

Rapport från SMHIs utsjöexpedition med R/V Svea



Foto: Ola Kalén, SMHI

Expeditionens varaktighet:	2020-12-03 - 2020-12-14
Uppdragsgivare:	Sveriges Meteorologiska och Hydrologiska Institut (SMHI), Havs- och Vattenmyndigheten (HaV)
Samarbetspartner:	Sveriges Lantbruksuniversitet (SLU), Sjöfartsverket(SjöV)

SAMMANFATTNING

Under expeditionen, som ingår i det svenska pelagiala övervakningsprogrammet, besöktes Skagerrak, Kattegatt, Öresund, Egentliga Östersjön och Bottniska viken. Vädret var mulet med måttliga till friska sydliga vindar i Bottniska viken och måttliga till svaga vindar i Egentliga Östersjön, Skagerrak och Kattegatt.

Ytvattnet (0–10 m) hade kylts ned sedan november men var fortfarande varmare än normalt vid alla stationer i Östersjön men inom det normala i Skagerrak och Kattegatt, temperaturen var 7–8°C i Skagerrak och Kattegatt, 8–9°C i Egentliga Östersjön, omkring 7°C i Ålands hav, 5–6,5°C i Bottenhavet och omkring 5°C i Bottenviken. Salthalten i ytvattnet i Egentliga Östersjön var fortsatt över det normala för årstiden och varierade mellan 6,9–8,2 psu. I Kattegatt och Skagerrak var salthalten i ytvattnet lägre än normalt till normalt.

Koncentrationerna av oorganiska näringsämnen i ytvattnet hade ökat sedan november och var nu nära vintermaxima, vilket är normalt för hösten då växtplanktonaktiviteten sjunker och vattenmassan blandas om. Koncentrationerna av kisel var högre än normalt vid de flesta stationerna i Östersjön och vissa av stationerna i Västerhavet. Koncentrationerna av fosfat var högre än normalt i Bottniska viken och vid ett fåtal stationer i Egentliga Östersjön och Västerhavet. Koncentrationerna av löst oorganiskt kväve var under normala i Bottenviken, över normala öster om Gotland och Bornholmsbassängen, i övrigt mestadels normala. I djupvattnet i västra Gotlandsbassängen var koncentrationen av löst oorganiskt kväve långt över det normala.

Karteringen av näringsämnen i Bottniska viken visade att koncentrationerna av fosfat var högre än normalt i både Bottenviken och Bottenhavet. Koncentrationerna av kisel var högre än normalt i Bottenhavet och koncentrationerna av löst oorganiskt kväve (DIN) var under normalt i Bottenviken.

Det rådde ingen syrebrist i Skagerraks bottenvatten men vid den kustnära stationen Släggö hade syrgaskoncentrationen minskat till 2,54 ml/l. Syrekoncentrationen i Kattegatts bottenvatten var något högre än i november, 5,0–5,5 ml/l. I Öresund låg syrekoncentrationen i bottenvattnet kvar på samma nivå som i november 3,8 ml/l nu i november.

Som i november var det ingen syrebrist i Arkonabassängen, vilket är en förbättring från oktober. Vid övriga stationer var det däremot akut syrebrist eller helt syrefritt (då svavelväte bildas). I Bornholmsbassängen, Hanöbukten och vid stationen BCS III-10 uppmättes akut syrebrist (<2 ml/l) från 70 m till botten. Vid stationen BY15 fanns inget mätbart syre i vattnet från 85 m djup och svavelväte uppmättes från 135 m djup. I Västra Gotlandsbassängen varierade djupet där svavelväte först uppmättes från som grundast 60 m vid stationen BY38 i södra delen av bassängen till som djupast 125 m vid stationen BY31 i norra delen av bassängen. Vid övriga stationer uppmättes svavelväte från 80 m.

Ingen syrebrist noterades i Bottniska viken, vilket är normalt. Dock var syregashalterna i djupvattnet på några stationer, främst i södra Bottenhavet, något lägre än det normalt brukar vara vid denna tid på året.

Nästa ordinarie expedition är planerad 8–15 januari med R/V Svea, då är det även vinterkartering av näringsämnen i Kattegatt.

RESULTAT

Expeditionen genomfördes ombord på R/V Svea och startade i Kalmar den 3:e december och avslutades i Lysekil på kvällen den 14 december. Under expeditionens första hälft utfördes vinterkarteringen av näringsämnen i Bottniska viken och under den andra hälften besöktes ordinarie stationer i Egentliga Östersjön och Västerhavet.

Vädret under expeditionen var mulet, med mycket få soltimmar. I Bottniska viken var det huvudsakligen sydliga vindar. Vinden avtog något under expeditionens andra hälft i Egentliga Östersjön och Västerhavet men ökade den sista dagen på Skagerrak.

I Bottniska viken ströks två stationer, istället provtogs de fyra utsjöstationer som ingår i den del av miljöövervakningsprogrammet som normalt utförs av Umeå Universitet. Alla planerade stationer i Egentliga Östersjön och Västerhavet provtogs, d.v.s. 26 av de planerade 26 stationerna.

Sveas instrument för att mäta profiler under gång, MVP (Moving Vessel Profiler), användes vid flera tillfällen under expeditionen och visas i bifogad karta över rutten. Å-snittet i Skagerrak, Kriegers flak i Arkona bassängen, tvärs Stolpe ränna, öster om Gotland BY15-BY10 och väster om Gotland BY38-BY32.

Under expeditionen genomfördes utsättning och bottensystem för mätning av salt, temperatur och syrakoncentration vid Understen på gränsen mellan Ålands hav och Bottenhavet samt byte av samma typ av bottensystem i Laholmsbukten (station L9). Bottensystemen ingår från och med hösten 2019 i miljöövervakningsprogrammet.

Även havsbojen vid Huvudskär kunde tas upp under expeditionens andra del och tas hem för service. Vid Flinten 7 gjordes referensmätning med CTD för jämförelse med de fasta system som sitter där i samarbete med Sjöfartsverket.

Denna rapport är baserad på data som genomgått en första kvalitetskontroll. När ytterligare kvalitetsgranskning genomförts kan vissa värden ändras. Data från denna expedition publiceras så fort som möjligt på datavärdens hemsida, normalt sker detta inom en vecka efter avslutad expedition. Vissa analyser görs efter expeditionen och publiceras senare.

Stationerna BY31 Landsortsdjupet och BY29 provtas av SMHI november – februari och av Stockholms universitet övriga månader. I säsongsplottarna och vertikalprofilerna för dessa två stationer visas även de data som Stockholms universitet har provtagit. Även Stockholms data har endast genomgått en första kvalitetskontroll och de kommer finnas tillgängliga hos datavärden 2021.

Data kan hämtas från SHARKweb här: <https://www.smhi.se/klimatdata/oceanografi/havsmiljodata>

Skagerrak

Ytvattnet (0–10 m) hade kylts ned med omkring 4°C sedan mätningarna i november och var i december 7–8°C vilket är inom det normala. Som i november var det varmast längst västerut i Å-snittet (8°C) och kallast närmast kusten (strax under 7°C). Salthalten var under normal vid den sydligaste stationen P2 och vid den västligaste stationen Å17 och varierade från 23,6 psu vid stationen P2 till 27,1 psu vid stationen Å17. Vid samtliga övriga stationer var salthalten normal. Vid stationerna längs Å-snittet sammanföll termoklin och haloklin kring 15 m, utom vid stationen Å13 närmast kusten där den återfanns på 25 m djup. Under det välblandade ytlagret ökade temperaturen ner till 60 m, där

det fanns en andra termoklin och temperaturen åter minskade. Djupvattnet var kring 8°C och salthalten 35 psu. Vid stationen Släggö vid kusten fanns en skarp haloklin vid 30 m och där ökade temperaturen till 12°C för att sedan minska igen mot botten.

Koncentrationen av näringsämnen i ytvattnet hade ökat markant sedan november vid alla stationer i Skagerrak och närmar sig nu årsmaxima som normalt uppmäts under december eller januari. Koncentrationen av fosfat i ytvattnet varierade mellan 0,5–0,6 µmol/l, variationen av löst oorganiskt kväve (DIN) var 4–7 µmol/l och för kisel var variationen mellan 9–11 µmol/l. I utsjön var koncentrationerna av fosfat och kisel högre än normalt vid alla stationer medans det var normala koncentrationer vid stationen Släggö. Koncentrationerna av DIN var över det normala endast vid de yttersta stationerna Å17 och Å15. I djupvattnet var koncentrationerna mestadels normala. Vid stationen Å17 var koncentrationerna av alla näringsämnen något under normala mellan 75–150 m djup och vid stationen Släggö var alla näringsämnen högre än normalt i bottenvattnet, vilket sammanföll med låga syrekoncentrationer vid den stationen. I bottenvattnet vid Släggö uppmättes syrebrist, precis som i november, koncentrationen vid mättillfället var 2,54 ml/l.

Någon tydlig topp i klorofyllfluorescens fanns inte vid någon station.

Kattegatt och Öresund

Temperaturen i ytvattnet (0–10 m) hade sjunkit med ungefär fyra grader sedan november och var nu kring 7°C vid alla stationer i Kattegatt och Öresund, vilket är normalt för årstiden. Salthalten i ytvattnet var under normal i Öresund (ca 9 psu) och vid stationen Anholt E (ca 18 psu) i södra Kattegatt, vid övriga stationer var salthalten normal för månaden (21–22 psu). I Öresund fanns ett skarpt språngskikt på 10 m djup, med välblandat kallare och färskare vatten från Östersjön överst (6,7°C, 8,7 psu) och varmare och saltare vatten från Skagerrak under 10 m (12°C, 32 psu). Vid stationerna Anholt E och N14 Falkenberg var ytvattnet välblandat ned till ca 5 m, under detta fanns ytterligare ett språngskikt där temperatur och salthalt ökade. Vid stationen Fladen fanns en skarp haloklin på 20 m djup. Temperaturen var något högre än normalt i djupvattnet och salthalten var normal.

Koncentrationen av näringsämnen hade ökat markant vid alla stationer i Kattegatt sedan mätningen i november. I Öresund däremot låg koncentrationen av kisel kvar på samma nivå som i november medan koncentrationerna av fosfat och DIN hade ökat något. Koncentrationen av DIN låg runt 4 µmol/l vid alla stationer, alltså betydligt högre än i november då halterna fortfarande låg nära rapporteringsgränsen vid stationerna Anholt E och N14 Falkenberg. Koncentrationen av fosfat varierade mellan 0,5–0,7 µmol/l, högst i Öresund. Fosfatkoncentrationen var över normal vid stationen Anholt E, i övrigt normal. Koncentrationen av kisel var över normal i Öresund (14,6 µmol/l) och stationen Anholt E (10,8 µmol/l) och normal vid övriga stationer (8–9 µmol/l). I djupvattnet observerades inget generellt mönster utan koncentrationen av näringsämnen varierade mellan att vara något under normalt till något över normalt.

Syrekoncentrationen i bottenvattnet i Kattegatt hade ökat lite sedan november, till 5,0–5,5 ml/l. I Öresund låg syrekoncentration i bottenvattnet kvar på 3,8 ml/l, vilket betyder syrebrist. I Öresund var det syrebrist från 15 m till botten med koncentrationer runt 4 ml/l.

Mätningar av klorofyllfluorescensen visade på högre biologisk aktivitet än i Skagerrak men på låga nivåer och någon tydlig topp i mätningarna förkom inte i Kattegatt.

Egentliga Östersjön

Temperaturen i ytvattnet var över det normala vid alla utom en av stationerna i Egentliga Östersjön. Den station, BY10, som låg inom det normala hade avvikande låg temperatur (7,1°C) jämfört med övriga stationer (7,6–9,0°C) vid mätningen i december. Medeltemperaturen i ytvattnet vid stationerna i Egentliga Östersjön under december månad för perioden 2001–2015 varierar mellan 6,2–6,8°C, temperaturen vid mätningarna i december låg alltså 1–2°C över medelvärdet för 15-årsperioden. Salthalten i ytvattnet varierade mellan 6,9 psu i Västra Gotlandsbassängen och 8,3 psu i Arkona. I Arkonabassängen var salthalten normal, i alla andra bassänger var den över normal. Vid stationerna i Östra Gotlandsbassängen och Norra Egentliga Östersjön (stationerna BY29 och Huvudskär) var vattnet välblandat ned till ungefär 60 m där termoklin och haloklin sammanföll. Temperaturen föll till ca 5,5–6,0°C under detta språngskikt för att sedan öka något igen i djupvattnet. I Västra Gotlandsbassängen varierade djupet på det välblandade ytlagret, vid stationerna BY31 och BY32 låg språngskiktet på ca 45 m och på ca 30 m längre söderut vid stationen BY38. Även här sjönk temperaturen till ca 5,5–6,0°C för att sedan öka mot botten. I de södra delarna var ytvattnet välblandat till 30 m i Arkona och 35 m i Bornholmsbassängen. I dessa bassänger ökade temperaturen under språngskiktet till 10–12°C. Vid stationen Ref M1V1 i Kalmarsund, där bottendjupet endast är 20 m, fanns ingen skiktning. I djupvattnet var salthalt och temperatur över det normala i Östra-, Västra- och Norra Gotlandsbassängen.

Koncentrationerna av fosfat i ytvattnet var normala vid alla utom tre stationer (BCS III-10, BY10 och Ref M1V1) och hade ökat vid samtliga stationer sedan november, koncentrationen varierad nu mellan 0,45–0,84 µmol/l. Halterna av DIN hade ökat mer än halterna av fosfat och koncentrationen av fosfat var över normal vid de flesta stationerna och varierade mellan 1,6 µmol/l vid station BY1 i Arkona till 4,35 µmol/l vid station BY29 i norra Egentliga Östersjön. Sedan november hade koncentrationen av kisel minskat i Arkona, förblivit oförändrad i Bornholm och ökat i resterande bassänger. Halterna av kisel var över normala förutom i Arkona och varierade mellan 11–17 µmol/l med de högsta koncentrationerna i Bornholmsbassängen och de södra delarna av Östra Gotlandsbassängen. Under haloklinen var halterna av näringsämnen överlag normala. Däremot var halterna av DIN tydligt över det normala vid stationerna BY15, BY29, BY32 och BY38.

Precis som i november var det ingen syrebrist i Arkonabassängen eller vid den grunda kustnära stationen Ref M1V1. Vid övriga stationer var det däremot akut syrebrist eller helt syrefritt. I Bornholmsbassängen, Hanöbukten och vid stationen BCS III-10 uppmättes akut syrebrist (<2 ml/l) från 70 m till botten. Den grundaste mätningen av akut syrebrist gjordes vid stationen BY39 där syrekoncentrationen på 50 m (1 m ovan botten) var 1,05 ml/l. Vid stationen BY15 fanns inget mätbart syre i vattnet från 85 m djup och svavelväte uppmättes från 135 m djup. I Västra Gotlandsbassängen varierade djupet där svavelväte först uppmättes från som grundast 60 m vid stationen BY38 i södra delen av bassängen till som djupast 125 m vid stationen BY31 i norra delen av bassängen. Vid övriga stationer uppmättes svavelväte från 80 m.

Mätningar av klorofyllfluorescens visade på en låg biologisk aktivitet vid alla stationer förutom i Arkonabassängen där den var något högre och på liknande nivå som i Kattegatt.

Bottniska viken

Temperaturen i hela vattenkolumnen var högre än normalt för december i stort sett i hela Bottniska viken. Enbart i den sydvästra delen av Bottenhavet och vid den nordligaste stationen i Bottenviken observerades något lägre temperaturer, vilka ändå var i överkant för vad som är normalt.

Temperaturen i ytvattnet låg på omkring 7°C i Ålands hav, från 5 till 6,5°C i Bottenhavet, kallast i sydväst och varmest i nordöst vilket troligen är på grund av den sydliga eller sydvästliga vinden

som transporterat varmare vatten nordost. I Bottniska viken låg temperaturen på omkring 5°C med undantag för den nordligaste stationen, F3 / A5, där temperaturen var 4°C. Enbart små variationer i temperatur uppmättes djupare ner i vattenmassan.

Salthalten låg på normala nivåer i ytvattnet, vid några enstaka stationer över normalt i Bottenhavet och vid ett par stationer något under i Bottenviken. I Ålands hav låg salthalten på strax under 6 psu, i Bottenhavet på 5,2–5,7 psu och i Bottenviken på omkring 3 psu eller strax under. En svag skiktning observerades i Ålands hav på omkring 60–70 meter, i Bottenhavet omkring 40–60 meter förutom i norr vid F18 Sydostbotten där skiktningen låg mellan 10 och 15 meter. I Bottniska viken återfanns en svag skiktning vid 60 meter förutom vid stationen RR1 där den fanns vid drygt 80 meter och vid stationen F3 / A5 där det fanns en svag skiktning vid 10 meter.

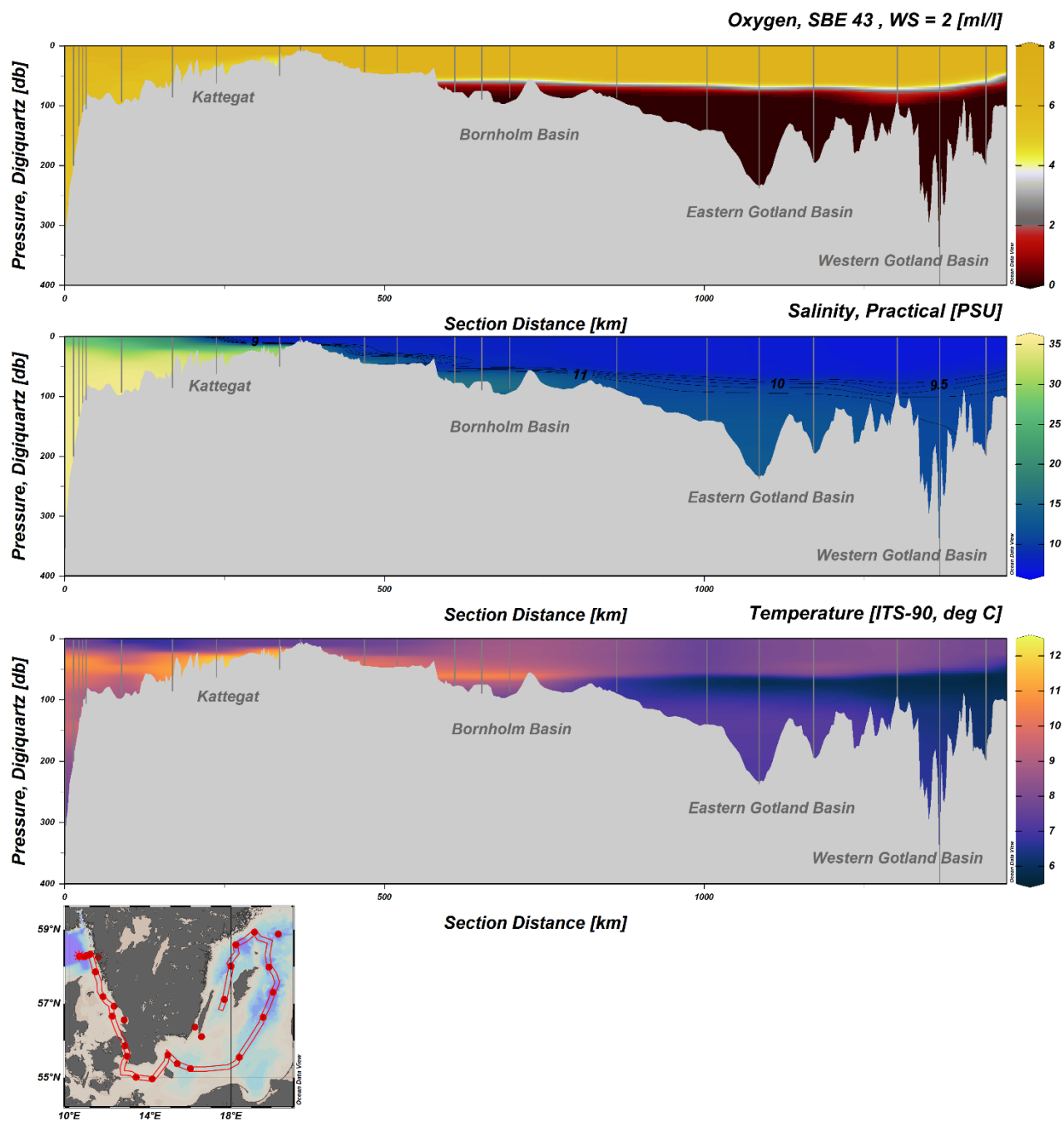
Halterna av löst oorganiskt kväve låg i ytvattnet i Ålands hav på drygt 3 $\mu\text{mol/l}$, i Bottenhavet mellan 2,2–3,5 $\mu\text{mol/l}$ vilket är på normala nivåer. I Bottenviken uppmättes något lägre koncentrationer än normalt; drygt 4,5 $\mu\text{mol/l}$. Högre värden uppmättes under de djupaste språngskikten, vilket är normalt. Koncentrationen av löst oorganiskt fosfor (fosfat) i ytvattnet var högre än normalt i hela det undersökta området, dock inte på så höga nivåer som uppmättes året innan. I Ålands hav omkring 0,5 $\mu\text{mol/l}$, i Bottenhavet mellan 0,4–0,5 $\mu\text{mol/l}$ och i Bottenviken omkring 0,1 $\mu\text{mol/l}$. Högre halter uppmättes under språngskiktet, speciellt vid de djupare stationerna i Bottenhavet där halterna även i de djupare delarna var högre än normalt. Kiselhalterna var högre än normalt både i Ålands hav och i Bottenhavet med värden på drygt 20 $\mu\text{mol/l}$ respektive 20–30 $\mu\text{mol/l}$. I Bottenviken låg koncentrationen på normal nivå; 35 $\mu\text{mol/l}$, något förhöjd i nordöst på upp till 40 $\mu\text{mol/l}$.

Ingen syrebrist noterades i Bottniska viken, vilket är normalt. Dock var syregashalterna i djupvattnet på några stationer, främst i södra Bottenhavet, något lägre än det normalt brukar vara vid denna tid på året.

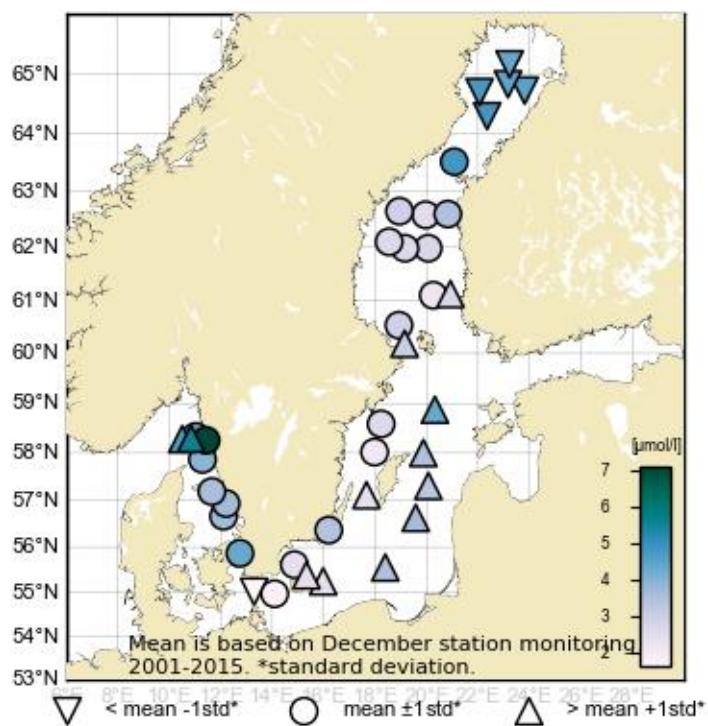
Planktonaktiviteten, bedömd utifrån klorofyllfluorescens uppmätt med CTD-sond, var låg i hela det undersökta området.

Turbiditetsmätningar¹ med CTDn visade på mycket höga partikelhalter vid flera stationer i de djupare delarna. Detta kunde även observeras på bilderna från den kamera som är monterad på CTD-rosetten och som visar video i realtid. Hög turbiditet är vanligt i Bottniska Viken.

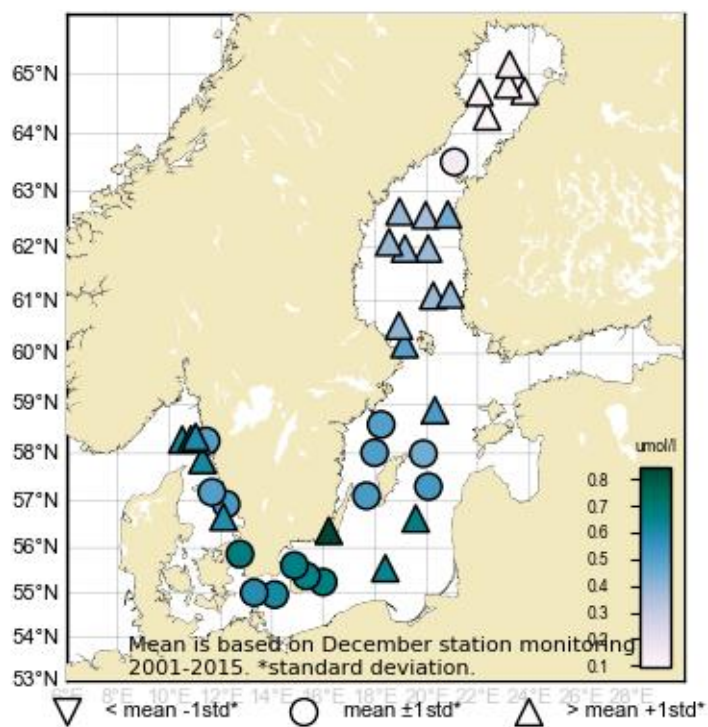
¹ ett mått på grumlighet i vatten



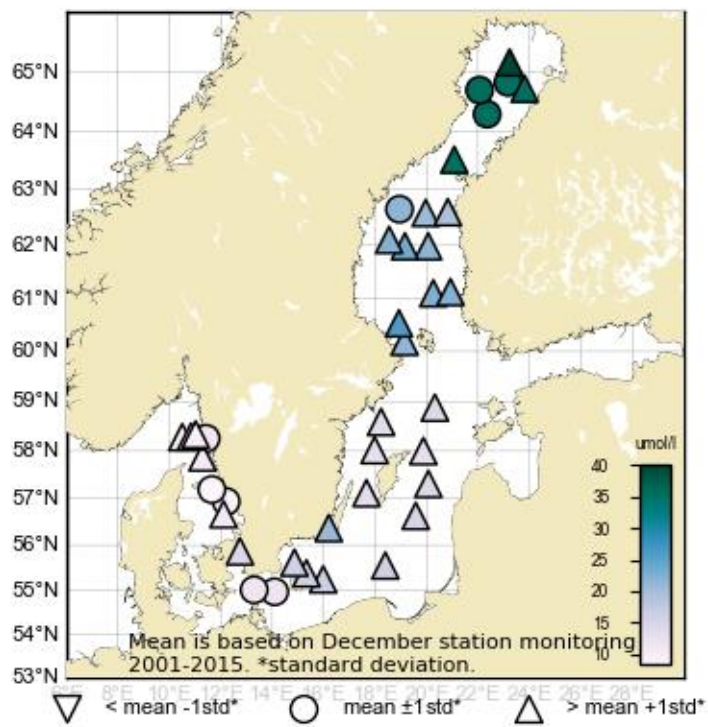
Figur 1. Snitt som visar syrekonsentration, salthalt och temperatur från Skagerrak, genom Öresund till Östra Gotlandsbassängen och vidare in i Västra Gotlandsbassängen.



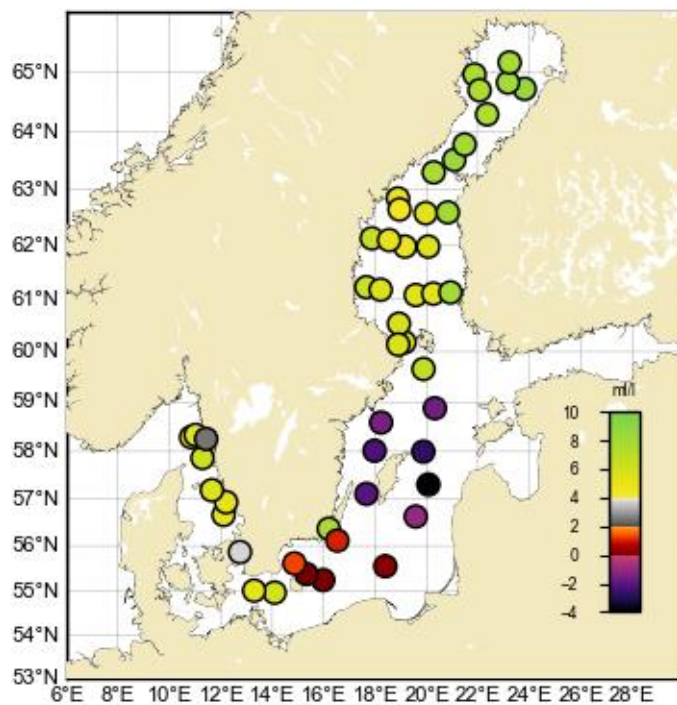
Figur 2. Koncentrationen av oorganiskt kväve (DIN) i ytvattnet (0-10m).



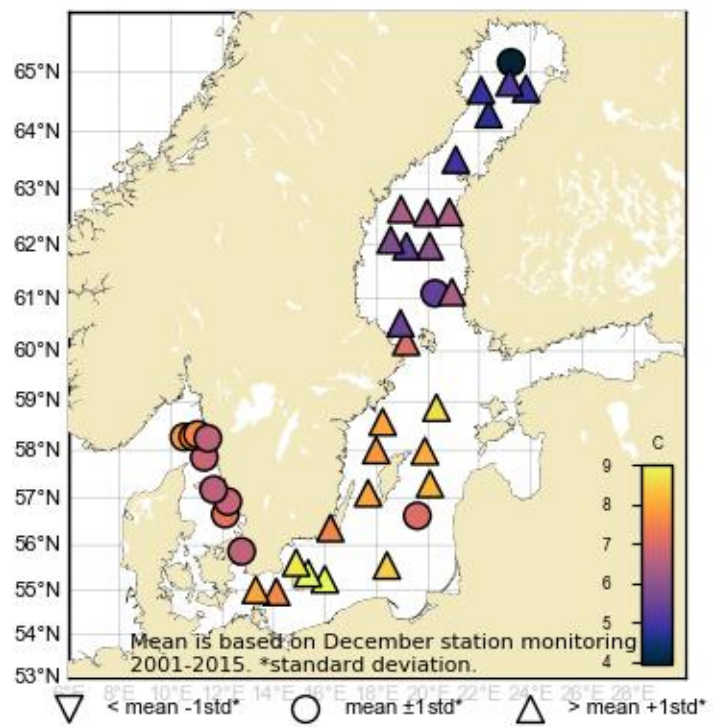
Figur 3. Koncentrationen av fosfat i ytvattnet (0-10m).



Figur 4. Koncentrationen av silikat i ytvattnet (0-10m).



Figur 5. Koncentrationen av syre i bottenvattnet, ca 1 m ovanför botten.



Figur 6. Temperatur i ytvattnet (0–10 m).

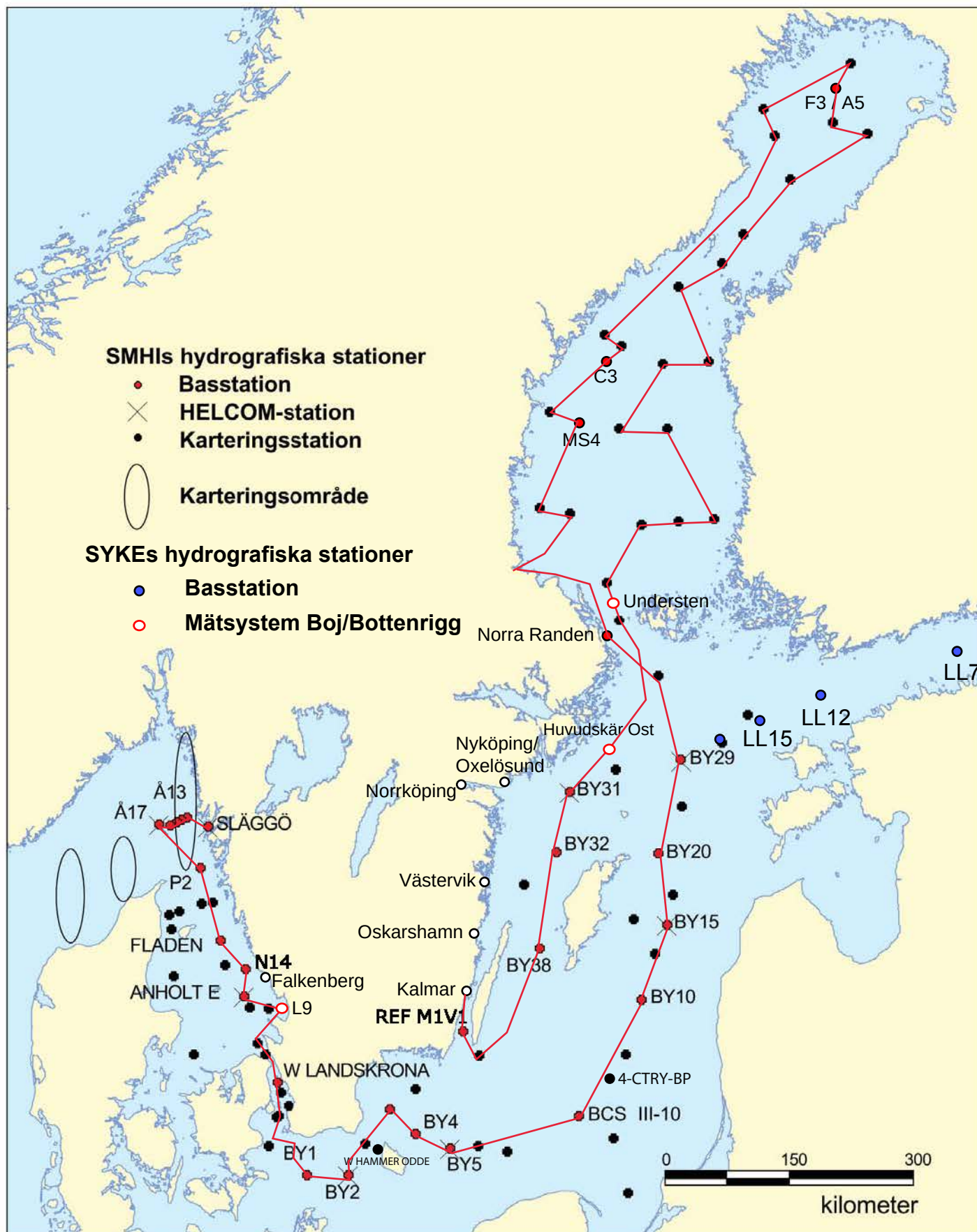
DELTAGARE

Namn	Sträcka	Roll	Från
Örjan Bäck	Kalmar-Gävle	Expeditionsledare	SMHI
Martin Hansson	Kalmar-Gävle		SMHI
Madeleine Nilsson	Kalmar-Gävle		SMHI
Johan Håkansson	Kalmar-Gävle	Kvalitetsansvarig	SMHI
Daniel Bergman-Sjöstrand	Kalmar-Lysekil	Extra tekniker	SMHI
Lena Viktorsson	Kalmar-Lysekil	Expeditionsledare	SMHI
Kristin Andreasson	Gävle-Lysekil	Kvalitetsansvarig	SMHI
Sara Johansson	Gävle-Lysekil		SMHI
Anna-Kerstin Thell	Gävle-Lysekil		SMHI
Johan Kronsell	Gävle-Lysekil		SMHI

BILAGOR

- Färdkarta
- Tabell över stationer, analyserade parametrar och antal provtagningsdjup
- Vertikalprofiler
- Figurer över medelvärden 0–10 m under 2020

TRACKCHART	
Country:	Sweden
Ship:	R/V Svea
Date:	December
Series:	



Time: 13:11

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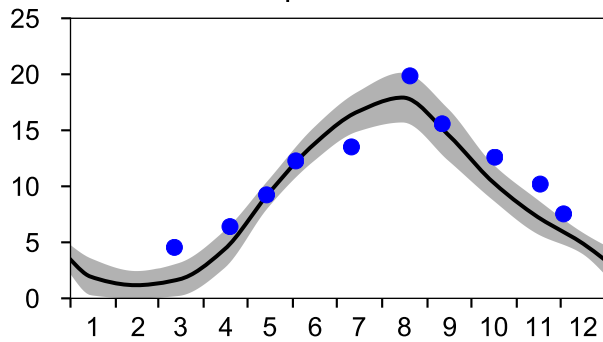
Ship: SE
Year: 2020

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0781	23	BPSB07	BAS...	BY5 BORNHOLMSDJ	5515	01559.05	20201212	0730	90		14 7	3.7	1003	2830	xx-x	12		x x x	x x x x	x x	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0782	23	BPSB06	BAS...	BY4 CHRISTIANSÖ	5523.01	01520.03	20201212	1130	92	10	13 6	4.8	1004	2830	x---	12		x x x	x -	x x x x	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0783	23	BPSH05	BAS...	HANÖBUKTEN	5537.04	01452.03	20201212	1410	79		13 6	5.4	1004	2830	x---	11		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0784	23	BPSA03	BAS...	BY2 ARKONA	5458.27	01405.92	20201212	1950	46		12 5	5.4	1005	9990	xx--	8		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0785	23	BPSA02	BAS...	BY1	5500.93	01318.04	20201212	2350	46		13 5	5.1	1006	9990	x---	8		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0786	23	SOSX00	EXT...	FLINTEN 7	5535.33	01250.65	20201213	0520	8		03 3	5.8	1007	9990	----	3		- x -	x -	- x -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0787	23	SOCX39	BAS...	W LANDSKRONA	5552.00	01244.90	20201213	0750	53		04 3	5.1	1018	2820	x---	9		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0788	23	KAEL60	EXT...	L9 LAHOLMSBUKTEN	5633.88	01243.18	20201213	1330	18		08 4	5.4	1010	2820	----	5		- x -	x -	- x -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0789	23	KAEX29	BAS...	ANHOLT E	5640.13	01206.69	20201213	1630	63		11 6	5.5	1010	9990	xx--	10		x x x	x x x x	x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0790	23	KANX50	BAS...	N14 FALKENBERG	5656.39	01212.71	20201213	1900	32		10 4	4.7	1011	9990	xx--	7		x x x	x x x x	x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0791	23	KANX25	BAS...	FLADEN	5711.61	01139.38	20201213	2210	87		13 7	5.5	1011	9990	x---	13		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0792	23	SKEX23	BAS...	P2	5751.99	01117.53	20201214	0310	95		13 8	5.0	1010	9990	x---	10		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0793	23	SKEX18	BAS...	Å17	5817.08	01030.36	20201214	0730	350		13 12	5.5	1007	2840	x---	15		x x -	x x x x	x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0794	23	SKEX17	BAS...	Å16	5816.06	01043.53	20201214	0930	202		12 13	5.1	1007	2840	----	13		- x -	x -	- x -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0795	23	SKEX16	BAS...	Å15	5817.68	01050.86	20201214	1040	135		13 13	5.0	1007	2840	x---	12		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0796	23	SKEX15	BAS...	Å14	5818.92	01056.52	20201214	1200	111		13 11	5.2	1006	2850	----	11		- x -	x -	- x -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0797	23	SKEX14	BAS...	Å13	5820.37	01101.66	20201214	1310	107		12 10	5.1	1005	2850	x---	10		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-
0798	23	FIBG27	BAS...	SLÄGGÖ	5815.58	01126.09	20201214	1600	78		12 9	4.8	1004	6990	xx--	9		x x x	x -	x x -	x -	x x x x	x -	x -	-	-	-	-	-	-	-	-	-	-	-

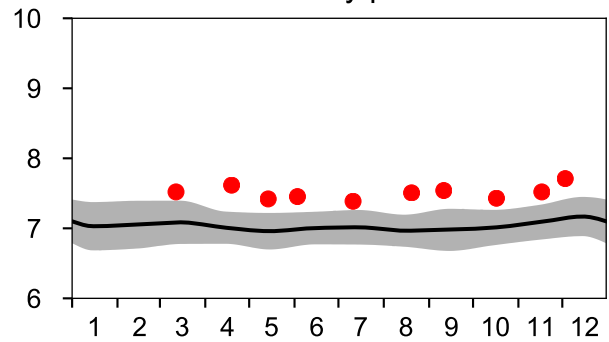
STATION REF M1V1 SURFACE WATER (0-10 m)

Annual Cycles

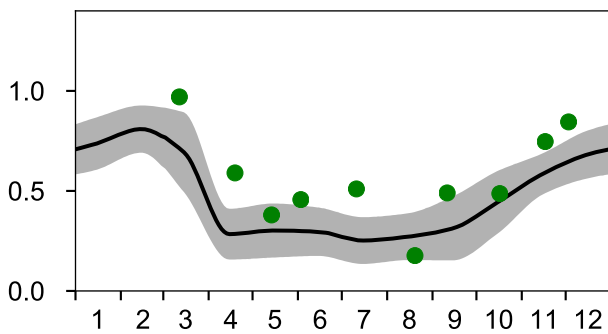
— Mean 2001-2015
Temperature °C



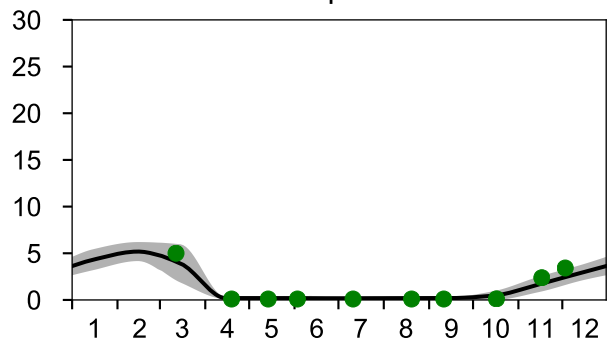
St.Dev. Salinity psu



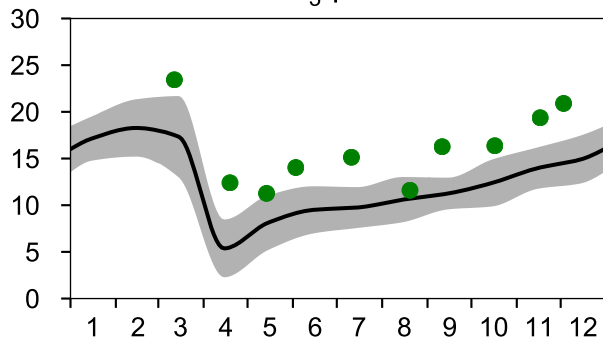
PO₄ µmol/l



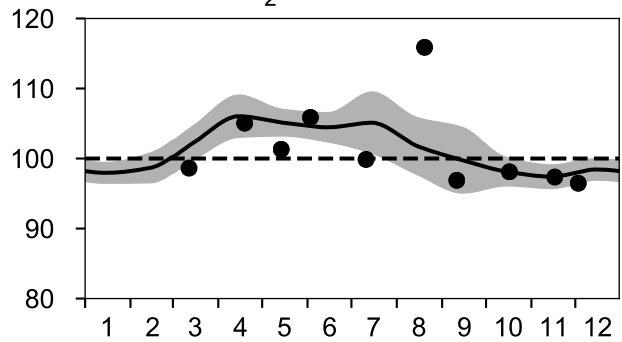
DIN µmol/l



SiO₃ µmol/l

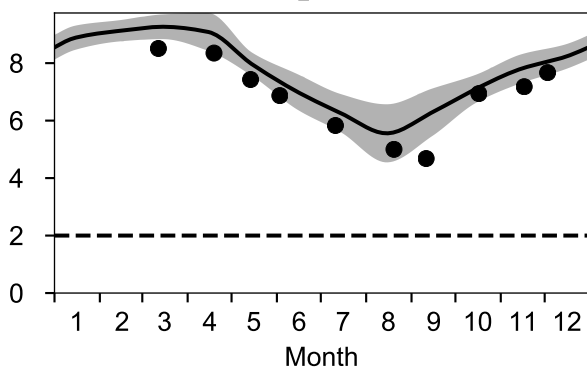


O₂ saturation %

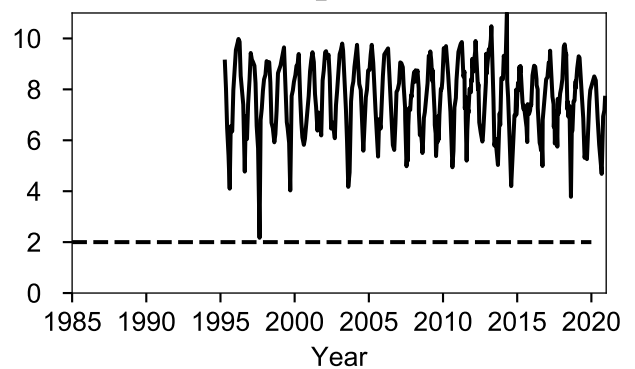


OXYGEN IN BOTTOM WATER (depth >= 15 m)

O₂ ml/l

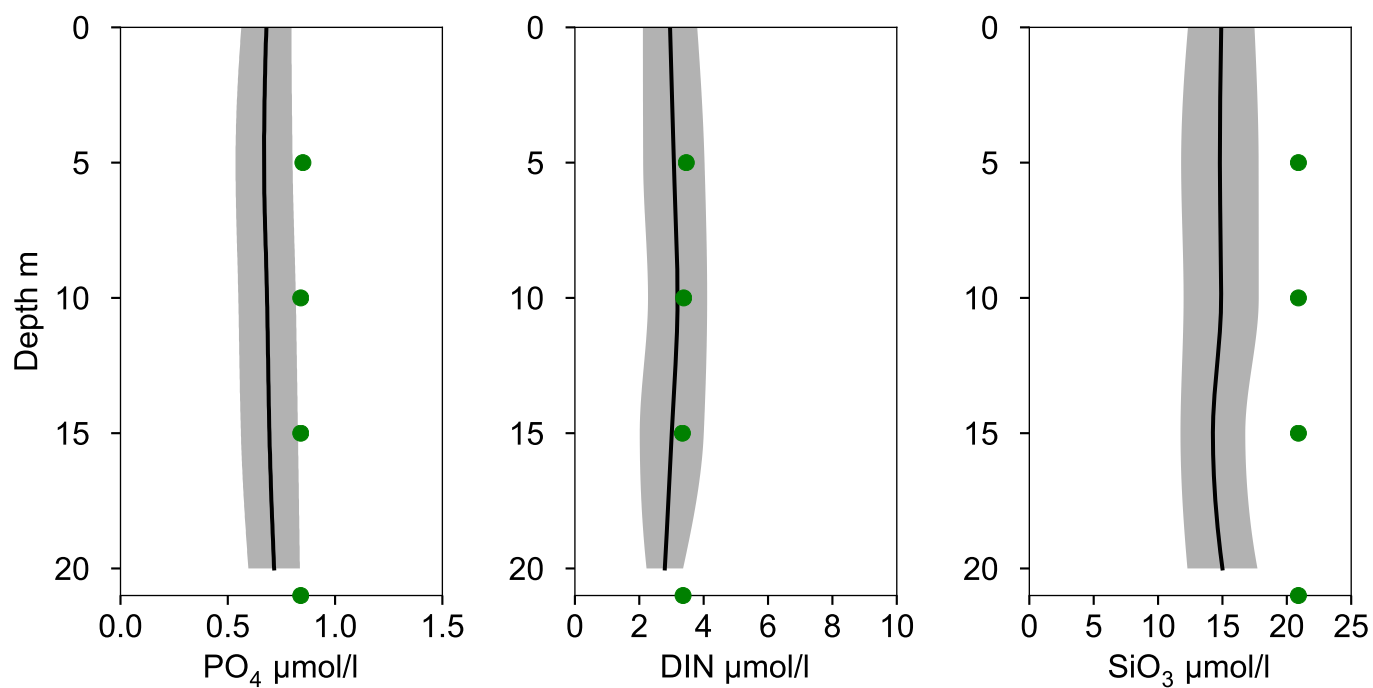
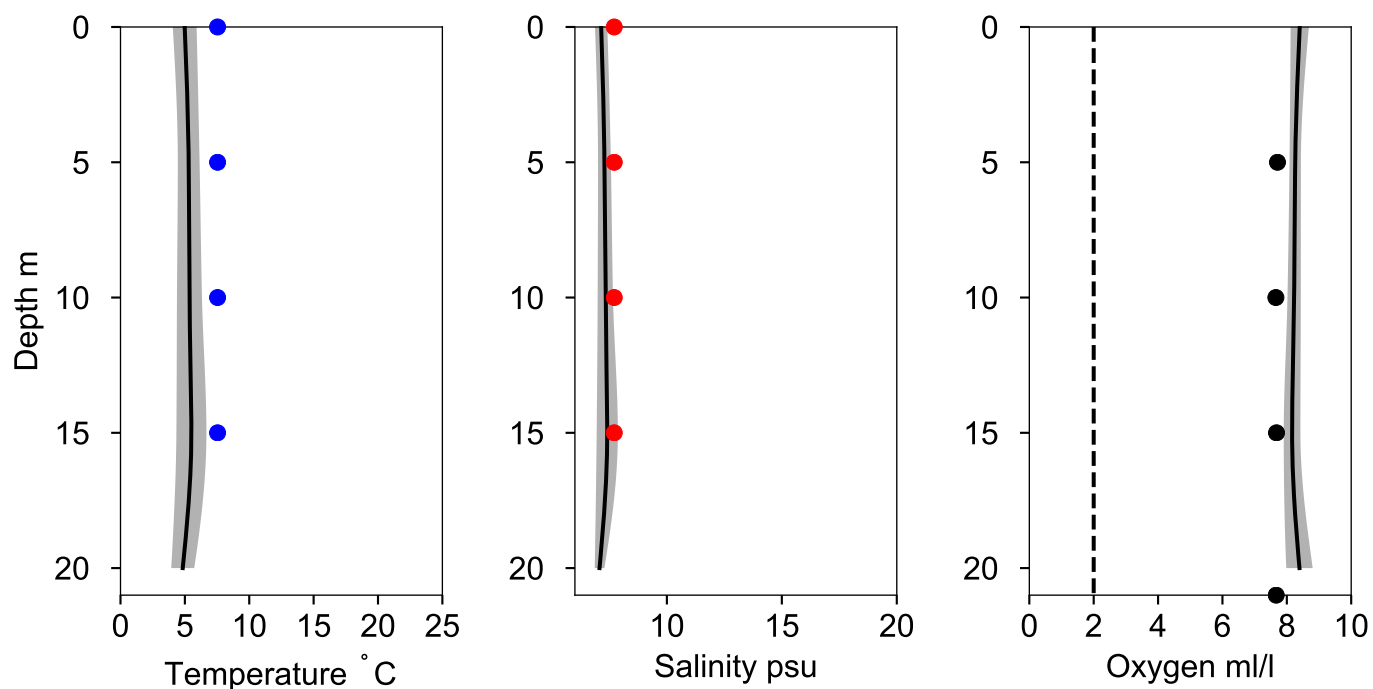


O₂ ml/l



Vertical profiles REF M1V1 December

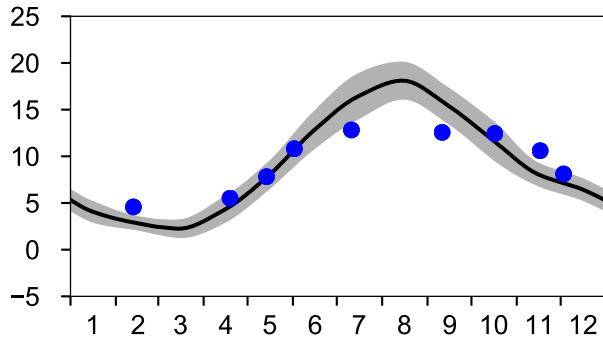
— Mean 2001-2015 St.Dev. • 2020-12-03



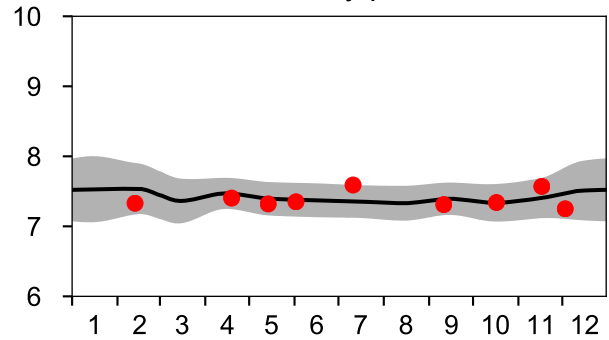
STATION BY39 ÖLANDS S UDDE SURFACE WATER (0-10 m)

Annual Cycles

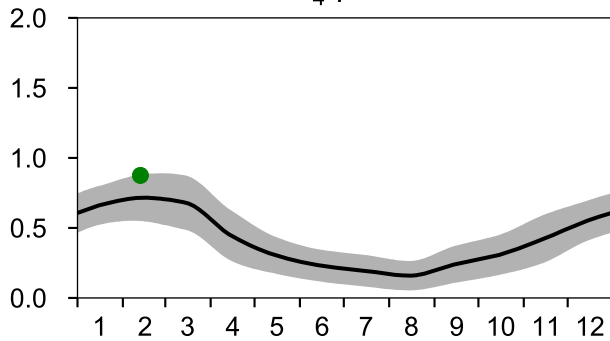
— Mean 2001-2015
Temperature °C



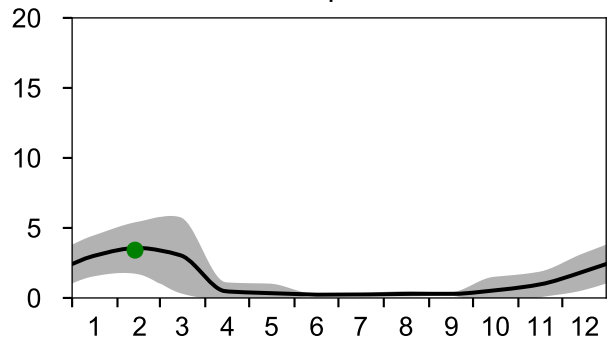
— St.Dev. • 2020
Salinity psu



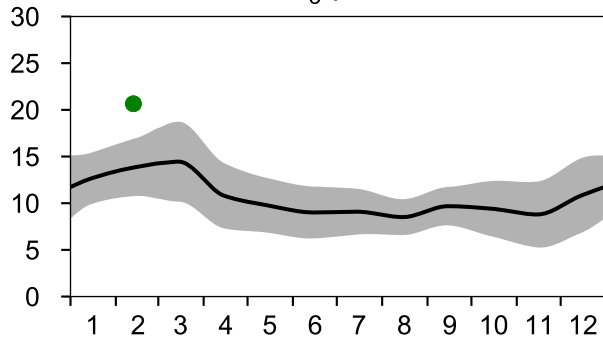
PO₄ µmol/l



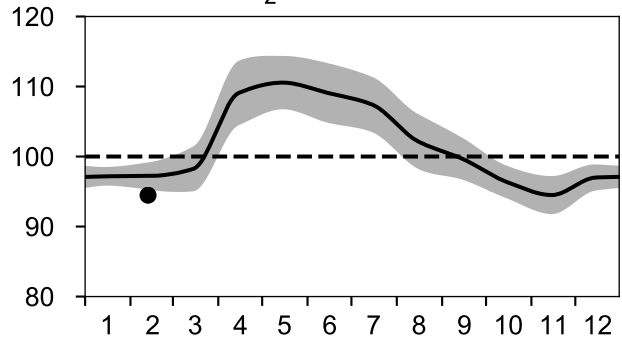
DIN µmol/l



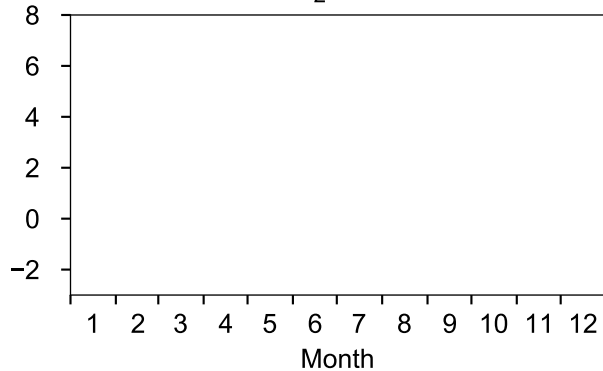
SiO₃ µmol/l



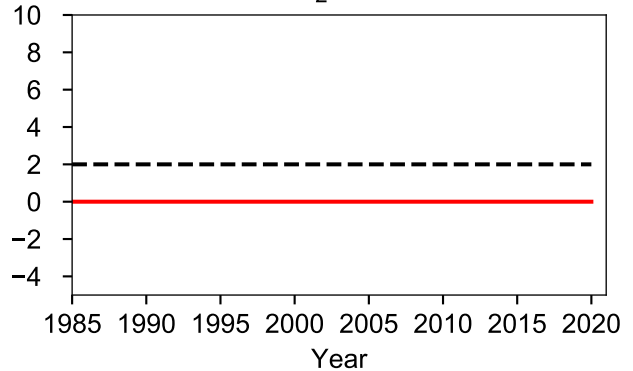
O₂ saturation %



O₂ ml/l

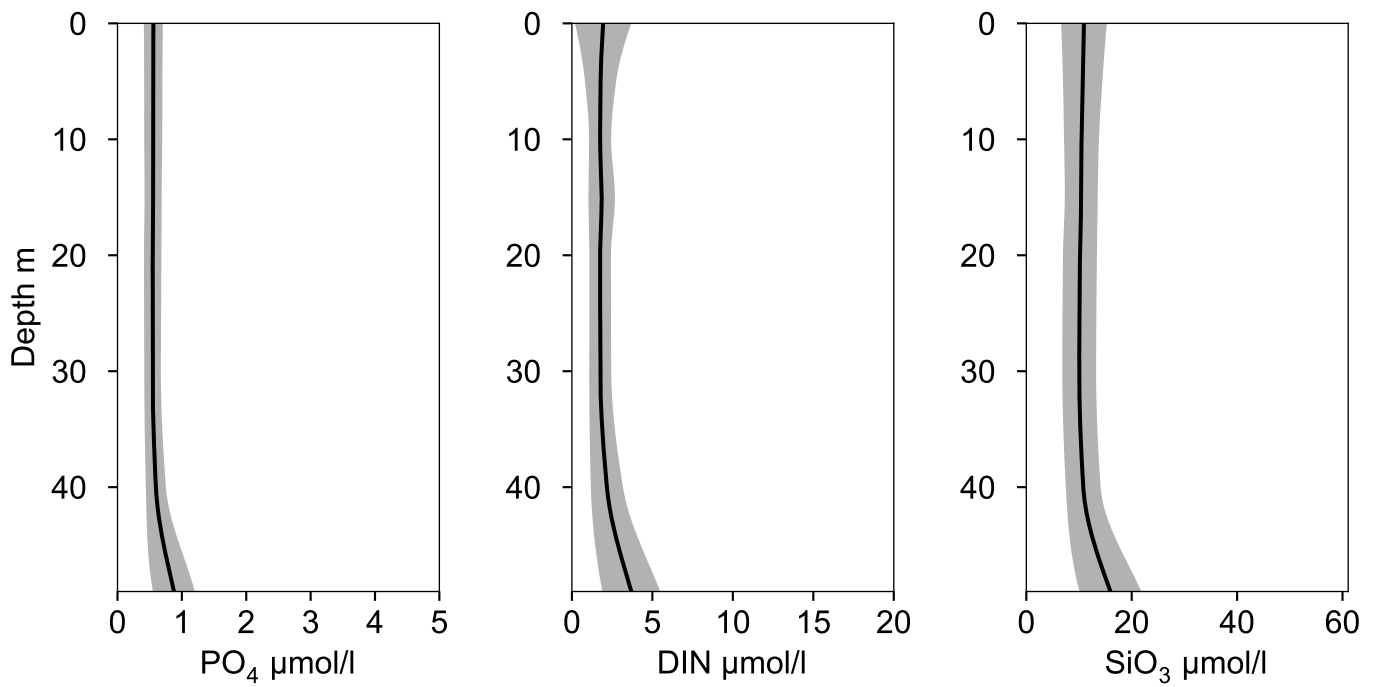
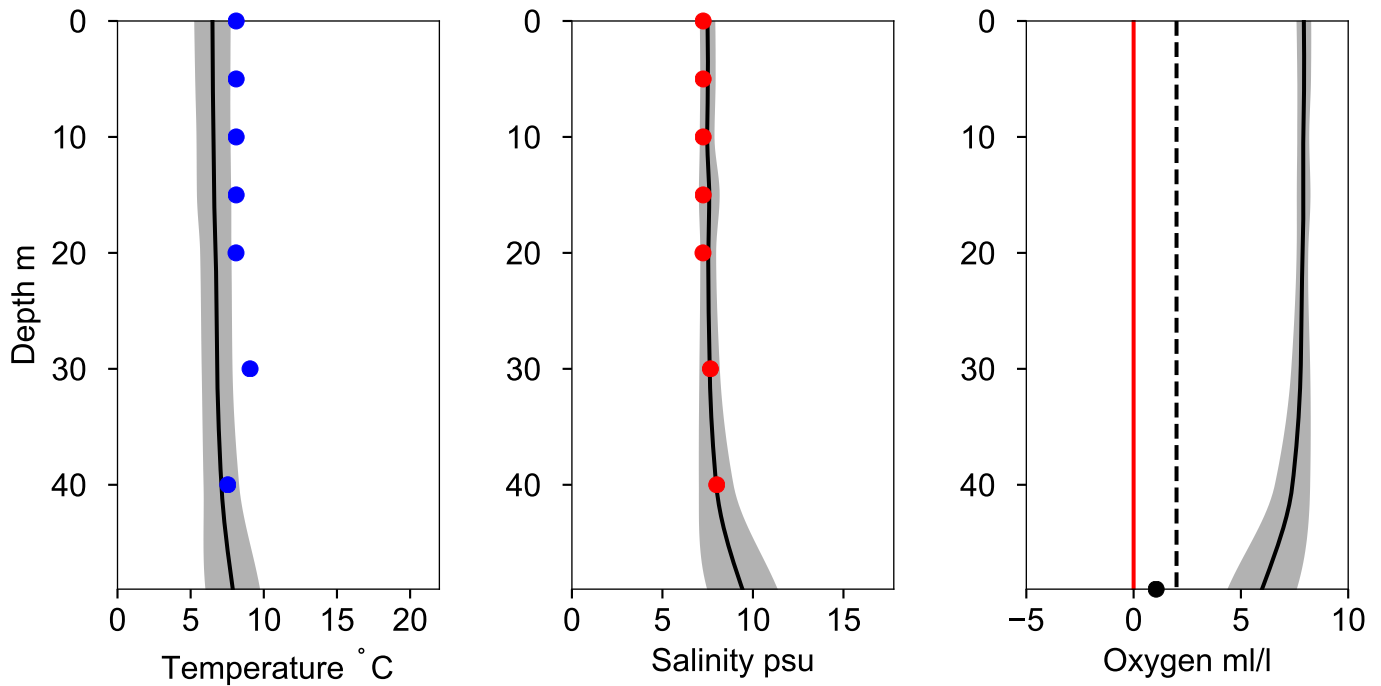


O₂ ml/l



Vertical profiles BY39 ÖLANDS S UDDE December

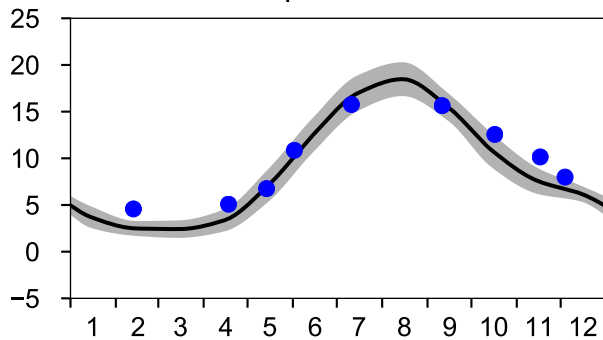
— Mean 2001-2015 St.Dev. • 2020-12-03



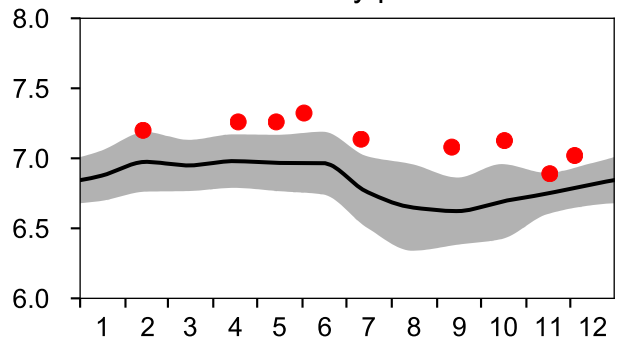
STATION BY38 KARLSÖDJ SURFACE WATER (0-10 m)

Annual Cycles

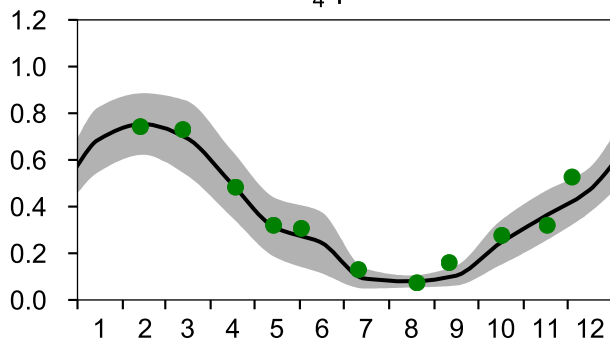
— Mean 2001-2015
Temperature °C



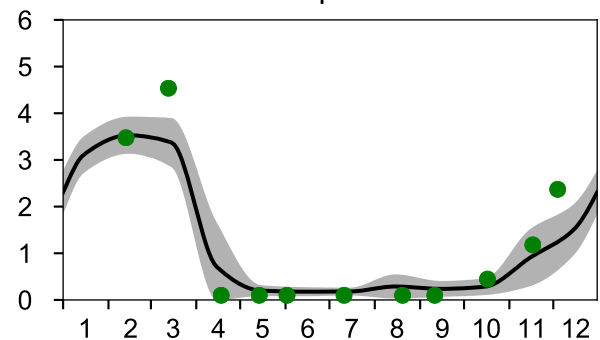
St.Dev. ● 2020
Salinity psu



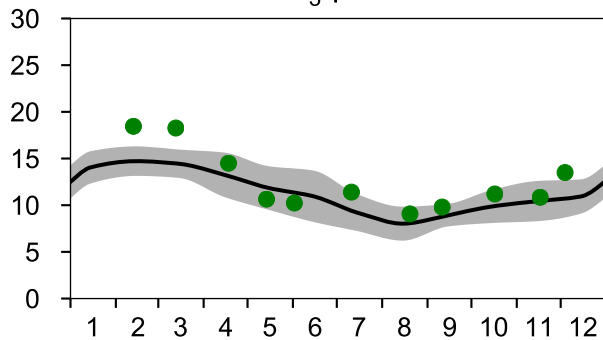
PO₄ µmol/l



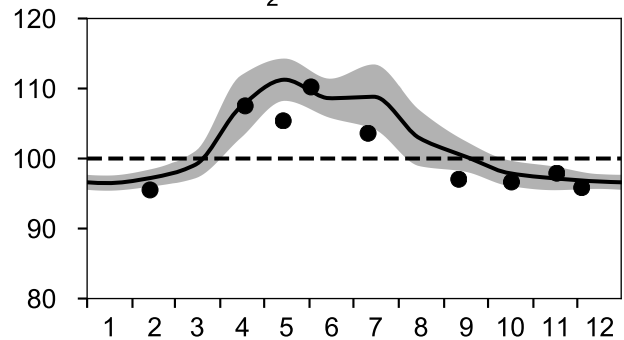
DIN µmol/l



SiO₃ µmol/l

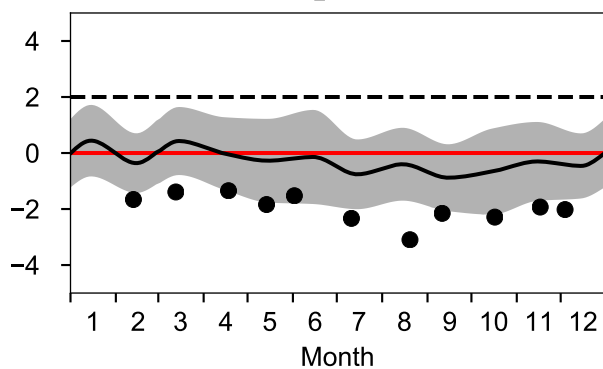


O₂ saturation %

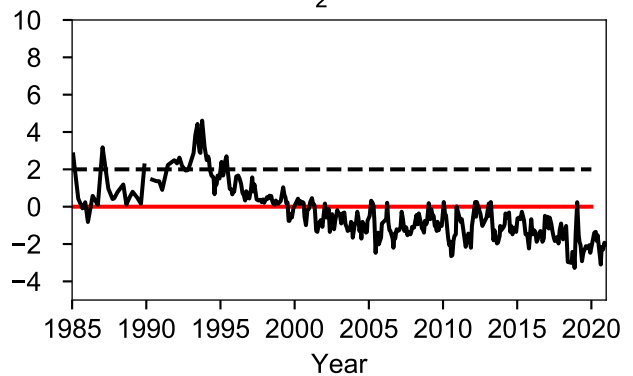


OXYGEN IN BOTTOM WATER (depth >= 100 m)

O₂ ml/l

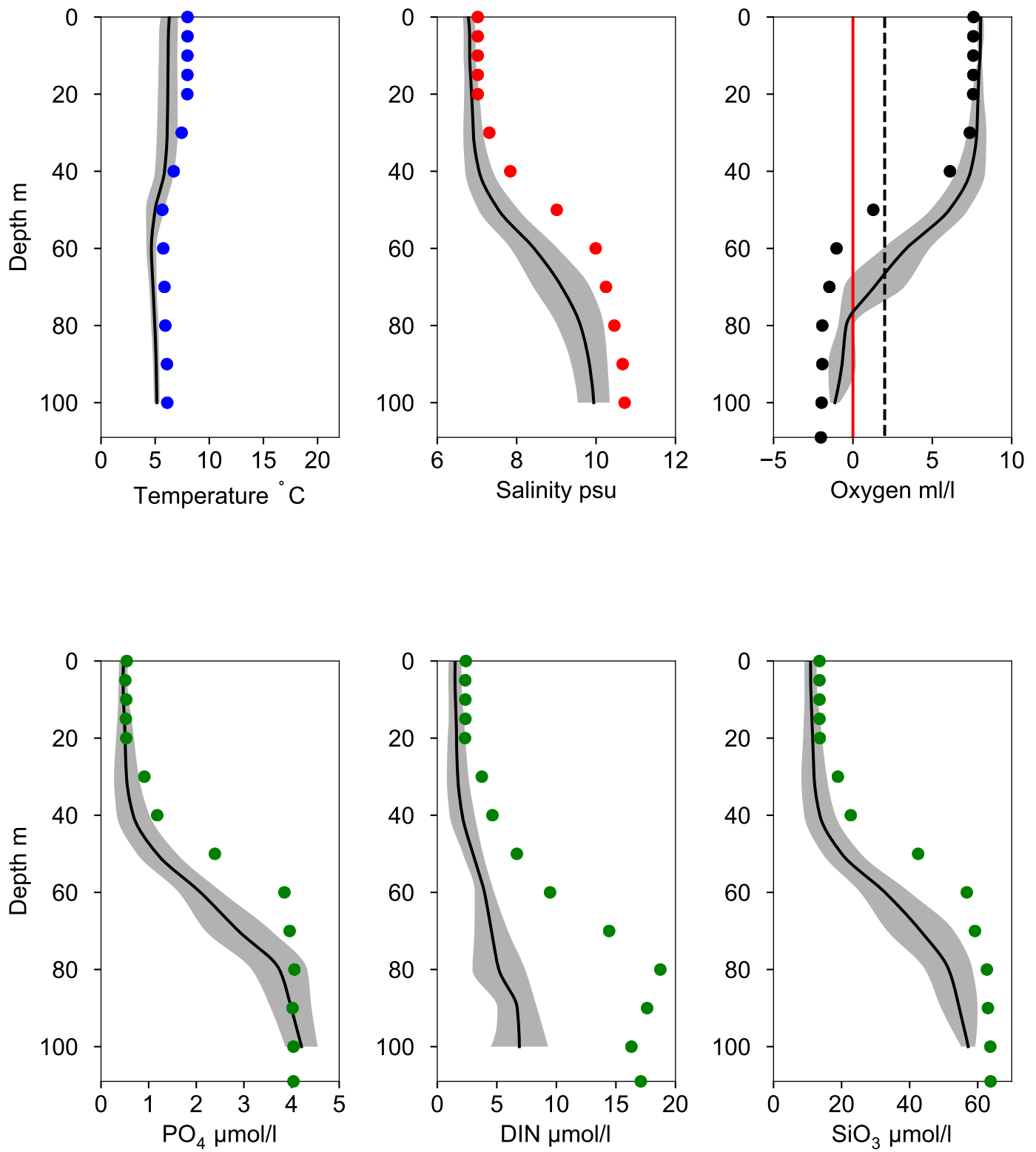


O₂ ml/l



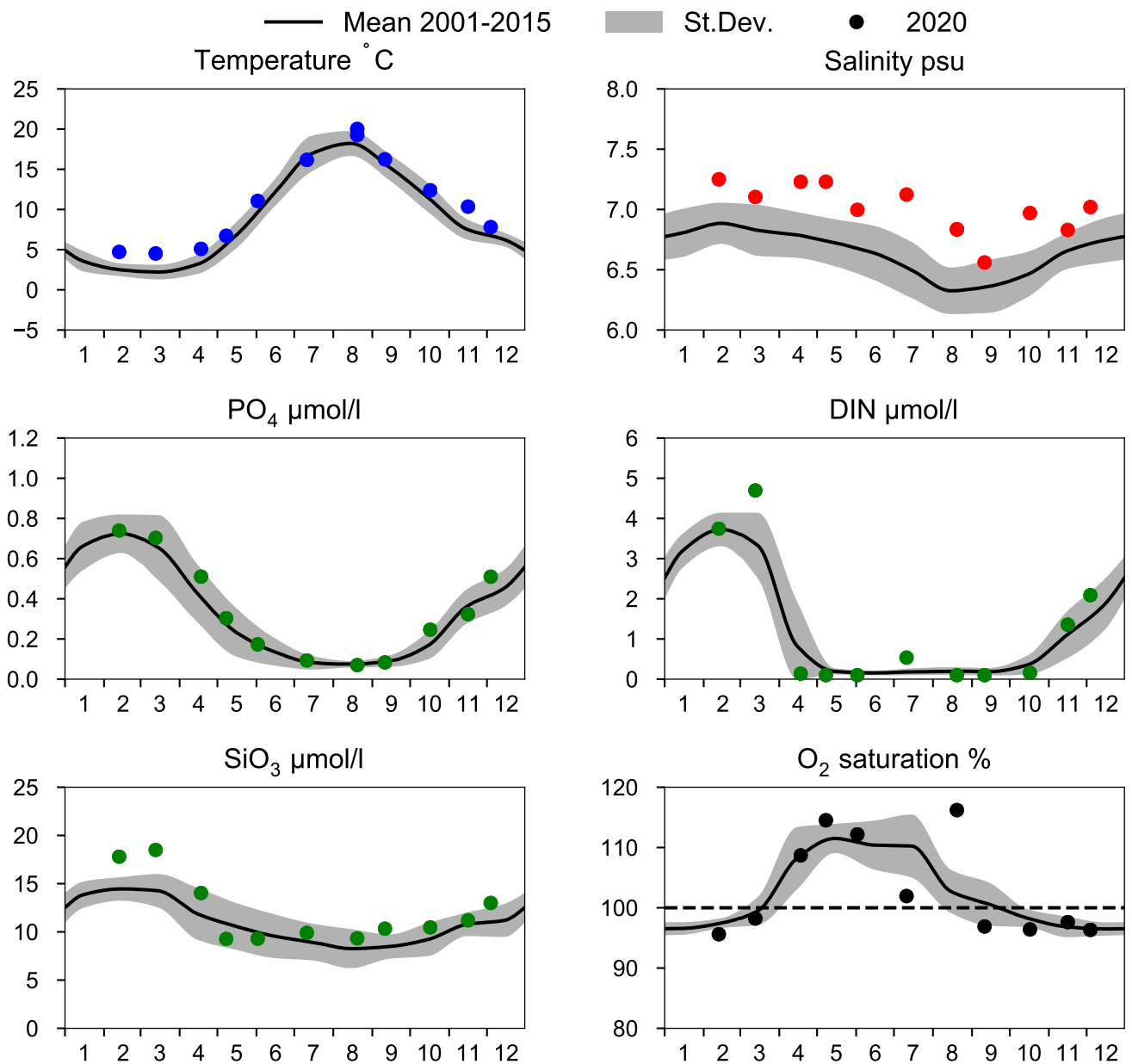
Vertical profiles BY38 KARLSÖDJ December

— Mean 2001-2015 St.Dev. • 2020-12-04

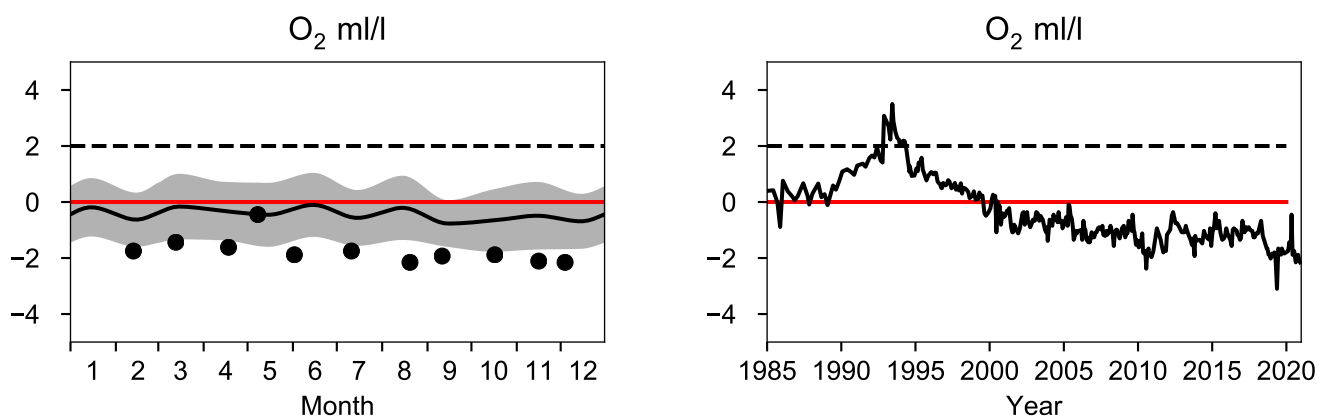


STATION BY32 NORRKÖPINGSDJ SURFACE WATER (0-10 m)

Annual Cycles

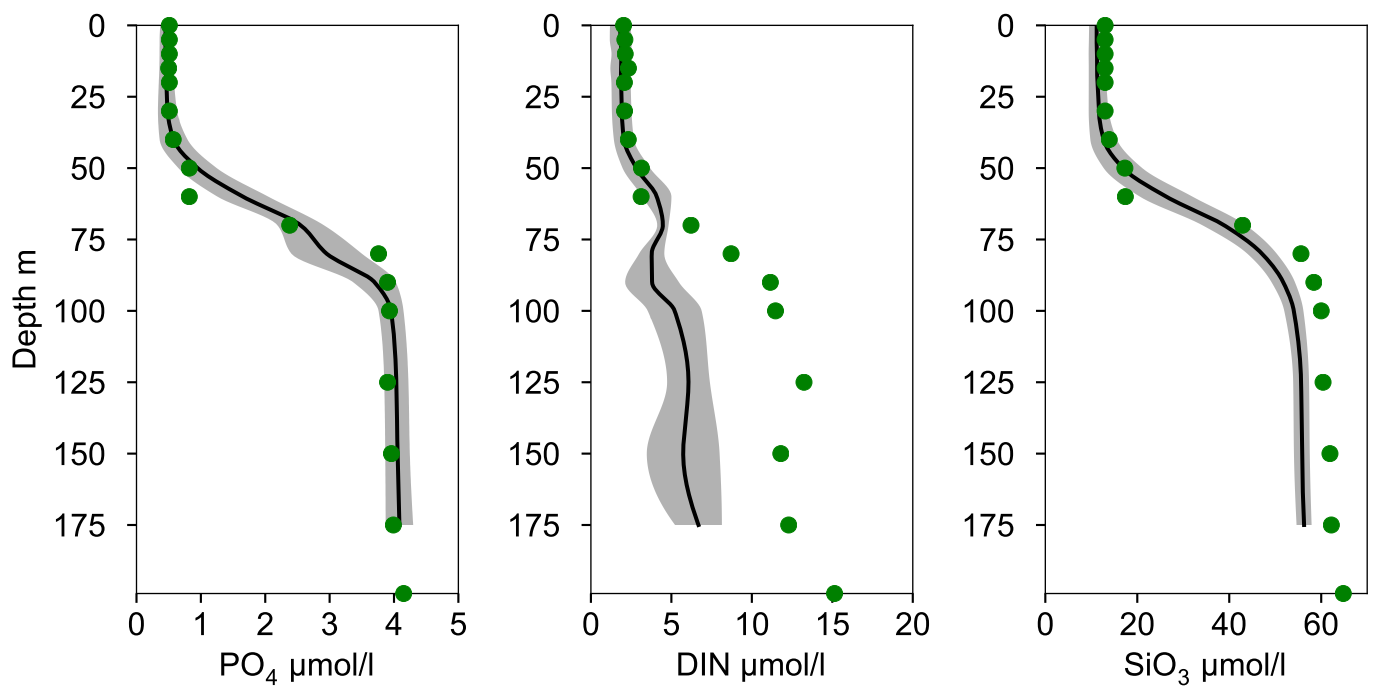
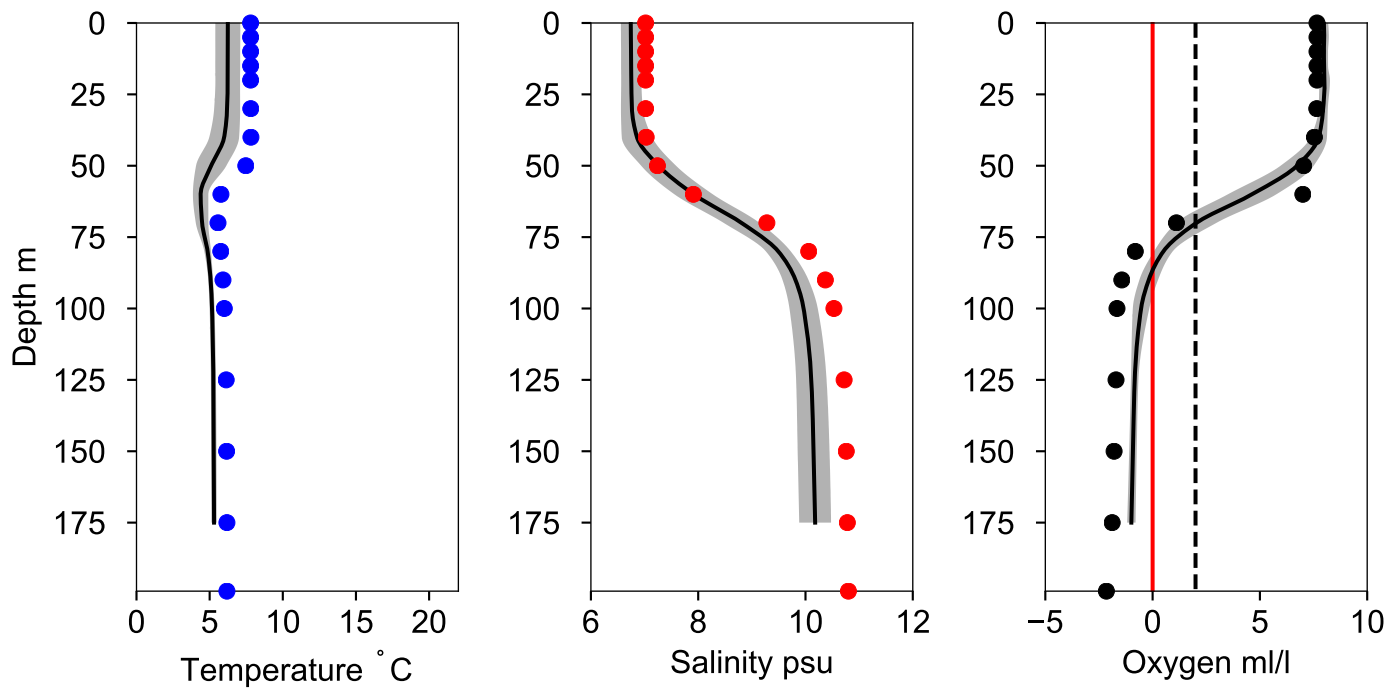


OXYGEN IN BOTTOM WATER (depth >= 175 m)



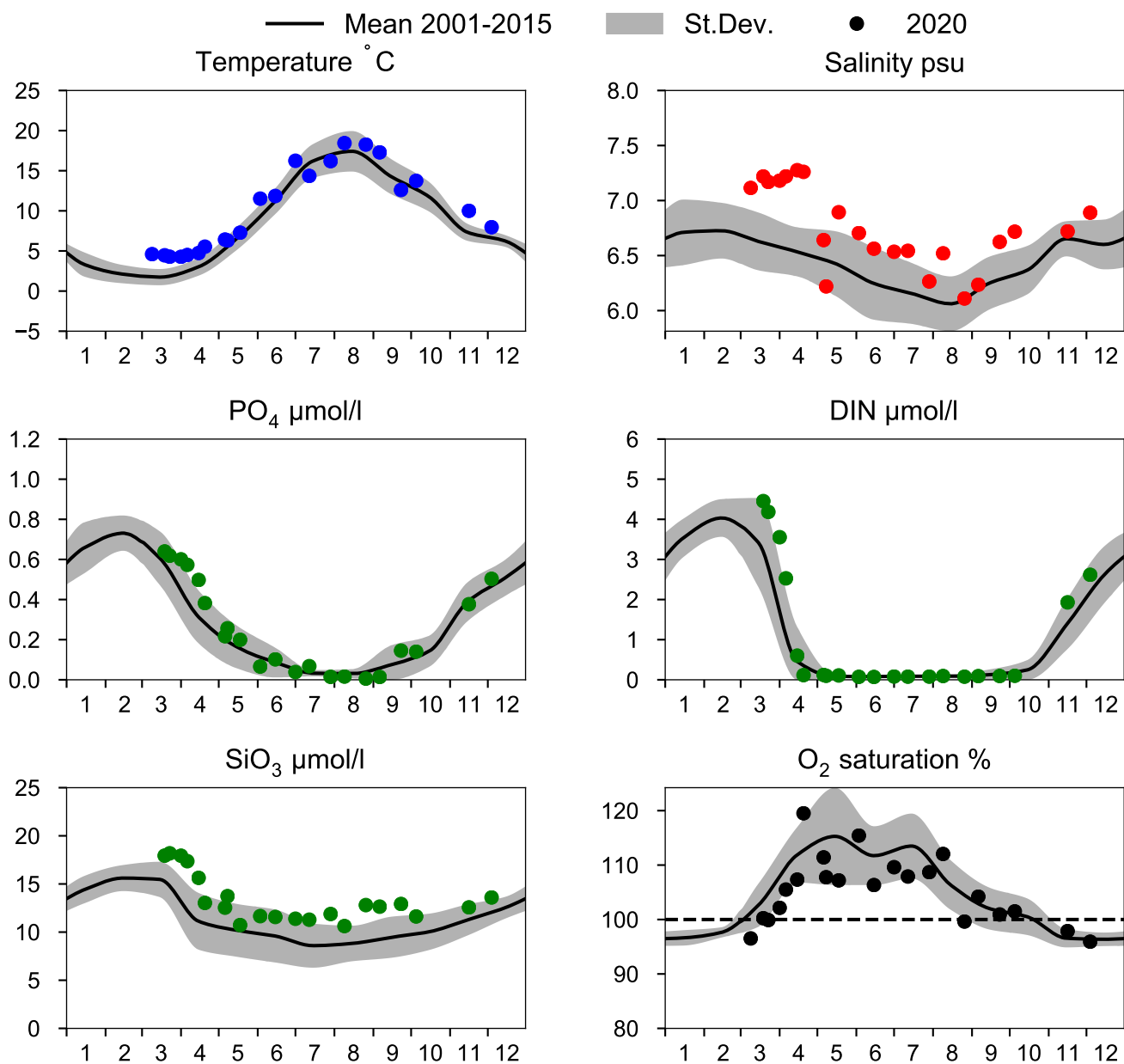
Vertical profiles BY32 NORRKÖPINGSDJ December

— Mean 2001-2015 St.Dev. • 2020-12-04

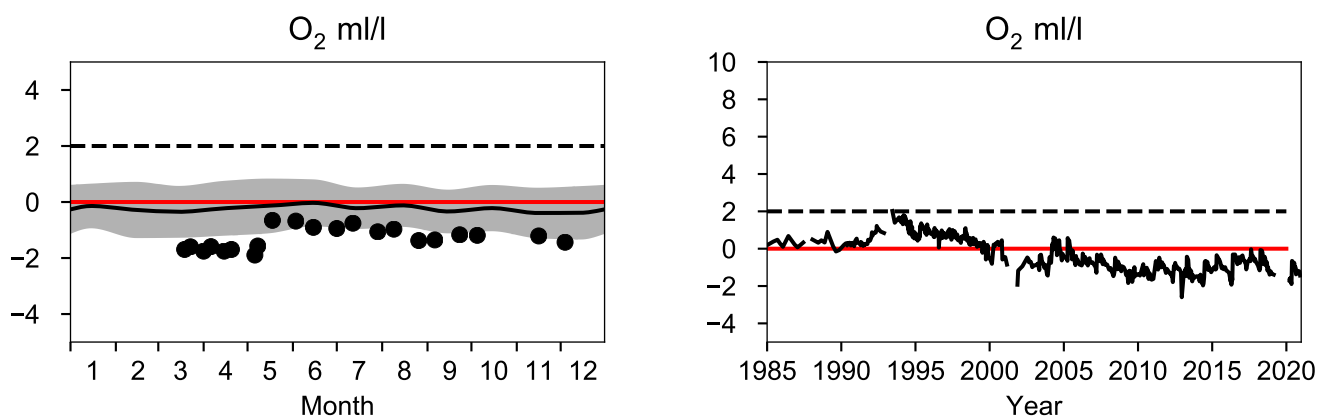


STATION BY31 LANDSORTSDJ SURFACE WATER (0-10 m)

Annual Cycles

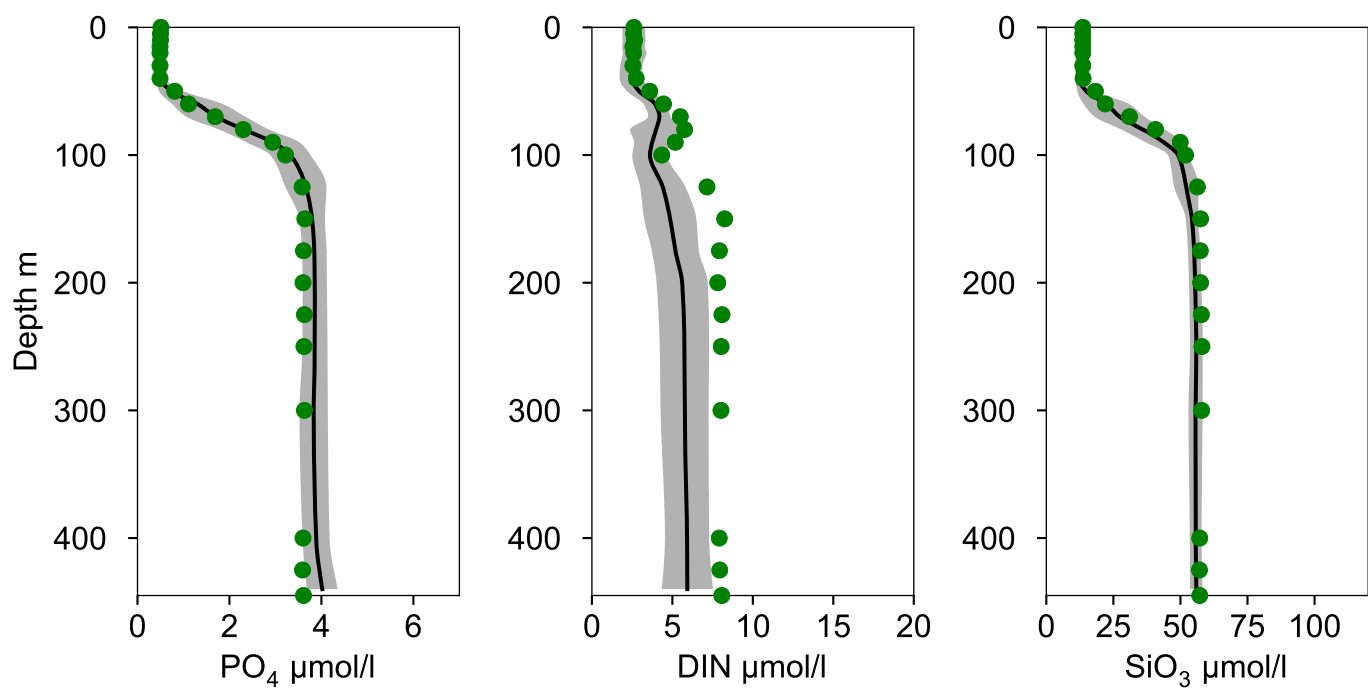
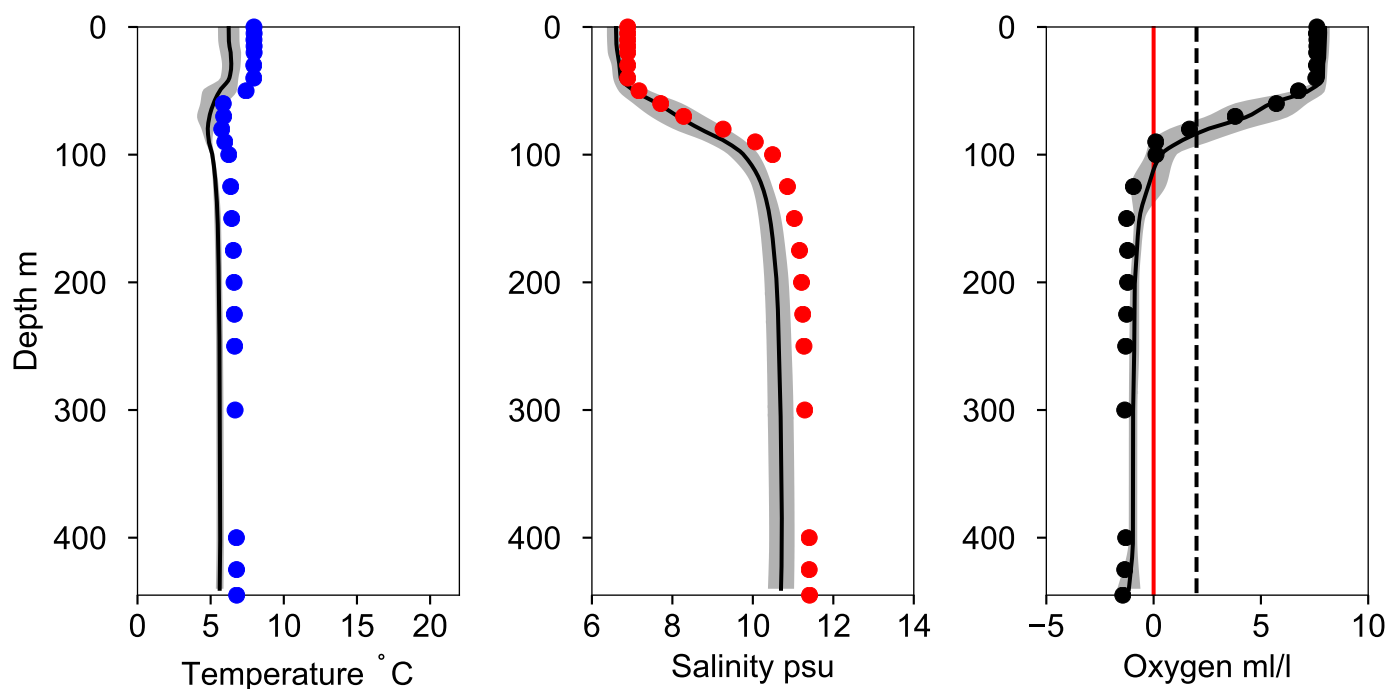


OXYGEN IN BOTTOM WATER (depth >= 419 m)



Vertical profiles BY31 LANDSORTSDJ December

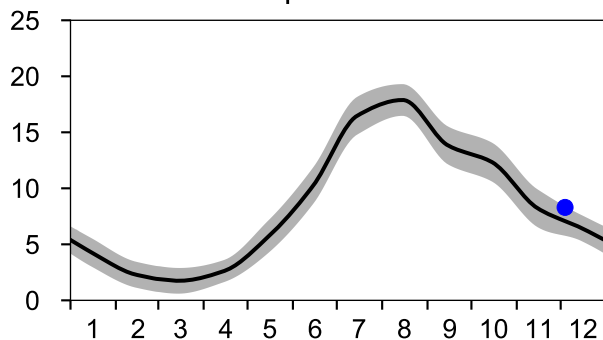
— Mean 2001-2015 St.Dev. • 2020-12-04



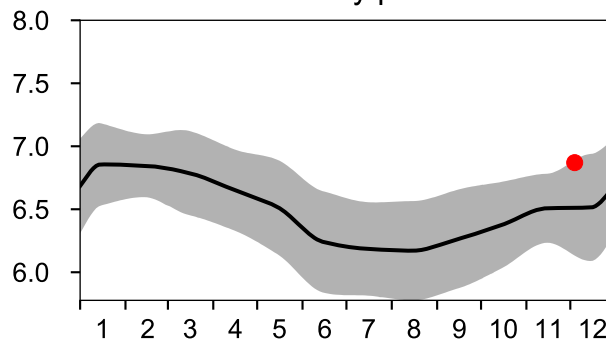
STATION HUVUDSKÄR SURFACE WATER (0-10 m)

Annual Cycles

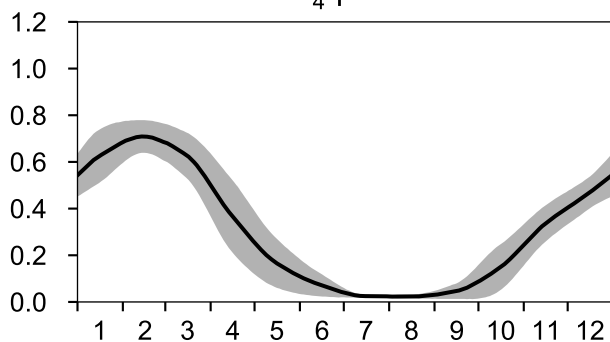
— Mean 2001-2015
Temperature °C



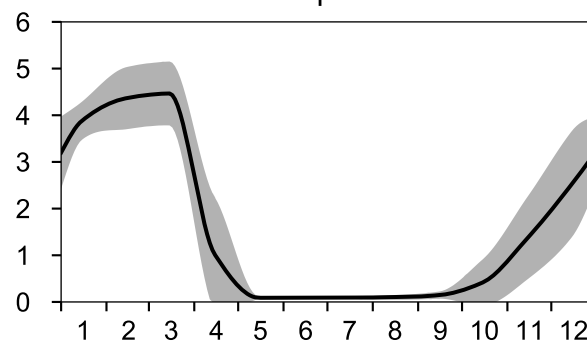
St.Dev. ● 2020
Salinity psu



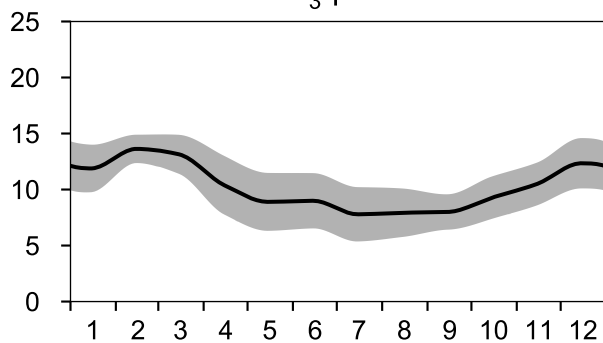
PO₄ µmol/l



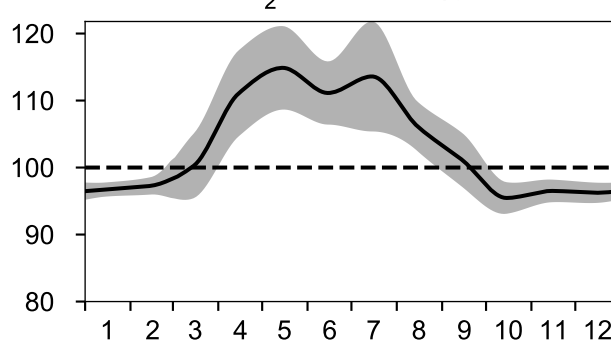
DIN µmol/l



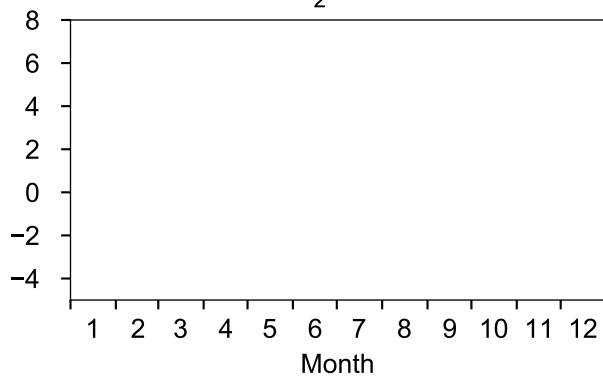
SiO₃ µmol/l



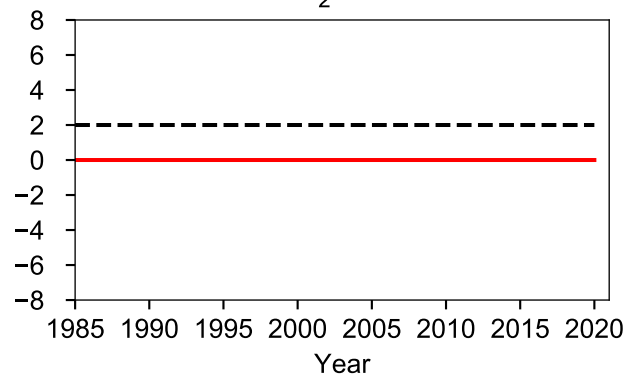
O₂ saturation %



O₂ ml/l

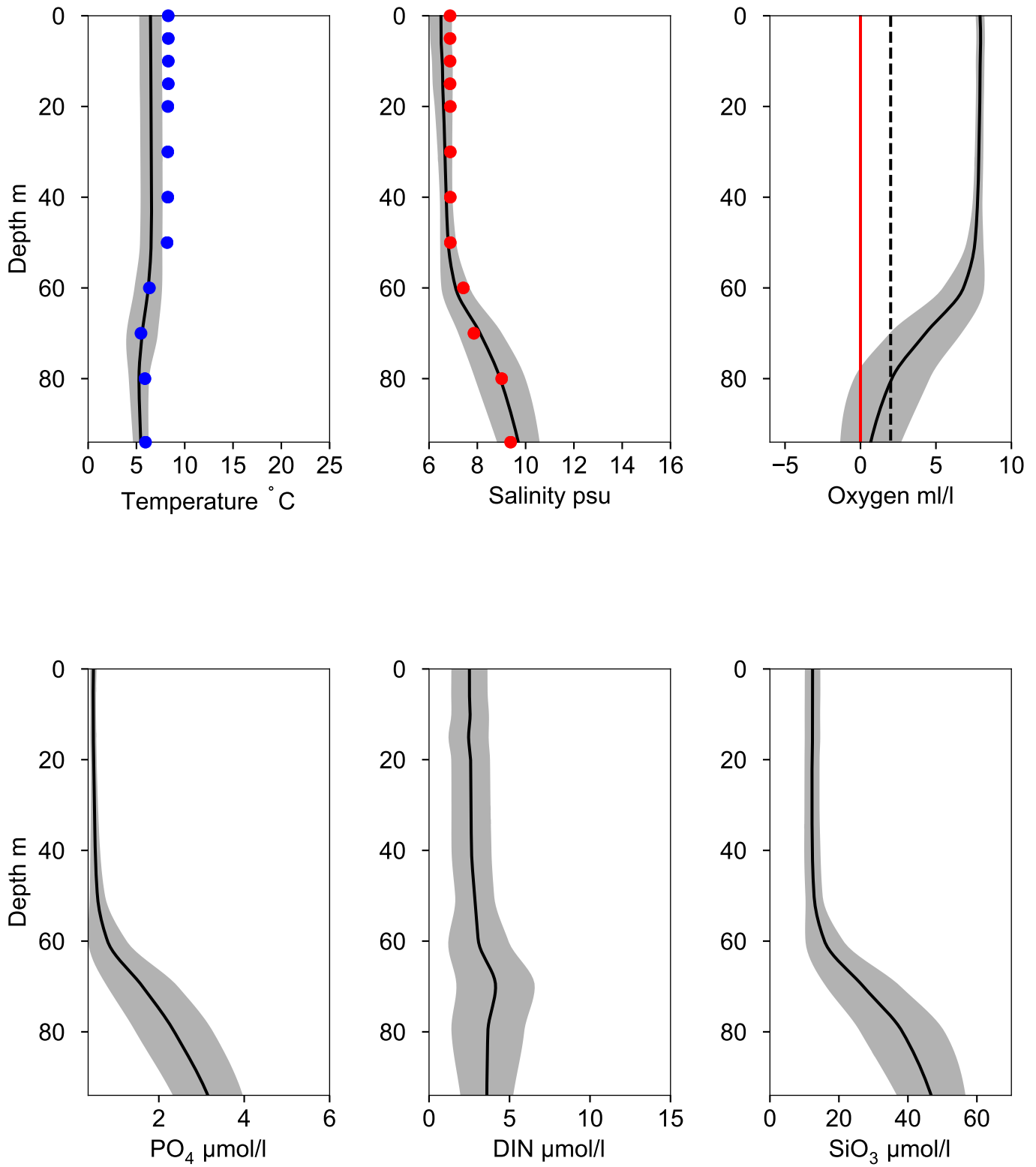


O₂ ml/l



Vertical profiles HUVUDSKÄR December

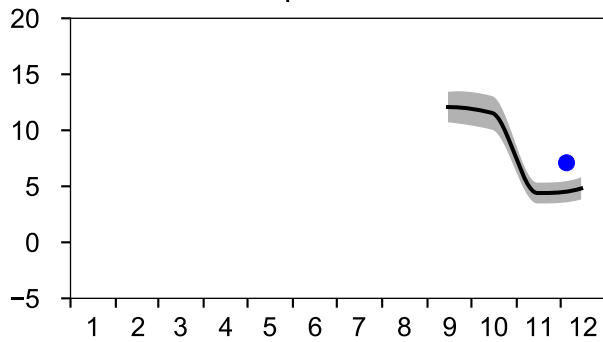
— Mean 2001-2015 St.Dev. • 2020-12-04



STATION F64 SOLOVJEVA SURFACE WATER (0-10 m)

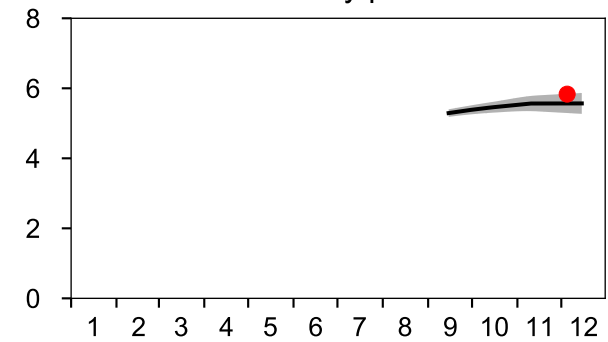
Annual Cycles

— Mean 2001-2015
Temperature °C

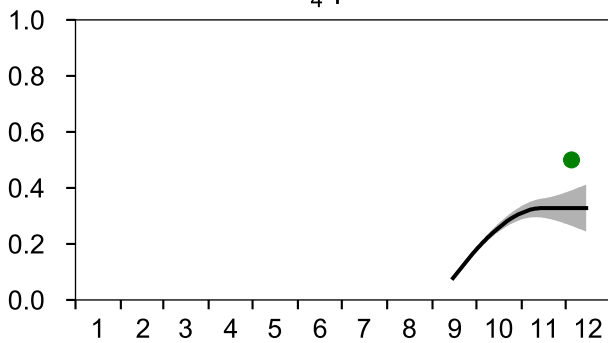


■ St.Dev.

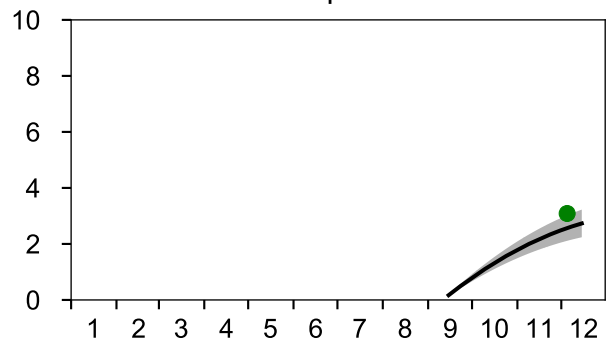
● 2020
Salinity psu



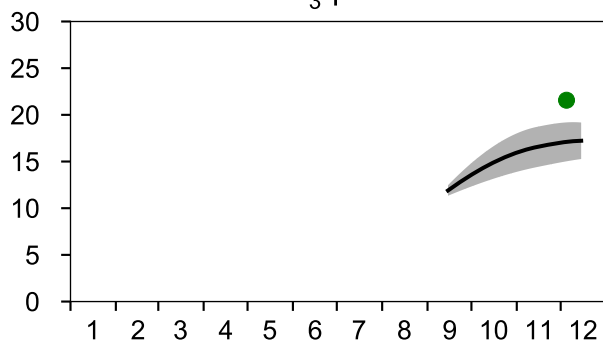
PO₄ µmol/l



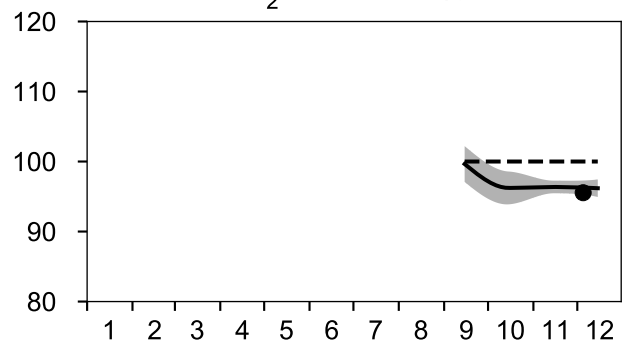
DIN µmol/l



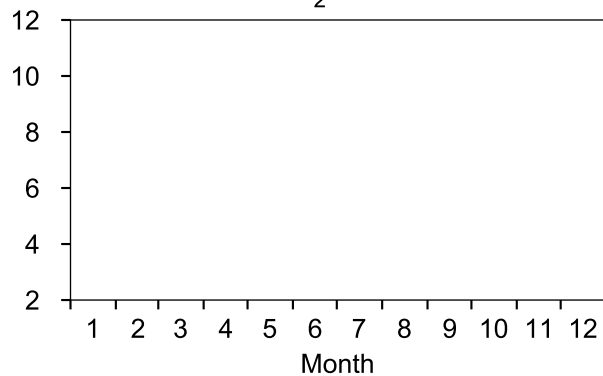
SiO₃ µmol/l



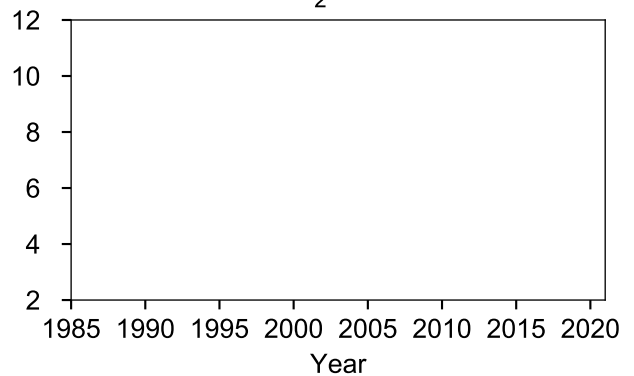
O₂ saturation %



O₂ ml/l

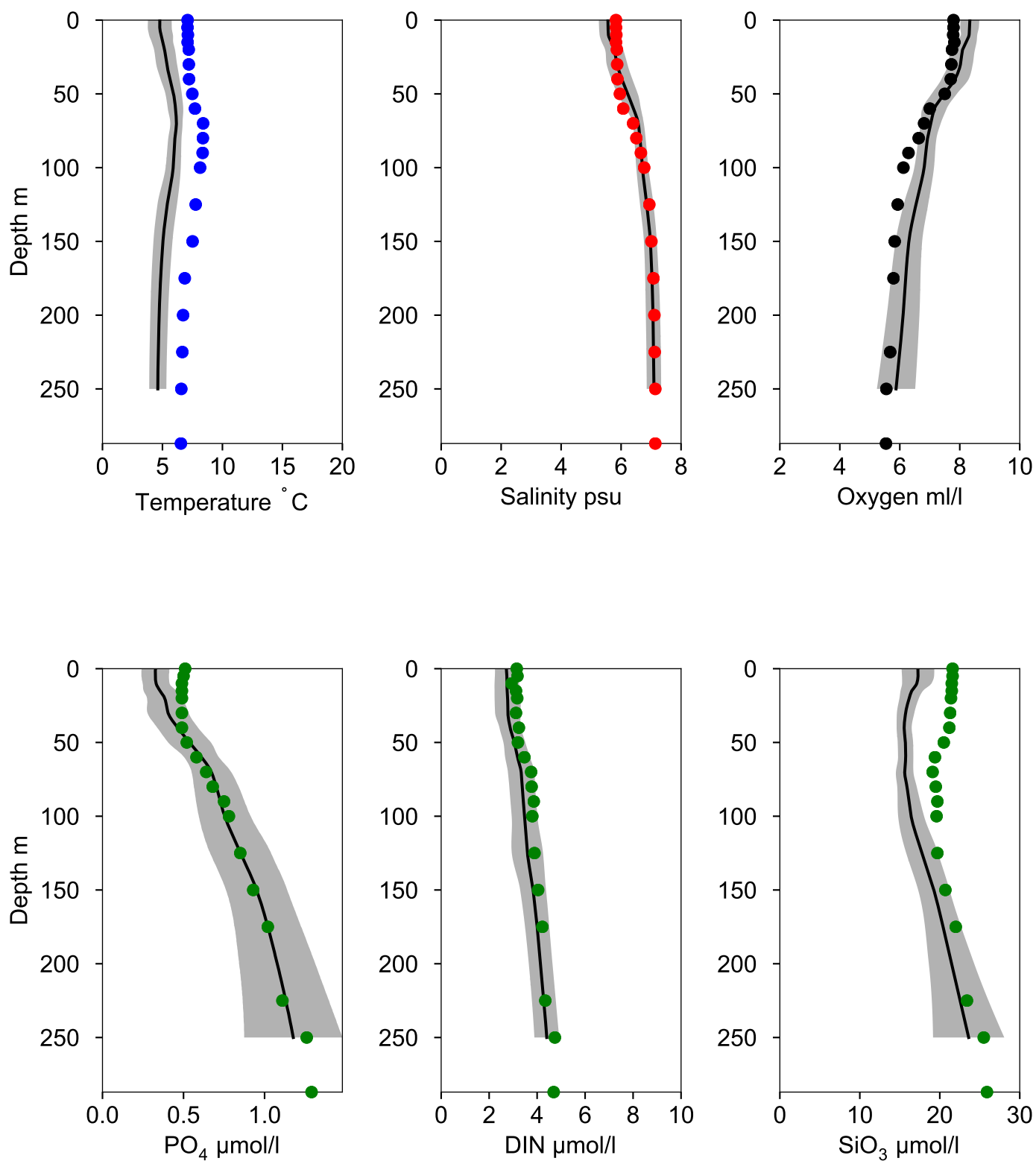


O₂ ml/l



Vertical profiles F64 SOLOVJEVA December

— Mean 2001-2015 St.Dev. • 2020-12-05



STATION UNDERSTEN SURFACE WATER (0-10 m)

Annual Cycles

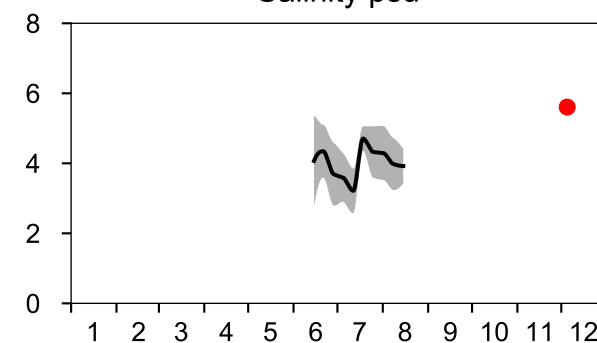
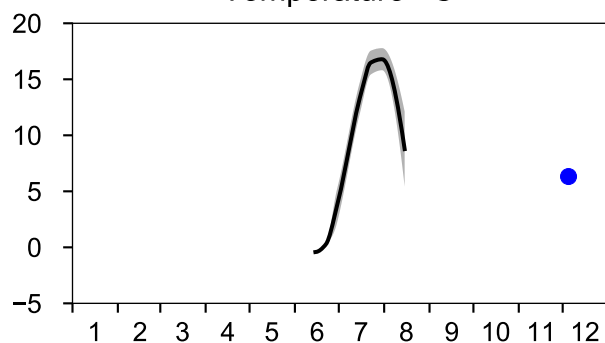
— Mean 2001-2015

■ St.Dev.

● 2020

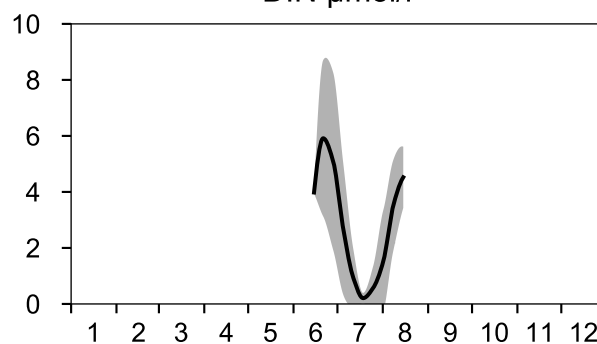
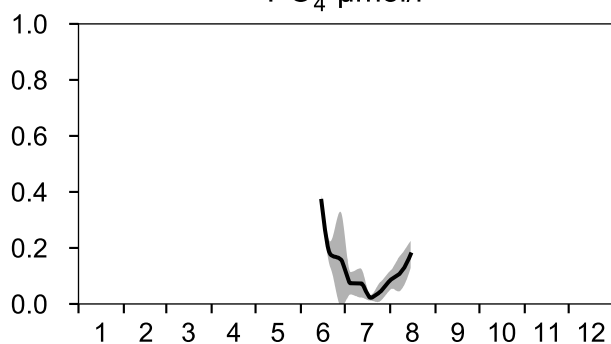
Temperature °C

Salinity psu



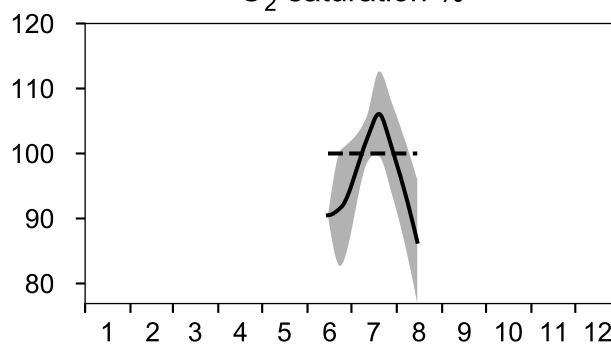
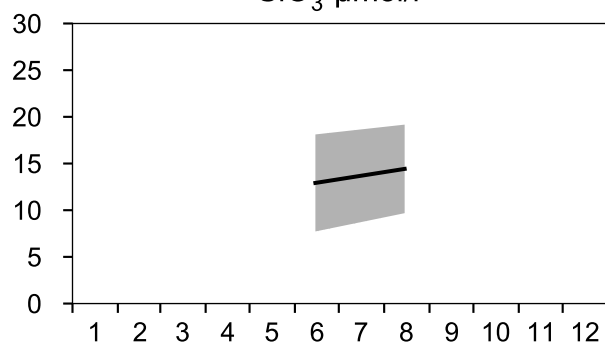
PO₄ µmol/l

DIN µmol/l



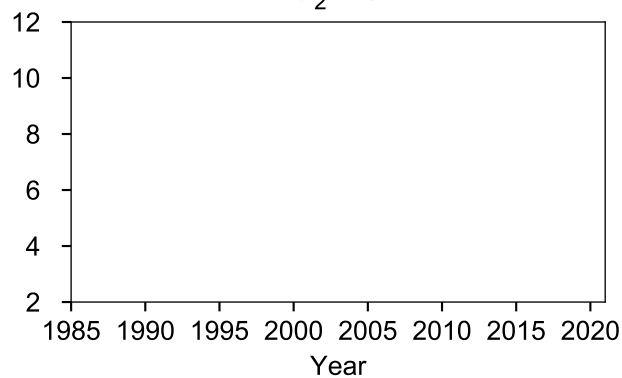
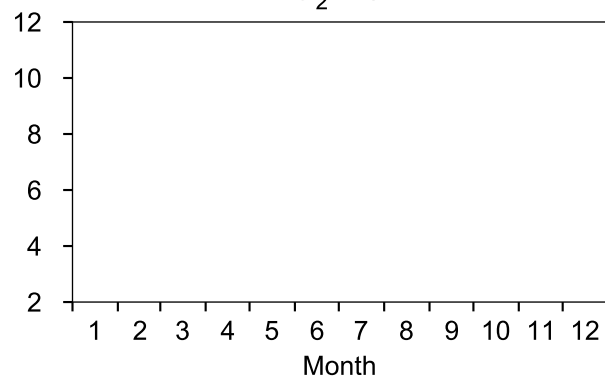
SiO₃ µmol/l

O₂ saturation %



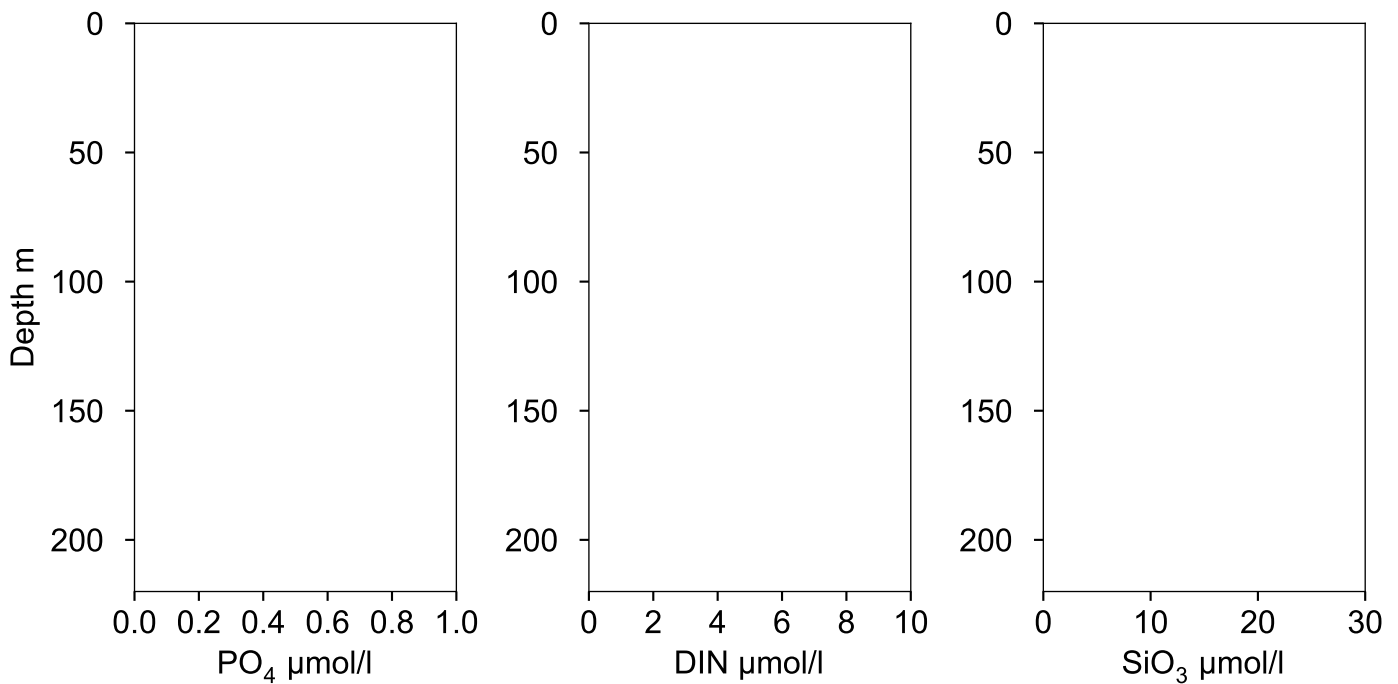
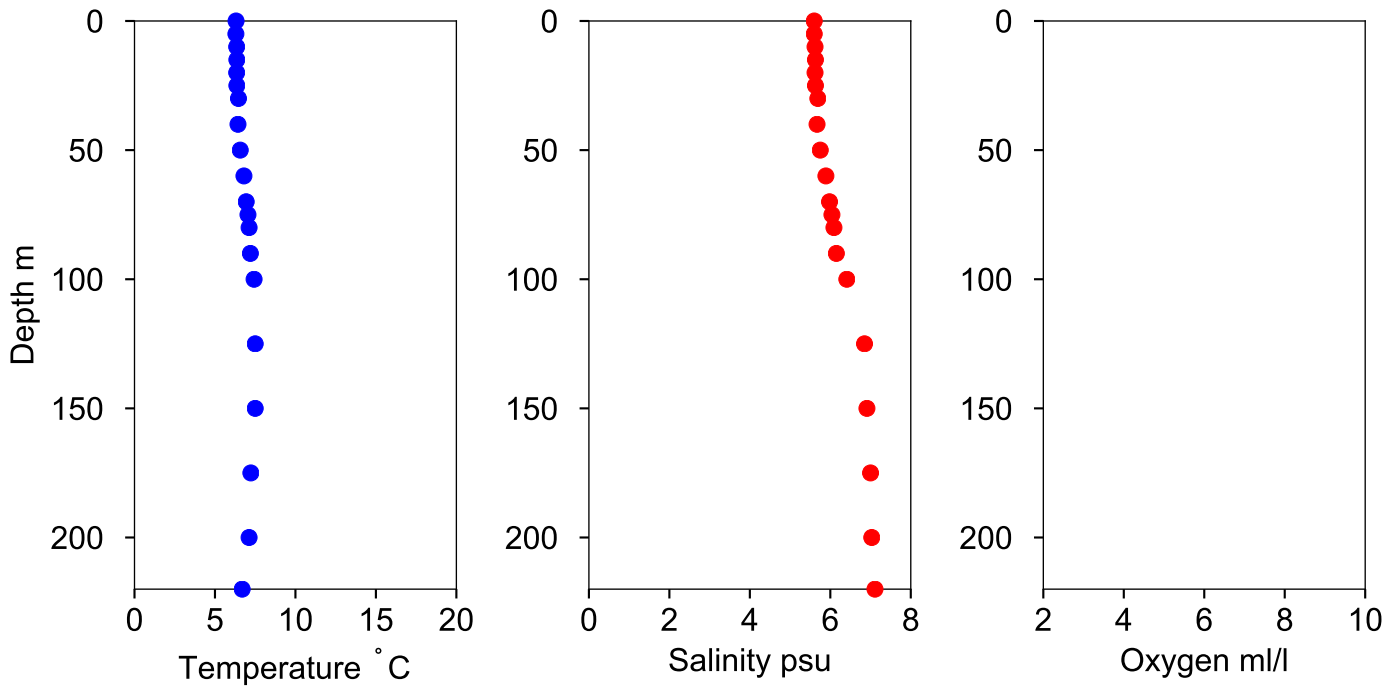
O₂ ml/l

O₂ ml/l



Vertical profiles UNDERSTEN December

— Mean 2001-2015 ■ St.Dev. ● 2020-12-05



STATION SR5/LL4 SURFACE WATER (0-10 m)

Annual Cycles

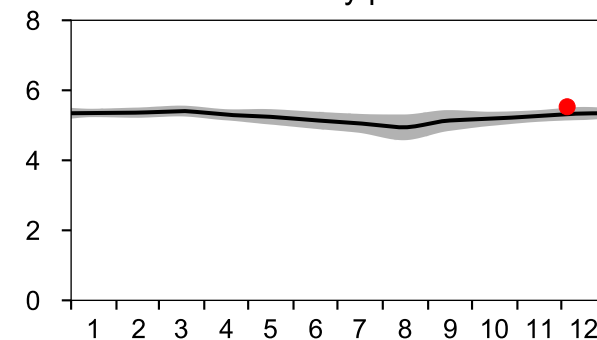
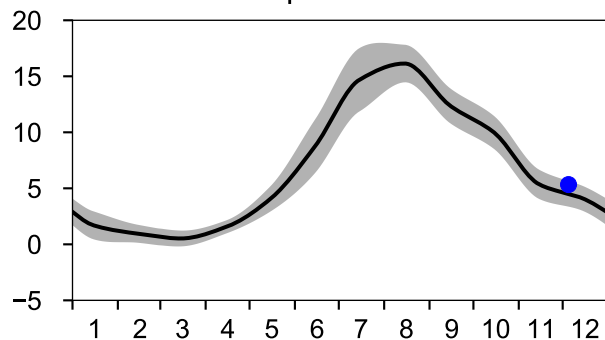
— Mean 2001-2015

■ St.Dev.

● 2020

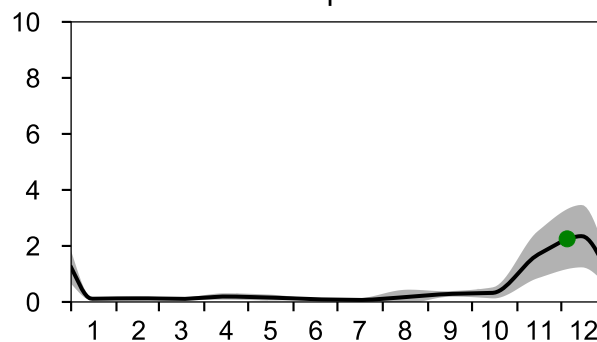
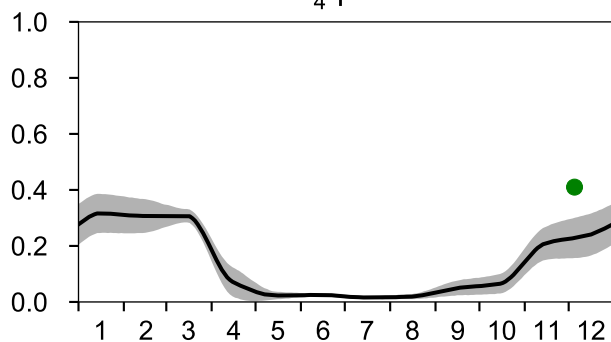
Temperature °C

Salinity psu



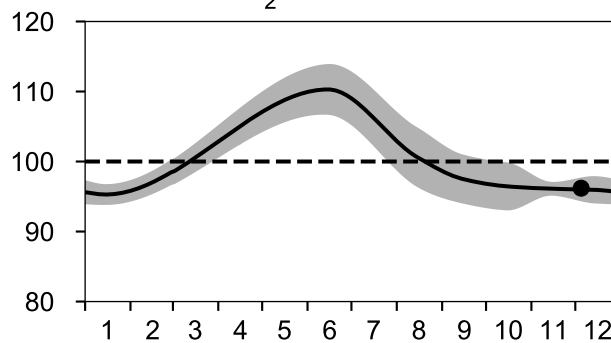
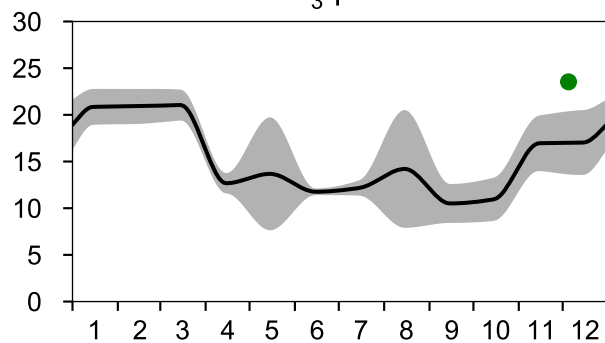
PO₄ µmol/l

DIN µmol/l



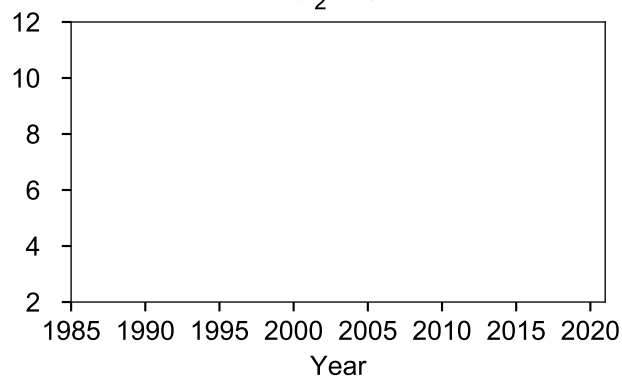
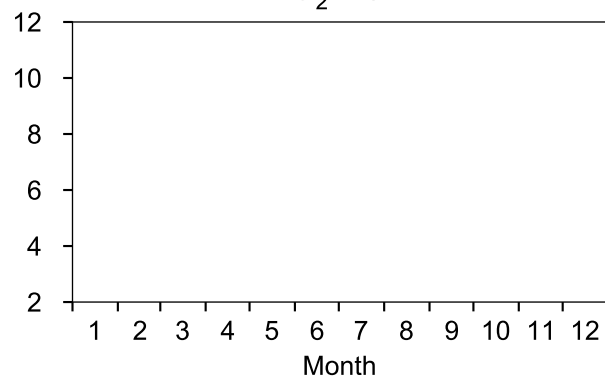
SiO₃ µmol/l

O₂ saturation %



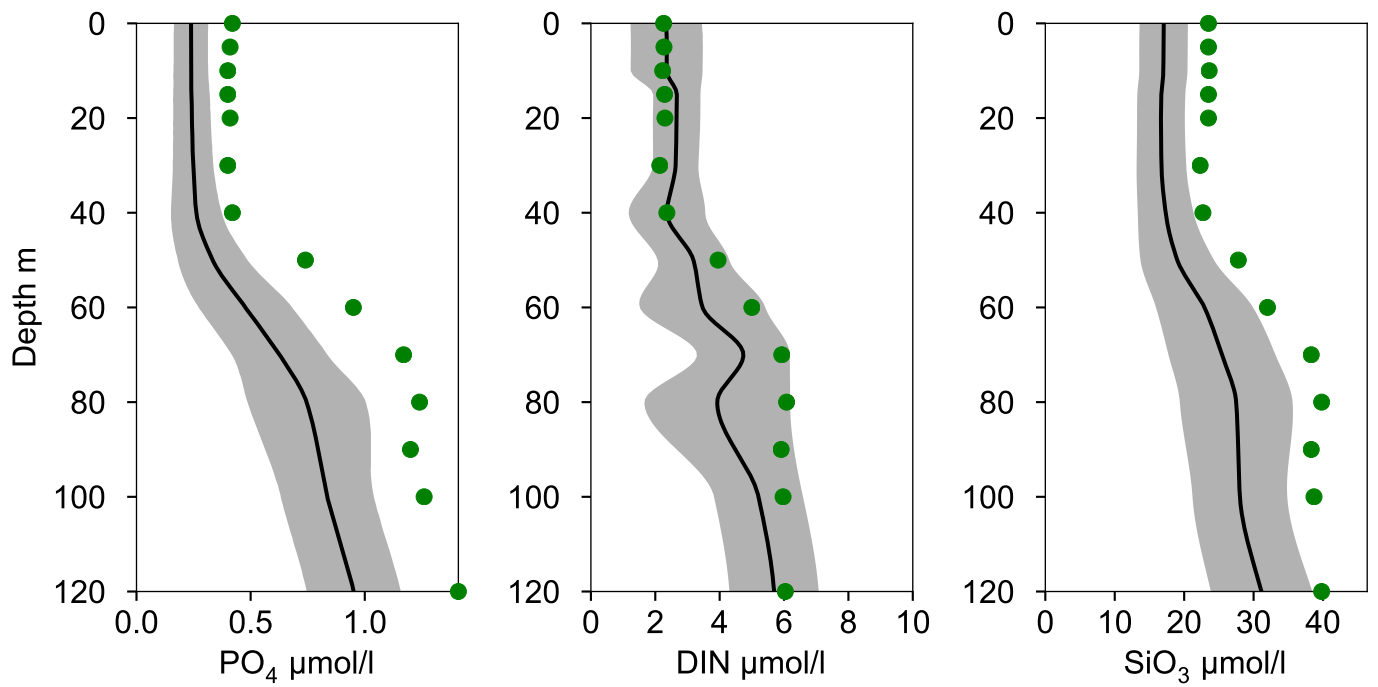
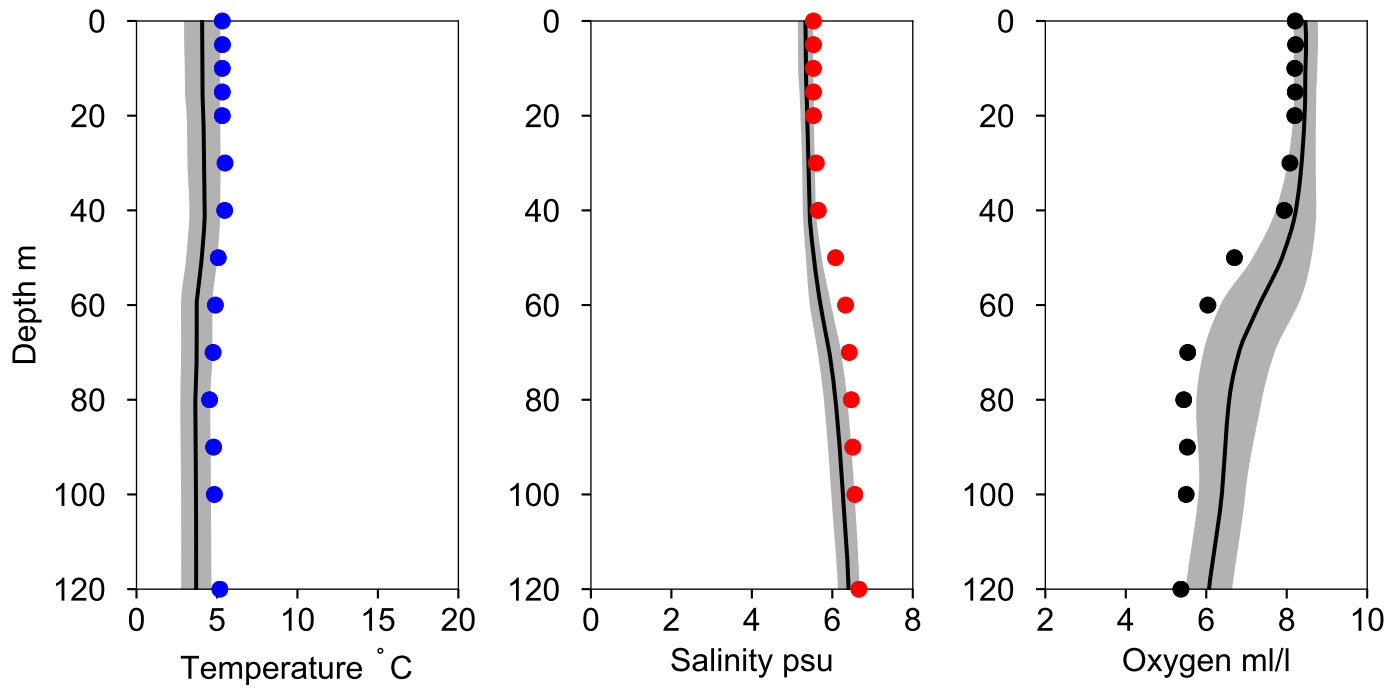
O₂ ml/l

O₂ ml/l



Vertical profiles SR5/LL4 December

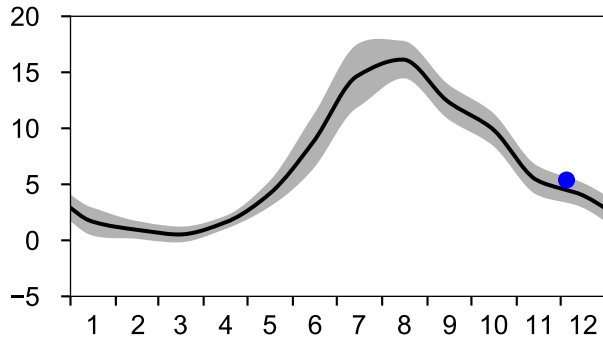
— Mean 2001-2015 St.Dev. • 2020-12-05



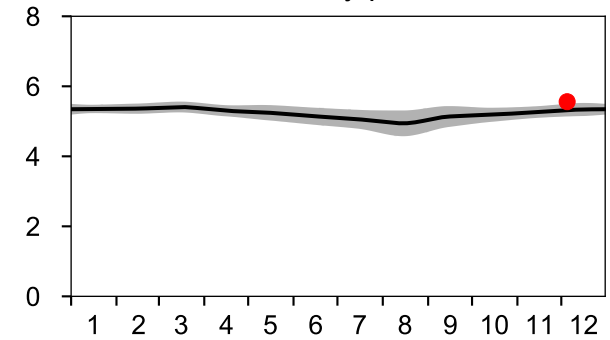
STATION SS29 SURFACE WATER (0-10 m)

Annual Cycles

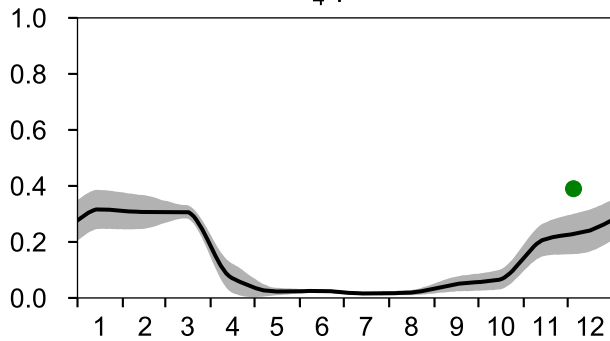
— Mean 2001-2015
Temperature °C



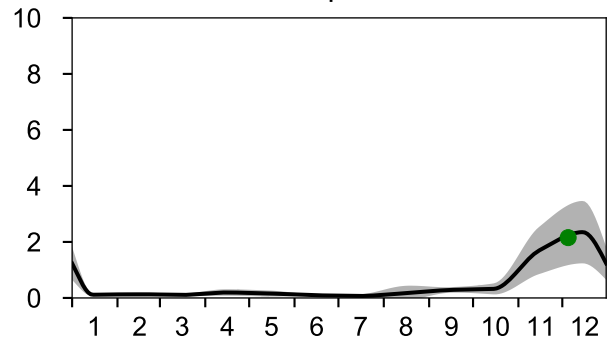
■ St.Dev. ● 2020
Salinity psu



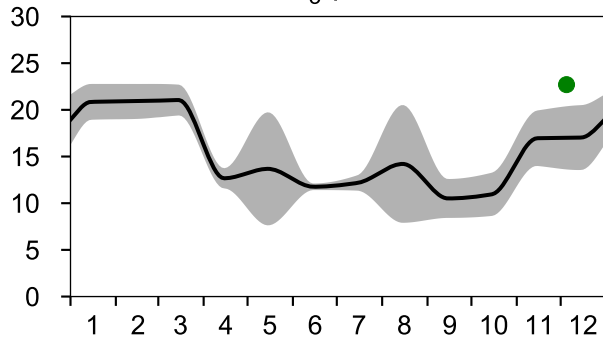
PO₄ µmol/l



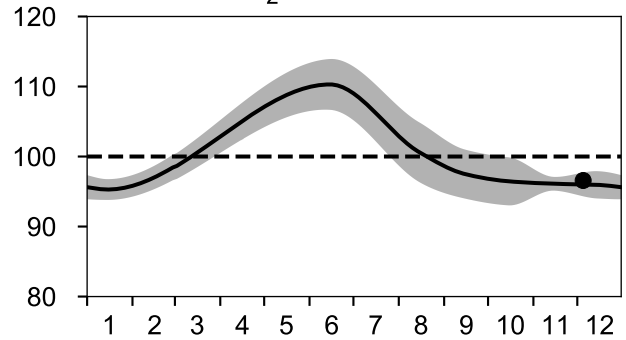
DIN µmol/l



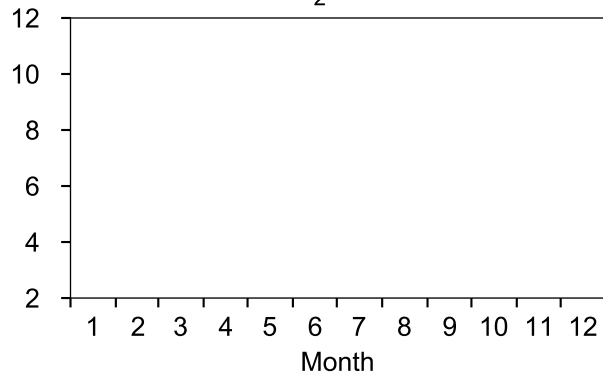
SiO₃ µmol/l



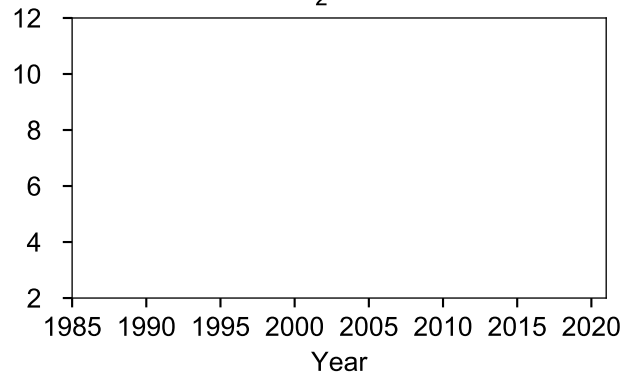
O₂ saturation %



O₂ ml/l

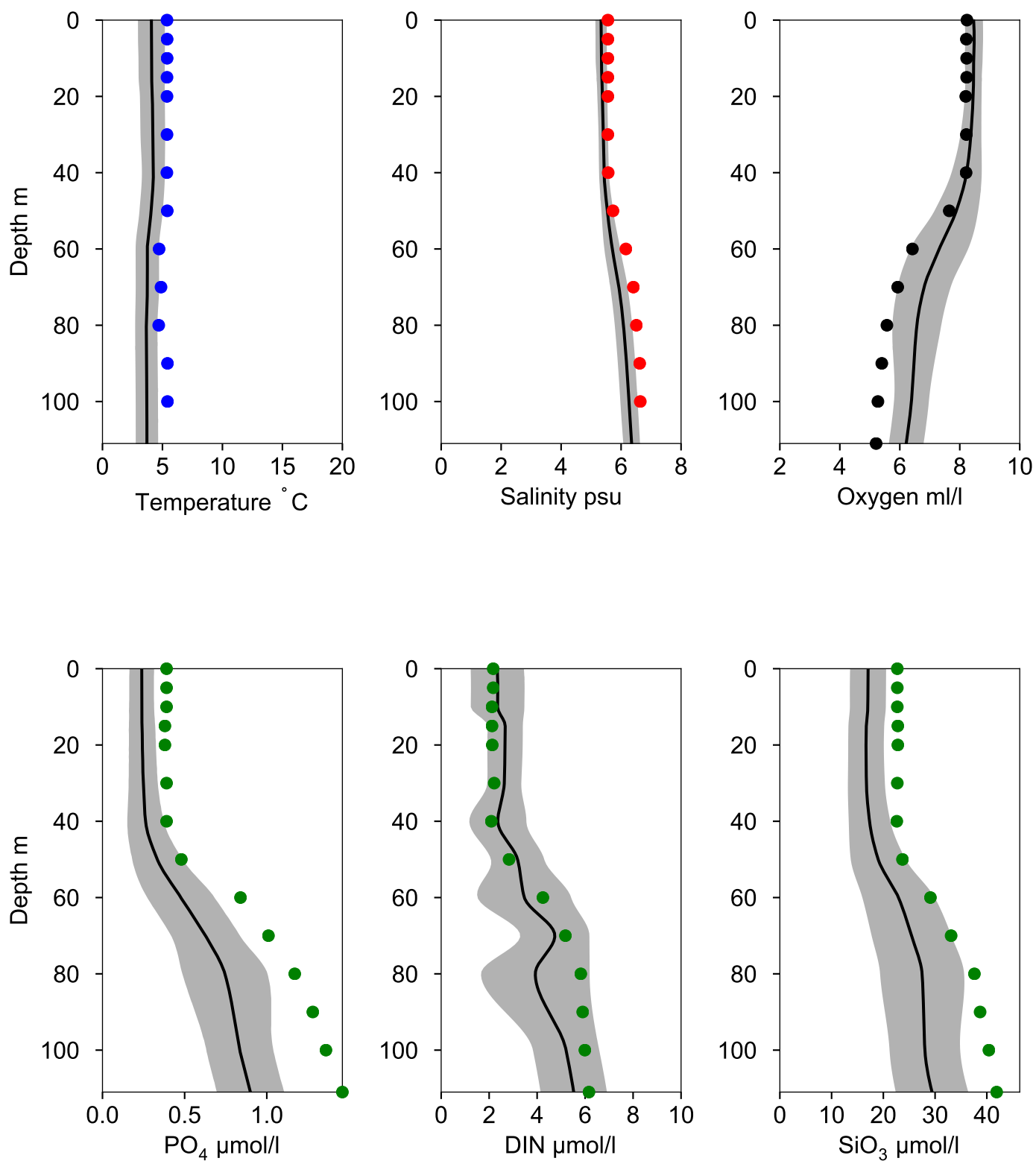


O₂ ml/l



Vertical profiles SS29 December

— Mean 2001-2015 St.Dev. • 2020-12-05



STATION SR8 SURFACE WATER (0-10 m)

Annual Cycles

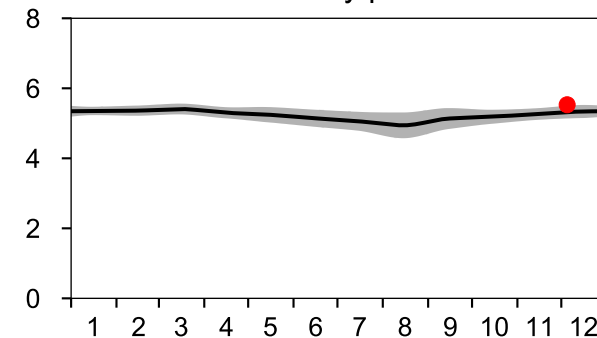
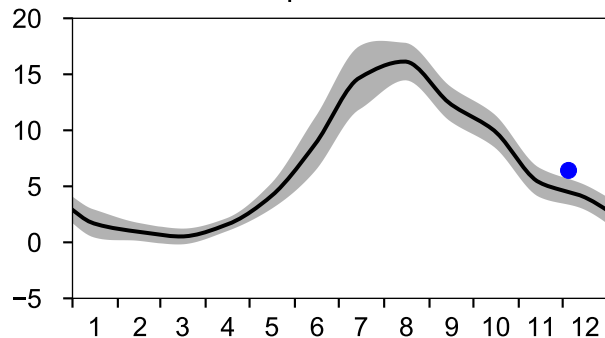
— Mean 2001-2015

■ St.Dev.

● 2020

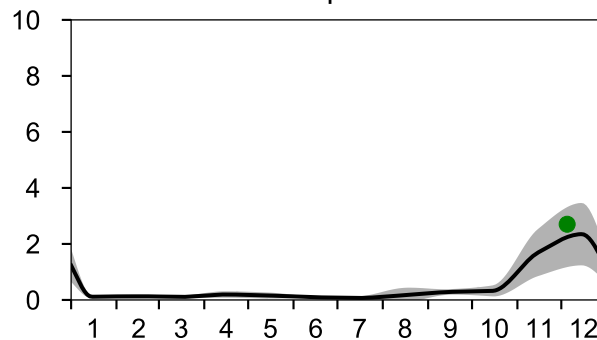
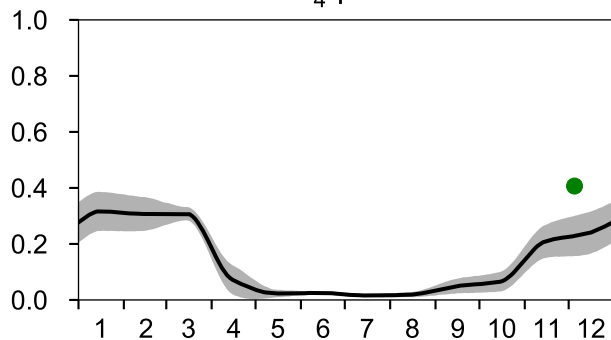
Temperature °C

Salinity psu



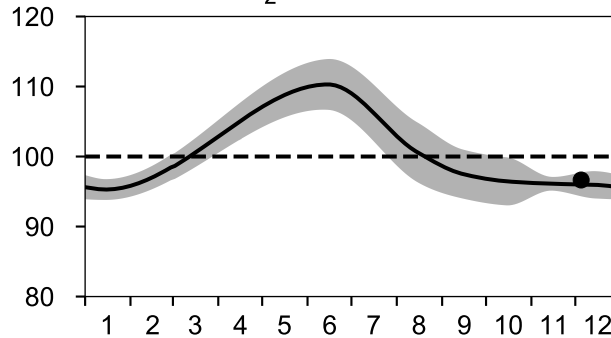
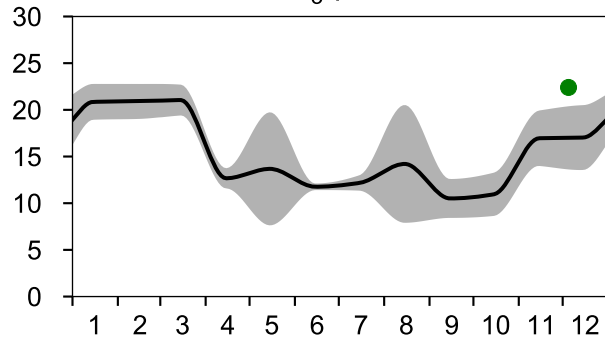
PO₄ μmol/l

DIN μmol/l



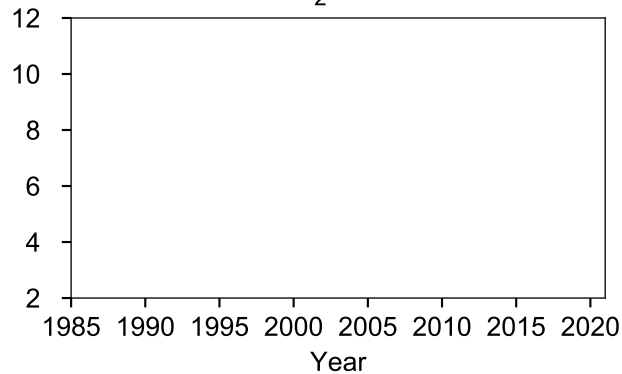
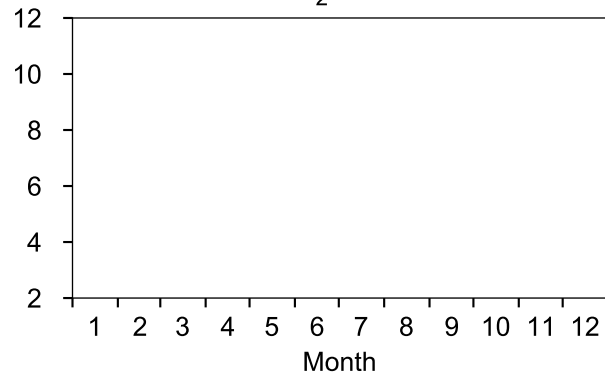
SiO₃ μmol/l

O₂ saturation %



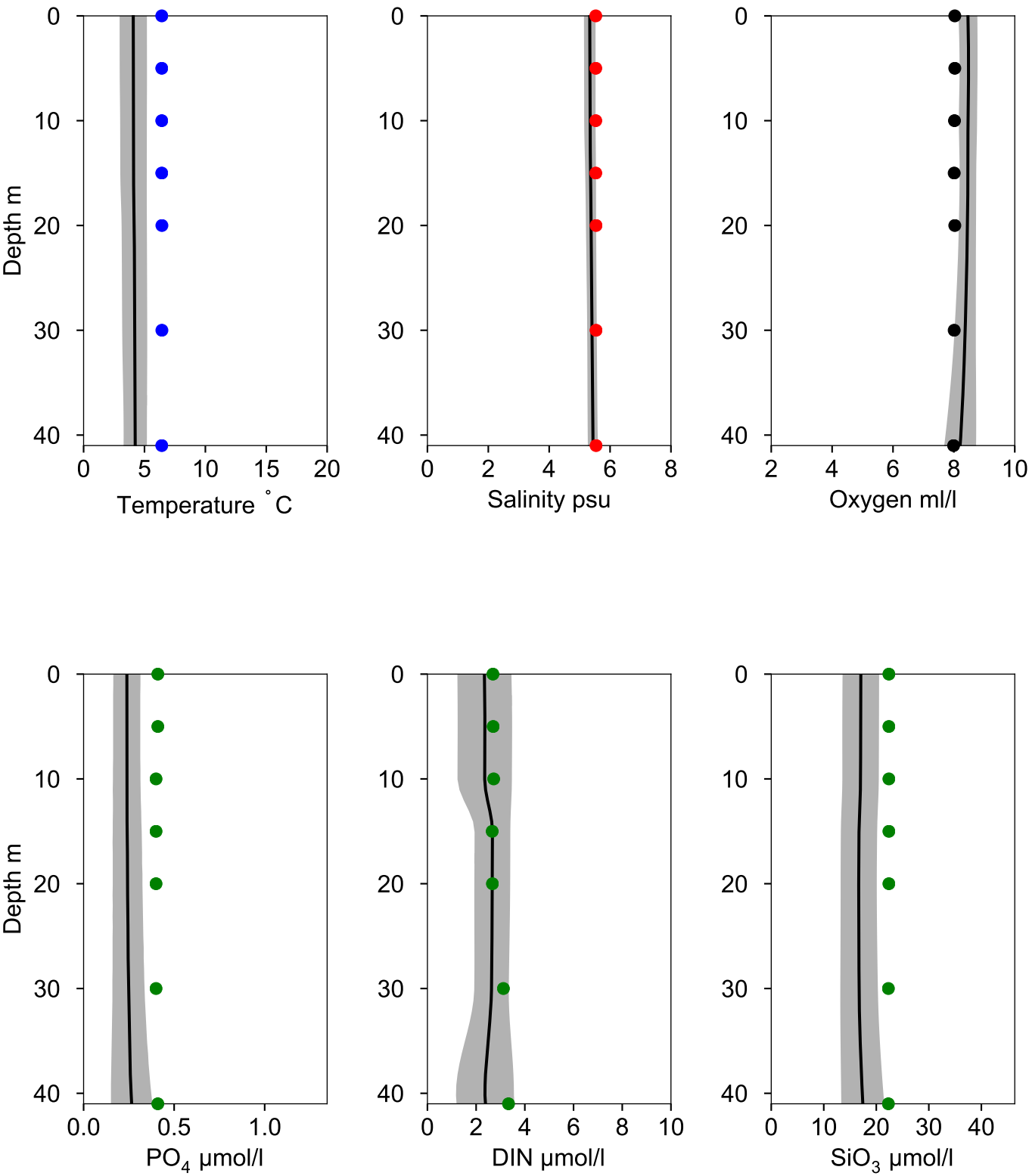
O₂ ml/l

O₂ ml/l



Vertical profiles SR8
December

— Mean 2001-2015 St.Dev. • 2020-12-05



STATION F26 / C15 SURFACE WATER (0-10 m)

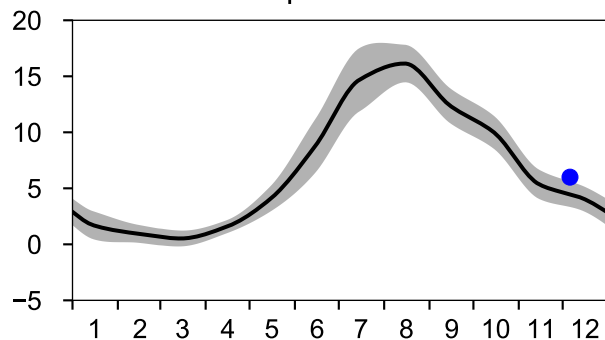
Annual Cycles

— Mean 2001-2015

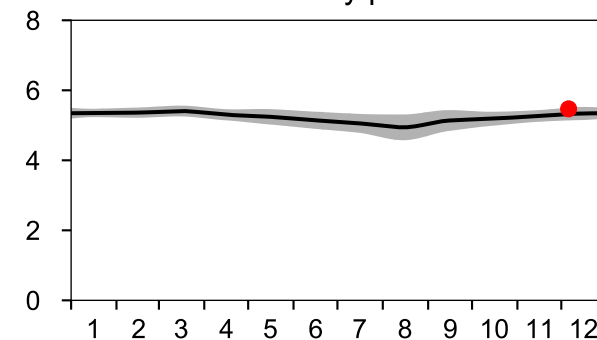
■ St.Dev.

● 2020

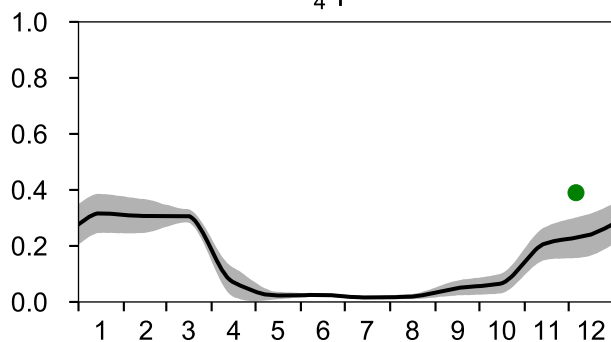
Temperature °C



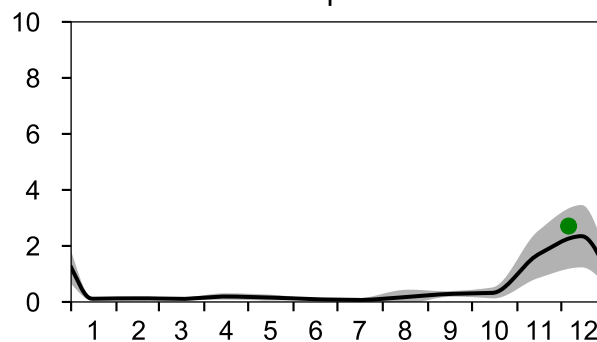
Salinity psu



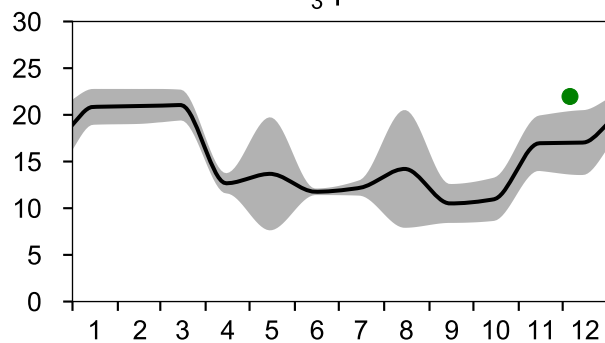
PO₄ µmol/l



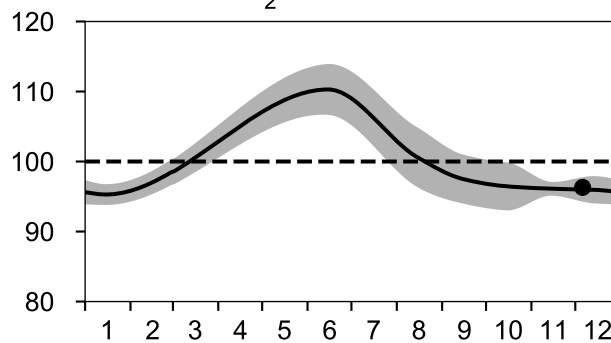
DIN µmol/l



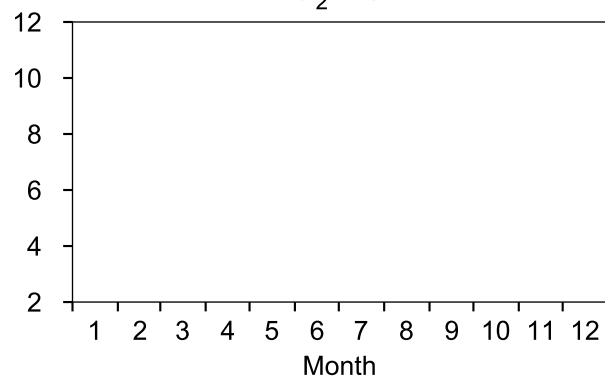
SiO₃ µmol/l



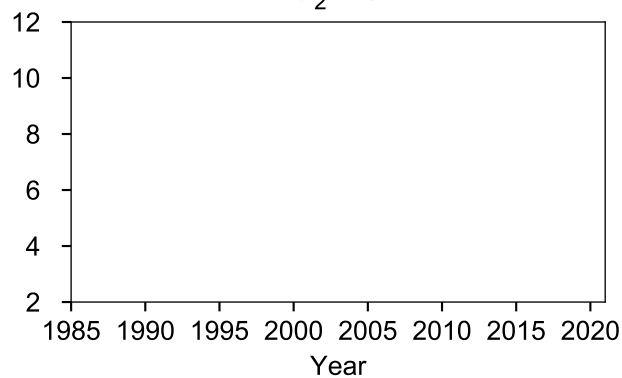
O₂ saturation %



O₂ ml/l

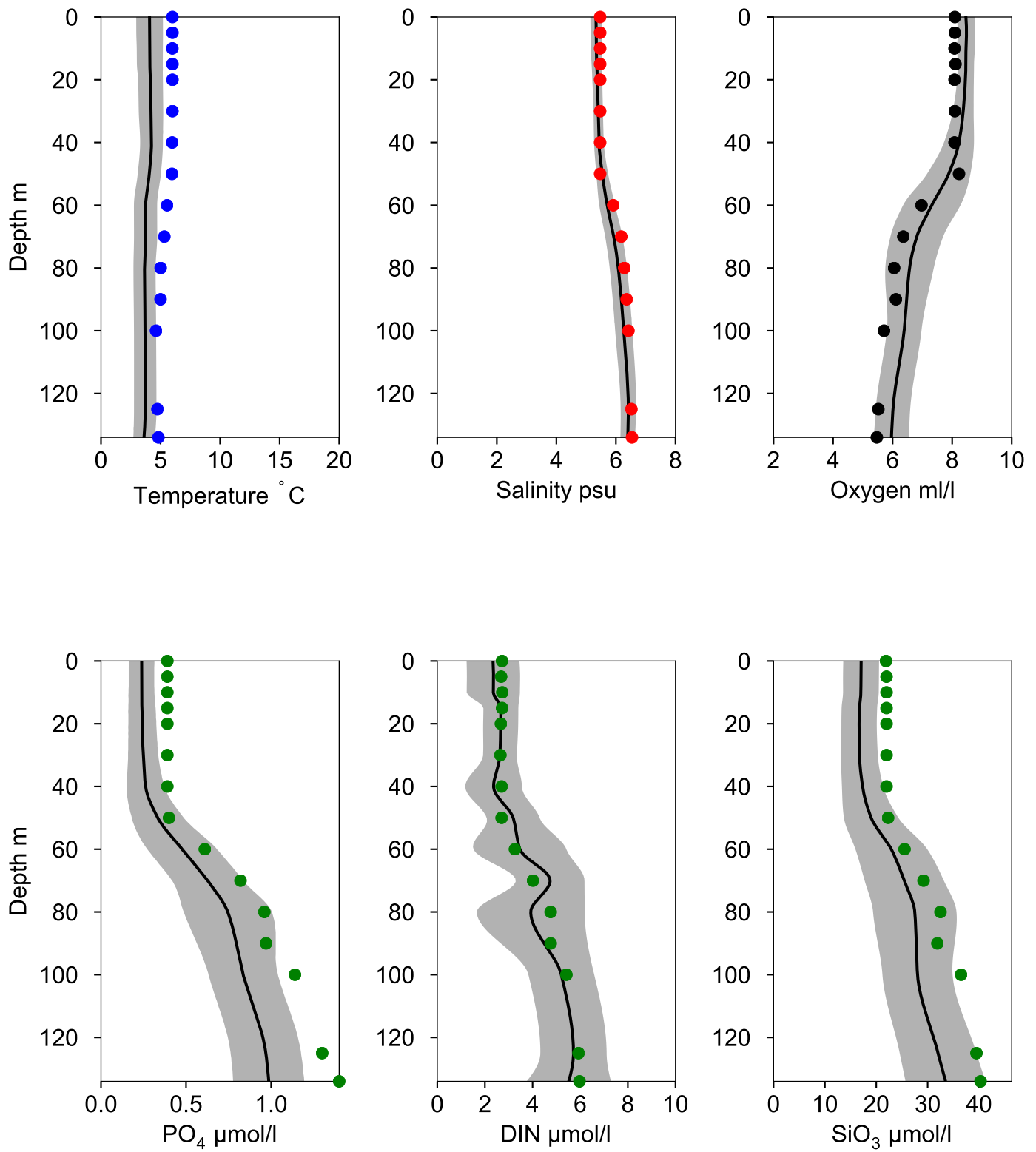


O₂ ml/l



Vertical profiles F26 / C15 December

— Mean 2001-2015 St.Dev. • 2020-12-06



STATION MS6 SURFACE WATER (0-10 m)

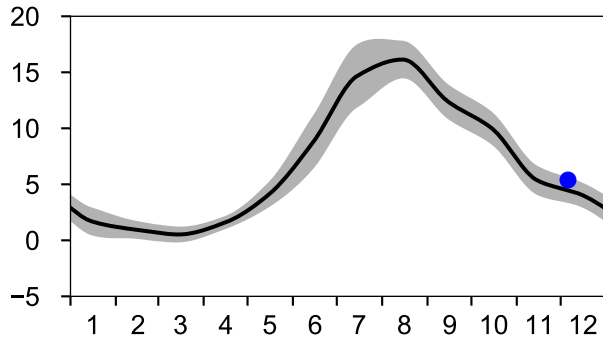
Annual Cycles

— Mean 2001-2015

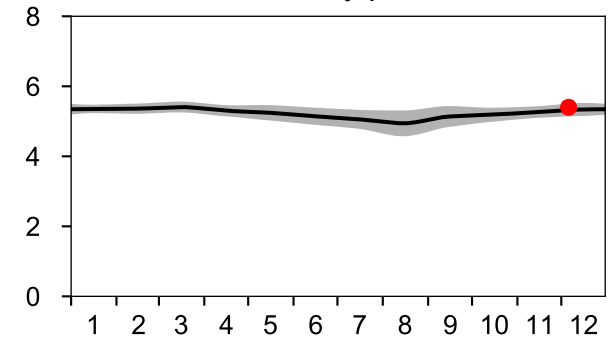
■ St.Dev.

● 2020

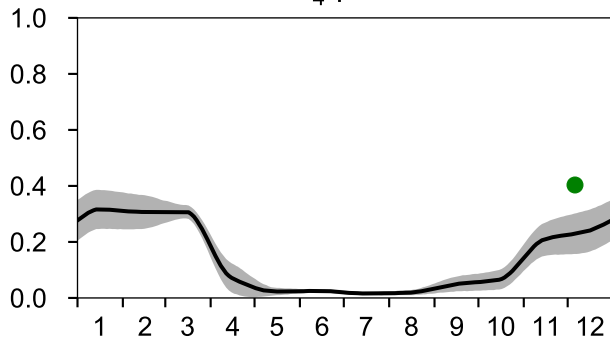
Temperature °C



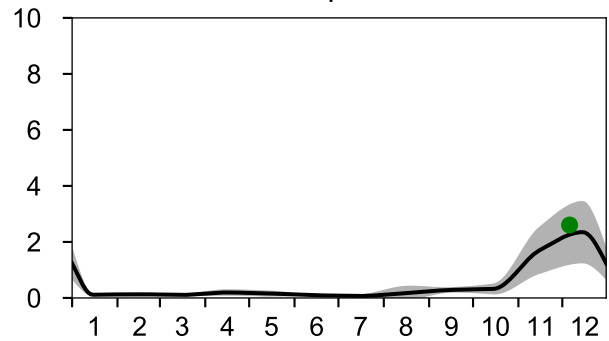
Salinity psu



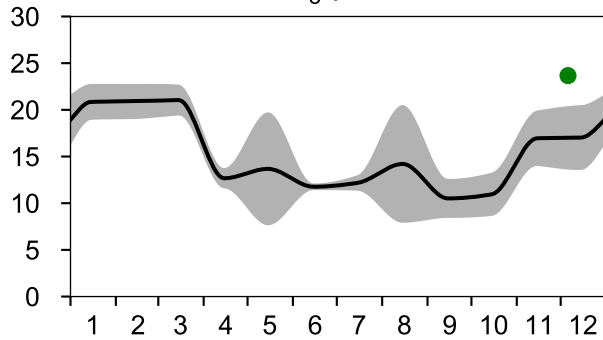
PO₄ µmol/l



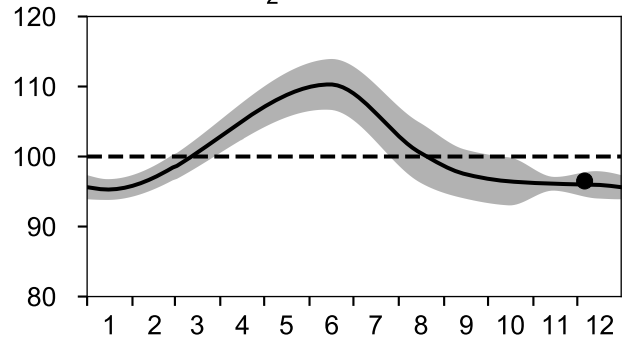
DIN µmol/l



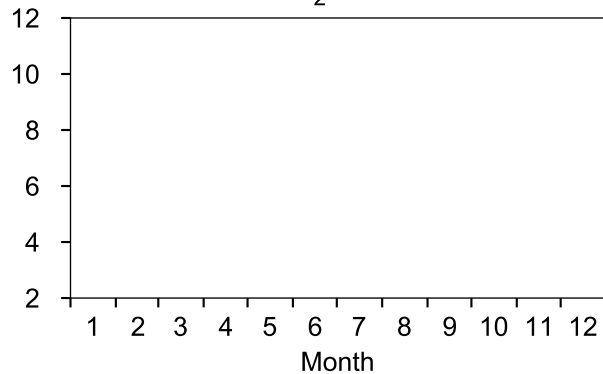
SiO₃ µmol/l



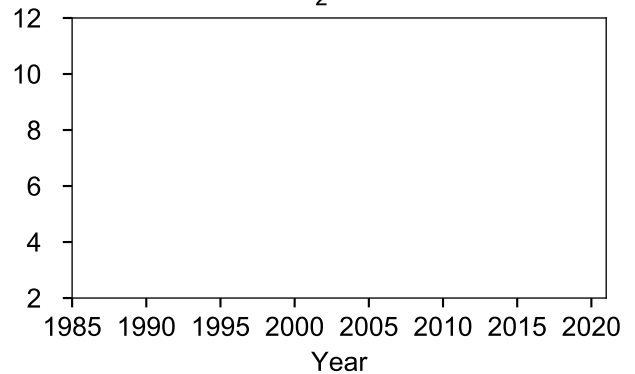
O₂ saturation %



O₂ ml/l

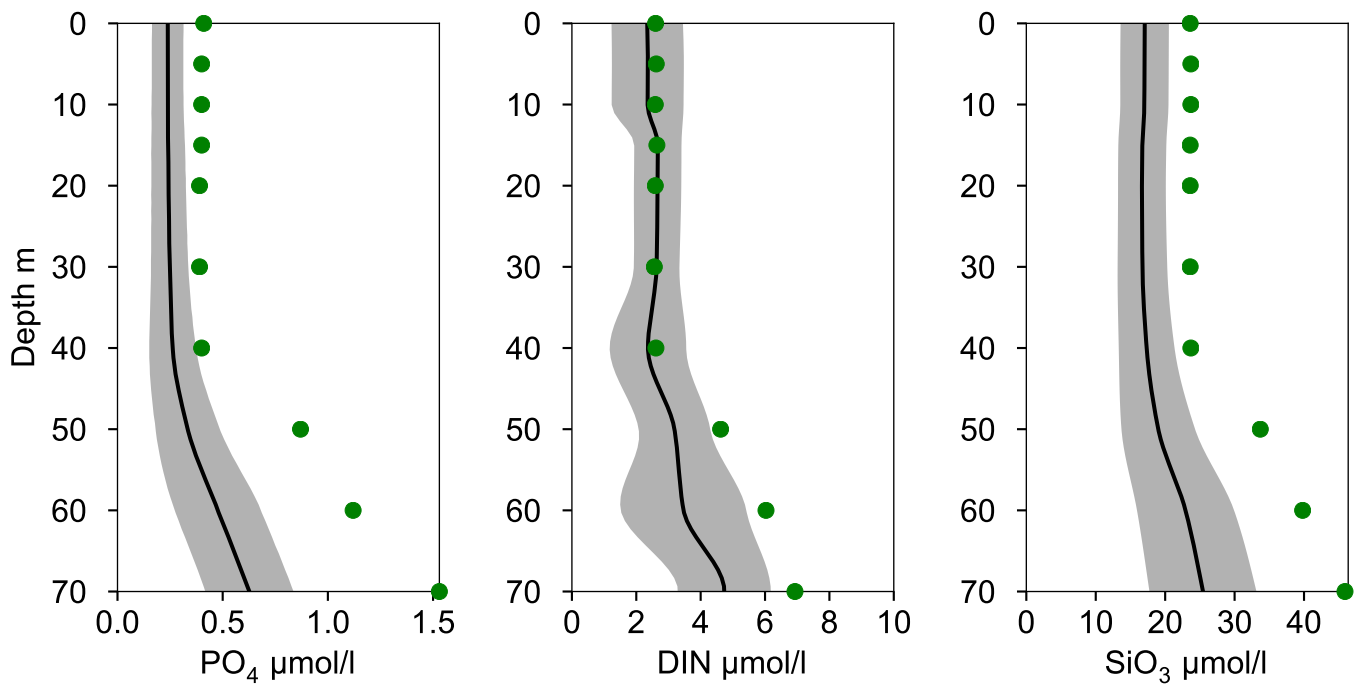
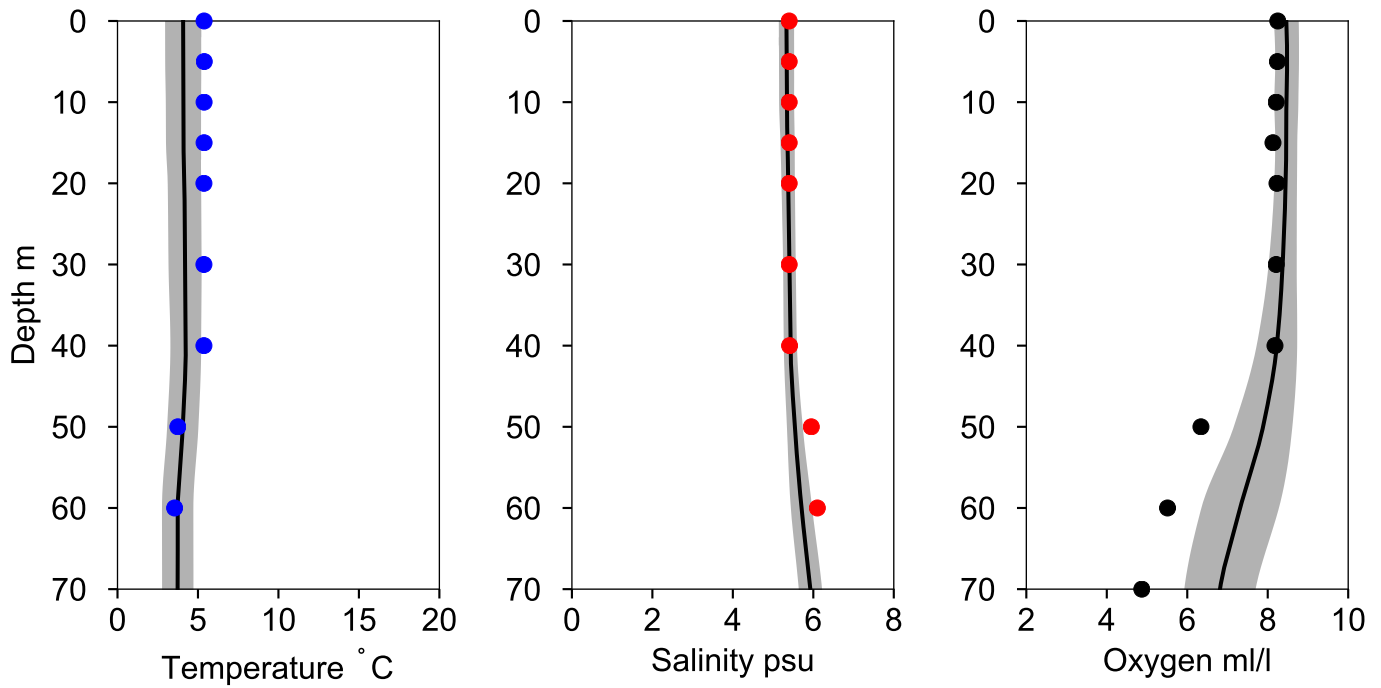


O₂ ml/l



Vertical profiles MS6 December

— Mean 2001-2015 St.Dev. • 2020-12-06



STATION US5B / C1 SURFACE WATER (0-10 m)

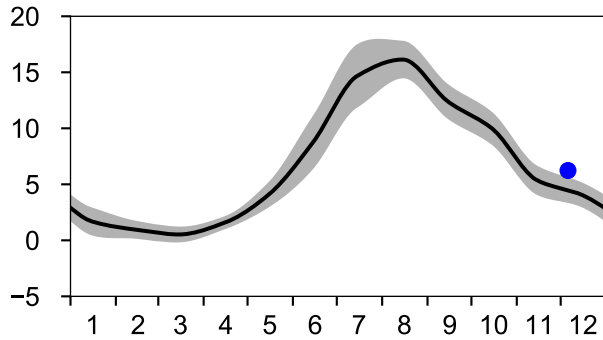
Annual Cycles

— Mean 2001-2015

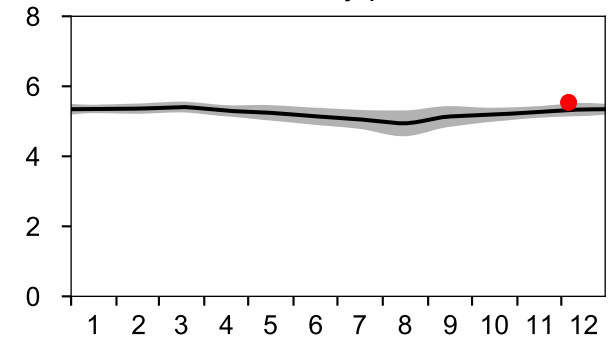
■ St.Dev.

● 2020

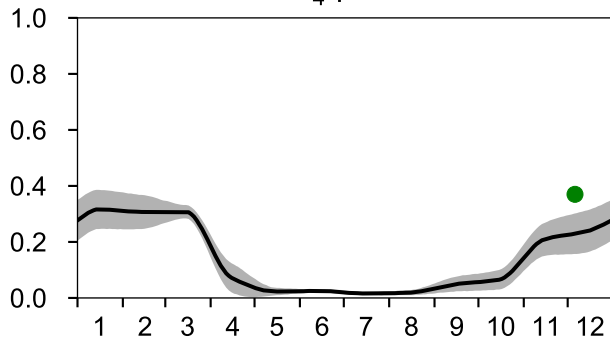
Temperature °C



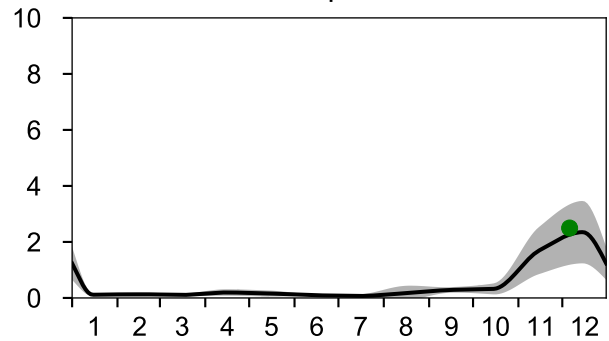
Salinity psu



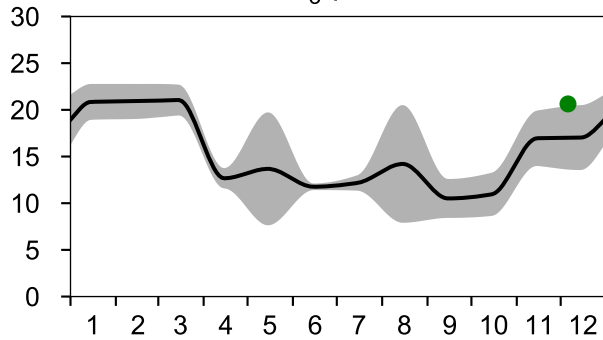
PO₄ µmol/l



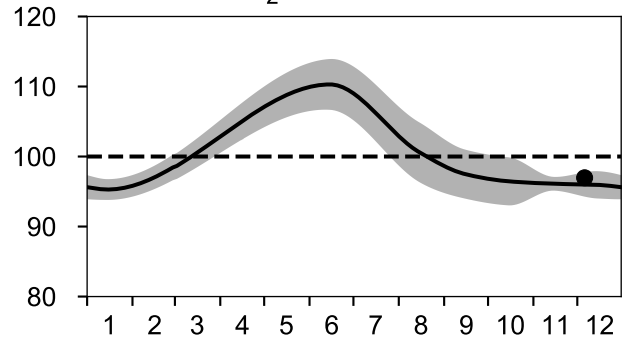
DIN µmol/l



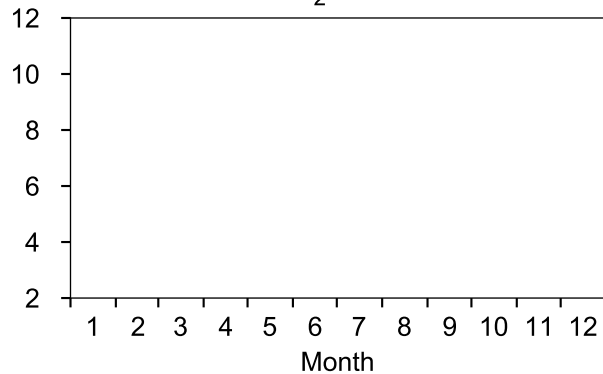
SiO₃ µmol/l



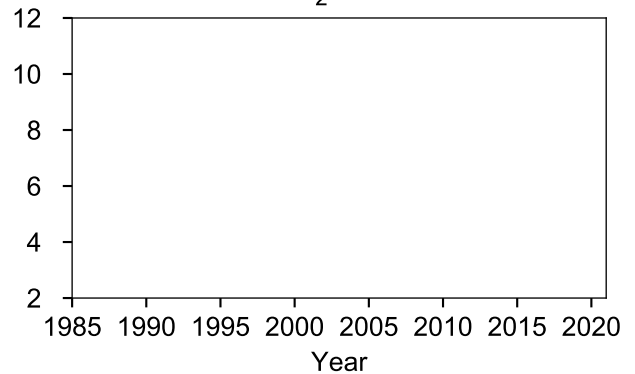
O₂ saturation %



O₂ ml/l

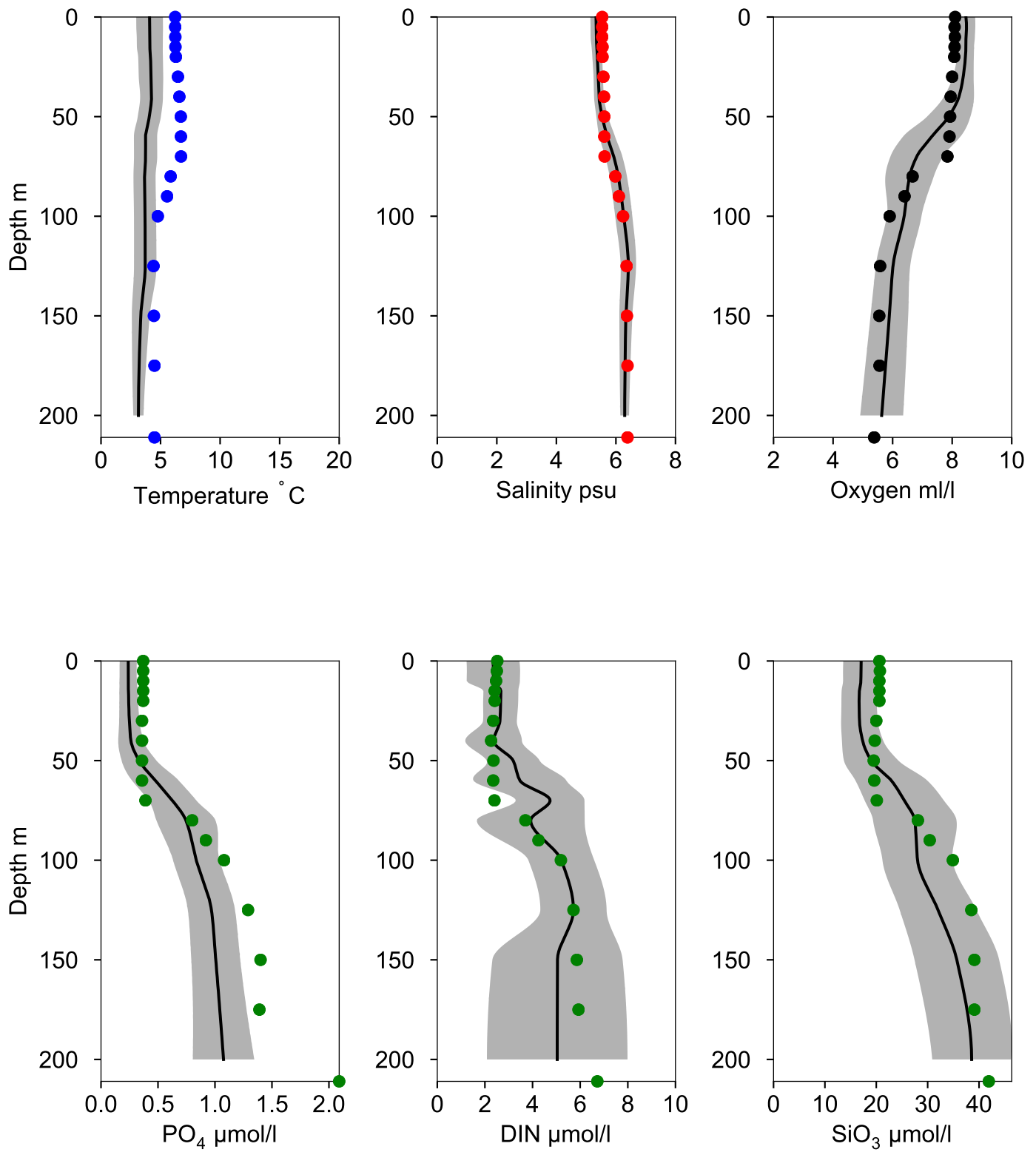


O₂ ml/l



Vertical profiles US5B / C1 December

— Mean 2001-2015 St.Dev. • 2020-12-06



STATION US7 SURFACE WATER (0-10 m)

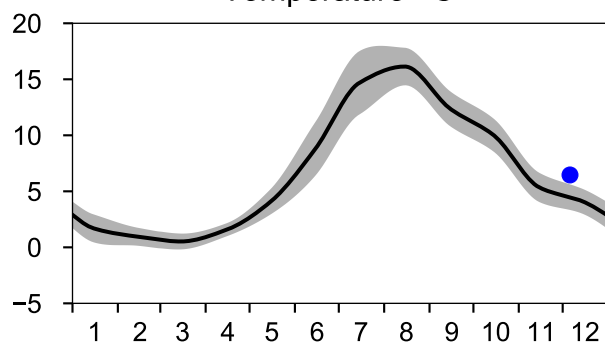
Annual Cycles

— Mean 2001-2015

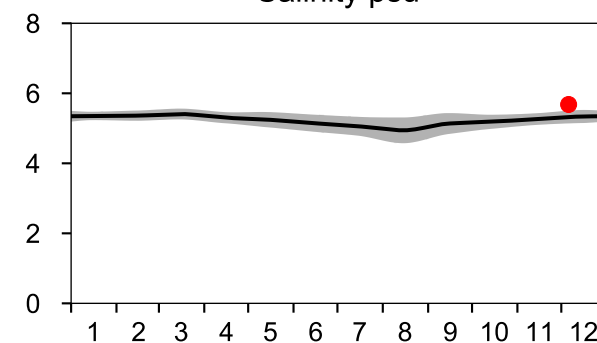
■ St.Dev.

● 2020

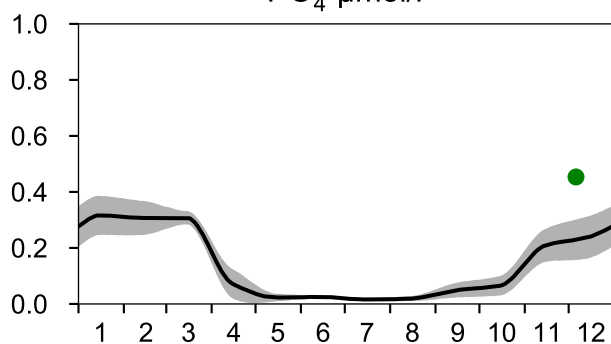
Temperature °C



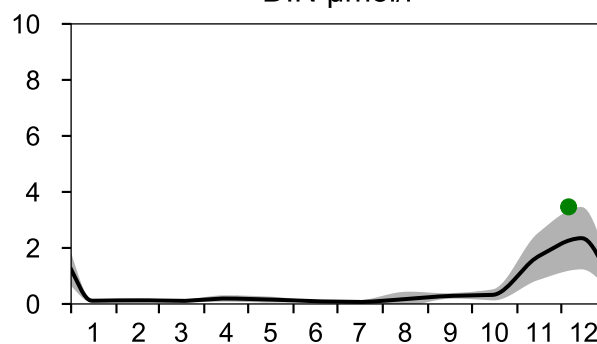
Salinity psu



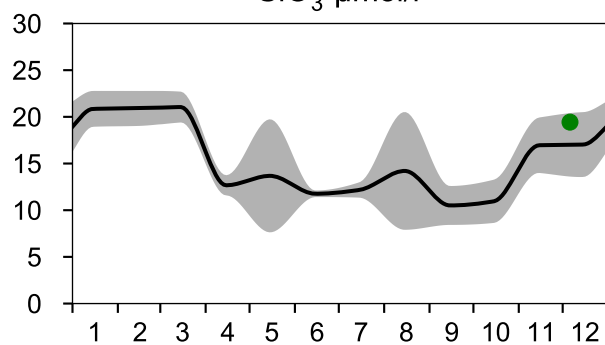
PO₄ µmol/l



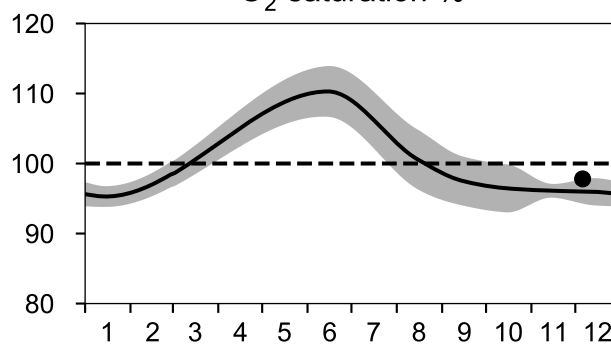
DIN µmol/l



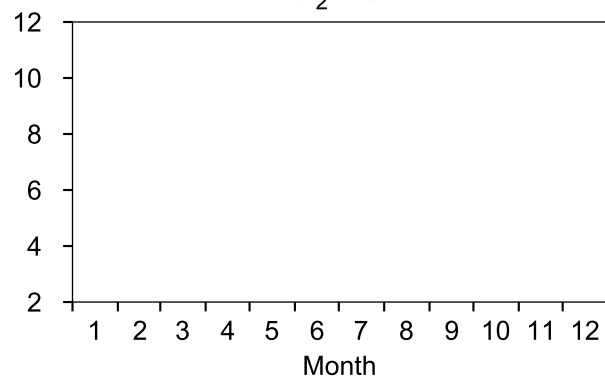
SiO₃ µmol/l



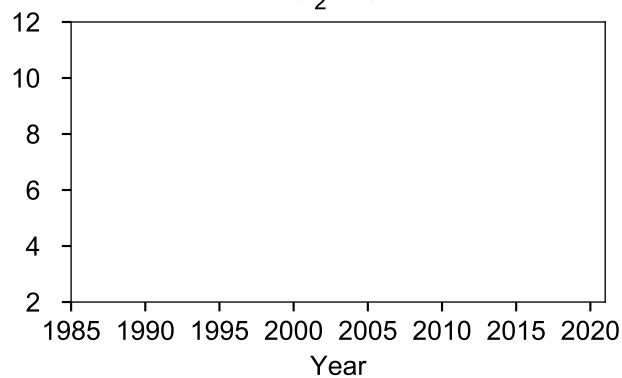
O₂ saturation %



O₂ ml/l

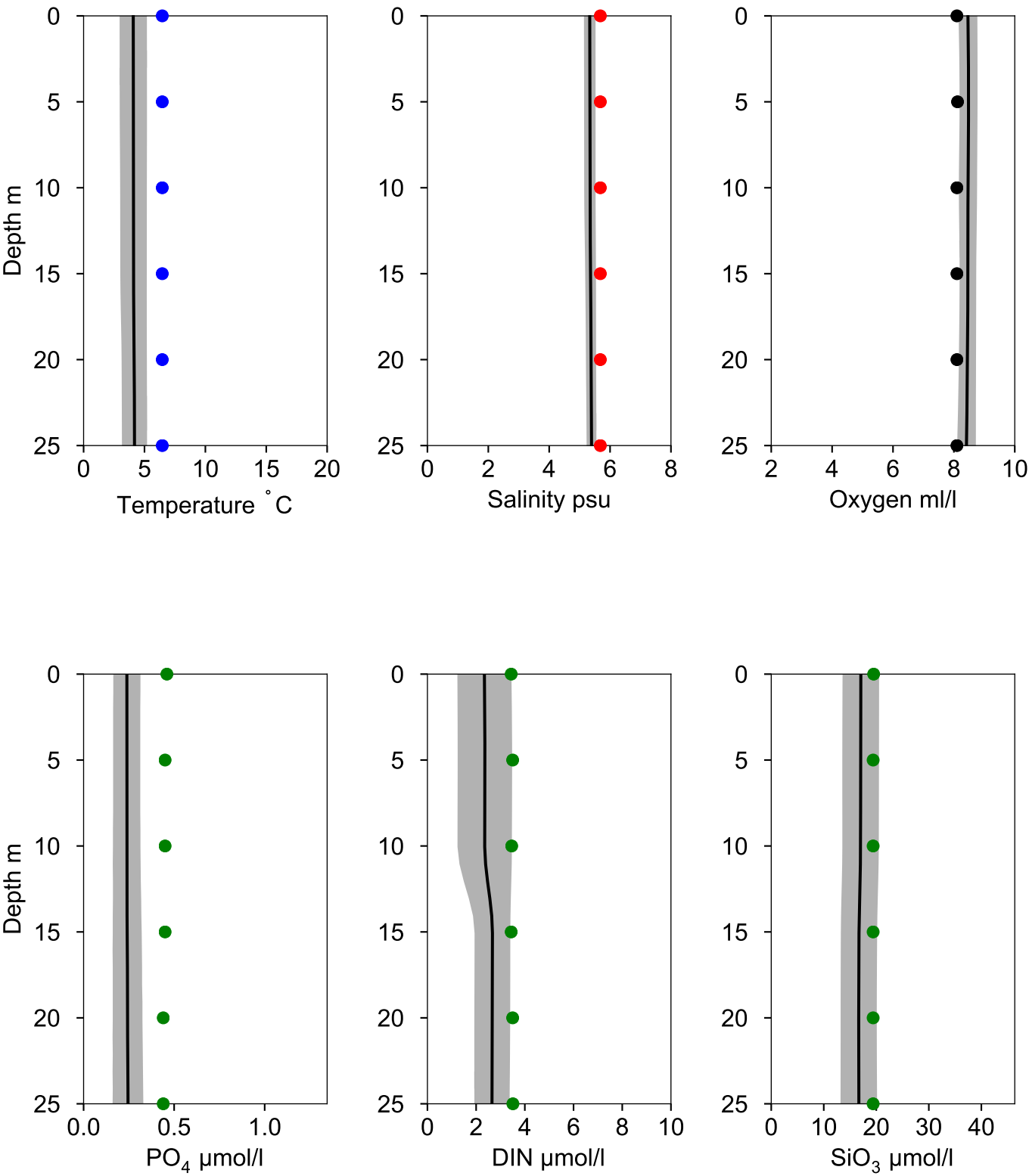


O₂ ml/l



Vertical profiles US7
December

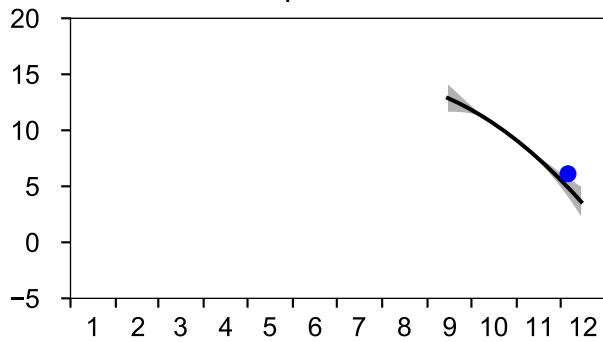
— Mean 2001-2015 St.Dev. • 2020-12-06



STATION F18 SYDOSTBROTEN SURFACE WATER (0-10 m)

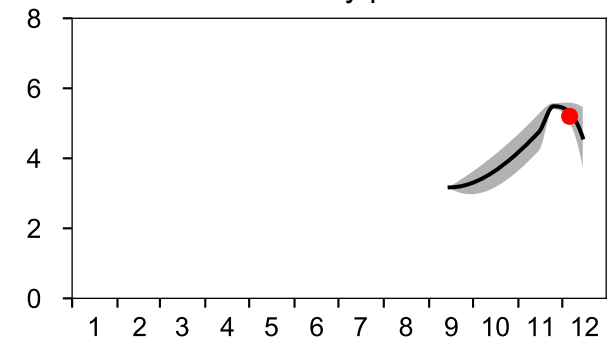
Annual Cycles

— Mean 2001-2015
Temperature °C

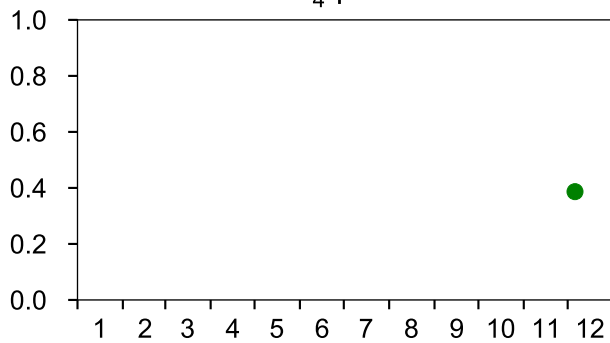


■ St.Dev.

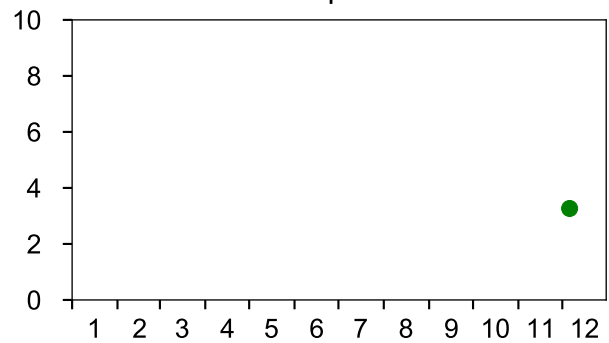
● 2020
Salinity psu



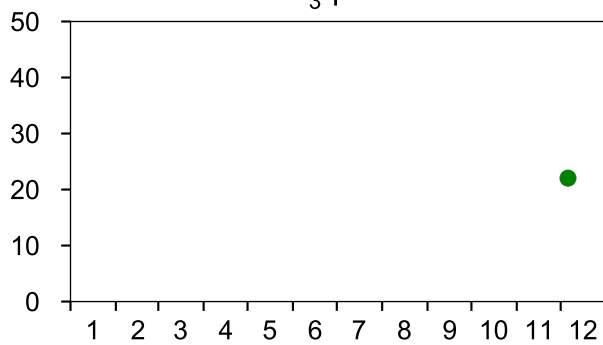
PO₄ µmol/l



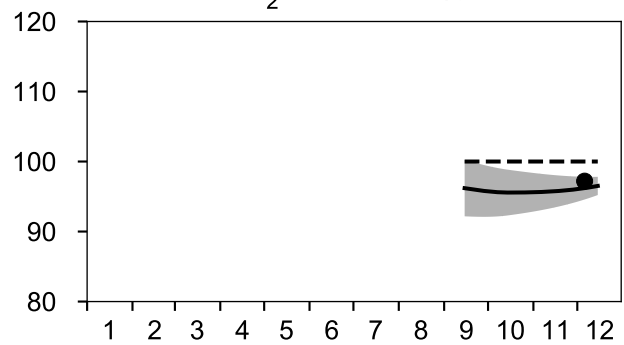
DIN µmol/l



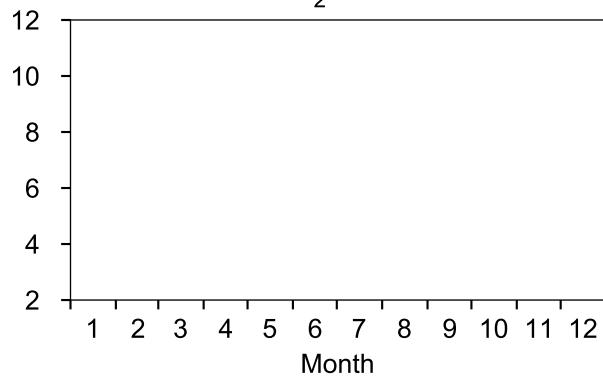
SiO₃ µmol/l



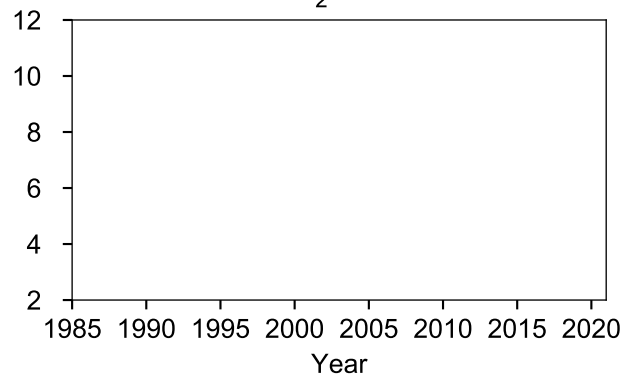
O₂ saturation %



O₂ ml/l

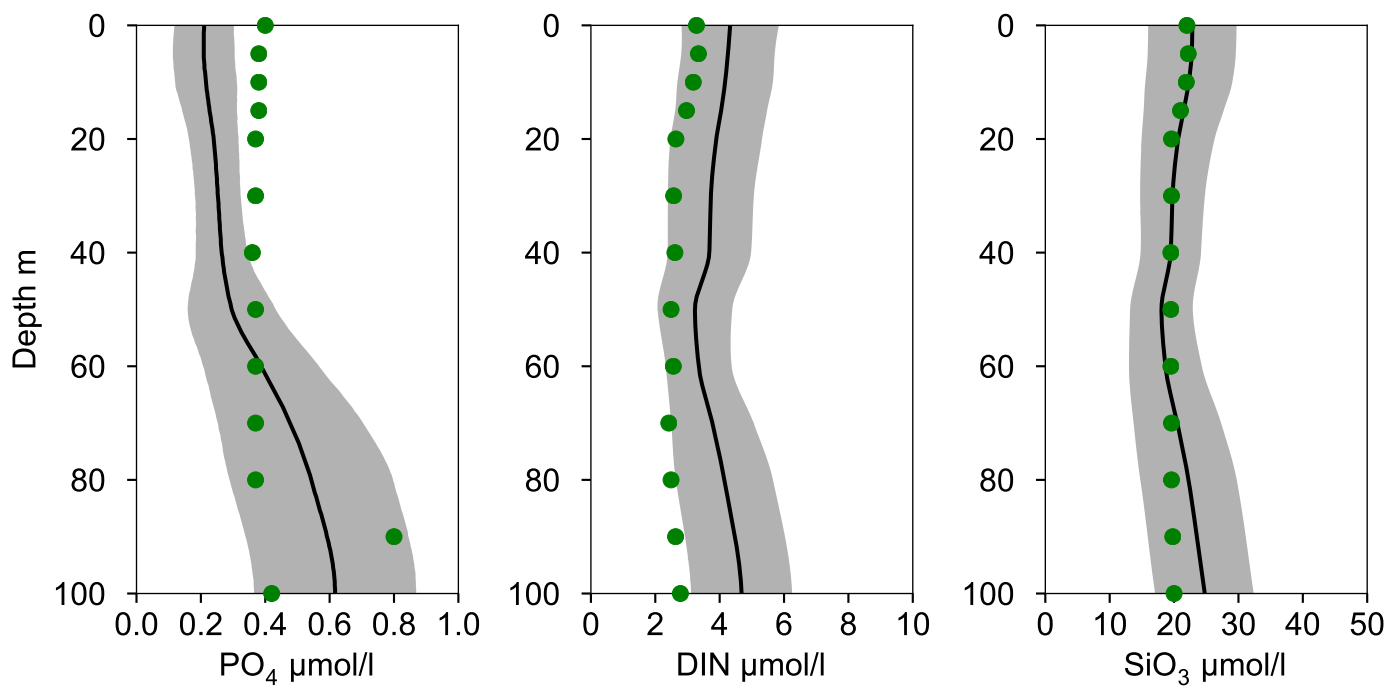
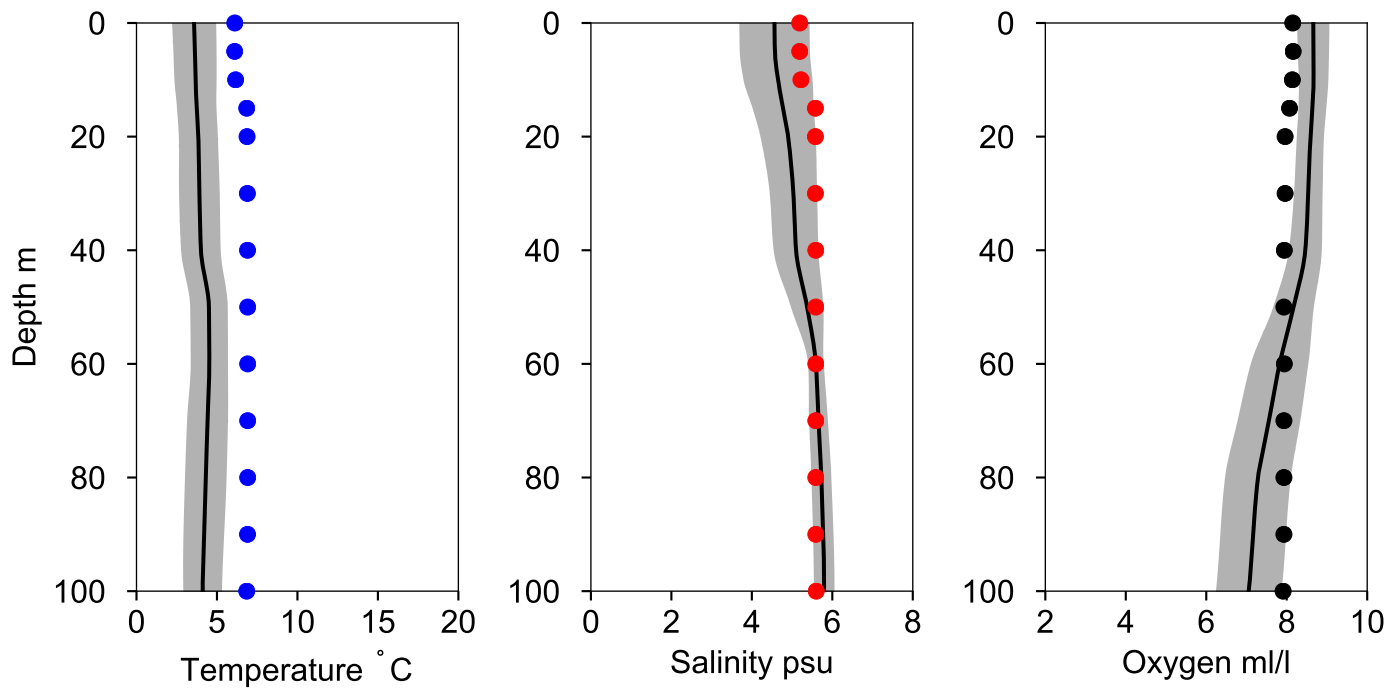


O₂ ml/l



Vertical profiles F18 SYDOSTBROTEN December

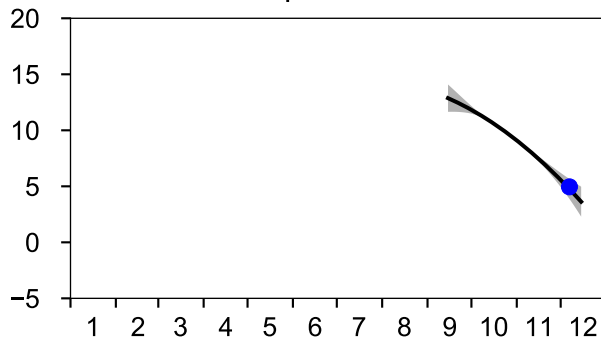
— Mean 2001-2015 St.Dev. • 2020-12-06



STATION F16 SURFACE WATER (0-10 m)

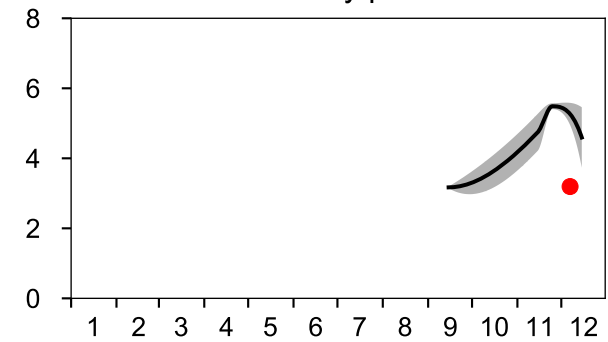
Annual Cycles

— Mean 2001-2015
Temperature °C

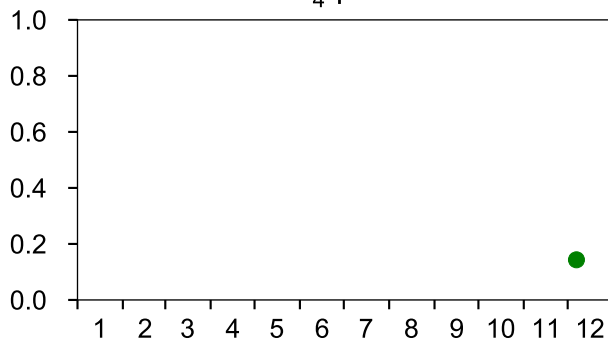


■ St.Dev.

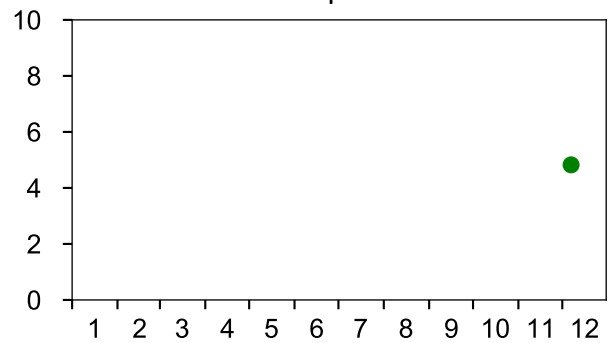
● 2020
Salinity psu



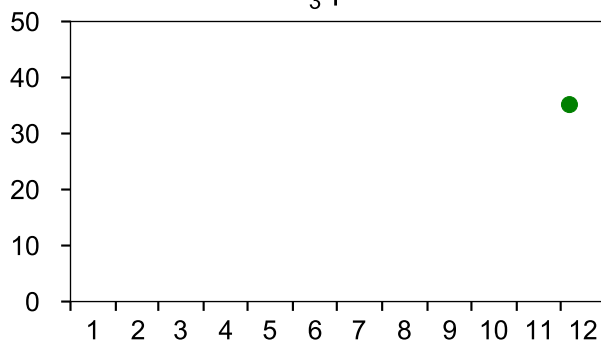
PO₄ µmol/l



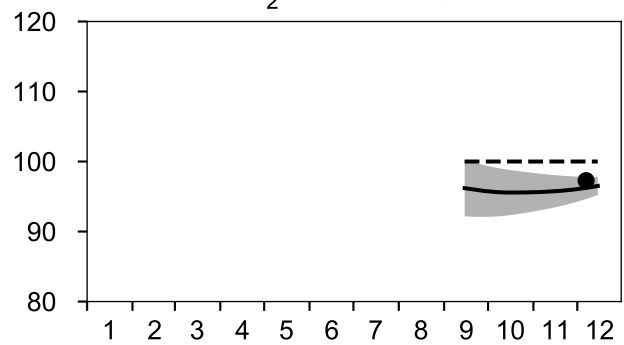
DIN µmol/l



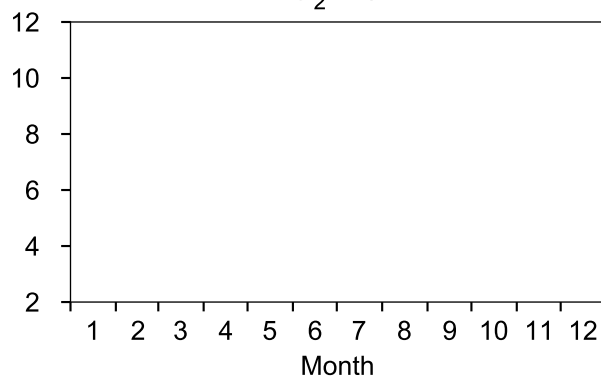
SiO₃ µmol/l



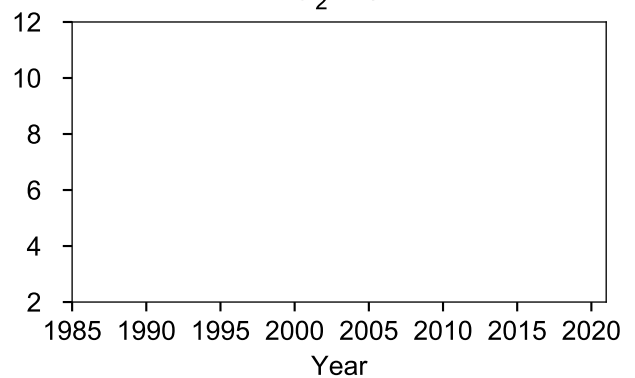
O₂ saturation %



O₂ ml/l

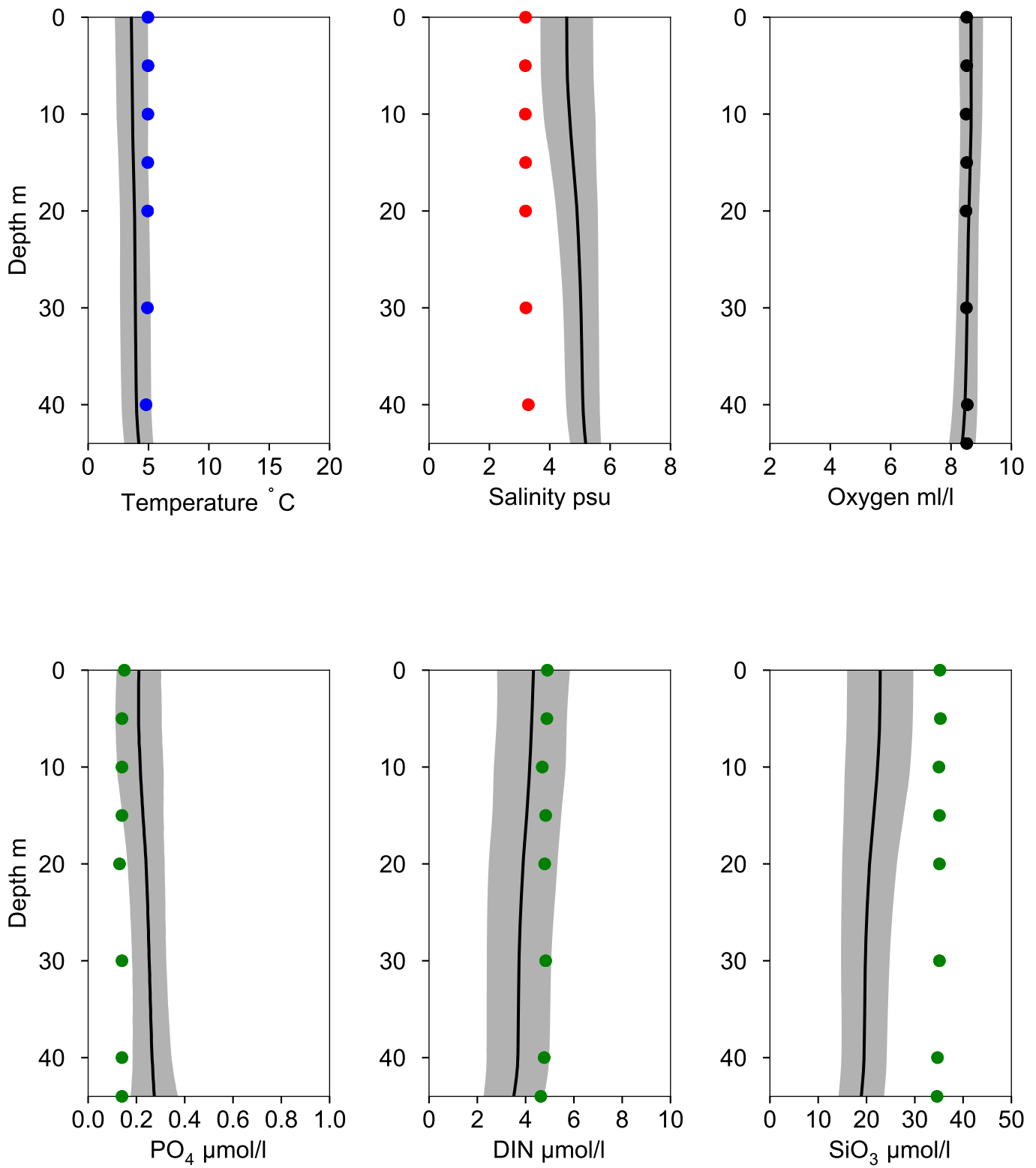


O₂ ml/l



Vertical profiles F16 December

— Mean 2001-2015 St.Dev. • 2020-12-07



STATION F13/A19 SURFACE WATER (0-10 m)

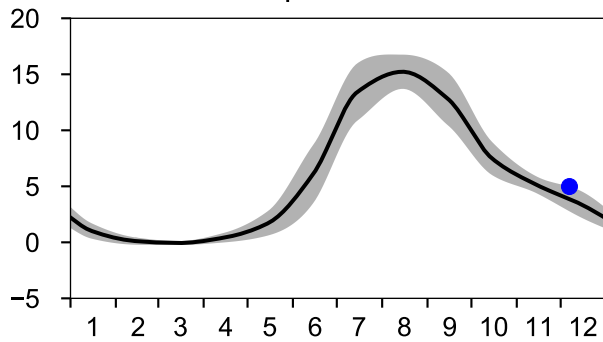
Annual Cycles

— Mean 2001-2015

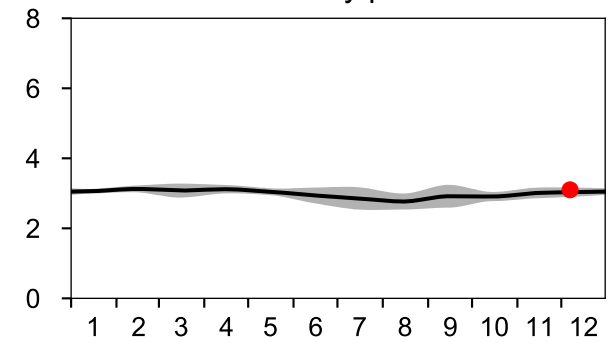
■ St.Dev.

● 2020

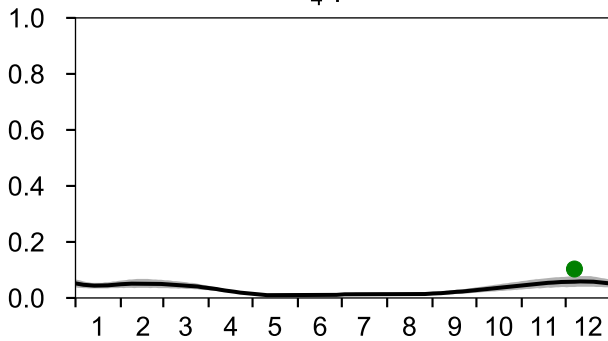
Temperature °C



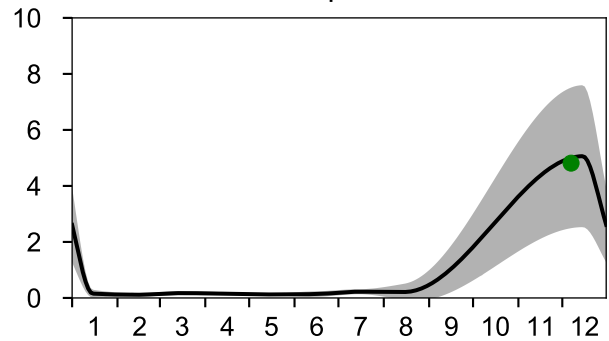
Salinity psu



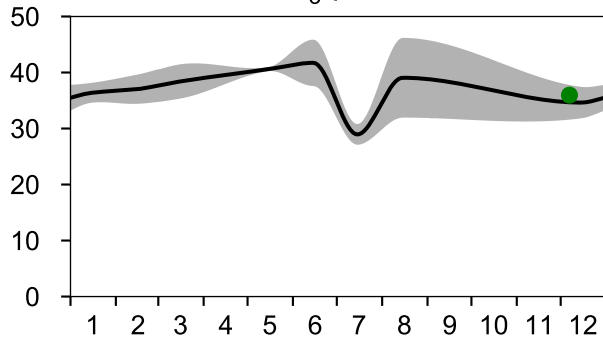
PO₄ µmol/l



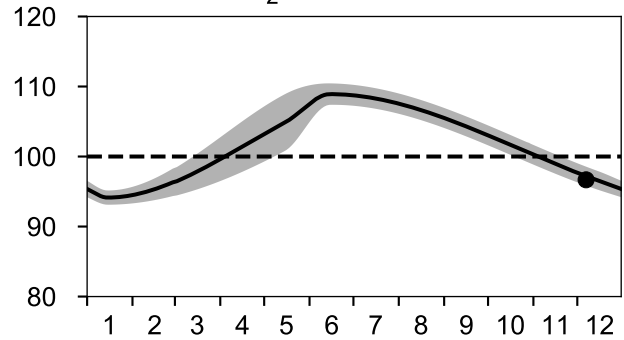
DIN µmol/l



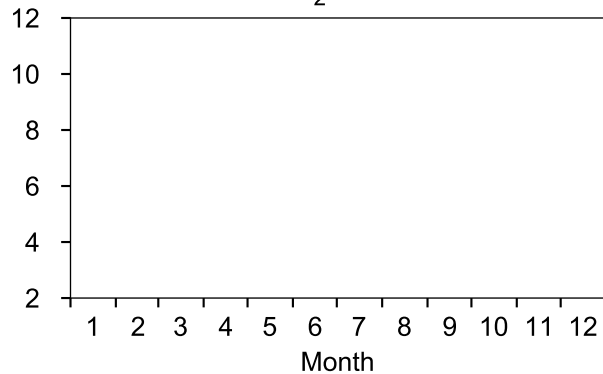
SiO₃ µmol/l



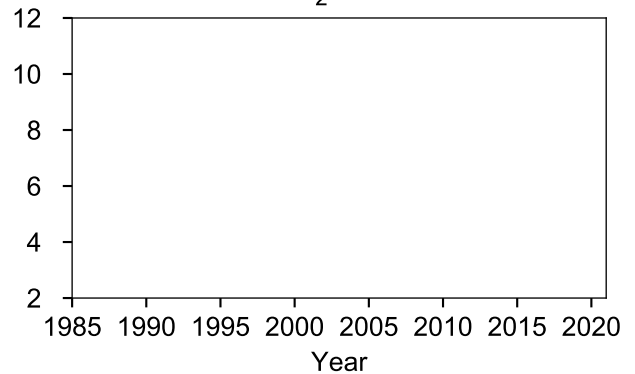
O₂ saturation %



O₂ ml/l

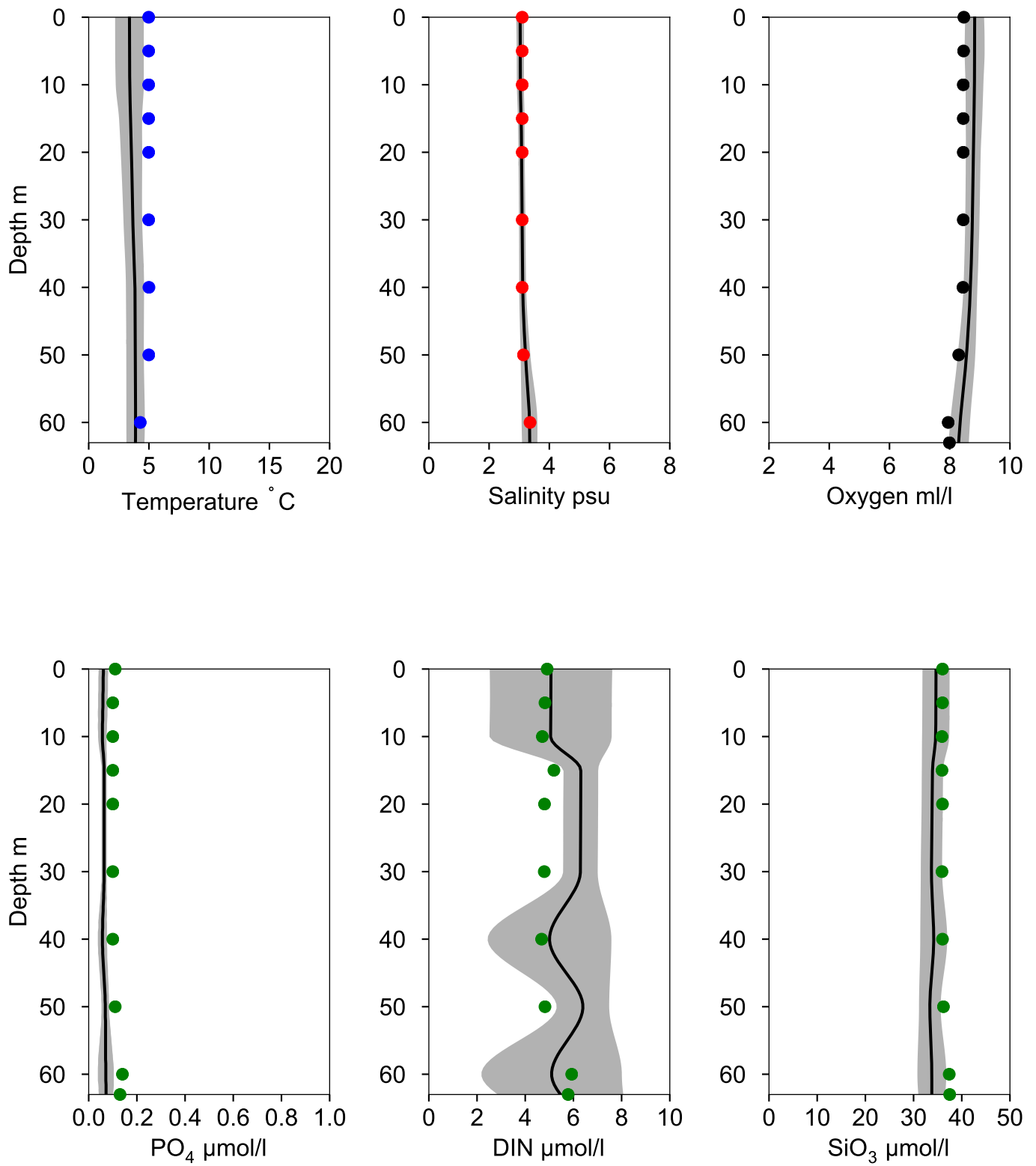


O₂ ml/l



Vertical profiles F13/A19 December

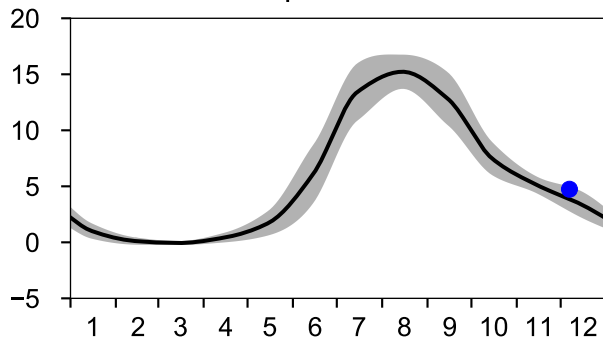
— Mean 2001-2015 St.Dev. • 2020-12-07



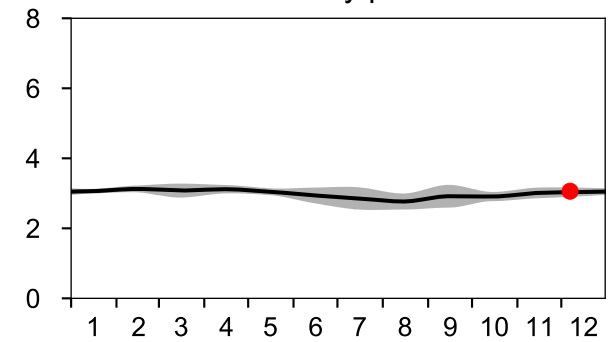
STATION BO3 / A3 SURFACE WATER (0-10 m)

Annual Cycles

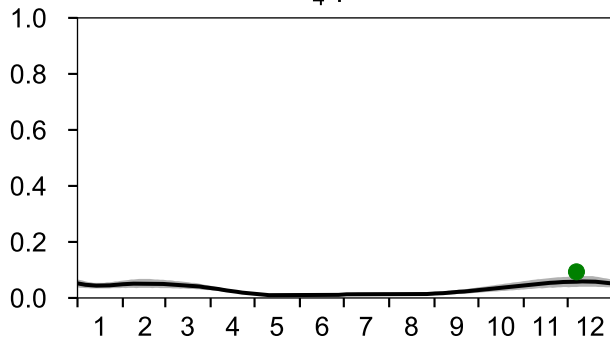
— Mean 2001-2015
Temperature °C



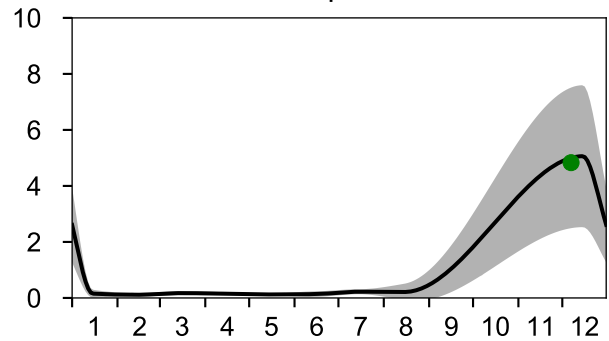
■ St.Dev. ● 2020
Salinity psu



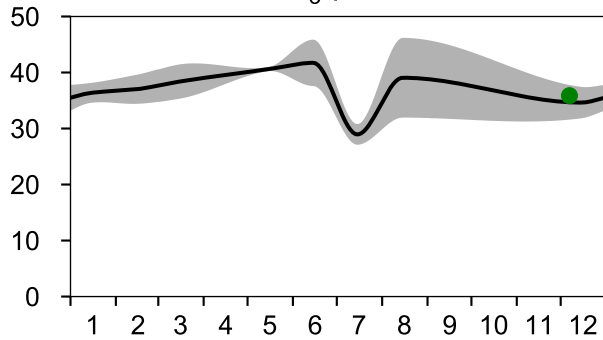
PO₄ μmol/l



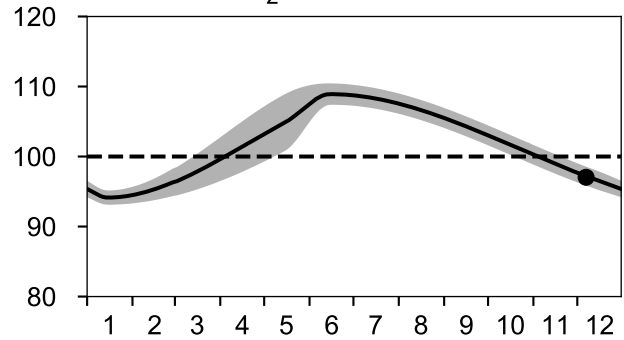
DIN μmol/l



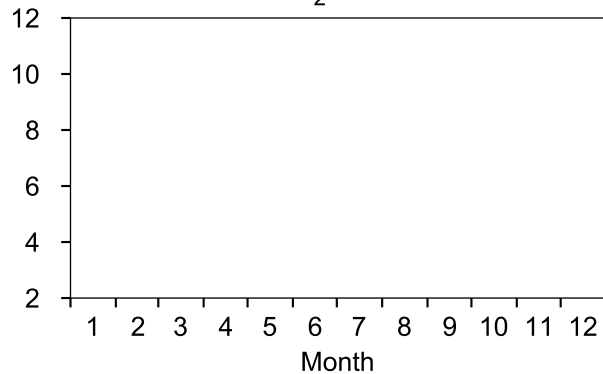
SiO₃ μmol/l



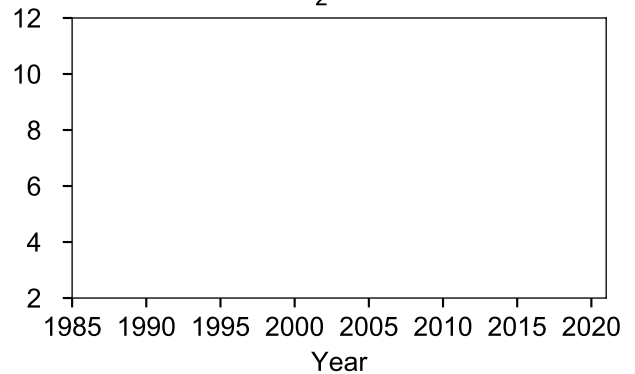
O₂ saturation %



O₂ ml/l

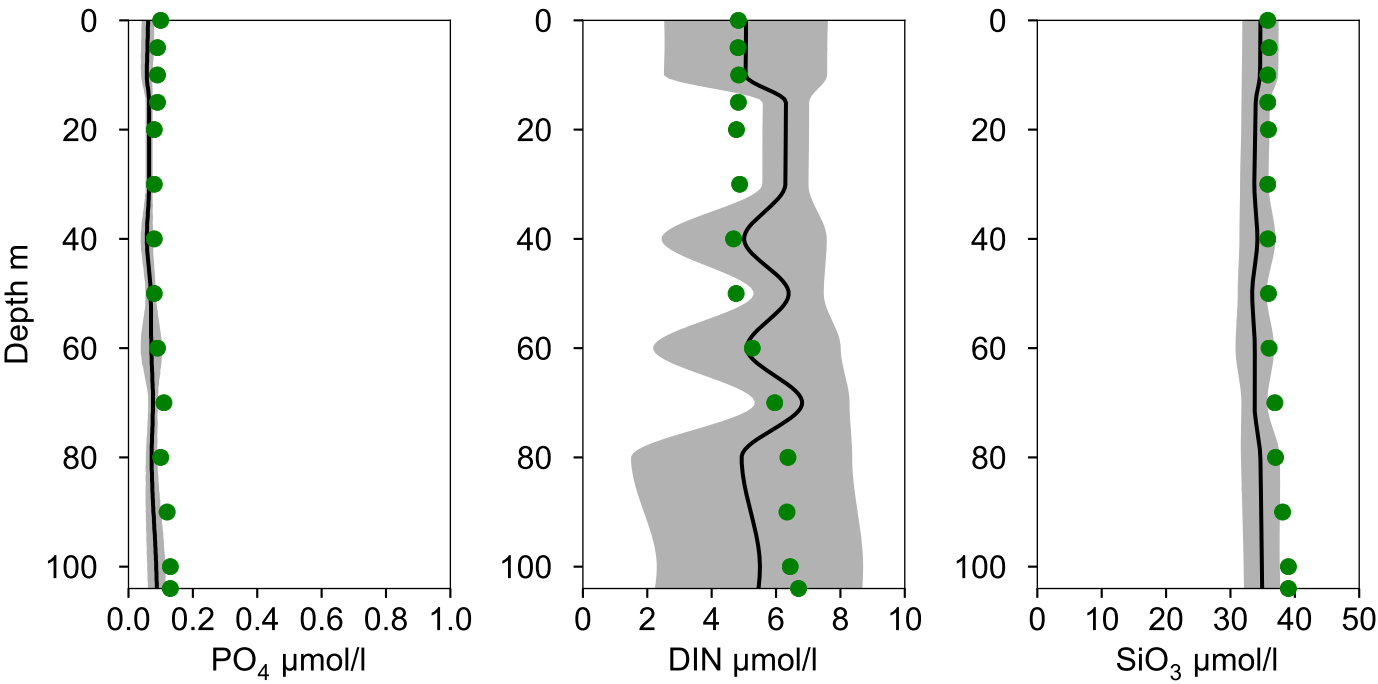
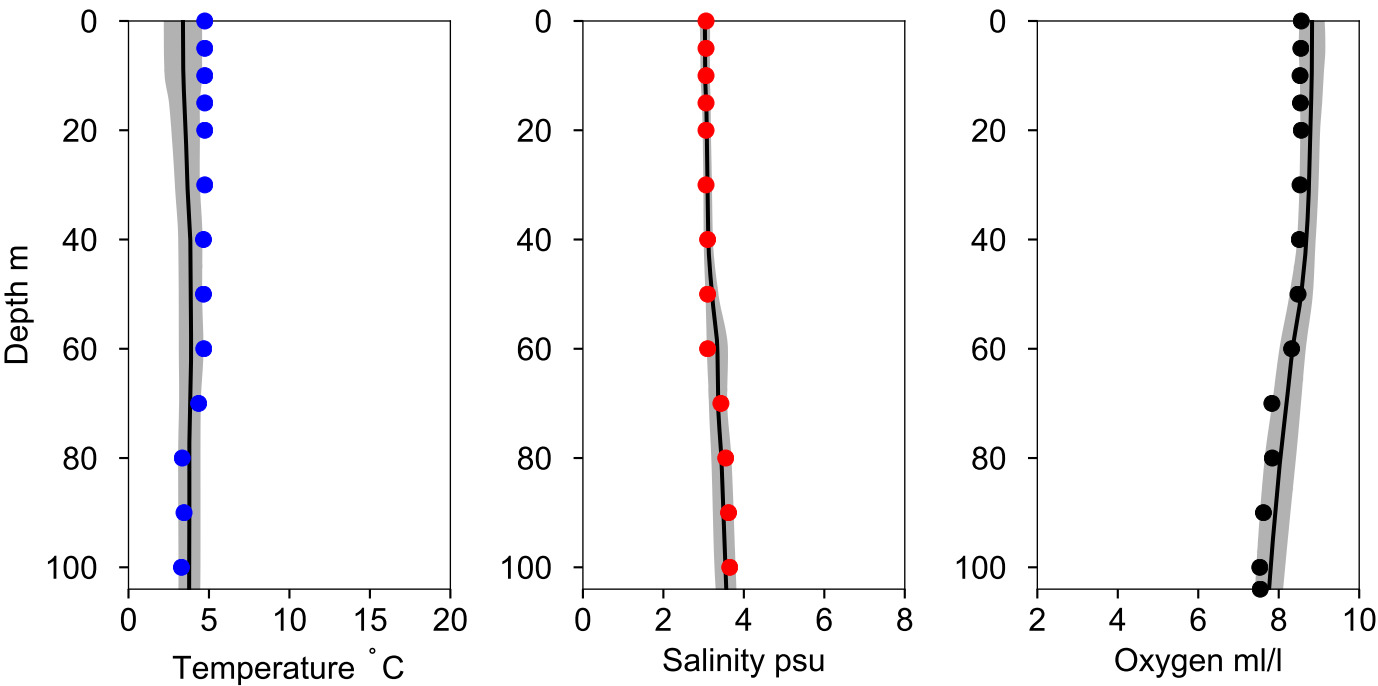


O₂ ml/l



Vertical profiles BO3 / A3
December

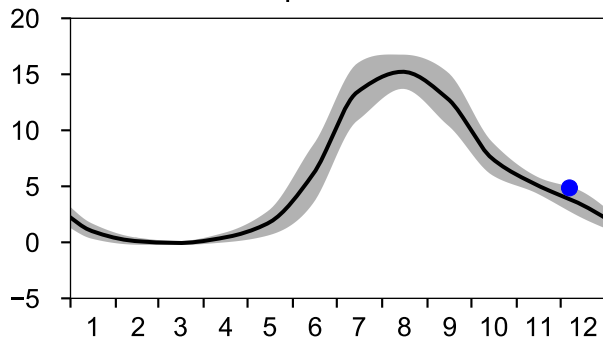
— Mean 2001-2015 St.Dev. • 2020-12-07



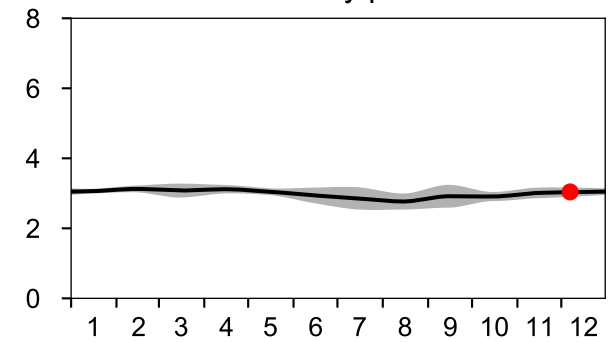
STATION RR7 SURFACE WATER (0-10 m)

Annual Cycles

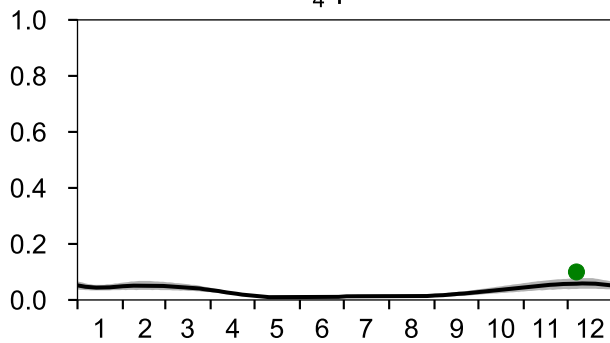
— Mean 2001-2015
Temperature °C



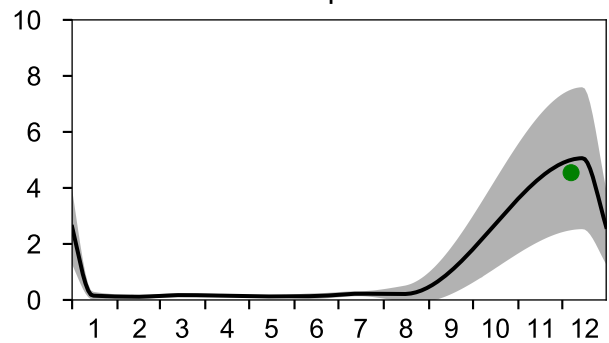
St.Dev. ● 2020
Salinity psu



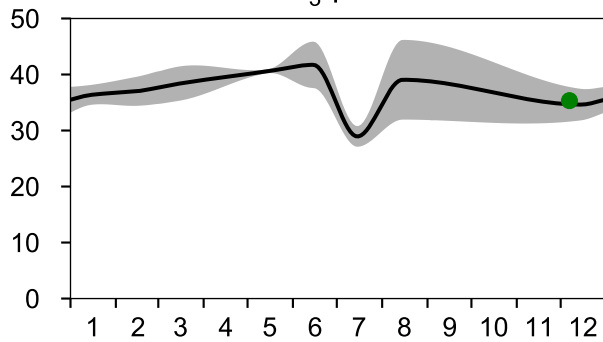
PO₄ µmol/l



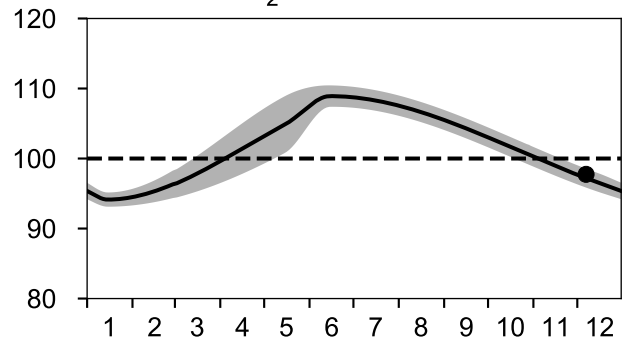
DIN µmol/l



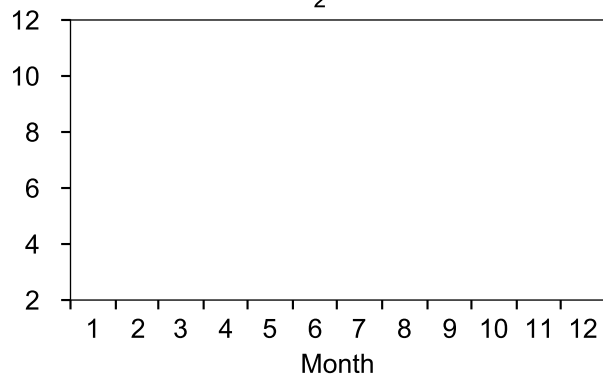
SiO₃ µmol/l



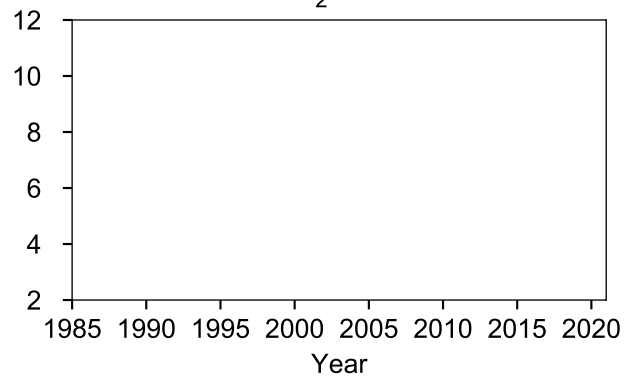
O₂ saturation %



O₂ ml/l

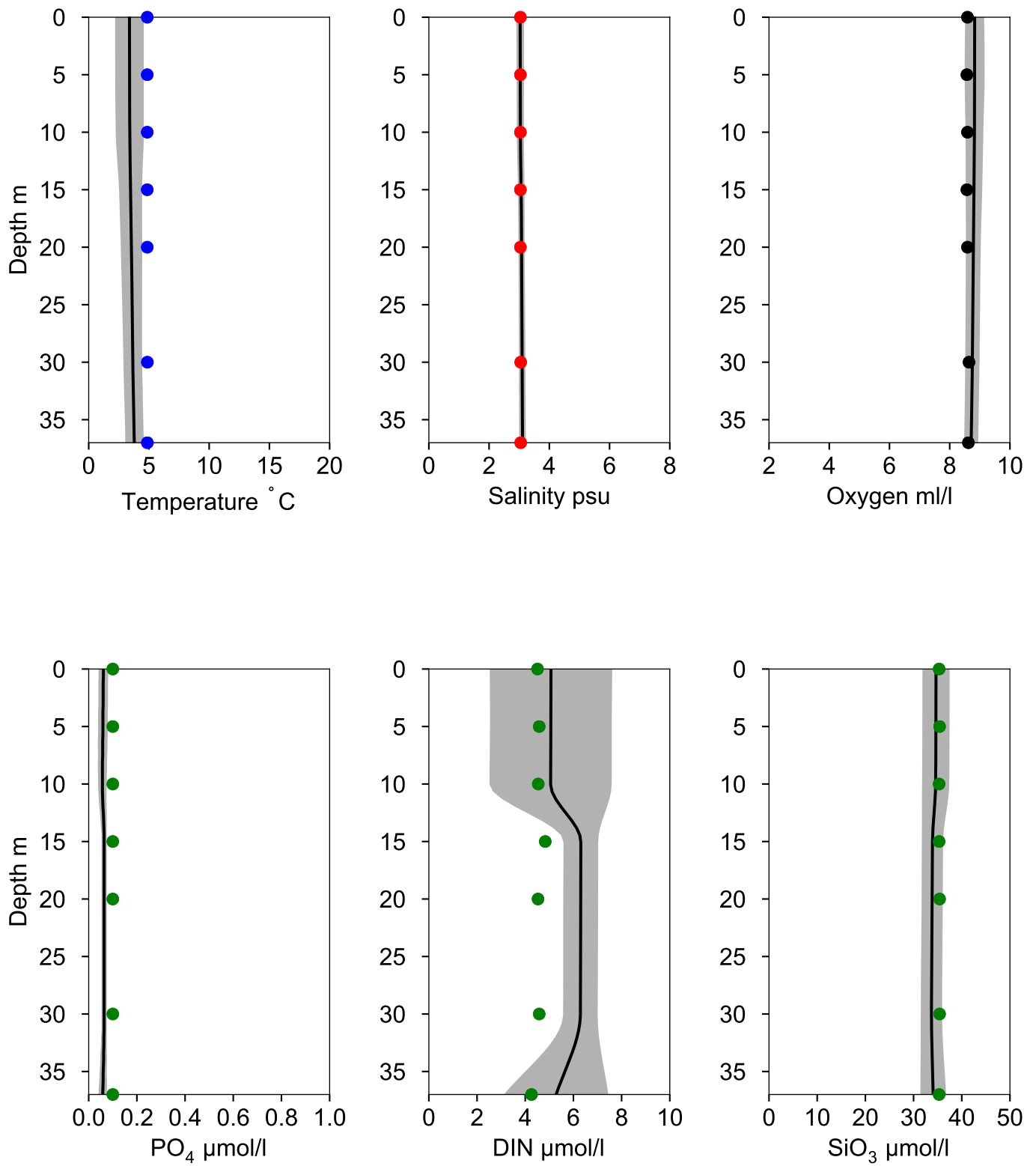


O₂ ml/l



Vertical profiles RR7 December

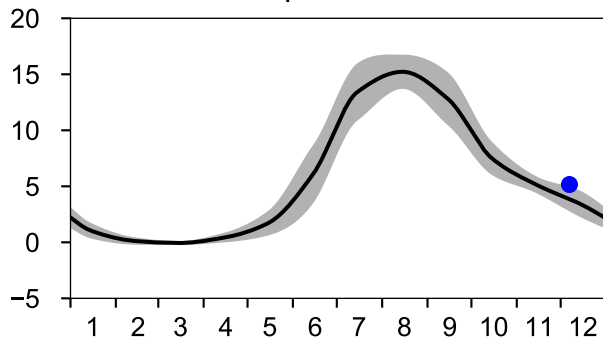
— Mean 2001-2015 St.Dev. • 2020-12-07



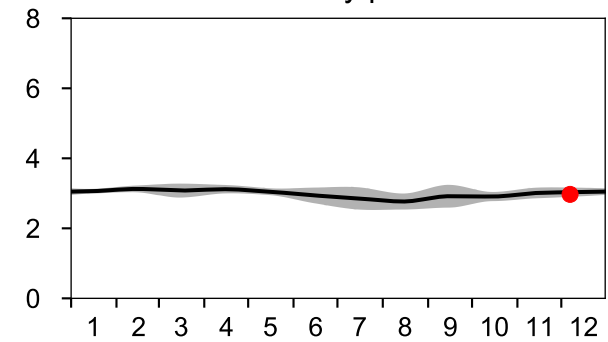
STATION RR5 SURFACE WATER (0-10 m)

Annual Cycles

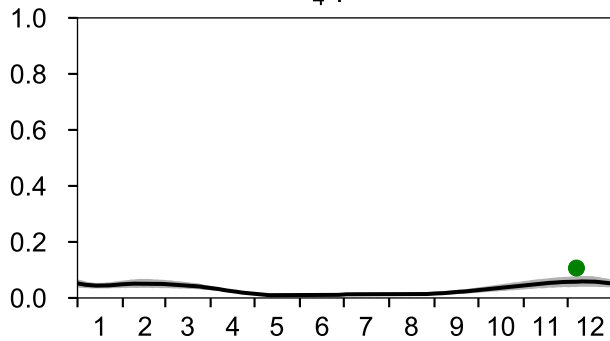
— Mean 2001-2015
Temperature °C



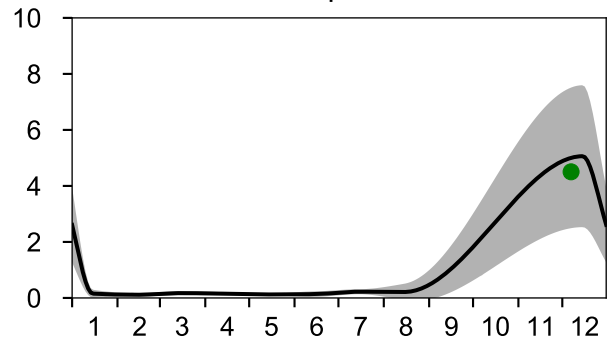
■ St.Dev. ● 2020
Salinity psu



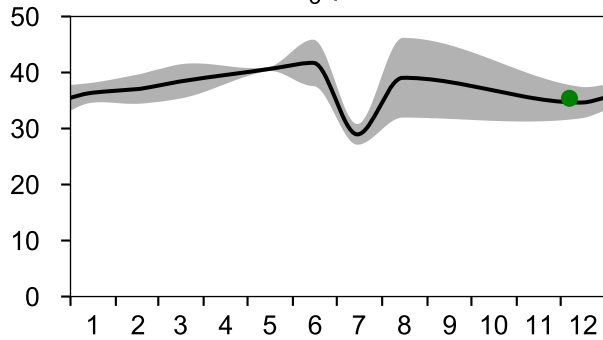
PO₄ µmol/l



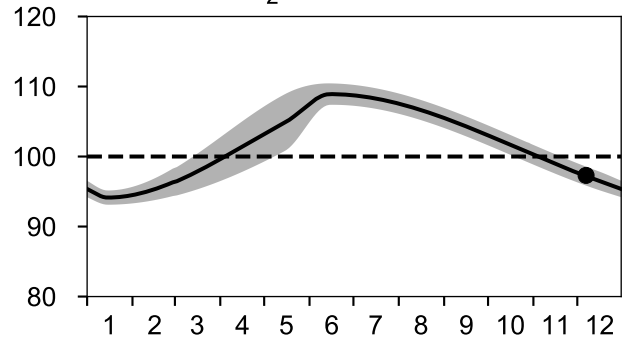
DIN µmol/l



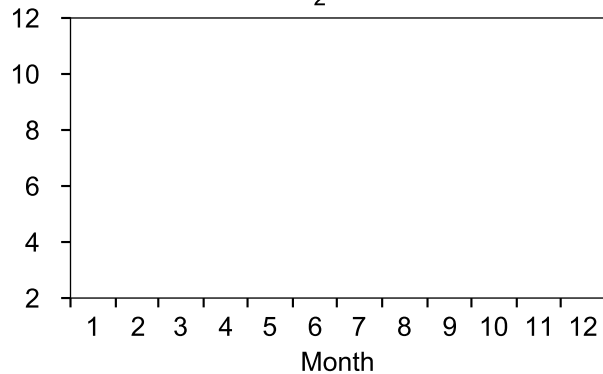
SiO₃ µmol/l



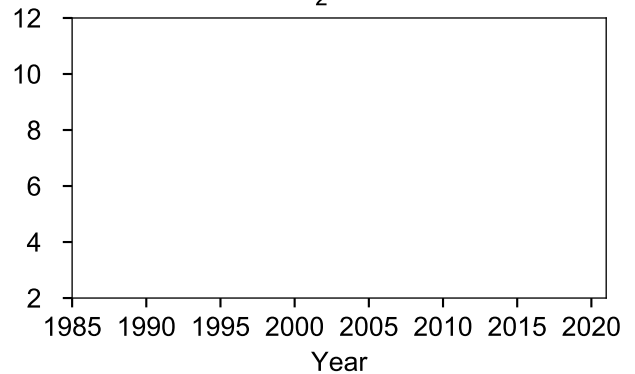
O₂ saturation %



O₂ ml/l

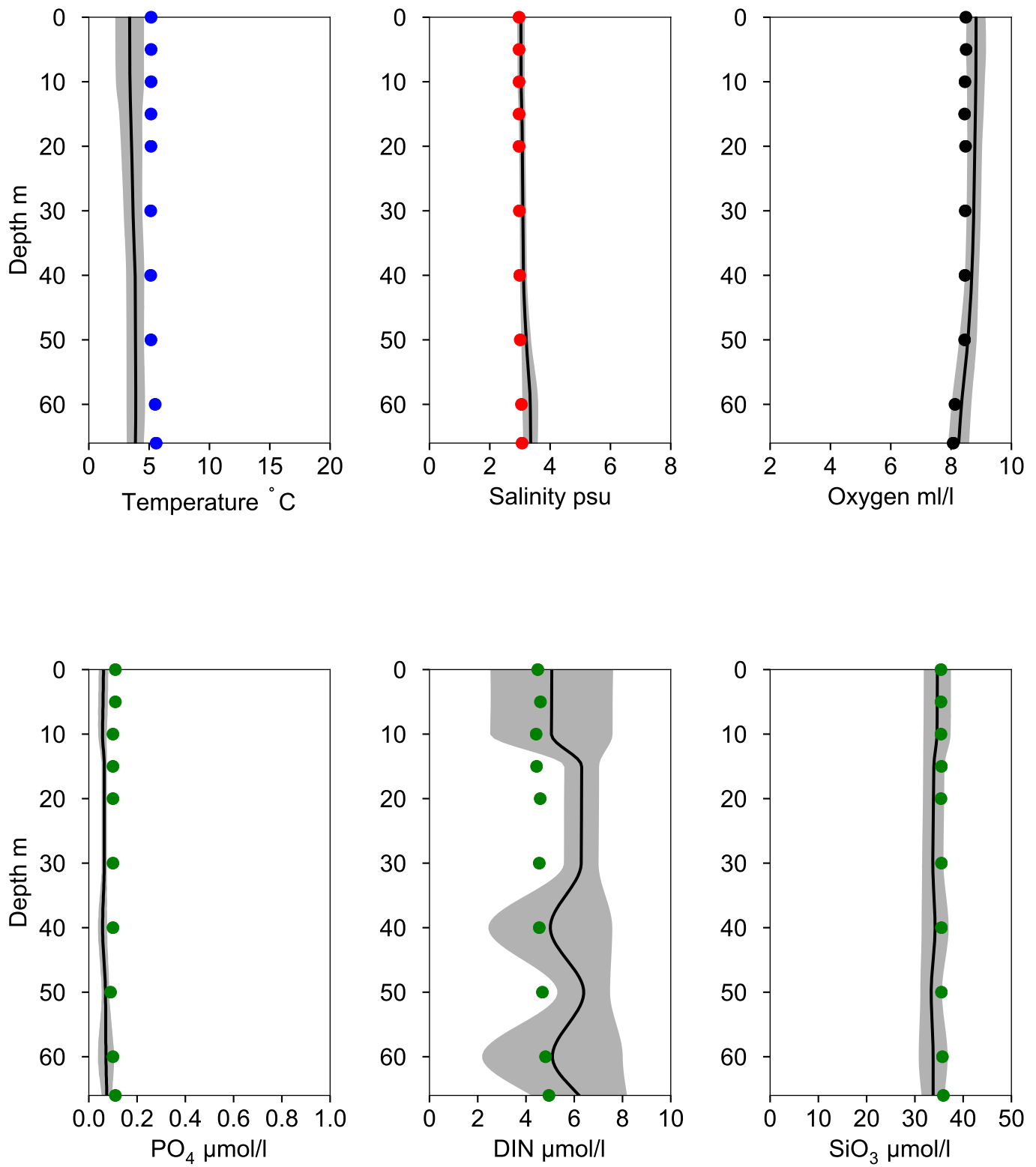


O₂ ml/l



Vertical profiles RR5 December

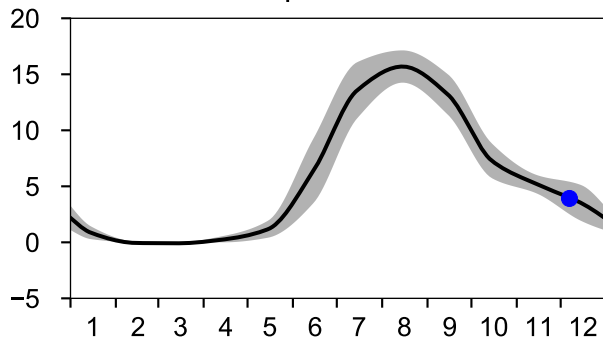
— Mean 2001-2015 St.Dev. • 2020-12-07



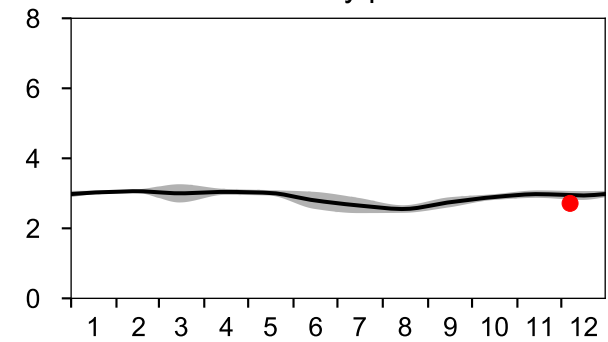
STATION F3 / A5 SURFACE WATER (0-10 m)

Annual Cycles

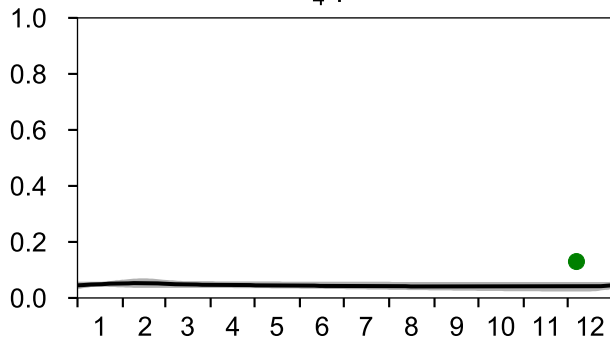
— Mean 2001-2015
Temperature °C



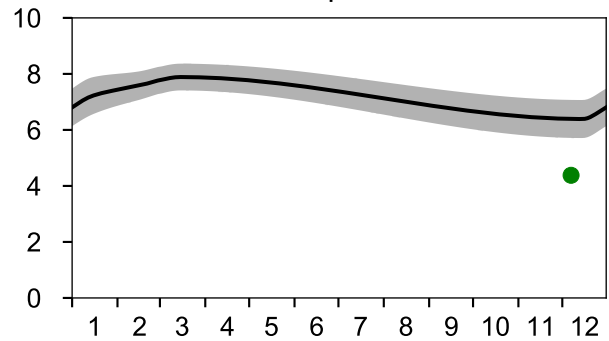
■ St.Dev. ● 2020
Salinity psu



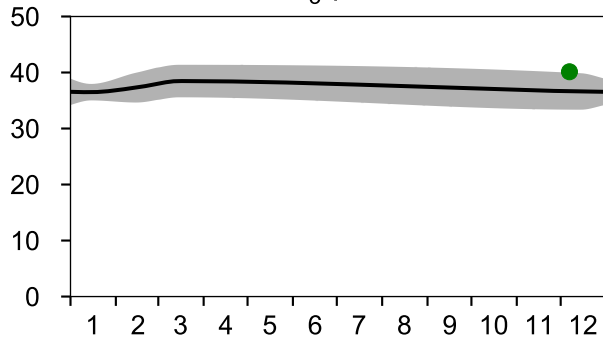
PO₄ µmol/l



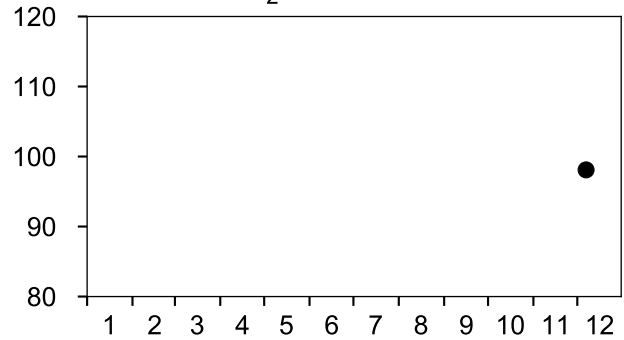
DIN µmol/l



SiO₃ µmol/l

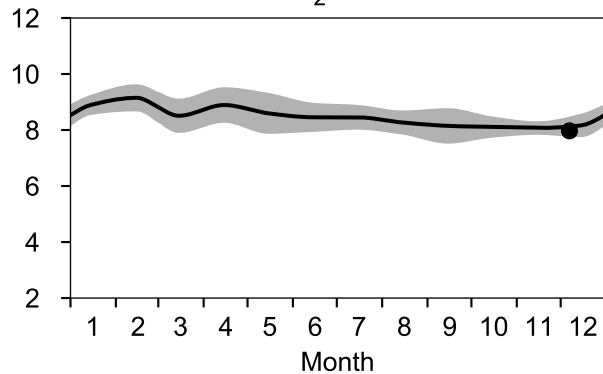


O₂ saturation %

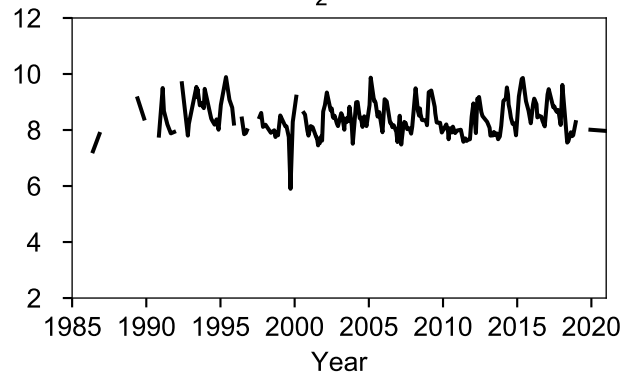


OXYGEN IN BOTTOM WATER (depth >= 80 m)

O₂ ml/l

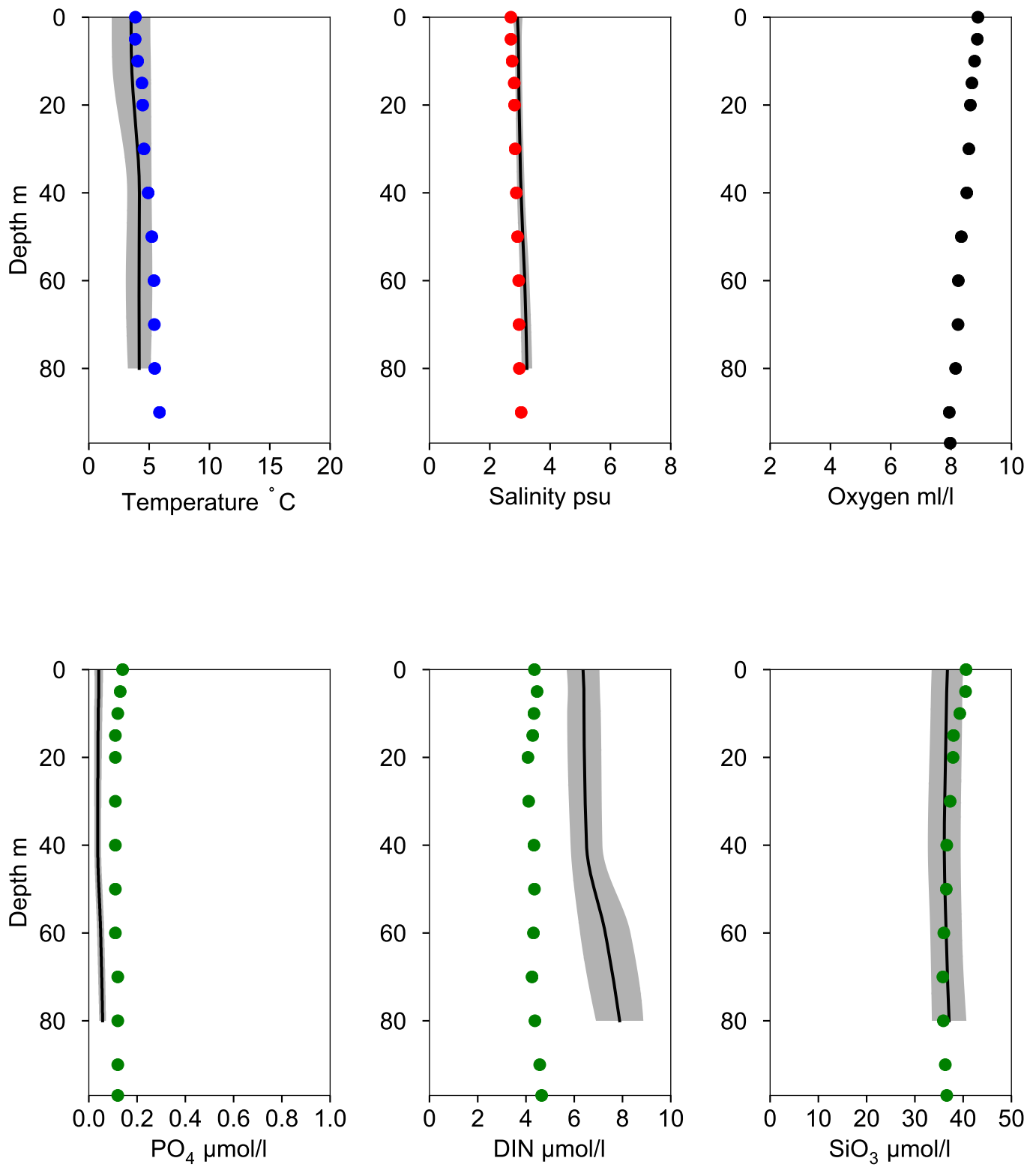


O₂ ml/l



Vertical profiles F3 / A5 December

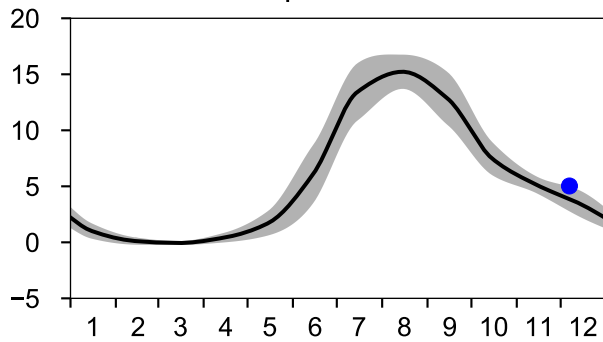
— Mean 2001-2015 St.Dev. • 2020-12-07



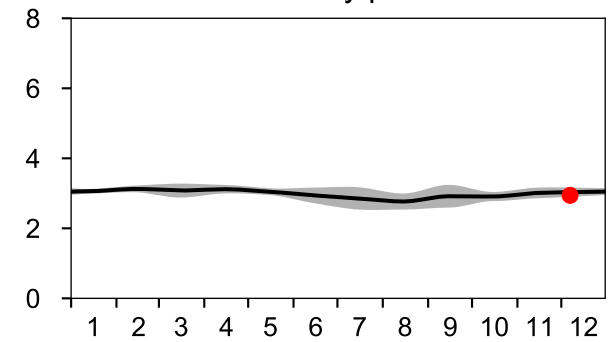
STATION RR1/A8 SURFACE WATER (0-10 m)

Annual Cycles

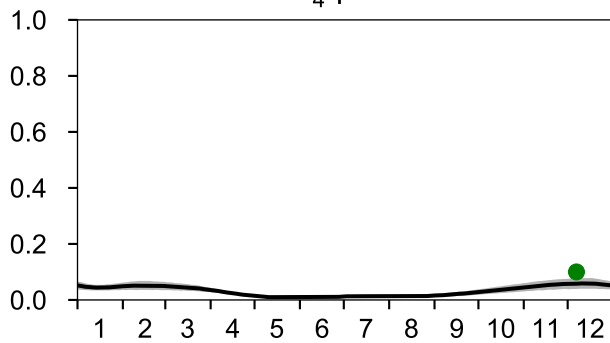
— Mean 2001-2015
Temperature °C



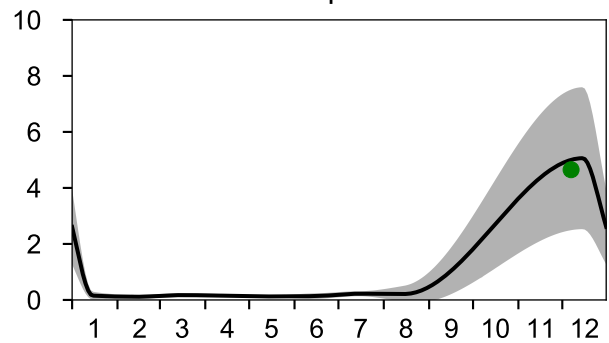
■ St.Dev. ● 2020
Salinity psu



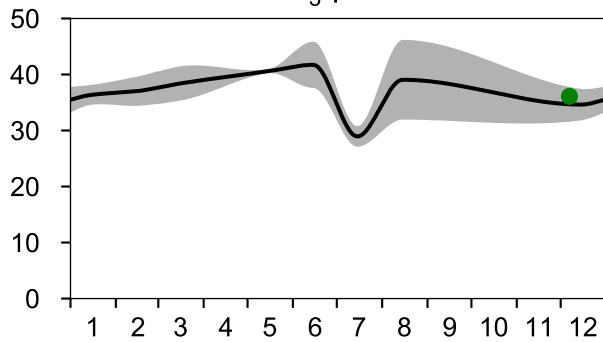
PO₄ μmol/l



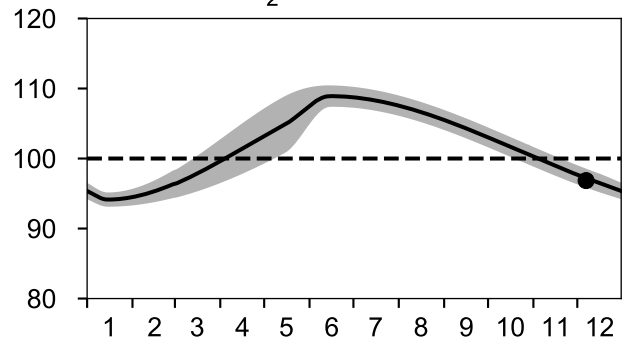
DIN μmol/l



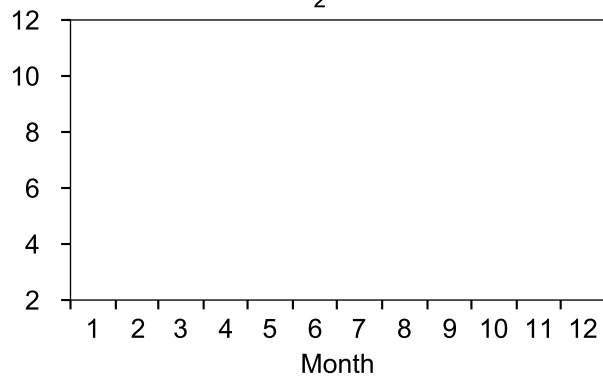
SiO₃ μmol/l



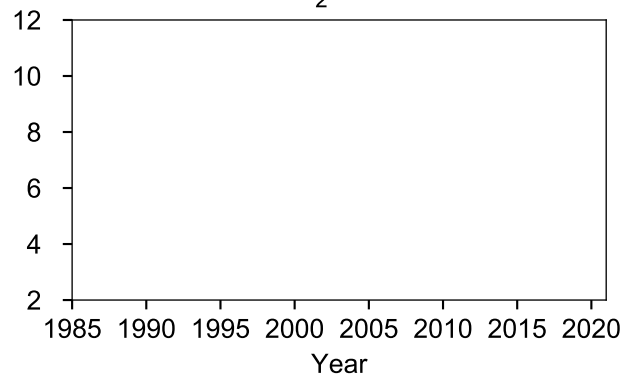
O₂ saturation %



O₂ ml/l

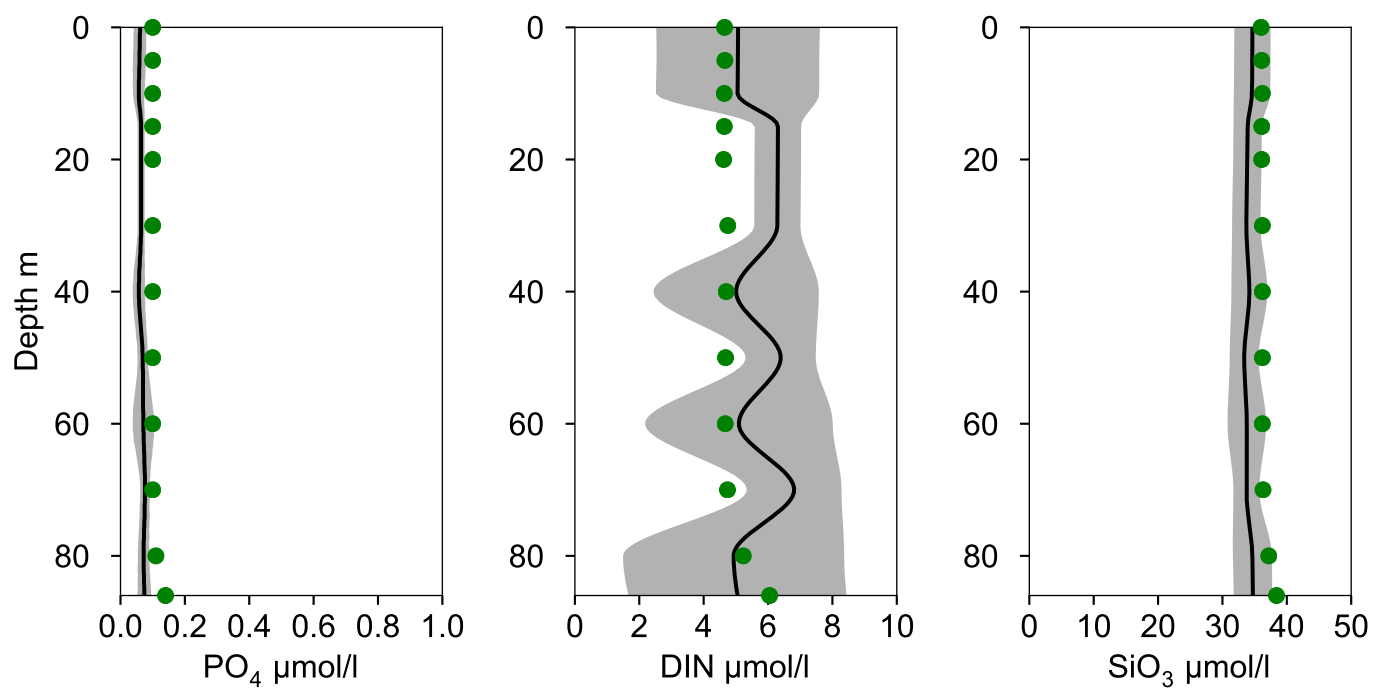
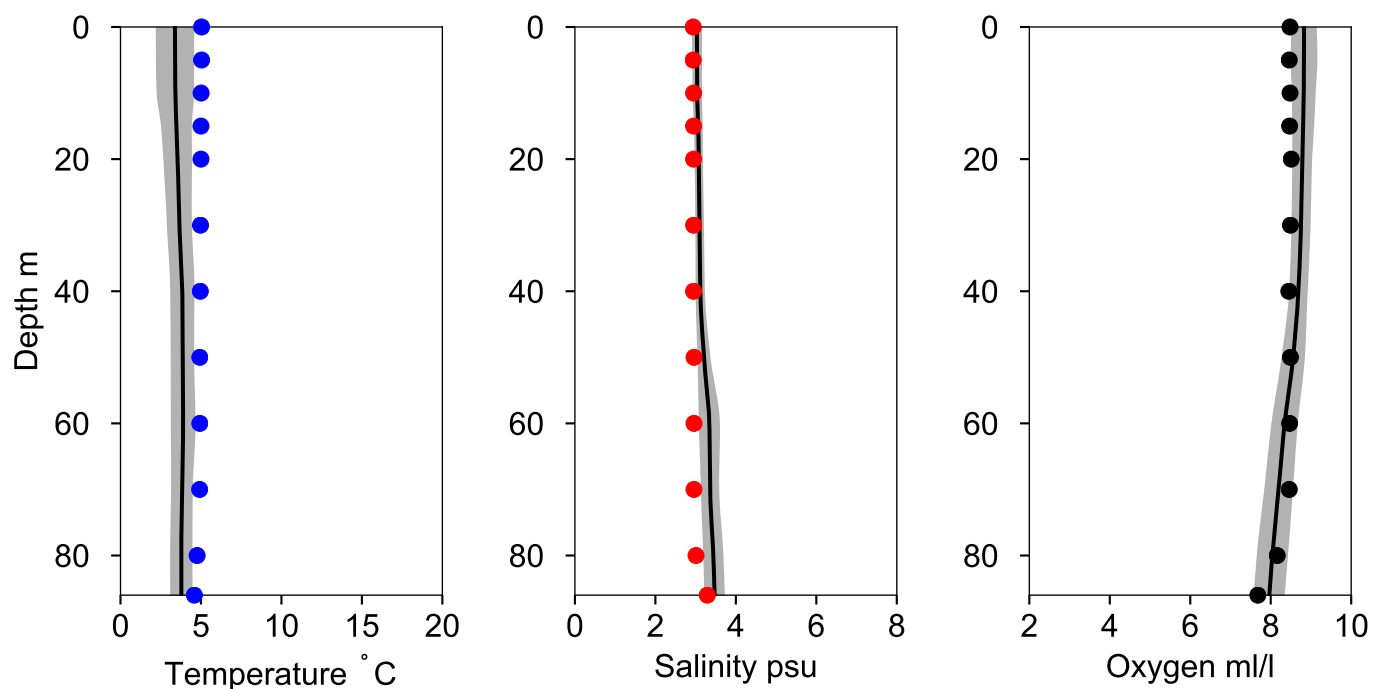


O₂ ml/l



Vertical profiles RR1/A8 December

— Mean 2001-2015 St.Dev. • 2020-12-07



STATION F9 / A13 SURFACE WATER (0-10 m)

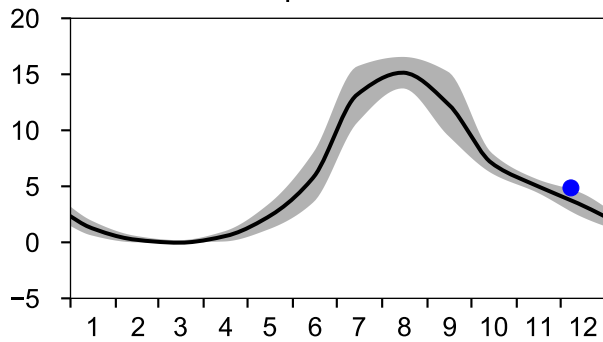
Annual Cycles

— Mean 2001-2015

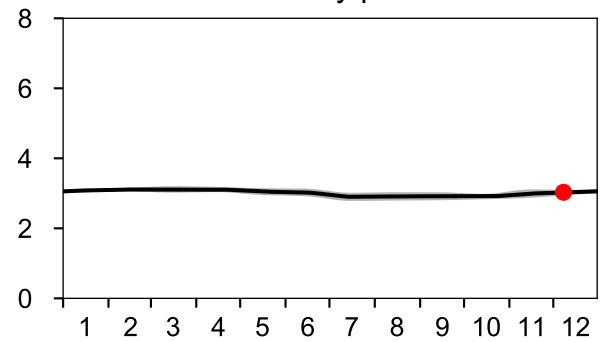
■ St.Dev.

● 2020

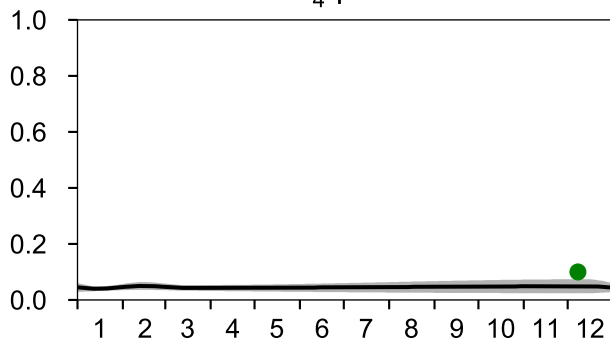
Temperature °C



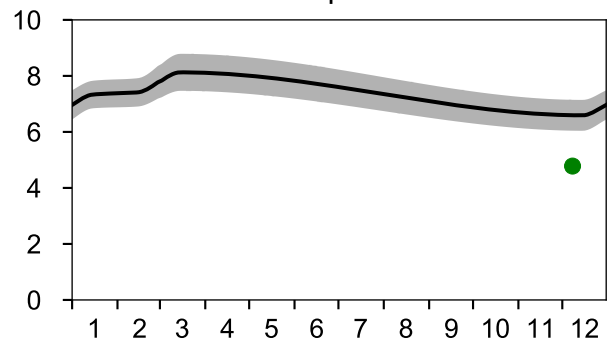
Salinity psu



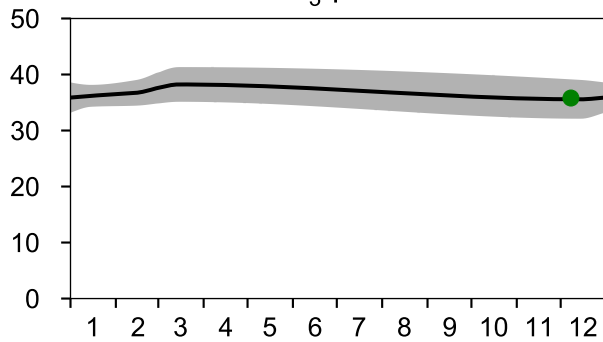
PO₄ µmol/l



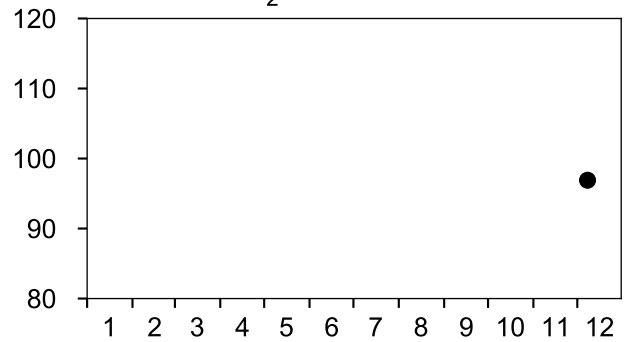
DIN µmol/l



SiO₃ µmol/l

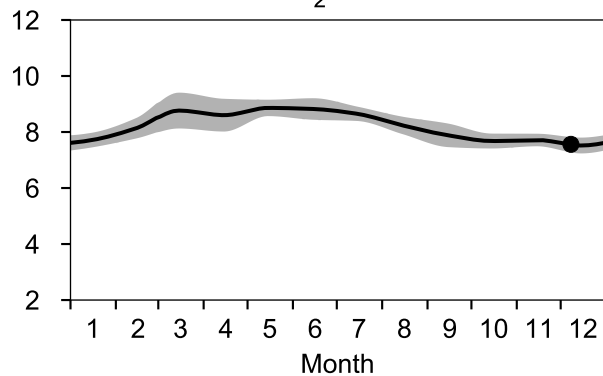


O₂ saturation %

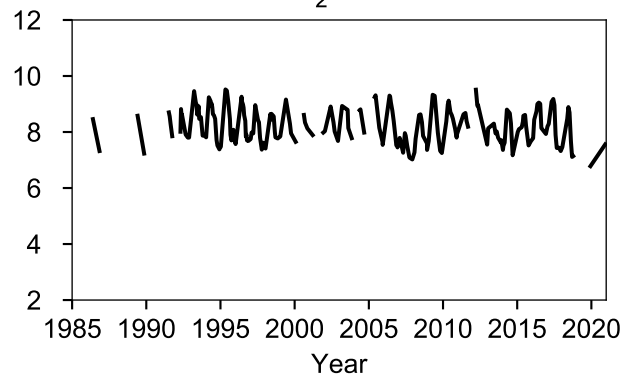


OXYGEN IN BOTTOM WATER (depth >= 120 m)

O₂ ml/l

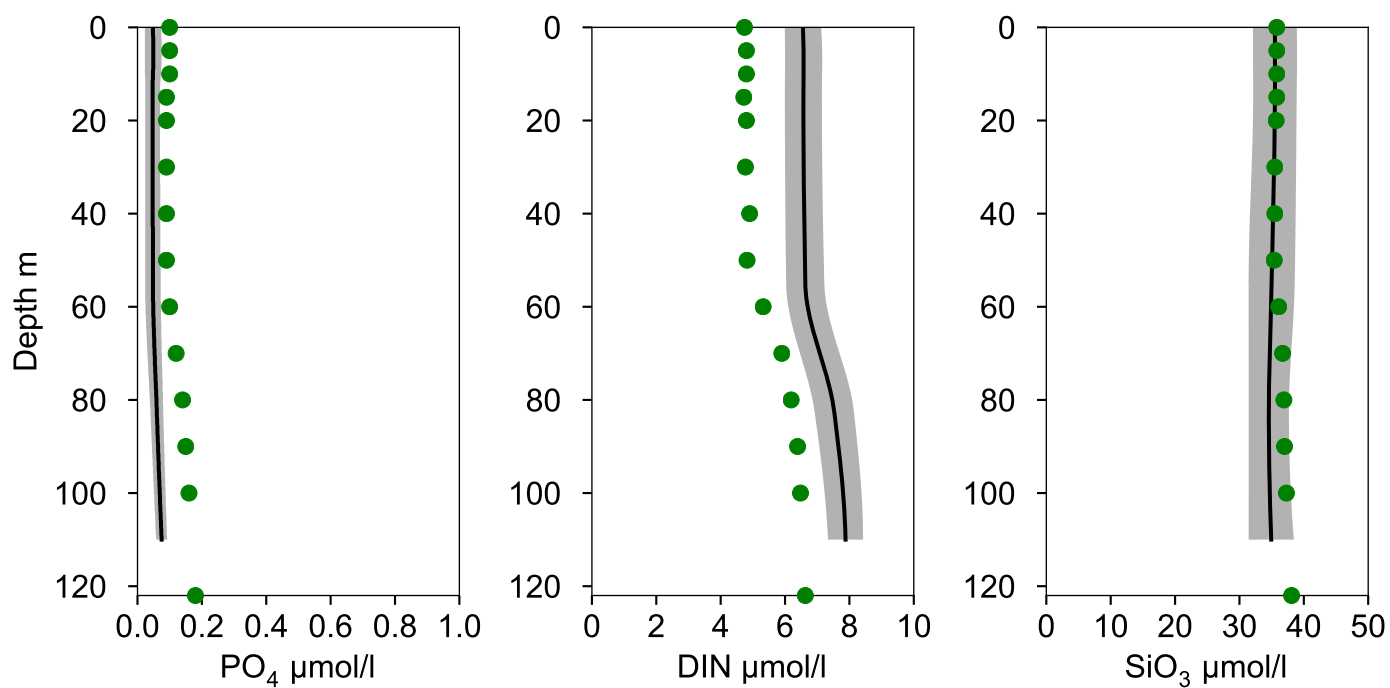
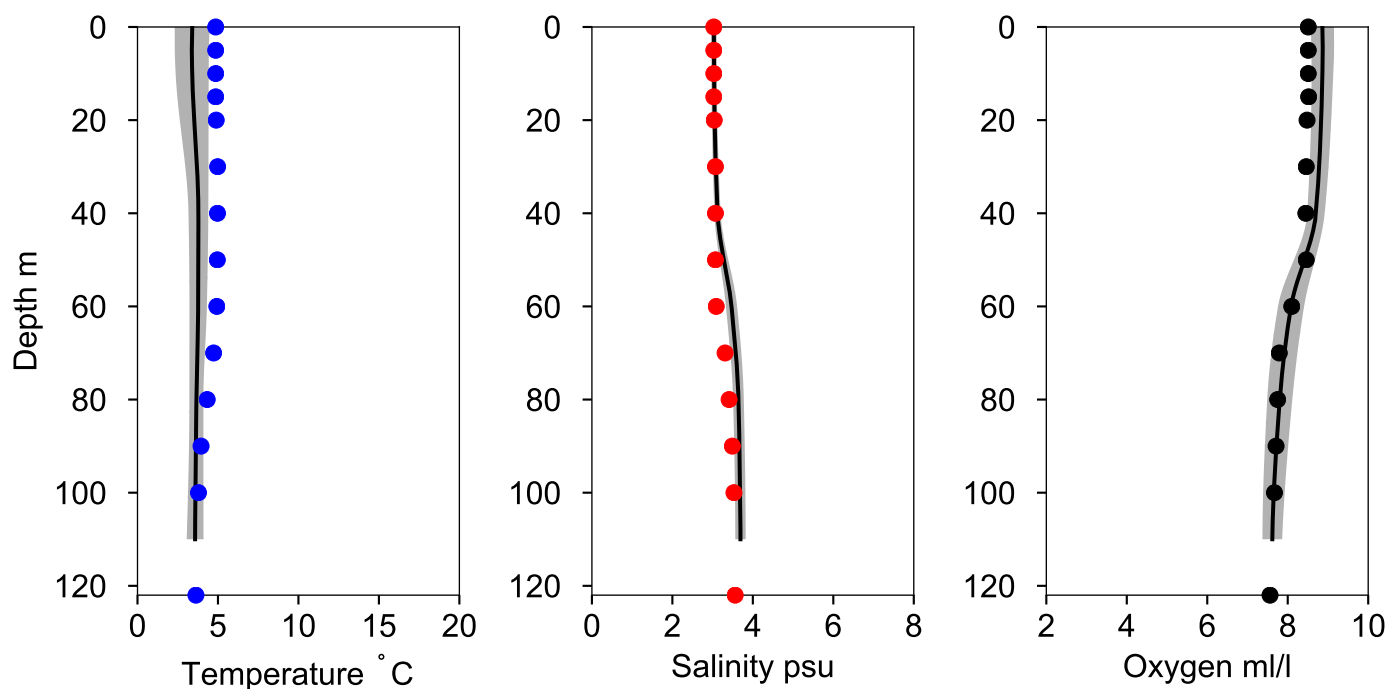


O₂ ml/l



Vertical profiles F9 / A13 December

— Mean 2001-2015 St.Dev. • 2020-12-08



STATION US2 ULVÖDJ SURFACE WATER (0-10 m)

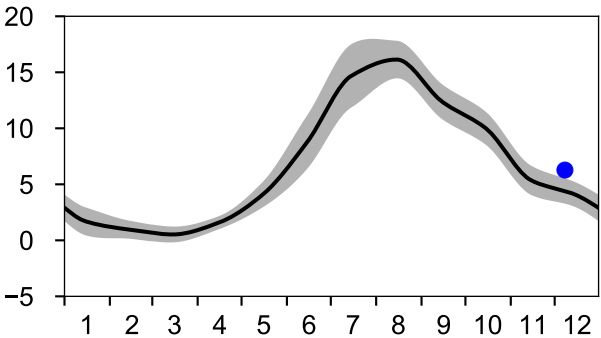
Annual Cycles

— Mean 2001-2015

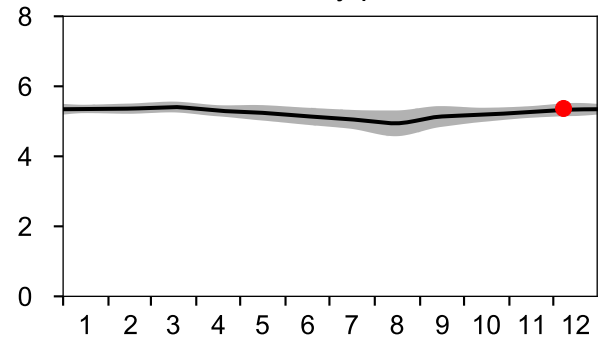
■ St.Dev.

● 2020

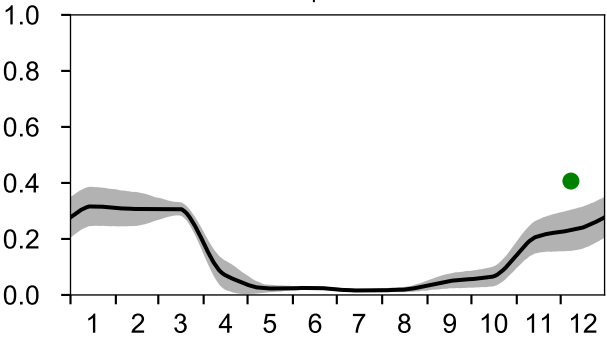
Temperature °C



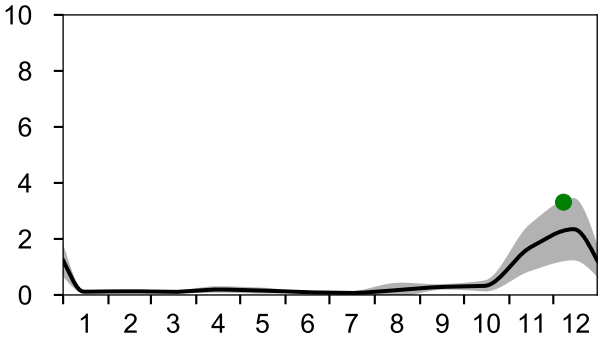
Salinity psu



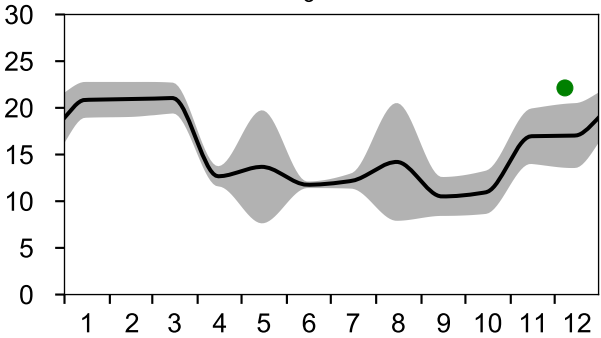
PO₄ µmol/l



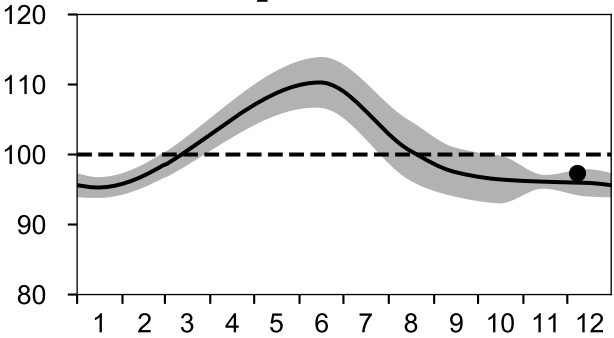
DIN µmol/l



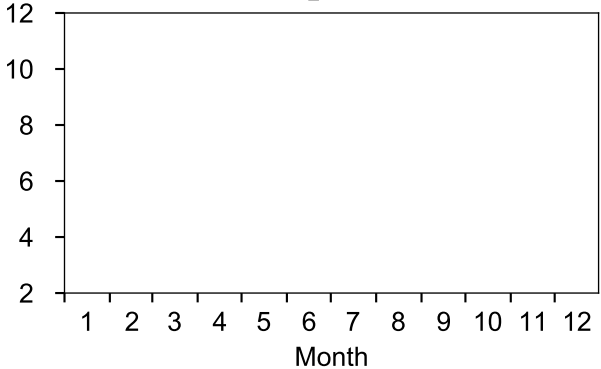
SiO₃ µmol/l



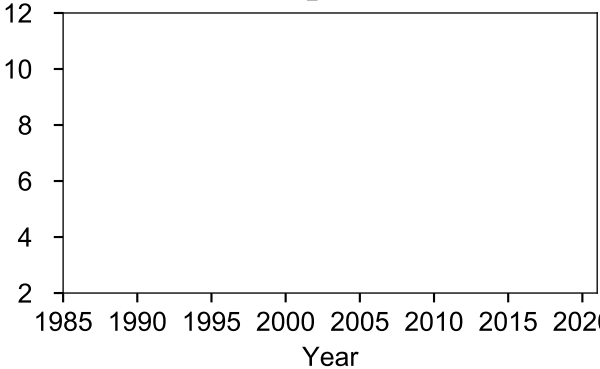
O₂ saturation %



O₂ ml/l

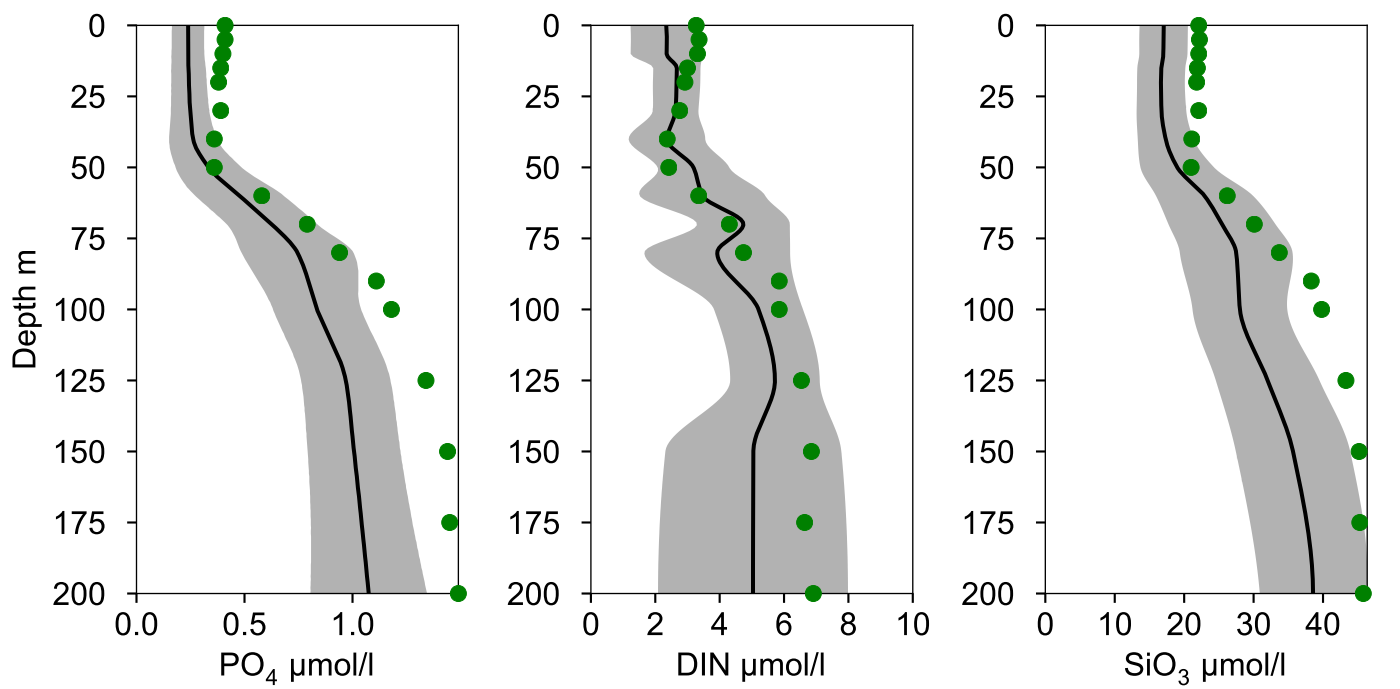
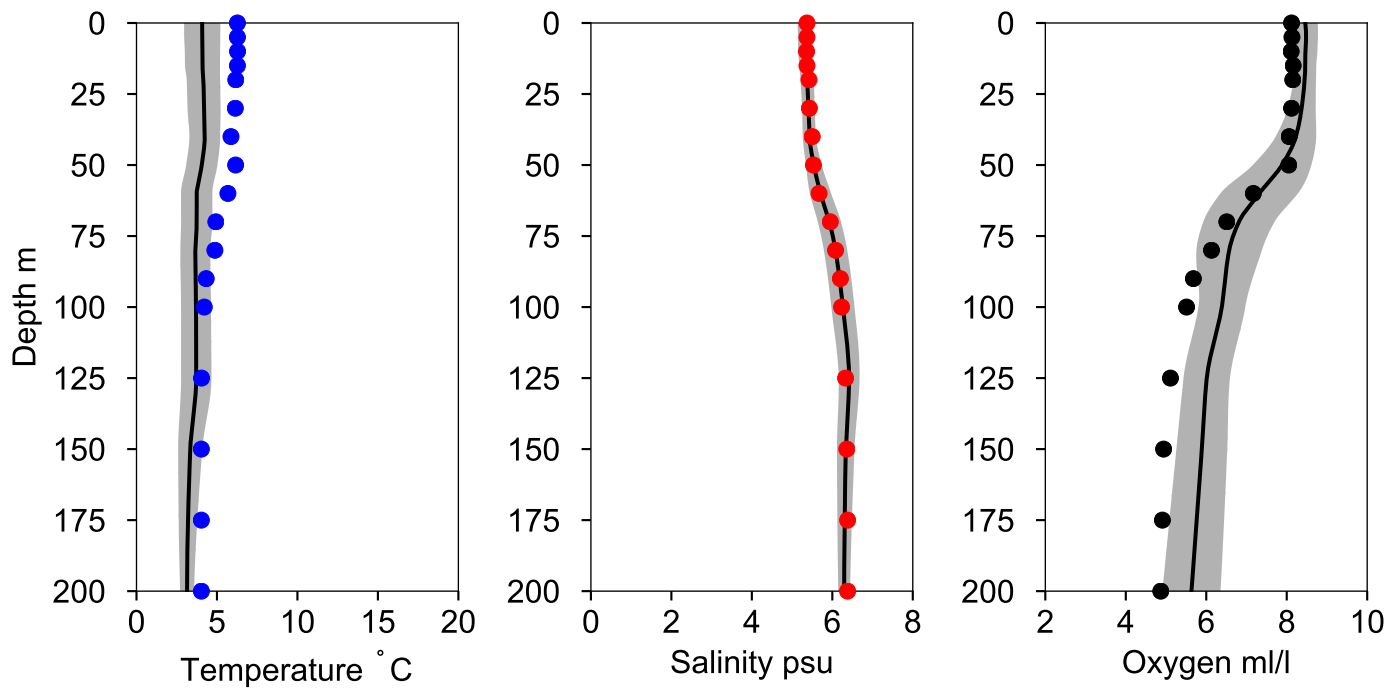


O₂ ml/l



Vertical profiles US2 ULVÖDJ December

— Mean 2001-2015 St.Dev. • 2020-12-08



STATION C3 SURFACE WATER (0-10 m)

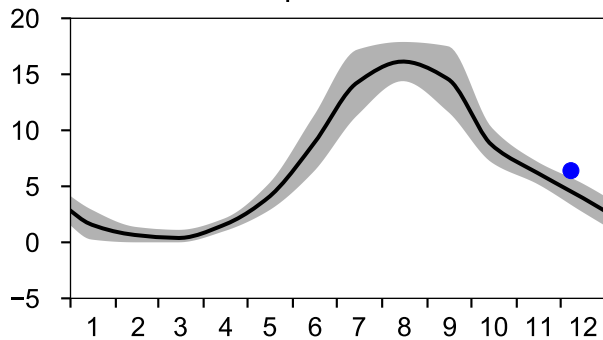
Annual Cycles

— Mean 2001-2015

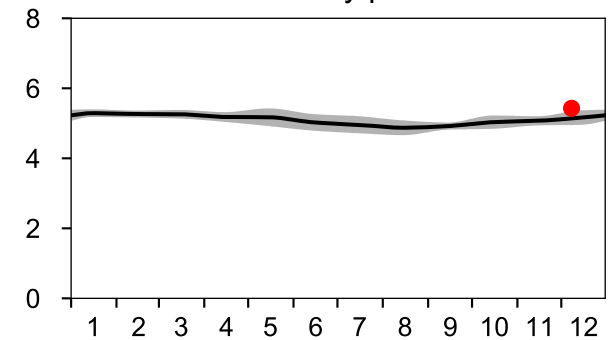
■ St.Dev.

● 2020

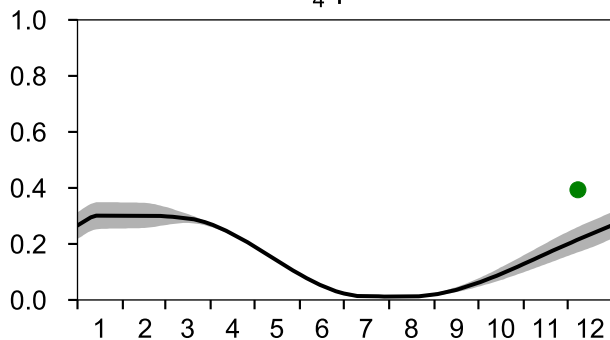
Temperature °C



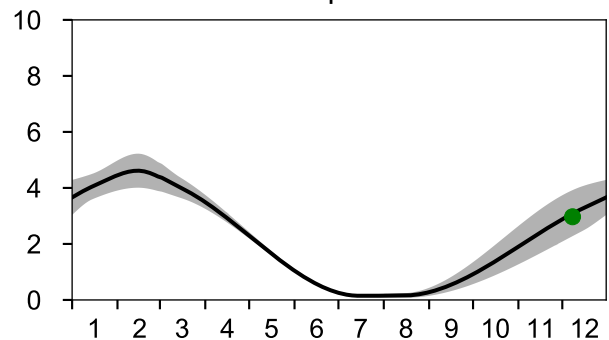
Salinity psu



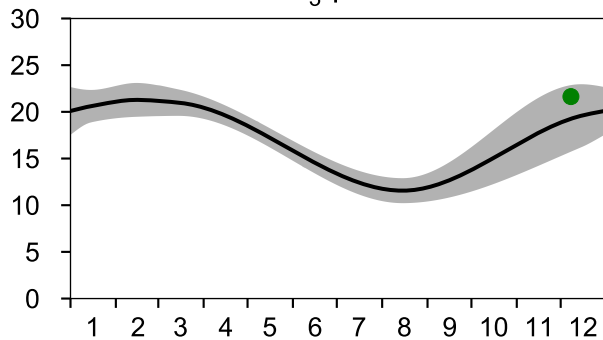
PO₄ µmol/l



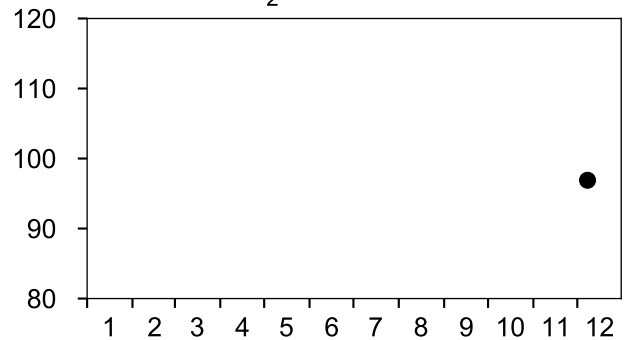
DIN µmol/l



SiO₃ µmol/l

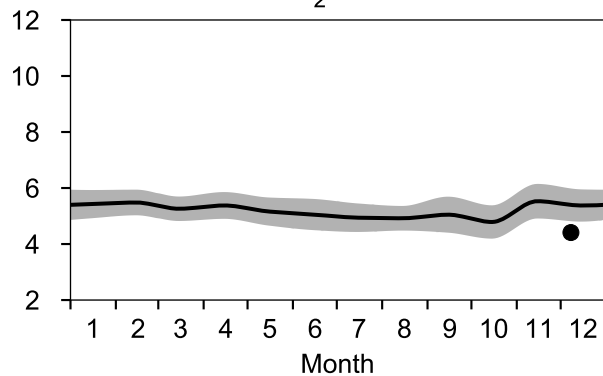


O₂ saturation %

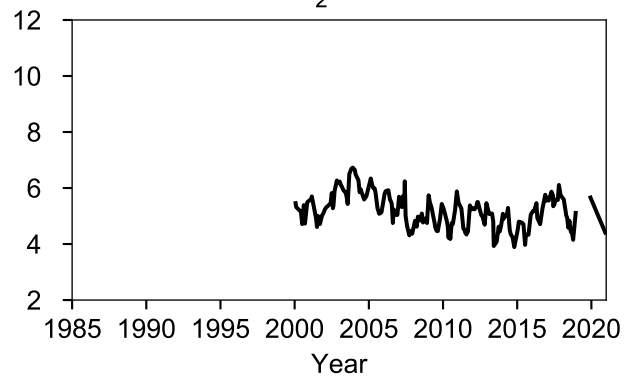


OXYGEN IN BOTTOM WATER (depth >= 180 m)

O₂ ml/l

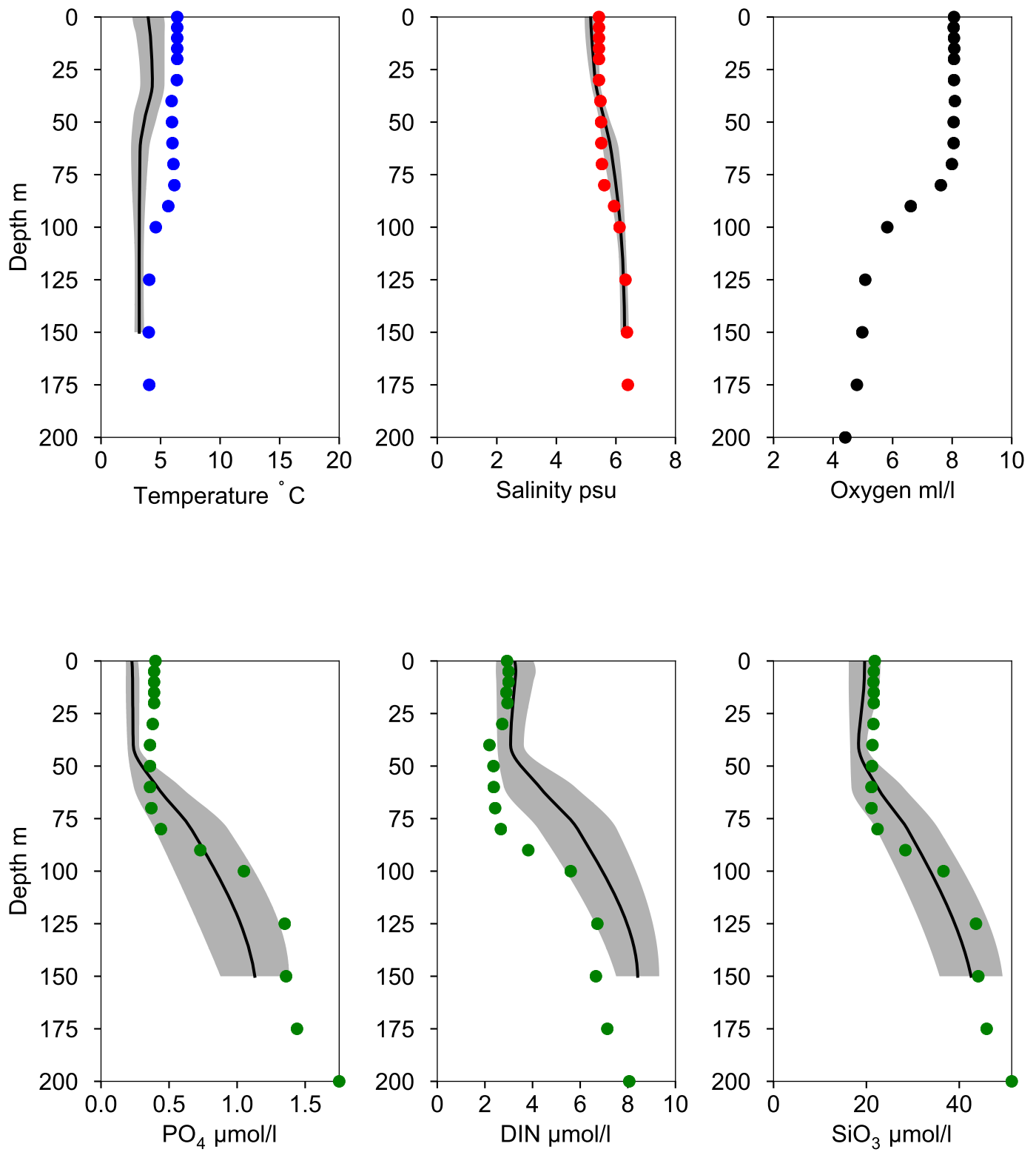


O₂ ml/l



Vertical profiles C3 December

— Mean 2001-2015 St.Dev. • 2020-12-08



STATION MS2/C13 SURFACE WATER (0-10 m)

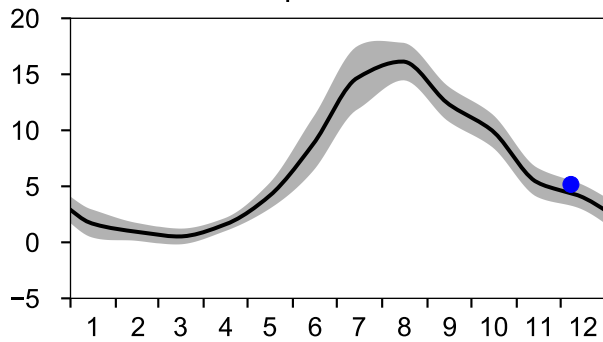
Annual Cycles

— Mean 2001-2015

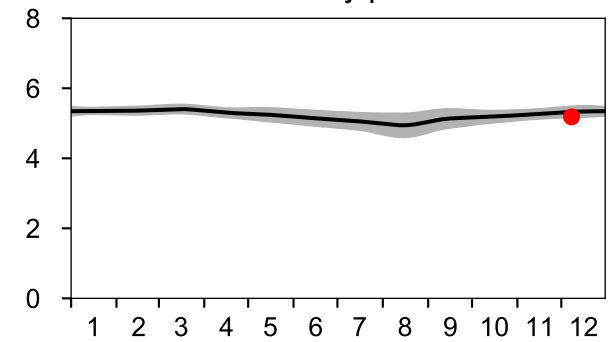
■ St.Dev.

● 2020

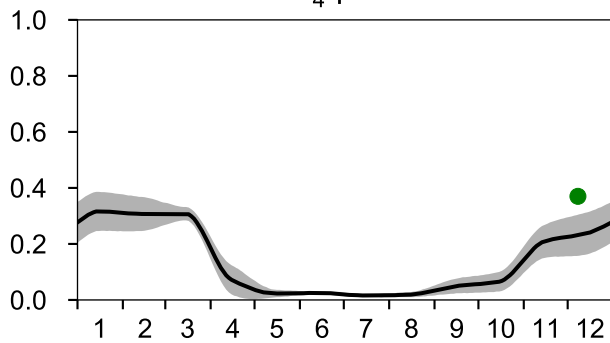
Temperature °C



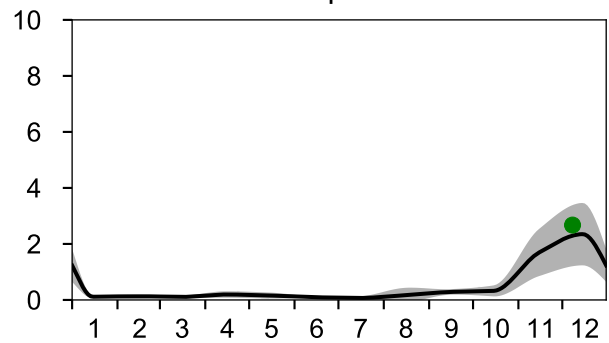
Salinity psu



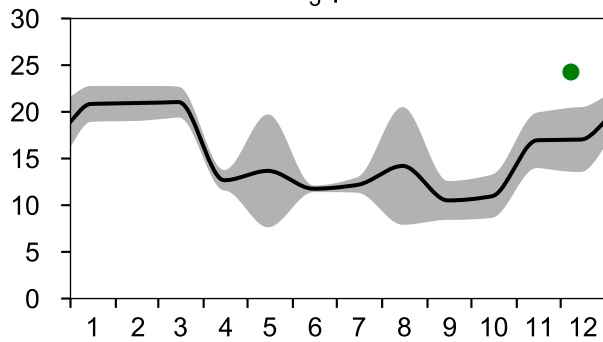
PO₄ µmol/l



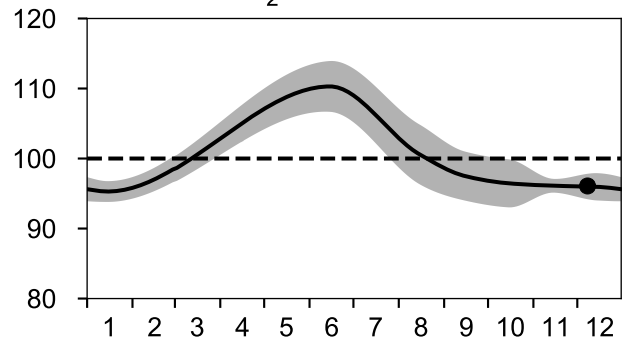
DIN µmol/l



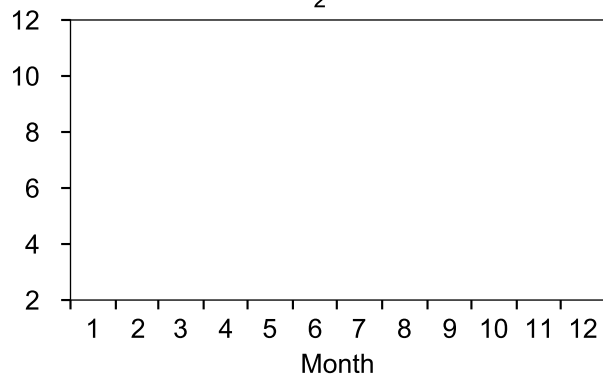
SiO₃ µmol/l



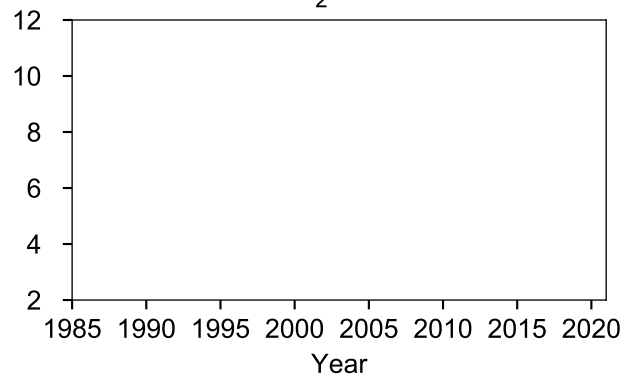
O₂ saturation %



O₂ ml/l

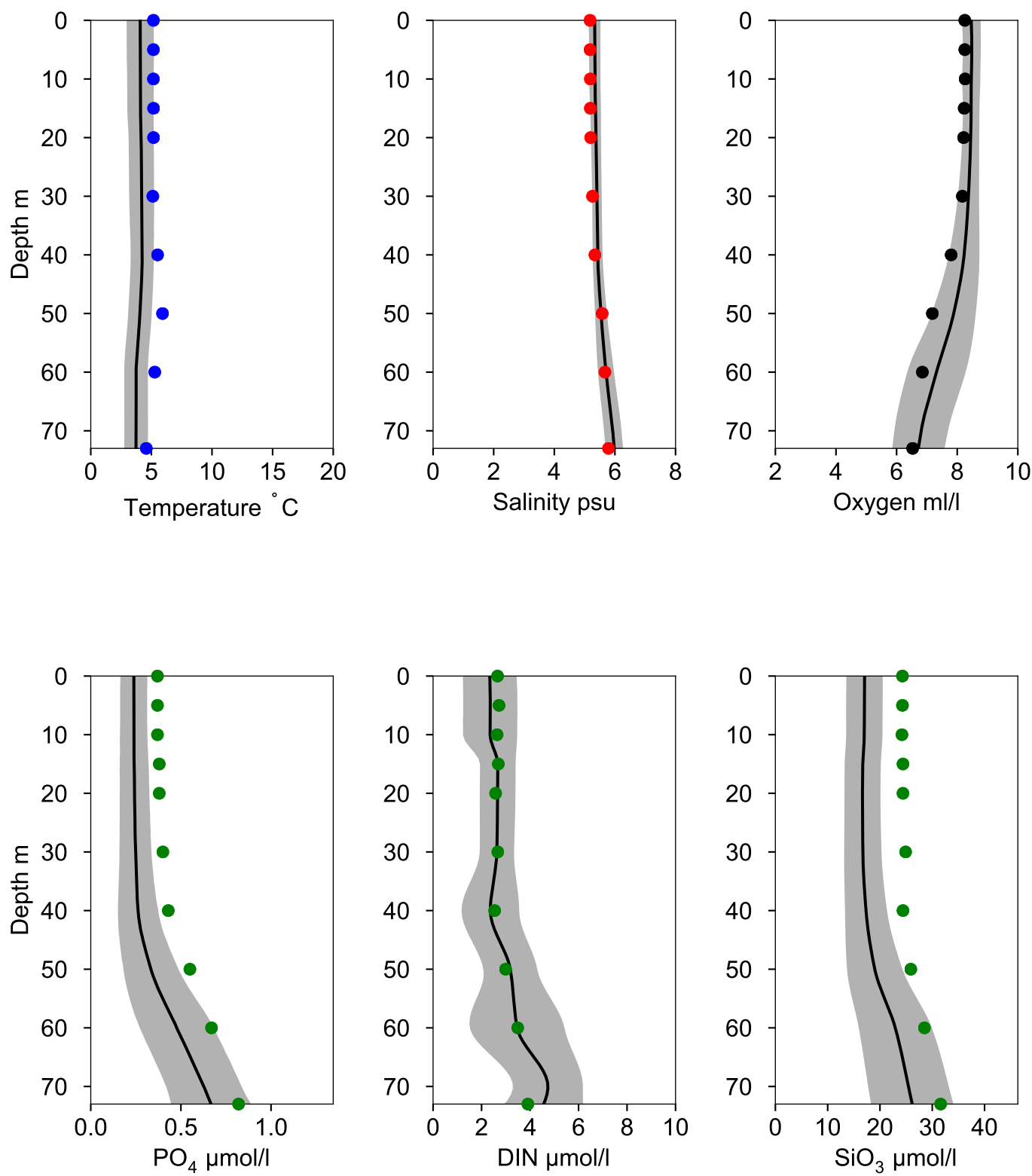


O₂ ml/l



Vertical profiles MS2/C13 December

— Mean 2001-2015 St.Dev. • 2020-12-08



STATION MS4 / C14 SURFACE WATER (0-10 m)

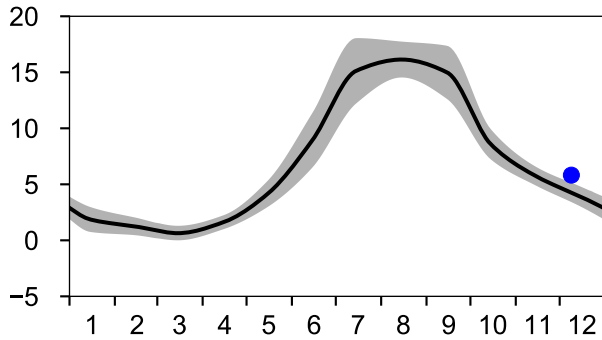
Annual Cycles

— Mean 2001-2015

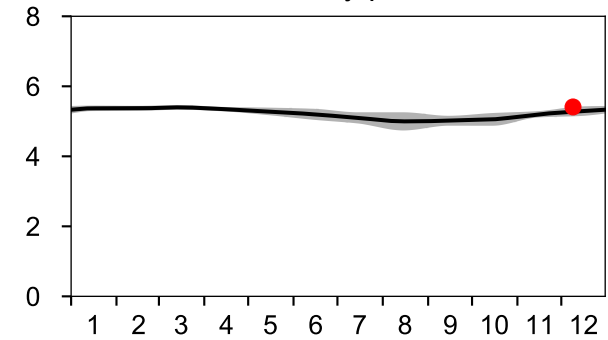
■ St.Dev.

● 2020

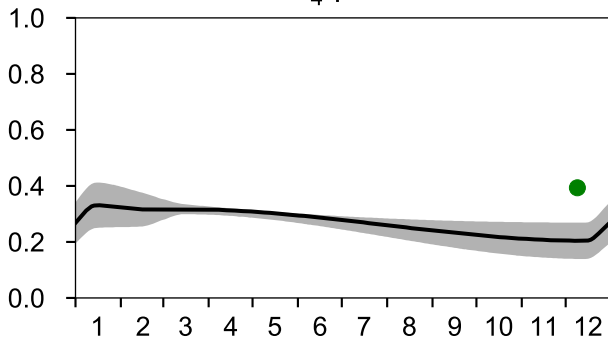
Temperature °C



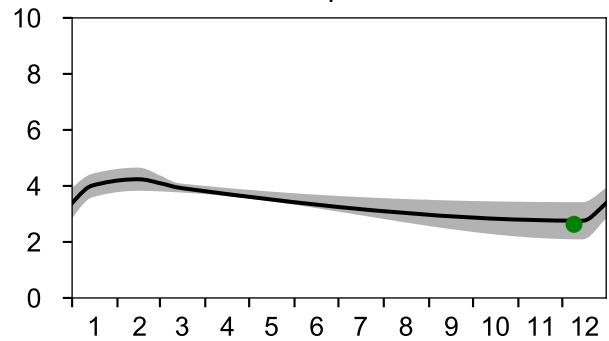
Salinity psu



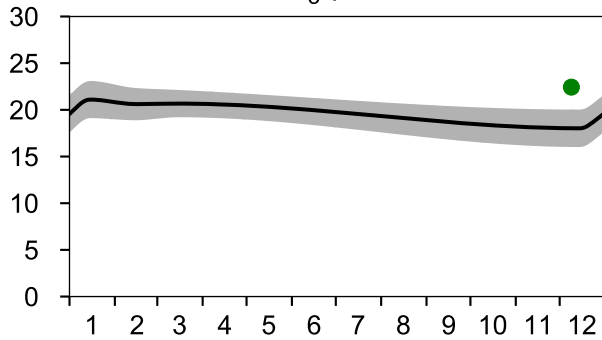
PO₄ µmol/l



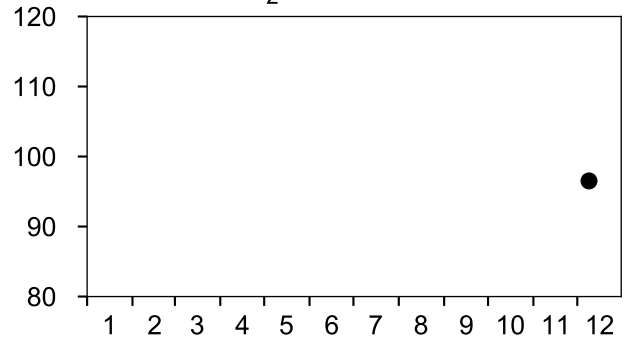
DIN µmol/l



SiO₃ µmol/l

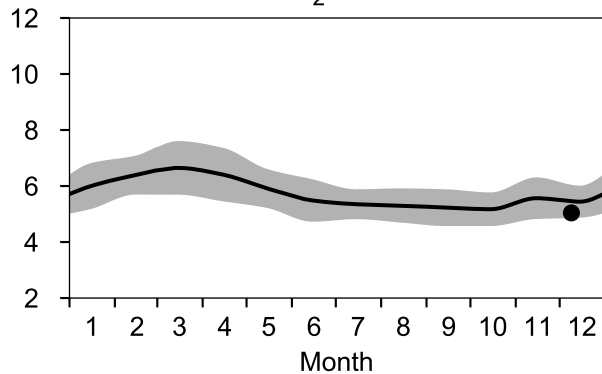


O₂ saturation %

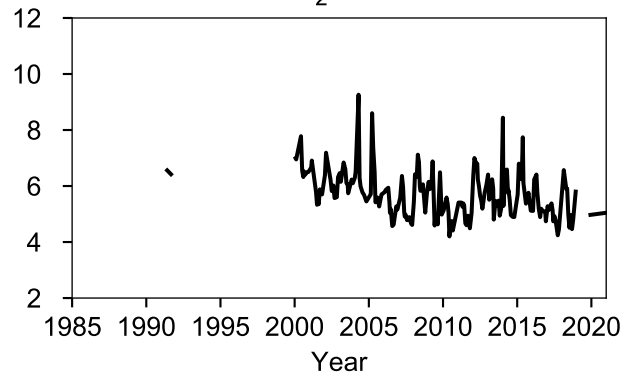


OXYGEN IN BOTTOM WATER (depth >= 80 m)

O₂ ml/l

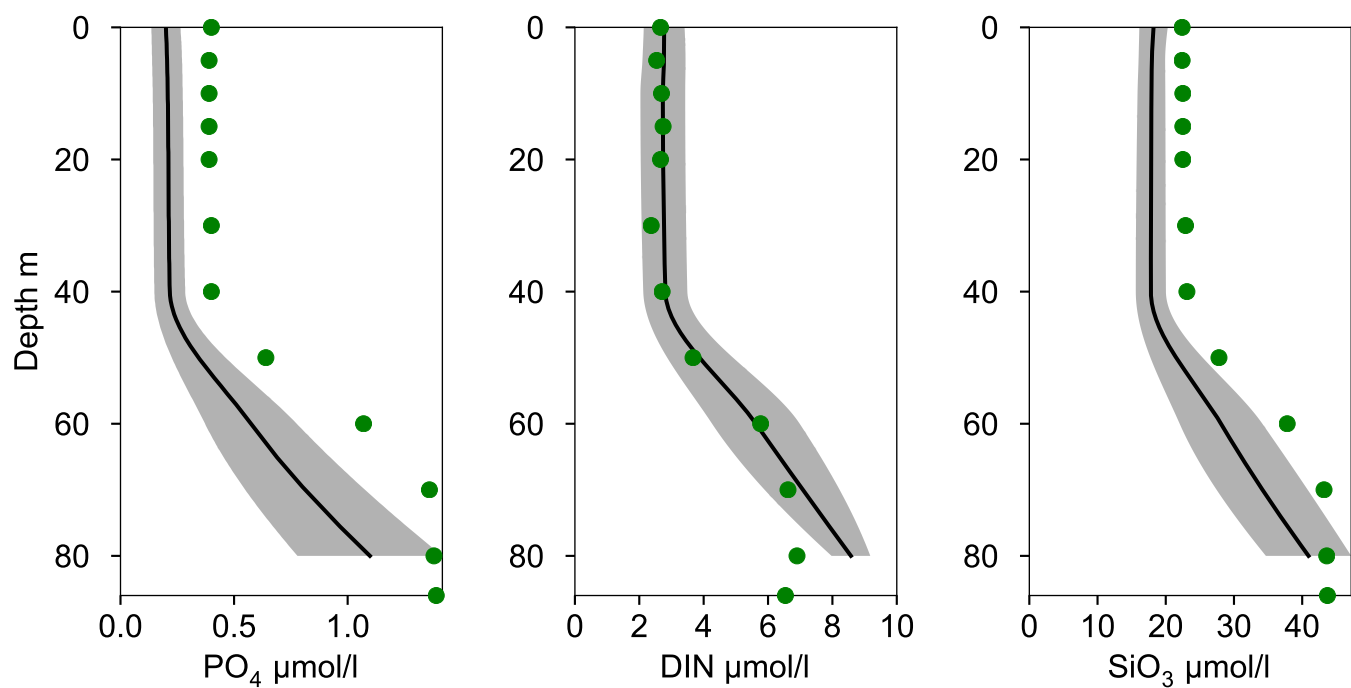
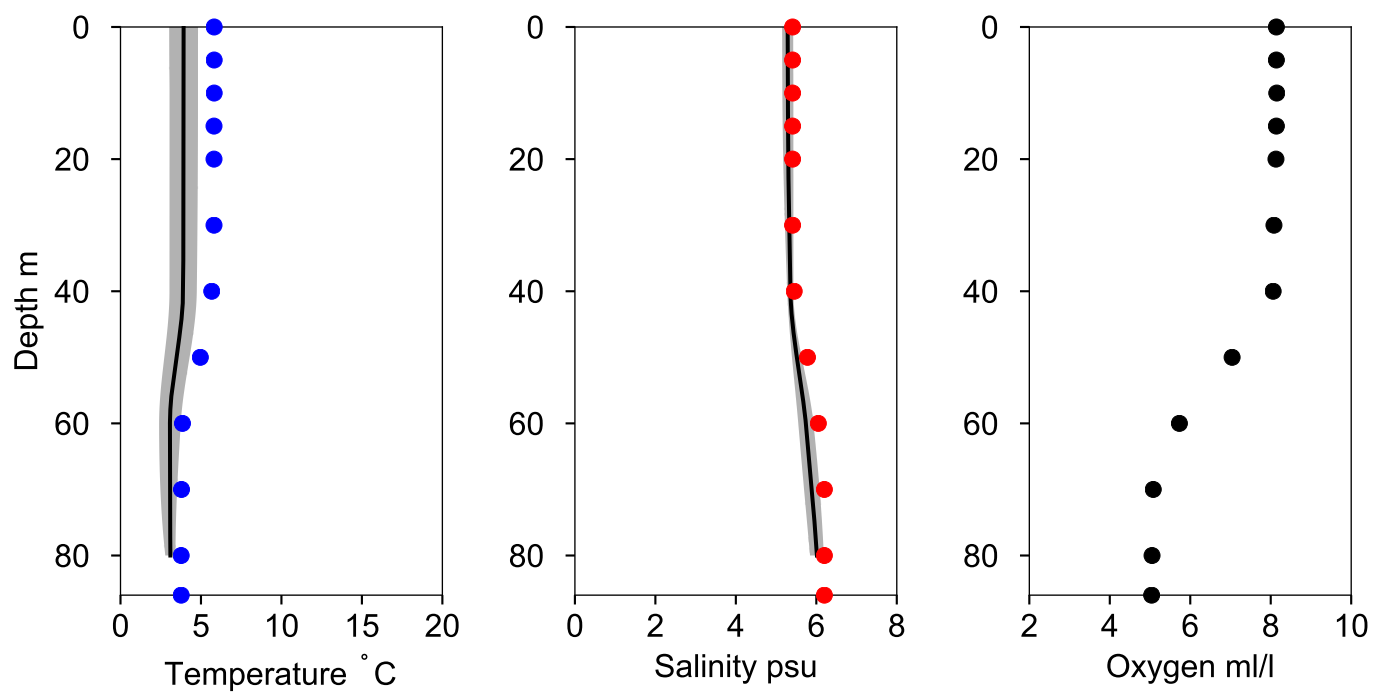


O₂ ml/l



Vertical profiles MS4 / C14 December

— Mean 2001-2015 St.Dev. • 2020-12-09



STATION SR1A/C11 SURFACE WATER (0-10 m)

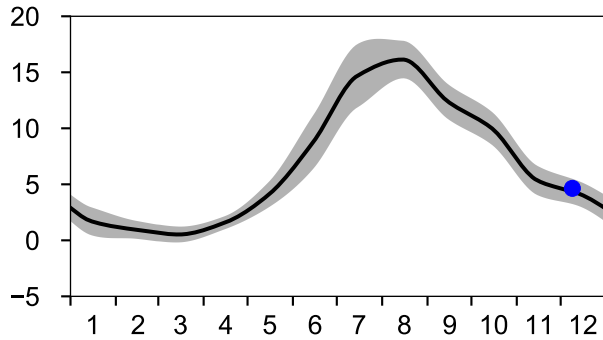
Annual Cycles

— Mean 2001-2015

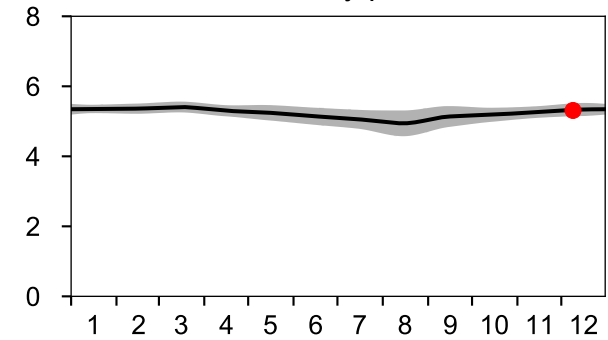
■ St.Dev.

● 2020

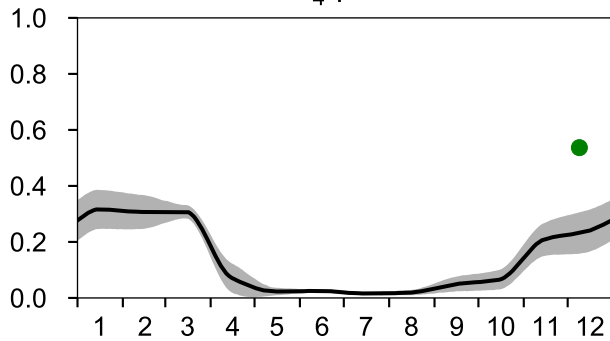
Temperature °C



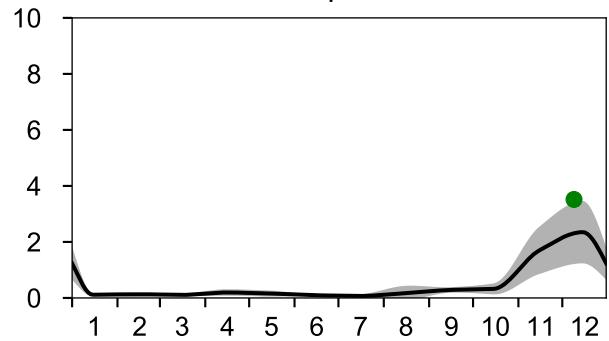
Salinity psu



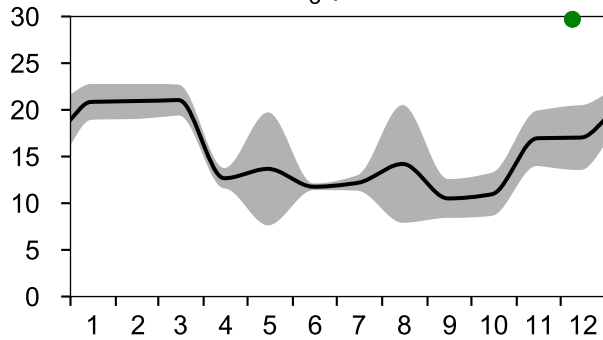
PO₄ µmol/l



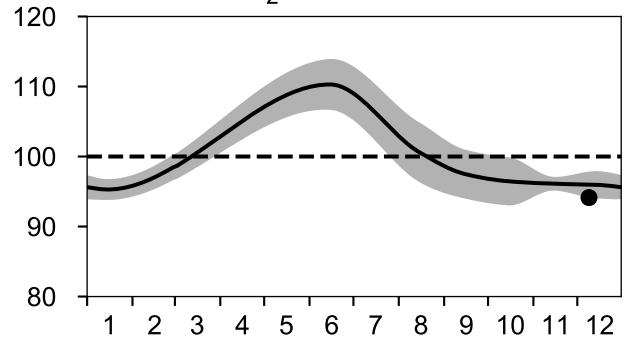
DIN µmol/l



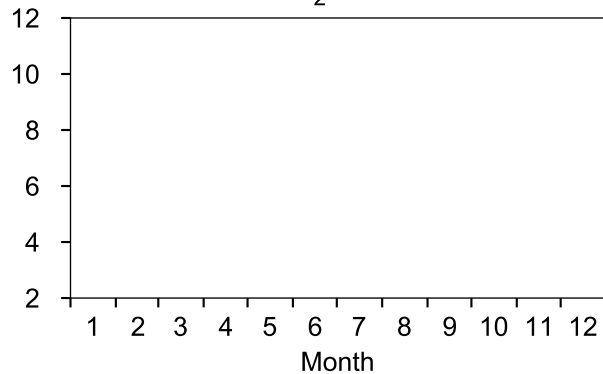
SiO₃ µmol/l



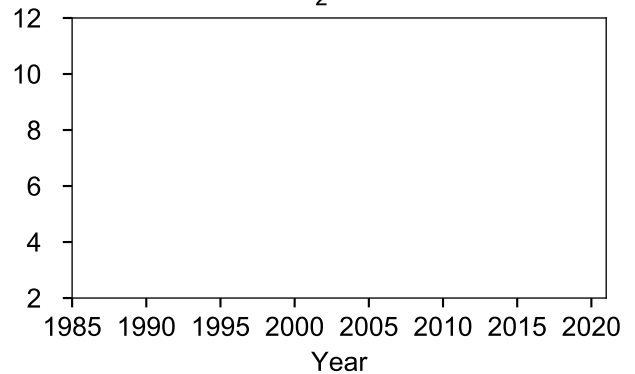
O₂ saturation %



O₂ ml/l

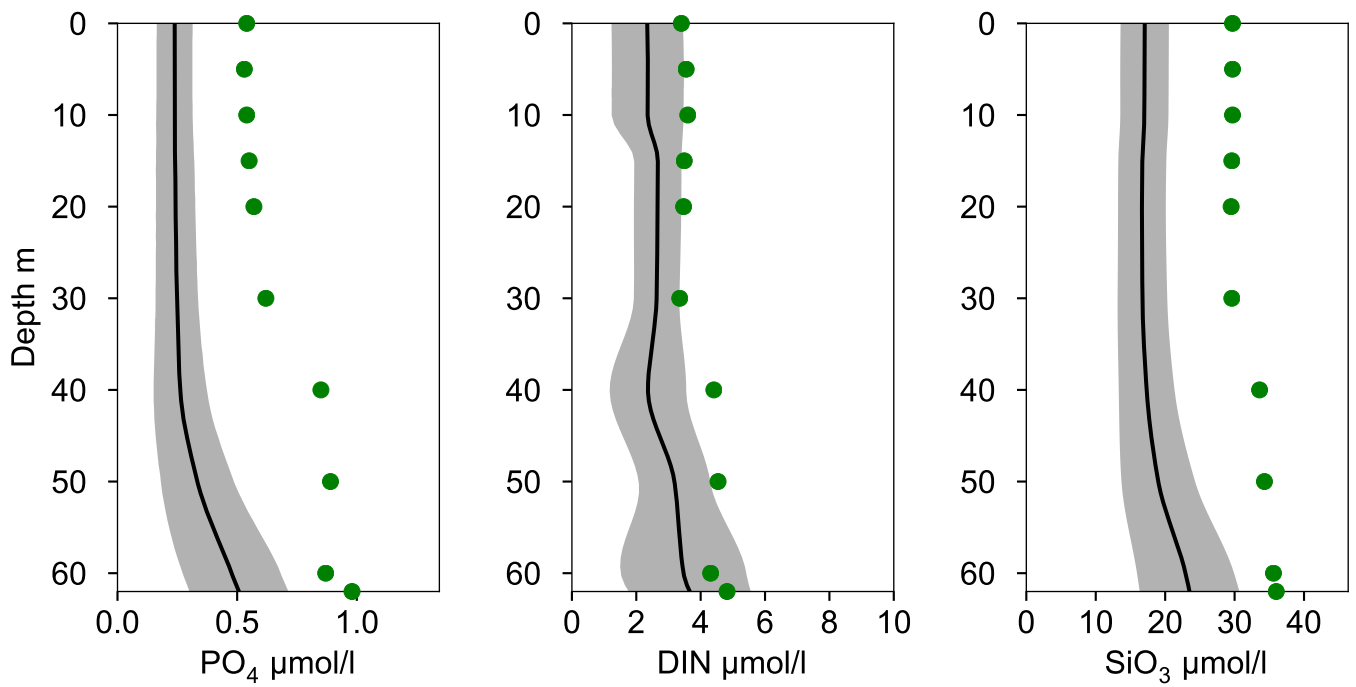
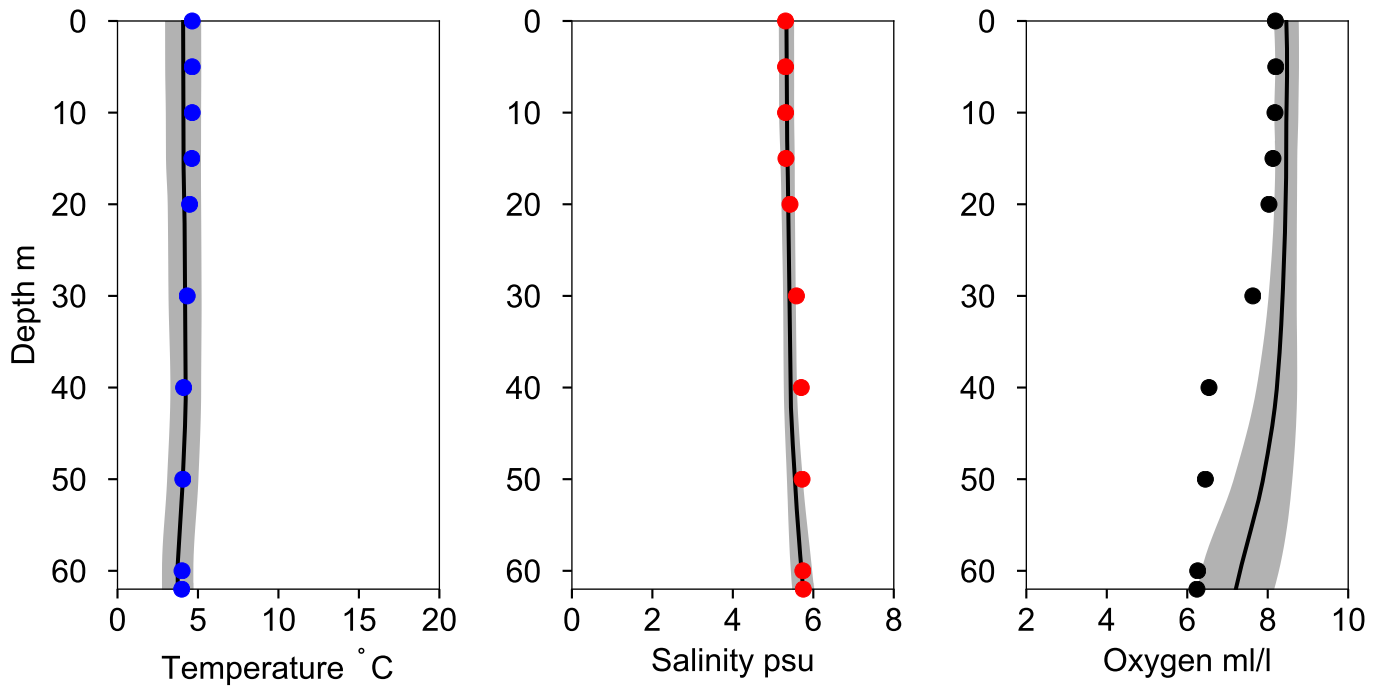


O₂ ml/l



Vertical profiles SR1A/C11 December

— Mean 2001-2015 St.Dev. • 2020-12-09



STATION SR3/C24 SURFACE WATER (0-10 m)

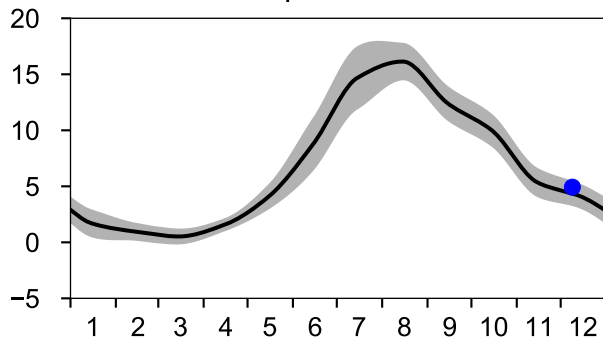
Annual Cycles

— Mean 2001-2015

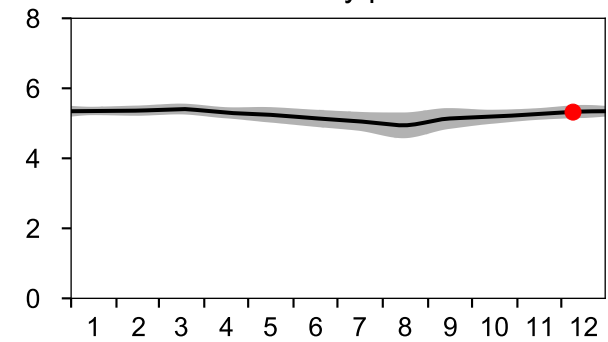
■ St.Dev.

● 2020

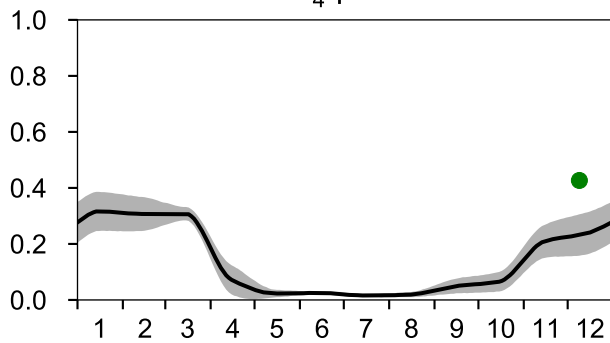
Temperature °C



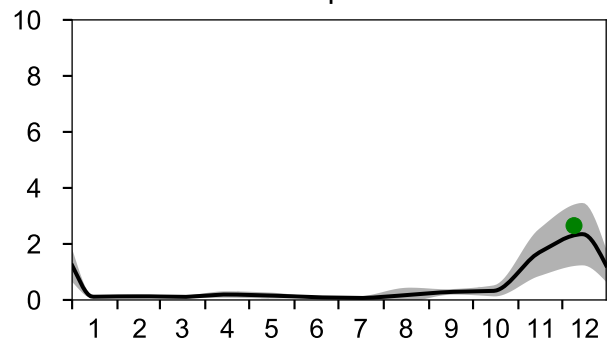
Salinity psu



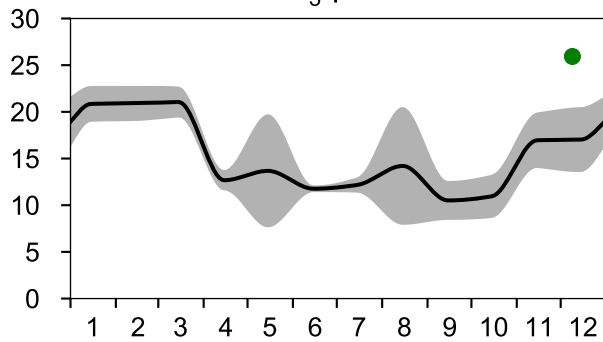
PO₄ µmol/l



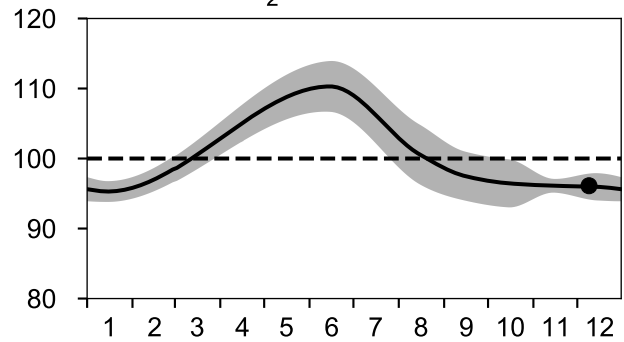
DIN µmol/l



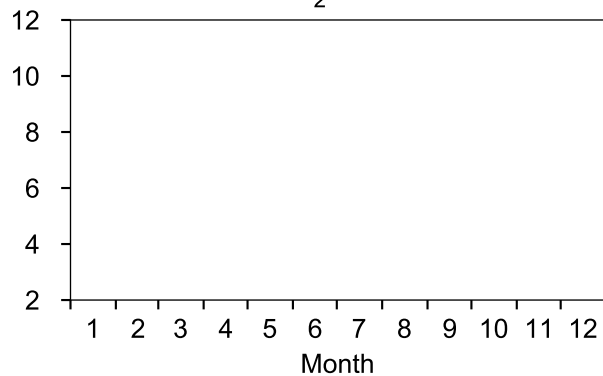
SiO₃ µmol/l



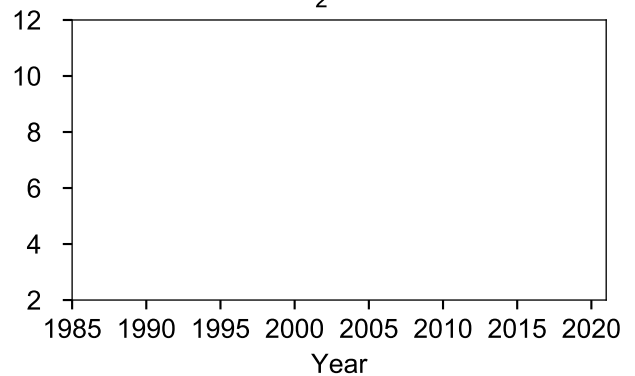
O₂ saturation %



O₂ ml/l

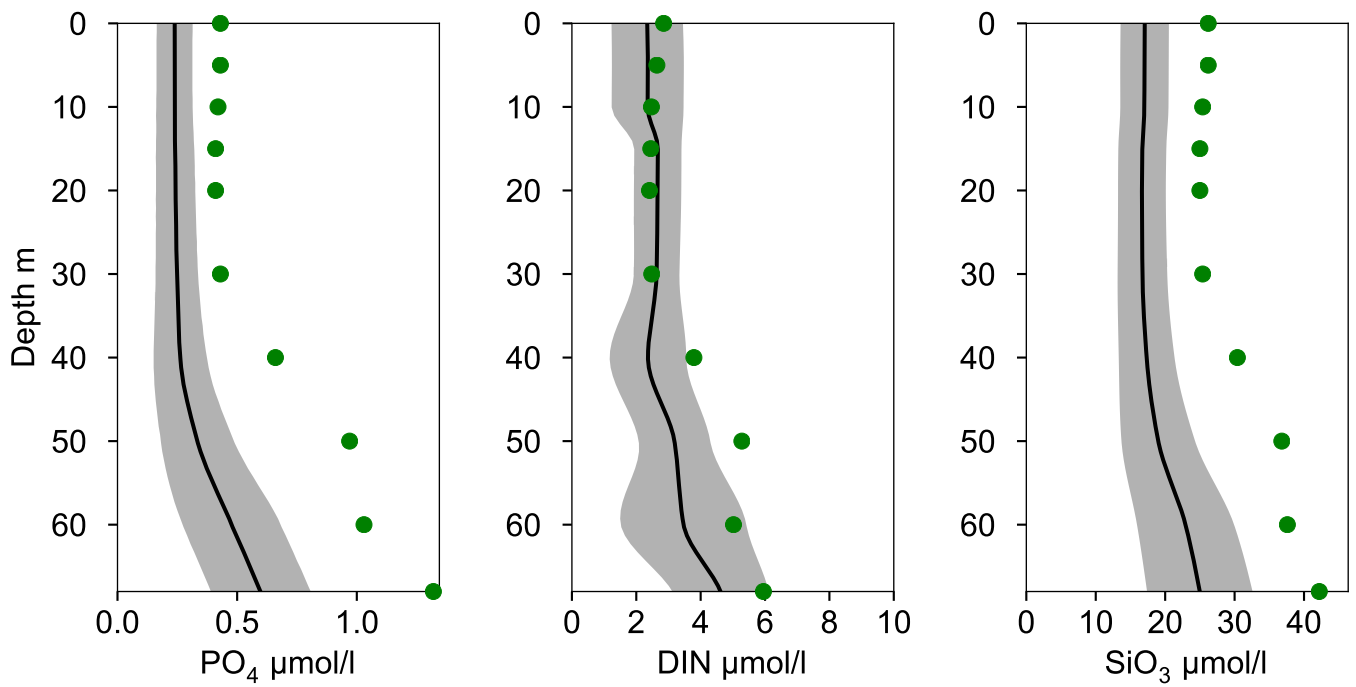
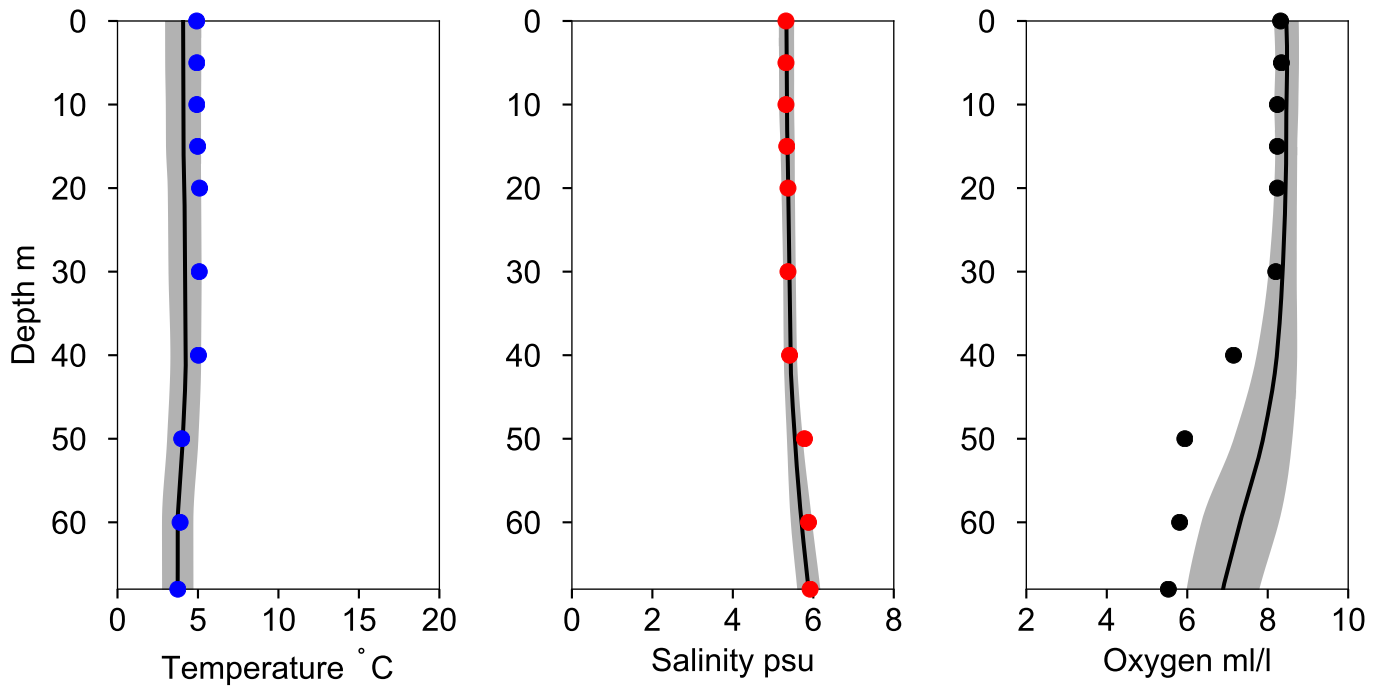


O₂ ml/l



Vertical profiles SR3/C24 December

— Mean 2001-2015 St.Dev. • 2020-12-09



STATION F33 GRUNDKALLEN SURFACE WATER (0-10 m)

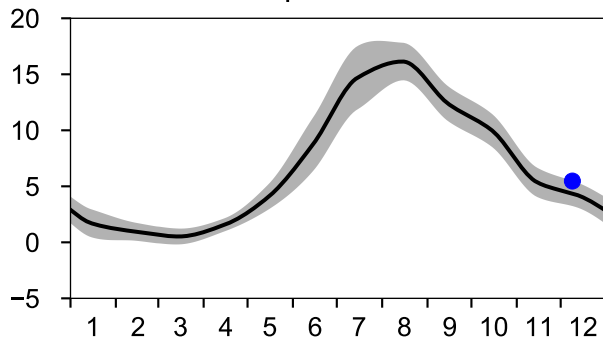
Annual Cycles

— Mean 2001-2015

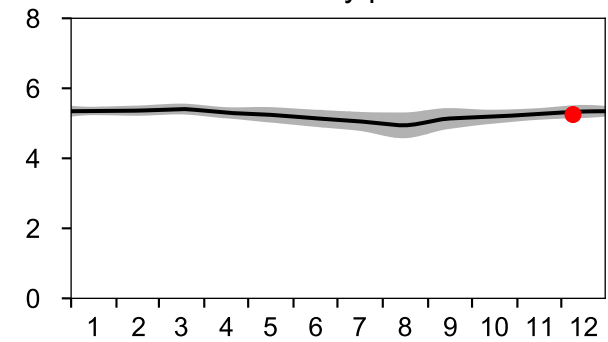
■ St.Dev.

● 2020

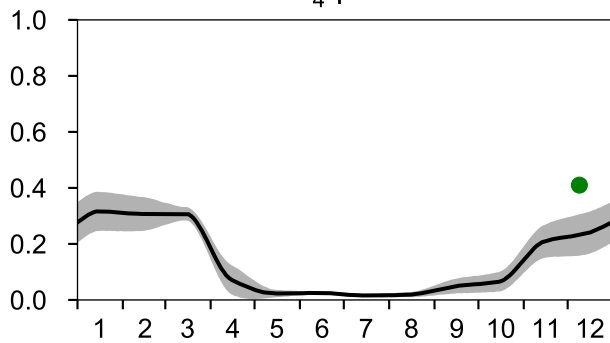
Temperature °C



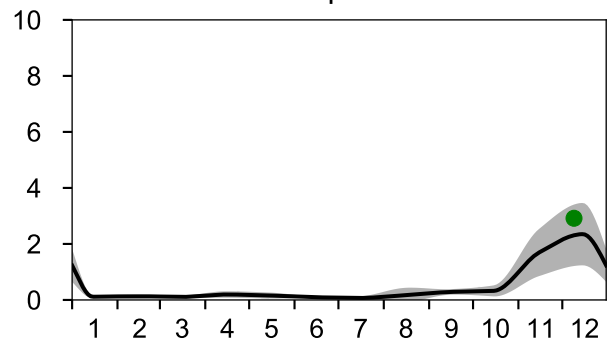
Salinity psu



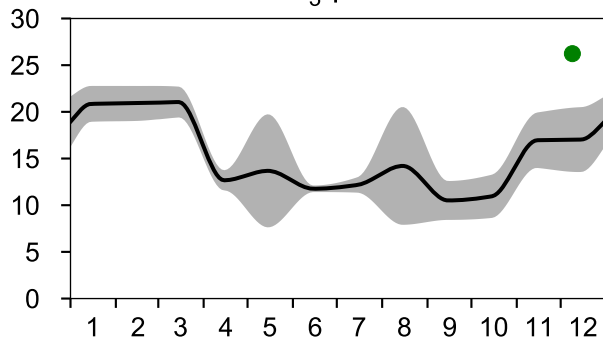
PO₄ µmol/l



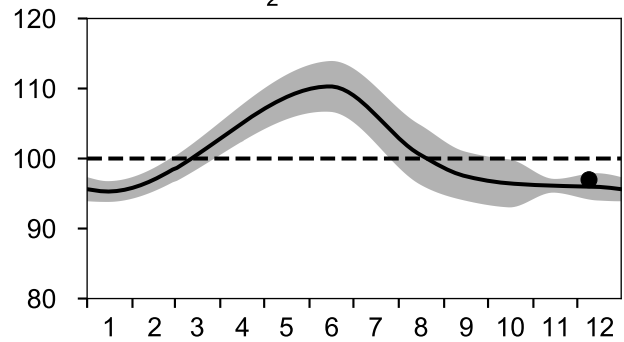
DIN µmol/l



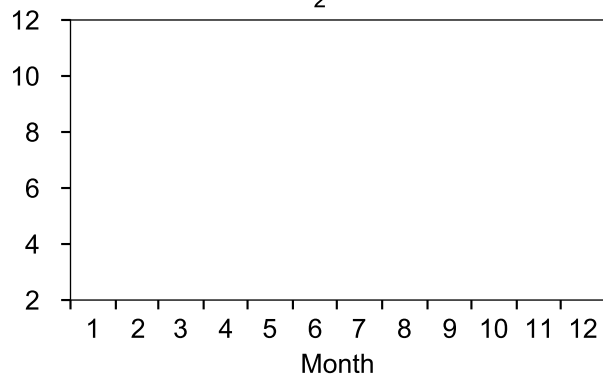
SiO₃ µmol/l



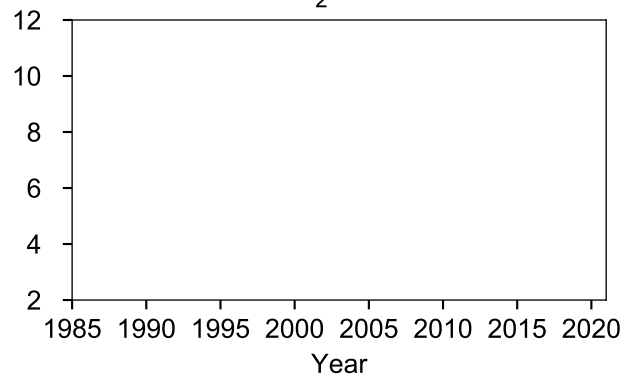
O₂ saturation %



O₂ ml/l

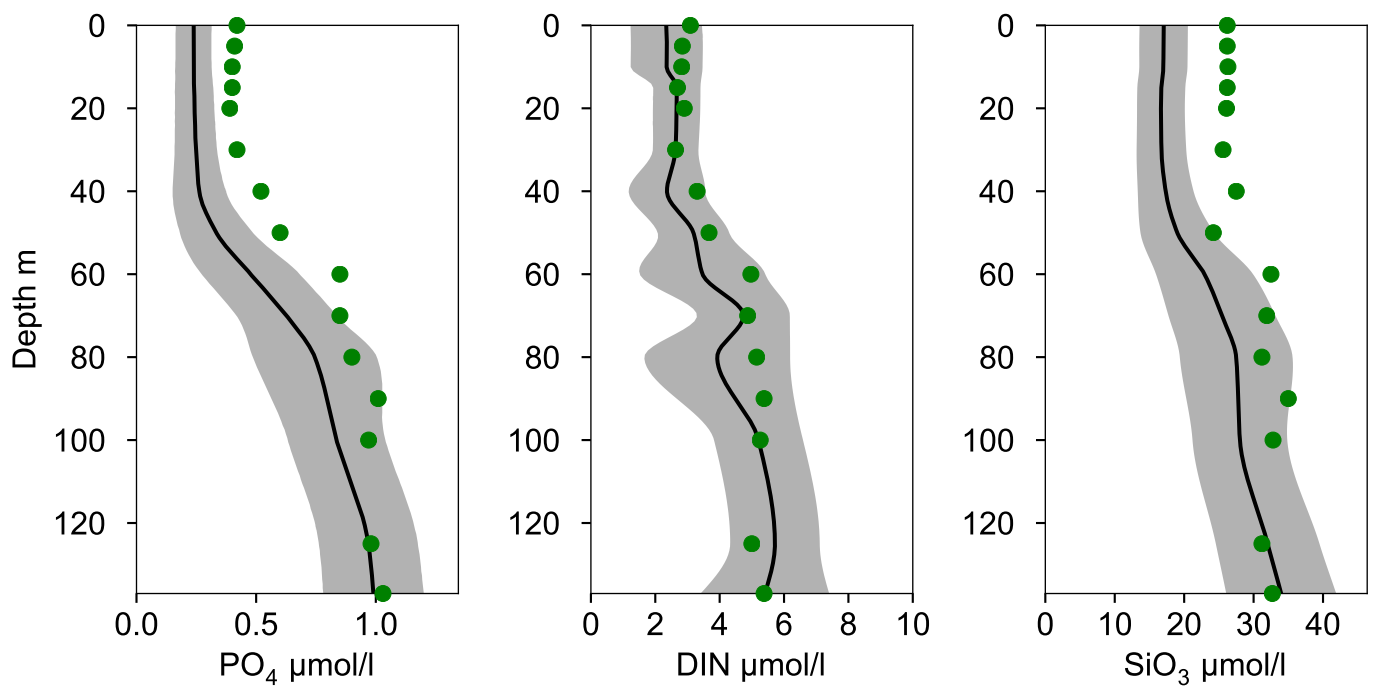
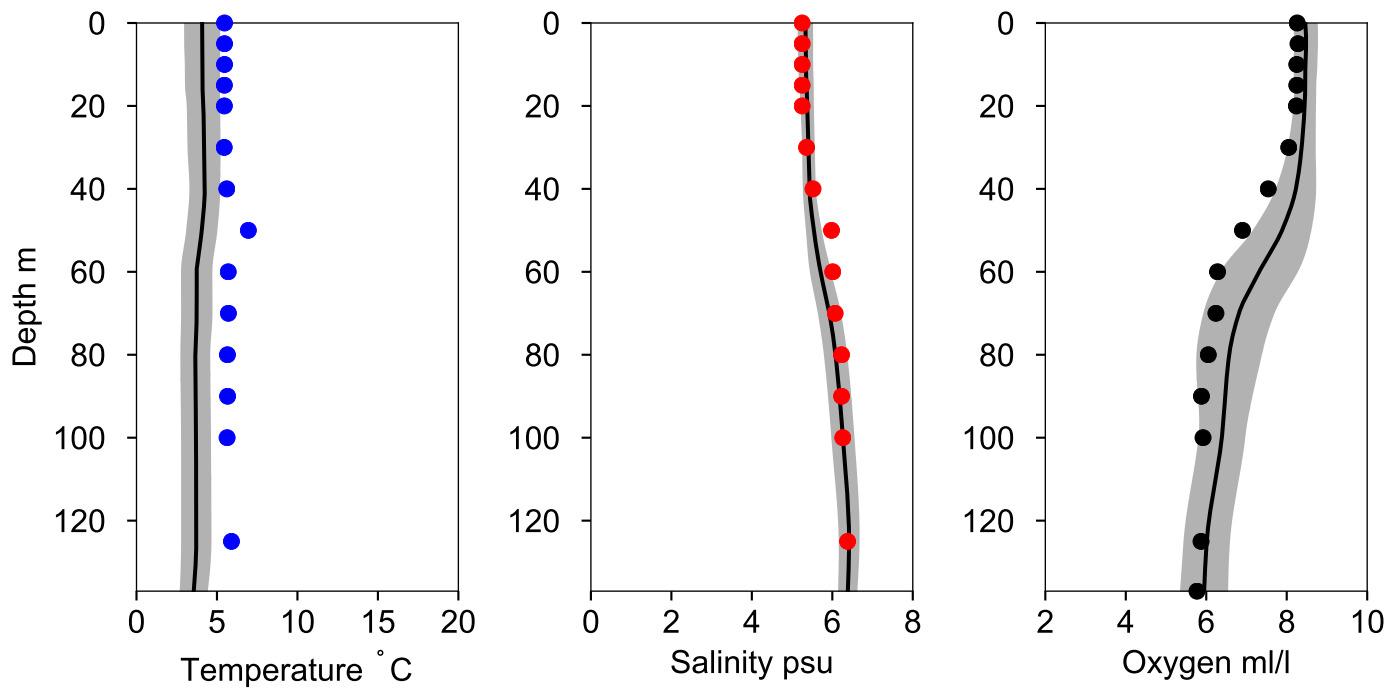


O₂ ml/l



Vertical profiles F33 GRUNDKALLEN December

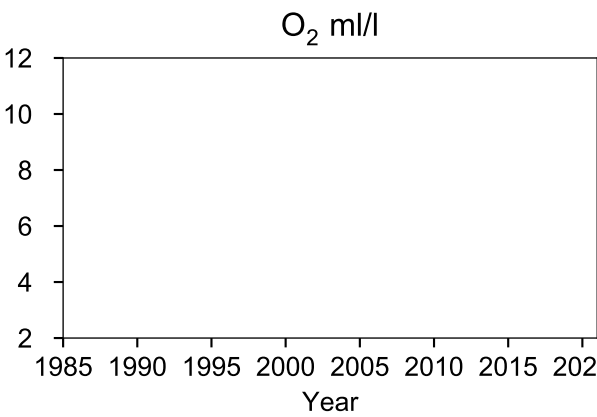
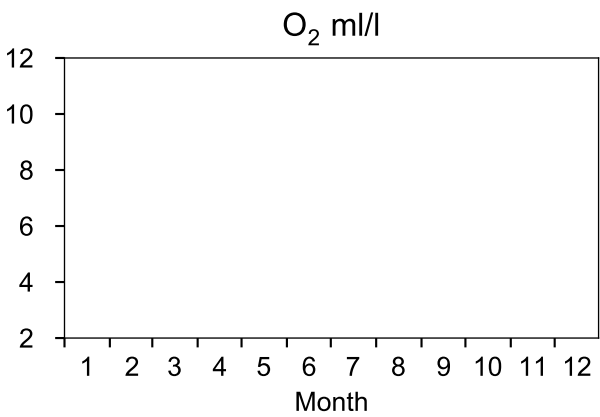
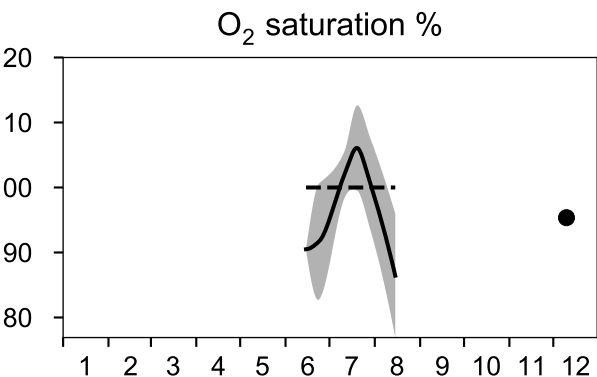
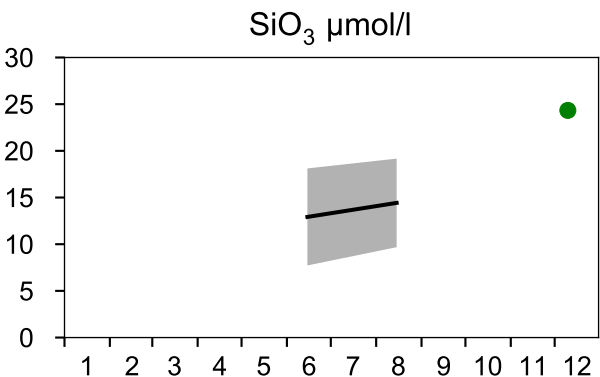
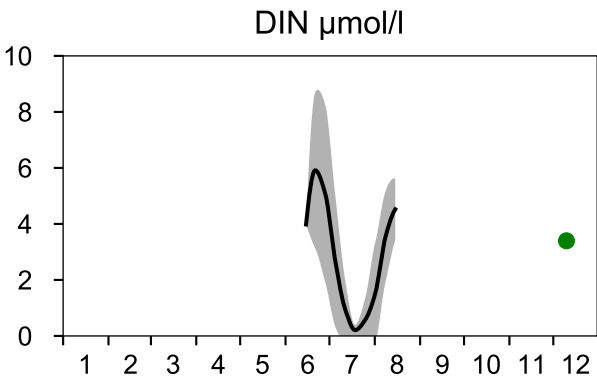
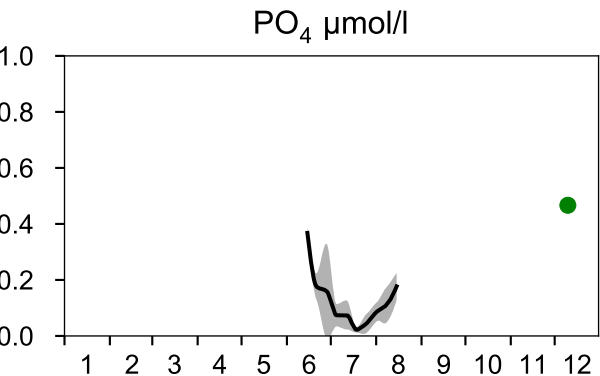
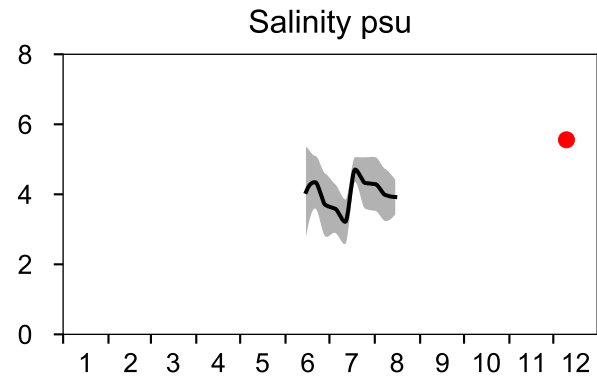
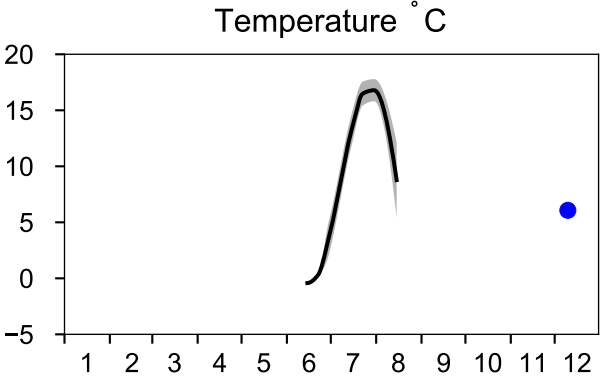
— Mean 2001-2015 St.Dev. • 2020-12-09



STATION NORRA RANDEN SURFACE WATER (0-10 m)

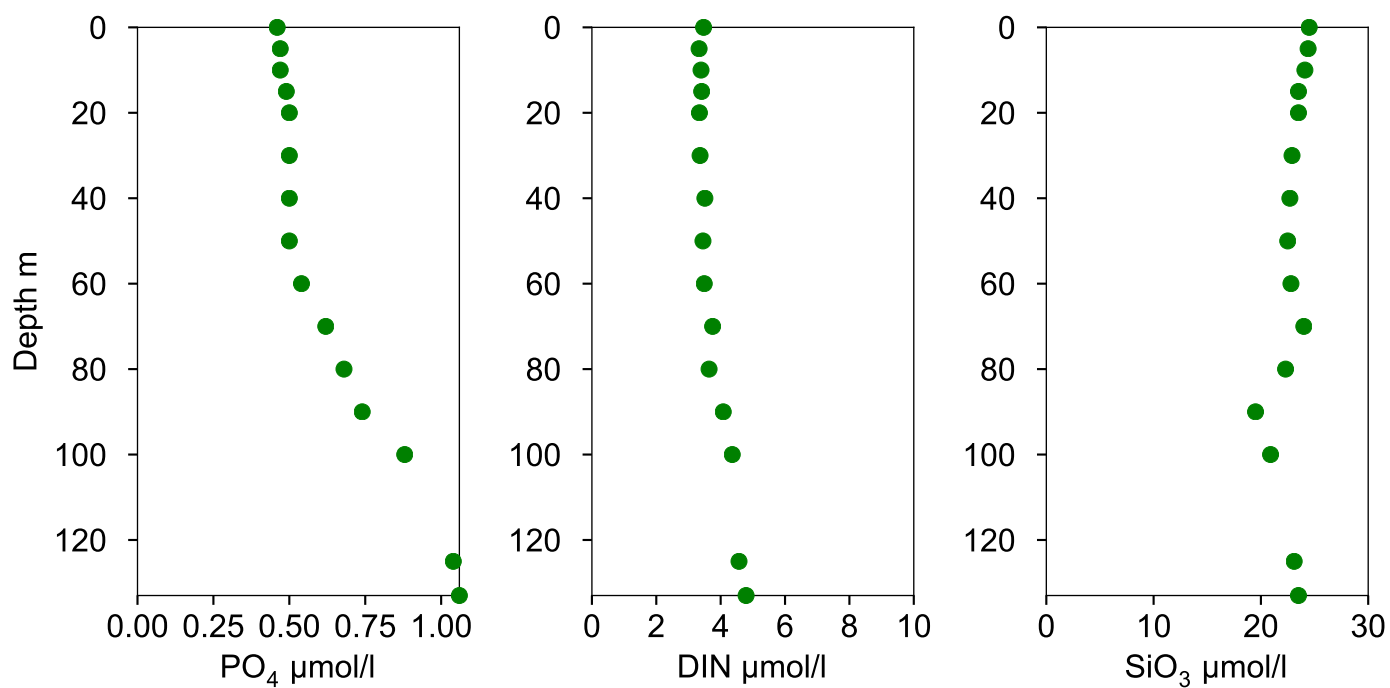
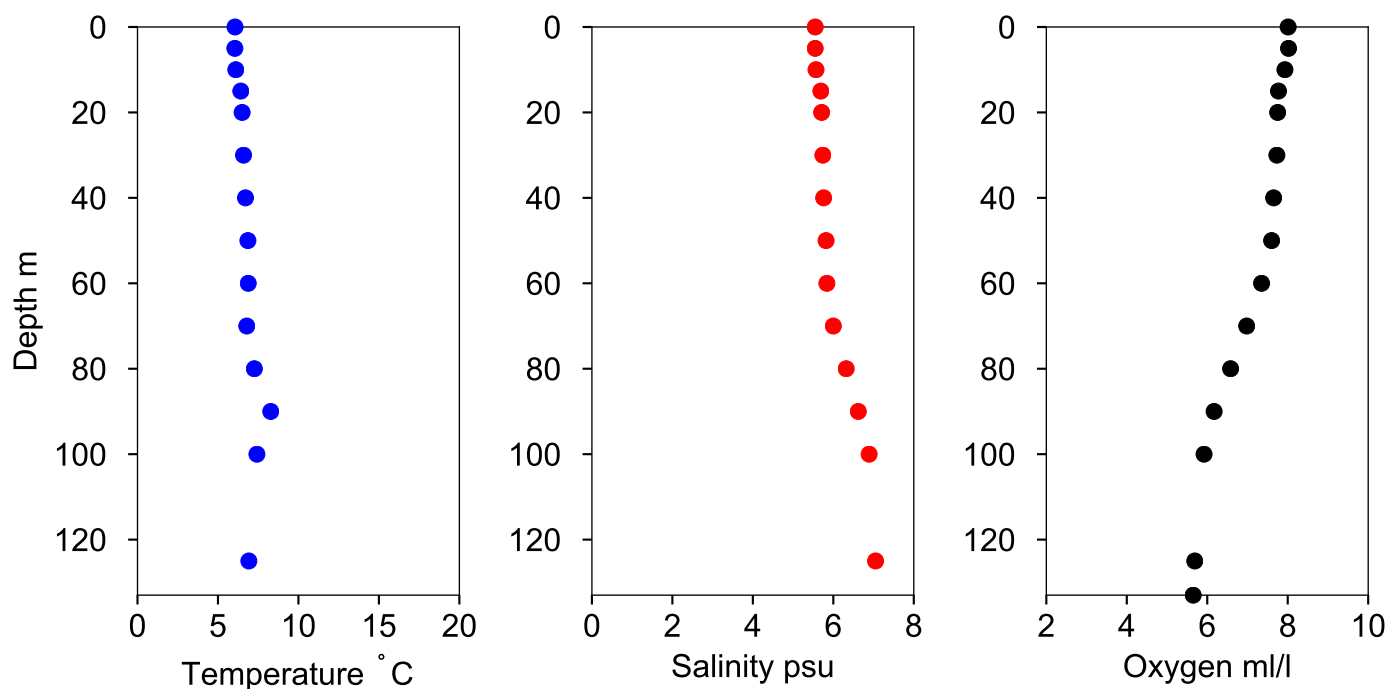
Annual Cycles

— Mean 2001-2015 St.Dev. • 2020



Vertical profiles NORRA RANDEN December

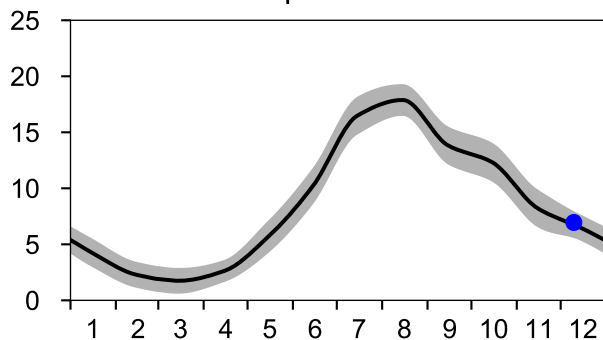
— Mean 2001-2015 ■ St.Dev. ● 2020-12-10



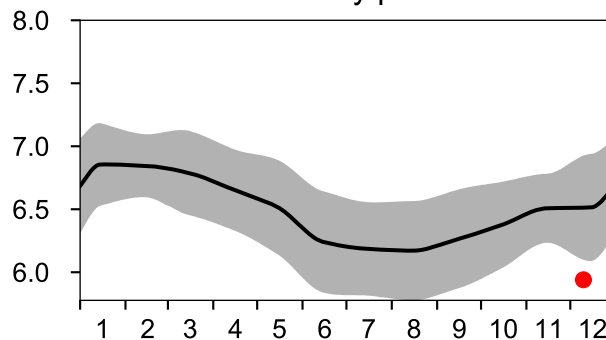
STATION TRÖSKELN ÅLANDS HAV SURFACE WATER (0-10 m)

Annual Cycles

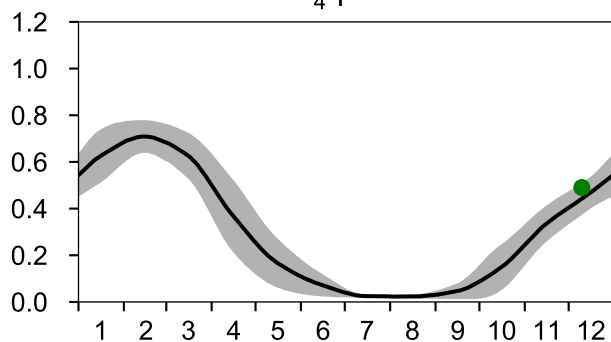
— Mean 2001-2015
Temperature °C



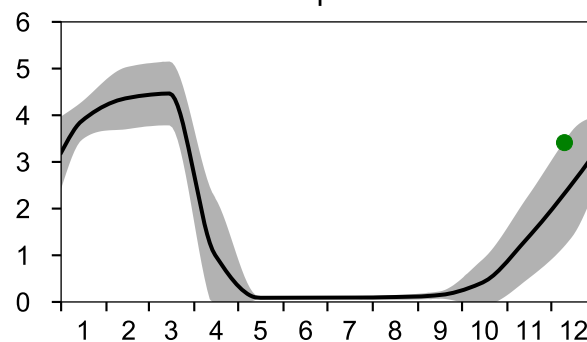
St.Dev. ● 2020
Salinity psu



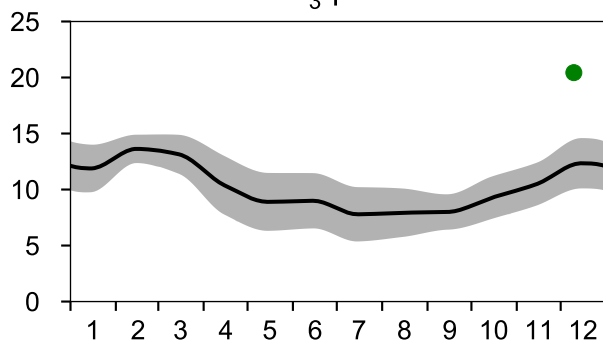
PO₄ µmol/l



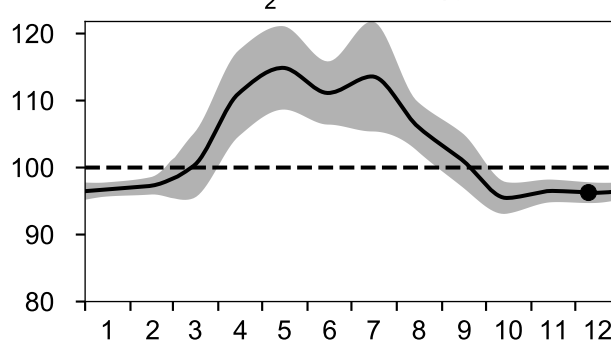
DIN µmol/l



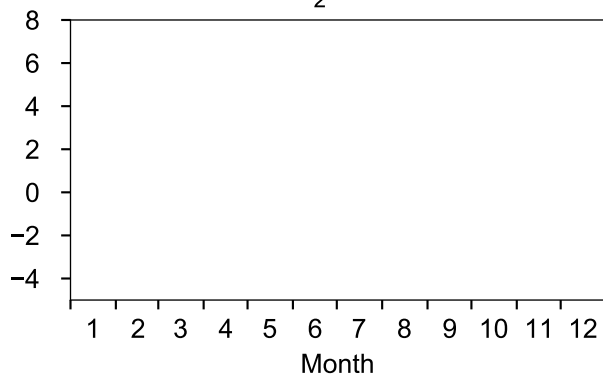
SiO₃ µmol/l



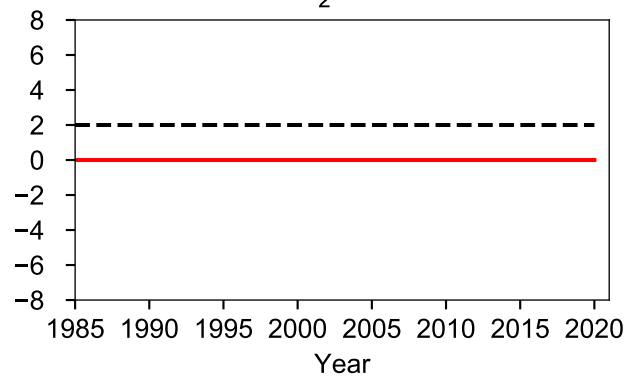
O₂ saturation %



O₂ ml/l

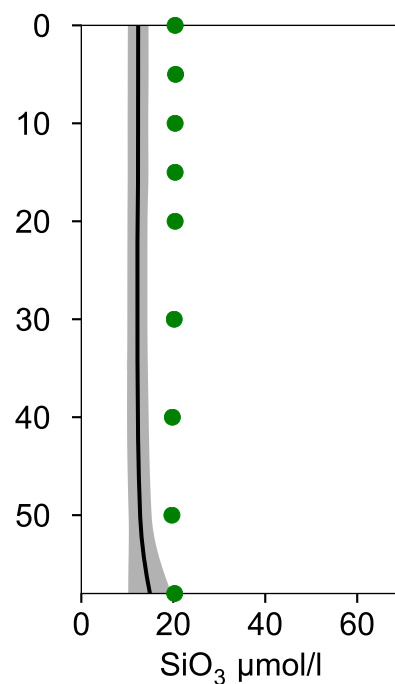
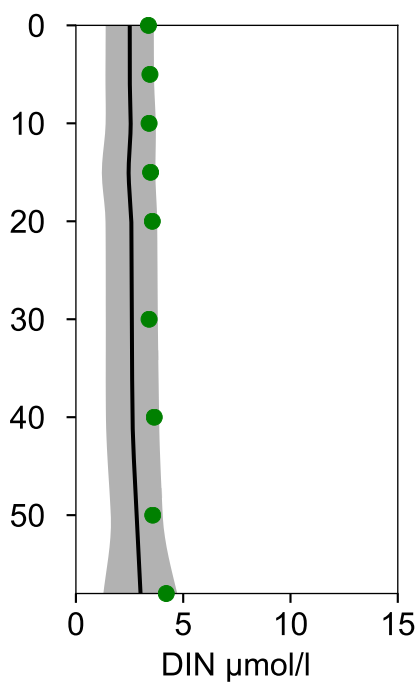
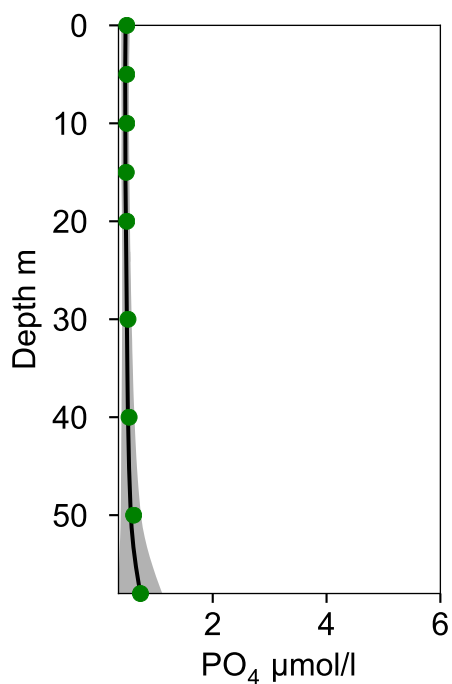
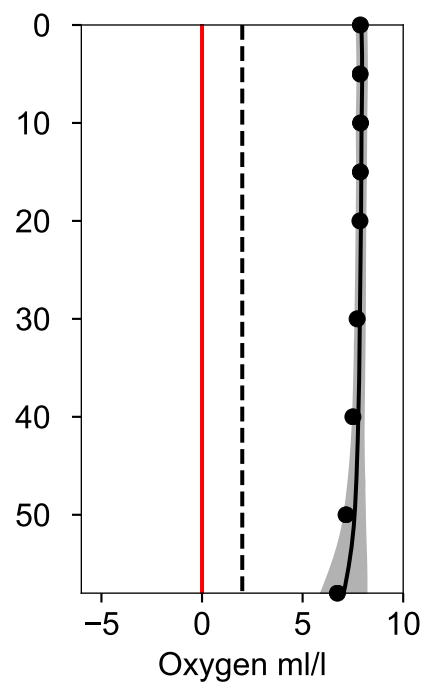
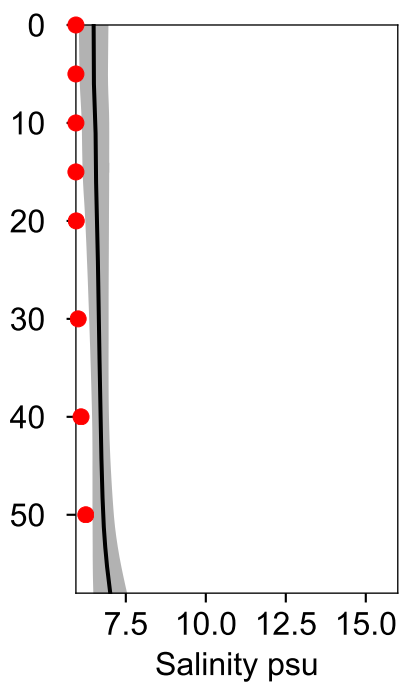
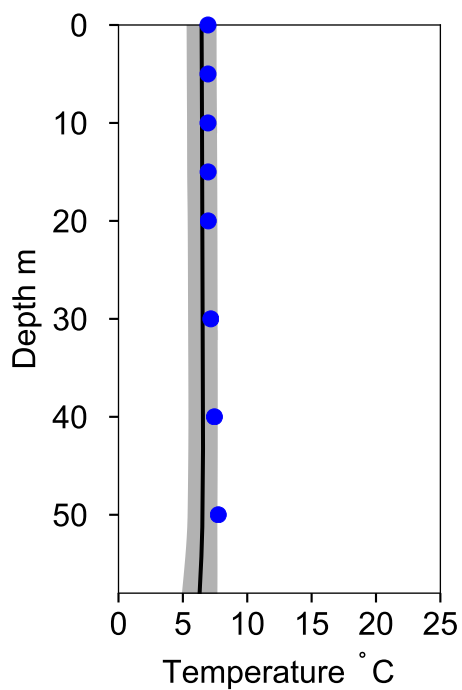


O₂ ml/l



Vertical profiles TRÖSKELN ÅLANDS HAV December

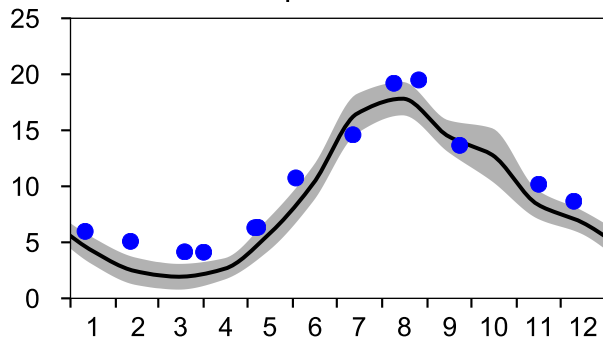
— Mean 2001-2015 St.Dev. • 2020-12-10



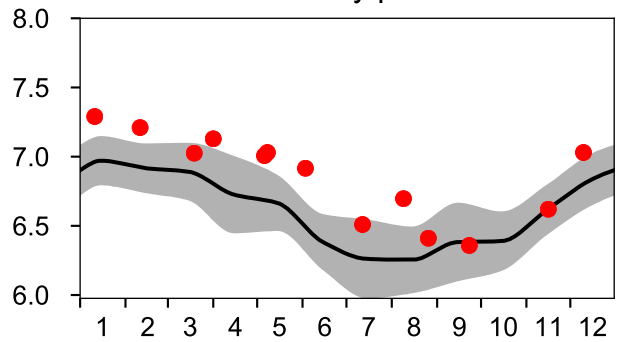
STATION BY29 / LL19 SURFACE WATER (0-10 m)

Annual Cycles

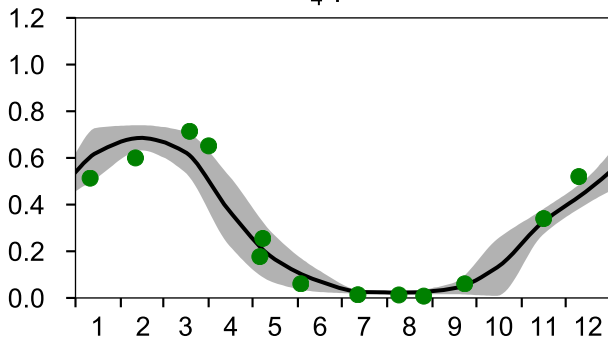
— Mean 2001-2015
Temperature °C



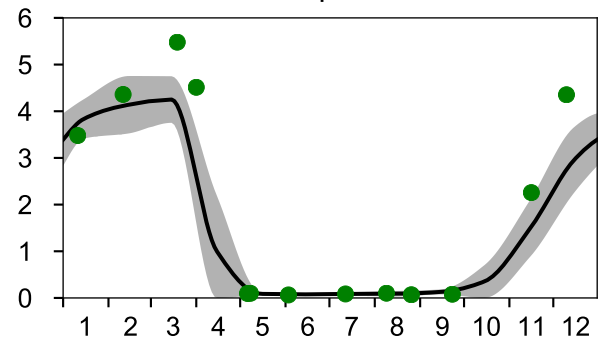
— St.Dev. • 2020
Salinity psu



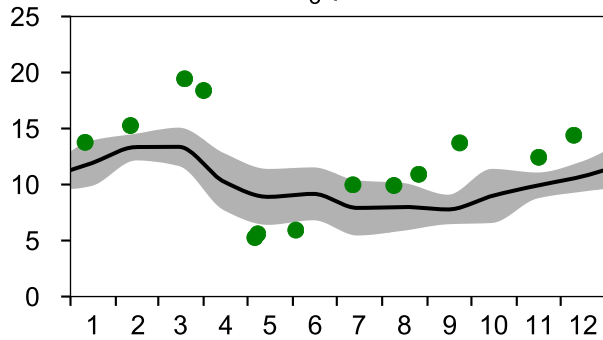
PO₄ µmol/l



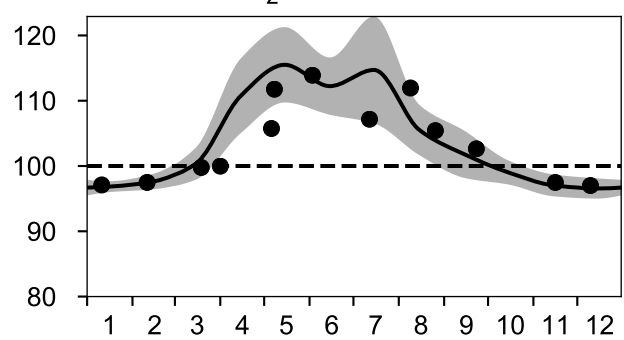
DIN µmol/l



SiO₃ µmol/l

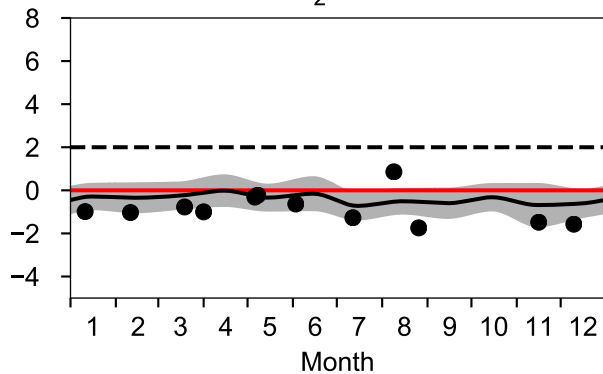


O₂ saturation %

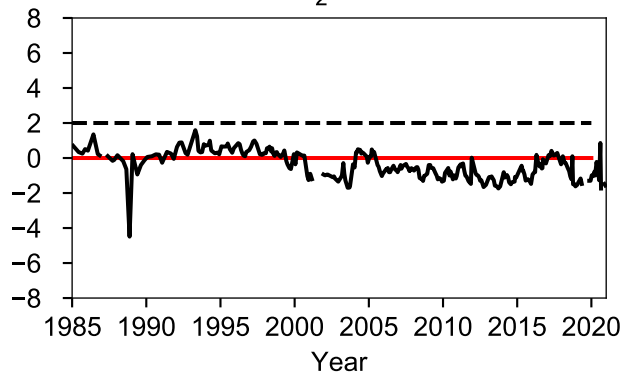


OXYGEN IN BOTTOM WATER (depth >= 150 m)

O₂ ml/l

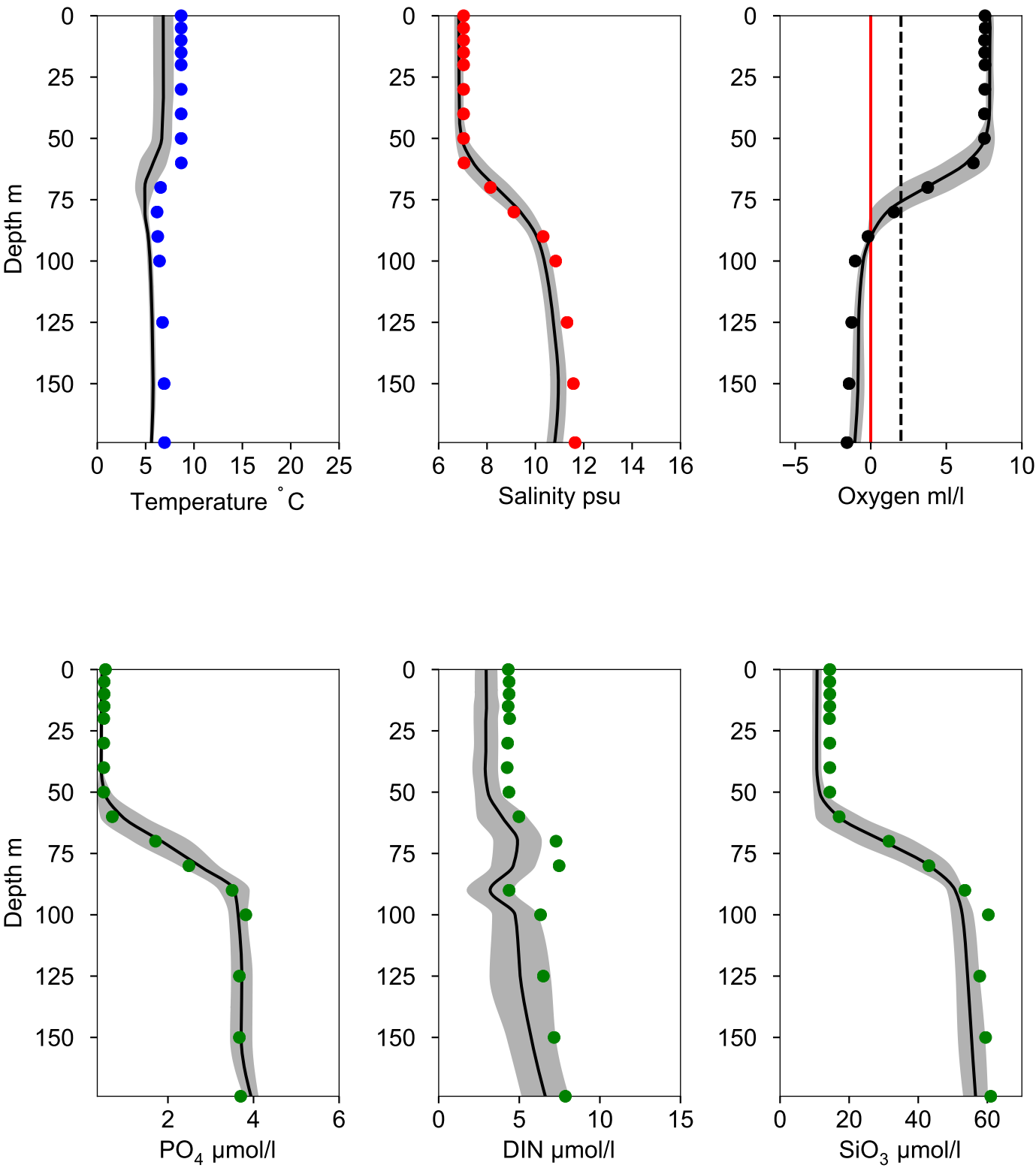


O₂ ml/l



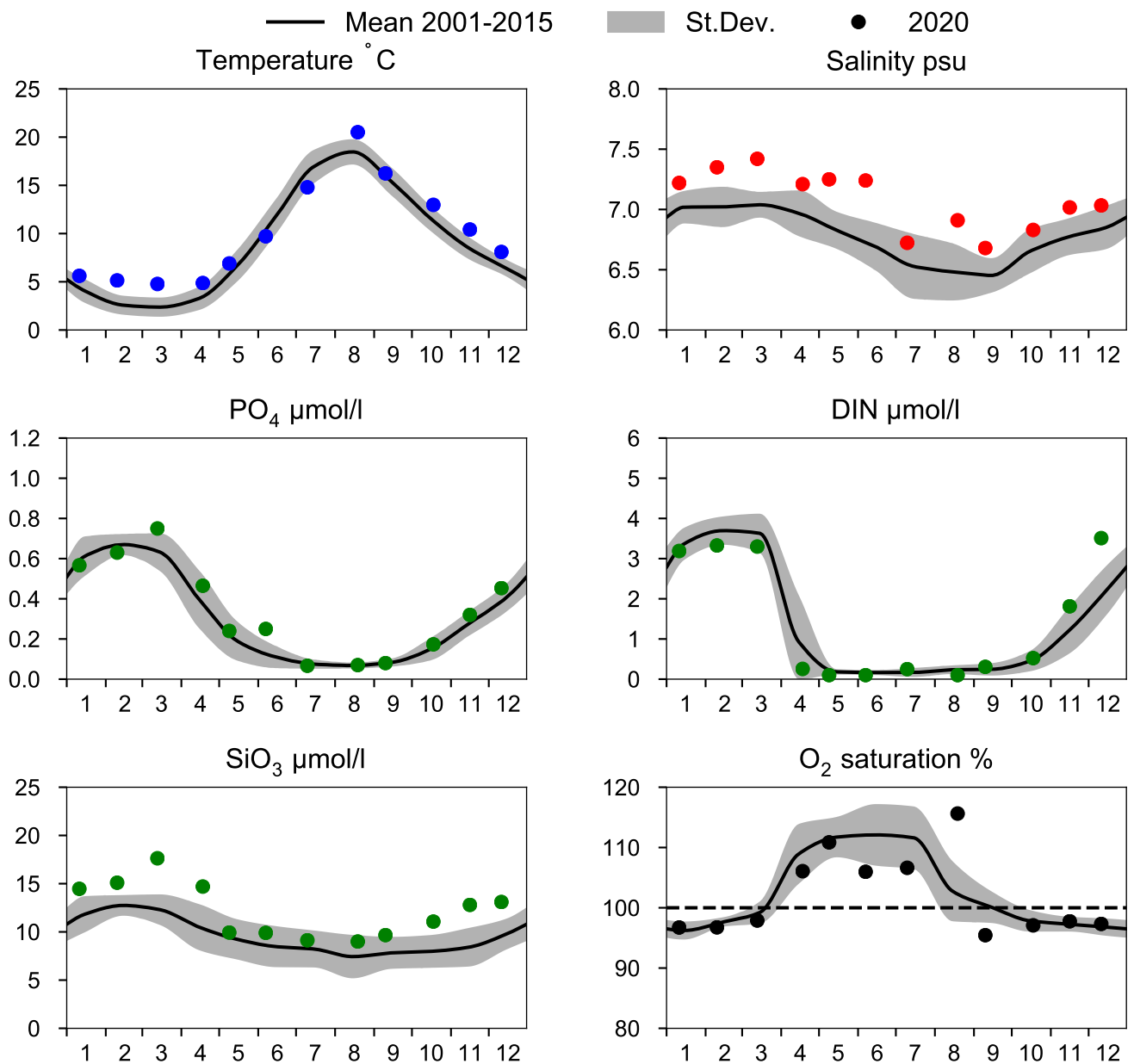
Vertical profiles BY29 / LL19
December

— Mean 2001-2015 St.Dev. • 2020-12-10

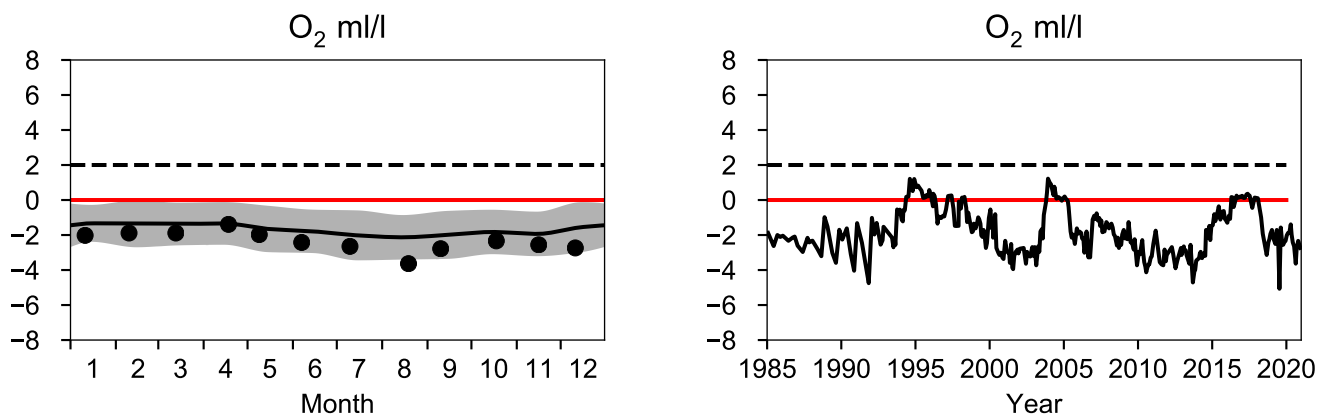


STATION BY20 FÅRÖDJ SURFACE WATER (0-10 m)

Annual Cycles

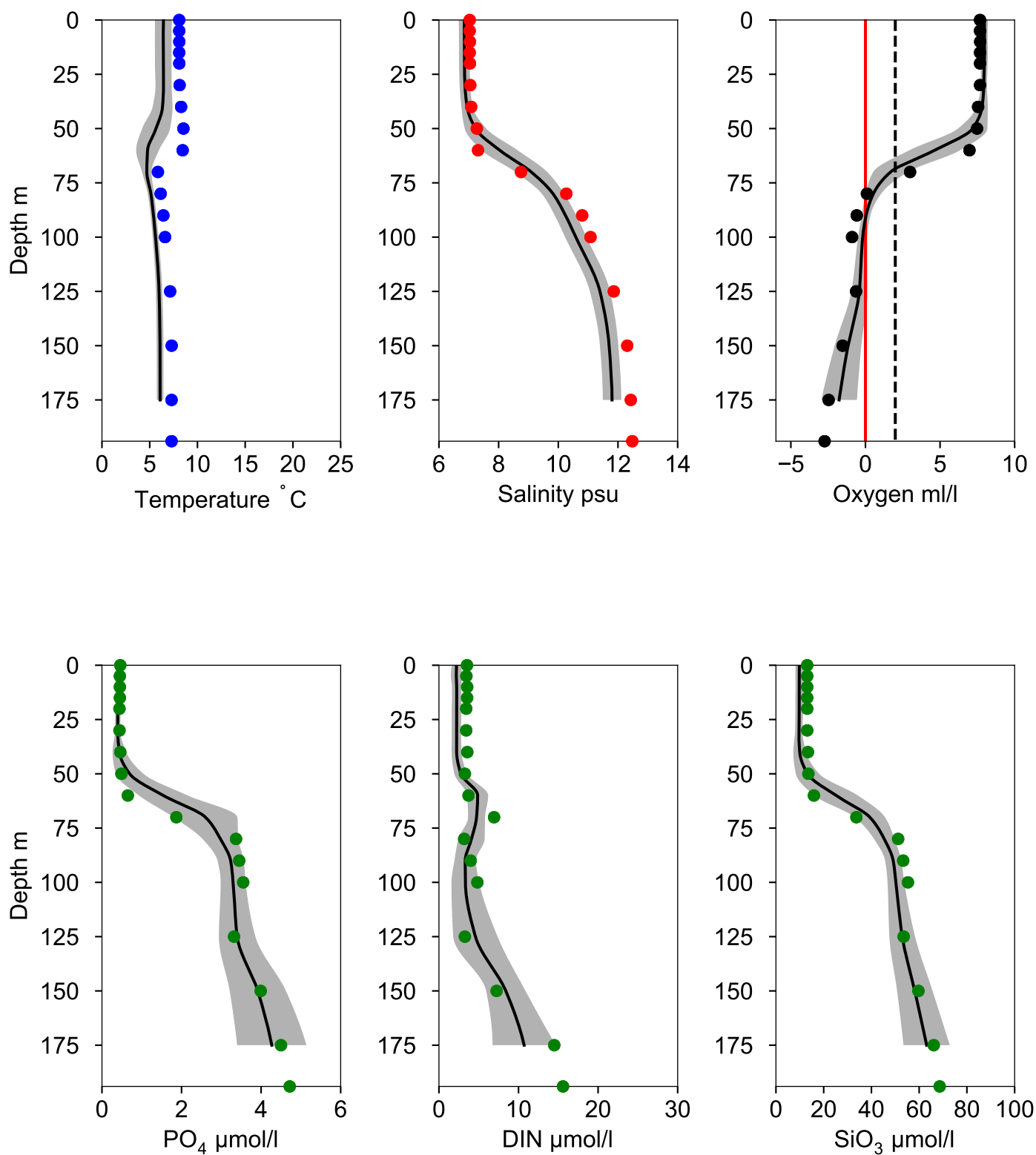


OXYGEN IN BOTTOM WATER (depth >= 175 m)



Vertical profiles BY20 FÅRÖDJ December

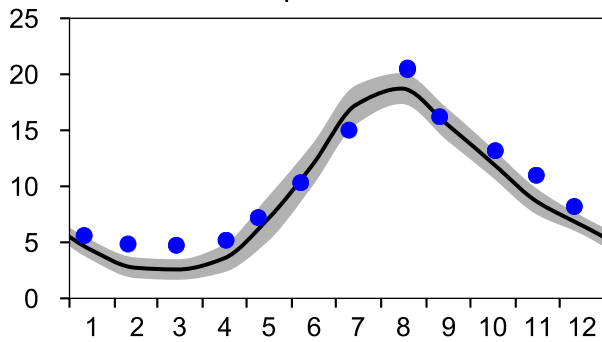
— Mean 2001-2015 St.Dev. • 2020-12-11



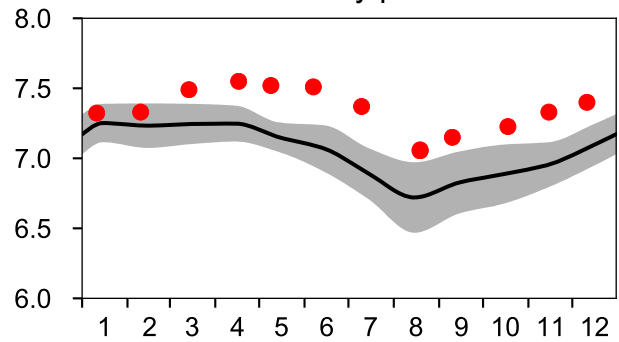
STATION BY15 GOTLANDSDJ SURFACE WATER (0-10 m)

Annual Cycles

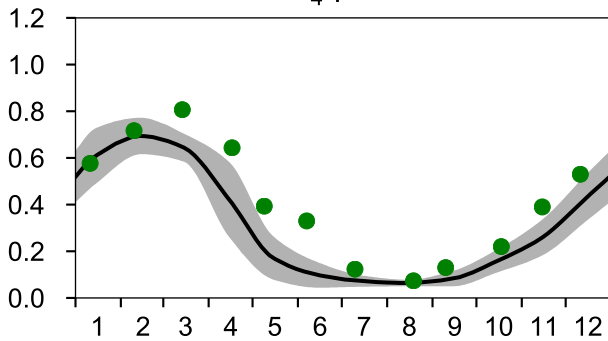
— Mean 2001-2015
Temperature °C



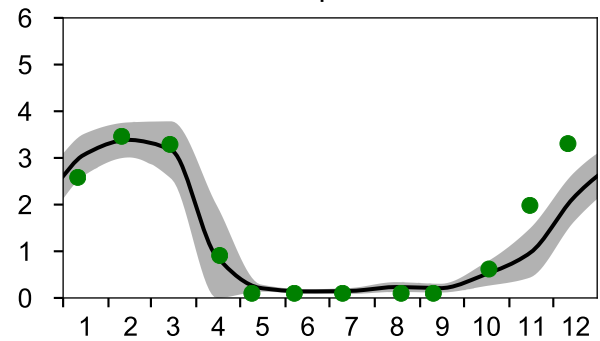
— St.Dev. • 2020
Salinity psu



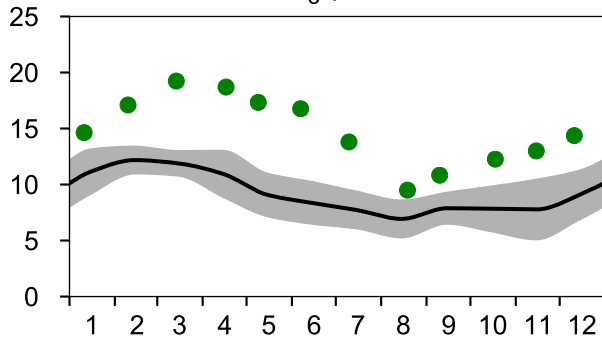
PO₄ µmol/l



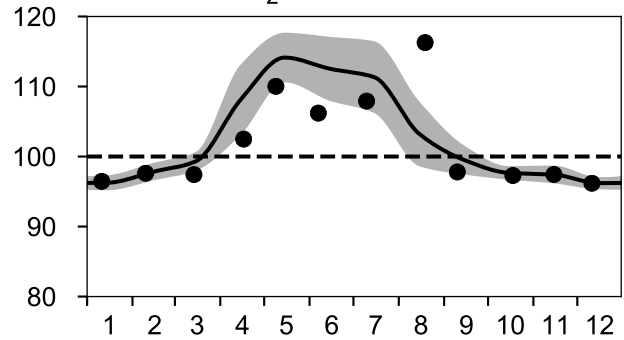
DIN µmol/l



SiO₃ µmol/l

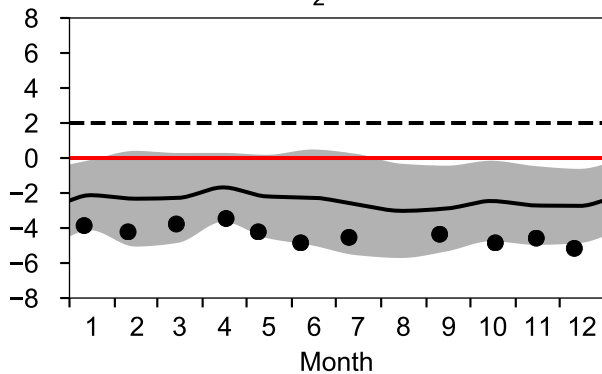


O₂ saturation %

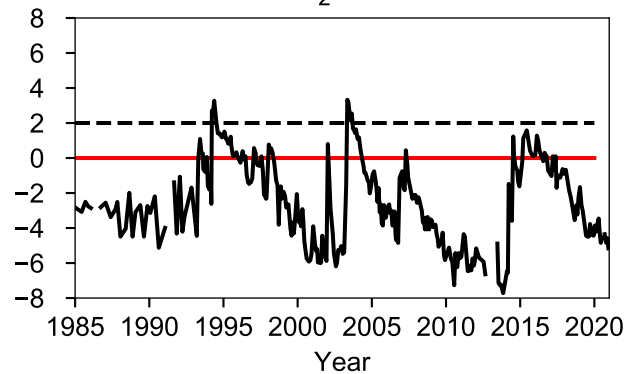


OXYGEN IN BOTTOM WATER (depth >= 225 m)

O₂ ml/l

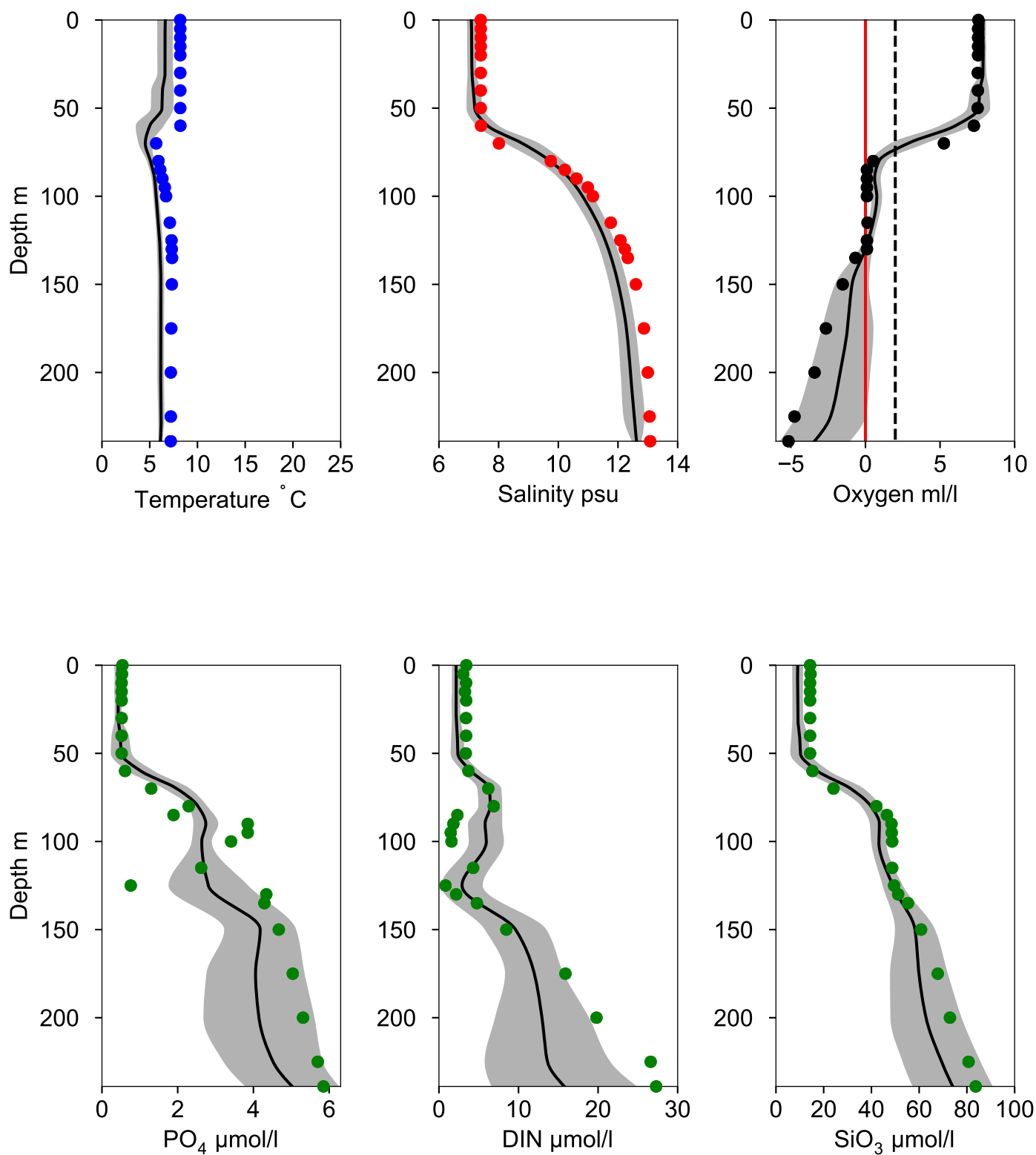


O₂ ml/l



Vertical profiles BY15 GOTLANDSDJ December

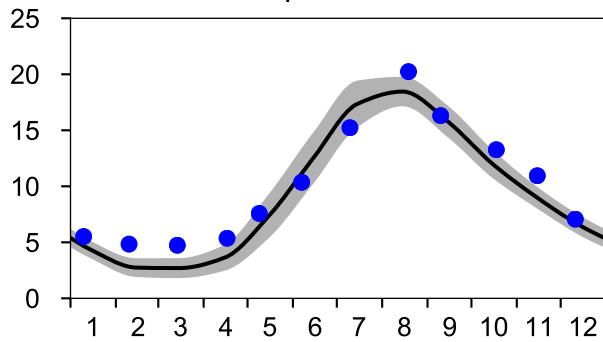
— Mean 2001-2015 St.Dev. • 2020-12-11



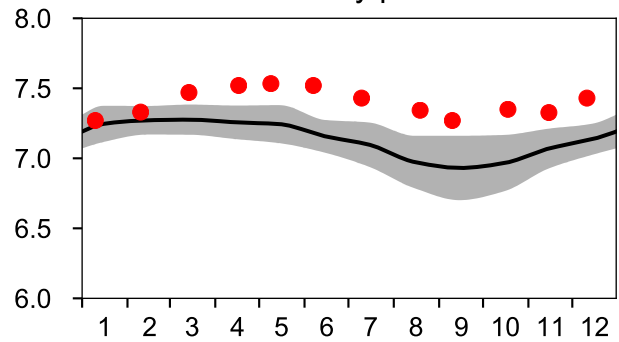
STATION BY10 SURFACE WATER (0-10 m)

Annual Cycles

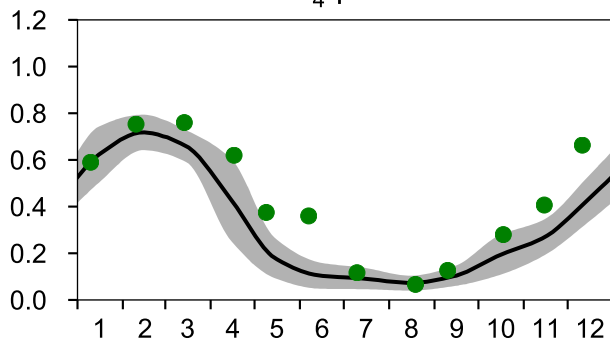
— Mean 2001-2015
Temperature °C



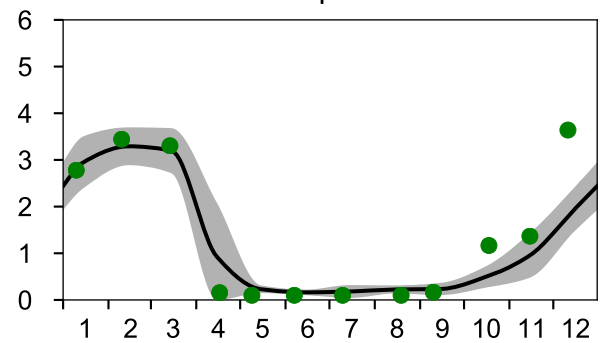
St.Dev. ● 2020
Salinity psu



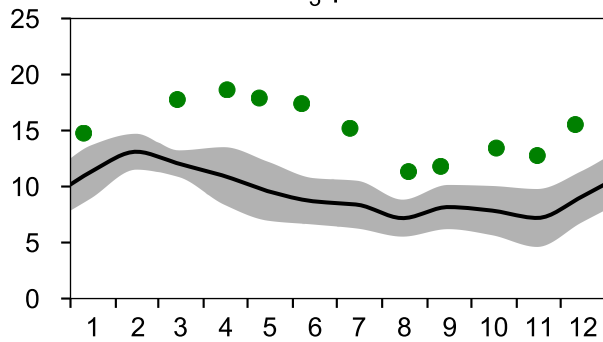
PO₄ μmol/l



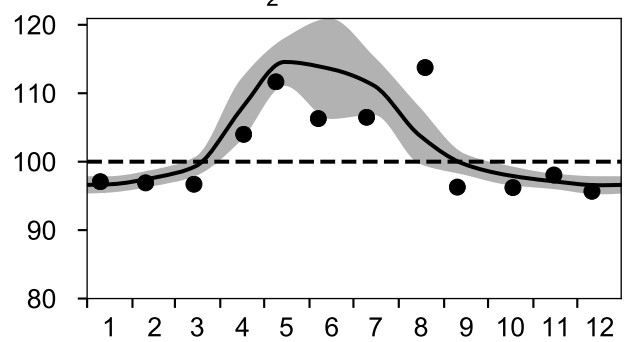
DIN μmol/l



SiO₃ μmol/l

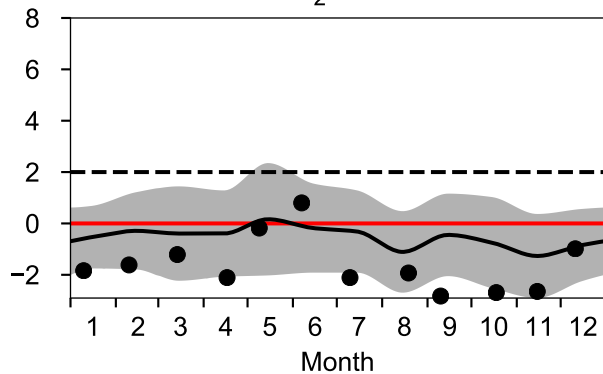


O₂ saturation %

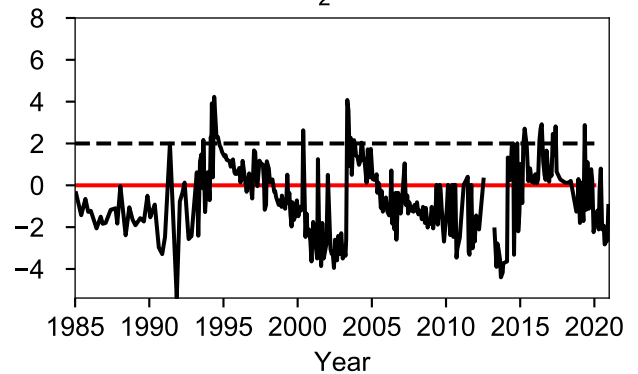


OXYGEN IN BOTTOM WATER (depth >= 125 m)

O₂ ml/l

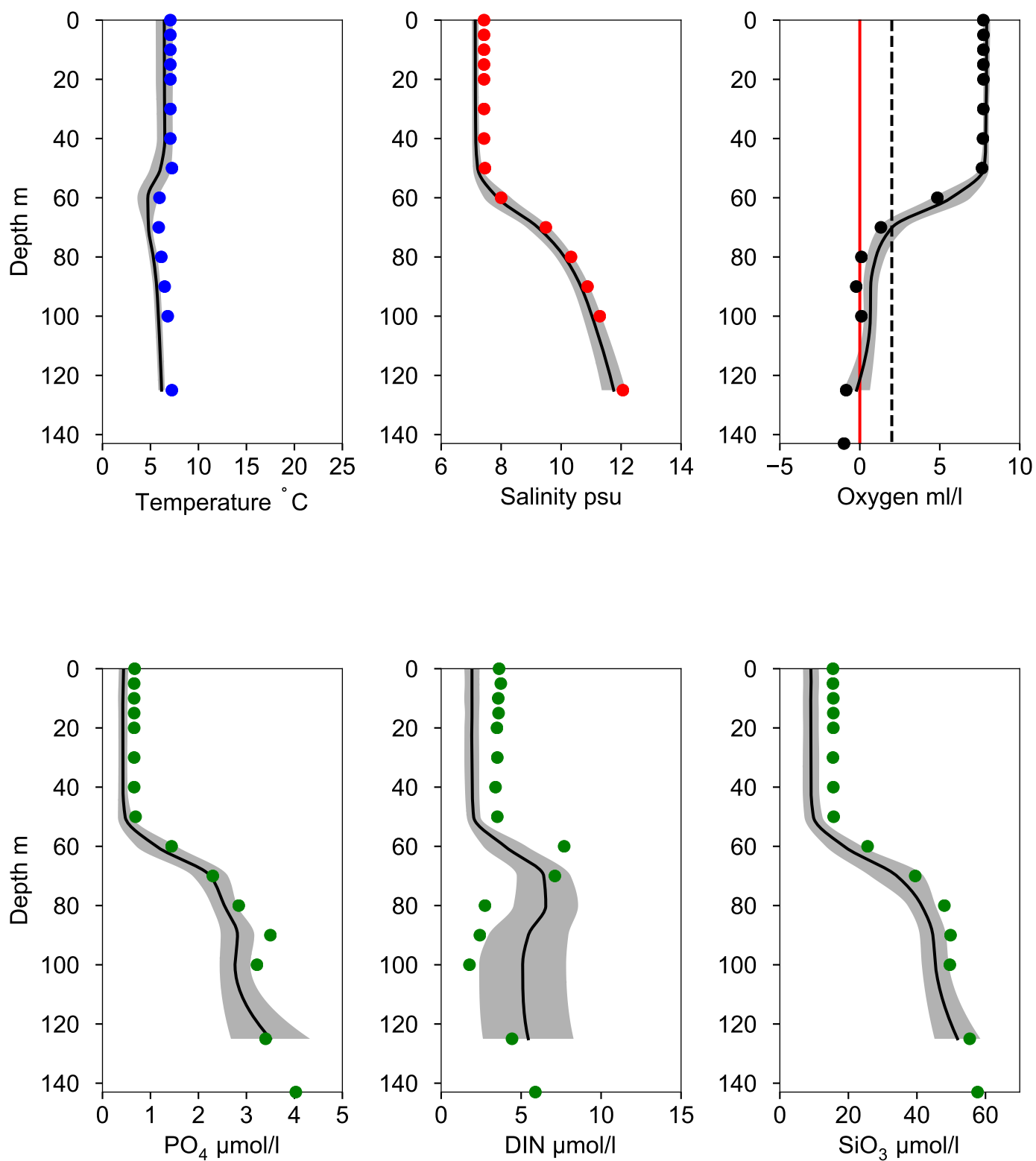


O₂ ml/l



Vertical profiles BY10 December

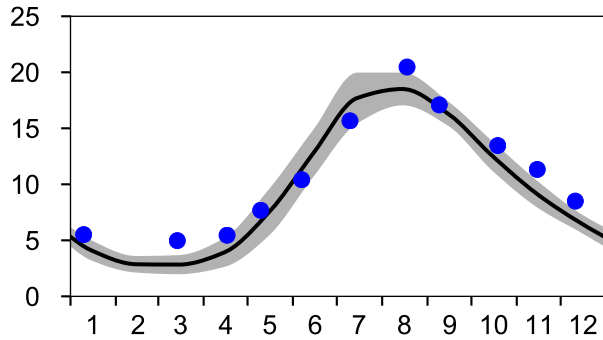
— Mean 2001-2015 St.Dev. • 2020-12-11



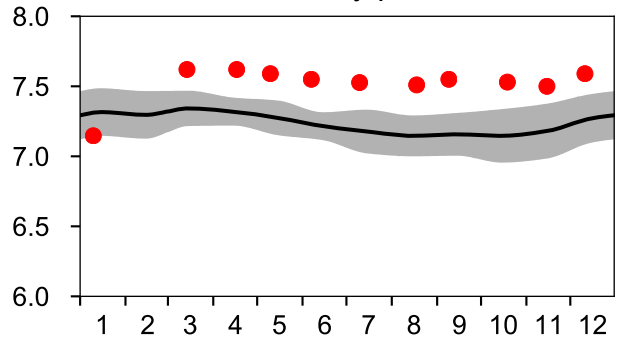
STATION BCS III-10 SURFACE WATER (0-10 m)

Annual Cycles

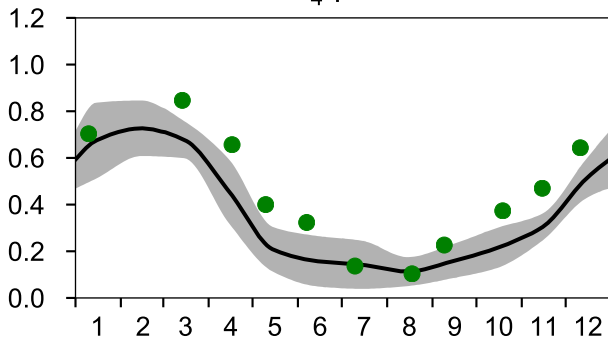
— Mean 2001-2015
Temperature °C



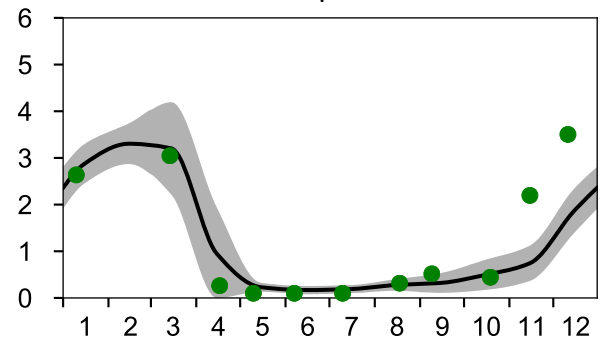
St.Dev. ● 2020
Salinity psu



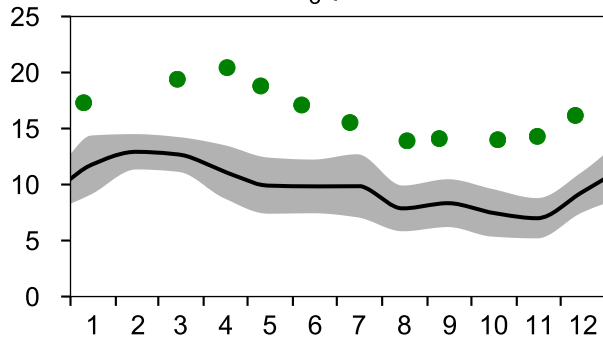
PO₄ µmol/l



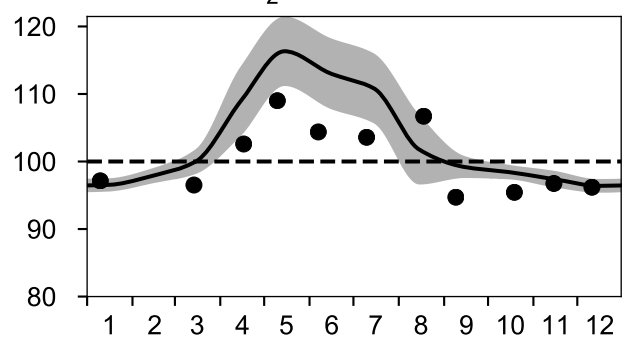
DIN µmol/l



SiO₃ µmol/l

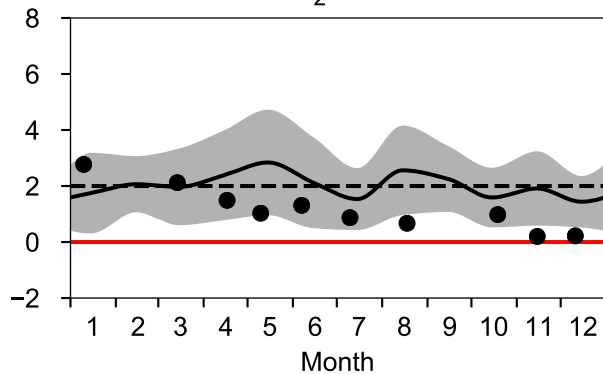


O₂ saturation %

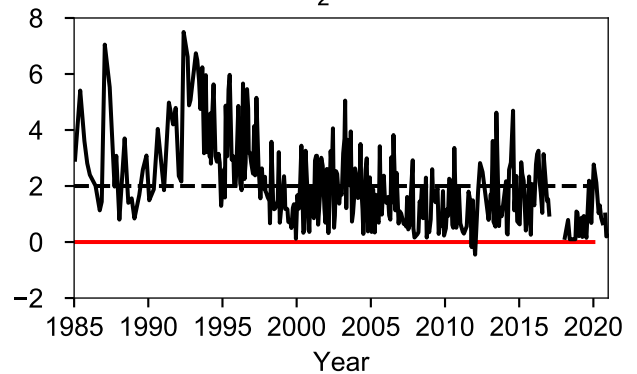


OXYGEN IN BOTTOM WATER (depth >= 80 m)

O₂ ml/l

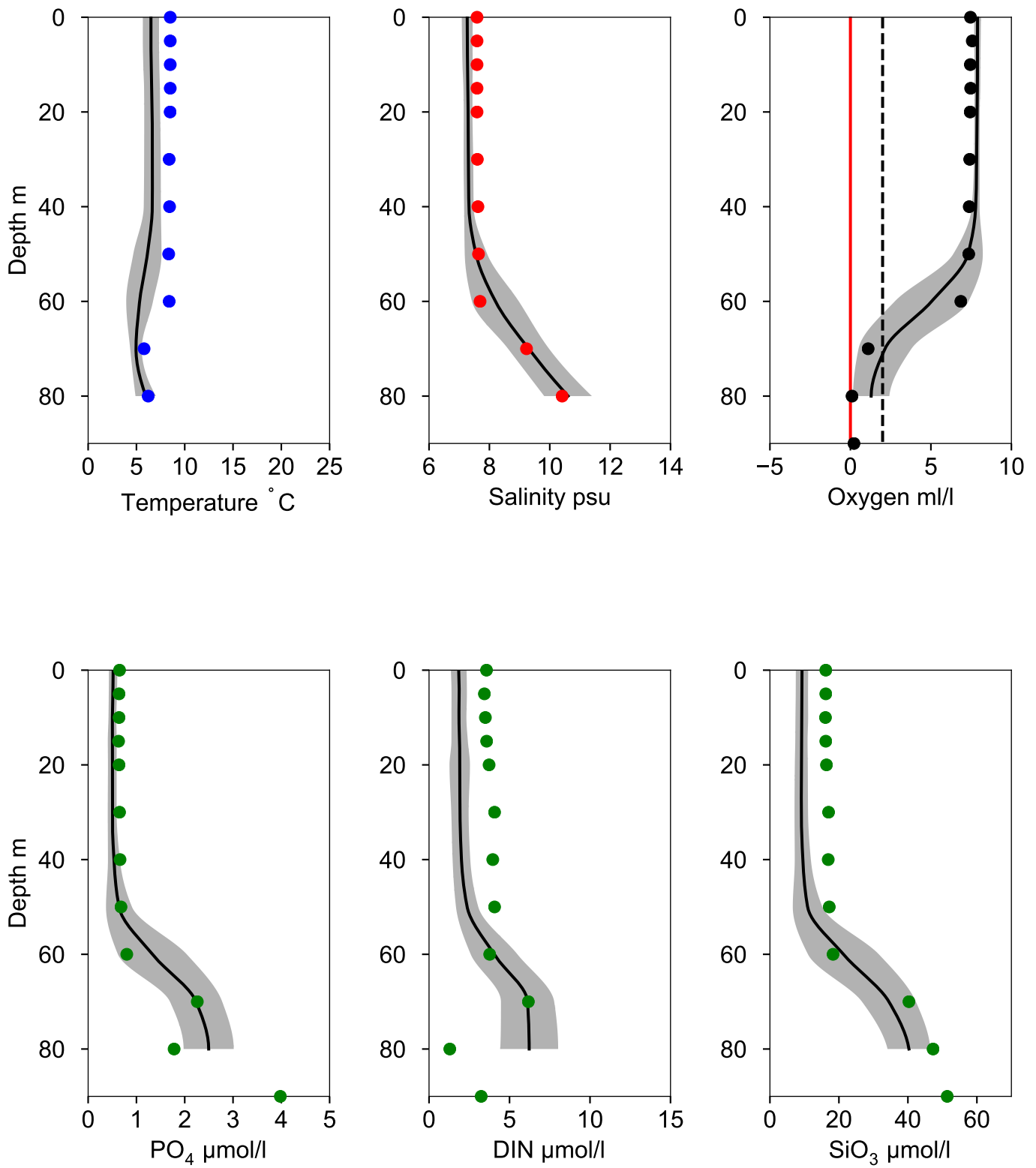


O₂ ml/l



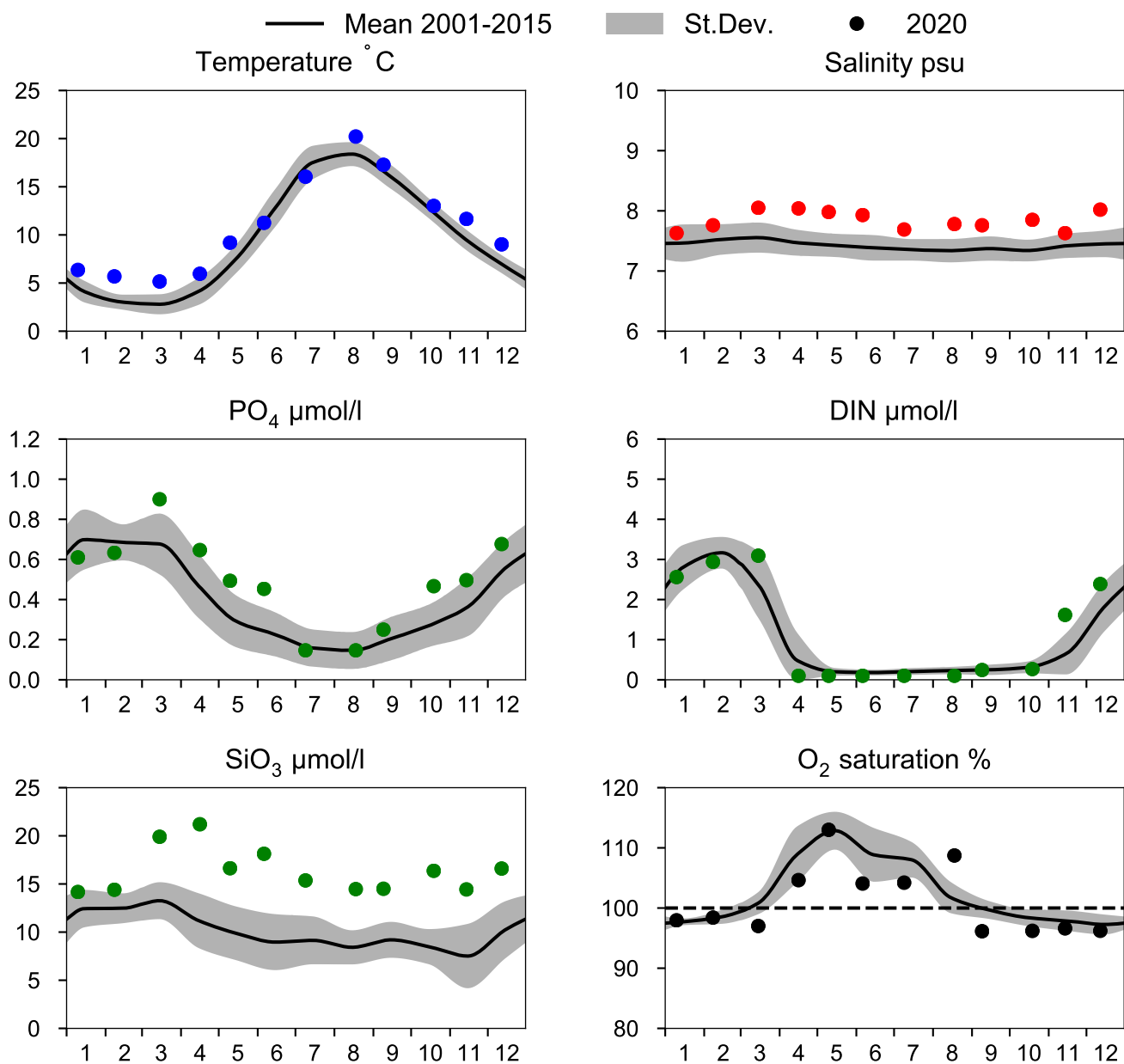
Vertical profiles BCS III-10 December

— Mean 2001-2015 St.Dev. • 2020-12-11

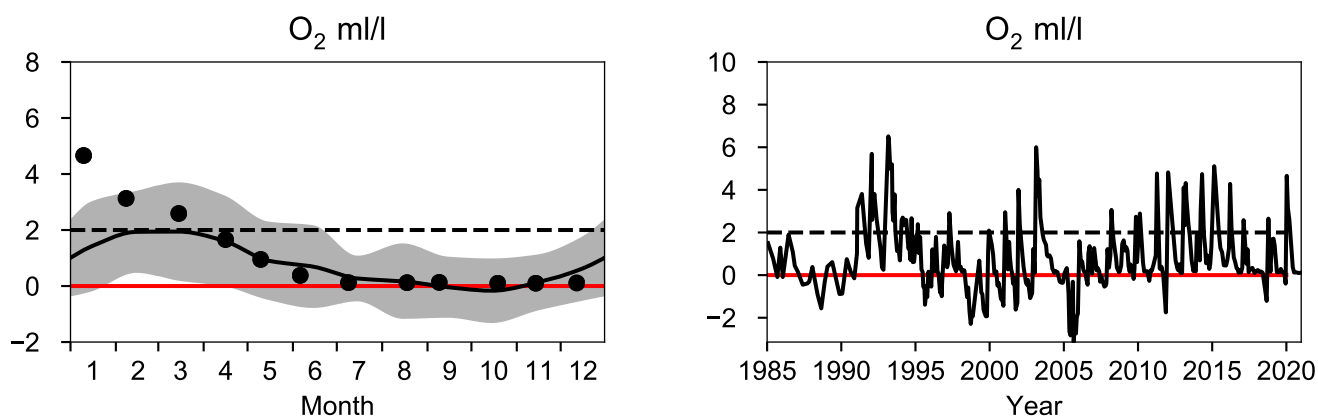


STATION BY5 BORNHOLMSDJ SURFACE WATER (0-10 m)

Annual Cycles

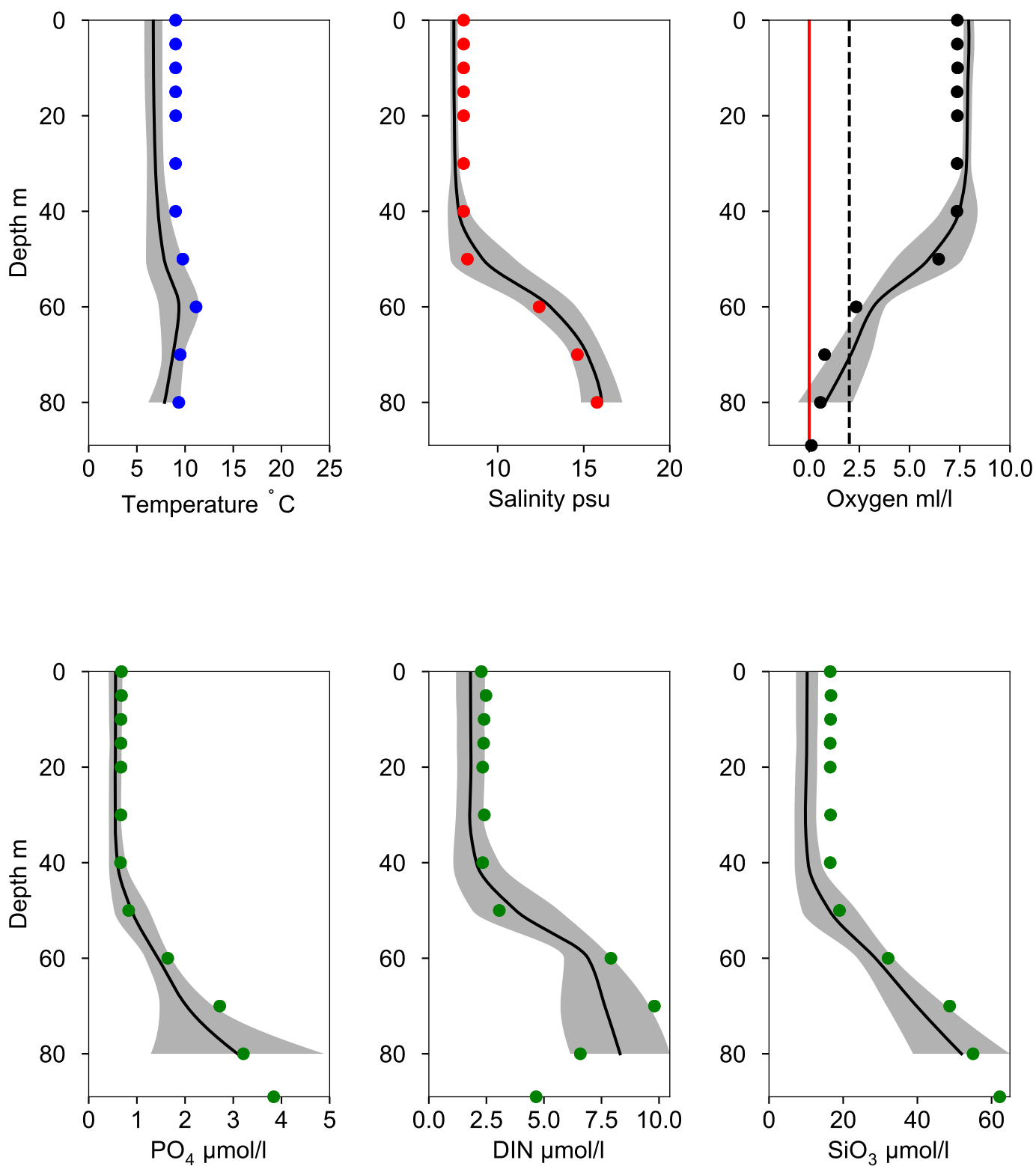


OXYGEN IN BOTTOM WATER (depth >= 80 m)



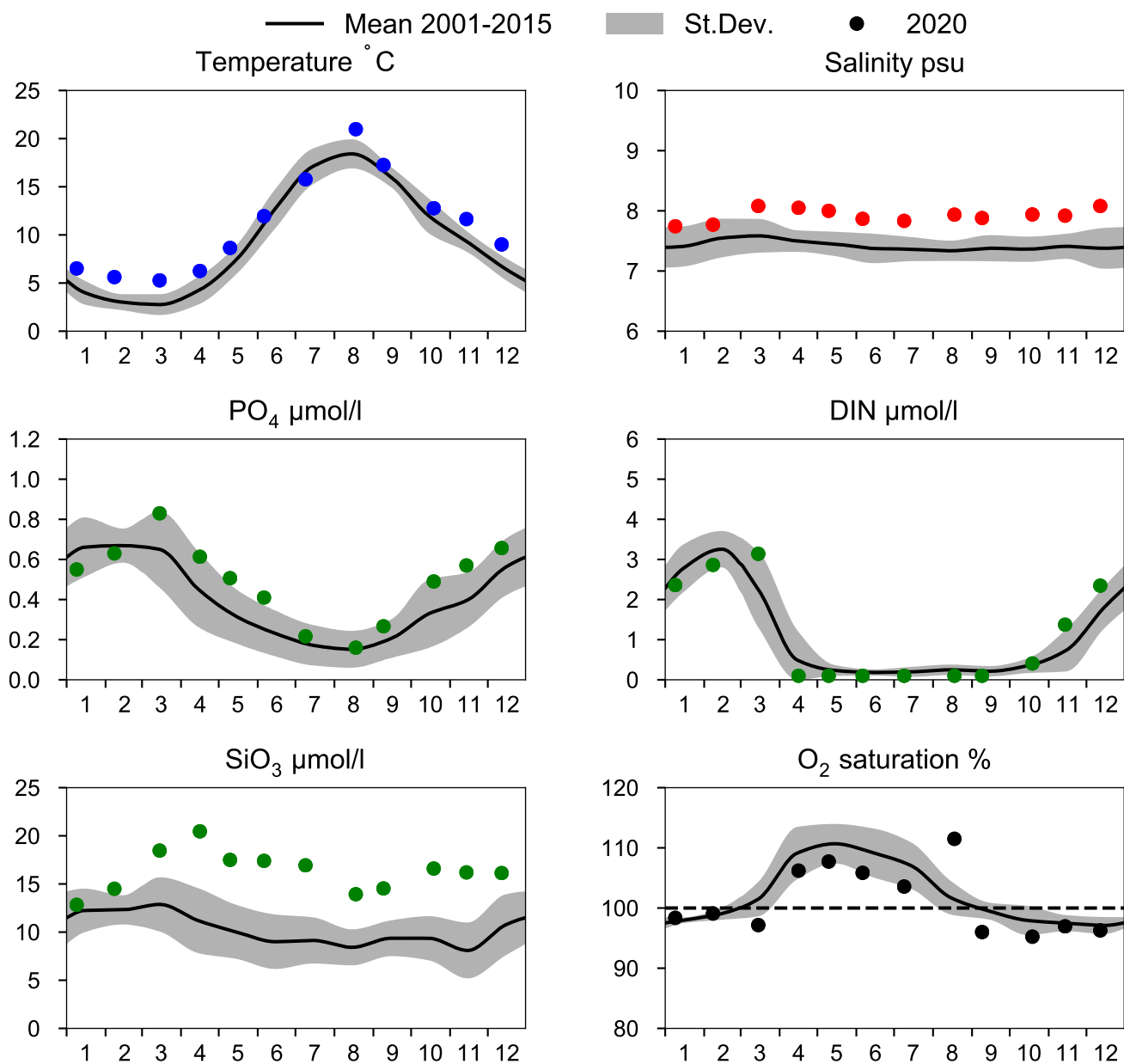
Vertical profiles BY5 BORNHOLMSDJ December

— Mean 2001-2015 St.Dev. • 2020-12-12

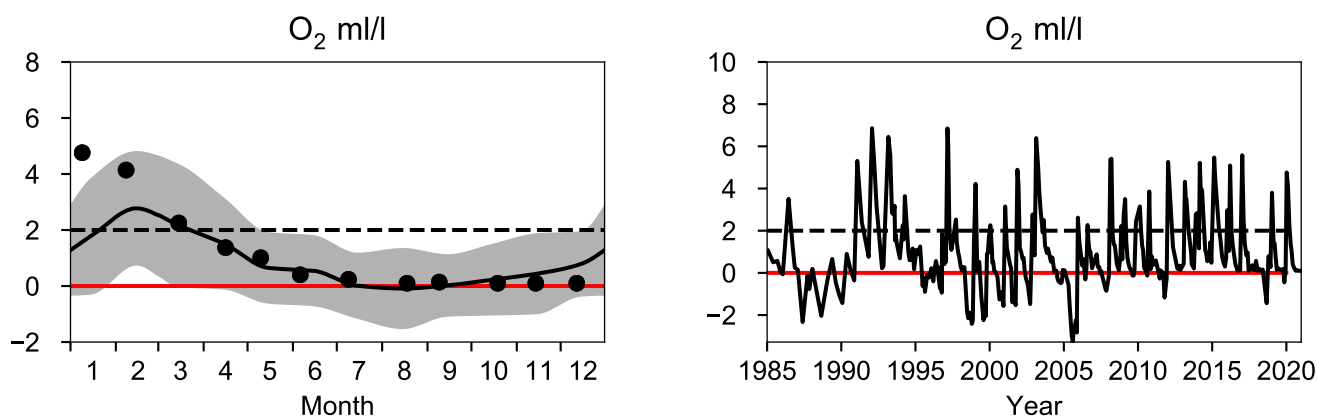


STATION BY4 CHRISTIANSÖ SURFACE WATER (0-10 m)

Annual Cycles

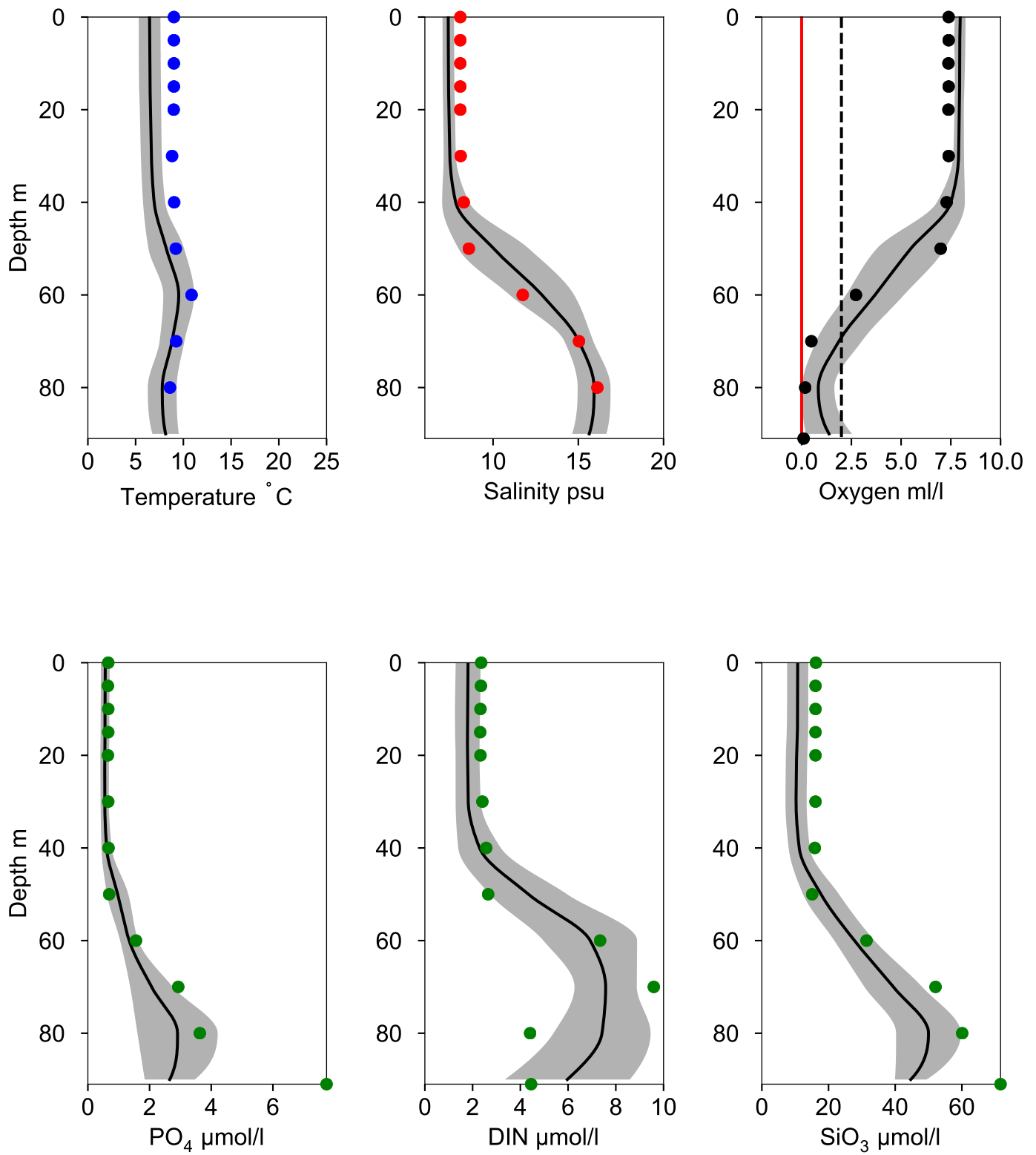


OXYGEN IN BOTTOM WATER (depth >= 80 m)



Vertical profiles BY4 CHRISTIANSÖ December

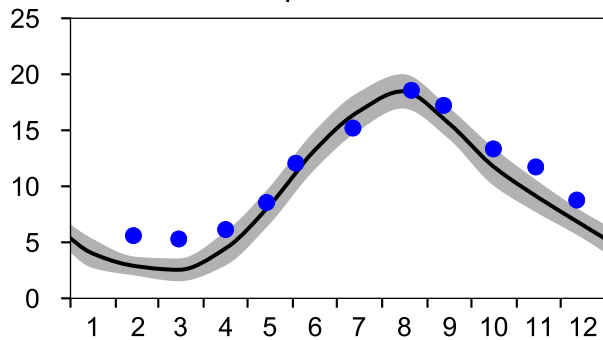
— Mean 2001-2015 St.Dev. • 2020-12-12



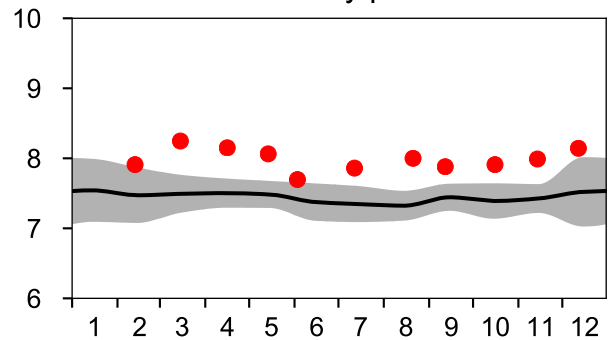
STATION HANÖBUKTEN SURFACE WATER (0-10 m)

Annual Cycles

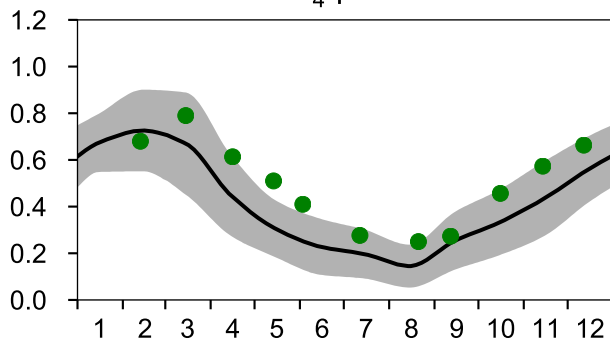
— Mean 2001-2015
Temperature °C



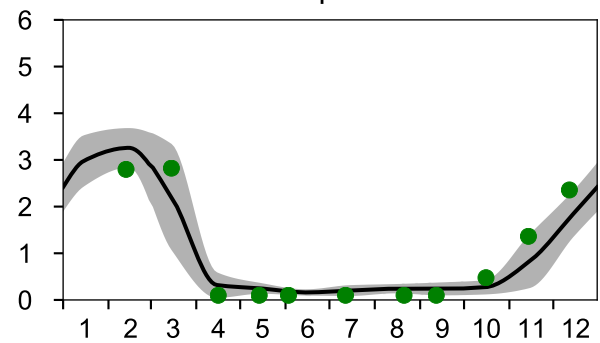
St.Dev. ● 2020
Salinity psu



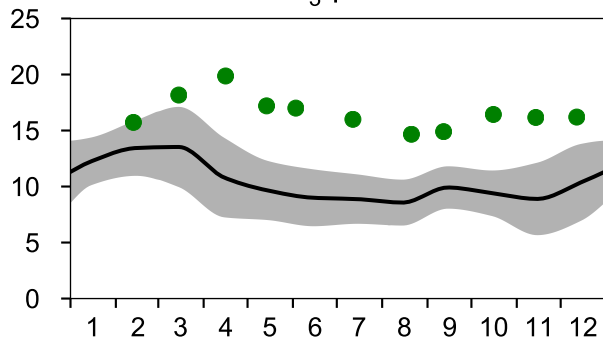
PO₄ µmol/l



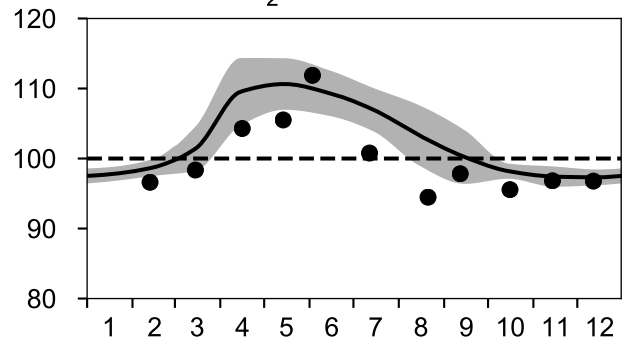
DIN µmol/l



SiO₃ µmol/l

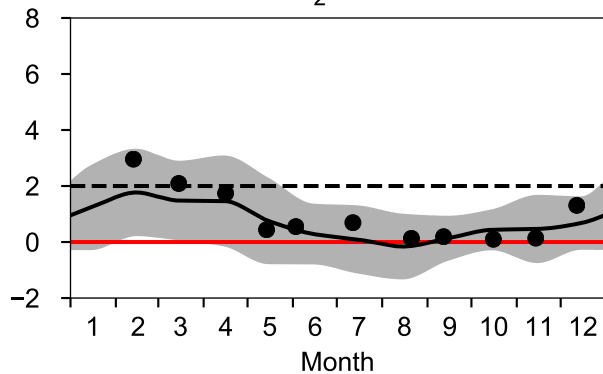


O₂ saturation %

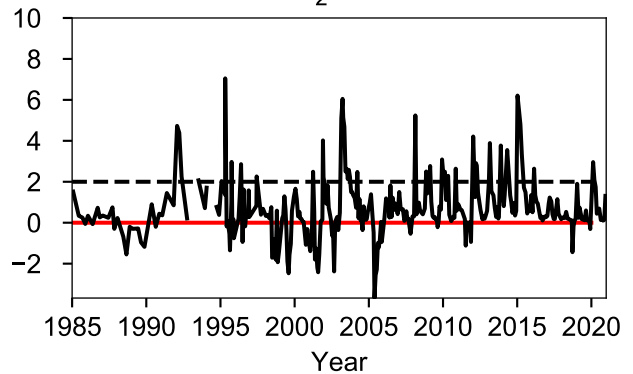


OXYGEN IN BOTTOM WATER (depth >= 70 m)

O₂ ml/l

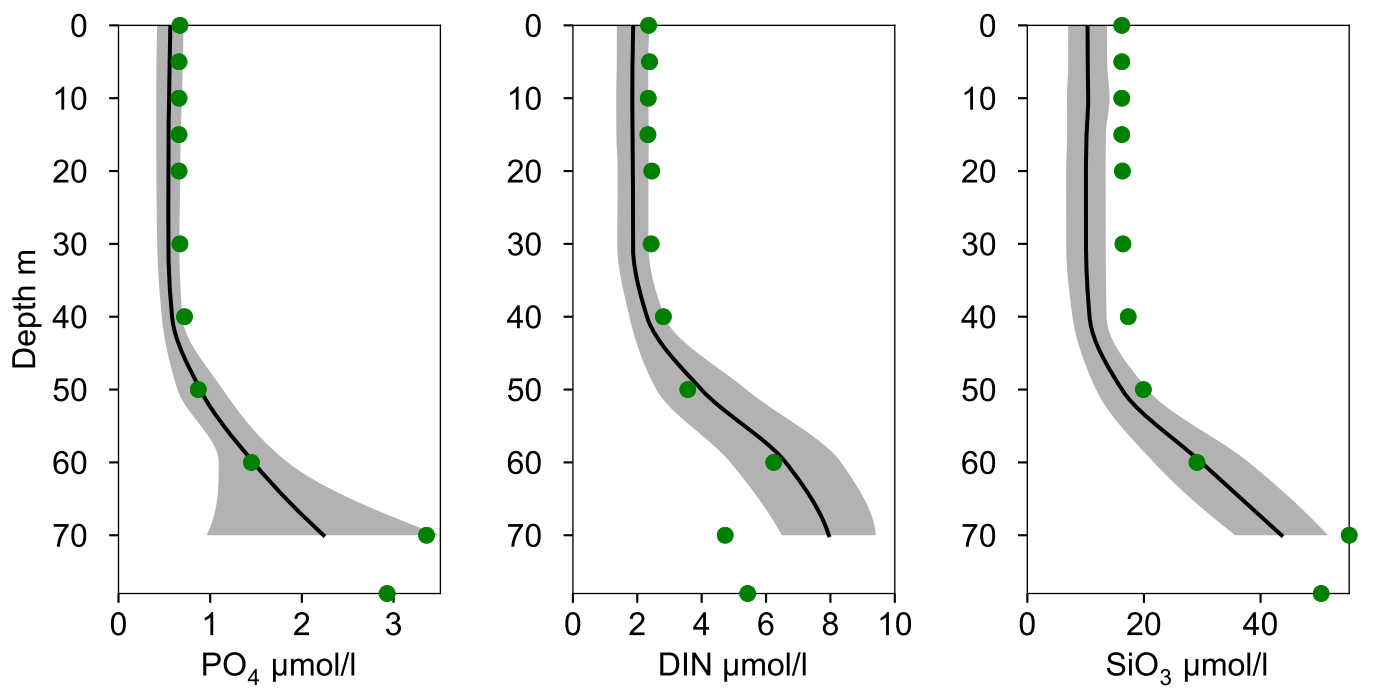
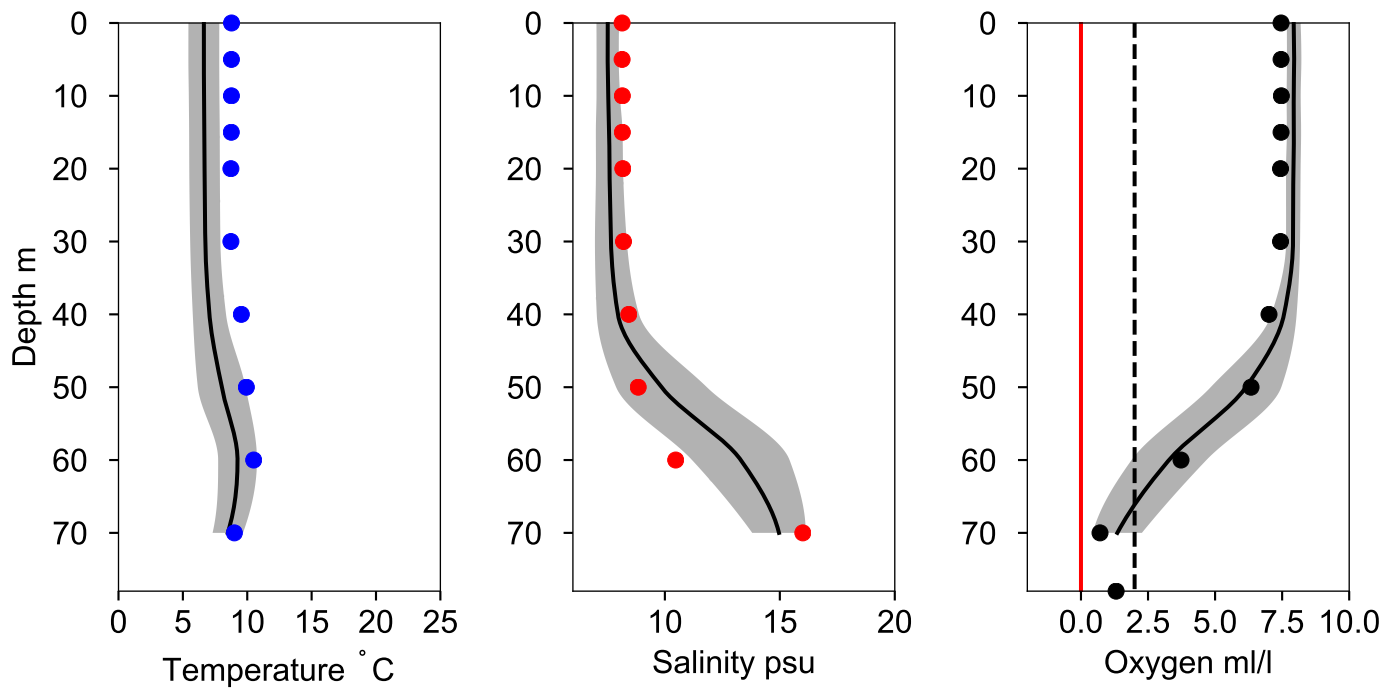


O₂ ml/l



Vertical profiles HANÖBUKTEN December

— Mean 2001-2015 St.Dev. • 2020-12-12



STATION BY2 ARKONA SURFACE WATER (0-10 m)

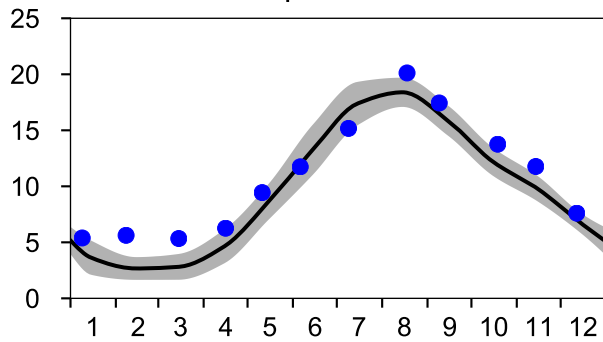
Annual Cycles

— Mean 2001-2015

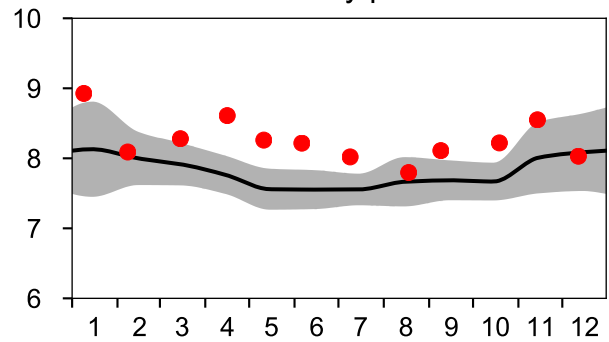
■ St.Dev.

● 2020

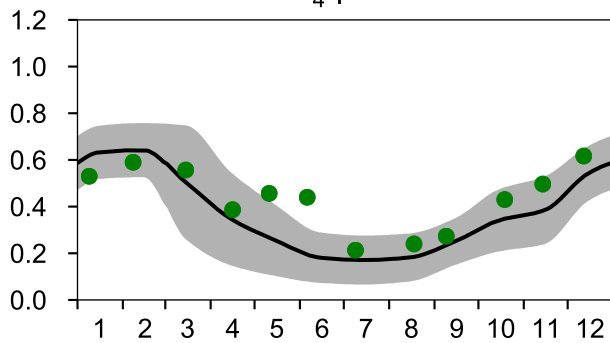
Temperature °C



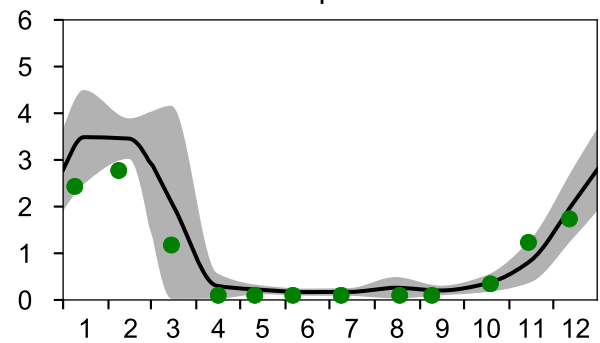
Salinity psu



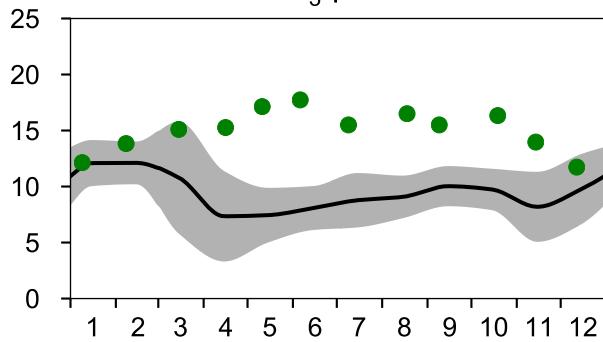
PO₄ µmol/l



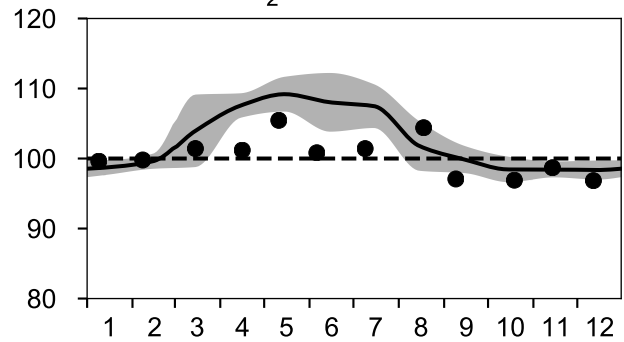
DIN µmol/l



SiO₃ µmol/l

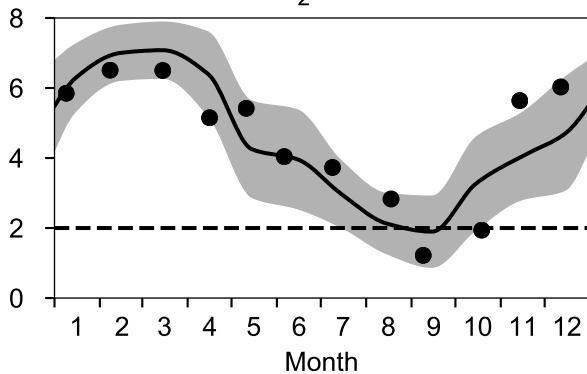


O₂ saturation %

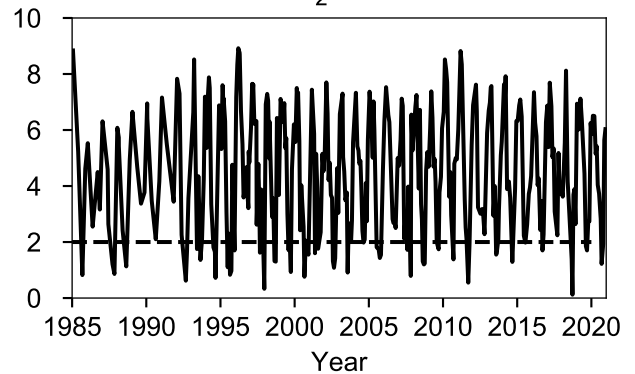


OXYGEN IN BOTTOM WATER (depth >= 40 m)

O₂ ml/l

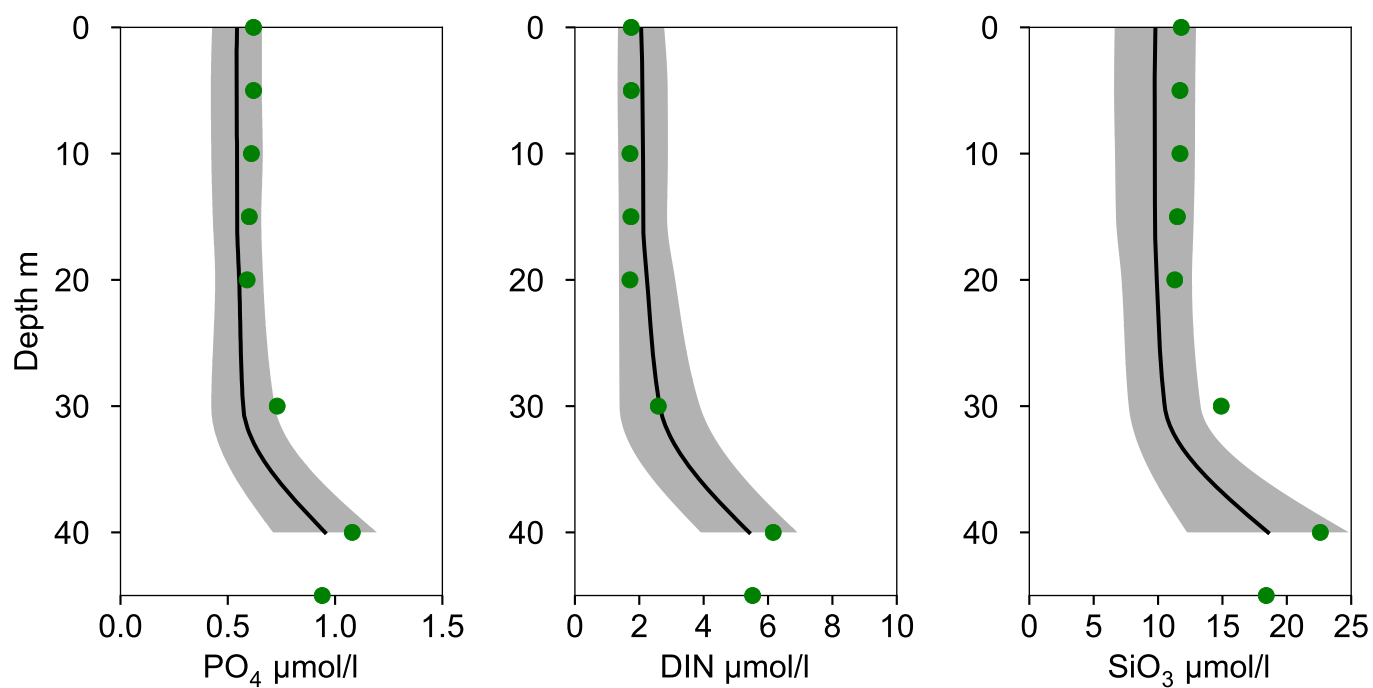
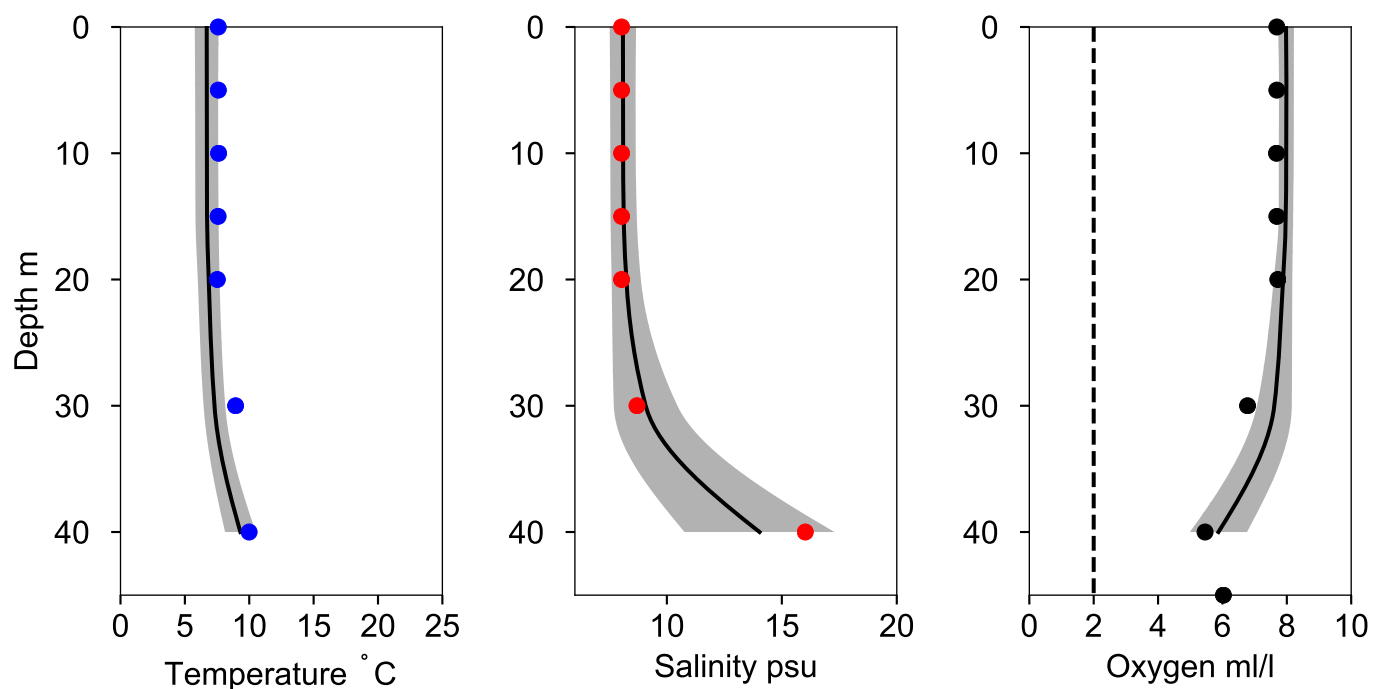


O₂ ml/l



Vertical profiles BY2 ARKONA December

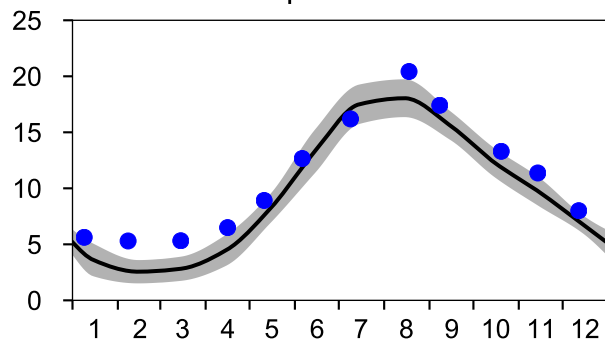
— Mean 2001-2015 St.Dev. • 2020-12-12



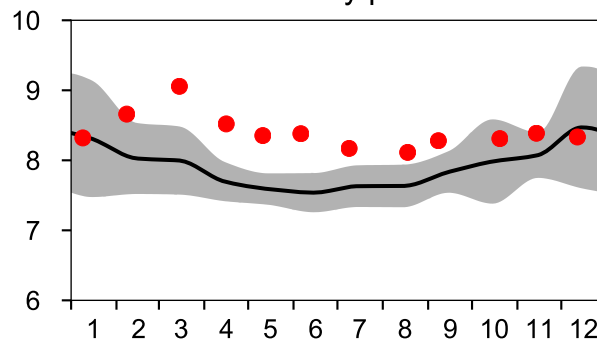
STATION BY1 SURFACE WATER (0-10 m)

Annual Cycles

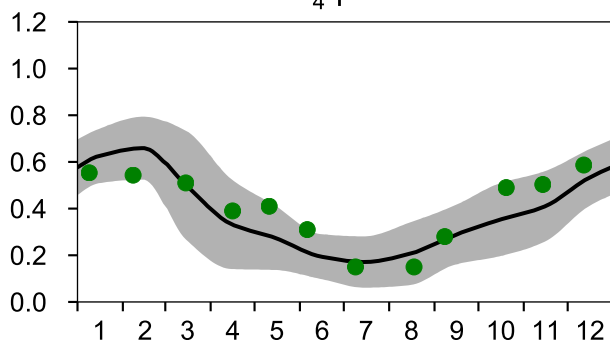
— Mean 2001-2015
Temperature °C



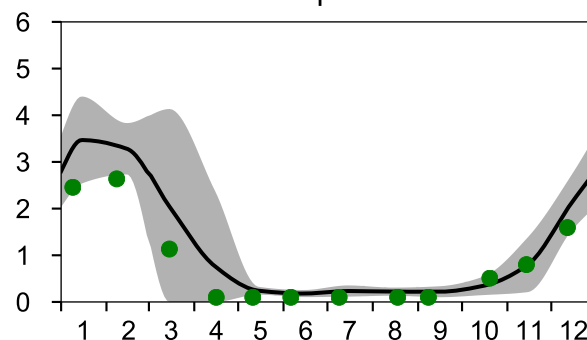
St.Dev. ● 2020
Salinity psu



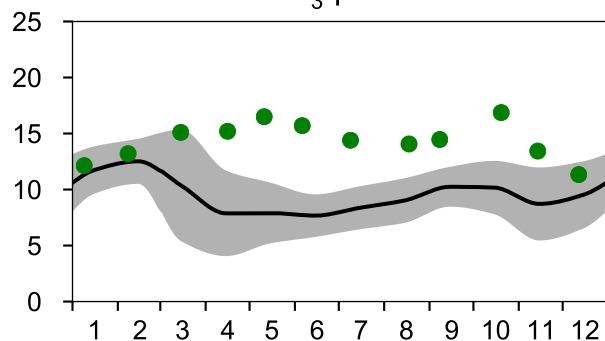
PO₄ µmol/l



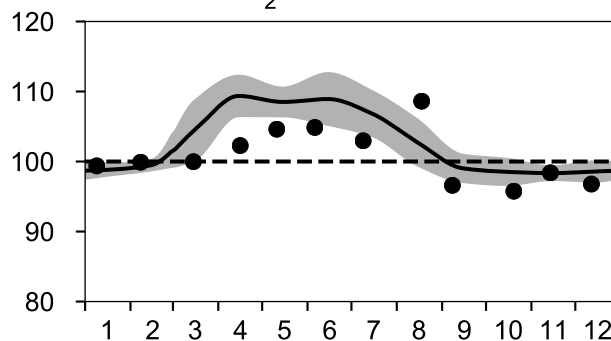
DIN µmol/l



SiO₃ µmol/l

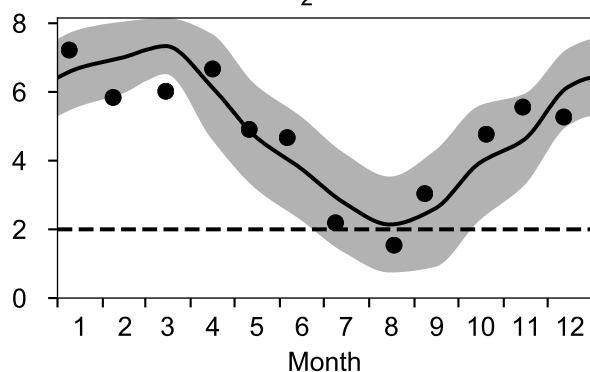


O₂ saturation %

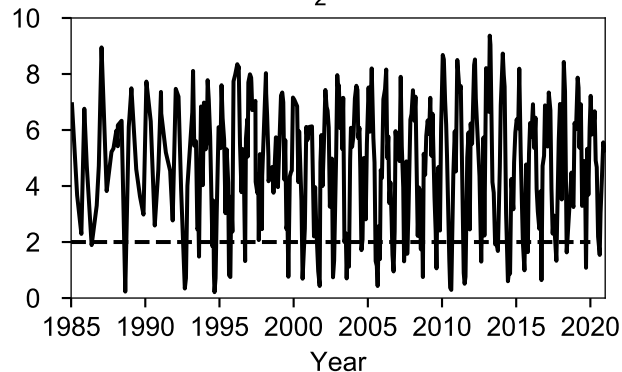


OXYGEN IN BOTTOM WATER (depth >= 40 m)

O₂ ml/l

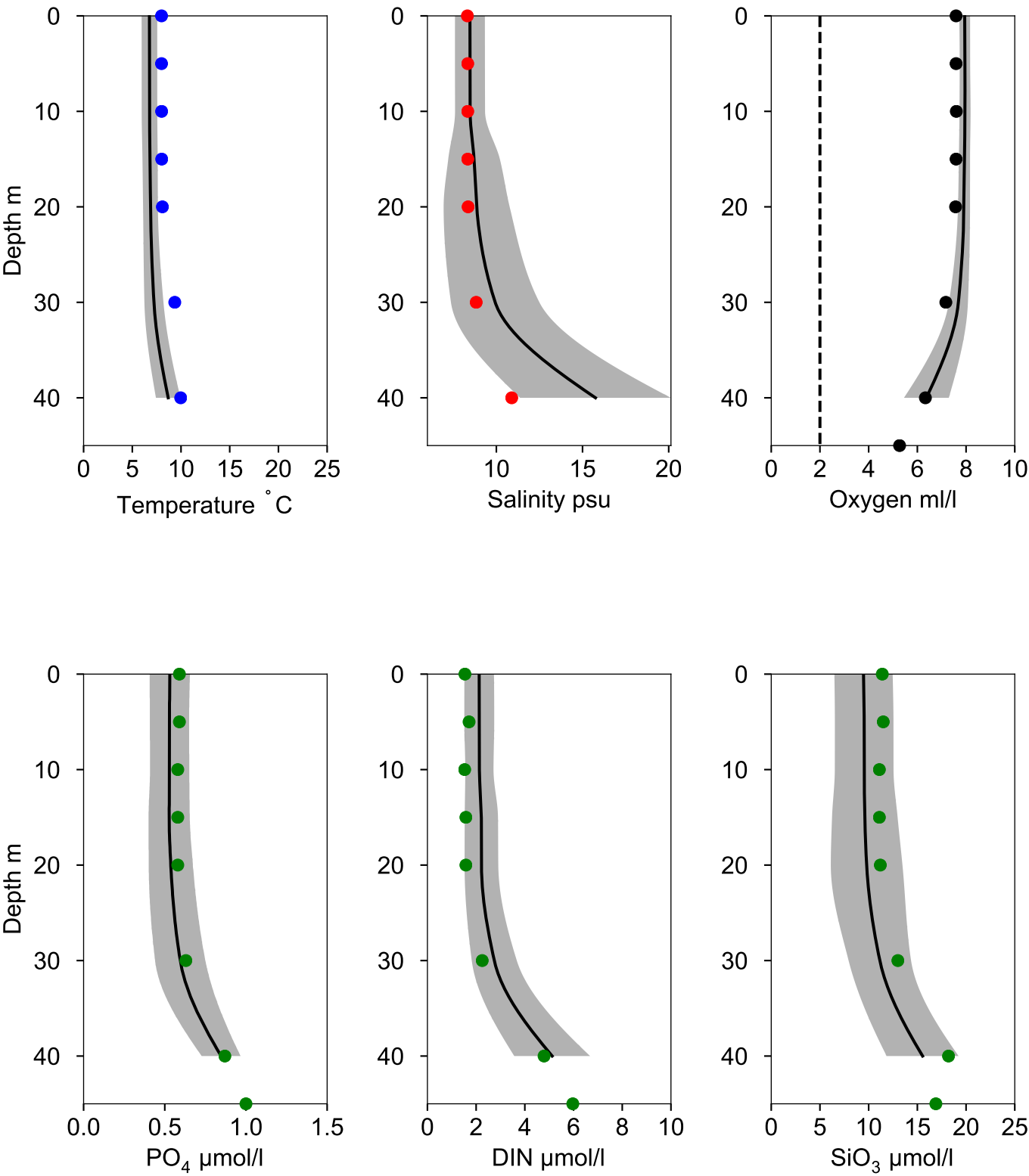


O₂ ml/l



Vertical profiles BY1
December

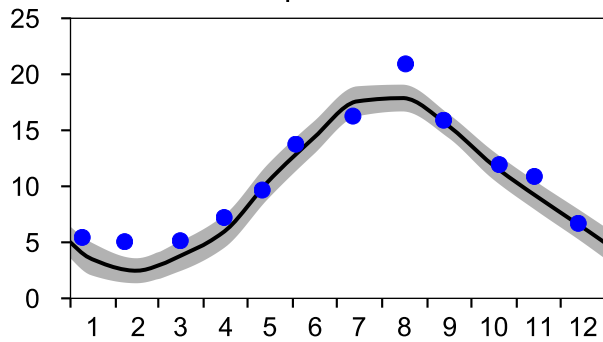
— Mean 2001-2015 St.Dev. • 2020-12-12



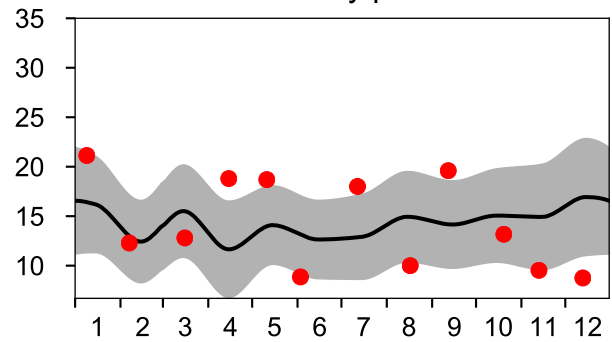
STATION W LANDSKRONA SURFACE WATER (0-10 m)

Annual Cycles

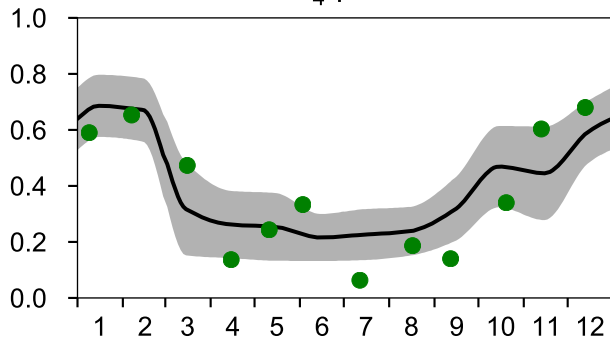
— Mean 2001-2015
Temperature °C



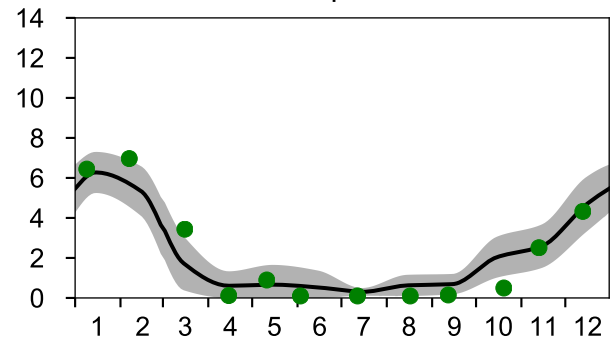
— St.Dev. • 2020
Salinity psu



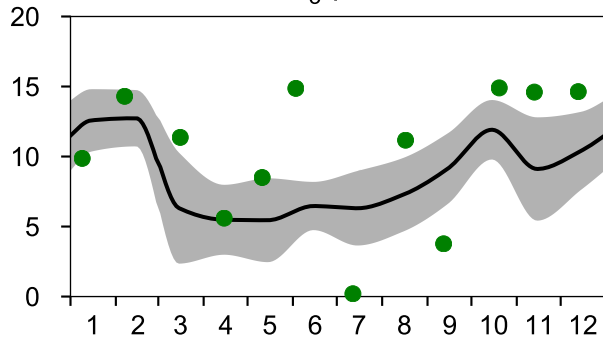
PO₄ µmol/l



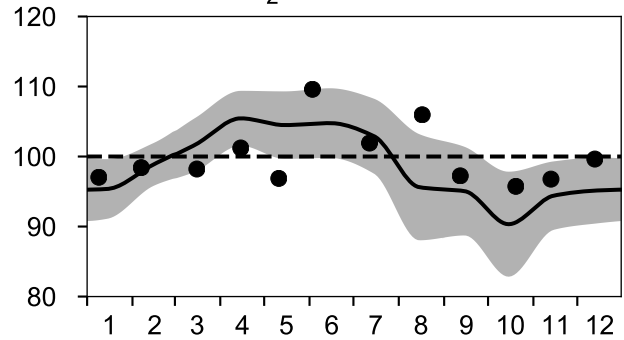
DIN µmol/l



SiO₃ µmol/l

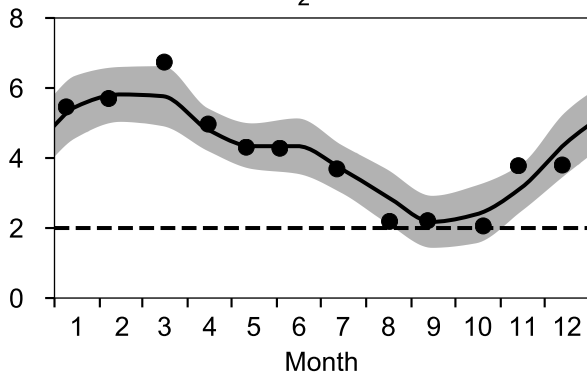


O₂ saturation %

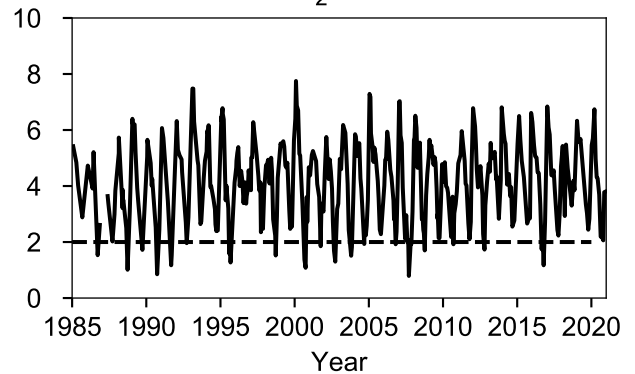


OXYGEN IN BOTTOM WATER (depth >= 40 m)

O₂ ml/l

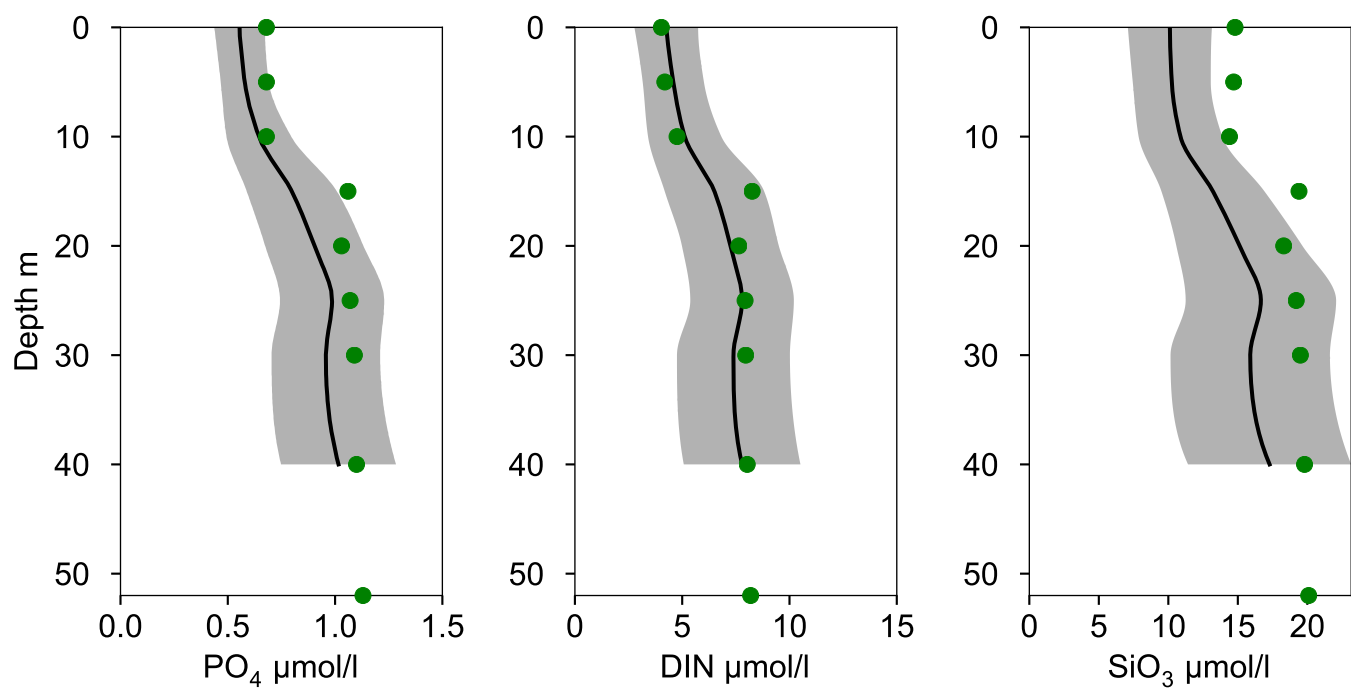
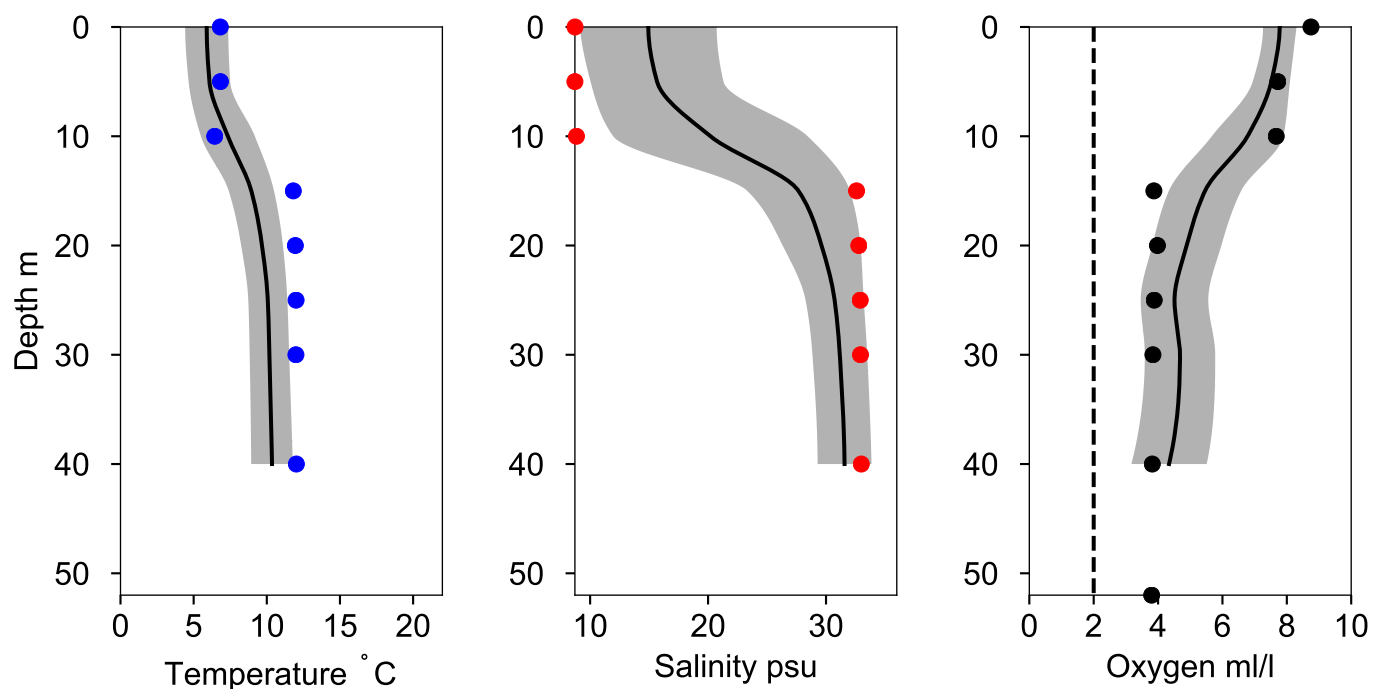


O₂ ml/l



Vertical profiles W LANDSKRONA December

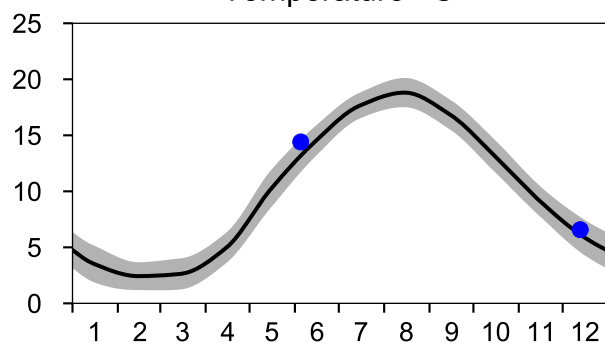
— Mean 2001-2015 St.Dev. • 2020-12-13



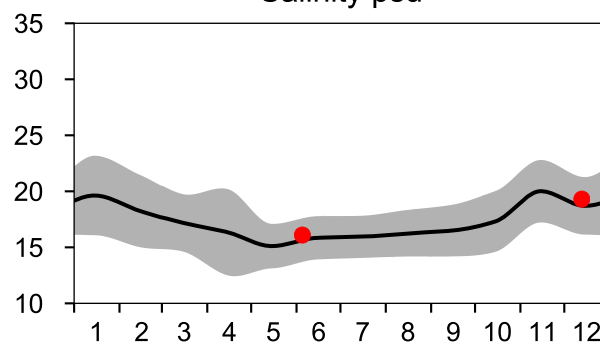
STATION L9 LAHOLMSBUKTEN SURFACE WATER (0-10 m)

Annual Cycles

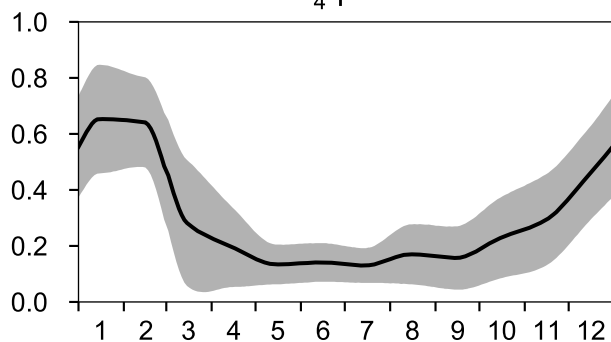
— Mean 2001-2015
Temperature °C



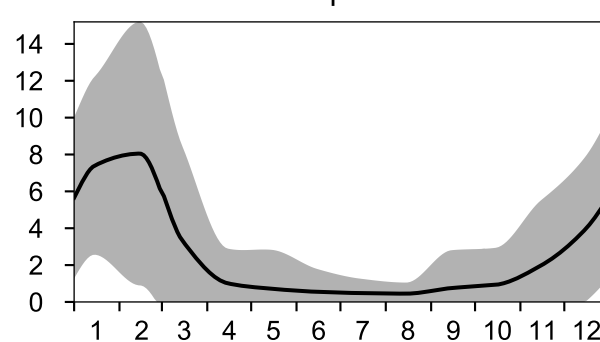
— St.Dev. • 2020
Salinity psu



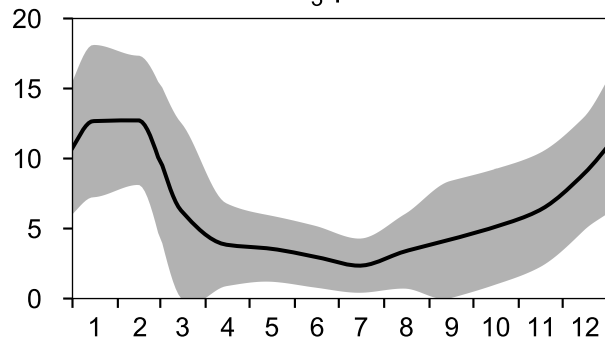
PO₄ µmol/l



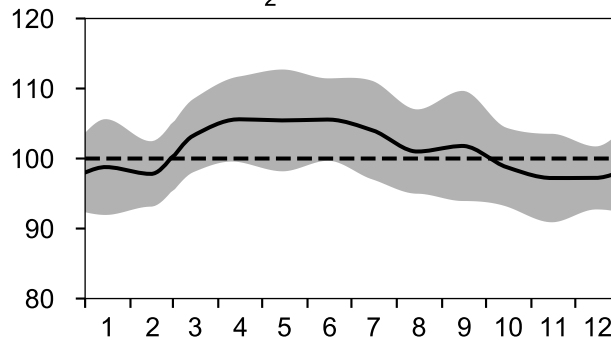
DIN µmol/l



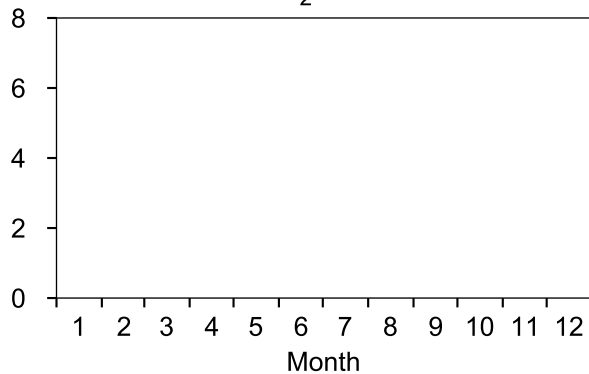
SiO₃ µmol/l



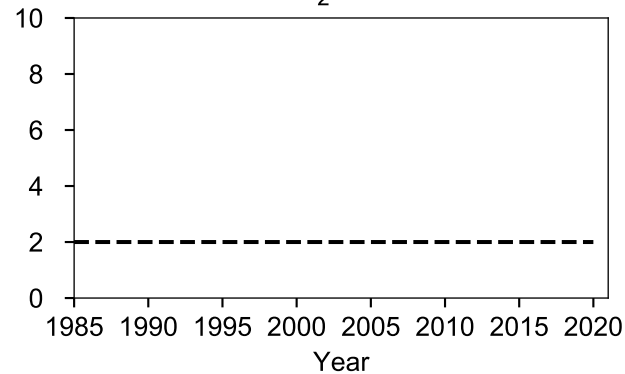
O₂ saturation %



O₂ ml/l

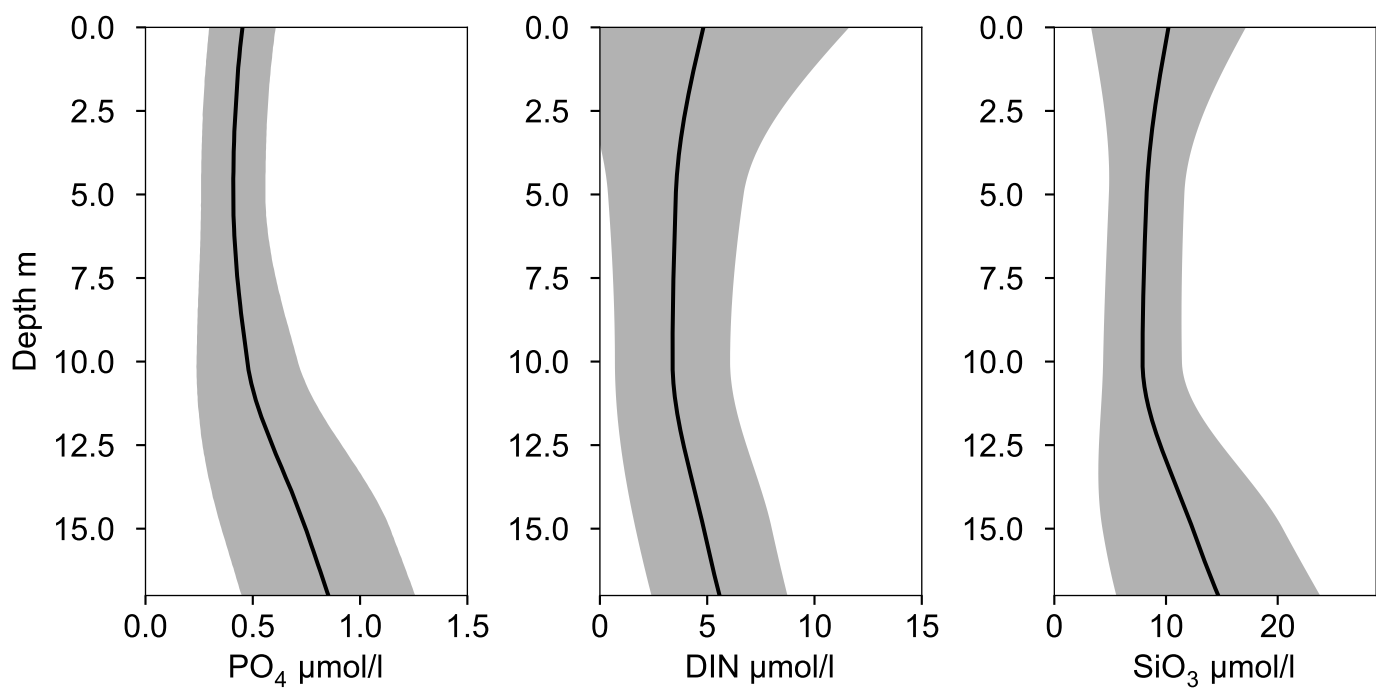
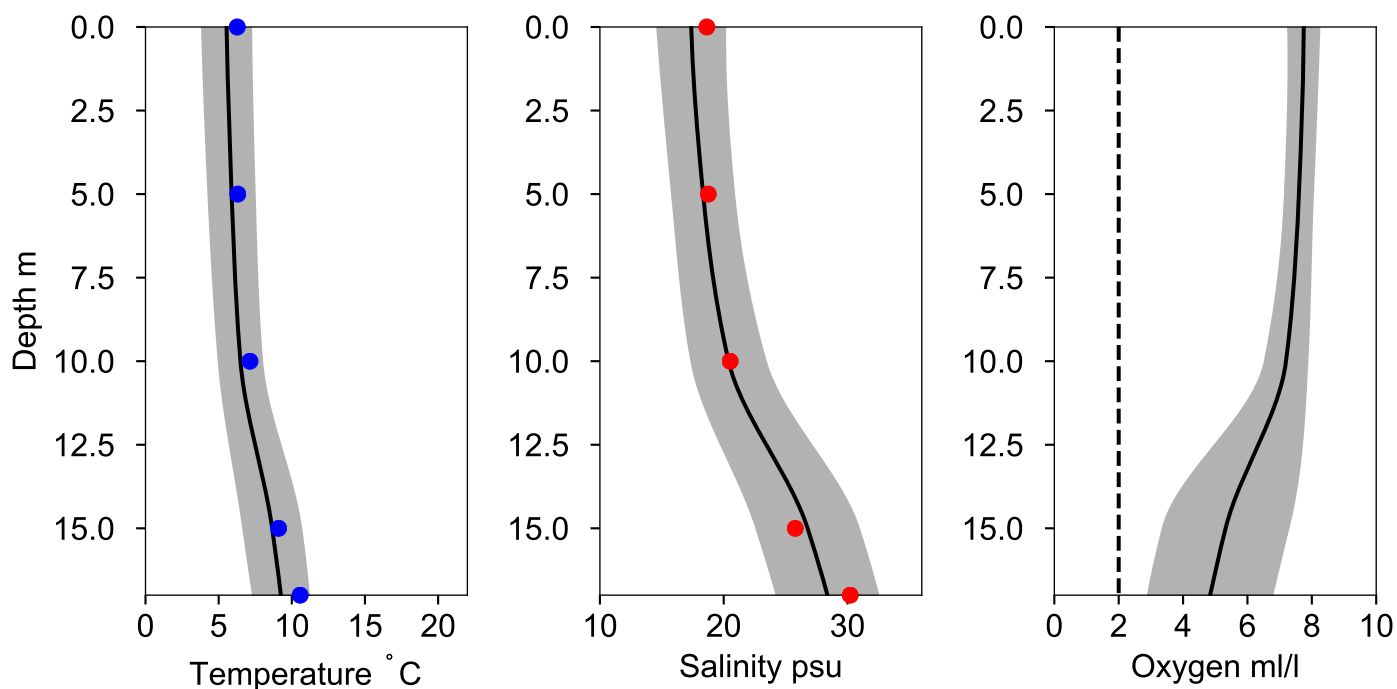


O₂ ml/l



Vertical profiles L9 LAHOLMSBUKTEN December

— Mean 2001-2015 St.Dev. • 2020-12-13



STATION ANHOLT E SURFACE WATER (0-10 m)

Annual Cycles

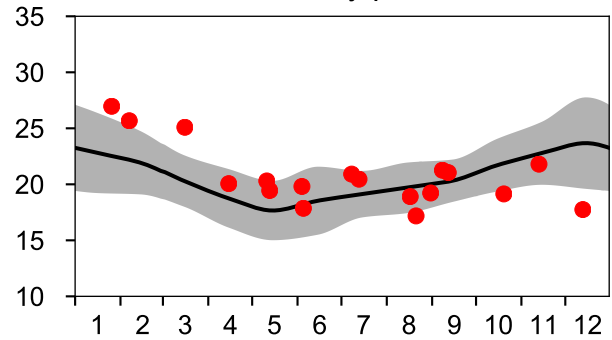
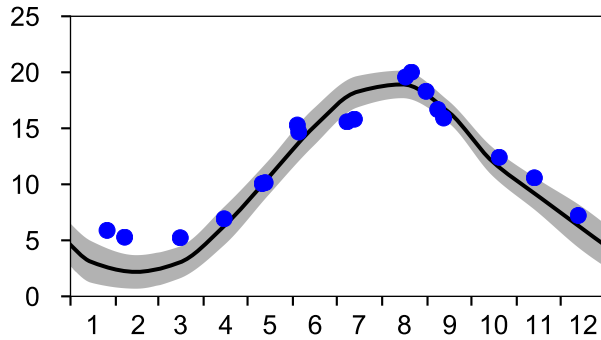
— Mean 2001-2015

■ St.Dev.

● 2020

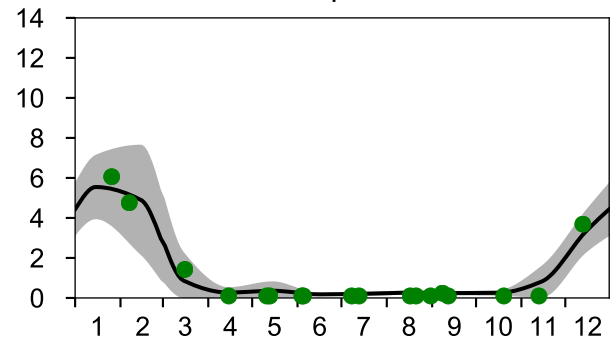
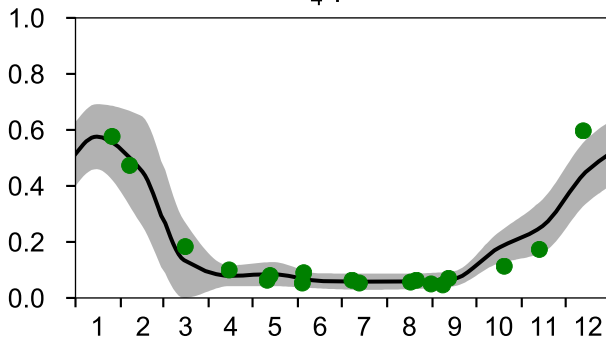
Temperature °C

Salinity psu



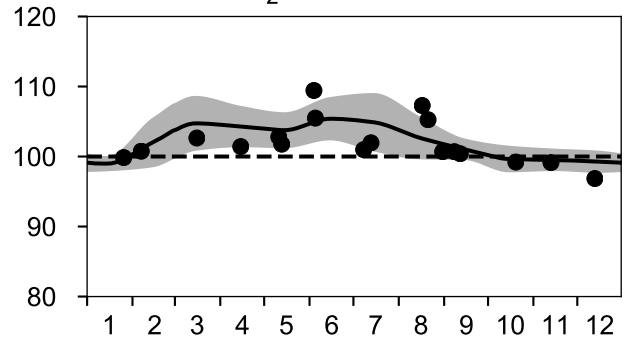
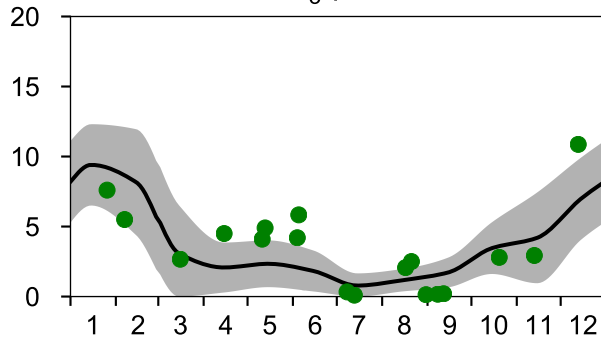
PO₄ µmol/l

DIN µmol/l



SiO₃ µmol/l

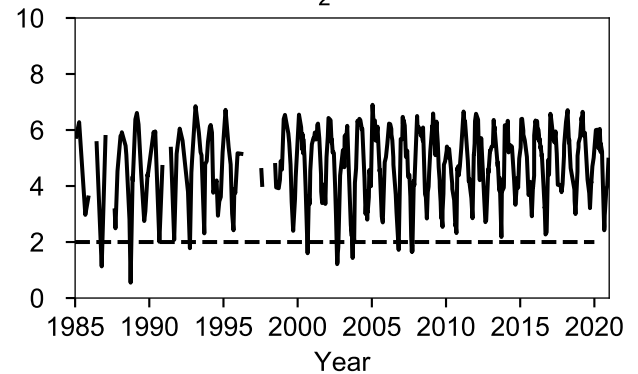
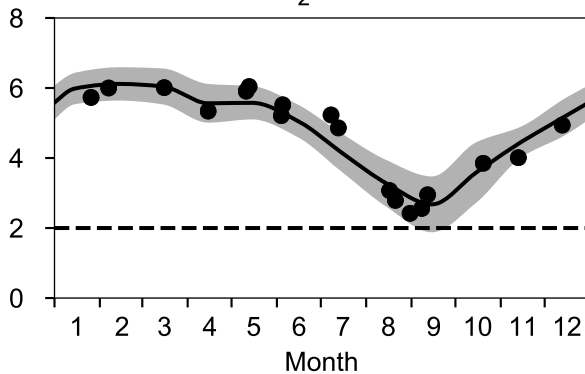
O₂ saturation %



OXYGEN IN BOTTOM WATER (depth >= 52 m)

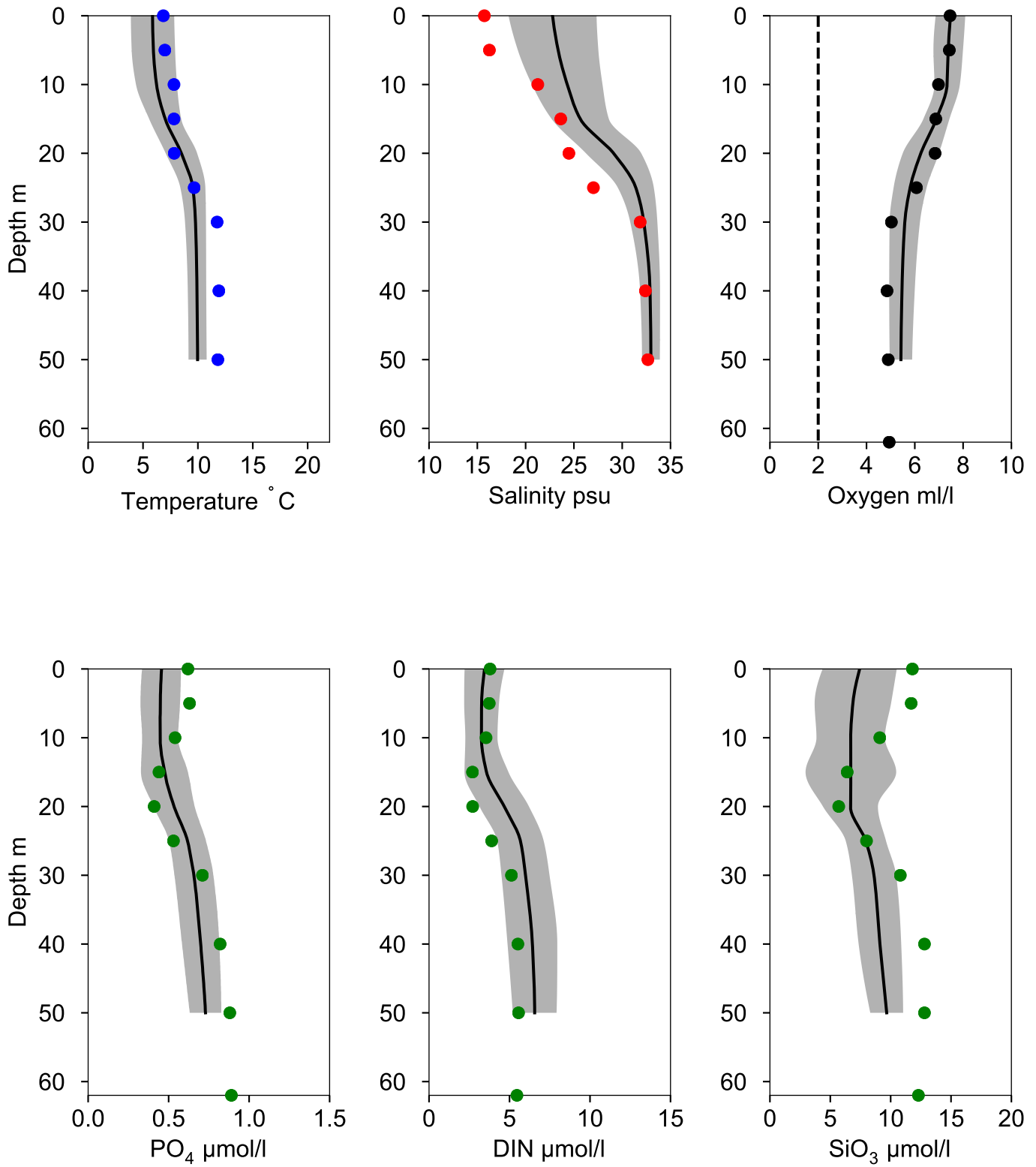
O₂ ml/l

O₂ ml/l



Vertical profiles ANHOLT E December

— Mean 2001-2015 St.Dev. • 2020-12-13



STATION N14 FALKENBERG SURFACE WATER (0-10 m)

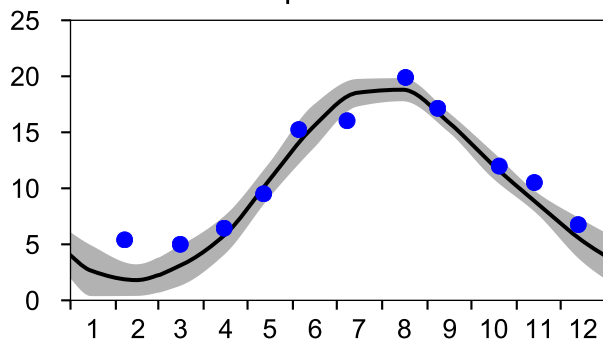
Annual Cycles

— Mean 2001-2015

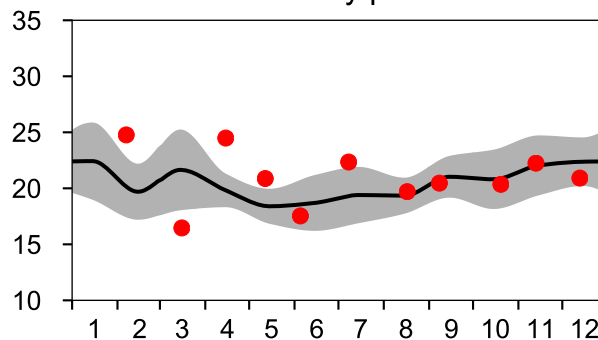
■ St.Dev.

● 2020

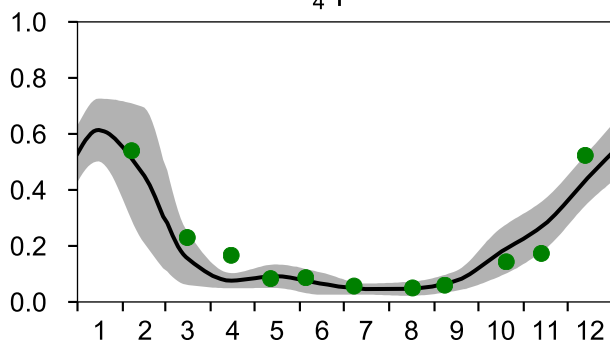
Temperature °C



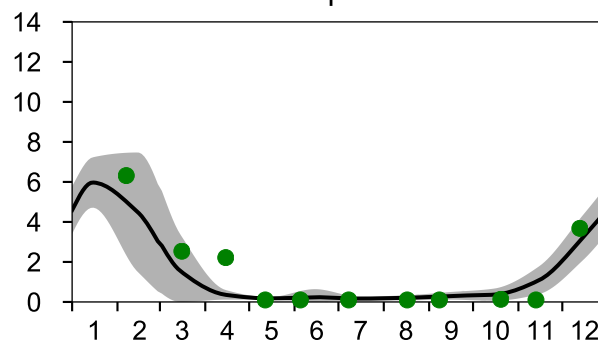
Salinity psu



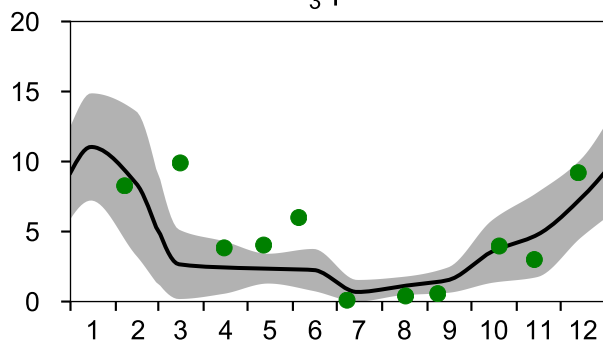
PO₄ µmol/l



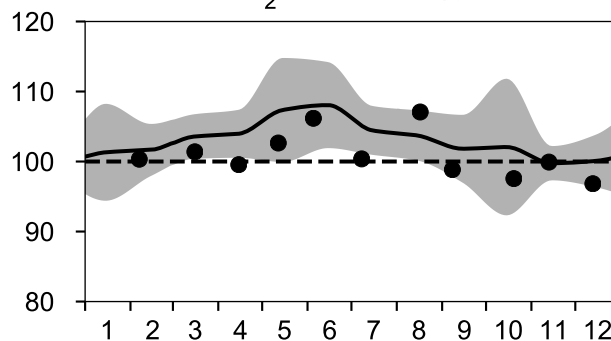
DIN µmol/l



SiO₃ µmol/l

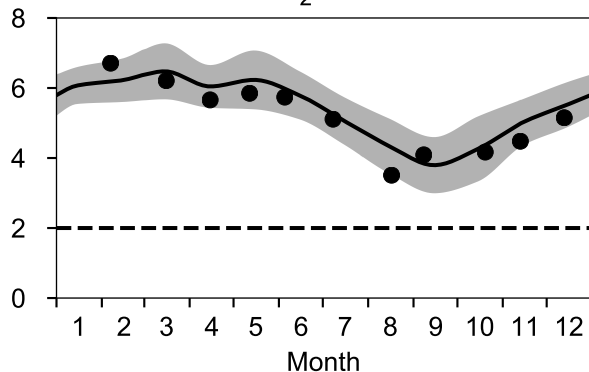


O₂ saturation %

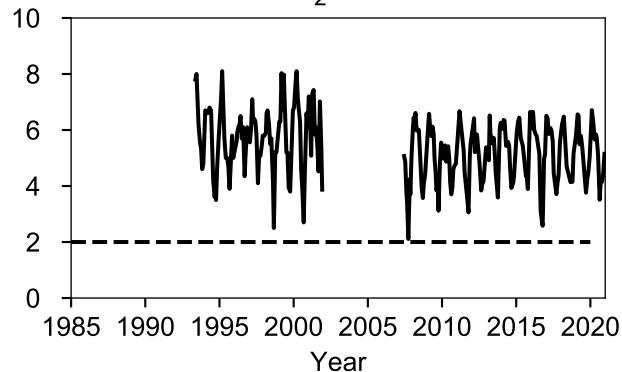


OXYGEN IN BOTTOM WATER (depth >= 20 m)

O₂ ml/l

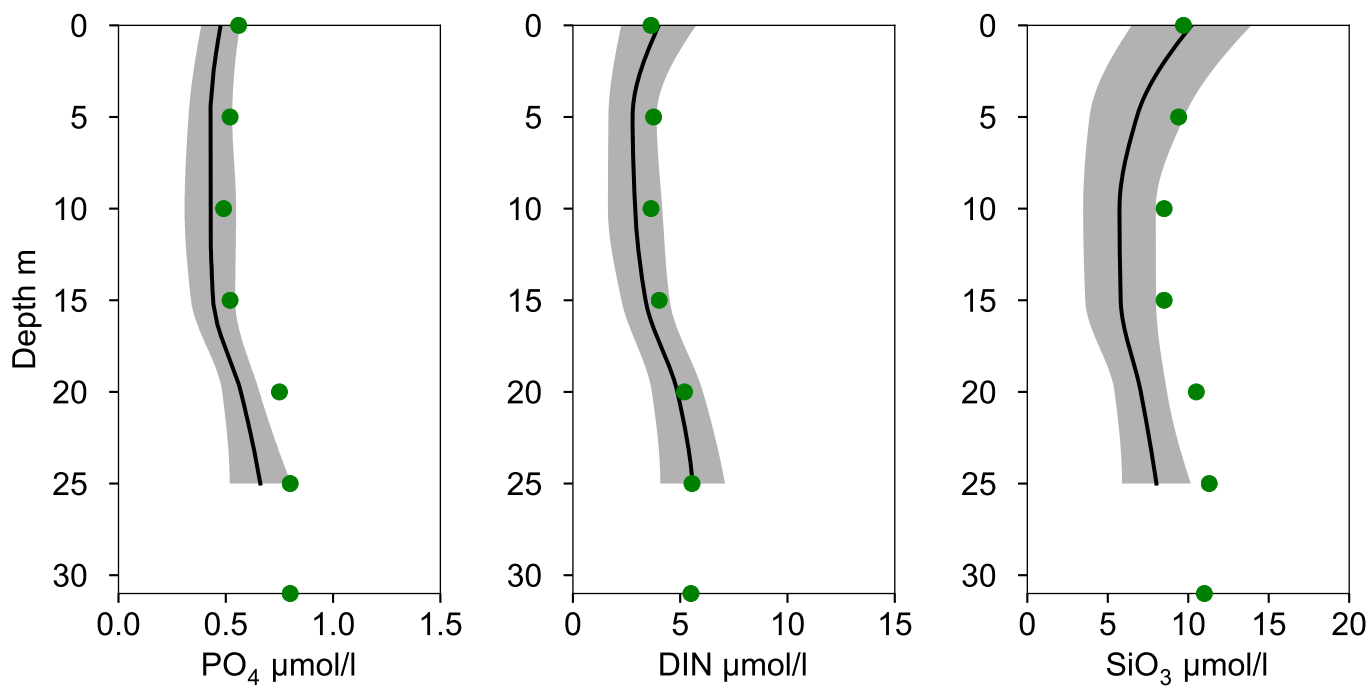
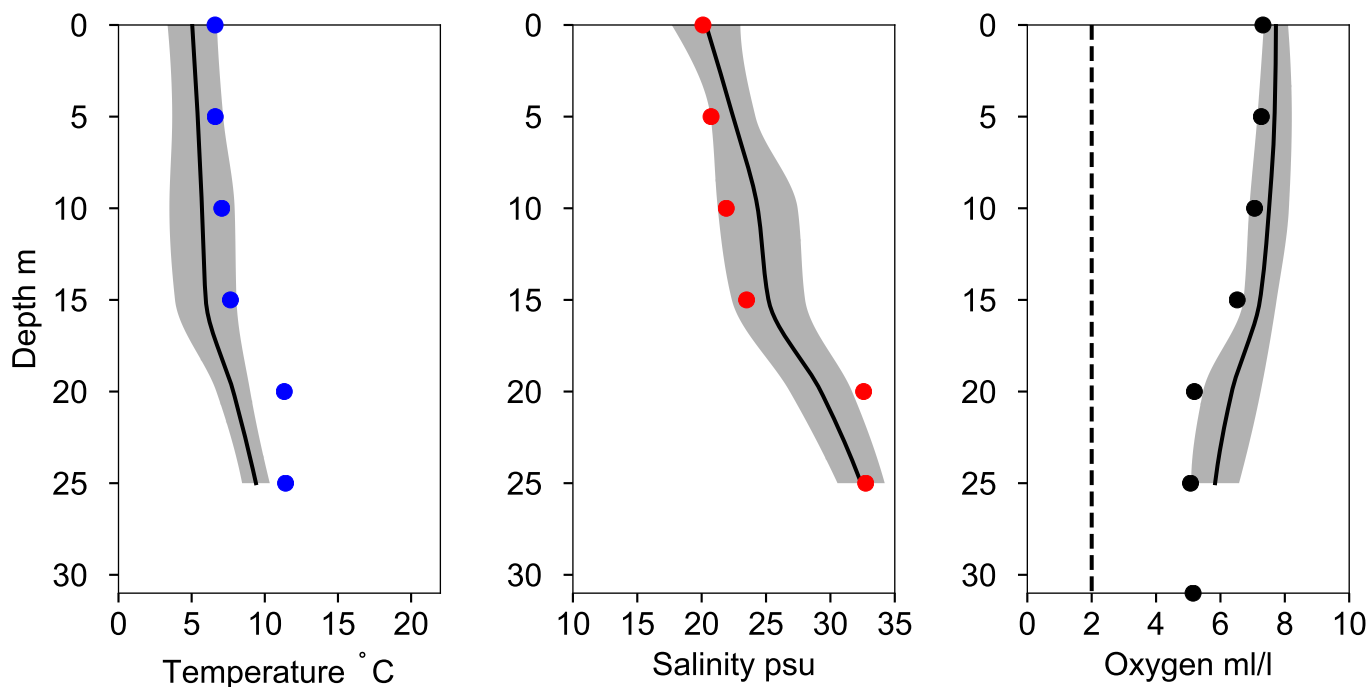


O₂ ml/l



Vertical profiles N14 FALKENBERG December

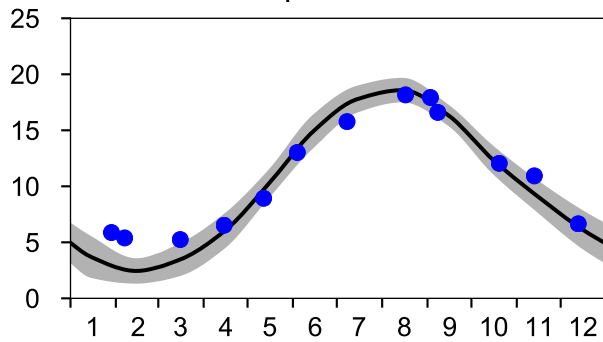
— Mean 2001-2015 St.Dev. • 2020-12-13



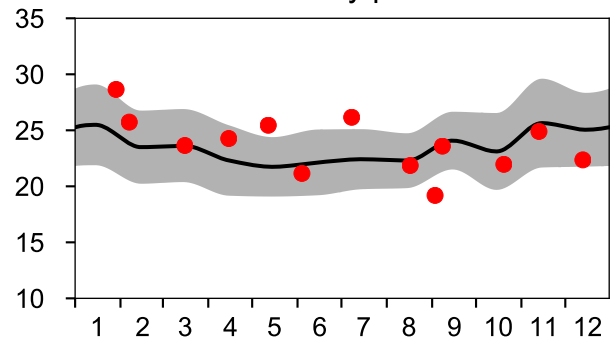
STATION FLADEN SURFACE WATER (0-10 m)

Annual Cycles

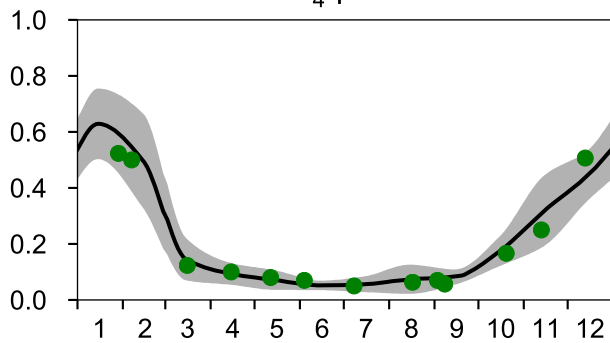
— Mean 2001-2015
Temperature °C



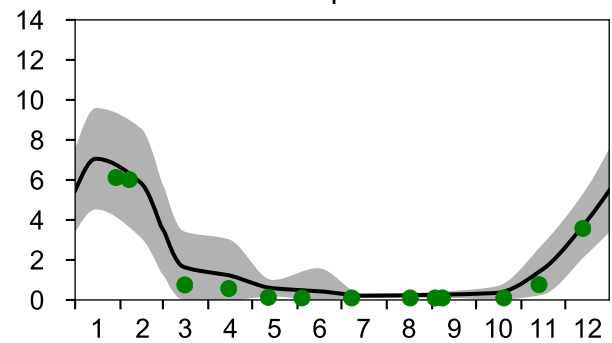
■ St.Dev. ● 2020
Salinity psu



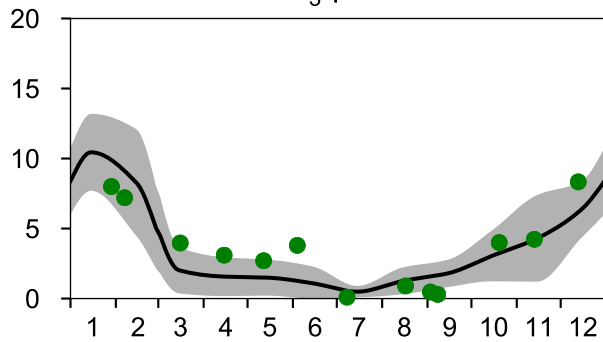
PO₄ µmol/l



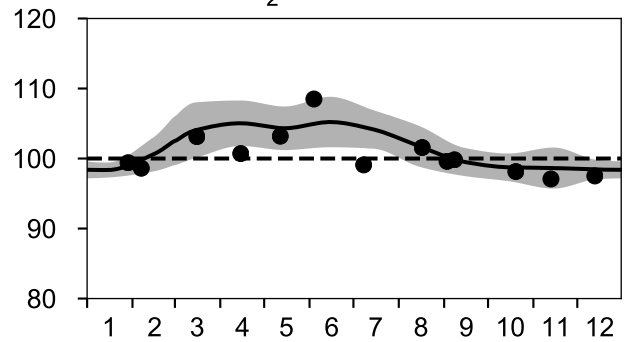
DIN µmol/l



SiO₃ µmol/l

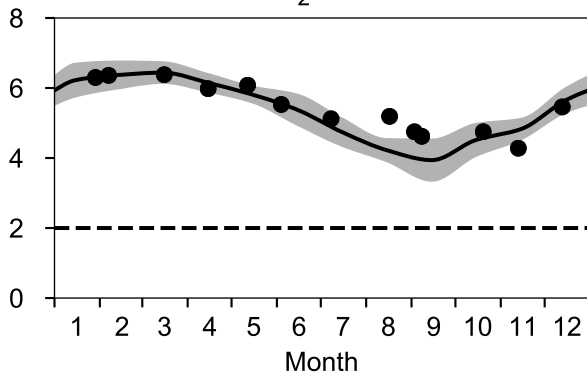


O₂ saturation %

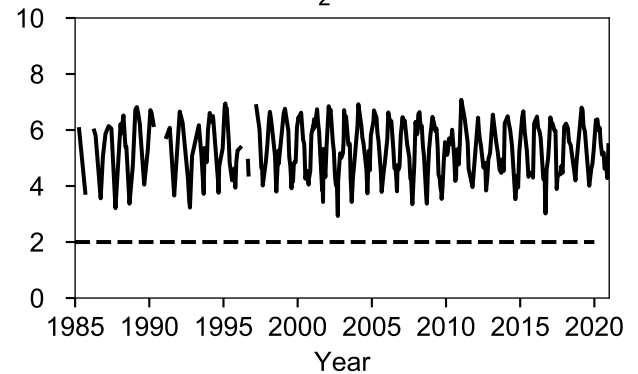


OXYGEN IN BOTTOM WATER (depth >= 74 m)

O₂ ml/l

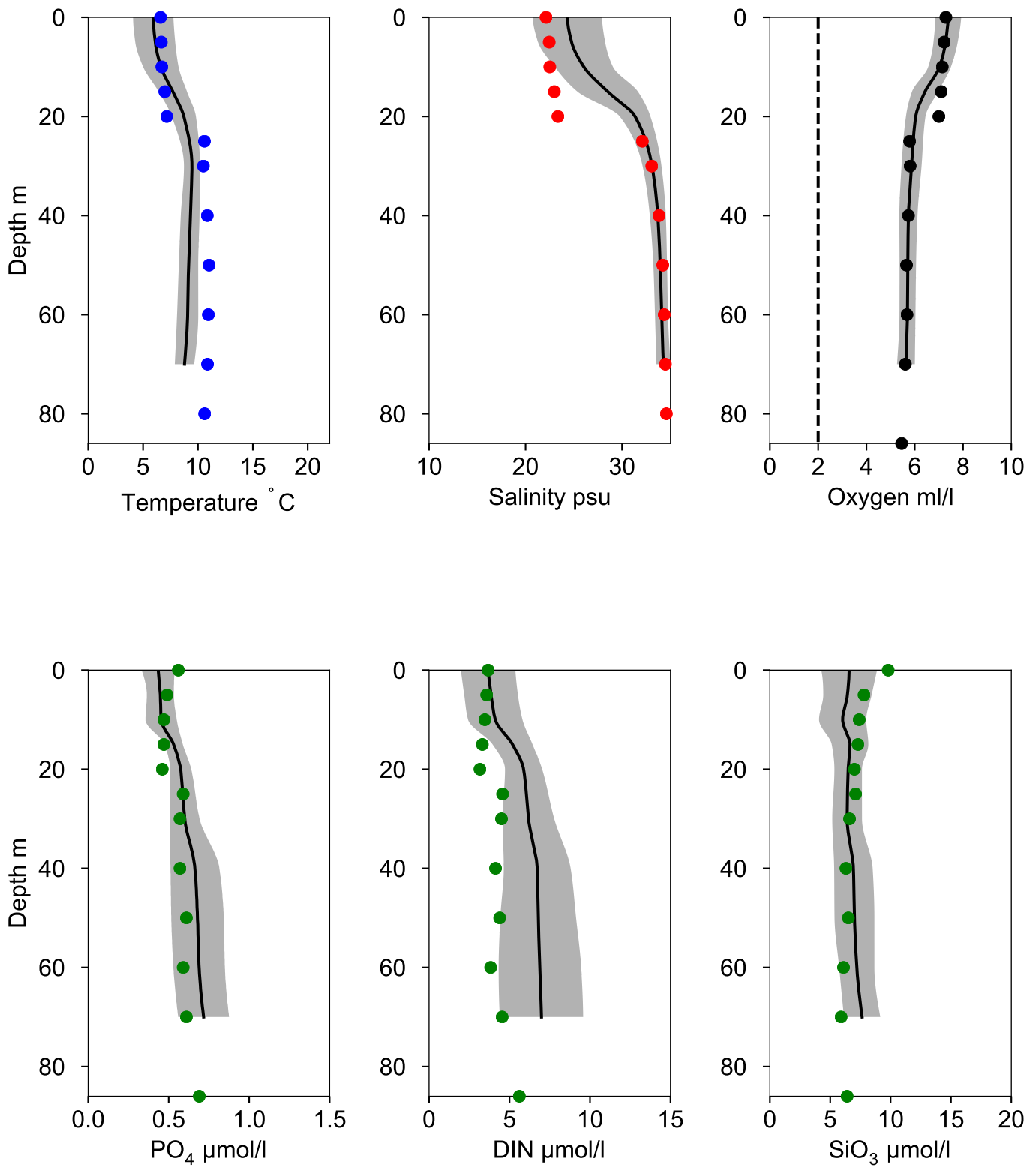


O₂ ml/l



Vertical profiles FLADEN December

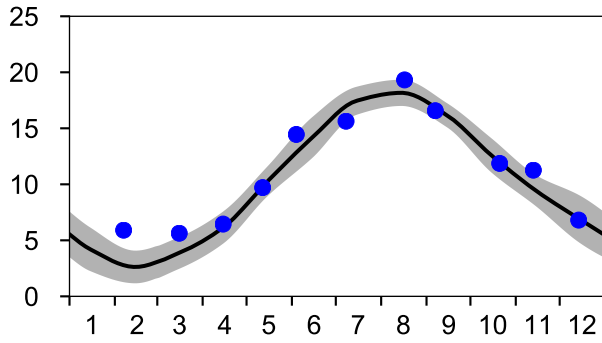
— Mean 2001-2015 St.Dev. • 2020-12-13



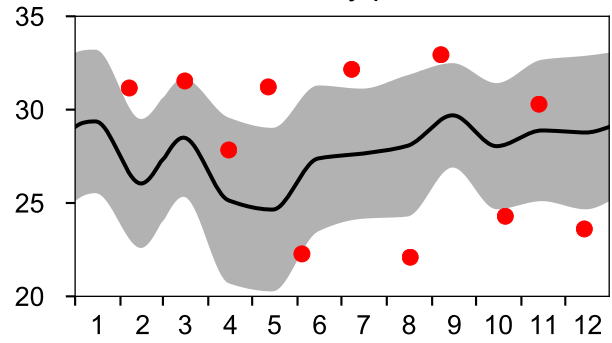
STATION P2 SURFACE WATER (0-10 m)

Annual Cycles

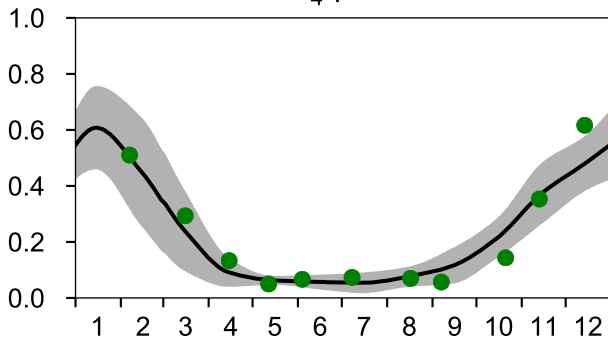
— Mean 2001-2015
Temperature °C



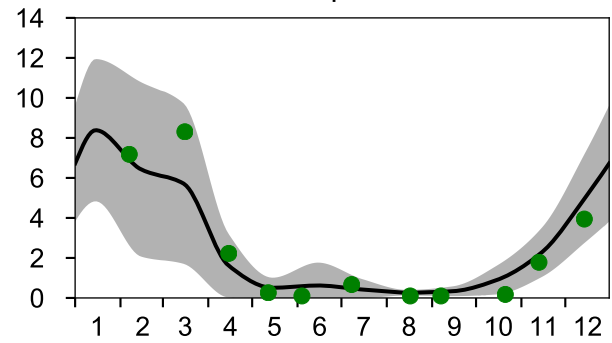
St.Dev. ● 2020
Salinity psu



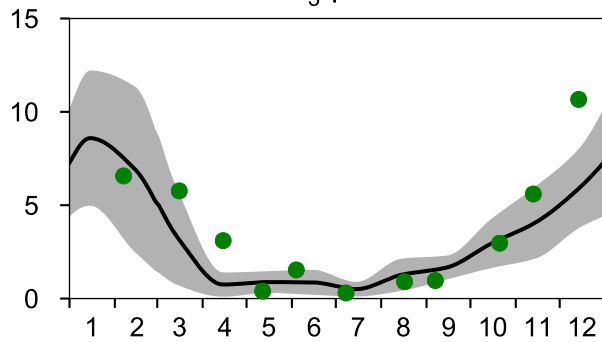
PO₄ µmol/l



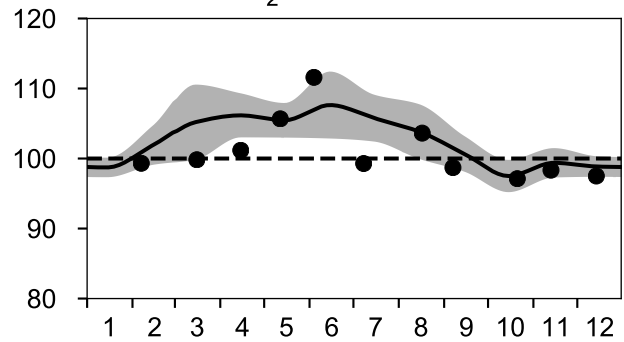
DIN µmol/l



SiO₃ µmol/l

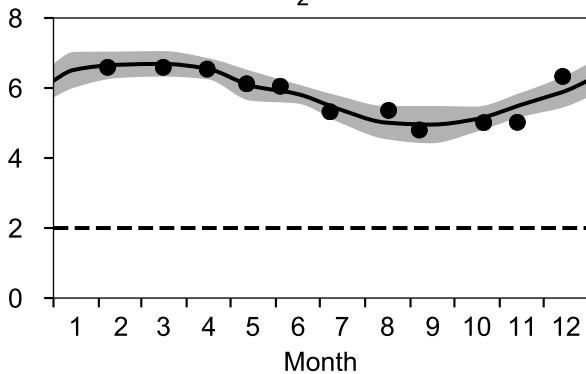


O₂ saturation %

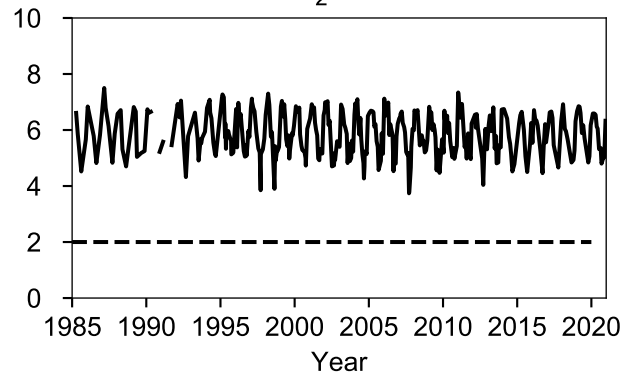


OXYGEN IN BOTTOM WATER (depth >= 75 m)

O₂ ml/l

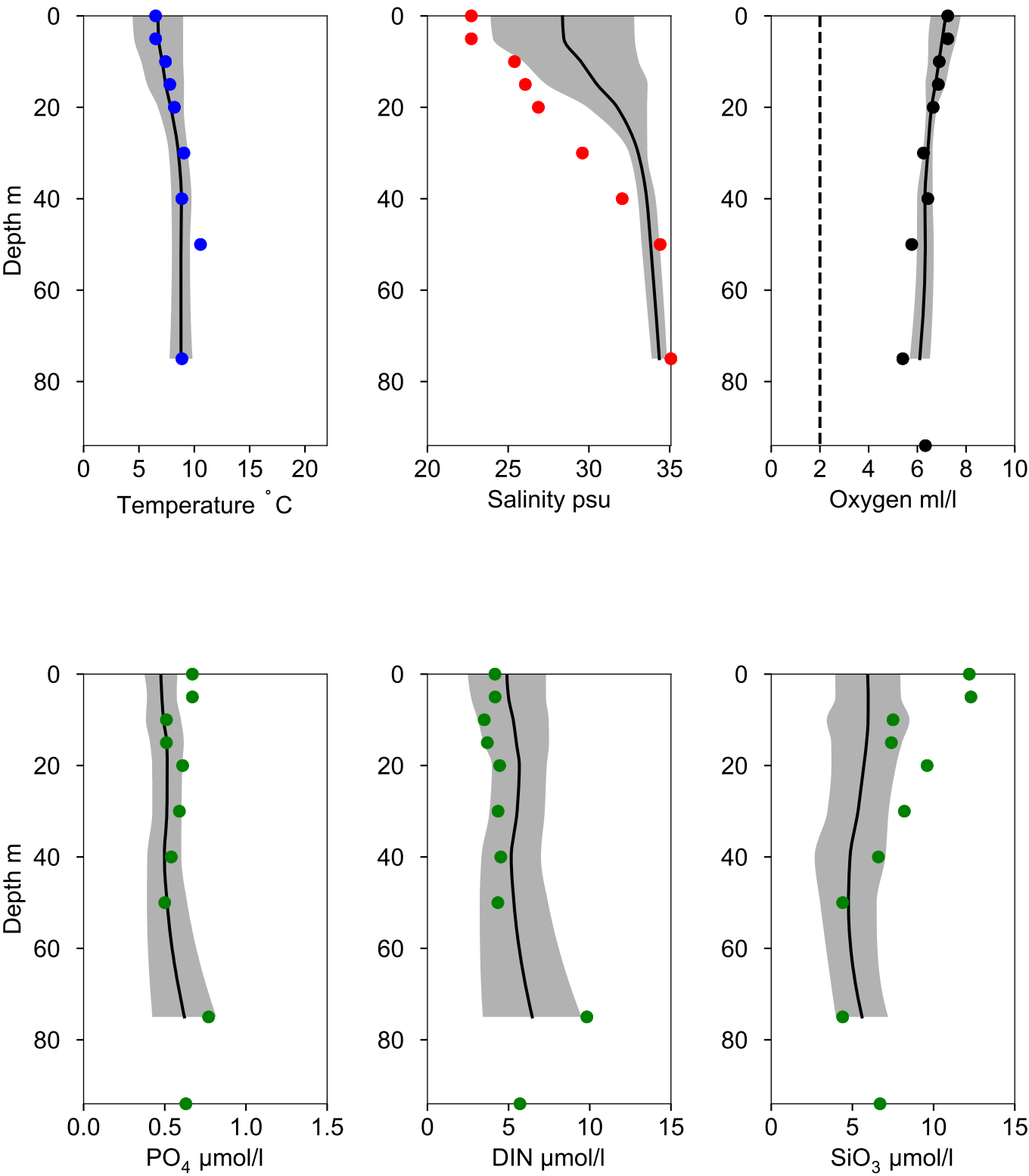


O₂ ml/l



Vertical profiles P2 December

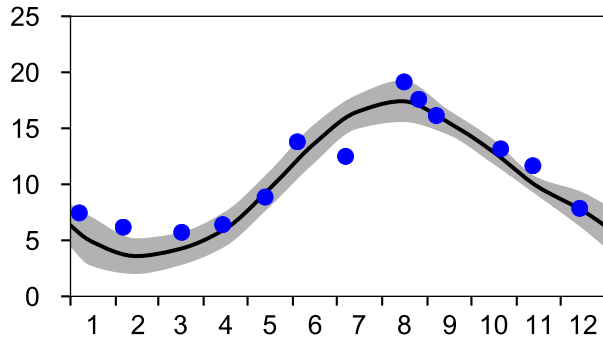
— Mean 2001-2015 St.Dev. • 2020-12-14



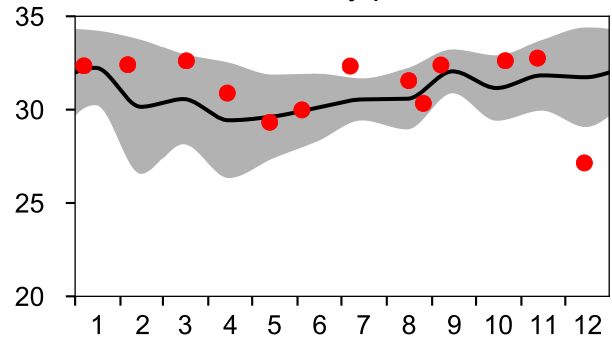
STATION Å17 SURFACE WATER (0-10 m)

Annual Cycles

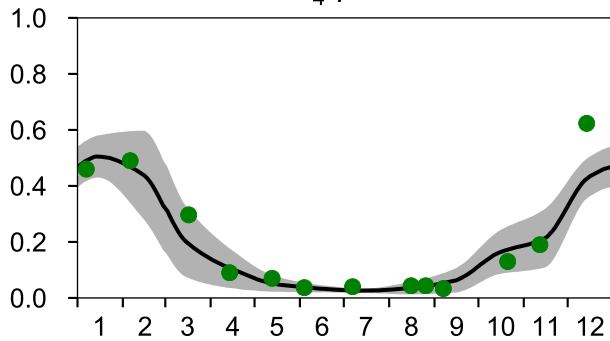
— Mean 2001-2015
Temperature °C



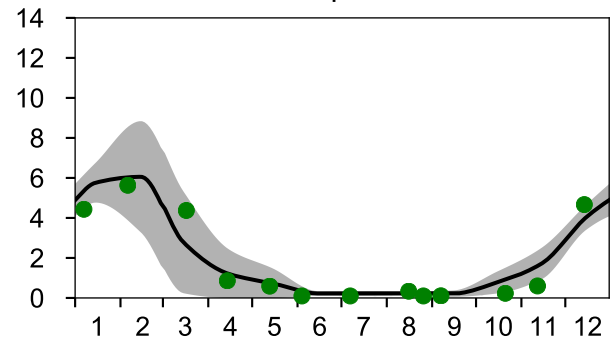
St.Dev. ● 2020
Salinity psu



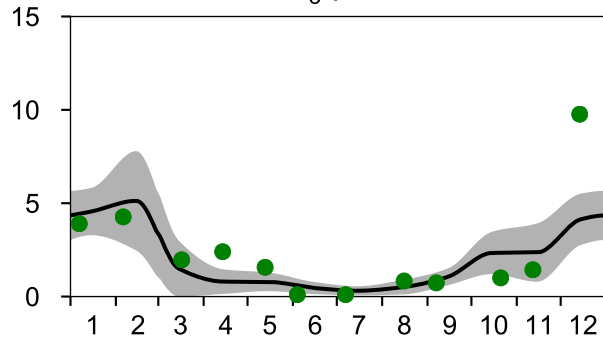
PO₄ µmol/l



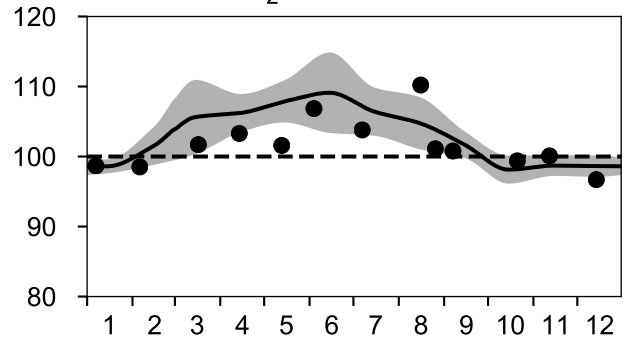
DIN µmol/l



SiO₃ µmol/l

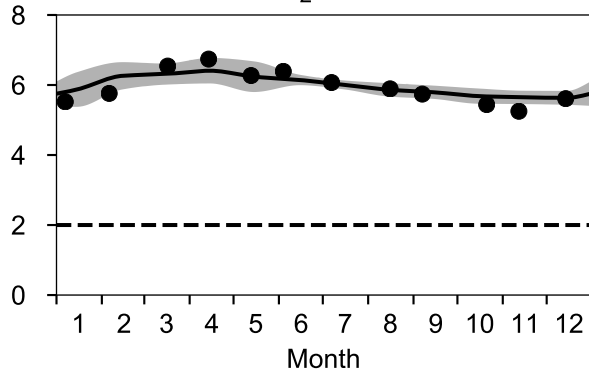


O₂ saturation %

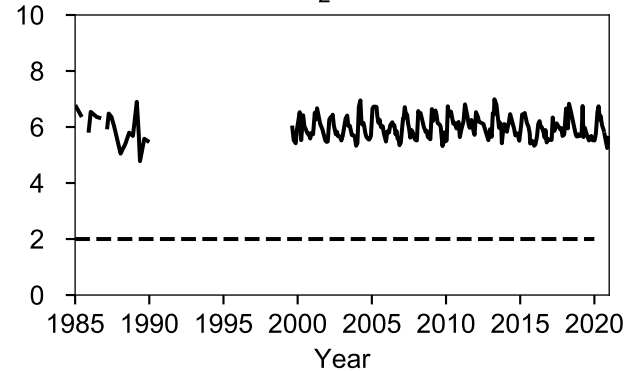


OXYGEN IN BOTTOM WATER (depth >= 300 m)

O₂ ml/l

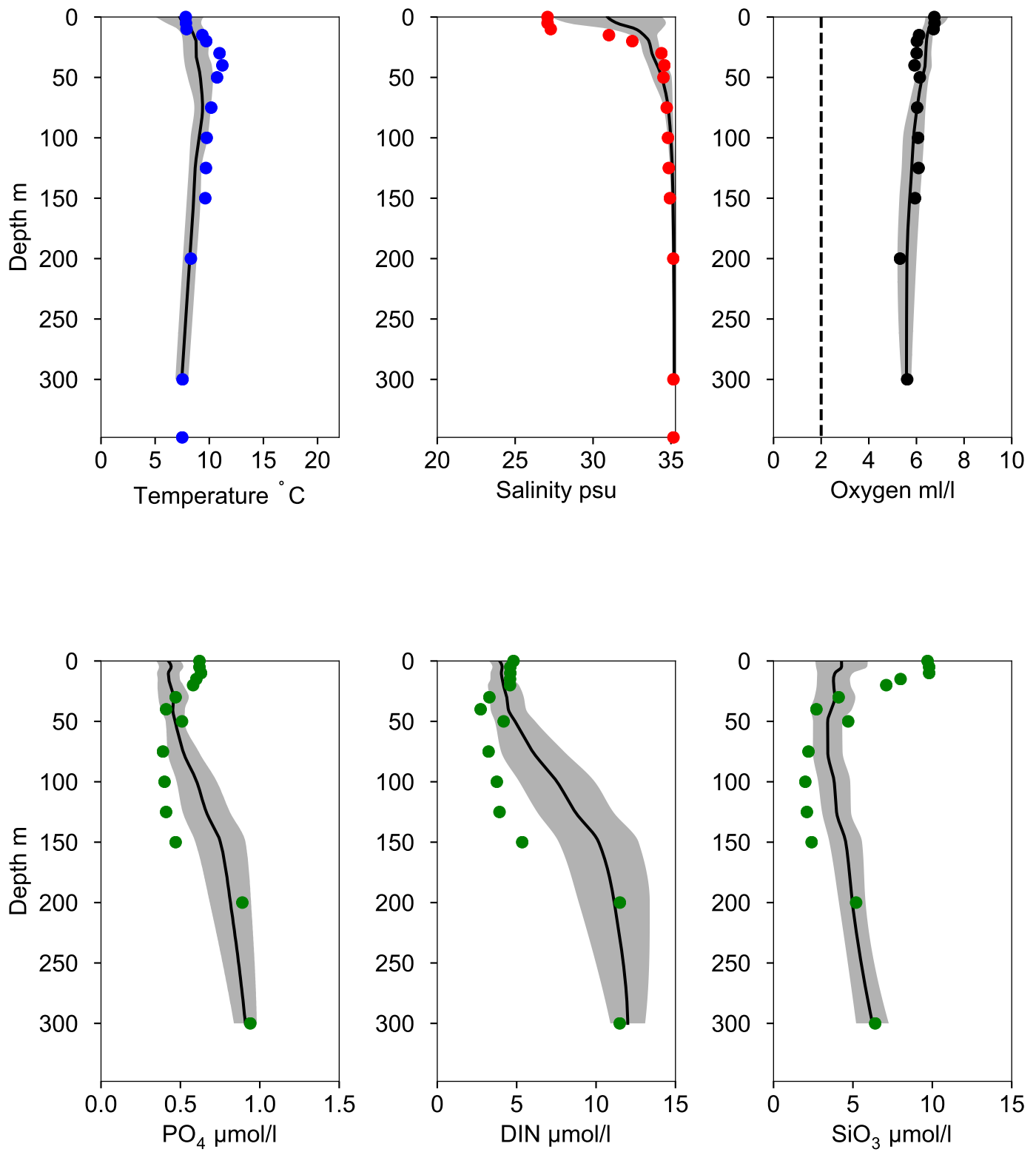


O₂ ml/l



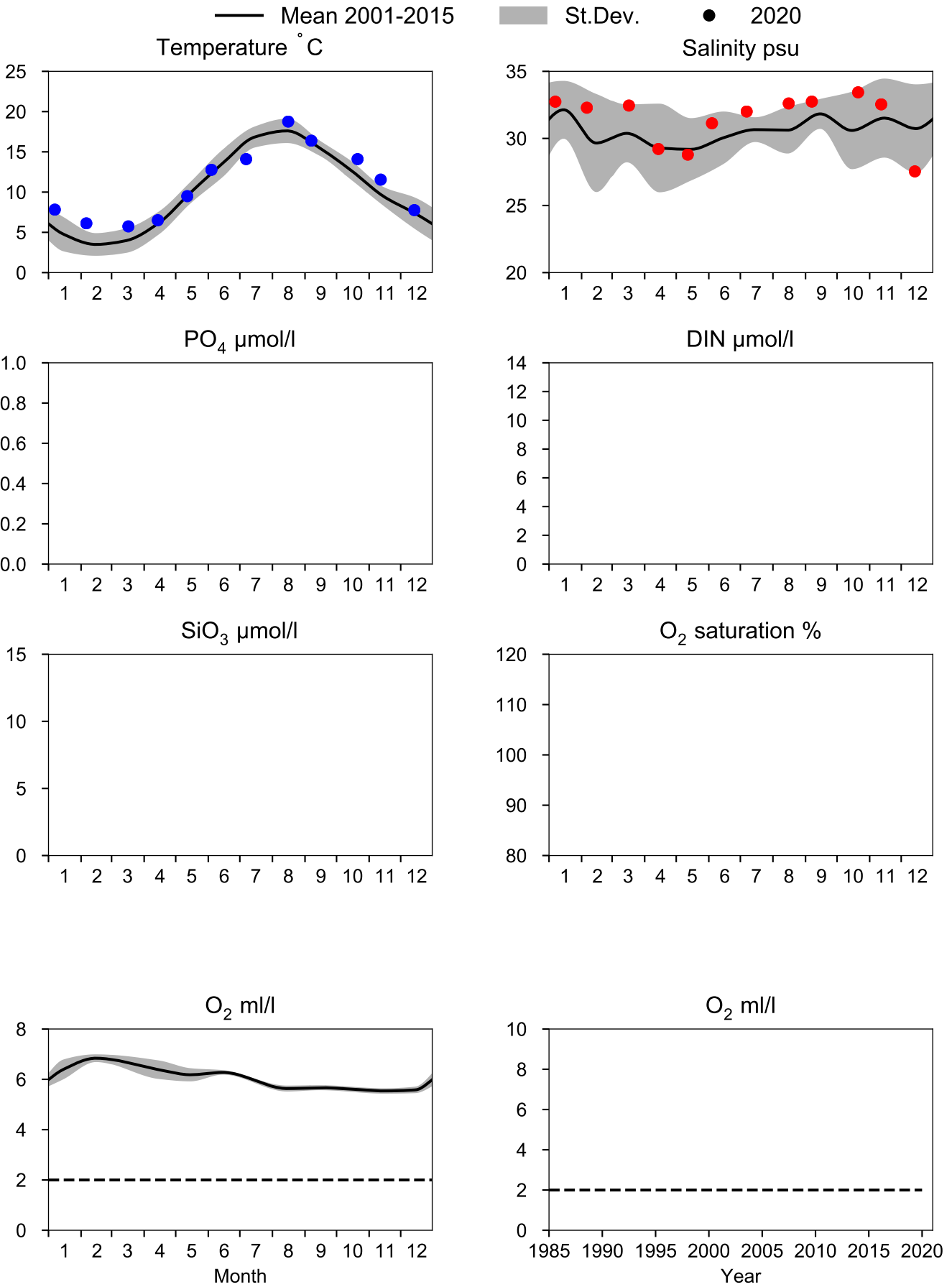
Vertical profiles A17 December

— Mean 2001-2015 St.Dev. • 2020-12-14



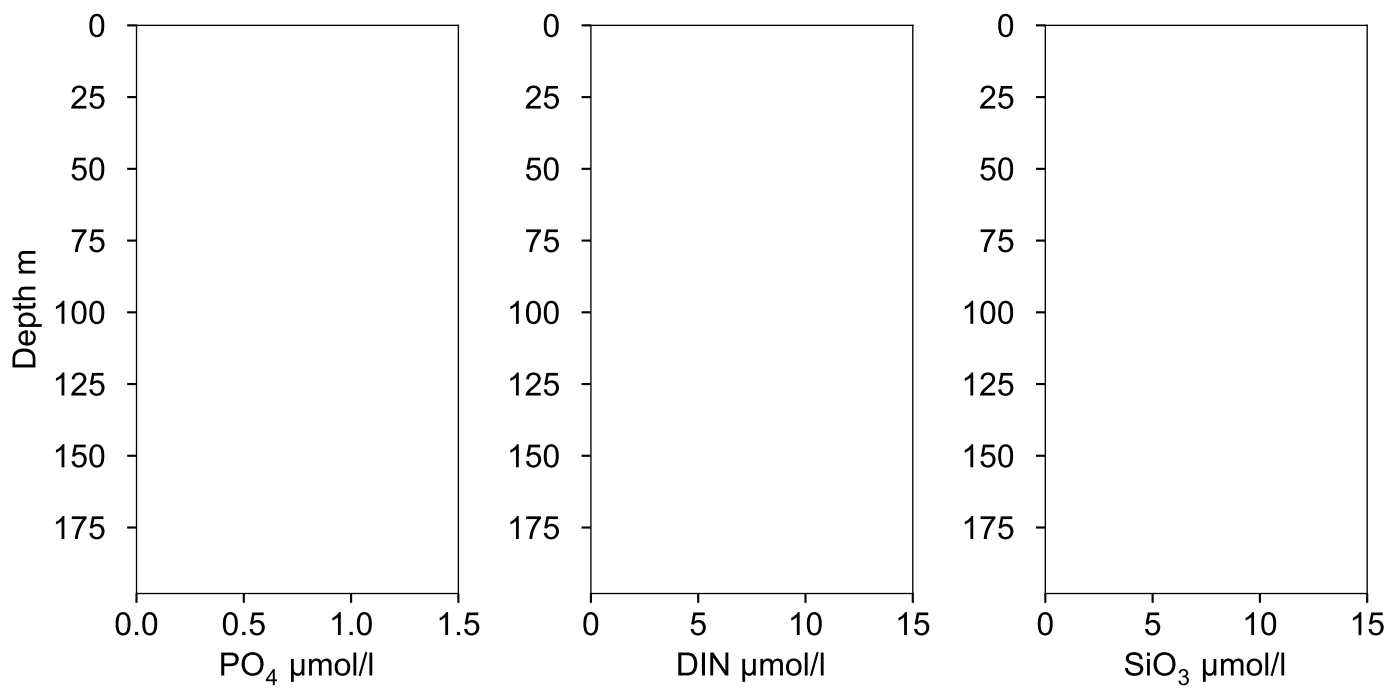
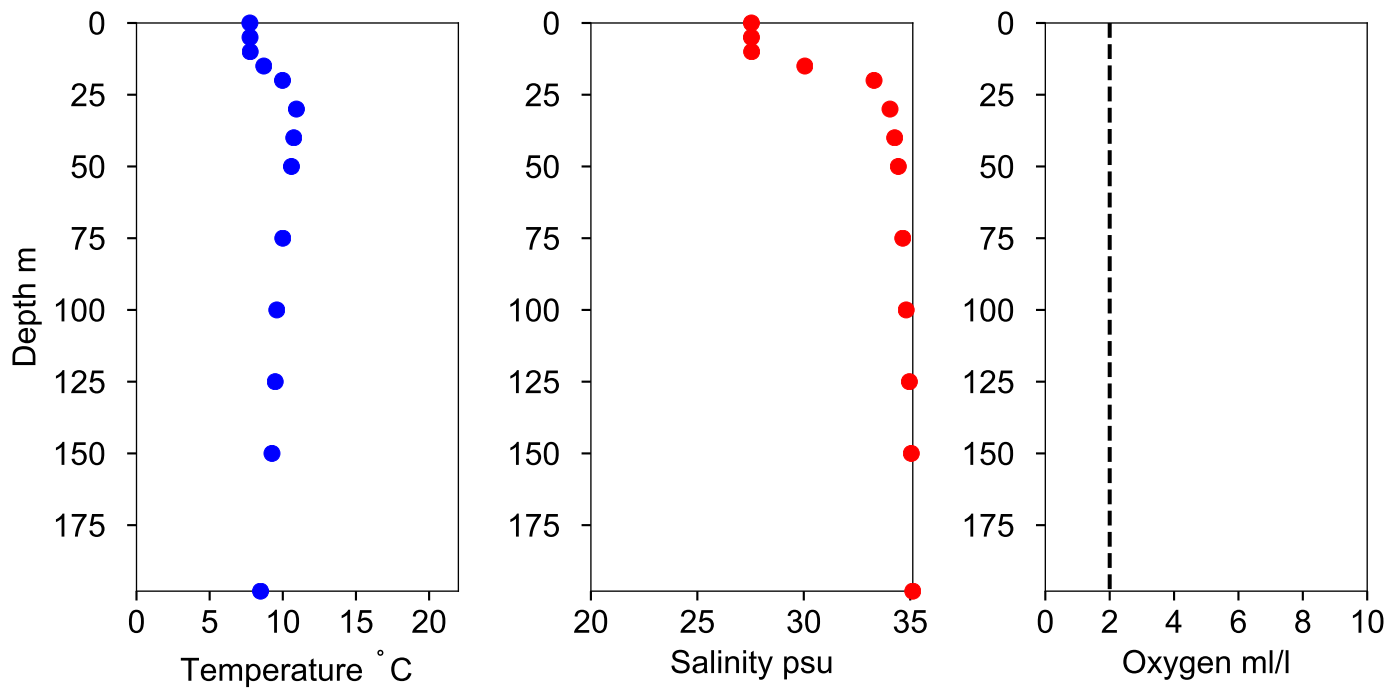
STATION Å16 SURFACE WATER (0-10 m)

Annual Cycles



Vertical profiles Å16 December

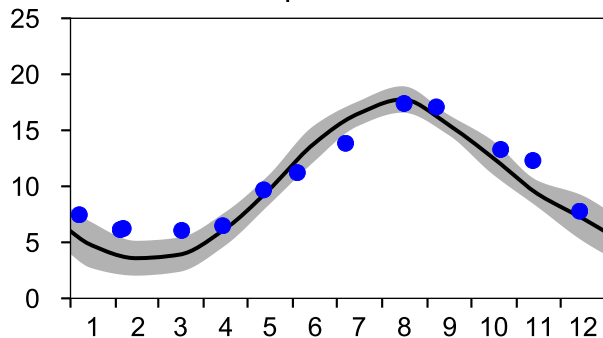
— Mean 2001-2015 ■ St.Dev. ● 2020-12-14



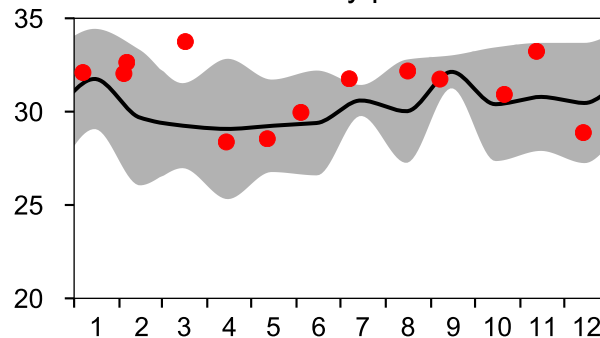
STATION Å15 SURFACE WATER (0-10 m)

Annual Cycles

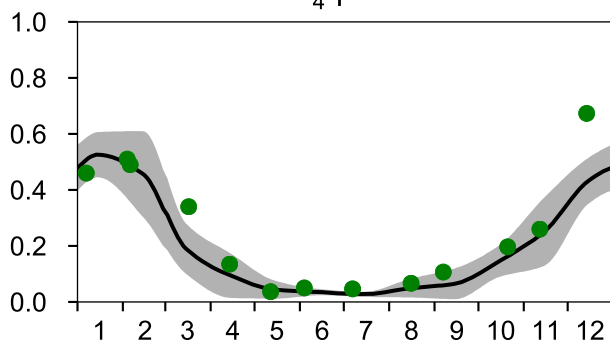
— Mean 2001-2015
Temperature °C



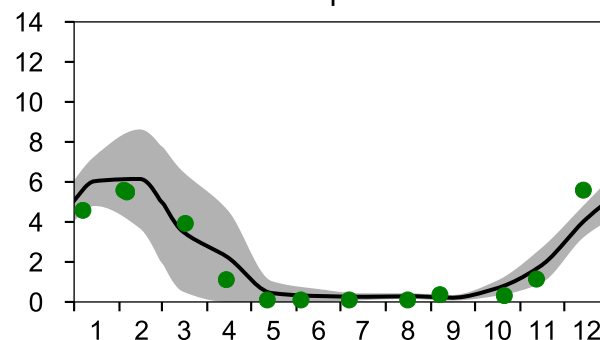
St.Dev. ● 2020
Salinity psu



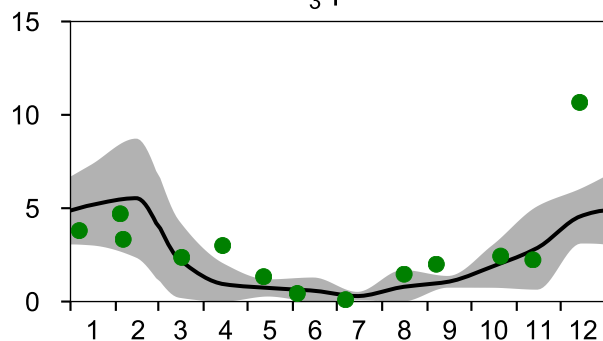
PO₄ µmol/l



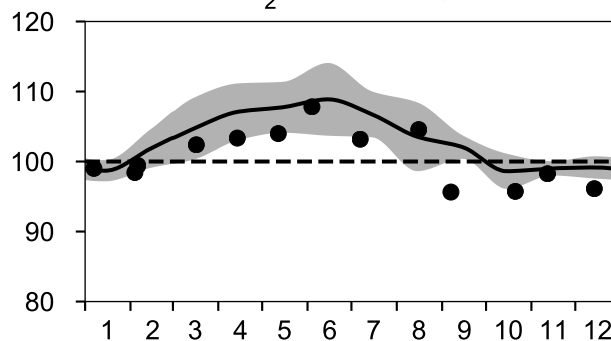
DIN µmol/l



SiO₃ µmol/l

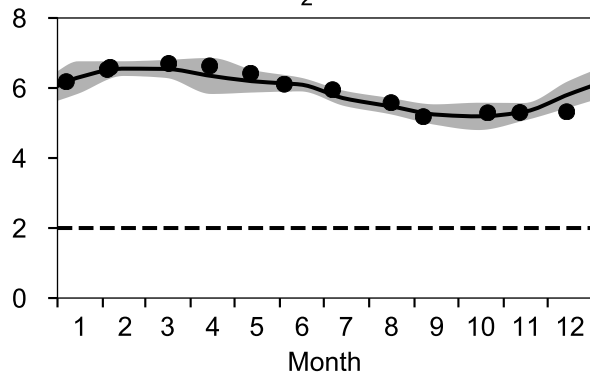


O₂ saturation %

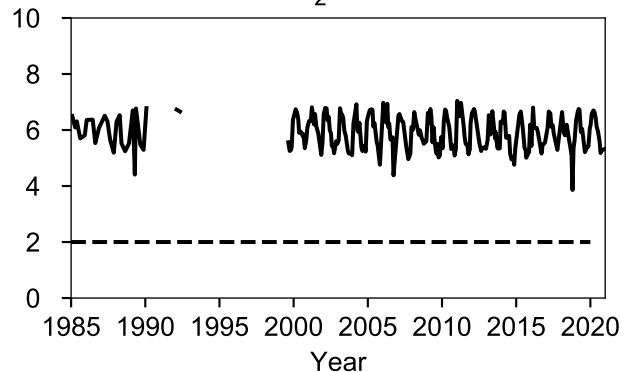


OXYGEN IN BOTTOM WATER (depth >= 125 m)

O₂ ml/l

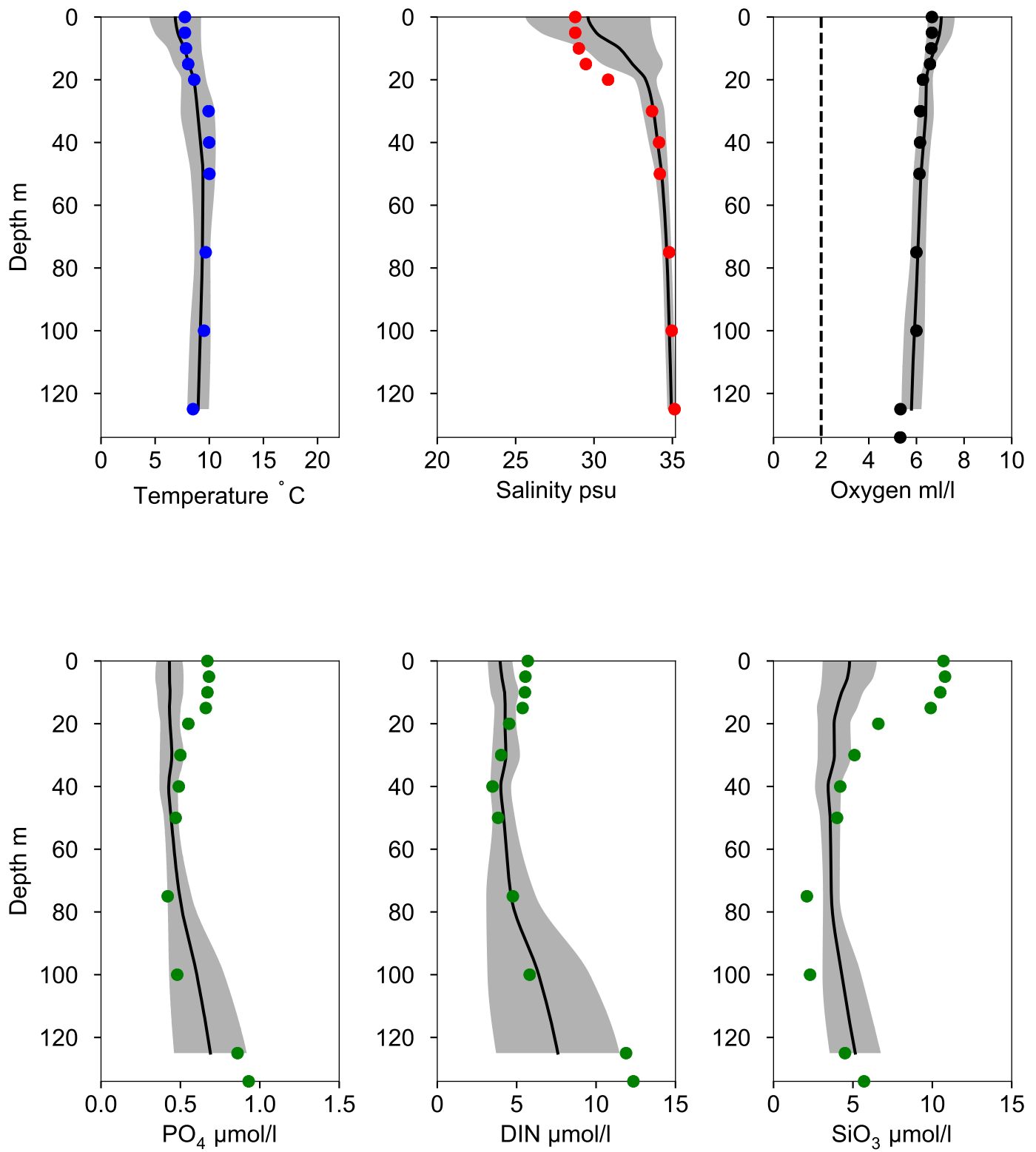


O₂ ml/l



Vertical profiles Å15 December

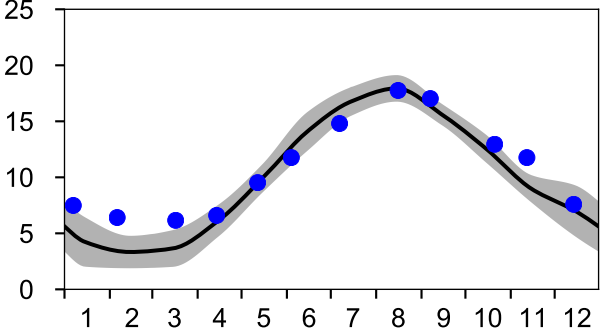
— Mean 2001-2015 St.Dev. • 2020-12-14



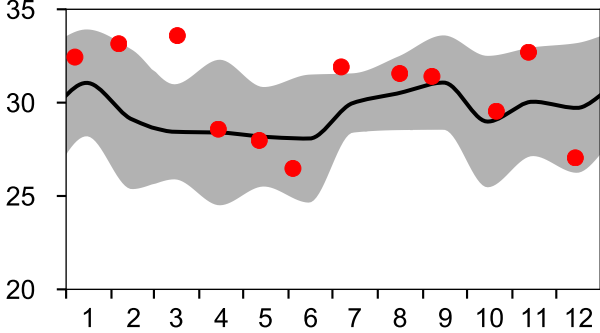
STATION Å14 SURFACE WATER (0-10 m)

Annual Cycles

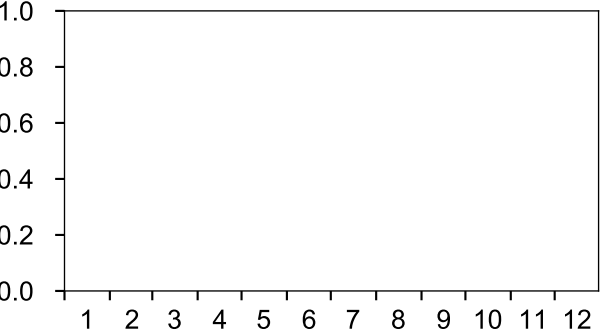
— Mean 2001-2015
Temperature °C



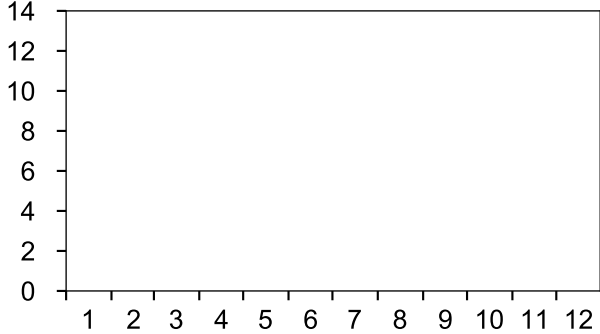
St.Dev. ● 2020
Salinity psu



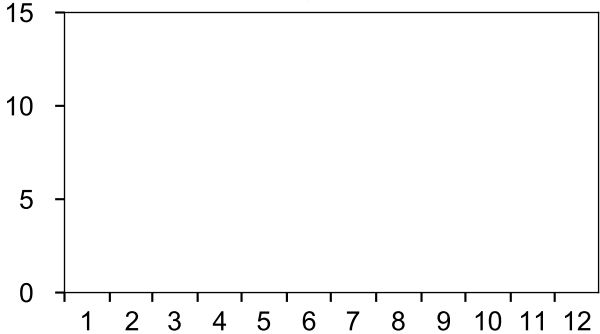
PO₄ µmol/l



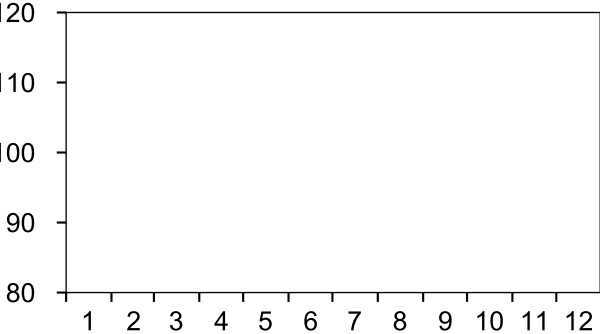
DIN µmol/l



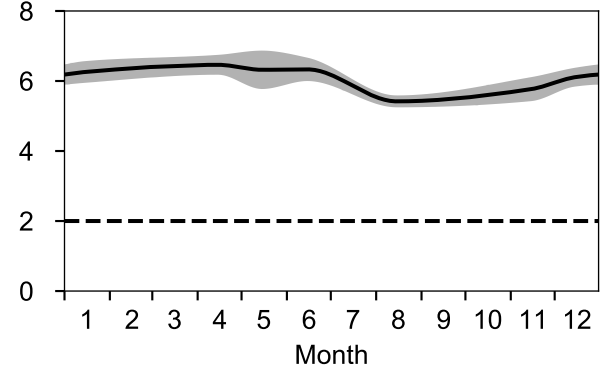
SiO₃ µmol/l



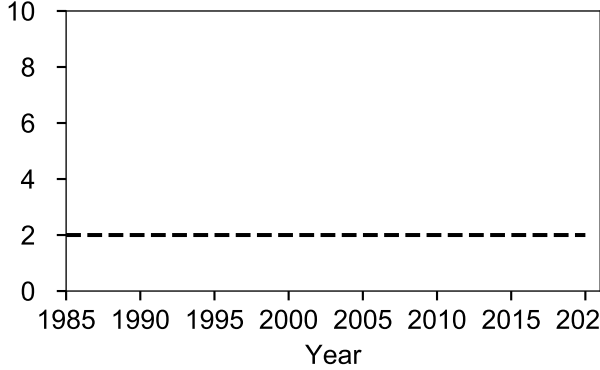
O₂ saturation %



O₂ ml/l

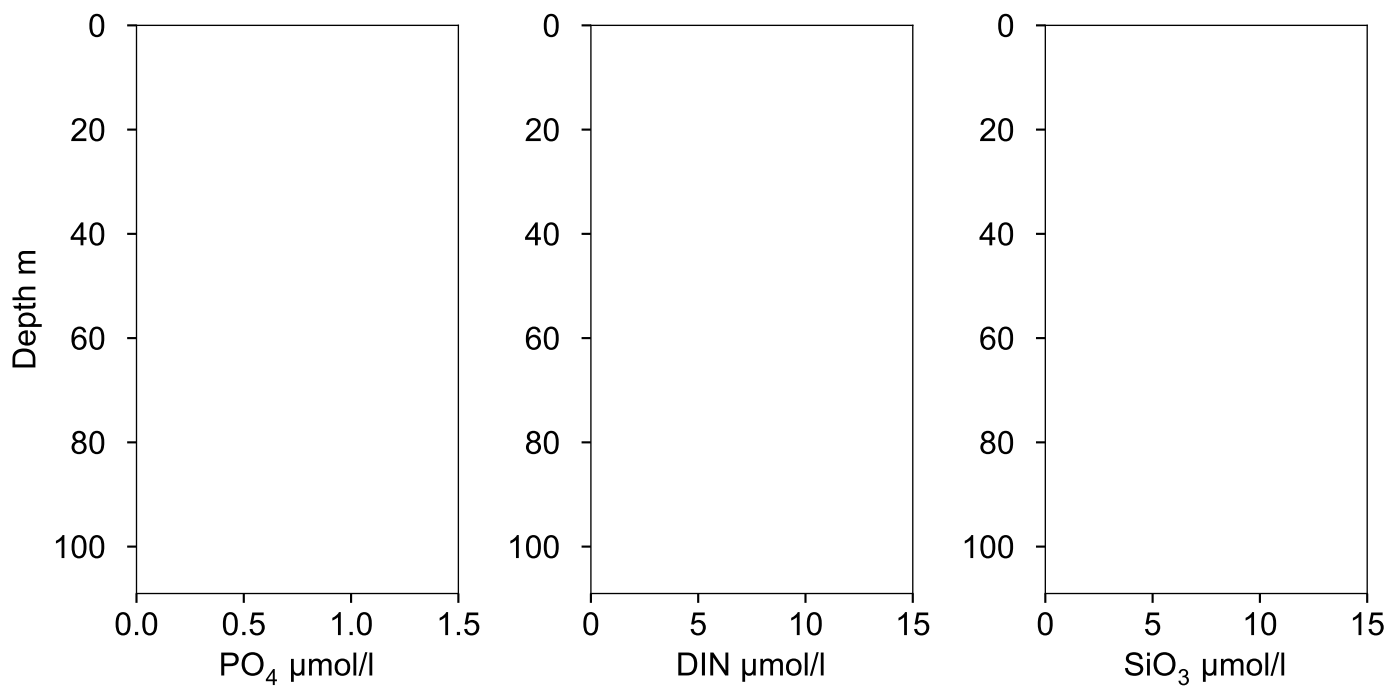
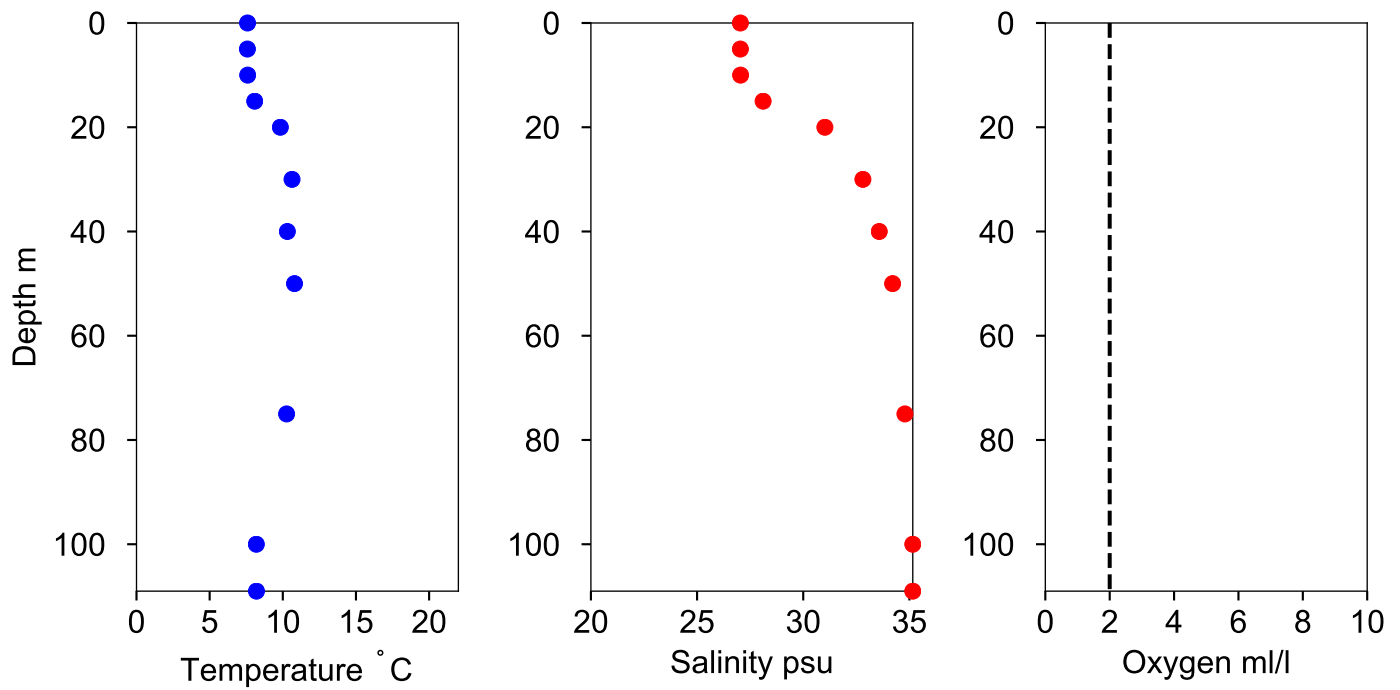


O₂ ml/l



Vertical profiles Å14 December

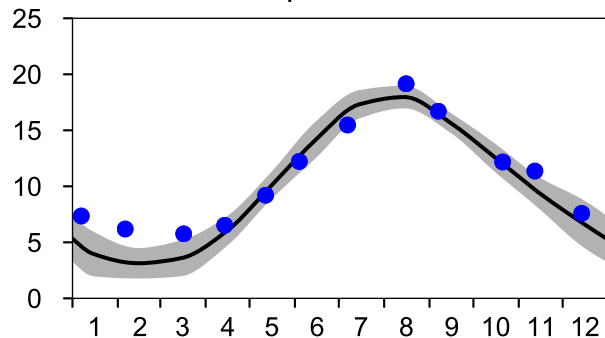
— Mean 2001-2015 ■ St.Dev. ● 2020-12-14



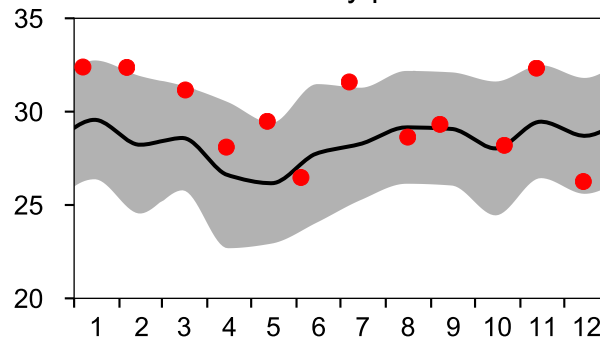
STATION Å13 SURFACE WATER (0-10 m)

Annual Cycles

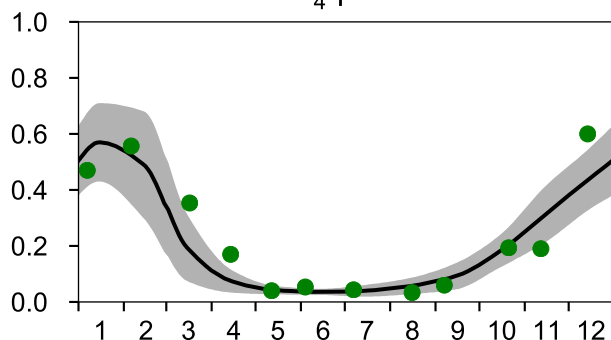
— Mean 2001-2015
Temperature °C



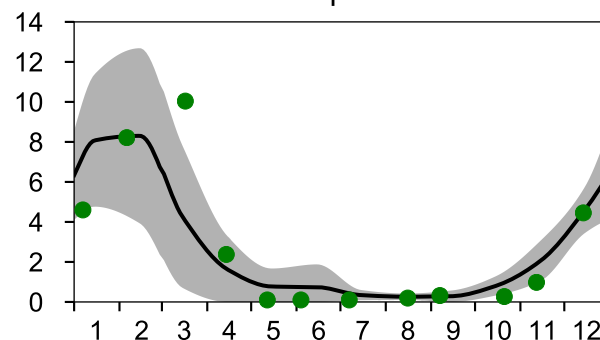
— St.Dev. • 2020
Salinity psu



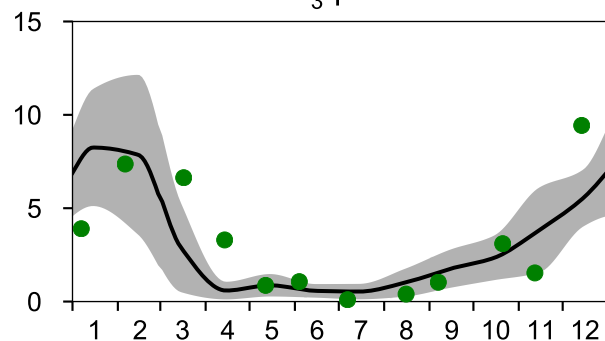
PO₄ µmol/l



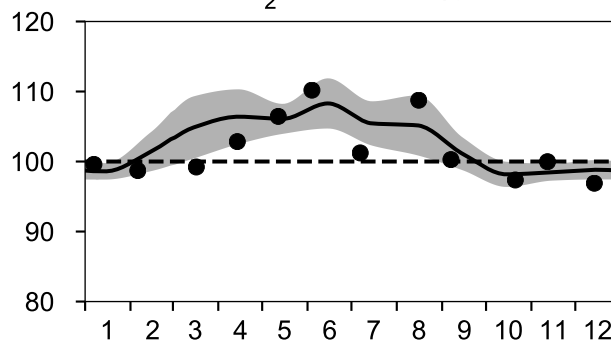
DIN µmol/l



SiO₃ µmol/l

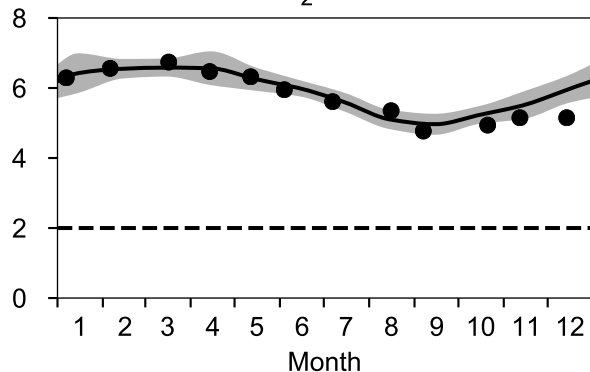


O₂ saturation %

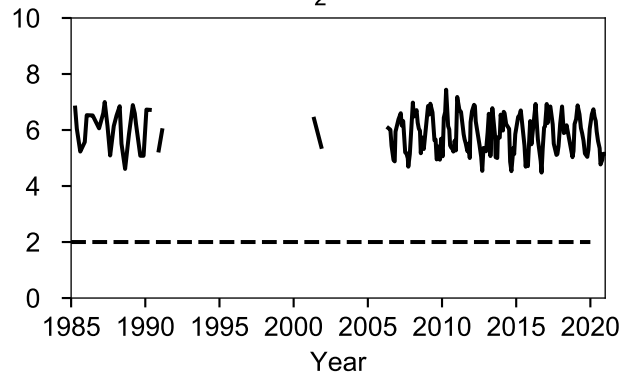


OXYGEN IN BOTTOM WATER (depth >= 80 m)

O₂ ml/l

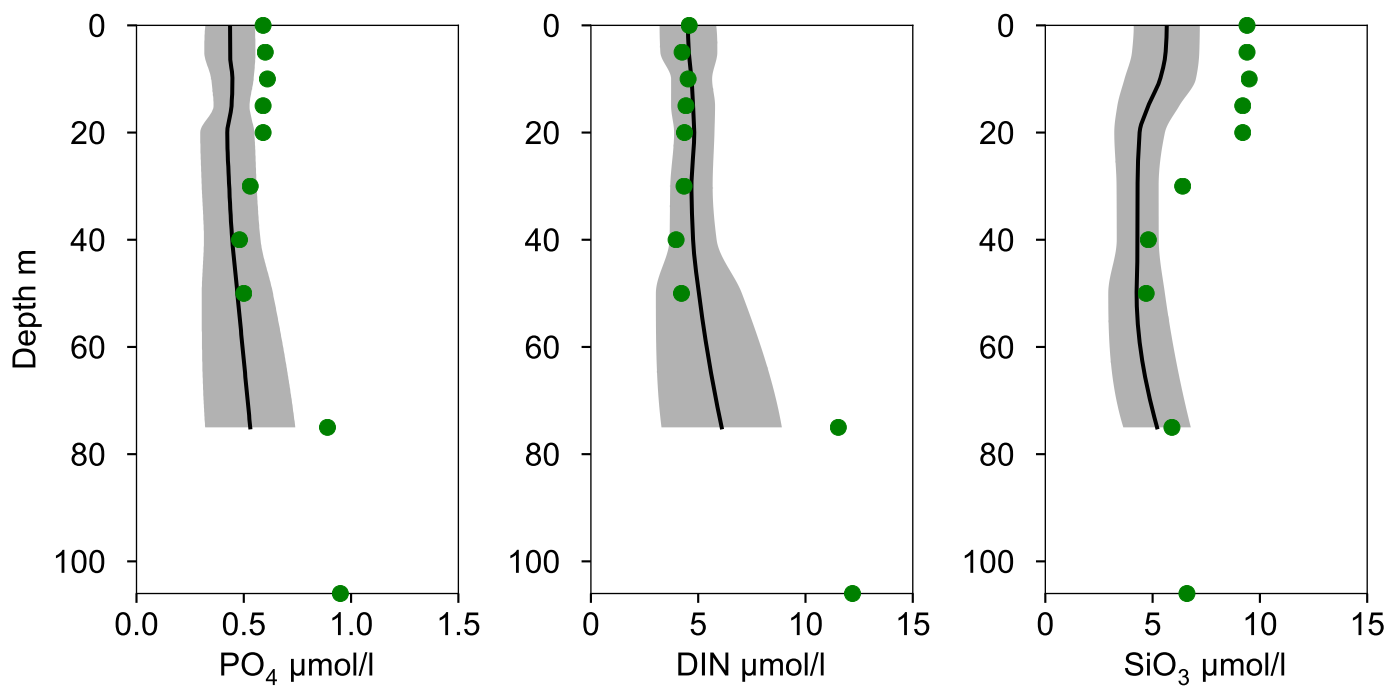
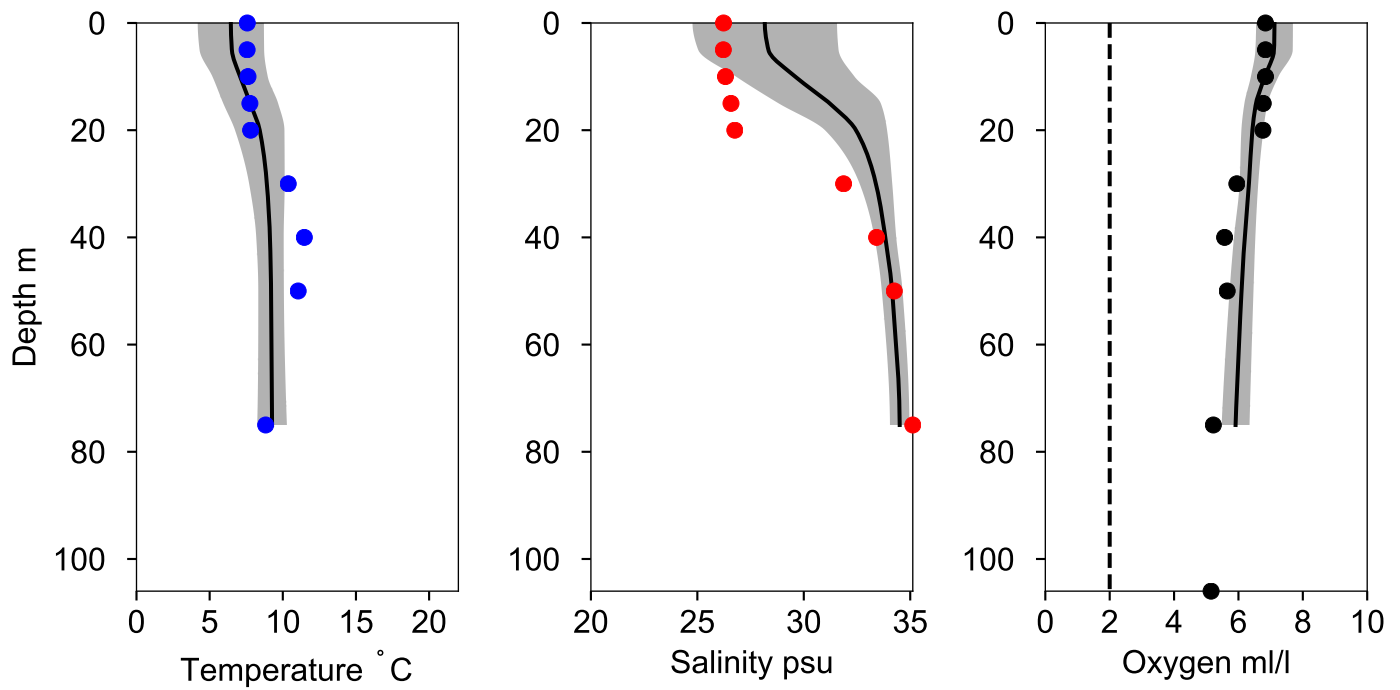


O₂ ml/l



Vertical profiles Å13 December

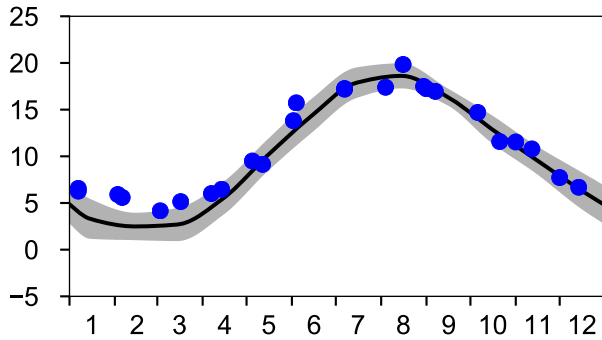
— Mean 2001-2015 St.Dev. • 2020-12-14



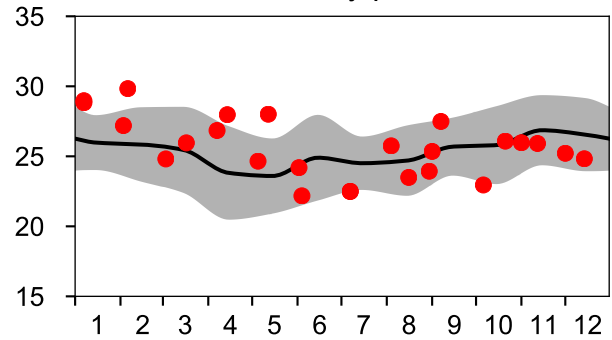
STATION SLÄGGÖ SURFACE WATER (0-10 m)

Annual Cycles

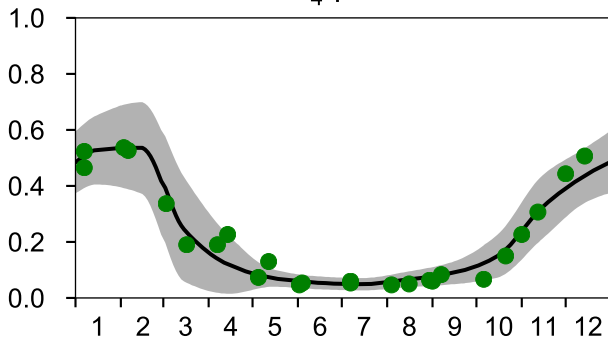
— Mean 2001-2015
Temperature °C



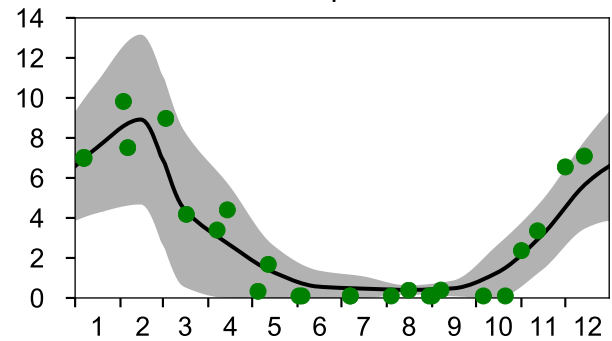
St.Dev. Salinity psu



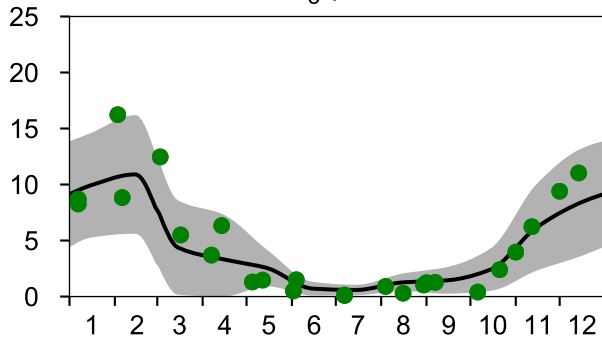
PO₄ µmol/l



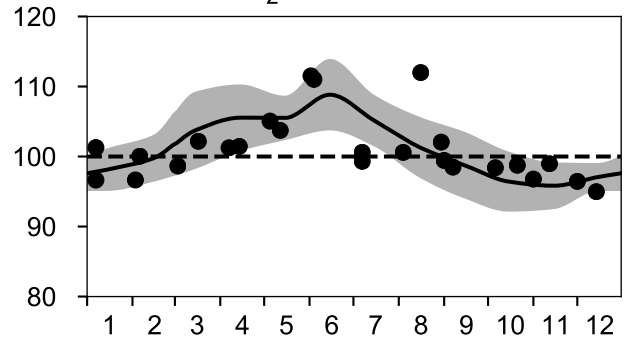
DIN µmol/l



SiO₃ µmol/l

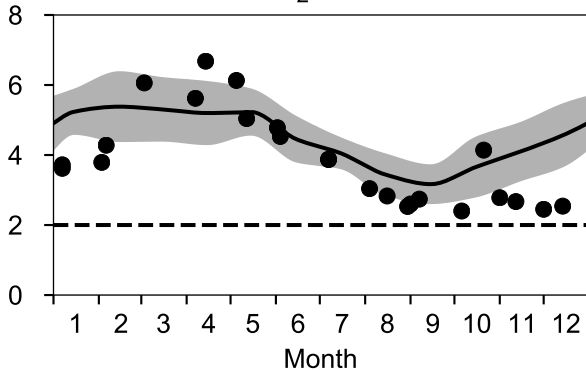


O₂ saturation %

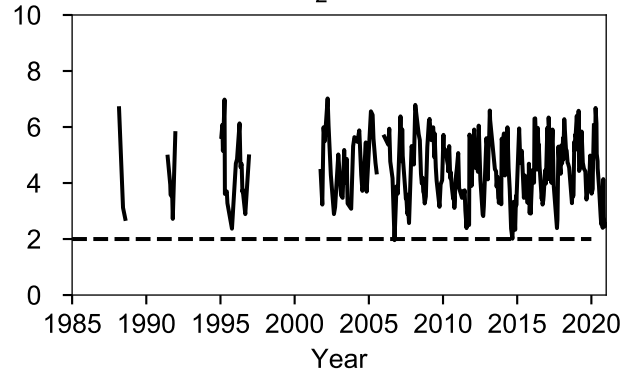


OXYGEN IN BOTTOM WATER (depth >= 64 m)

O₂ ml/l



O₂ ml/l



Vertical profiles SLÄGGÖ December

— Mean 2001-2015 St.Dev. • 2020-12-14

