

EXPEDITIONSRAPPORT FRÅN U/F ARGOS

CRUISE REPORT FROM R/V ARGOS

Expeditionens varaktighet: 971202-971217
Survey period:

Undersökningsområde: The Skagerrak, the Kattegat,
Survey area: the Sound, the Baltic Proper,
the Bay of Gdansk and the Gulf of
Bothnia

Uppdragsgivare: SMHI
Principal:

SUMMARY

The expedition was performed within SMHI's regular marine monitoring programme and covered the Skagerrak, the Kattegat, the Sound, the Baltic Proper and the Gulf of Bothnia. The weather was dominated by weak to moderate winds that occasionally were strong. In the Baltic Sea and the Gulf of Bothnia normal concentrations of nutrients were found. In the Kattegat and the Skagerrak lower concentrations of nutrients than normal were observed. In the south-western part of Skagerrak was an indication of ongoing production. In the Gotland Basin hydrogen sulphide was found below 170 m, and at the Fårö Deep hydrogen sulphide was found below 175 m. Low oxygen concentrations were found in the deep water of the Bornholm Basin and the eastern Arkona. The oxygen concentrations of the bottom water in the south-eastern Kattegat was normal (about 80% oxygen saturation).

PRELIMINÄRA RESULTAT

Expeditionen ingick i SMHIs ordinarie övervakningsprogram med kartering av närsaltskoncentrationer i Bottniska viken. Dessutom togs extra prover i Gdanskbukten, framför allt pH och alkalinitet, och i sydöstra Kattegatt för syrgaskartering. Expeditionen utgick från Karlskrona den 2/12 och avslutades i Göteborg den 17/12. Vädret under expeditionen dominerades av svaga till måttliga vindar som tidvis var friska.

Skagerrak

Ytvattentemperaturerna varierade mellan 4.3°C i sydöstra Skagerrak och 7°C i centrala och sydvästra Skagerrak. Vid station P2 var salthalten 22.0 psu vilket tyder på en influens av Baltiskt vatten. Närsaltshalterna var låga för årstiden utom i centrala delen. Vid station HS5 var syremättnaden 109% i ytan vilket tyder på att där pågick en produktion.

Kattegatt och Öresund

Ytvattentemperaturerna var 3.5°C till 5.3°C, kallast i nordvästra Kattegatt och varmest i södra Öresund. Salthalten i ytvattnet vid Anholt E och Fladen var lägre än normalt och i Öresund observerades en stark utgående ström från Östersjön, vilket tyder på ett utflöde av Östersjövatten till Kattegatt. Ytvattnets närsaltskoncentrationer var något lägre än normalt, förutom för silikat som var högre. Syrgasförhållandena i sydöstra Kattegatts djupvatten var goda, syrgasmättnad omkring 80% uppmättes under haloklinen. Lägsta syrgaskoncentrationen uppmättes vid W Landskrona på 20-25 m (55% syrgasmättnad).

Östersjön med Gdanskbukten

Ytvattentemperaturerna varierade från 4.5°C i nordväst till 7.6°C i södra delen. Samtliga närsalter uppvisade för årstiden normala koncentrationer i ytvattnet, förutom i Gdanskbukten där höga koncentrationer av nitrat uppmättes (18 µmol/l) Svavelväte uppmättes i djupvattnet på Gotlandsdjupet från 170 m, samt på Fårödjupet från 175 m. Inget svavelväte uppmättes i Bornholmsbassängen, och inte heller i Gdanskbuktens djupvatten.

Bottniska viken

Ytvattentemperaturerna varierade från 4.4°C i söder till 1.2°C i norr, men i Norra kvarken var temperaturen något lägre. Fosfathalterna var låga, 0.05 µmol/l i norr till 0.2 µmol/l i söder. Nitratthalterna varierade från 2.3 µmol/l i söder till 7.0 µmol/l i norr. Silkatthalterna hade en stor variation med 9 µmol/l i söder upp till 33 µmol/l i norr.

DELTAGARE

Namn	Från
Jan Szaron, expeditjonsledare	SMHI Oceanografiska lab.
Nils Kajrup	- " -
Marie Larsson	- " -
Eva Nyberg	- " -
Mats Ohlson (v50-51)	- " -
Jorge Valderrama (v49)	- " -
Natalja Drgos (v50)	IMGW Gdynia

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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Ocean lab

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

Date: 1997-12-18
Time: 13:31

Ser no	Stat code	P	Station	Lat	Lon	Date	Time	Bott	Mld	Secc	Wind	Air	Air	WCSI	C	PPCPZT	No	T	S	P	O	H	P	T	N	N	T	A	S	H	L	P	P	T	C			
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						utc	m	m	m				C	hPa	aoae	d	Cily	ooa		m	l	y	S	4	t	2	3	4	t	k	O	m	g	N	C	C	m	
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															hd	Pr	P	l																				
0805	GBSX27BAS	US3		N6245	E1912	971209	0750	189				21	12	2.8	999	2740	x	-----	16	xx	x	x	-	x	x	x	x	x	x	x	x	x	x	x	x	-	-	-
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0808	GBSX09BAS	SR3		N6111	E1814	971210	0240	74				18	7	5.0	1001	9930	x	-----	10	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	
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0810	BPWX38BMP	BY32	NORRKÖPINGSDJ	N5801	E1759	971210	2320	211				16	6	6.0	998	9920	x	-----	17	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	
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0813	BPSE70BAS	PL-P63		N5521	E1903.5	971211	2015	84				27	9	7.7	995	9930	x	-----	11	xx	x	x	-	x	x	x	x	x	x	x	-	-	-	-	-	-	x	
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0815	BPSG00BAS	PL-P116		N5439.1	E1917.6	971212	0125	91				23	3	7.9	995	9920	x	-----	12	xx	x	x	-	x	x	x	-	x	x	-	-	-	-	-	-	-	x	
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0818	BPSB07BMP	BY5	BORNHOLMSDJ	N5515	E1559	971215	0045	92				07	16	2.6	1033	9940	x	xxx---	13	x	x	x	x	-	x	x	x	x	x	x	x	x	x	x	-	-	-	
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0820	BPSA04BAS	BY3	HAMRARNE SUND	N5517.5	E1424	971215	0815	49				05	16	3.5	1037	2840	x	-----	8	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	
0821	BPSA03BMP	BY2	ARKONA	N5500	E1405	971215	1050	49				05	16	2.4	1038	2750	x	xxx---	9	x	x	x	x	-	x	x	x	x	x	x	x	x	x	-	-	-	-	
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0827	SOCX49BAS	OSKARSGRUNDET (NÄRA)		N5535.9	E1251.5	971215	1930	8				07	8	1.5	1044	9910	x	-----	2	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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0831	KAEX33BAS	KULLEN		N5614	E1222.2	971216	0055	23				09	6	-0.2	1044	9920	x	-----	5	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	x	
0832	KAEX32BAS	HALLANDS VÄDERÖ		N5629.5	E1232.0	971216	0240	25				09	6	-1.0	1044	9920	x	-----	6	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	

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***** Hydrographic series

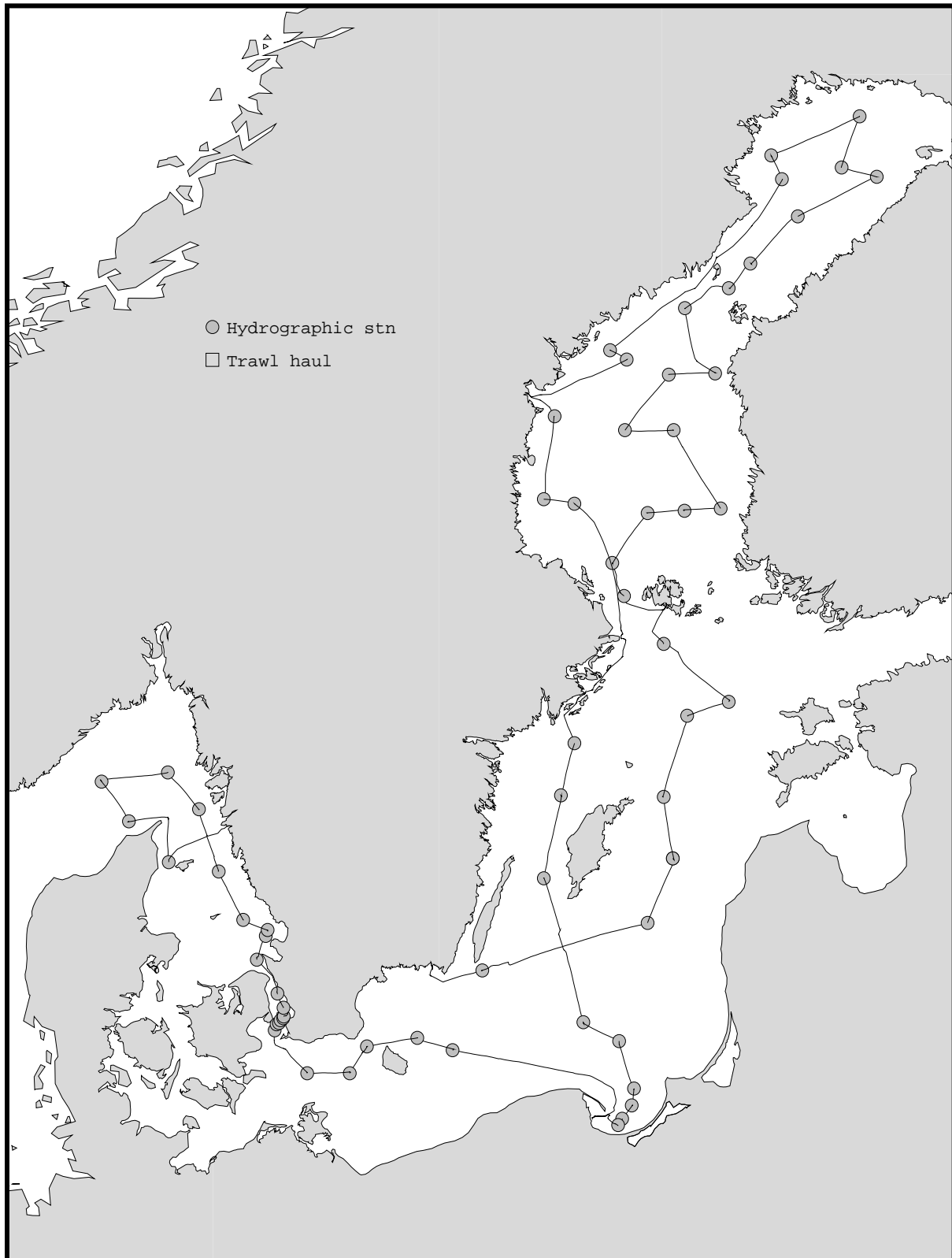
Ship: 14-Argos
Year: 1997

Date: 1997-12-18
Time: 13:31

Ser no	Stat code	P	Station-----	Lat-----	Lon-----	Date	Time	Bott	Mld	Secc	Wind	Air	Air	WCSI	C	PPCPZZT	No	T	S	P	O	H	P	T	N	N	T	A	S	H	L	P	P	T	C	
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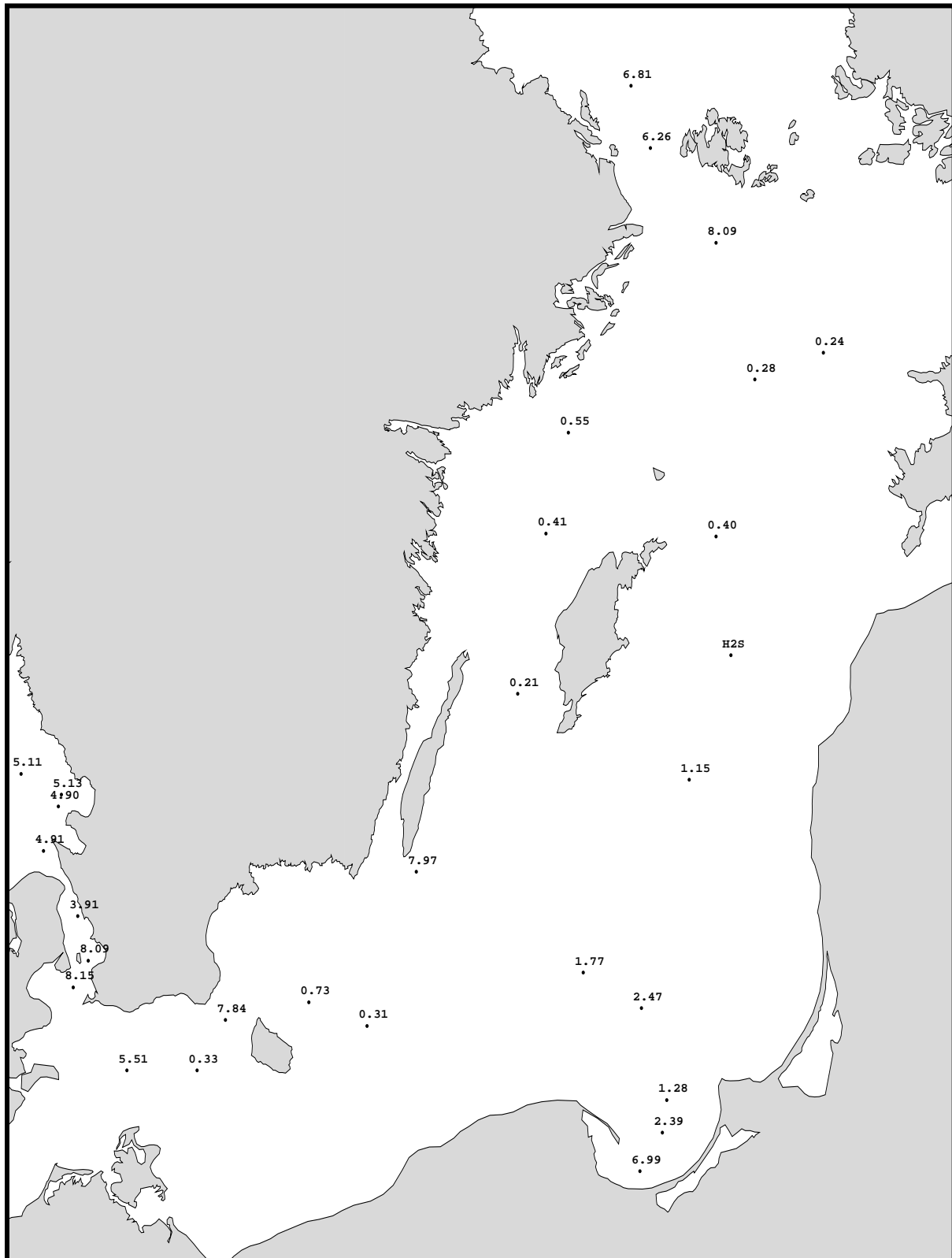
TRACK CHART

Country: Sweden
Ship : Argos
Date : 971202-971217
Series : 0778-0840



Bottom water oxygen concentration (ml/l)

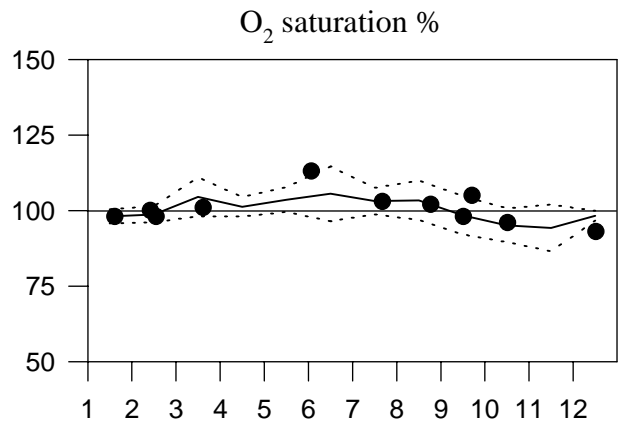
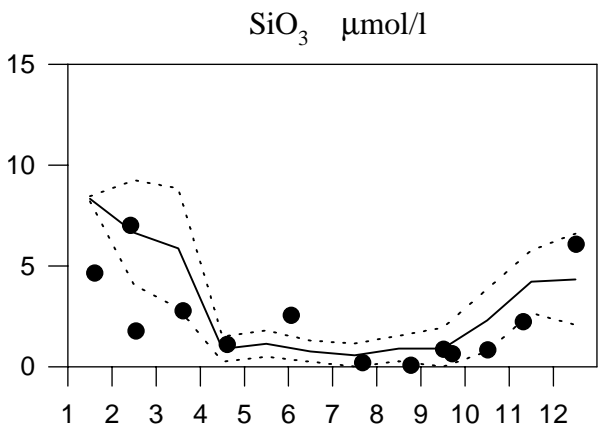
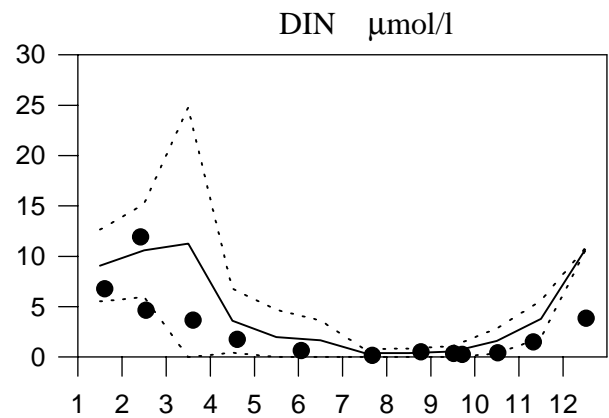
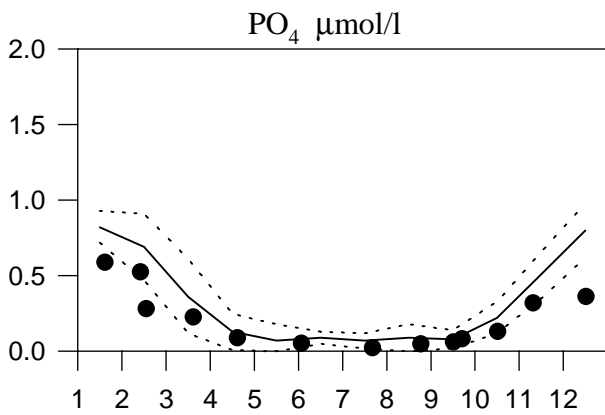
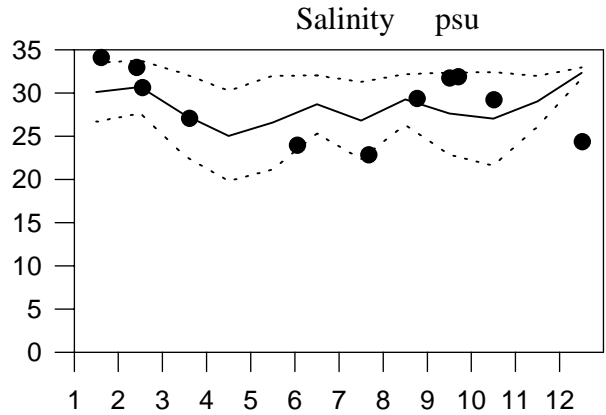
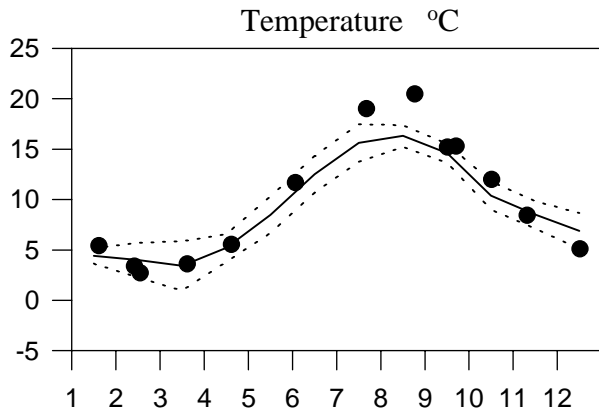
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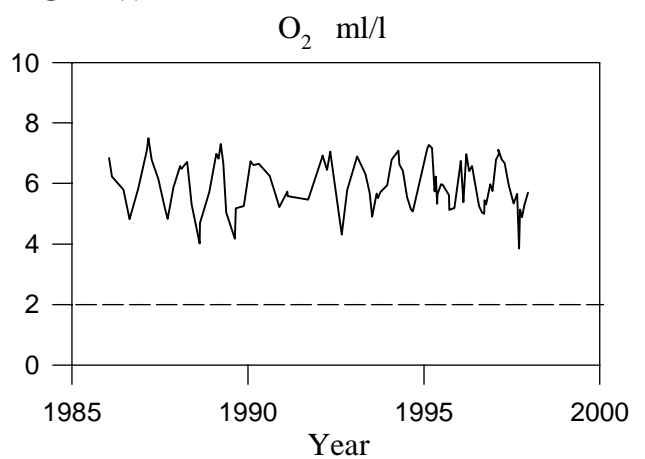
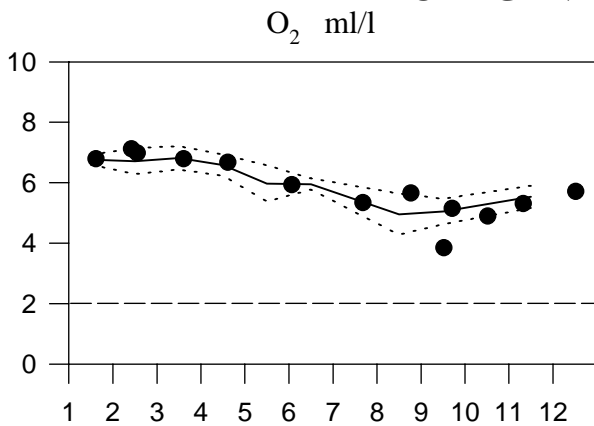
STATION P2 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



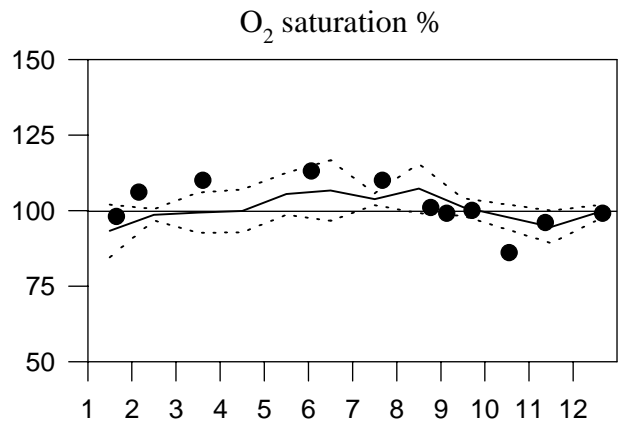
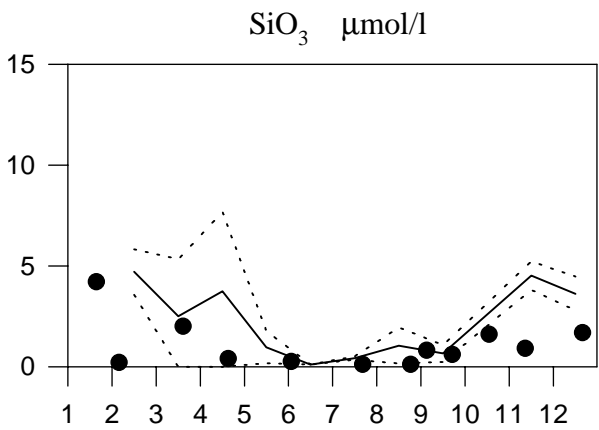
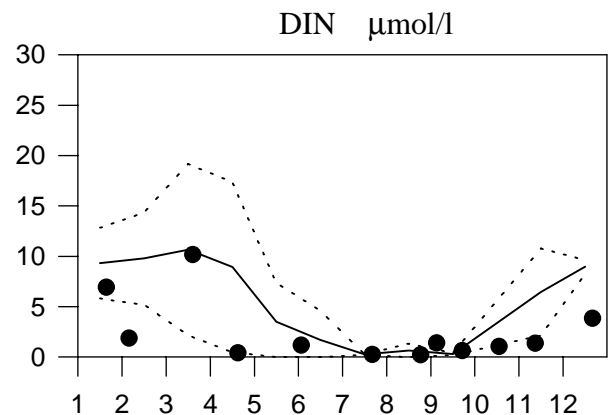
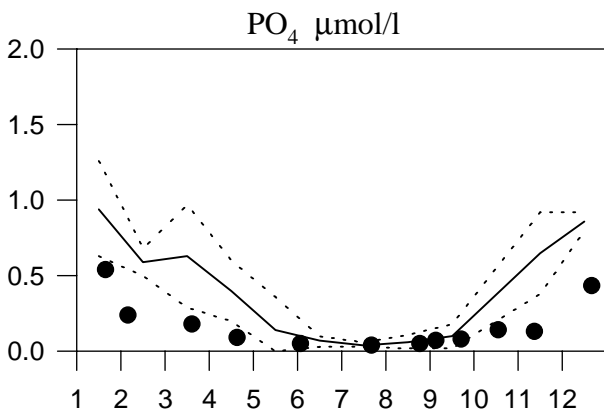
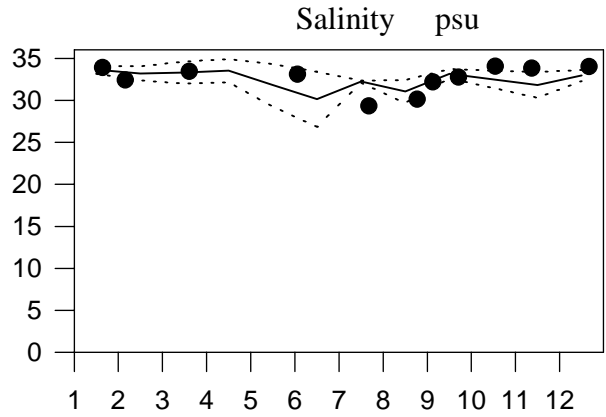
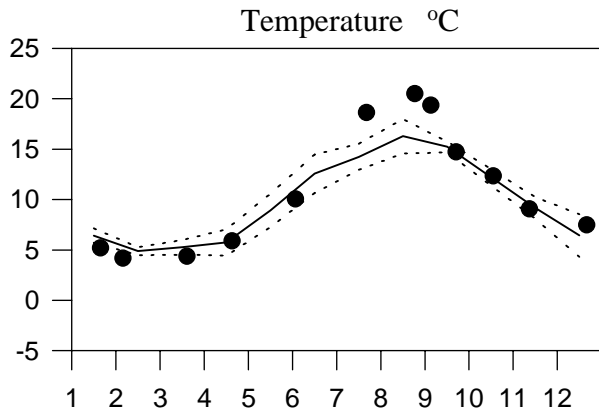
OXYGEN IN BOTTOM WATER



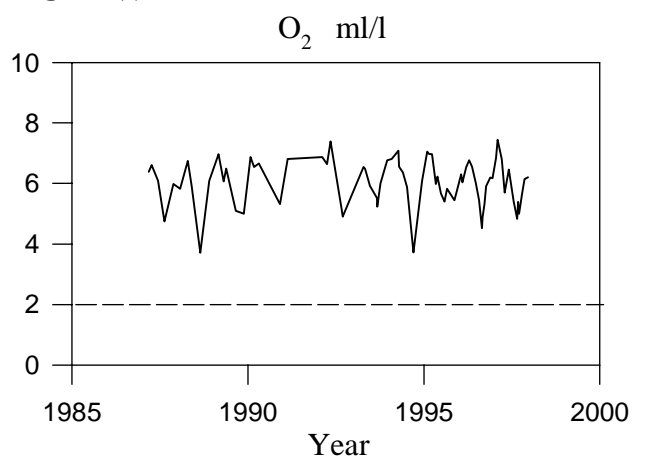
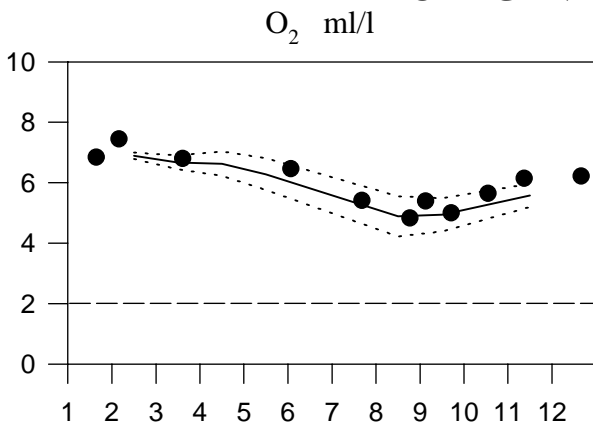
STATION HS5 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



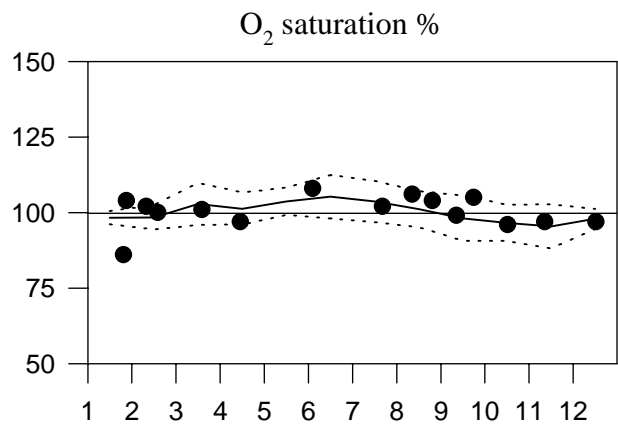
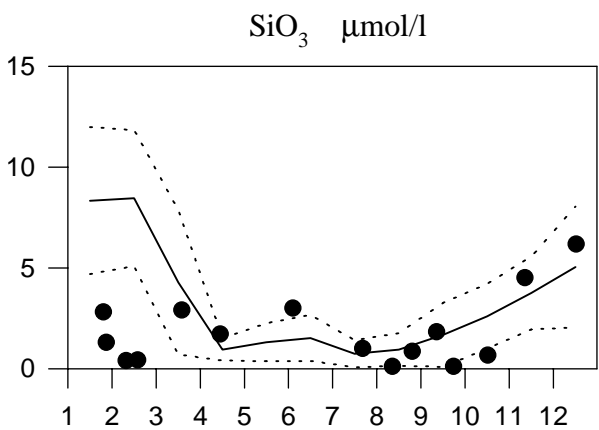
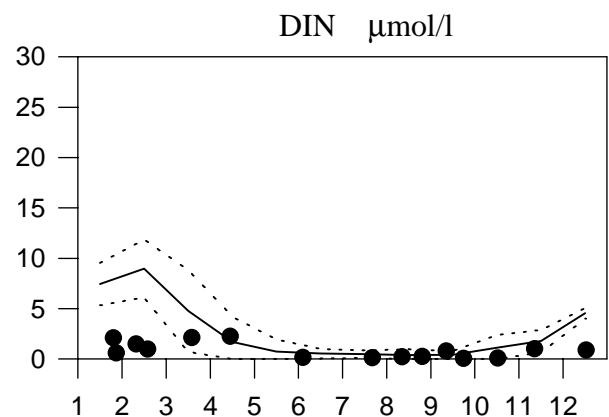
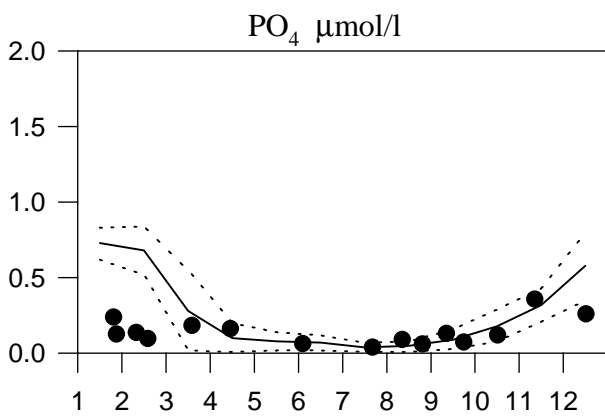
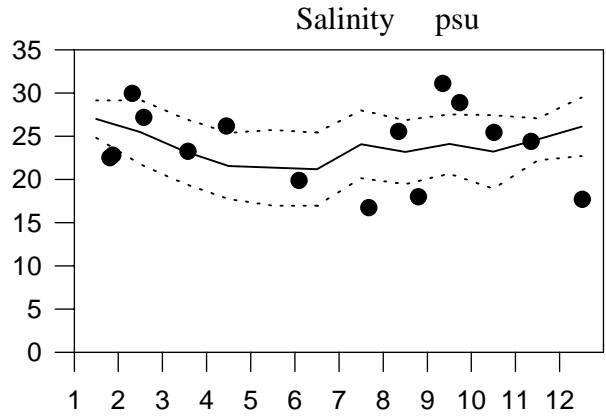
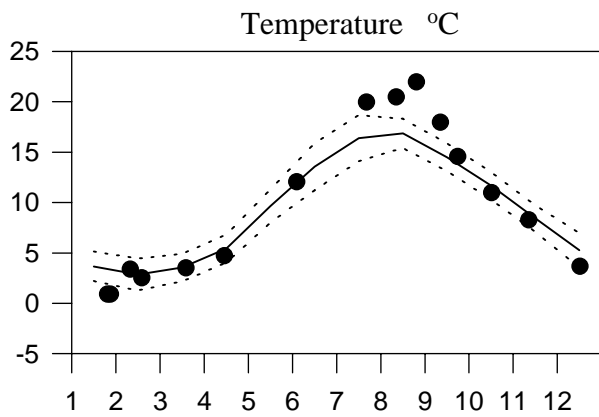
OXYGEN IN BOTTOM WATER



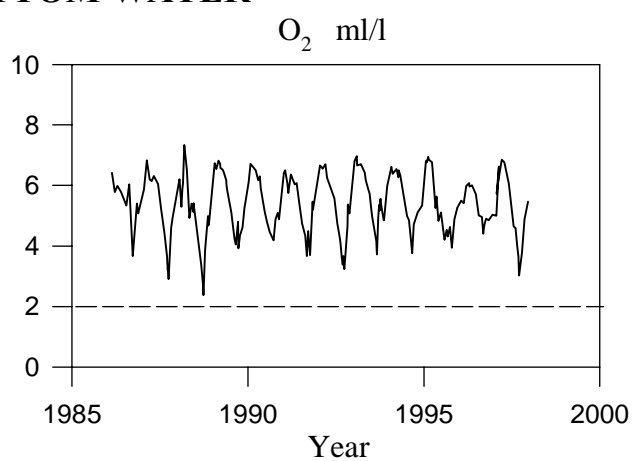
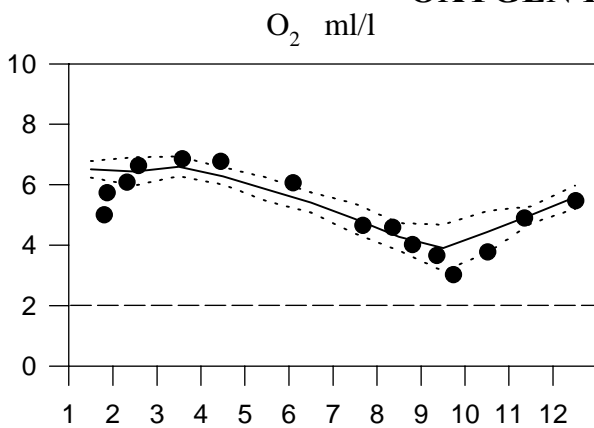
STATION FLADEN SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



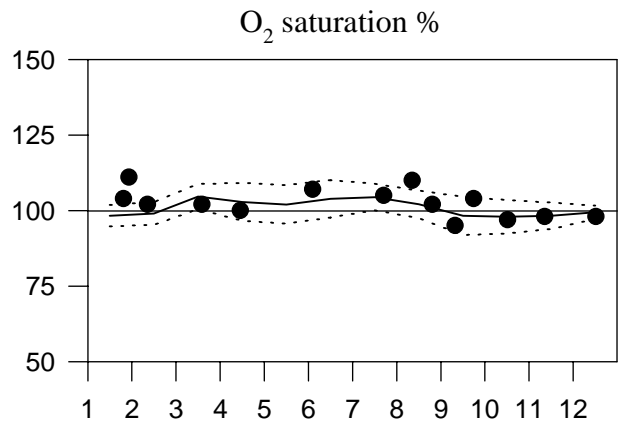
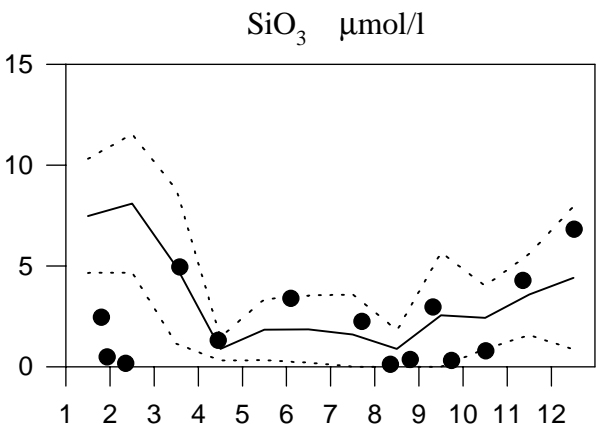
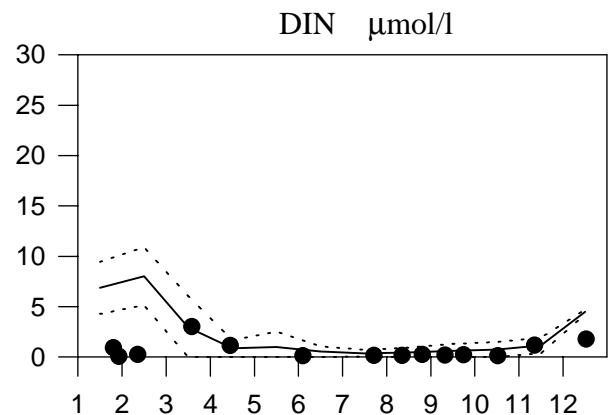
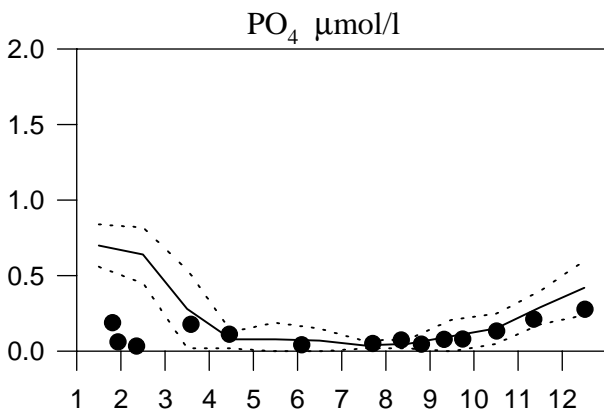
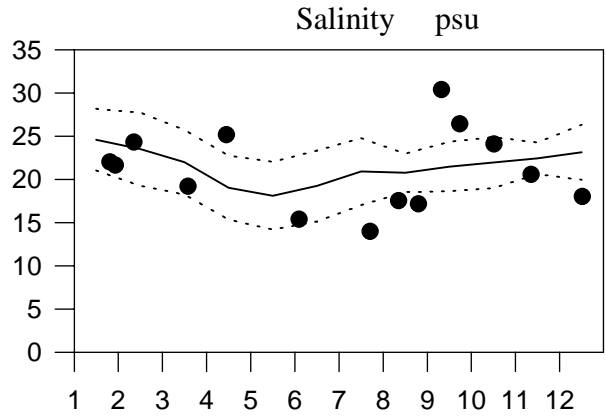
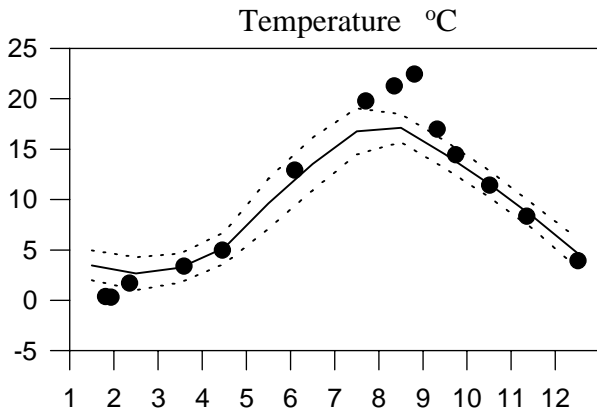
OXYGEN IN BOTTOM WATER



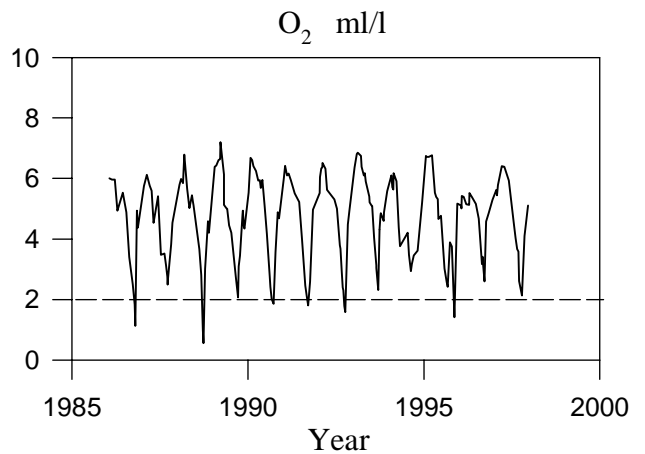
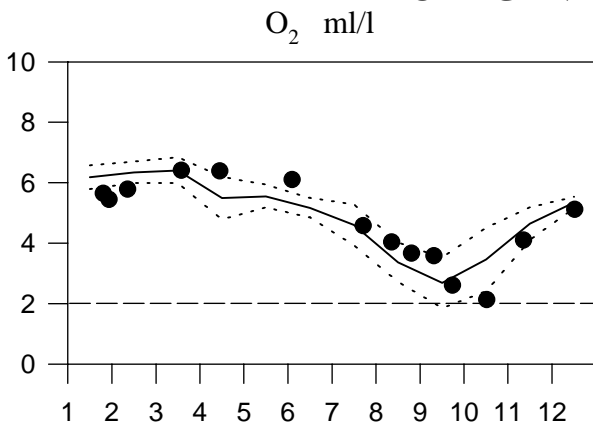
STATION ANHOLT E SURFACE WATER (above halocline)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



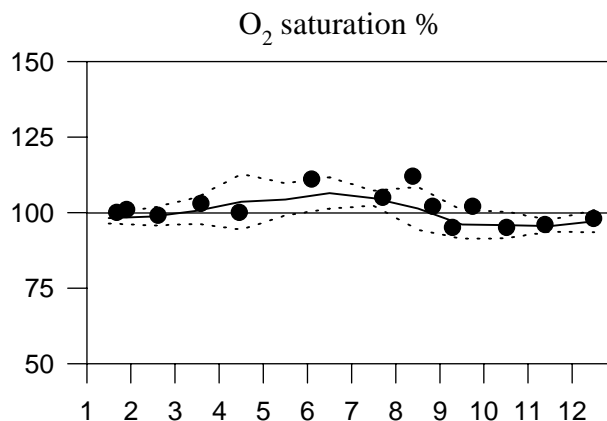
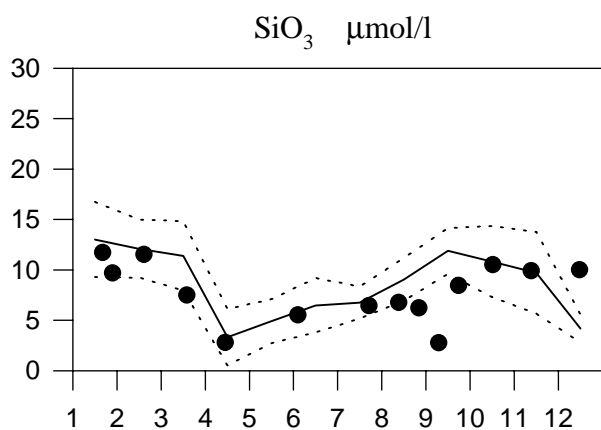
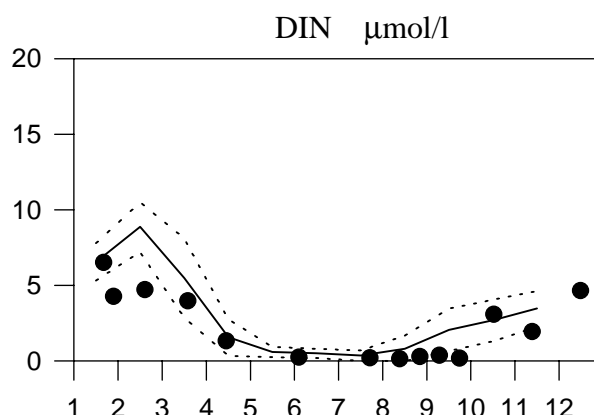
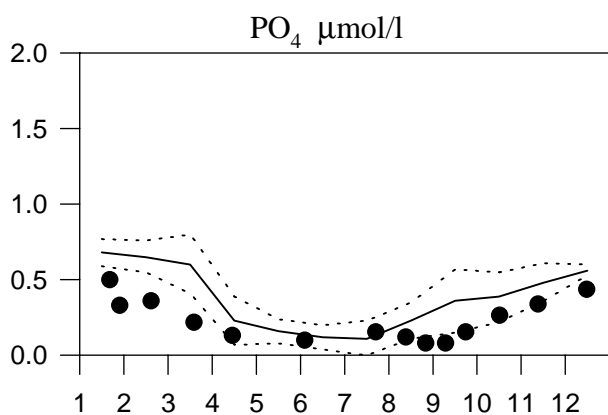
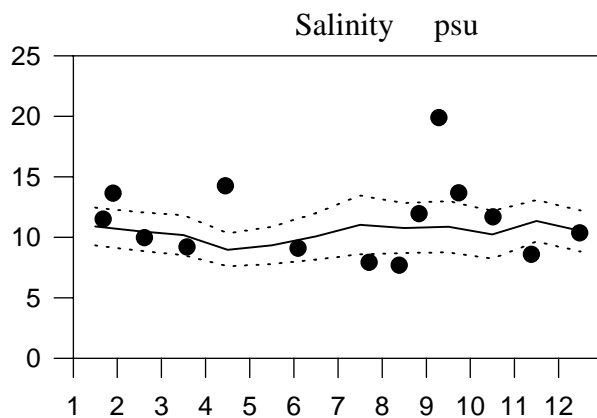
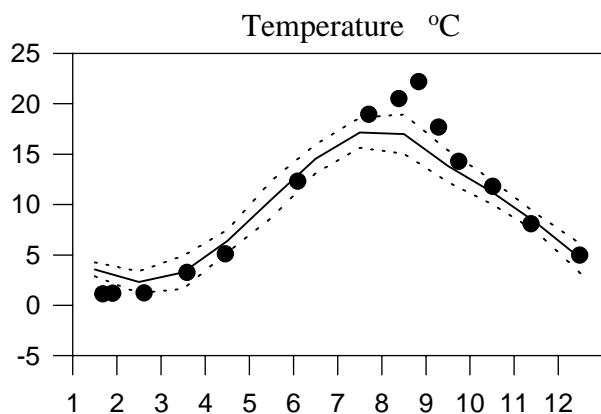
OXYGEN IN BOTTOM WATER



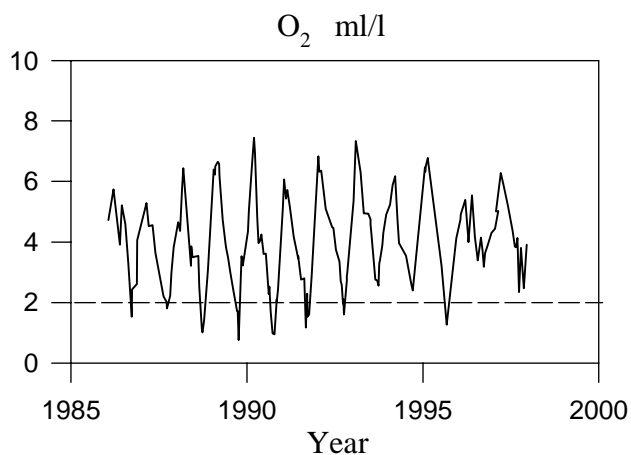
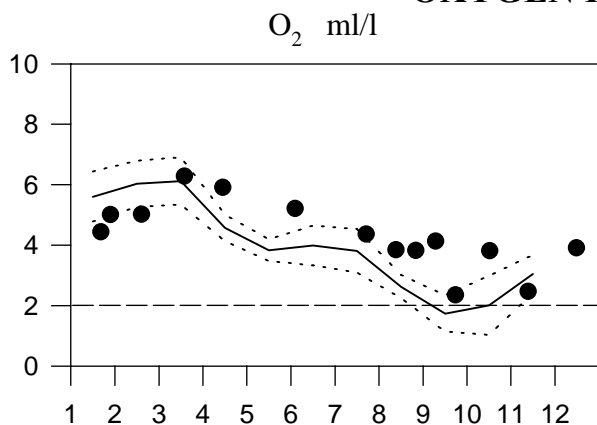
STATION W LANDSKRONA SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



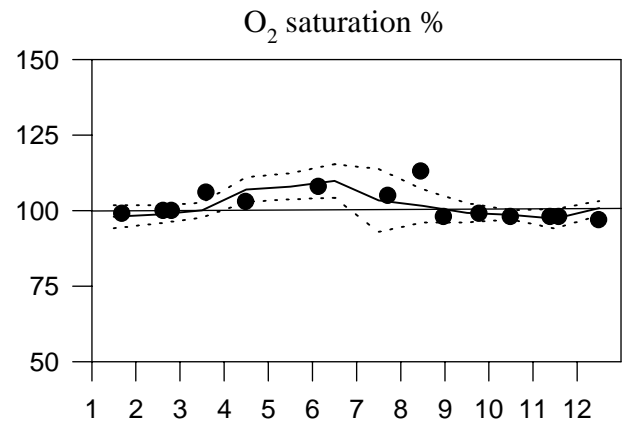
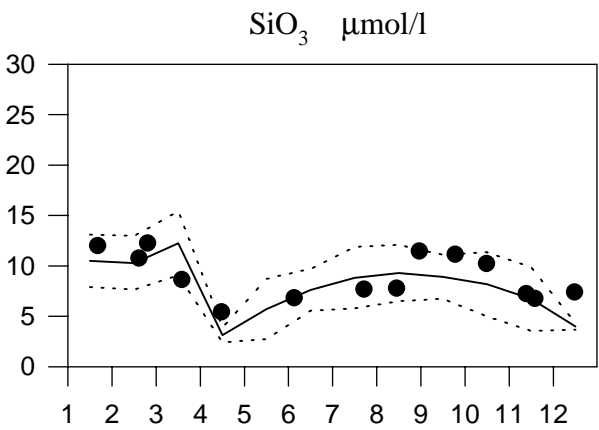
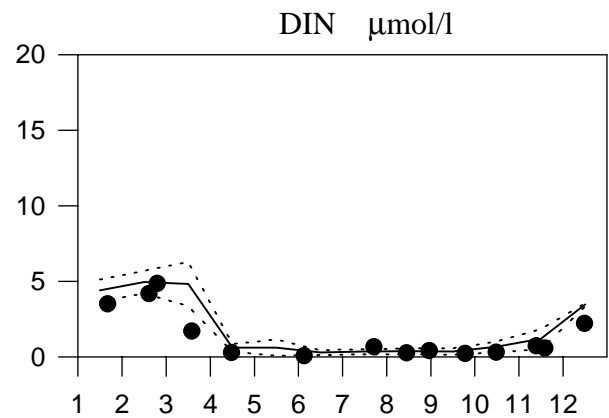
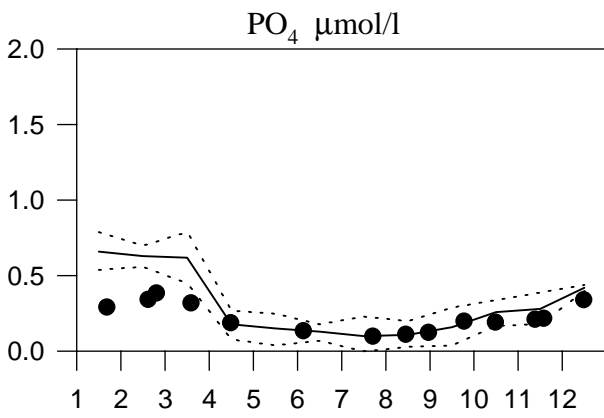
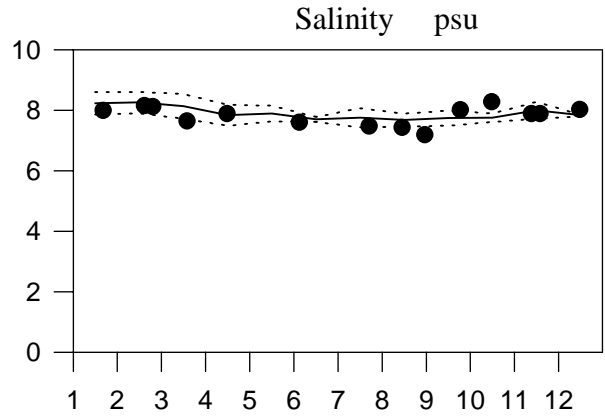
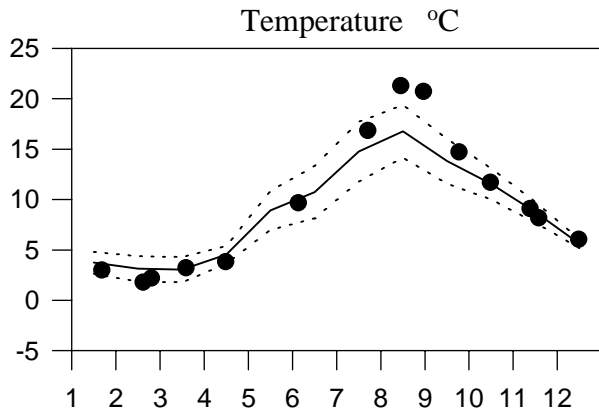
OXYGEN IN BOTTOM WATER



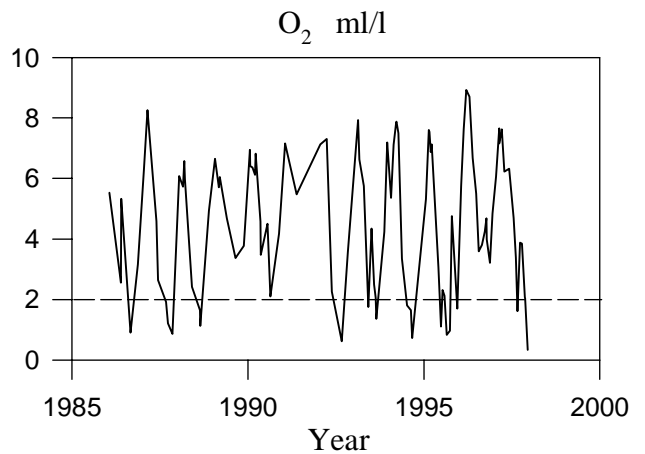
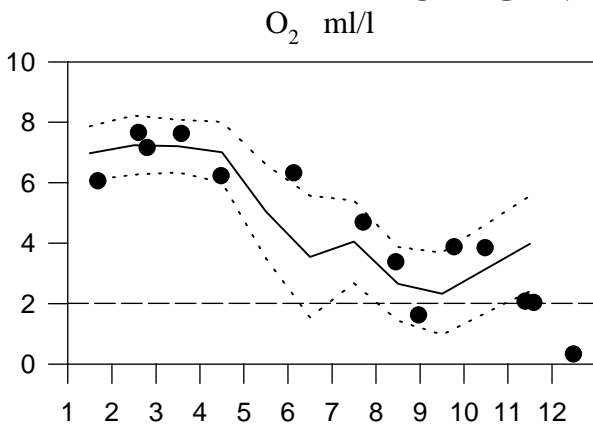
STATION BY2 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



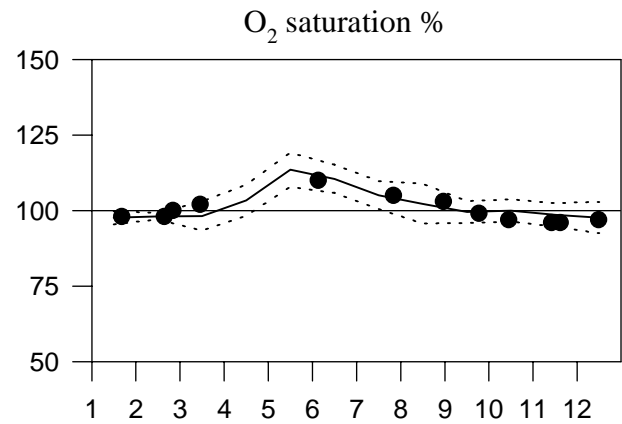
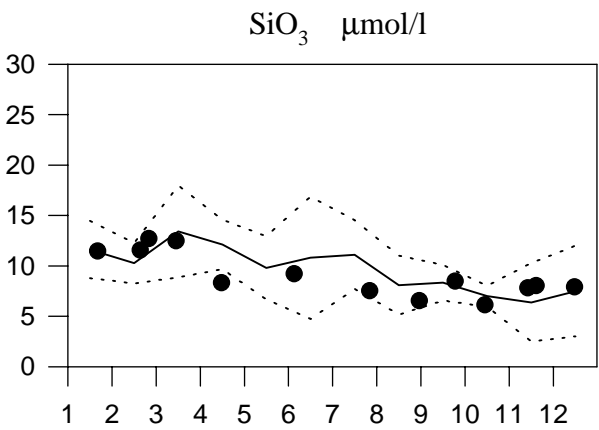
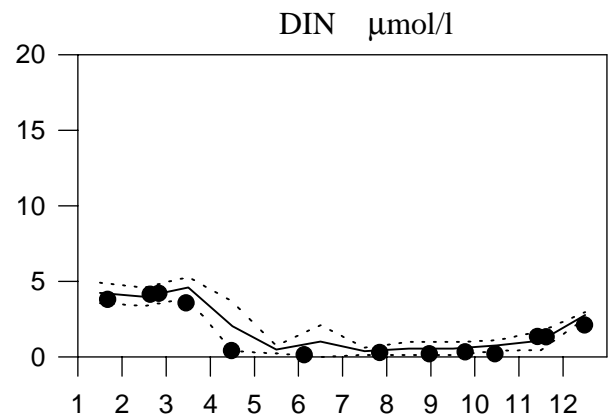
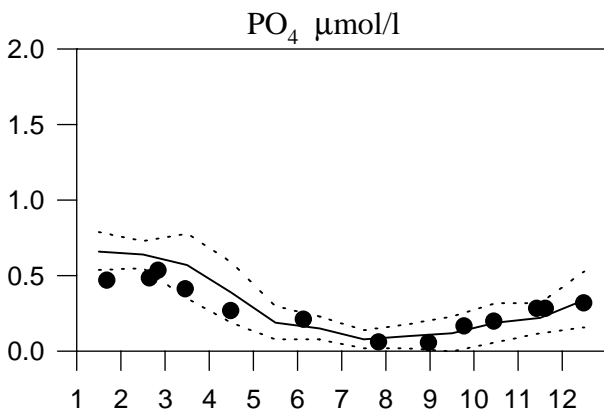
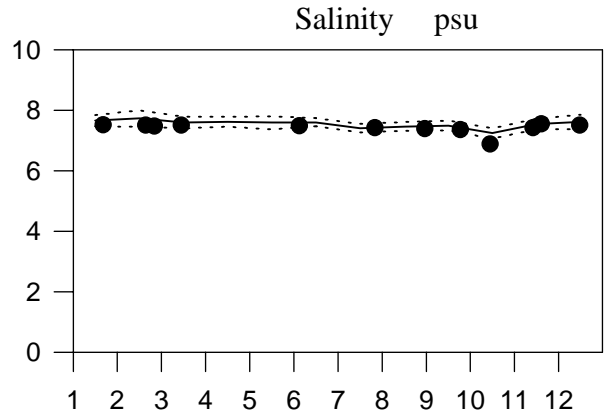
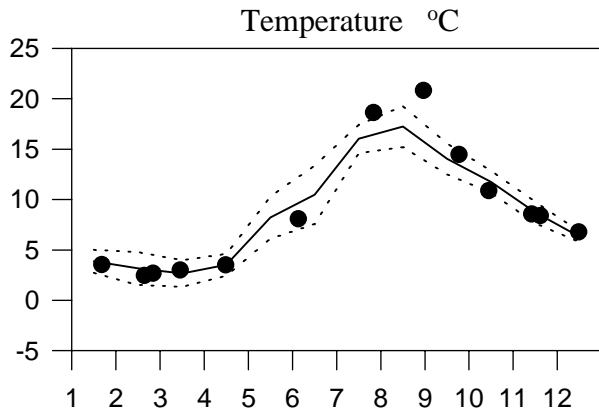
OXYGEN IN BOTTOM WATER



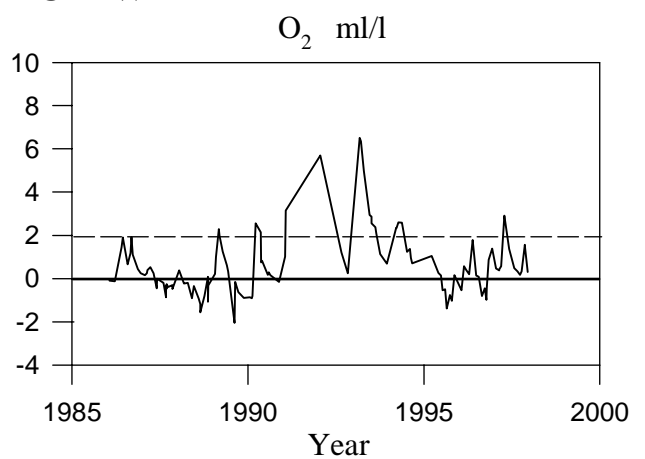
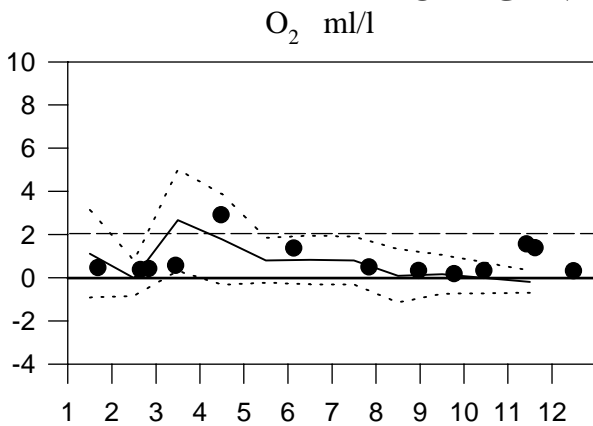
STATION BY5 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



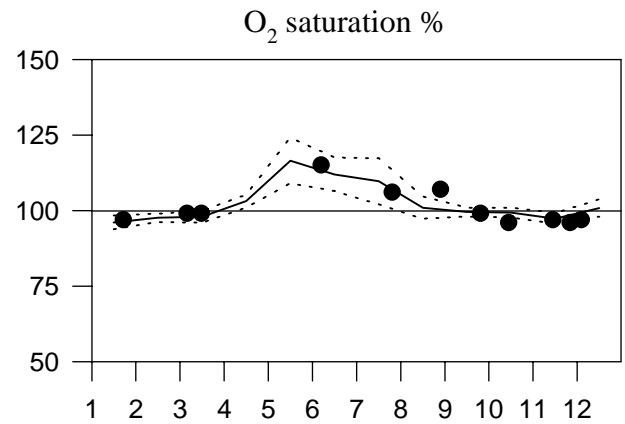
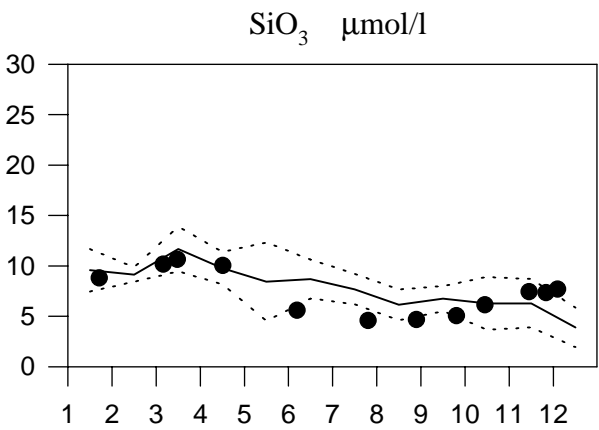
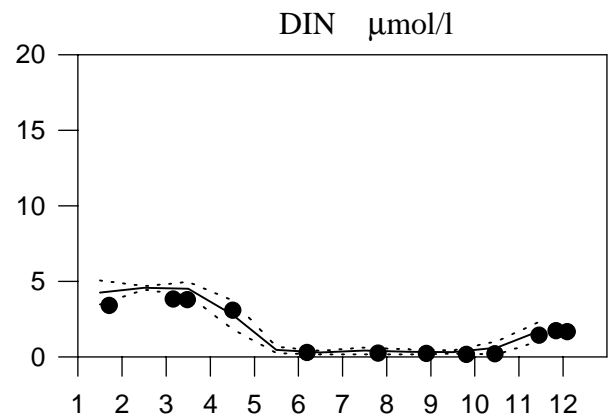
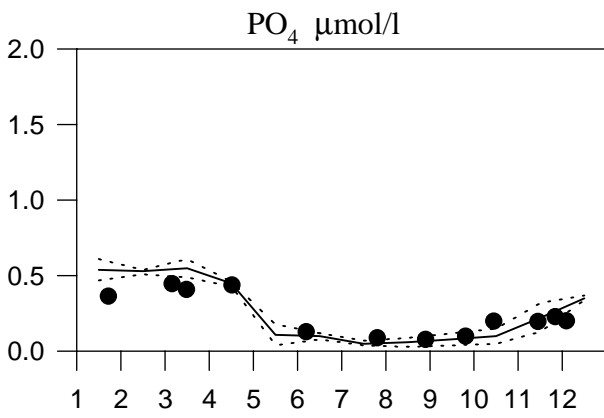
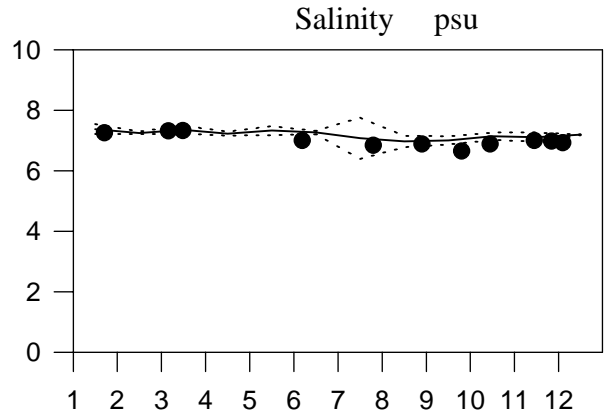
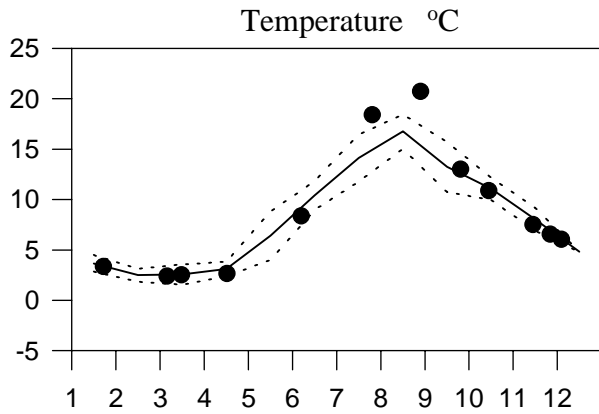
OXYGEN IN BOTTOM WATER



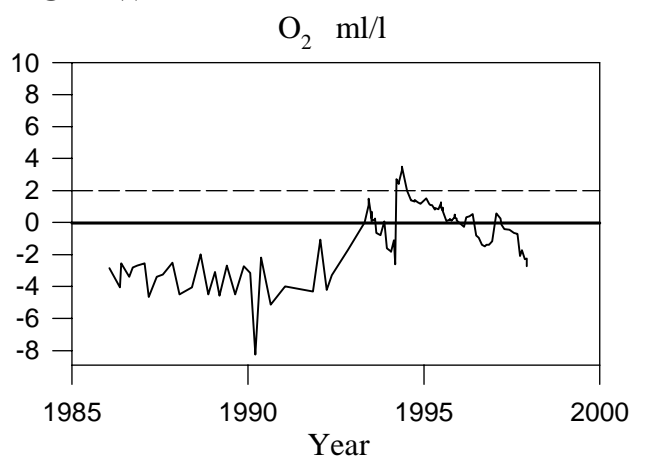
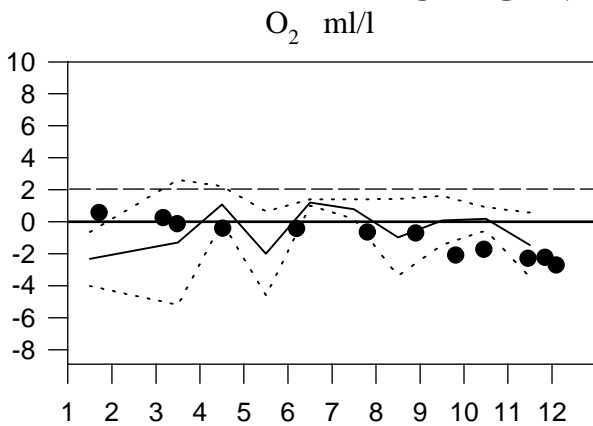
STATION BY15 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997

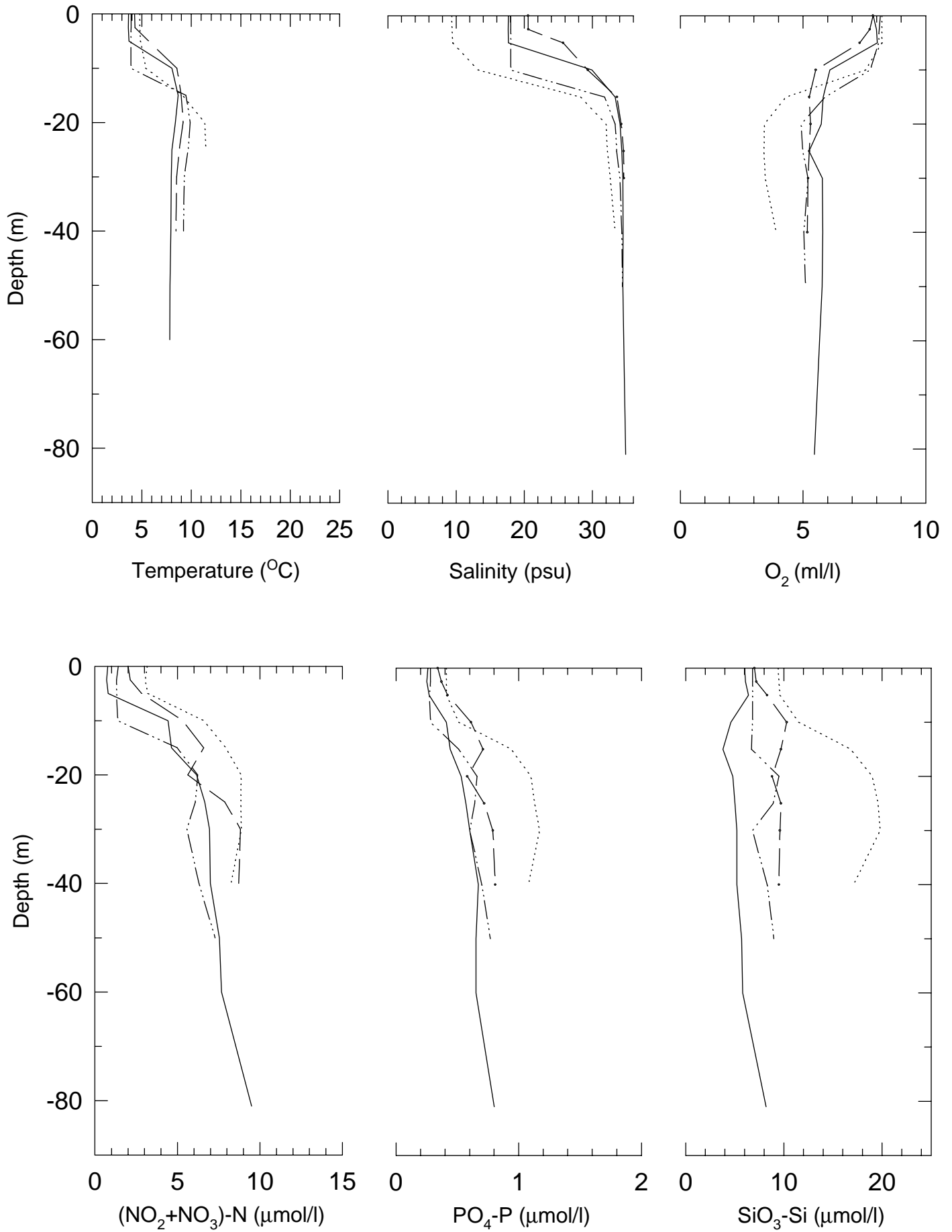


OXYGEN IN BOTTOM WATER



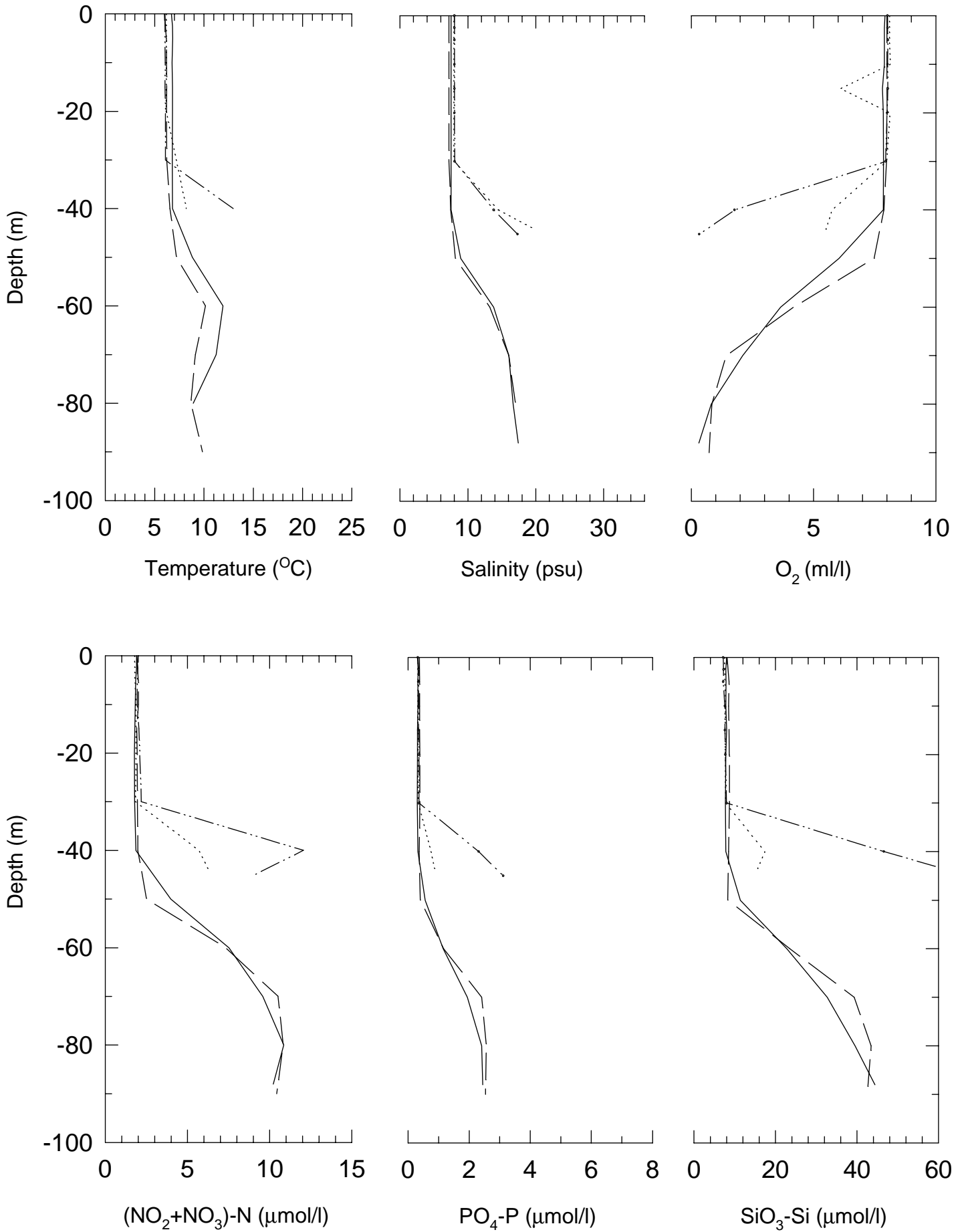
KATTEGAT and THE SOUND week 49-51 -97

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



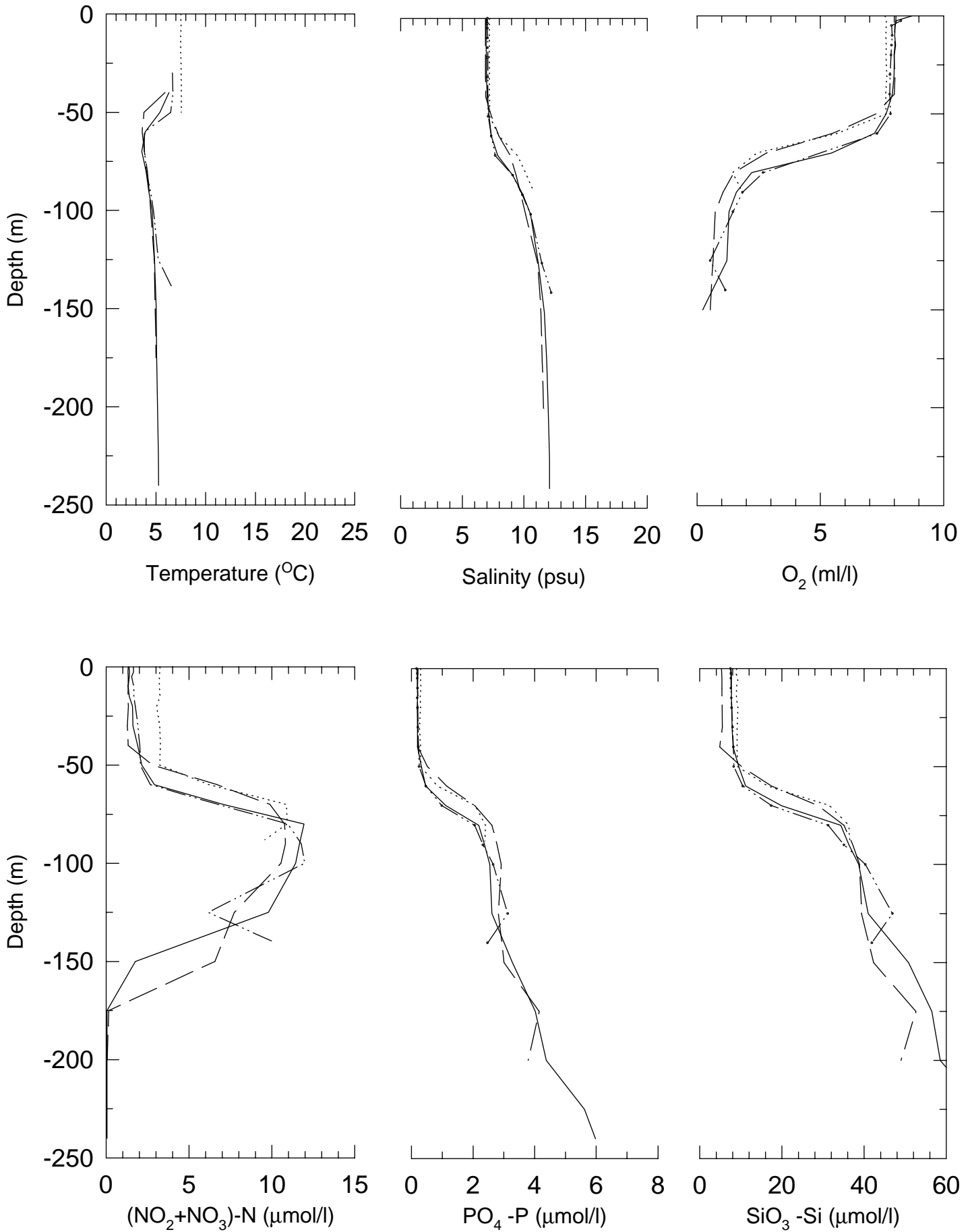
SOUTH BALTIC week 49-51 -97

— BY5 - - - BY4 ····· BY2 ····· BY1



EAST BALTIC week 49-51 -97

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



GULF OF BOTHNIA 971206-971210

