

EXPEDITIONSRAPPORT FRÅN U/F ARGOS

CRUISE REPORT FROM R/V ARGOS

Expeditionens varaktighet: 970217-970222
Survey period:

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

Uppdragsgivare: SMHI and NSEPA
Principal:

SUMMARY

Skagerrak: *Surface temperatures varied between 2.5 and 4.5 °C and surface salinities from 30 in the east to 33.5 in the southwest. The pycnocline was located at a depth of 15 meters in the eastern part and at 30 meters along the Jutland coast. A bloom had started along the Swedish west coast and the nutrients showed concentrations below normal in this area.*

Kattegat and the Sound: *The pycnocline was located between 10 and 15 meters depth. The bloom that had already started in January was still ongoing and the nutrients showed concentrations typical for April-May. In the Sound, the situation was more normal with no signs of a spring bloom.*

The Baltic Proper: *Due to bad weather conditions, only stations in the southern and central part of the Baltic Proper were visited. In the southern part the pycnocline was located at a depth of 50 meters, increasing northwards to 90 meters. Surface water temperatures varied between 1.5 and 3 °C. All nutrients, except phosphate, showed normal winter concentrations. Phosphate on the other hand, showed very low concentrations, especially in the Arkona Basin.*

PRELIMINÄRA RESULTAT

Expeditionen, som utgick från Göteborg och avslutades i Karlskrona, ingick i SMHIs ordinarie havsövervakningsprogram. Dessutom utfördes provtagning inom ramen för Baltic Monitoring Programme i Kattegatt, samt kartering i södra Östersjön för SMHIs årliga budgetberäkningar av närsalter. Dessutom utfördes även provtagningar på 7 stationer längs Hallandskusten för Hallands Kustvattenkontrollprogram. Vädret under veckan dominerades av hårda till mycket hårda vindar med tidvis grov sjö.

Skagerrak

Ytvattentemperaturerna i området varierade från 2.5°-4.5°C och saliniteten från 30-33.5 psu. Språngskiktet låg på 15 meters djup i öster och på 30 meter utefter Jyllandskusten. Vårblomningen hade startat utefter svenska västkusten och närsalthalterna var för årstiden under det normala i detta området.

Kattegatt och Öresund

Språngskiktet låg på 10 till 15 meters djup och ytvattentemperaturen varierade från 1.5° i nordväst till 3.0°C i sydost. Blomningen som redan hade startat under förra expeditionen i januari pågick fortfarande. Närsalthalterna uppvisade koncentrationer som är typiska för april-maj. Fosfat varierade från 0.02-0.10 µmol/l, nitrat 0.17-0.80 µmol/l och silikat 0.1-0.4 µmol/l. I Öresund hade ännu ingen blomning kommit i gång och förhållandena var för årstiden normala.

Östersjön

På grund av det dåliga vädret kunde endast stationerna i södra och mellersta Östersjön besökas. Ytvattentemperaturen var lägst i Arkona och vid Karlsödjupet, 1.5°, medan den i resten av området höll sig strax under 3°C. Språngskiktet i de södra delarna låg på ca. 50 meters djup medan det i de centrala delarna låg på 80 till 90 meters djup. Salthalten i ytan varierade från 7.0 till 8.0 psu från västra Östersjön till Arkonabassängen. Samtliga närsalter utom fosfat, som uppvisade låga koncentrationer i Arkona, hade för årstiden normala eller något under normala koncentrationer i hela området. Fosfat varierade från 0.3-0.6 µmol/l, nitrat från 3.2-4.4 µmol/l och silikat från 9.7-14.5 µmol/l. Inget svavelväte återfanns men syrgaskoncentrationerna var låga i djupvattnet, under 80-90 meter, i hela det besökta området.

DELTAGARE

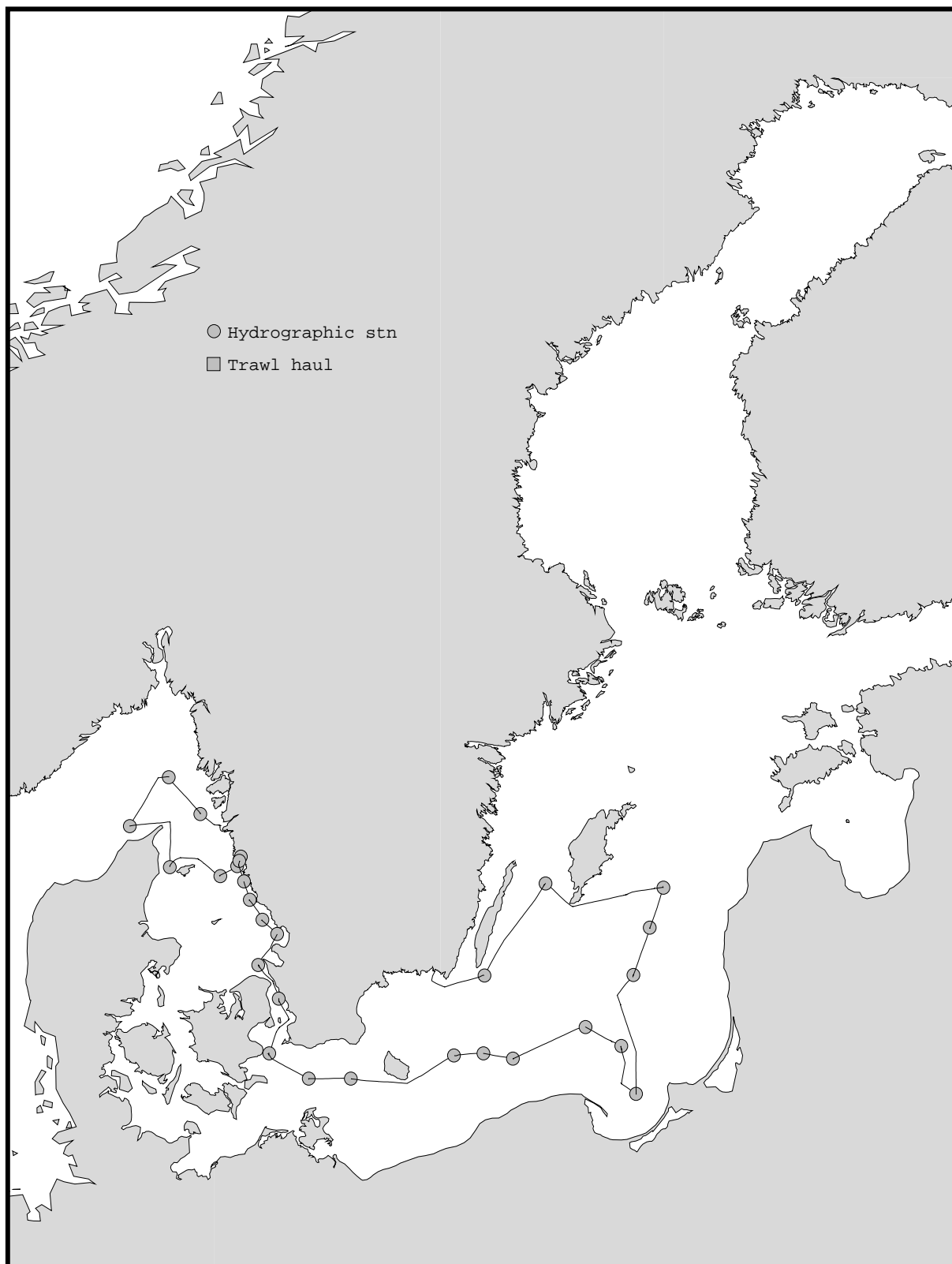
Namn	Från
Lars Andersson, expeditionsledare	SMHI Oceanografiska lab.
Marie Larsson	- " -
Jan Szaron	- " -
Bodil Thorstensson	- " -
Jorge Valderrama	- " -

BILAGOR

- Färdkarta
- Tabell över provtagningsprogrammet + meteorologiska förhållanden
- Karta över syrehalter i bottenvattnet
- Profilplottar för vissa basstationer
- Månadsmedelvärdesplottar för vissa basstationer

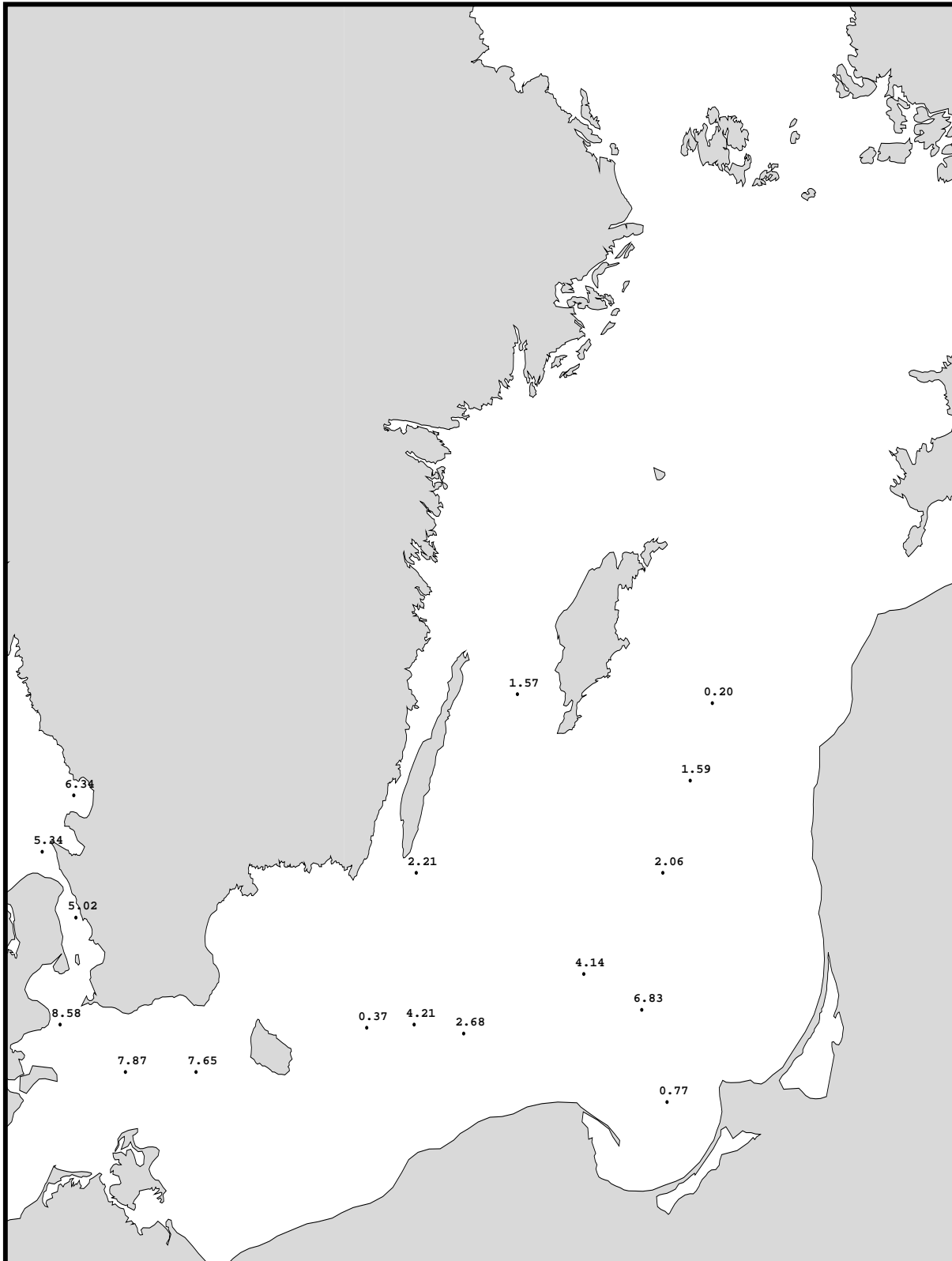
TRACK CHART

Country: Sweden
Ship: Argos
Date: 970217-970222
Series: 0146-0173



Bottom water oxygen concentration (ml/l)

Country: Sweden
Ship: Argos
Date: 970217-970222
Series: 0146-0173



SMHI
Ocean lab

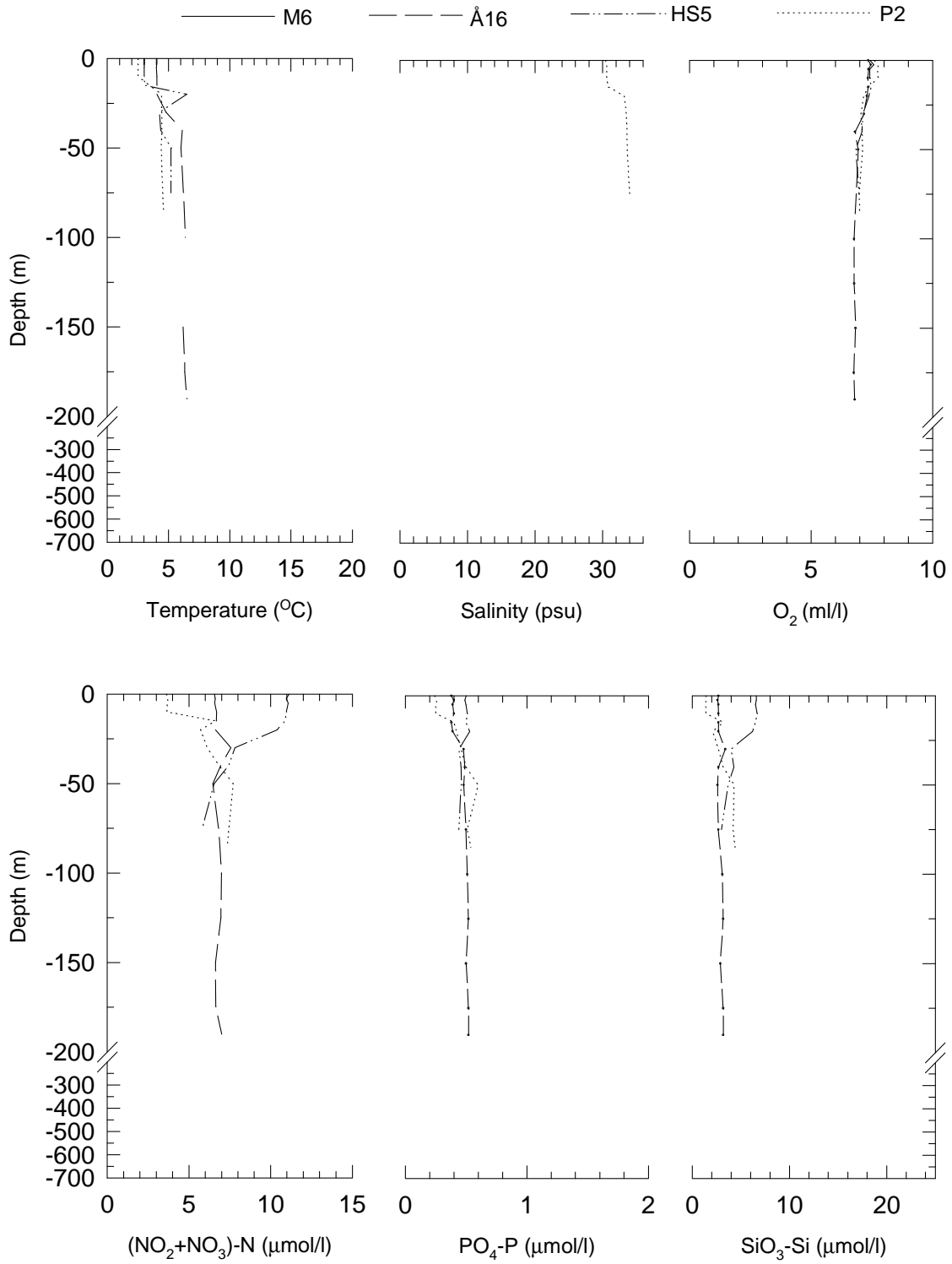
***** Hydrographic
series

Ship: 14-Argos
Year: 1997

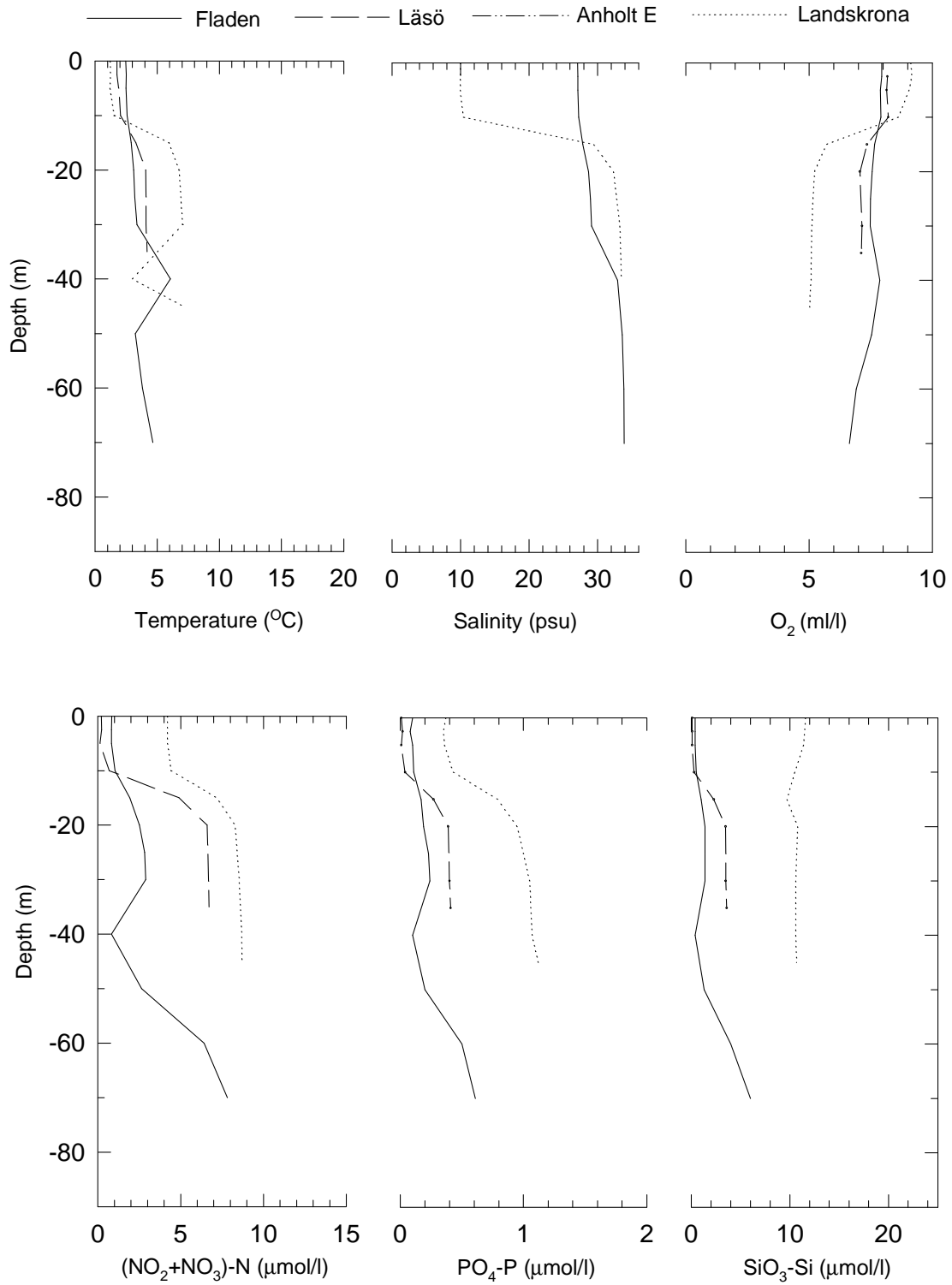
Date: 1997-03-03
Time: 09:40

Ser no	Stat code	P r o j	Station-----	Lat-----	Lon-----	Date yymmdd	Time hhmm utc	Bott m	Mld m	Secc m	Wind di ve	Air temp C	Air pres hPa	WCSI elec	C t aoae	PPCPZT Cilyooa hd	No de m	T e a h m l	S x x p i	P o o g	H x x P	P o o P	T o o P	N o o P	N o o P	T o o P	A o o P	S o o P	H o o P	L o o P	P o o P	P o o P	T o o P					
0146	SKEX23BAS	P2		N5752	E1118	970217	1150	91			14 15	1.6	1021	1640	x	--x----	11	xx	-	x	-	x	x	x	x	x	x	x	-	x	-	-	-	-	-	x		
0147	SKEX17BAS	Å16		N5816	E1043.5	970217	1515	199			14 18	0.7	1018	2850	-	--x----	15	xx	-	x	-	x	x	x	x	x	x	-	x	-	-	-	-	-	-	x		
0148	SKEX69BAS	HS5		N5744.15	E1000.46	970217	2200	89			16 18	1.1	1013	9950	-	--x----	10	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	x		
0149	KANX09BAS	LÄSÖ RÄNNA		N5717.6	E1044.5	970218	0720	41			16 18	1.5	1000	5850	-	--x----	8	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	x		
0150	KANX25BMP	FLADEN		N5711.5	E1140	970218	1325	80			16 18	2.9	998	2850	x	xxx ---	12	xx	x	x	-	x	x	x	x	x	x	x	x	x	x	x	x	x	-	-	-	x
0151	KANI52HAL	N7 OST NIDINGEN		N5718.20	E1159.30	970218	1530	26			16 12	3.2	998	6840	x	--xx---	6	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0152	KANI50HAL	N5 KUNGSBACKAFJORDEN		N5724.40	E1203.00	970218	1645	16			16 12	2.5	995	5821	x	--x----	4	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0153	KANI51HAL	N6 KUNGSBACKAFJORDEN		N5721.60	E1201.75	970218	1725	26			16 12	2.0	995	6931	x	--x----	6	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0154	KANX49HAL	N13 VÄRÖ		N5708.20	E1206.40	970218	1935	23			16 12	1.8	993	9930	x	--x----	6	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0155	KANX50HAL	N14 FALKENBERG		N5656.40	E1212.70	970218	2135	31			18 13	2.2	993	9930	x	--xx---	7	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0156	KAEX28HAL	N15 HALMSTAD		N5643.30	E1226.50	970218	2340	22			23 14	3.4	994	9940	x	--x----	5	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0157	KAEL60HAL	L9 LAHOLMSBUKTEN		N5633.90	E1243.20	970219	0140	20			23 14	3.8	997	6940	x	--xx---	5	xx	-	x	-	x	x	x	x	-	x	-	x	-	-	-	-	-	-	-		
0158	KAEX33BAS	KULLEN		N5614	E1222.2	970219	0520	23			27 17	3.0	1000	9950	-	-----	5	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0159	SOCX39BAS	W LANDSKRONA		N5552.0	E1245.0	970219	0745	48			30 12	3.0	1005	2730	x	--x----	9	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0160	BPSA01BAS	441 STEVNS KLINT		N5516.3	E1234.5	970219	1150	25			7.5 27 14	5.0	1007	1230	x	-----	6	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0161	BPSA02BAS	BY1		N5500	E1318	970219	1510	47			9.5 27 9	5.5	1015	1130	x	-----	8	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0162	BPSA03BAS	BY2 ARKONA		N5500	E1405	970219	1805	48			23 10	3.0	1015	9930	x	xxx ---	9	xx	x	x	-	x	x	x	x	x	x	x	-	-	-	-	-	-	-	-	-	
0163	BPSB07BAS	BY5 BORNHOLMSDJ		N5515	E1559	970220	0055	90			18 10	3.3	1008	9940	x	xxx ---	13	xx	x	x	-	x	x	x	x	x	x	x	x	x	x	x	x	x	-	-	-	
0164	BPSE08BAS	STOLPE TRÖSKEL		N5516.5	E1631	970220	0320	64			18 15	3.4	1005	7940	x	-----	9	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0165	BPSE09BAS	BY7 STOLPE RÄNNA		N5513	E1704	970220	0610	90			18 15	1.0	999	5840	x	-----	12	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0166	BPSE11BAS	BCS III-10		N5533.3	E1824	970220	1130	91			11 23 14	4.6	1000	2740	x	xx ----	12	xx	x	x	-	x	x	x	x	x	x	x	-	-	-	-	-	-	-	-	-	
0167	BPSE70BAS	PL-P63		N5521	E1903.5	970220	1410	85			11 25 16	5.4	1003	2750	x	-----	11	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0168	BPSG71BAS	PL-P1		N5450	E1920	970220	1810	110			27 17	4.0	1008	9940	x	-----	14	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0169	BPSE12BAS	BY9 KLAIPEDA		N5607.5	E1917	970221	0235	122			27 15	3.5	1005	5940	x	-----	14	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0170	BPEX13BAS	BY10		N5638	E1935	970221	0625	147			25 13	3.0	1001	2840	x	--x----	16	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0171	BPEX14BAS	BY11		N5704	E1950	970221	0950	214			25 15	4.1	997	2840	x	-----	18	xx	-	x	-	x	x	x	x	x	-	x	-	-	-	-	-	-	-	-		
0172	BPWX45BAS	BY38 KARLSÖDJ		N5707	E1740	970221	2020	112			25 20	2.0	991	9940	x	--x----	15	xx	x	x	-	x	x	x	x	x	x	x	x	x	x	x	x	x	-	-	-	-

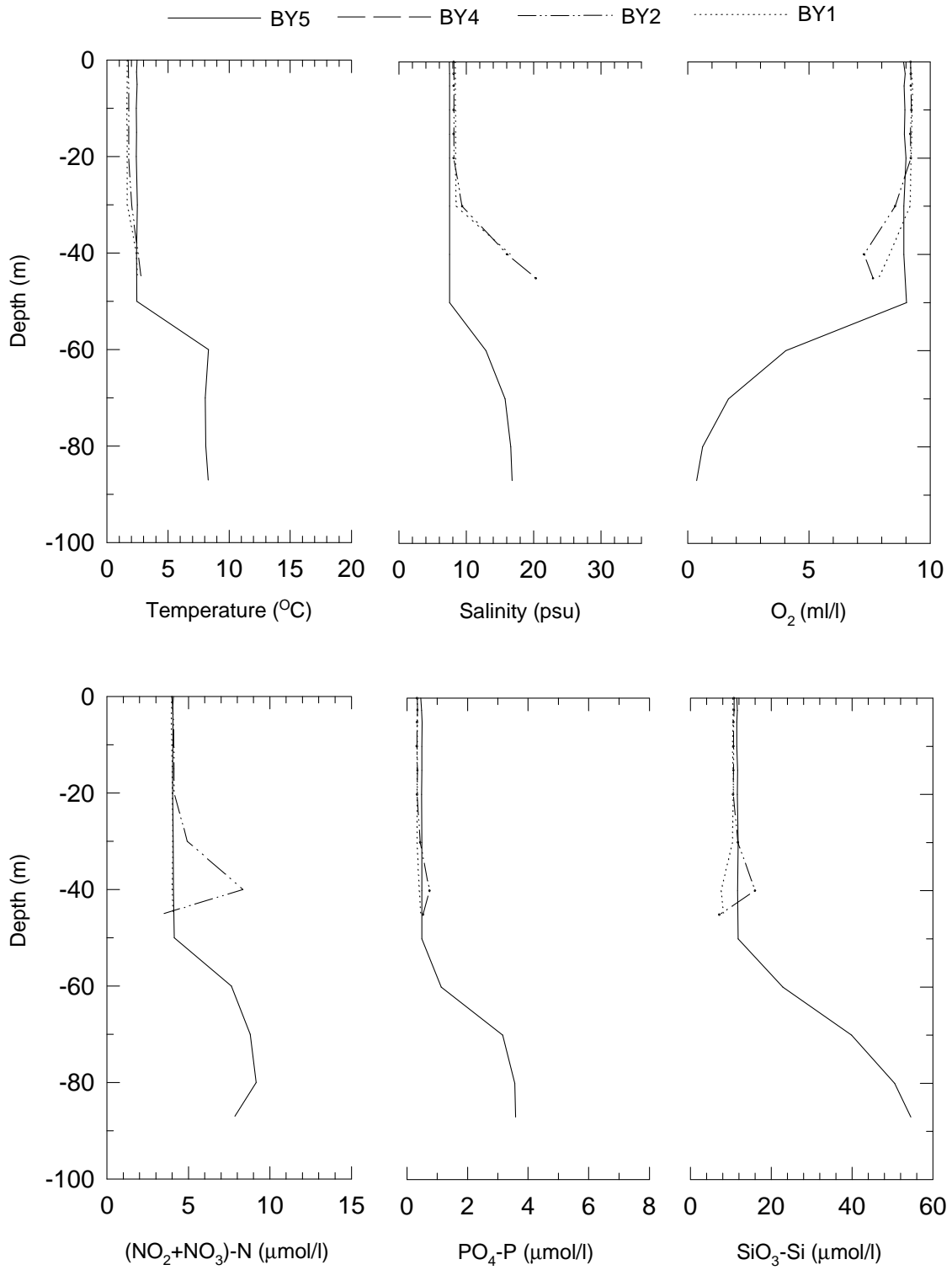
SKAGERRAK week 4 -97



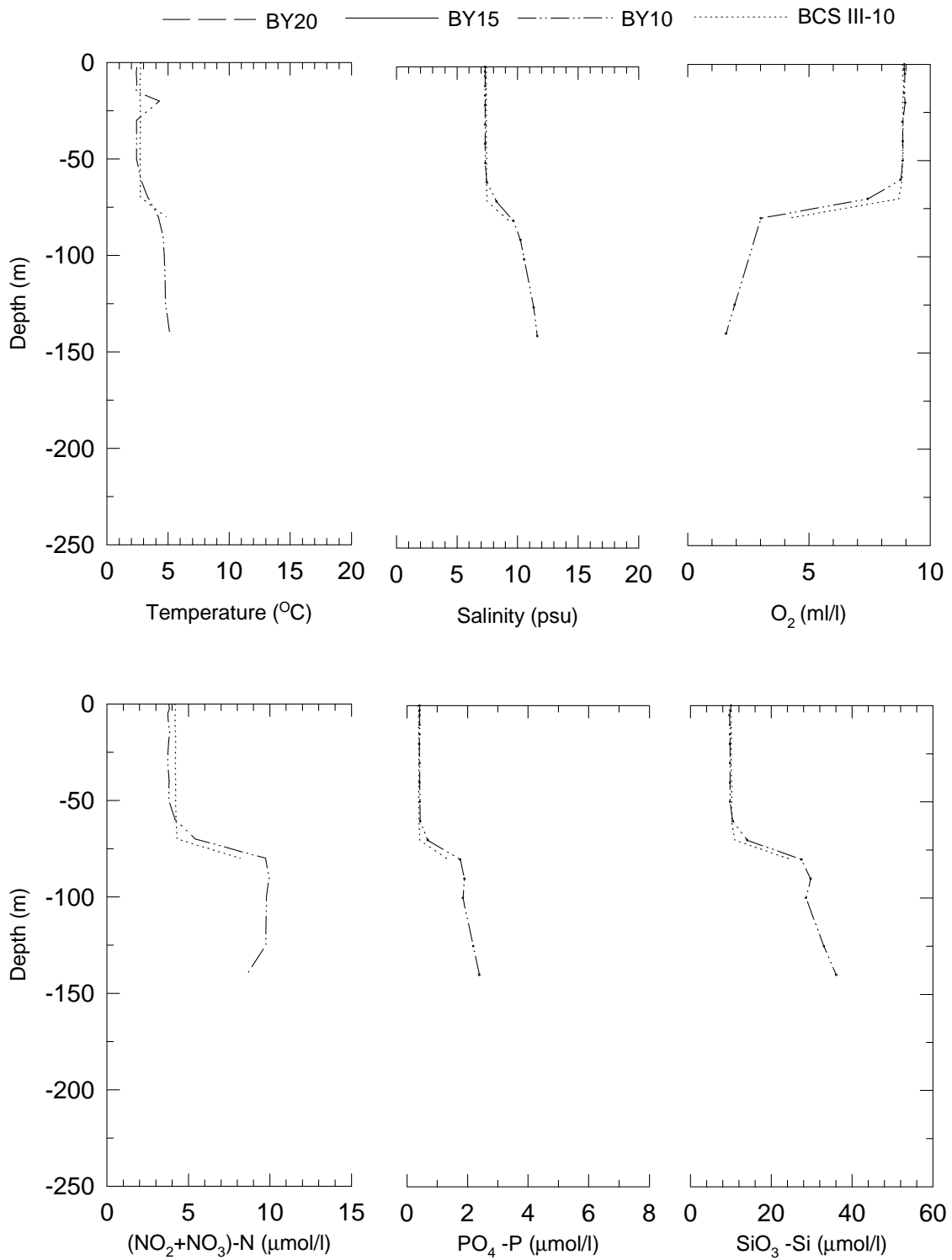
KATTEGAT and THE SOUND week 8 -97



SOUTH BALTIC week 4 -97



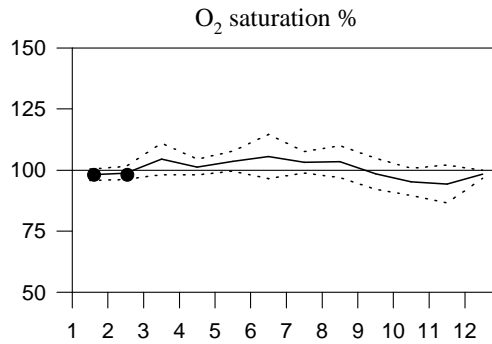
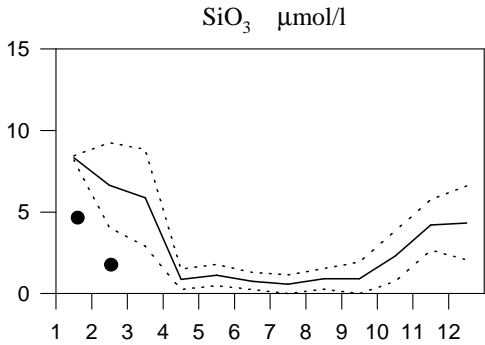
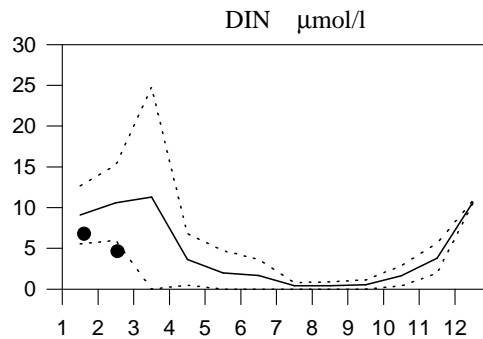
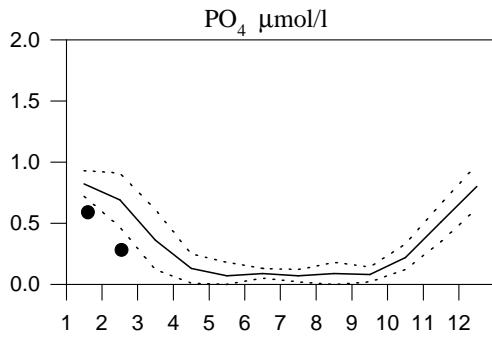
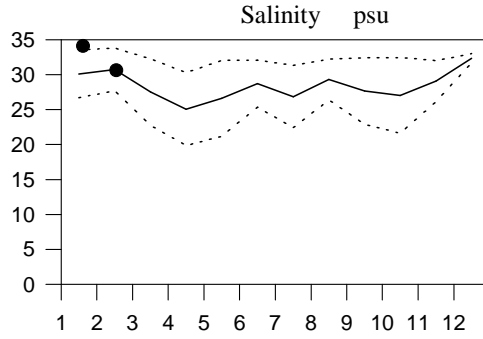
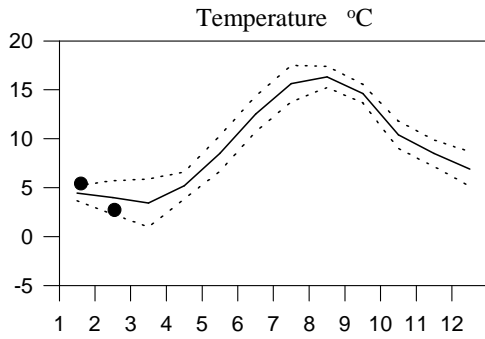
EAST BALTIC week 4 -97



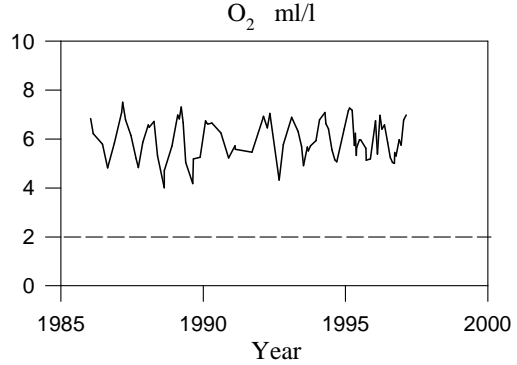
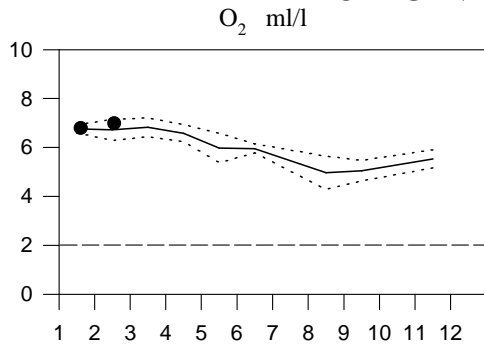
STATION P2 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 ···· St.Dev. ● 1997



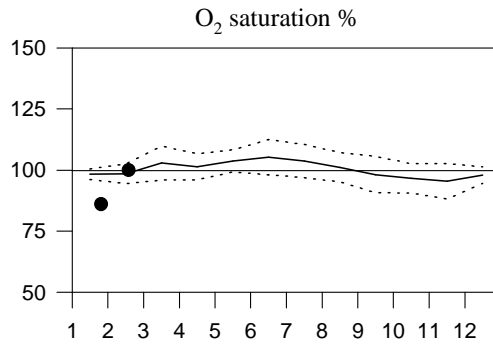
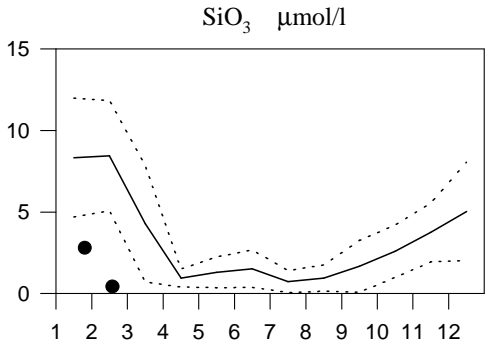
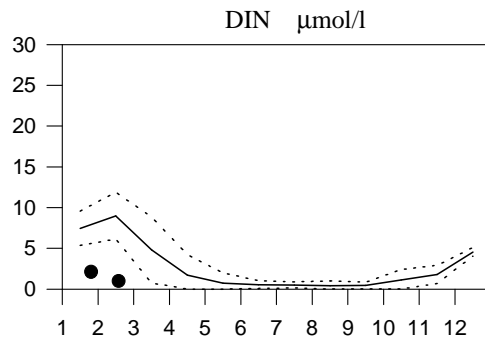
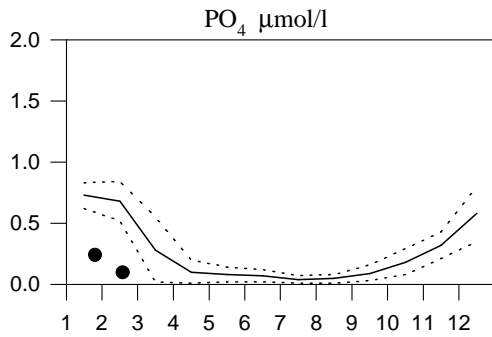
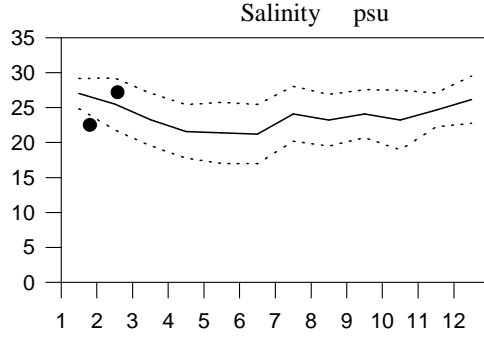
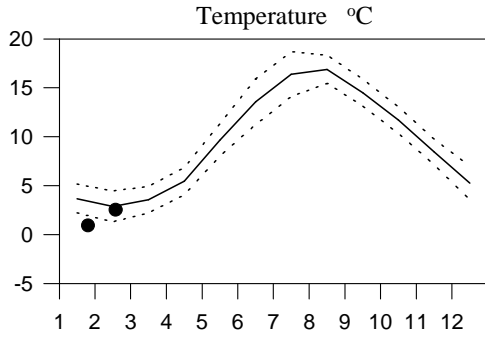
OXYGEN IN BOTTOM WATER



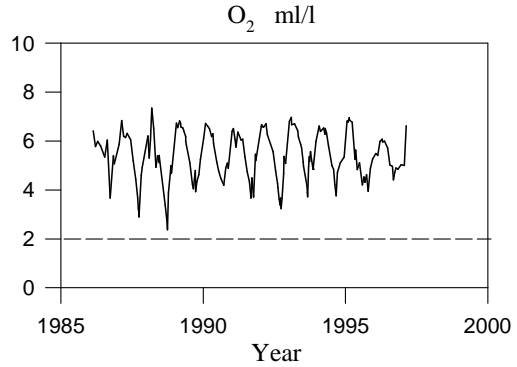
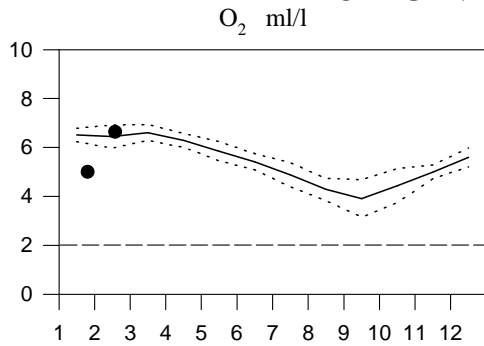
STATION FLADEN SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



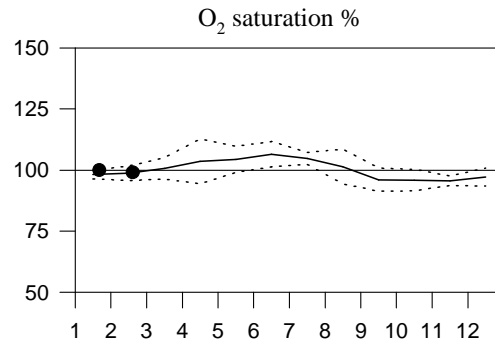
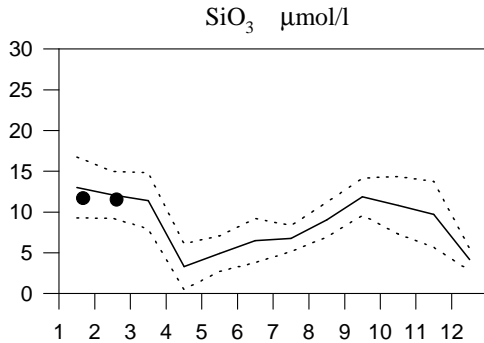
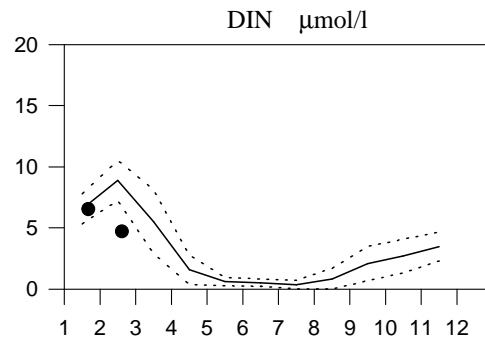
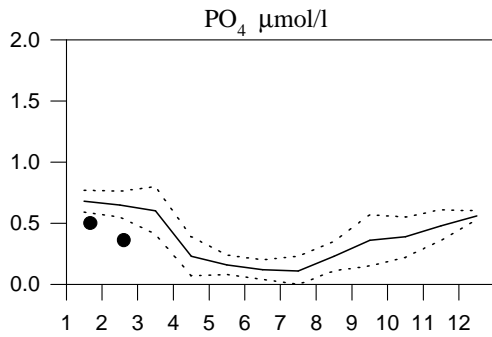
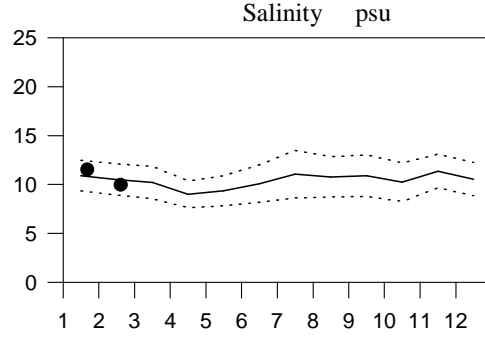
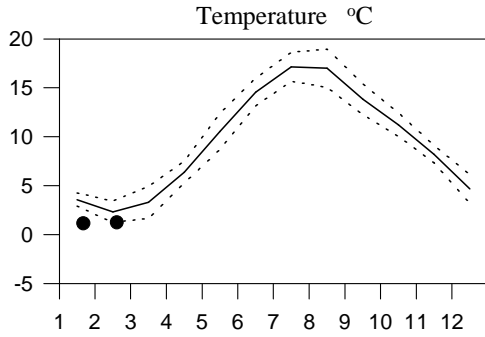
OXYGEN IN BOTTOM WATER



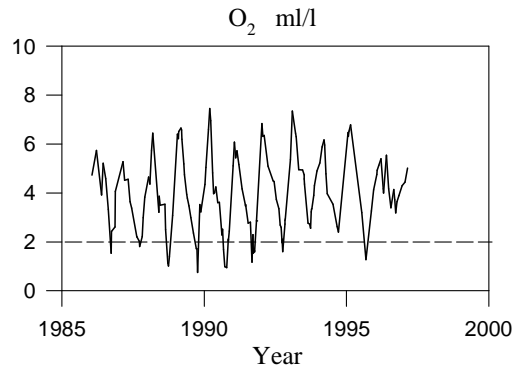
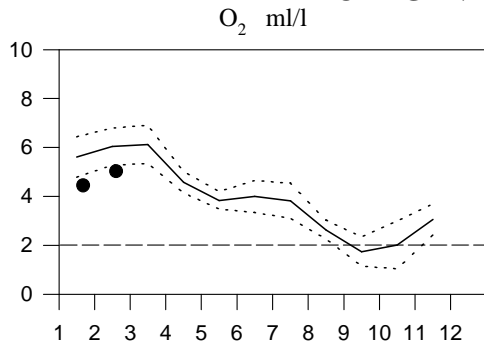
STATION W LANDSKRONA SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



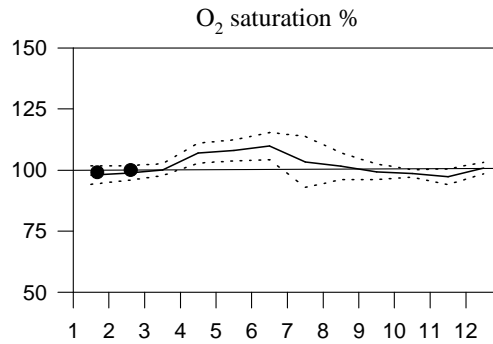
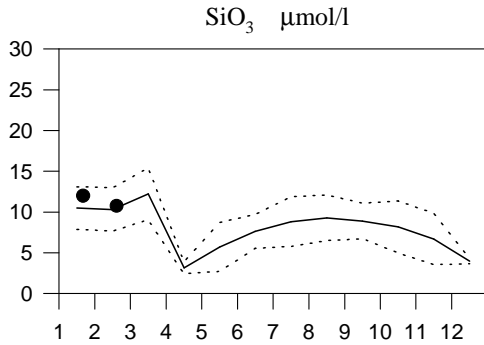
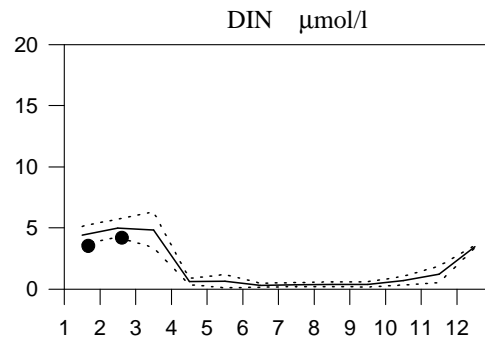
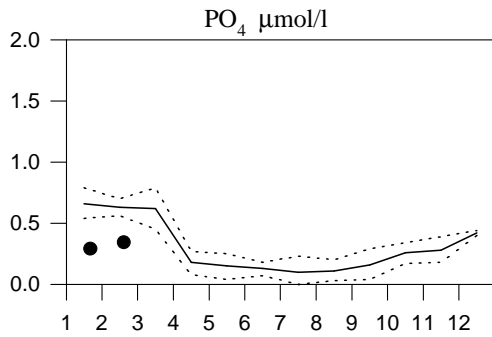
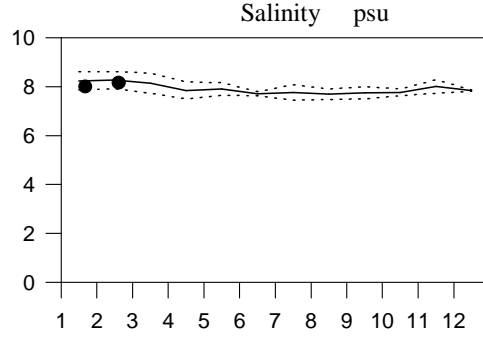
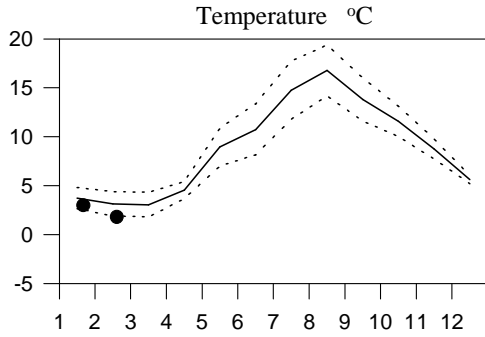
OXYGEN IN BOTTOM WATER



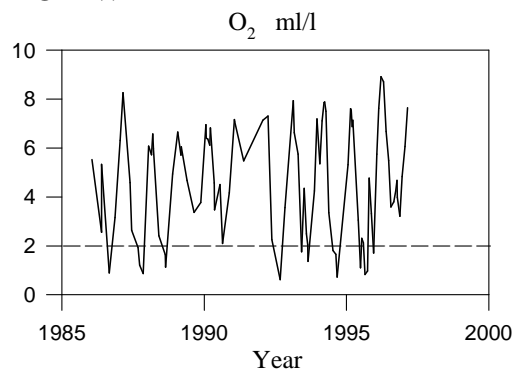
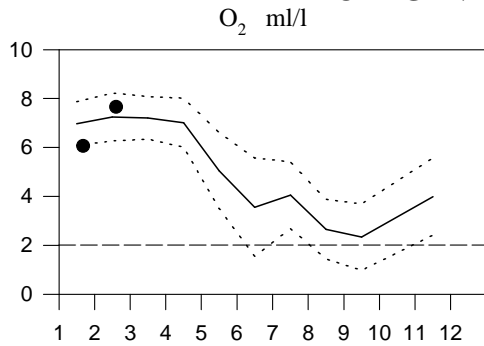
STATION BY2 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



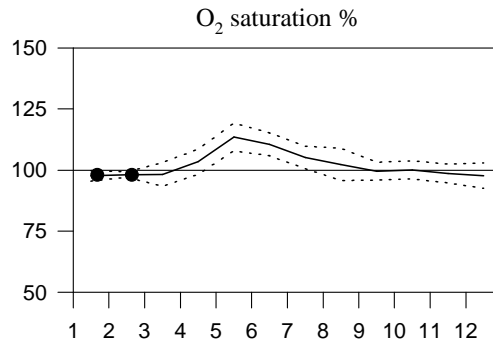
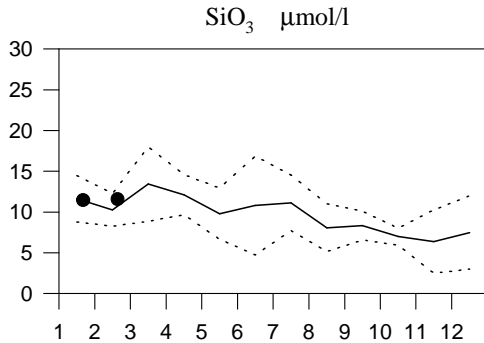
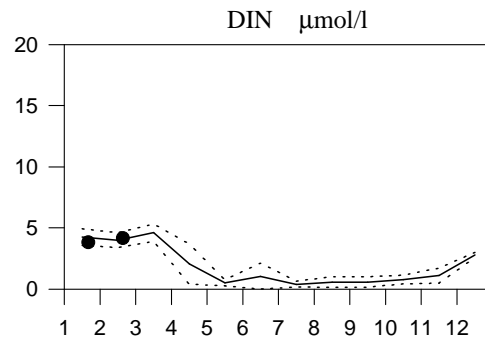
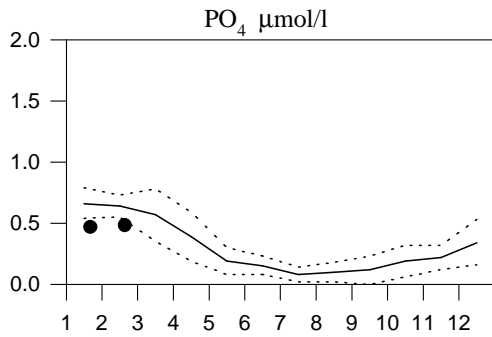
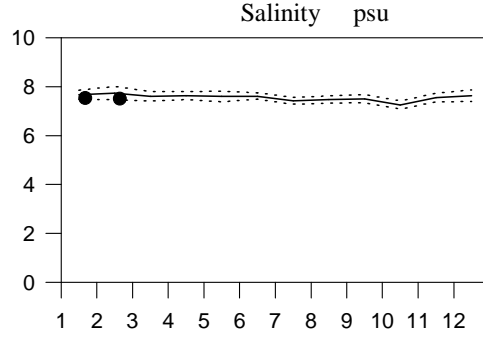
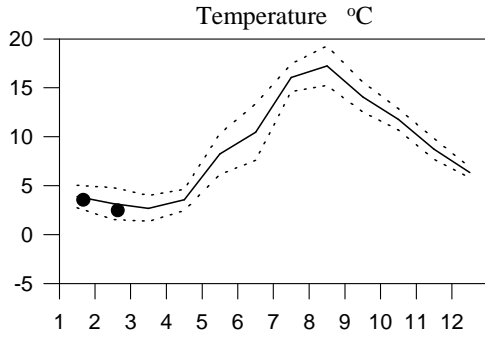
OXYGEN IN BOTTOM WATER



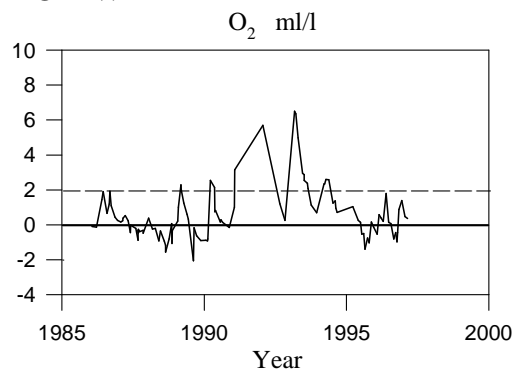
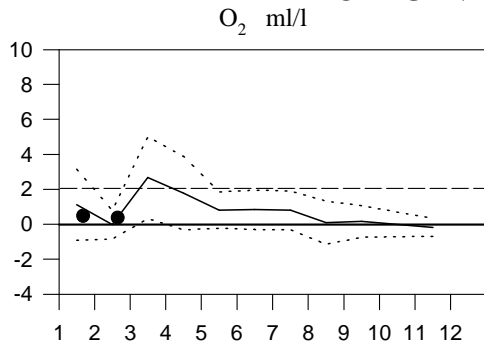
STATION BY5 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



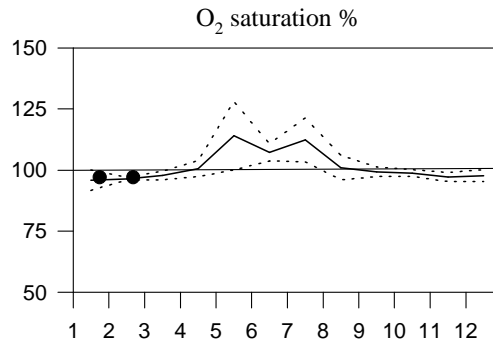
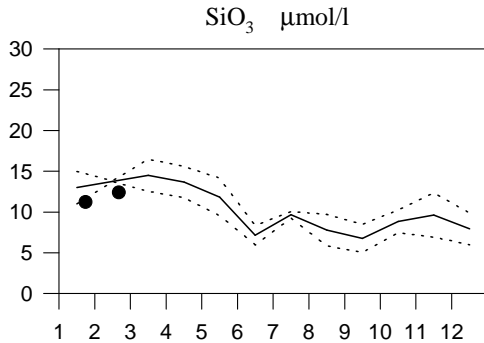
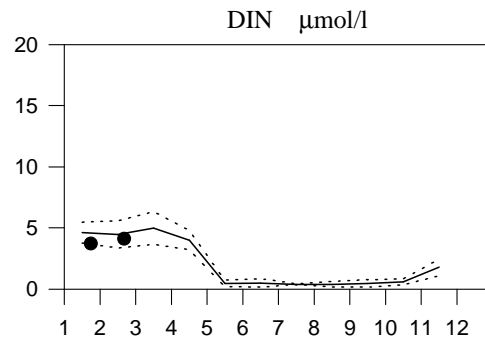
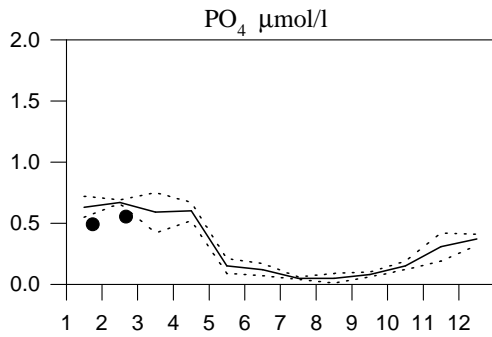
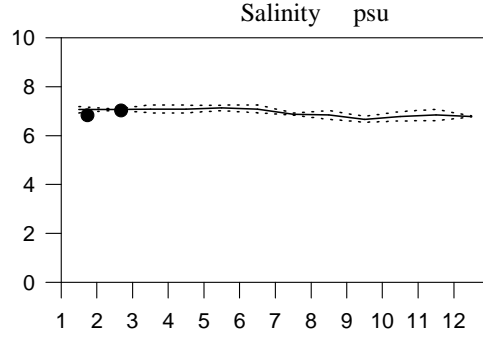
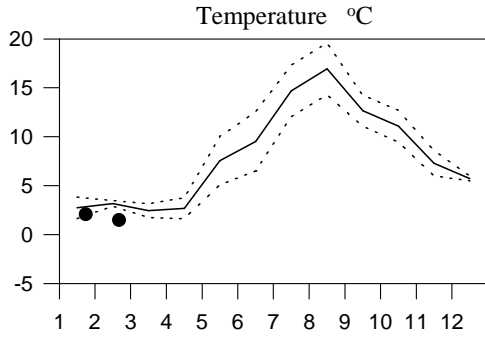
OXYGEN IN BOTTOM WATER



STATION BY38 SURFACE WATER (0-15 m)

Annual Cycles

— Mean 1986-1995 - - - St.Dev. ● 1997



OXYGEN IN BOTTOM WATER

