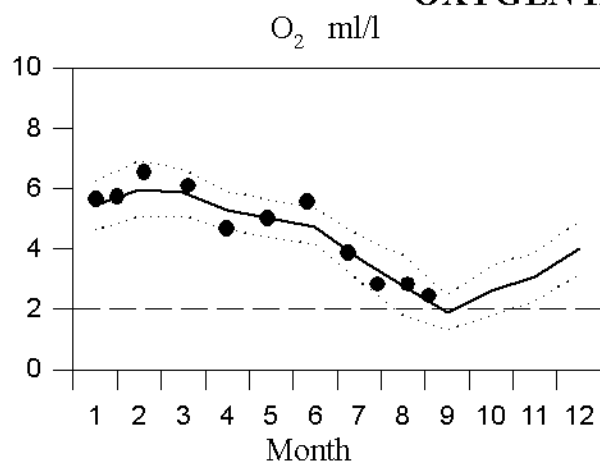
STATION W LANDSKRONA SURFACE WATER

Annual Cycles

— Mean 1995-2004 St.Dev. • 2008

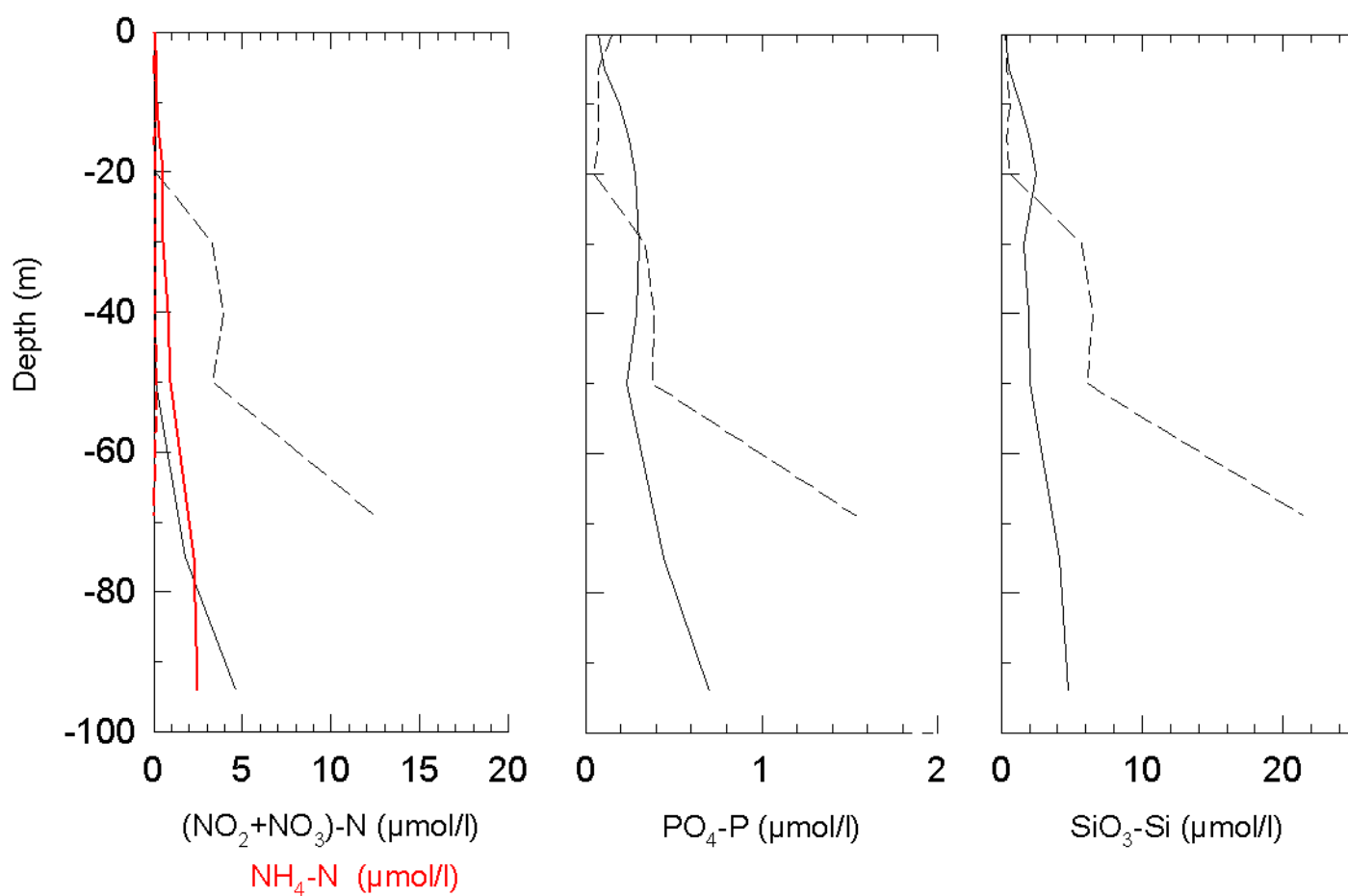
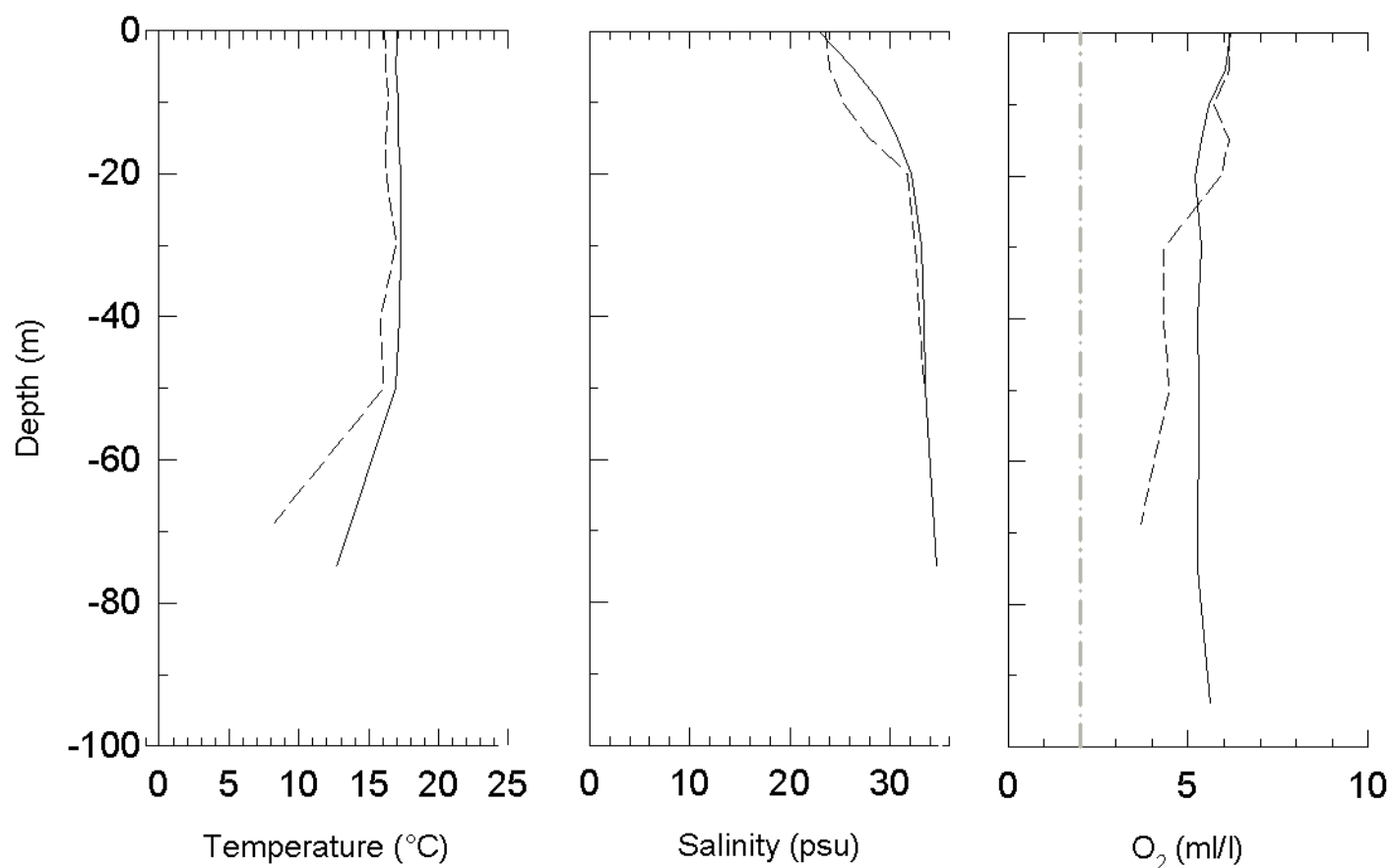


OXYGEN IN BOTTOM WATER



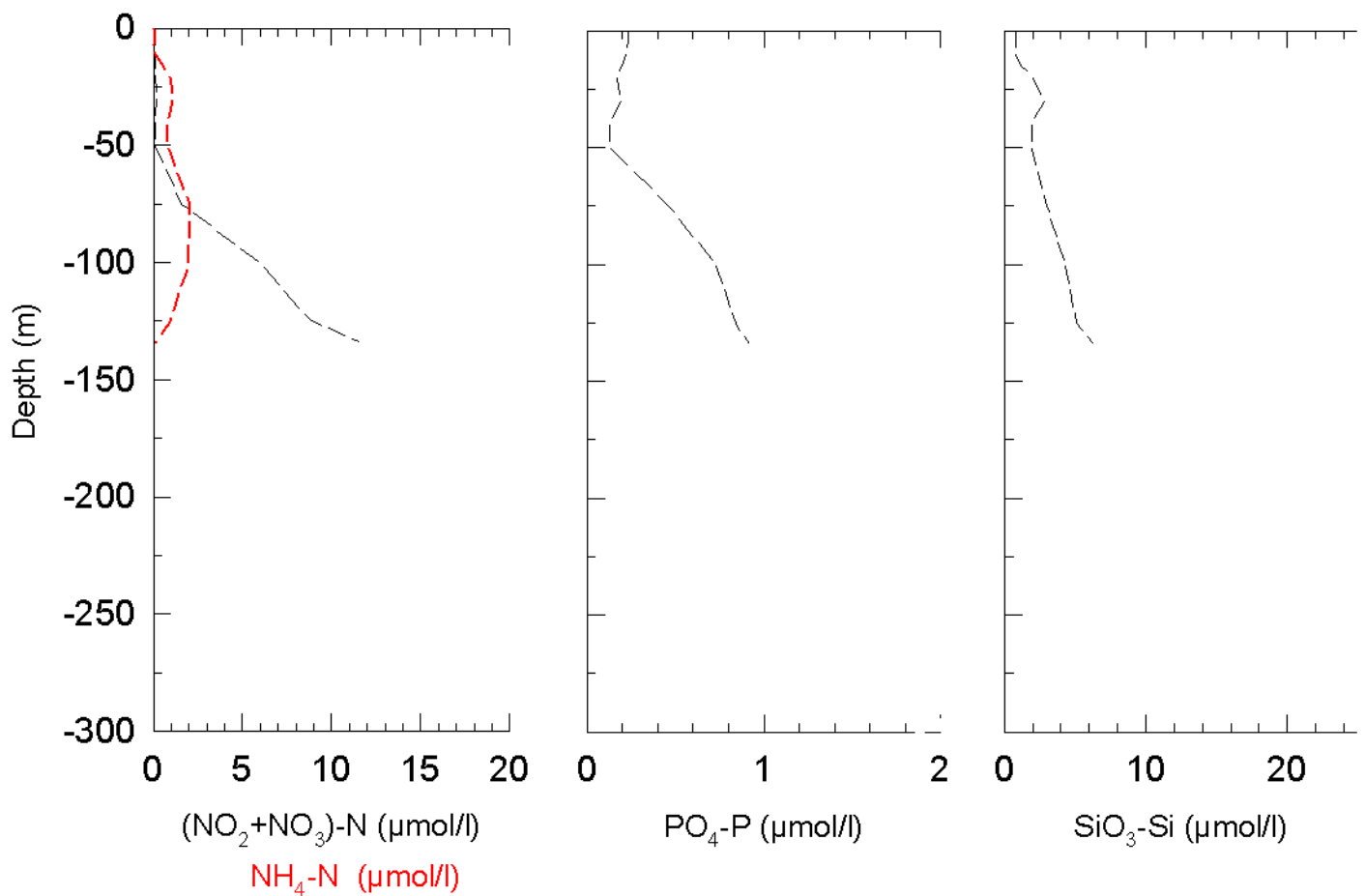
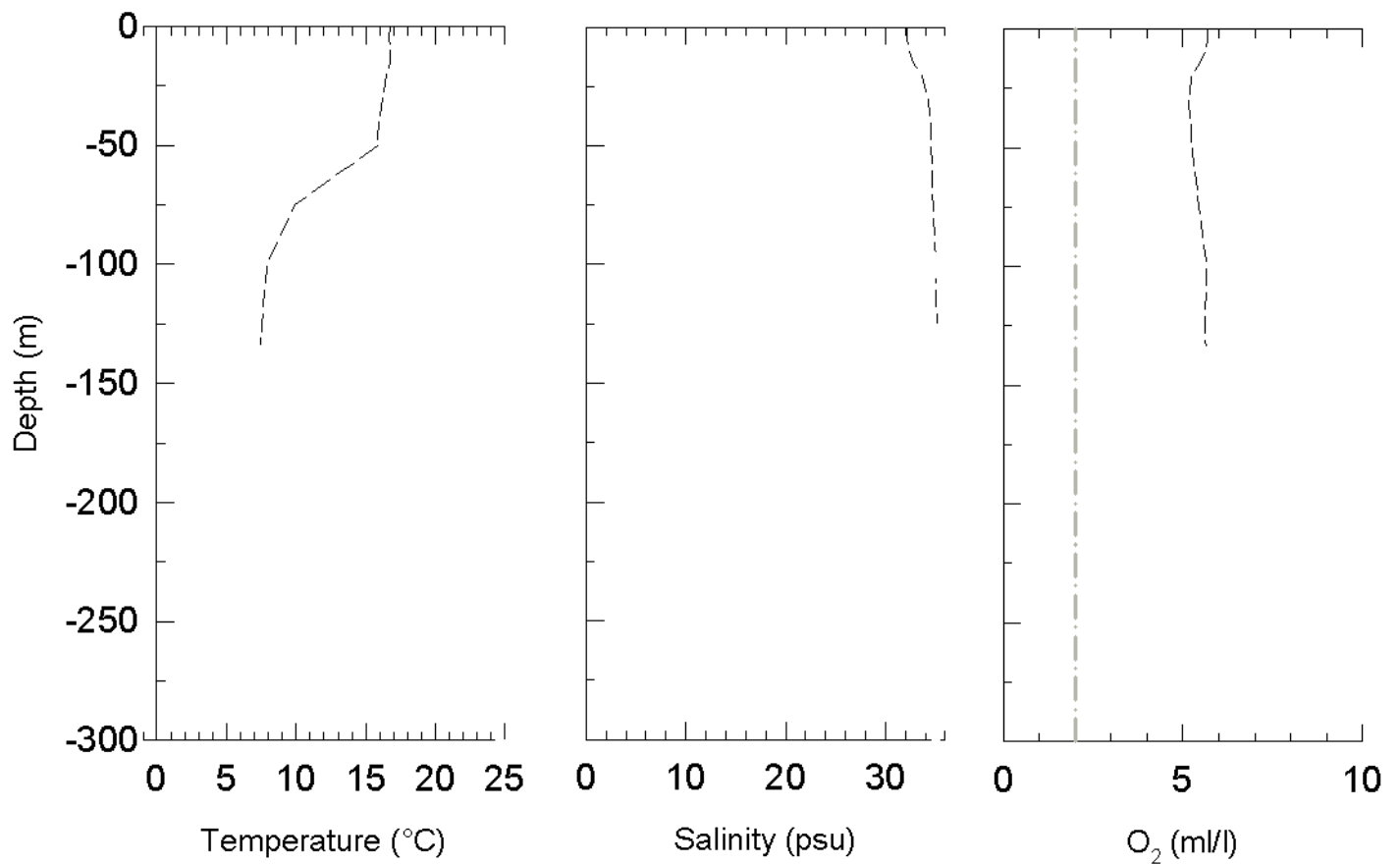
SKAGERRAK Coast 20080908-20080911

—— P2 - - - - Släggö



SKAGERRAK Å-Section 20080911

—— Å13 - - - - - Å15 Å17



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