

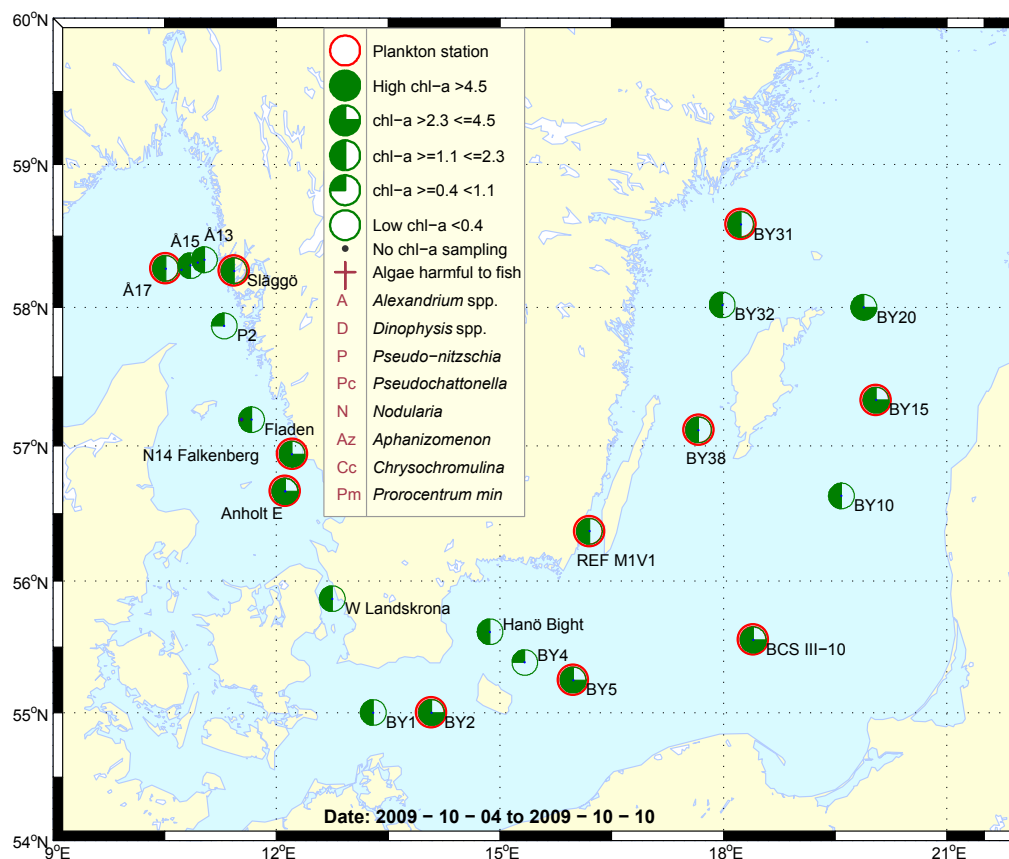
Sammanfattning

Antalet arter, framför allt av kiselalger, var stora vid växtplanktonstationerna utanför den svenska västkusten en vecka in i oktober. Cellantalen var ganska låga, och troligtvis var det resterna efter en höstblomning som observerades.

De integrerade (0-20m) klorofyll *a*-värdena låg inom medel vid samtliga Skagerrak- och Kattegatt-stationer.

I Östersjön var cyanobakterien *Aphanizomenon* spp. vanlig vid BY2, BY5, BY15 och BY38. I övrigt var bara små flagellater vanliga. Spår av prymnesiophyten *Chrysochromulina polylepis** fanns vid BY2, BCSIII, BY15 och BY38.

De integrerade (0-20m) klorofyll *a*-värdena låg inom medel vid samtliga Östersjöstationer.



Abstract

The number of species of diatoms above all, but even of other groups was high at the phytoplankton stations at the Swedish west coast in early October. The total cell numbers were low though, and it was probably the remains after an autumn bloom that was observed.

The integrated (0-20m) chlorophyll *a* values were within average at all of the Skagerrak and Kattegat stations.

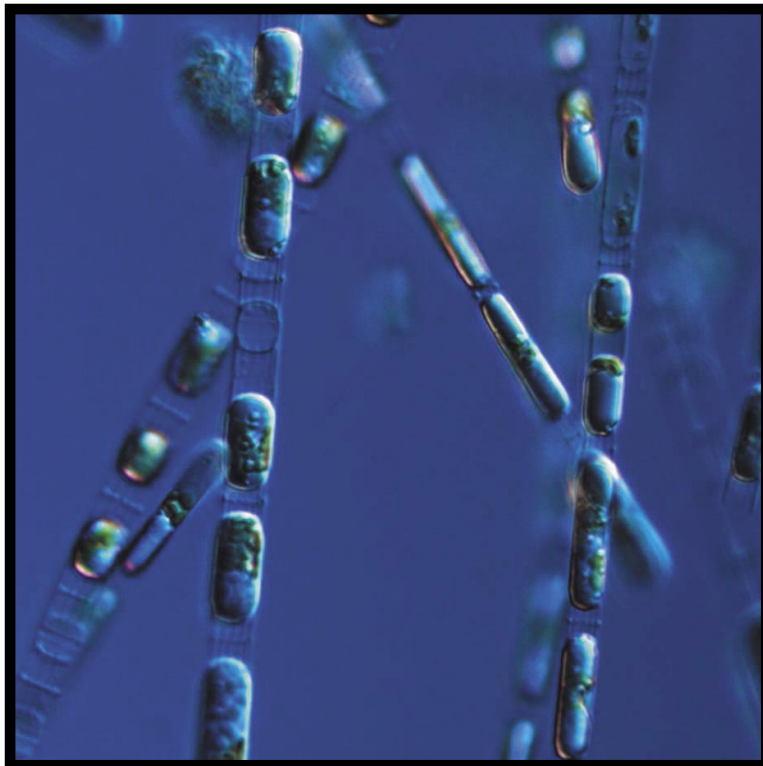
In the Baltic Sea the cyanobacterium *Aphanizomenon* spp. was common at stations BY2, BY5, BY15 and BY38. Small flagellated species were common at all phytoplankton stations. Traces of the prymnesiophyte *Chrysochromulina polylepis** were present at stations BY2, BCSIII, BY15 and BY38.

The integrated (0-20m) chlorophyll *a* values were within average at all of the Baltic stations.

More detailed information on species composition and abundance

No further information is considered necessary this month, because of the low phytoplankton activity. The issues of interest should be covered by the abstract, the species lists and the chlorophyll diagrams.

Phytoplankton analysis and text by:
Ann-Turi Skjevik

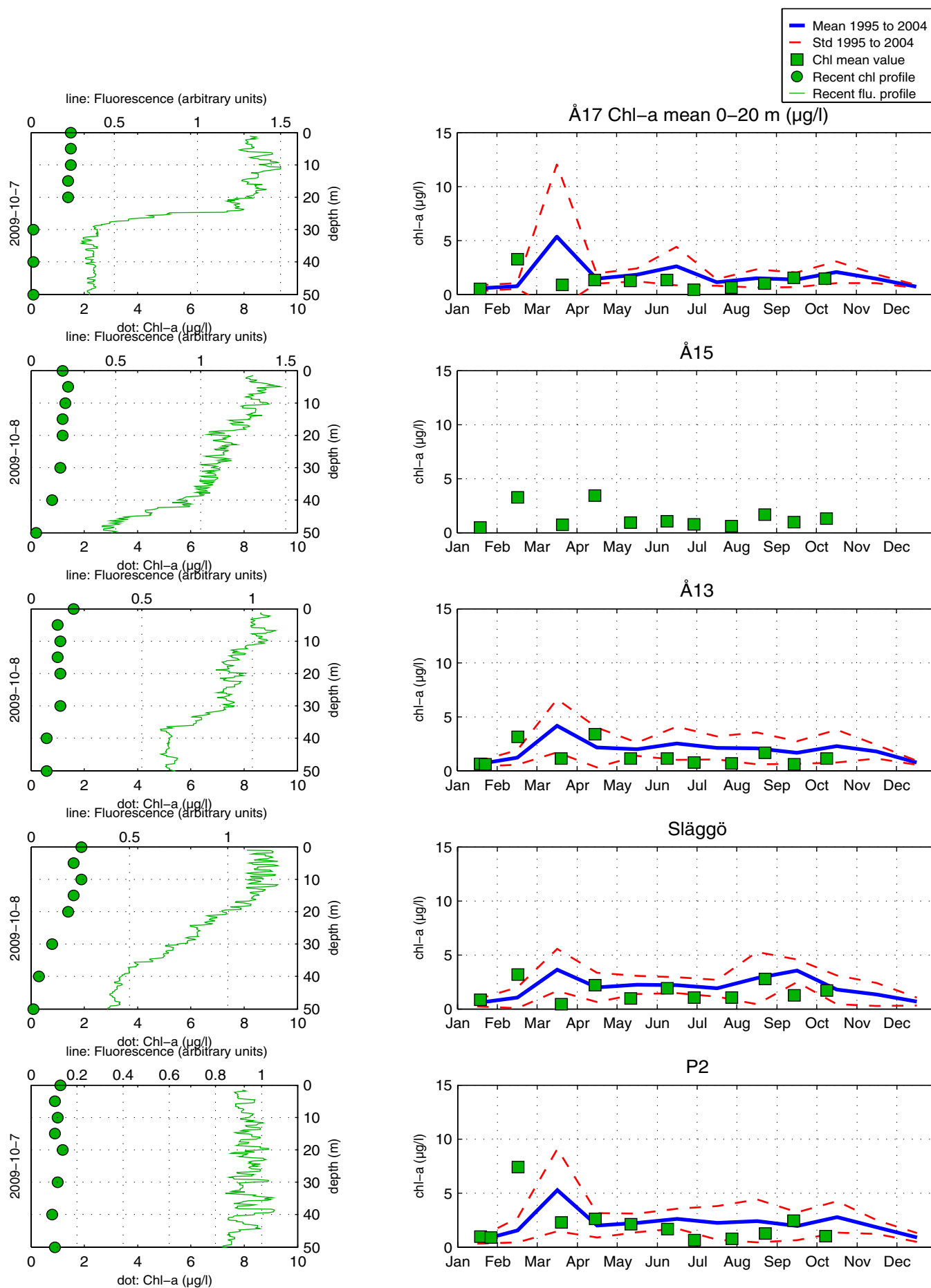


Skeletonema costatum complex

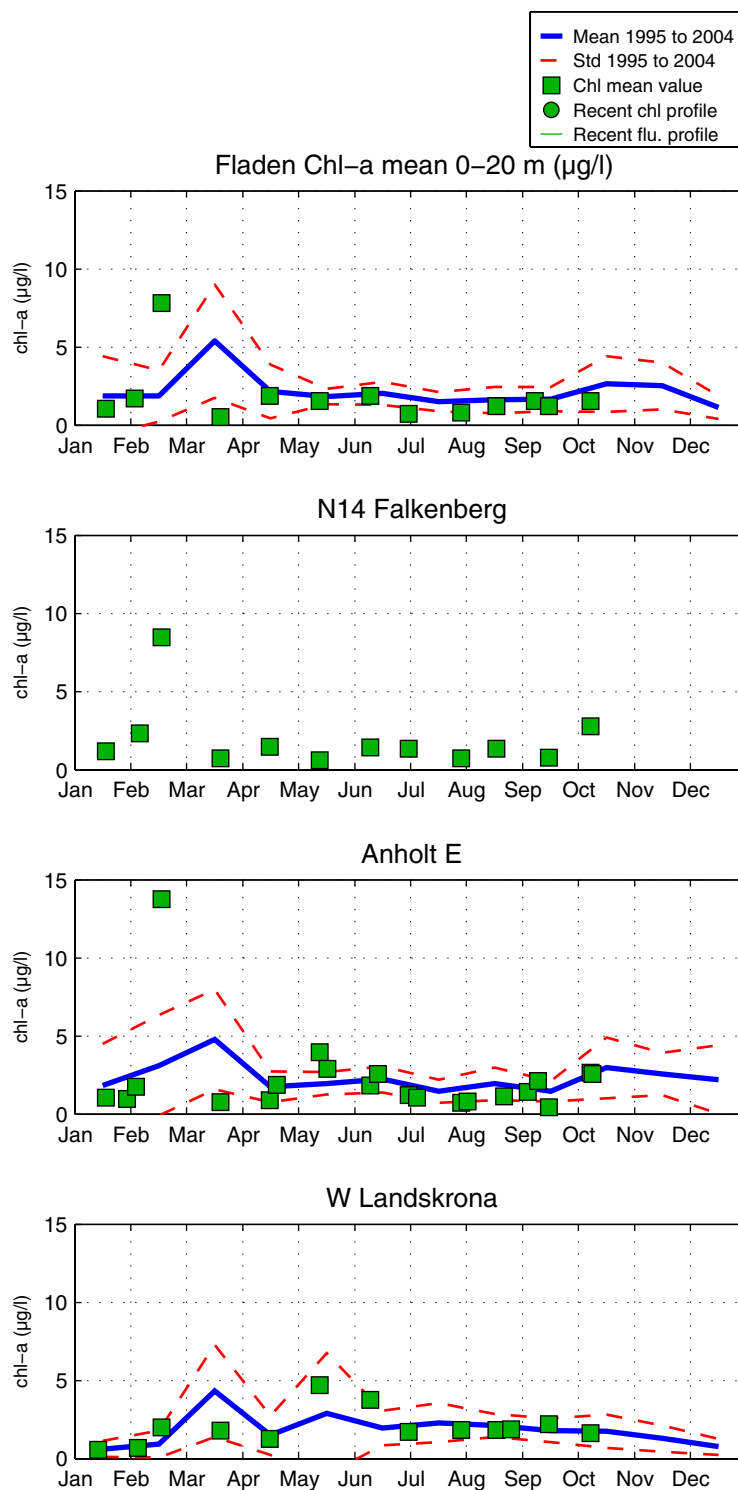
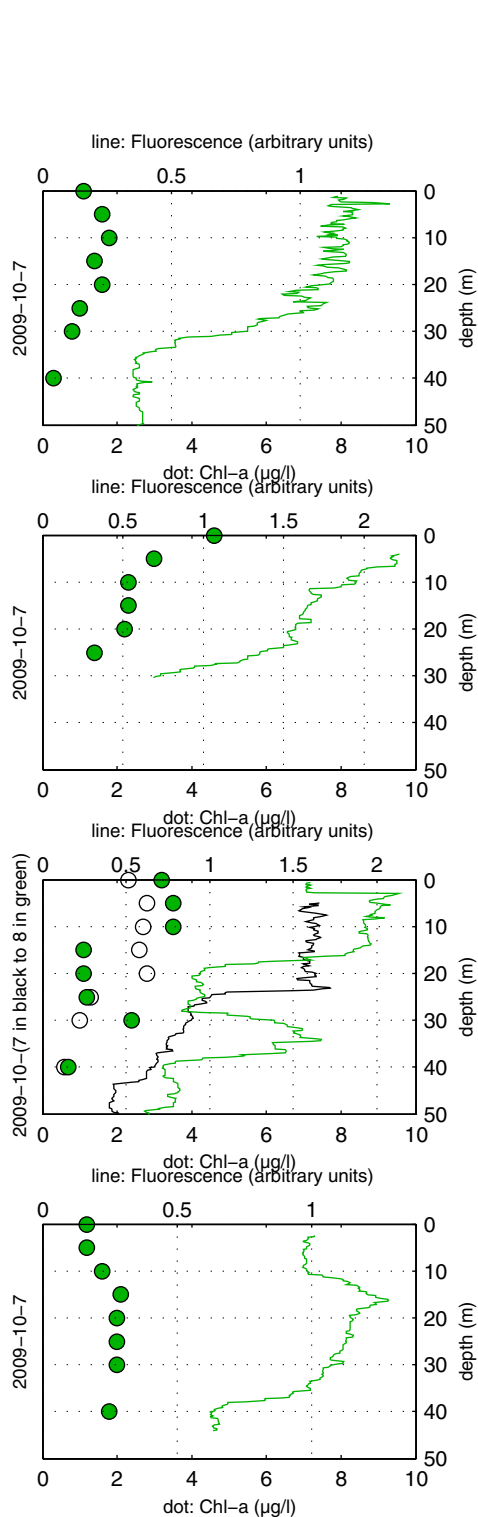
Selection of observed species	Å17	Släggö	N14	Anholt E	Anholt E
Red=potentially toxic species	2009-10-07	2009-10-08	2009-10-07	2009-10-07	2009-10-08
	cells/l	cells/l	cells/l	cells/l	cells/l
<i>Asterionellopsis glacialis</i>		present			
<i>Cerataulina pelagica</i>	present	present			
<i>Chaetoceros affinis</i>					present
<i>Chaetoceros concavicornis</i>	present	present	present	common	common
<i>Chaetoceros curvisetus</i>	present	present		present	
<i>Chaetoceros debilis</i>	present	present	present	present	present
<i>Chaetoceros didymus</i>			present	present	
<i>Chaetoceros lorenzianus</i>	present		present		
<i>Chaetoceros socialis</i>		present	present	present	
<i>Cylindrotheca closterium</i>	present	present	present	present	common
<i>Dactylosolen fragilissimus</i>	present	present	present	present	present
<i>Ditylum brightwellii</i>		present	present	common	present
<i>Eucampia zodiacus</i>		present		present	
<i>Guinardia delicatula</i>		present		present	present
<i>Guinardia flaccida</i>		present	present	present	
<i>Lennoxia faveolata</i>	present	present	present	present	present
<i>Leptocylindrus danicus</i>	present	present	present	present	
<i>Leptocylindrus minimus</i>		present		present	present
cf. <i>Nitzschia longissima</i>	present		present	common	present
<i>Proboscia alata</i>	present		present	present	present
<i>Pseudo-nitzschia delicatissima</i> -group	present	common	84 000	common	common
<i>Pseudo-nitzschia seriata</i> -group		present	78 000	common	common
<i>Rhizosolenia hebetata</i>	present	present	present	common	common
<i>Rhizosolenia setigera</i>	present	present	present	present	present
<i>Skeletonema costatum</i> complex	present	180 000	common		
<i>Thalassionema nitzschioides</i>	present	present	common		
<i>Thalassiosira rotula</i>	present	present			present
cf. <i>Azadinium spinosum</i>	present		present	present	present
<i>Ceratium furca</i>		present			present
<i>Ceratium fusus</i>	present			present	present
<i>Ceratium lineatum</i>	present	present	present	present	present
<i>Ceratium tripos</i>			present	present	
<i>Dinophysis acuminata</i>				present	
<i>Gymnodinium verruculosum</i>	present		present		present
<i>Gyrodinium flagellare</i>	present	present	present	present	present
<i>Heterocapsa</i> cf. <i>minima</i>	present	present			
<i>Heterocapsa rotundata</i>	present	present	present	present	present
<i>Heterocapsa triquetra</i>			present		present
<i>Katodinium glaucum</i>	present	present	present	present	present
<i>Prorocentrum redfieldii</i>		present			present
<i>Protoperidinium bipes</i>		present	present		present
<i>Scrippsiella</i> complex			present		present
<i>Chrysochromulina</i> spp.	present	present	present	present	present
Cryptomonadales spp.	common	common	common	common	110 000
<i>Dictyocha fibula</i>	present		present	present	present
<i>Dictyocha speculum</i>	present		present		present
<i>Pyramimonas</i> spp.	present	present	present	present	present
<i>Apedinella radians</i>		present	present		present
<i>Pseudopedinella</i> spp.	present				present
<i>Leucocryptos marina</i>	present	present	present	present	present
<i>Rhizomonas setigera</i>	present			present	
<i>Telonema subtile</i>	present		present		
<i>Laboea strobila</i>			present	present	present
<i>Mesodinium rubrum</i>			present		present

Selection of observed species	BY2	BY5	BCS III-10	BY15	BY38	Ref. M1-V1
Red=potentially toxic species	2009-10-06	2009-10-06	2009-10-09	2009-10-10	2009-10-05	2009-10-05
¹ quantified in m/l	cells/l	cells/l	cells/l	cells/l	cells/l	cells/l
<i>Attheya septentrionalis</i>		present		present		
<i>Cerataulina pelagica</i>	present					
<i>Chaetoceros concavicornis</i>	present					
<i>Chaetoceros impressus</i>	present	present			present	present
<i>Chaetoceros subtilis</i>		present				
<i>Cyclotella choctawhatcheana</i>				present	present	
<i>Skeletonema costatum</i>						present
<i>Dinophysis acuminata</i>				present		present
<i>Dinophysis norvegica</i>				present		
<i>Gymnodinium verruculosum</i>		present	present			
<i>Gyrodinium flagellare</i>			present			
<i>Heterocapsa cf. minima</i>	present					
<i>Heterocapsa rotundata</i>	common	present	common	present	present	common
<i>Heterocapsa triquetra</i>	present	present				
<i>Katodinium glaucum</i>	present					
<i>Prorocentrum balticum</i>			present			
<i>Chrysochromulina polylepis</i>	present		present	present	present	
<i>Chrysochromulina spp.</i>	present	present	present	present	present	present
Cryptomonadales spp.	240 000	180 000	230 000	90 000	70 000	80 000
<i>Dinobryon balticum</i>						present
<i>Planctonema lauterbornii</i>						present
<i>Pyramimonas spp.</i>	170 000	80 000	common	present	common	common
<i>Pseudopedinella spp.</i>				present		
<i>Aphanizomenon spp.</i>	common	common		common	common	present
<i>Nodularia spumigena</i>	present	present				
<i>Ebria tripartita</i>	present					
<i>Telonema subtile</i>		present		present		
<i>Calliacantha natans</i>	present	present	common		present	present
<i>Leucocryptos marina</i>	present	present	present	present	present	present
<i>Mesodinium rubrum</i>	present	present	present	present	present	present

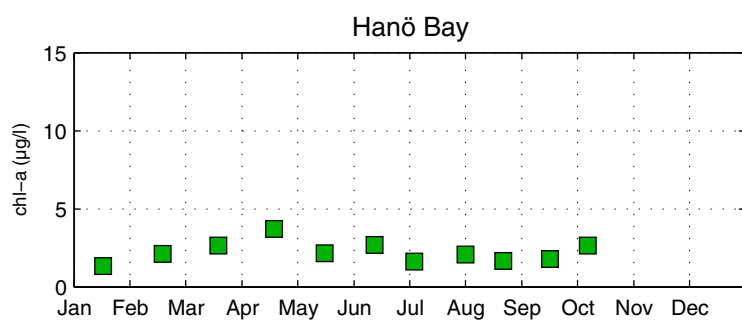
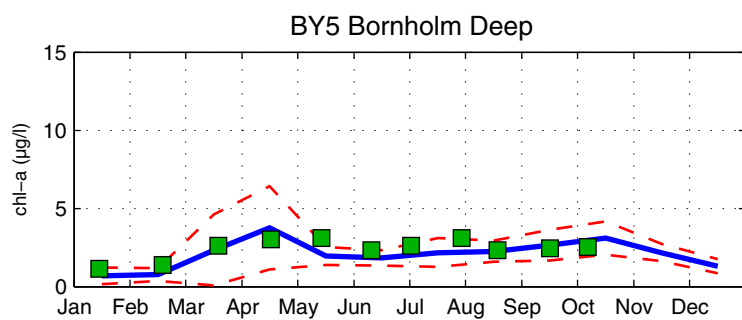
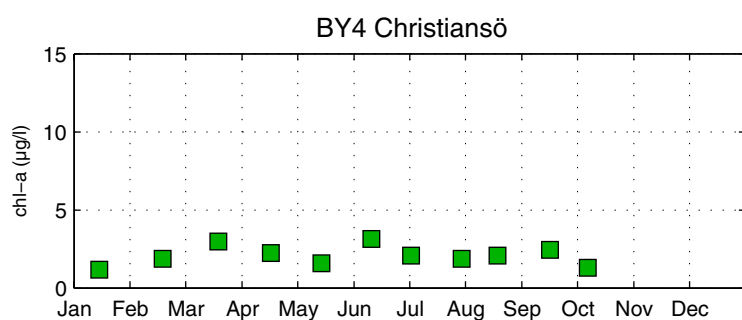
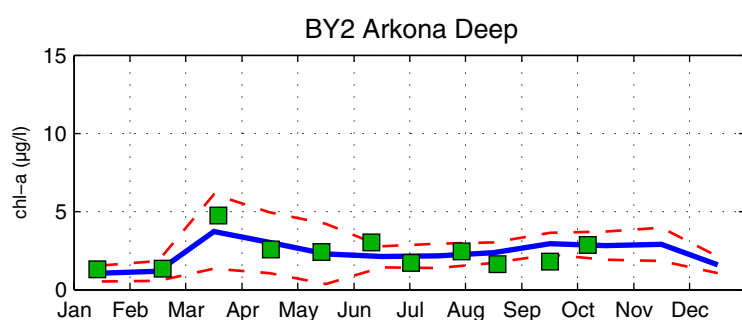
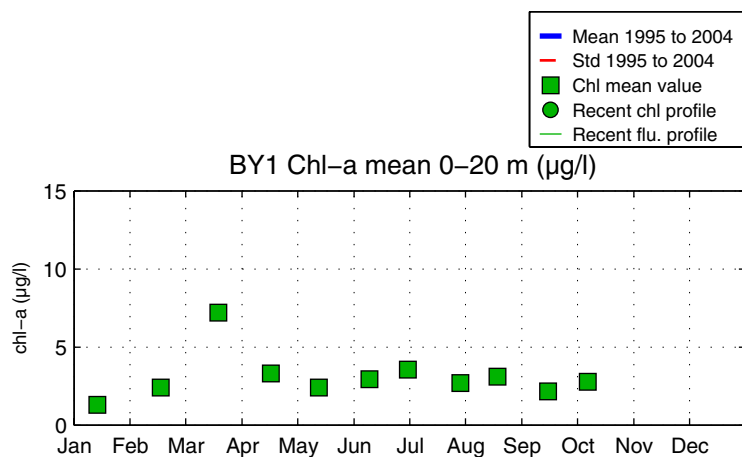
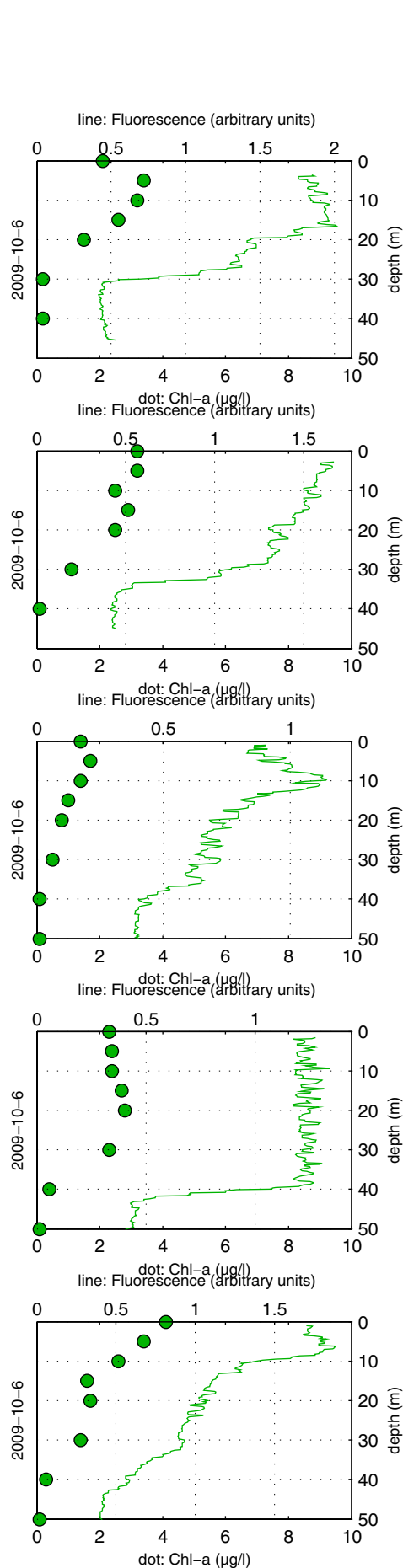
The Skagerrak



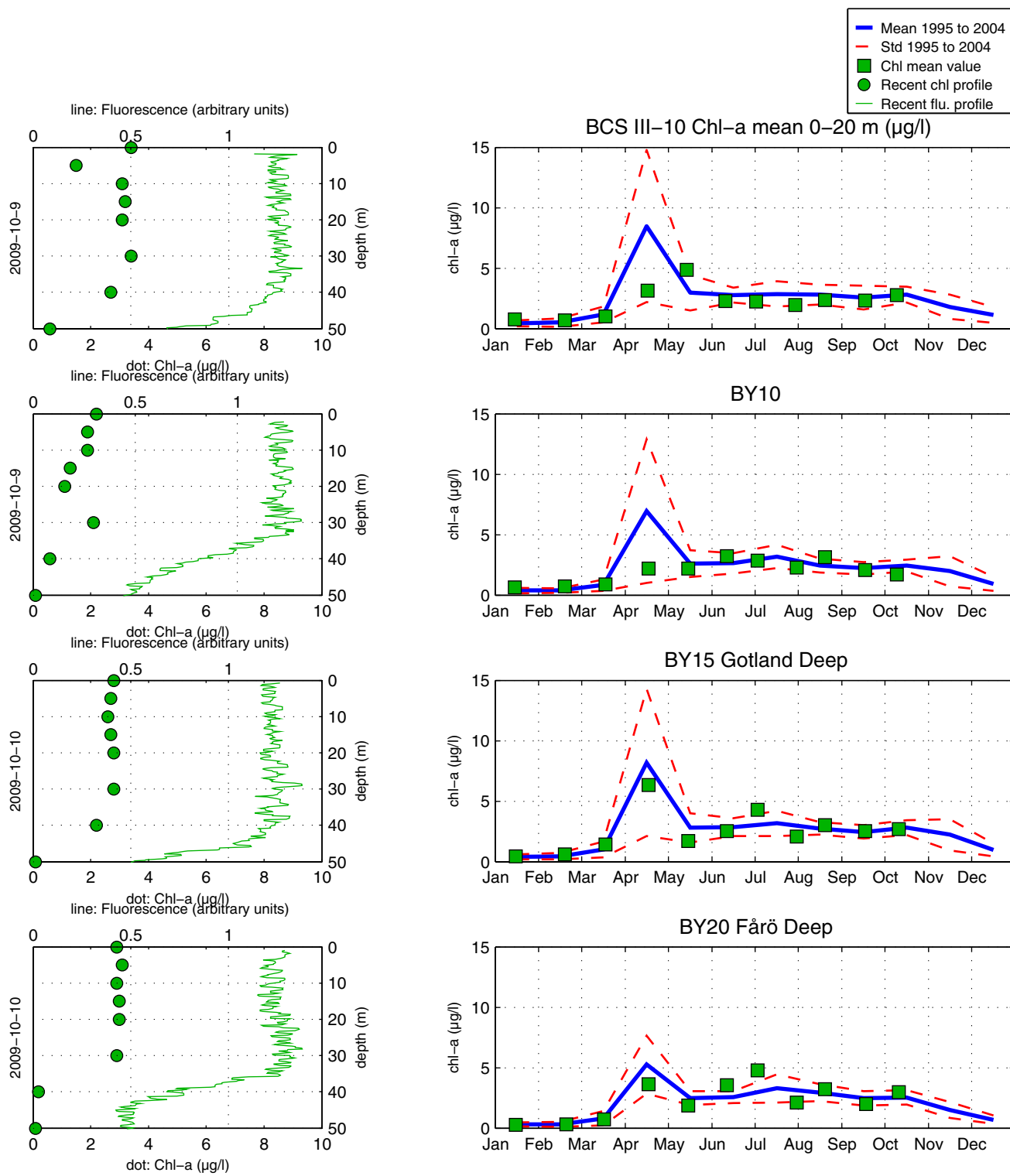
The Kattegat and the Sound



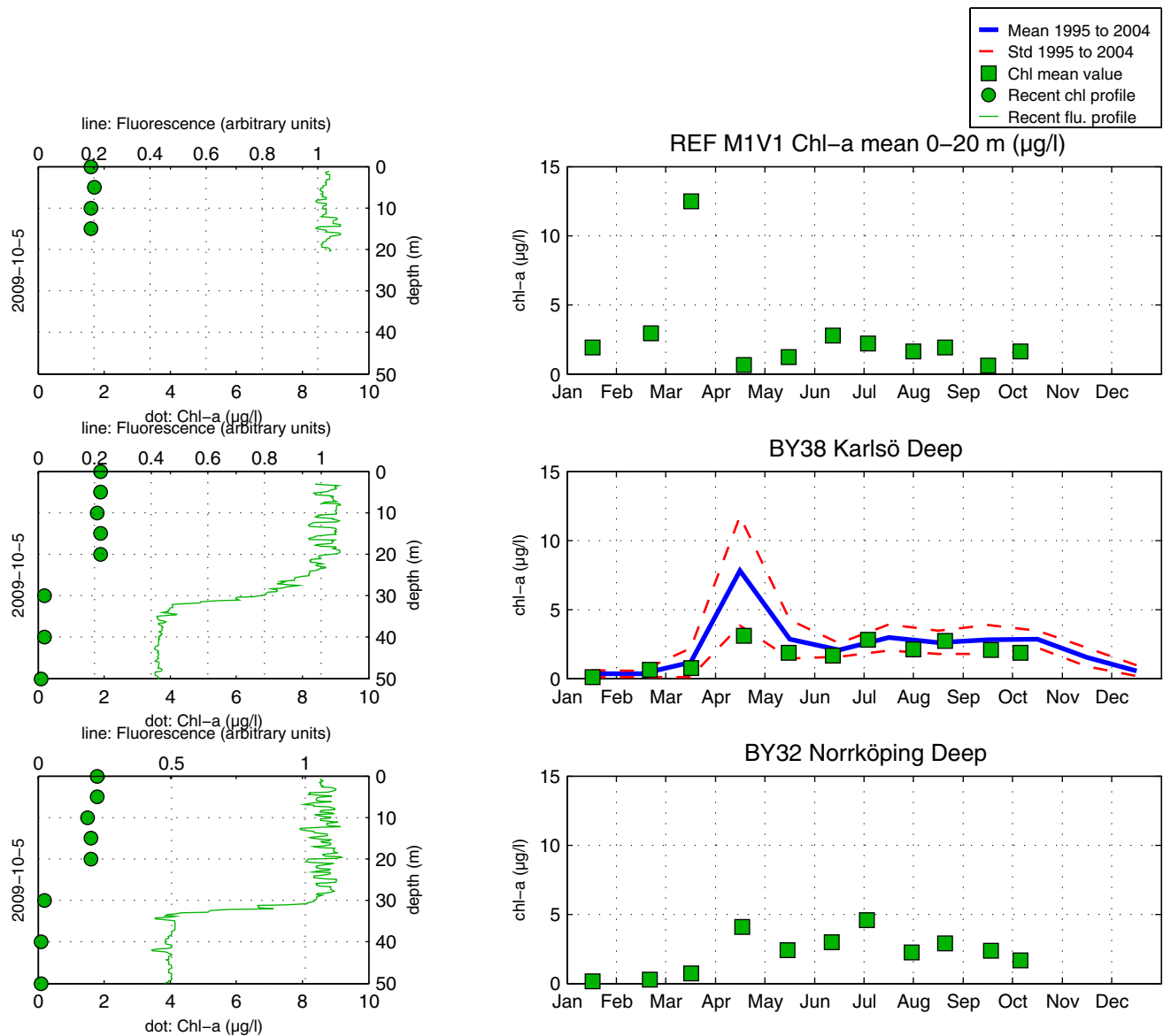
The Southern Baltic



The Eastern Baltic



The Western Baltic



Om klorofylldiagrammen

Klorofyll *a* är ett mått på mängden växtplankton. Prover tas från ett antal djup från U/F Argos. Data presenteras både från de fasta djupen och som medelvärden 0-20 m. Utöver resultaten från laboratorieanalyserna av vattenprover mäts klorofyll *a* som fluorescens från ett automatiskt instrument som sänks ned från fartyget. På så sätt kan djupt liggande, ibland, tunna lager av växtplankton observeras.

About the chlorophyll graphs

Chlorophyll *a* is sampled from several depths from the R/V Argos. Data is presented both from the discrete depths and as an average 0-20 m. In addition to the laboratory analysis from the water samples chlorophyll fluorescence is measured in continuous depth profiles from the ship. This is a way to observe thin layers of phytoplankton occurring below the surface.

Om AlgAware

SMHI genomför ca en gång per månad expeditioner med U/F Argos i Östersjön och Västerhavet. Resultat baserade på semikvantitativ mikroskopanalys av planktonprover samt klorofyllmätningar presenteras kortfattat i denna rapport. Information från SMHI:s satellitövervakning av algbloomingar finns på www.smhi.se.

About AlgAware

SMHI carries out monthly cruises with R/V Argos in the Baltic and the Kattegat/Skagerrak. Results from semi quantitative microscopic analysis of phytoplankton samples as well as chlorophyll measurements are presented in brief in this report. Information from SMHI:s satellite monitoring of algal blooms is found on www.smhi.se.

Art / Species	Gift / Toxin	Eventuella symptom	Clinical symptoms
<i>Alexandrium</i> spp.	Paralytic shellfish poisoning (PSP)	Milda symptom: Inom 30 min.: Stickningar eller en känsla av bedövning runt läpparna, som sprids gradvis till ansiktet och nacken; stickningar i fingertoppar och tår; Huvudvärk; yrsel, illamående, kräkningar, diarré Extrema symptom: Muskelförlamning; andningssvårigheter; känsla av att kvävas; Man kan vara död inom 2-24 timmar efter att ha fått i sig giftet, på grund av att andningsmuskulaturen förlamas.	Mild case: Within 30 min: tingling sensation ro numbness around lips, gradually spreading to face and neck; prickly sensation in fingertips and toes; headache, dizziness, nausea, vomiting, diarrhoea. Extreme case Muscular paralysis; pronounced respiratory difficulty; choking sensation; death trough respiratory paralysis may occur within 2-24 hours after ingestion.
<i>Dinophysis</i> spp.	Diarrhetic shellfish poisoning (DSP)	Milda symptom: Efter cirka 30 minuter till några timmar: yrsel, illamående, kräkningar, diarré, magont Extrema symptom: Upprepad exponering kan orsaka cancer	Mild case: Within 30 min-a few hours: dizziness, nausea, vomiting, diarrhoea, abdominal pain. Extreme case: Repeated exposure may cause cancer.
<i>Pseudochattonella</i> spp.	Fish toxin	Låg celltäthet: Ingen påverkan. Hög celltäthet: Fiskens gälar skadas, fisken dör.	Low cell numbers: No effect on fish. High cell numbers: Fish death due to gill damage.
<i>Pseudo-nitzschia</i> spp.	Amnesic shellfish poisoning (ASP)	Milda symptom: Efter 3-5 timmar: yrsel, illamående, kräkningar, diarré, magkramper Extrema symptom: Yrsel, hallucinationer, förvirring, förlust av korttidsminnet, kramper	Mild case: Within 3-5 hours: dizziness, nausea, vomiting, diarrhoea, abdominal cramps. Extreme case: dizziness, hallucinations, confusion, loss of memory, cramps.

Översikt av potentiellt skadliga alger och det aktuella giftets effekt. Overview of potentially harmful algae and effects of toxins. Manual on harmful marine microalgae (2003 - UNESCO Publishing).

Kartan på framsidan visar viktat medelvärde för klorofyll *a*, µg/l (0-20 m) vid de olika stationerna. Förekomst av skadliga alger vid stationer där arter analyseras markeras med symbol. Då cirkeln är tom innebär detta att stationen inte provtagits.

The map on the front page shows weighted mean of chlorophyll *a*, µg/l (0-20 m) at sampling stations. Presence of harmful algae at stations where species analysis is performed is shown with a symbol An empty cirkel indicates that there has been no sampling at that station.

