

Sammanfattning

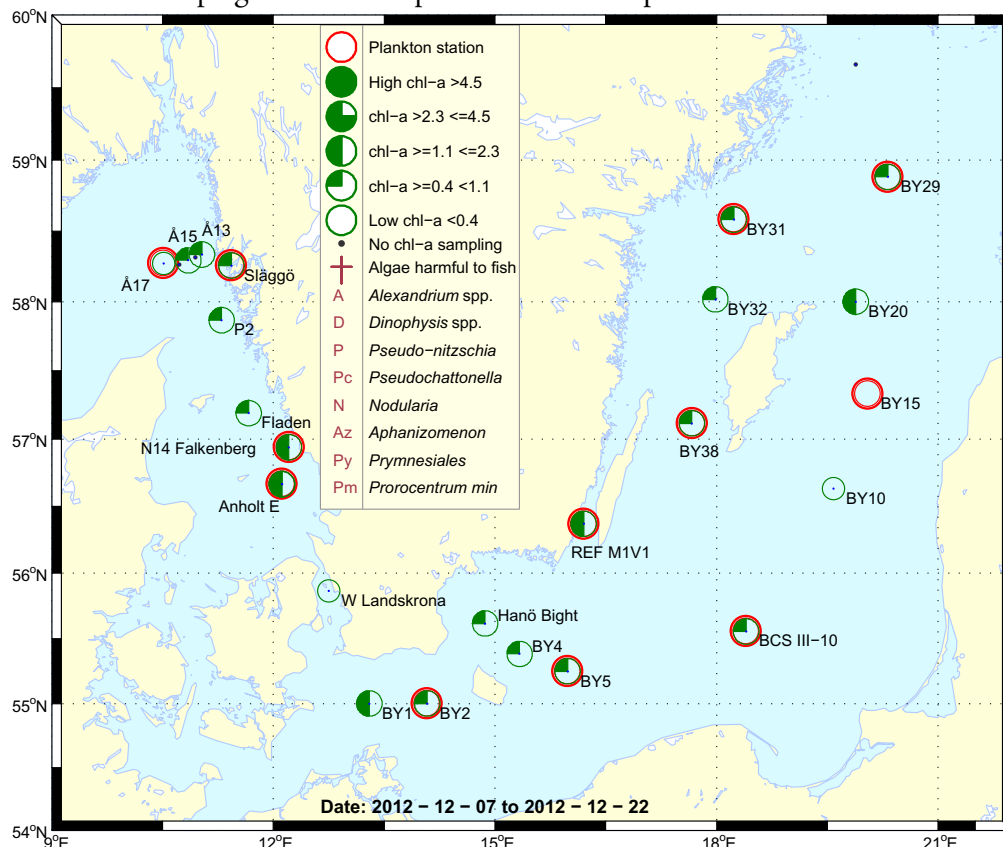
Denna rapport är baserad på två utsjöexpeditioner i december och täcker Östersjön och Västerhavets provtagningsstationer.

Det var typisk vintersituation i Kattegatt och Skagerrak. Artantalen var relativt få, bara dinoflagellatsläktet *Ceratium* och små flagellater fanns i förhöjda cellantal

Även vid Östersjöstationerna var det vinterförhållanden i växtplanktonproverna. Cryptomonader, ciliater och kolonier av små cyanobakterier fanns med störst antal celler. Den potentiellt skadliga arten *Prymnesium polylepis* observerades vid alla stationer från första expeditionen i december.

De integrerade (0-20 m) klorofyll *a* värdena var låga, men normala för månaden i alla provtagningsområden.

Rapporten är en förkortad version på grund av brist på händelser i växtplanktonvärlden.



Abstract

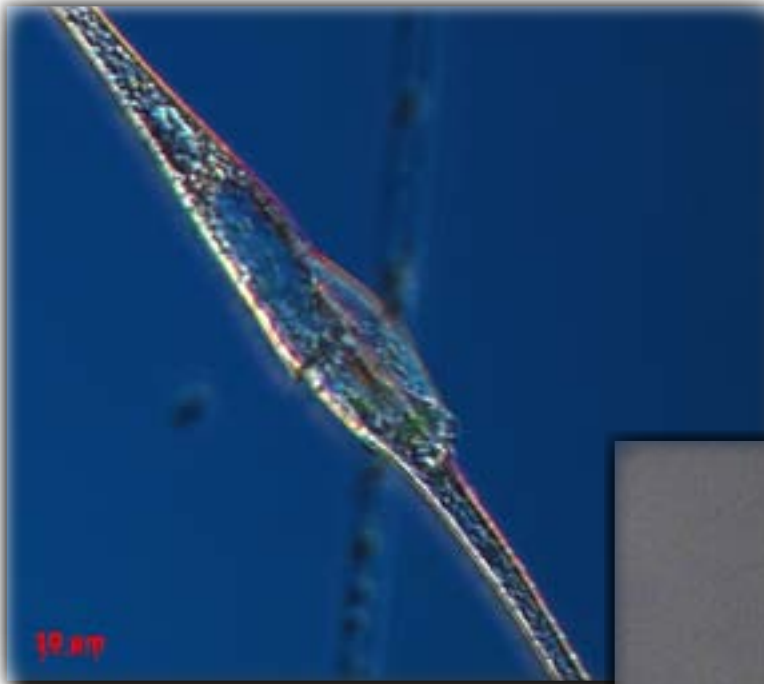
This report is based on two cruises in December, covering the Baltic Sea and the Swedish West coast sampling stations.

Typical winter situations were registered in the Kattegat and Skagerrak areas. The number of species was low, and the dinoflagellate genus *Ceratium* and small flagellates were the only groups found in relatively high quantities.

Even at the Baltic stations winter ruled in the phytoplankton samples. Cryptomonads, ciliates and colonies of small cyanobacteria were the most common groups. The potentially harmful species *Prymnesium polylepis* was observed at all stations from the first December cruise.

The integrated (0-20 m) chlorophyll *a* concentrations were low, but within normal for this month in all sampling areas.

This report is a shortened version because of lack of events in the phytoplankton world.



A close up on the dinoflagellate *Ceratium fusus*.



Dinoflagellates *Ceratium lineatum* and *Dinophysis acuminata*



The dinoflagellate *Ceratium tripos*.

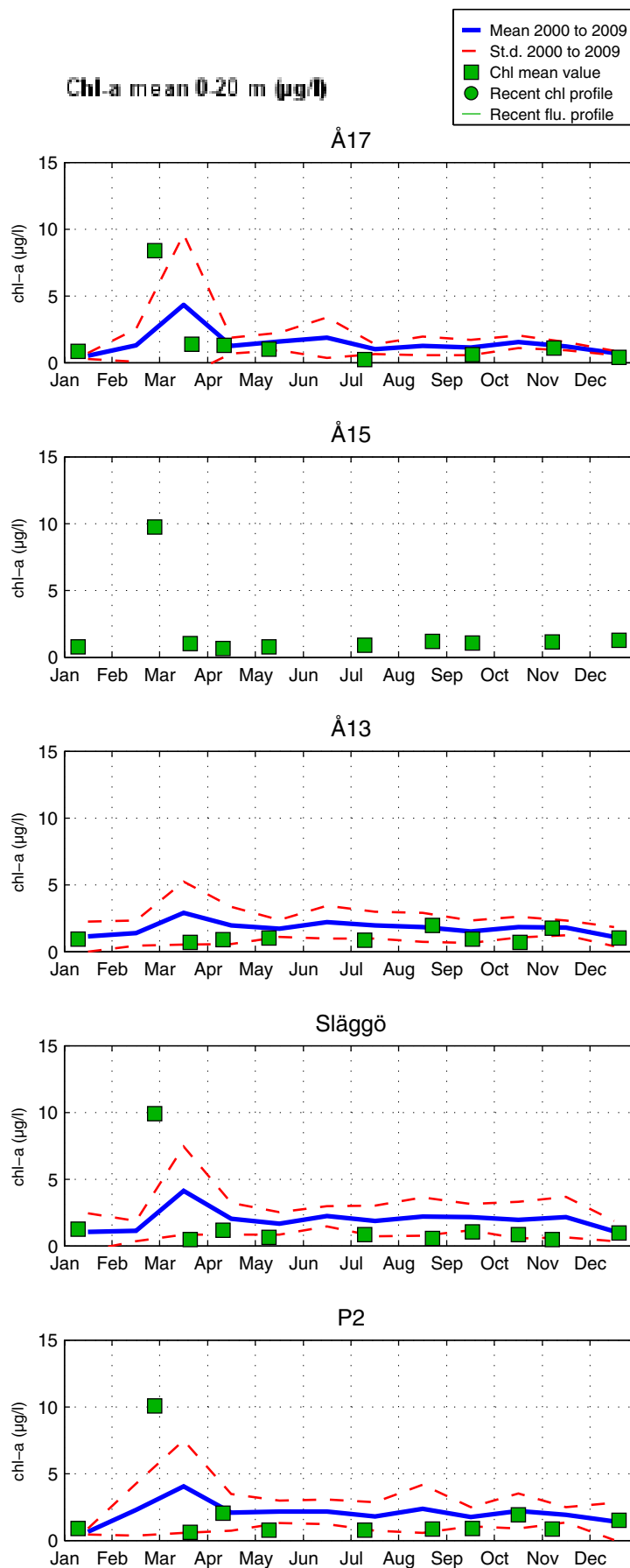
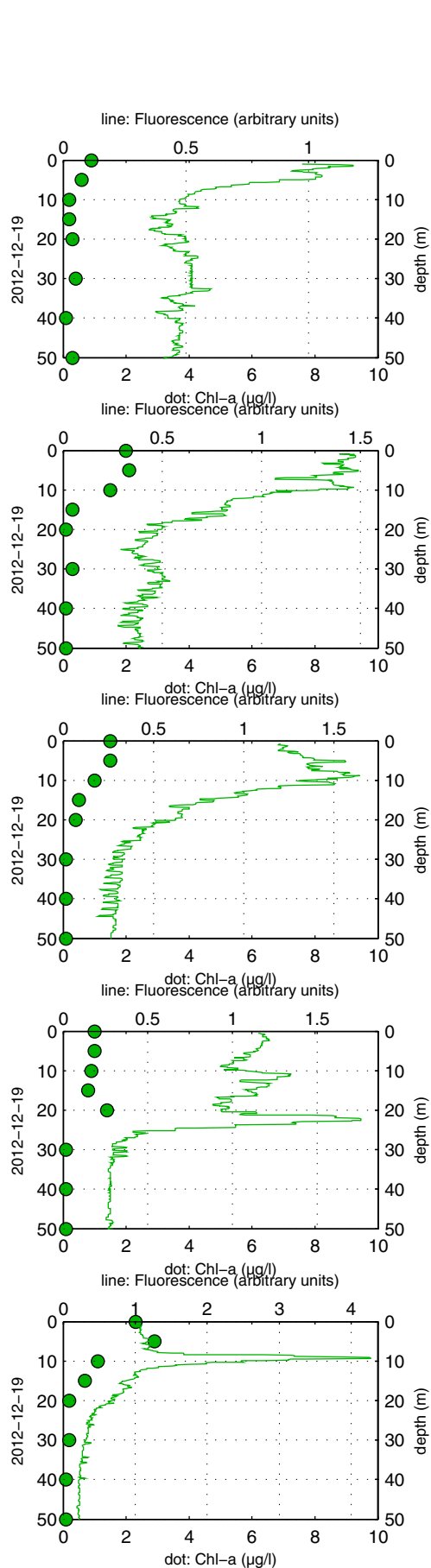


The potentially toxic species *Prymnesium polylepis*.

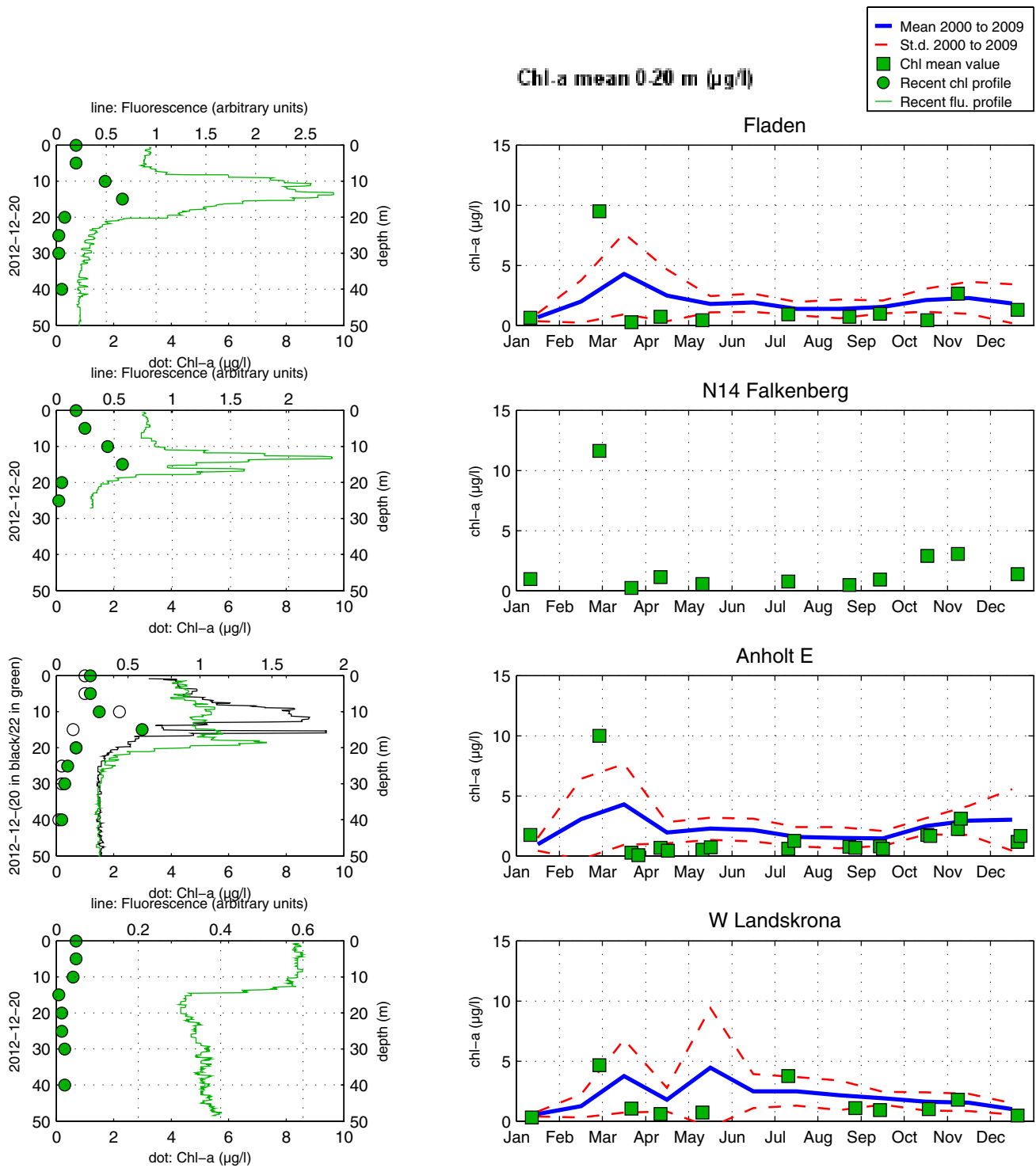
Selection of observed species	Å17	Släggö	N14	Anholt E	Anholt E
Red=potentially toxic species	19/12	19/12	20/12	20/12	22/12
Hose 0-10 m	cells/l	cells/l	cells/l	cells/l	cells/l
Centrales		present	present	present	present
<i>Chaetoceros similis</i>					present
<i>Chaetoceros similis</i>			present		present
<i>Dactyliosolen fragilissimus</i>		present			
<i>Ditylum brightwellii</i>	present	present			
<i>Proboscia alata</i>			present		
<i>Pseudo-nitzschia</i> spp	present	present	present		
<i>Pseudosolenia calcar-avis</i>		present			
<i>Rhizosolenia hebetata</i>					present
<i>Rhizosolenia setigera</i>	present	present		present	
<i>Skeletonema marinoi</i>	present	present	present	present	present
<i>Thalassionema nitzschioides</i>	present	present	present	present	present
<i>Thalassiosira</i> spp		present	present	present	present
<i>Thalassiosira punctigera</i>	present	present	present		
<i>Ceratium furca</i>	present				
<i>Ceratium fusus</i>		present	common		present
<i>Ceratium lineatum</i>	present	common	present	present	present
<i>Ceratium longipes</i>		present	present	present	present
<i>Ceratium tripos</i>	present	common	common	common	present
<i>Dinophysis acuminata</i>		present	present		
<i>Dinophysis norvegica</i>		present	present		present
<i>Dinophysis rotundata</i>		present			
<i>Gymnodinium verruculosum</i>	present				
<i>Gyrodinium flagellare</i>		present			
<i>Heterocapsa rotundata</i>				present	present
<i>Katodinium glaucum</i>		present	present	present	
<i>Peridiniella danica</i>	present				
<i>Prorocentrum micans</i>	present		present		present
<i>Protoperidinium bipes</i>		present			
<i>Protoperidinium</i> cf. <i>pellucidum</i>					present
<i>Prymnesium</i> spp			present		
<i>Dictyocha speculum</i>	present	common	present	common	common
<i>Dinobryon faculiferum</i>	present				
<i>Pseudopedinella pyriforme</i>					present
<i>Pyramimonas</i> spp	present		present	present	
<i>Calliacantha natans</i>			present		present
Craspedophyceae		present		present	
Cryptomonadales	common	very common	very common	very common	very common
<i>Ebria tripartita</i>		present	present		
<i>Leucocryptos marina</i>	present	present		present	present
Ciliophora	present	present	present	present	present
<i>Mesodinium rubrum</i>		present	present	common	present

Selection of observed species	BY2	BY5	BY38	Ref. M1-V1	BCS III-10	BY29	BY31
Red=potentially toxic species	21/12	21/12	7/12	7/12	8/12	9/12	13/12
Hose 0-10 m	Cells/l	Cells/l	cells/l	cells/l	cells/l	cells/l	cells/l
<i>Attheya septentrionalis</i>	present		present				present
Centrales		present			present		
<i>Chaetoceros danicus</i>		present		present	present		present
<i>Chaetoceros impressus</i>					present		
<i>Coscinodiscus granii</i>			present	present		present	present
<i>Coscinodiscus</i> spp					present		
<i>Cyclotella choctawhatcheana</i>		present					
<i>Skeletonema marinoi</i>	present			present			present
<i>Thalassiosira</i> spp	present	present					present
<i>Dinophysis acuminata</i>			present		present	present	present
<i>Dinophysis norvegica</i>		present	present				
<i>Gymnodinium verruculosum</i>					present		
<i>Heterocapsa rotundata</i>		present		present			
<i>Heterocapsa</i> spp	present	present		present			
<i>Katodinium glaucum</i>					present		
<i>Peridiniella catenata</i>			present				
<i>Peridiniella danica</i>			present	present		present	
Cryptomonadales	common	common	common	common	common	common	common
<i>Prymnesium polylepis</i>			present	present	present	present	present
<i>Prymnesium</i> spp			present	present			
Cyanobacteria colony	common	common	present	common	common	common	common
cf. <i>Lemmermanniella</i> spp	present						
cf. <i>Microcystis</i> spp					common		
cf. <i>Woronichinia</i> spp		present	present		present	present	common
<i>Pseudopedinella pyriforme</i>	present					present	
<i>Planctonema lauterbornii</i>	present	present					
<i>Pyramimonas</i> spp	present			present			
<i>Calliakantha natans</i>			present		present		present
Craspedophyceae			present	present	present	present	present
<i>Cryothecomonas scybalophora</i>						present	
<i>Ebria tripartita</i>				present			present
<i>Leucocryptos marina</i>	present	present	present	present		present	present
<i>Telonema subtile</i>	present			present		present	
Ciliophora	present	present	common	present	present	present	present
<i>Mesodinium rubrum</i>	common	common	common	common	present	present	present
<i>Strombidium</i> spp	present			present			

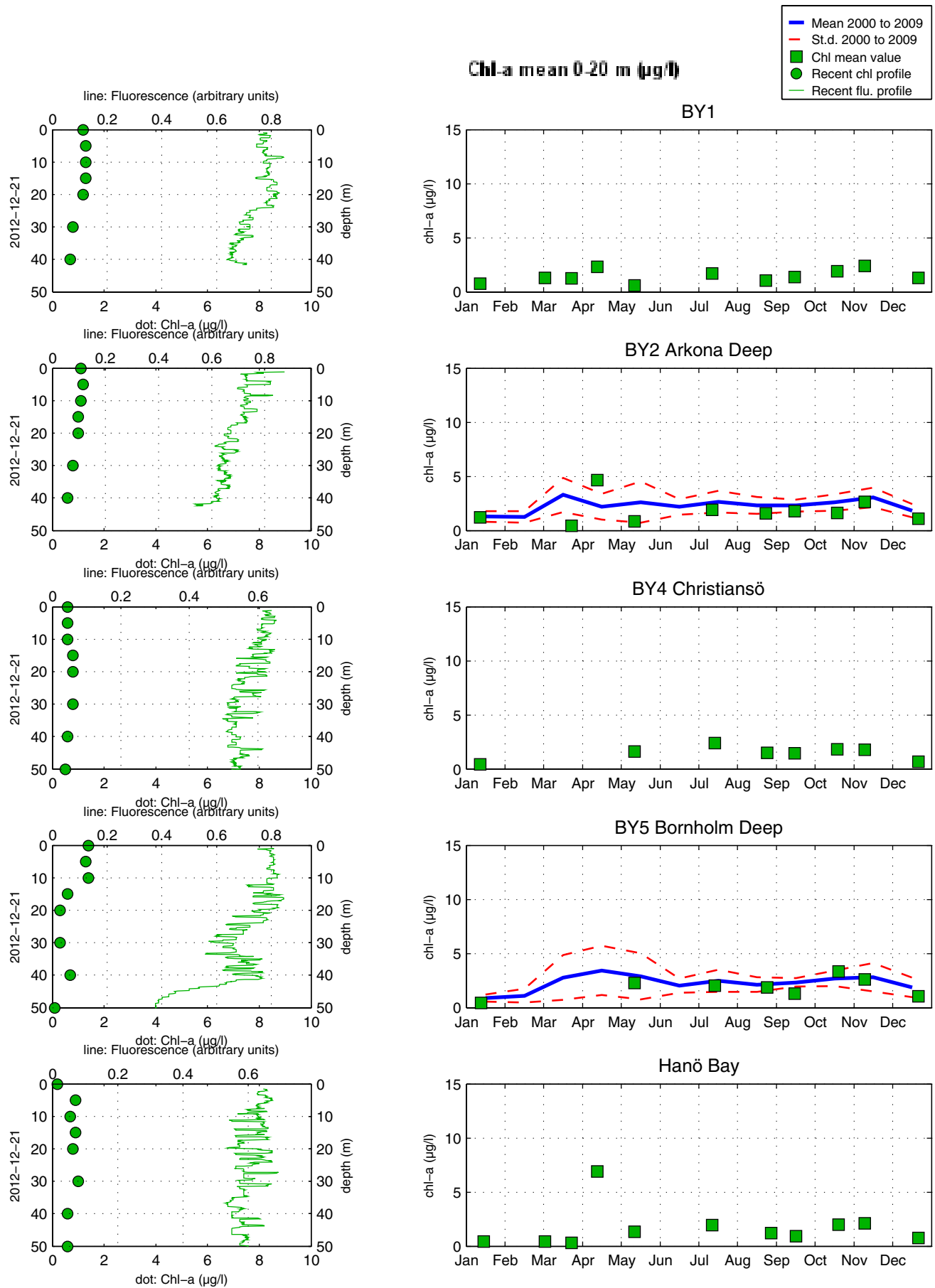
The Skagerrak



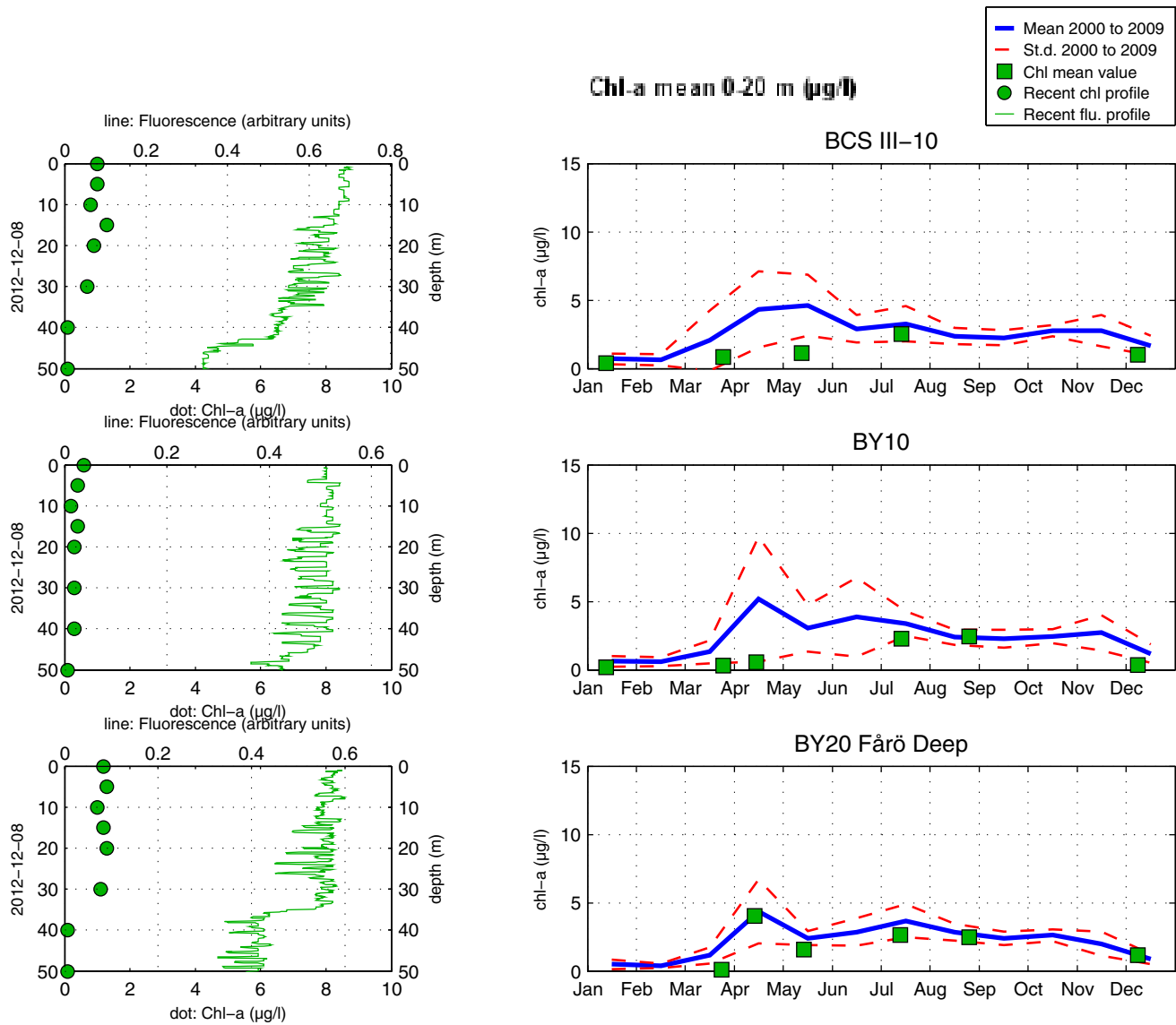
The Kattegat and the Sound



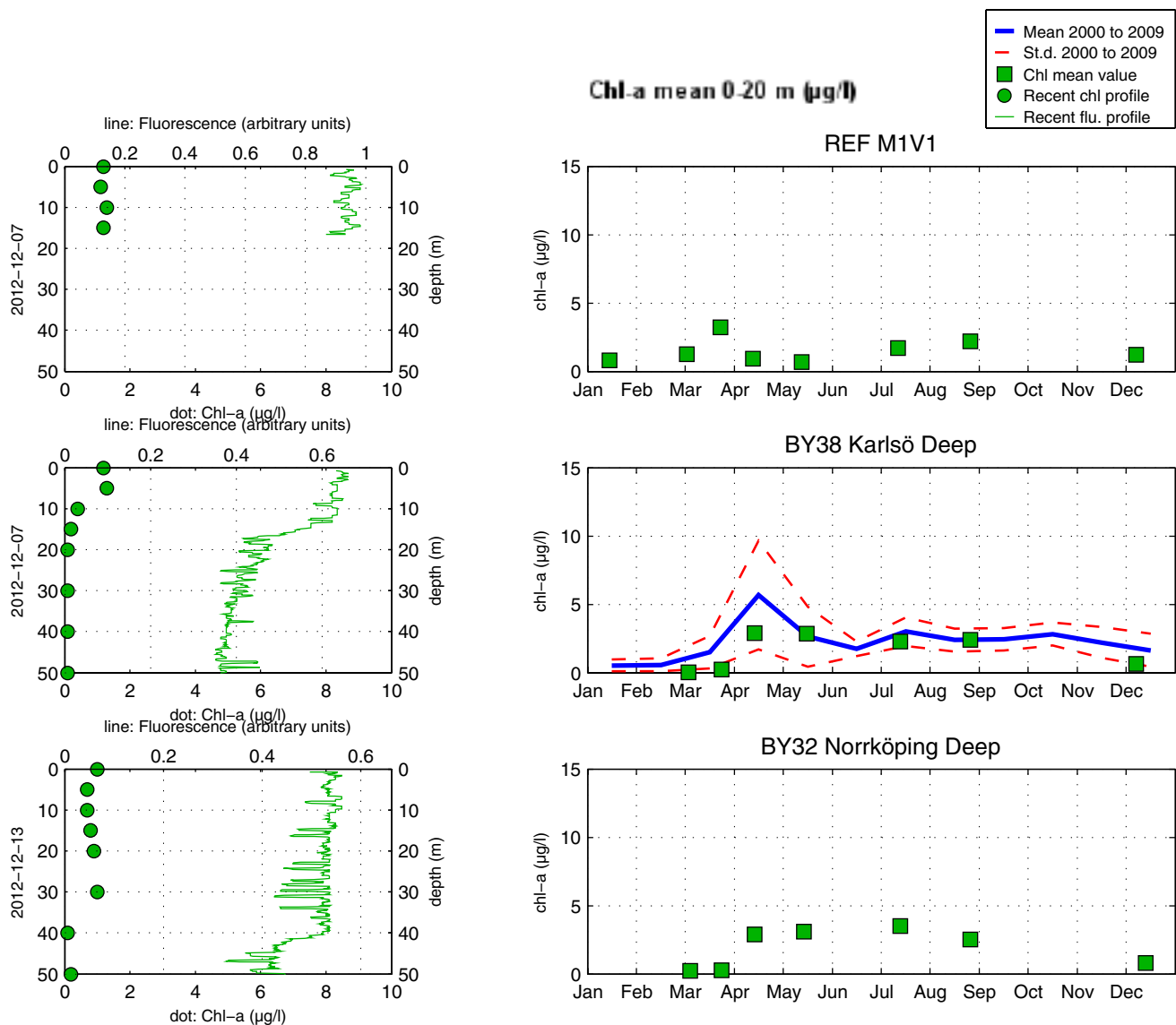
The Southern Baltic



The Eastern Baltic



The Western Baltic



Om klorofylldiagrammen

Klorofyll *a* är ett mått på mängden växtplankton. Prover tas från ett antal djup. 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. 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 i Östersjön och Västerhavet. Resultat baserade på semikvantitativ mikroskopanalys av planktonprover samt klorofyllmätningar presenteras kortfattat i denna rapport. Information från SMHI:s satellitövervakning av algbloomningar finns på www.smhi.se.

About AlgAware

The SMHI carries out monthly cruises 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 or 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 through 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>Pseudo-nitzschia</i> spp.	Amnesic shellfish poisoning (ASP)	Milda symptom: Efter 3-5 timmar: yrsel, illamående, kräkningar, diarré, magkramp 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.
<i>Chaetoceros concavicornis</i> / <i>C. convolutus</i>	Mechanical damage through hooks on setae	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>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.

Översikt över några 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.

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.

