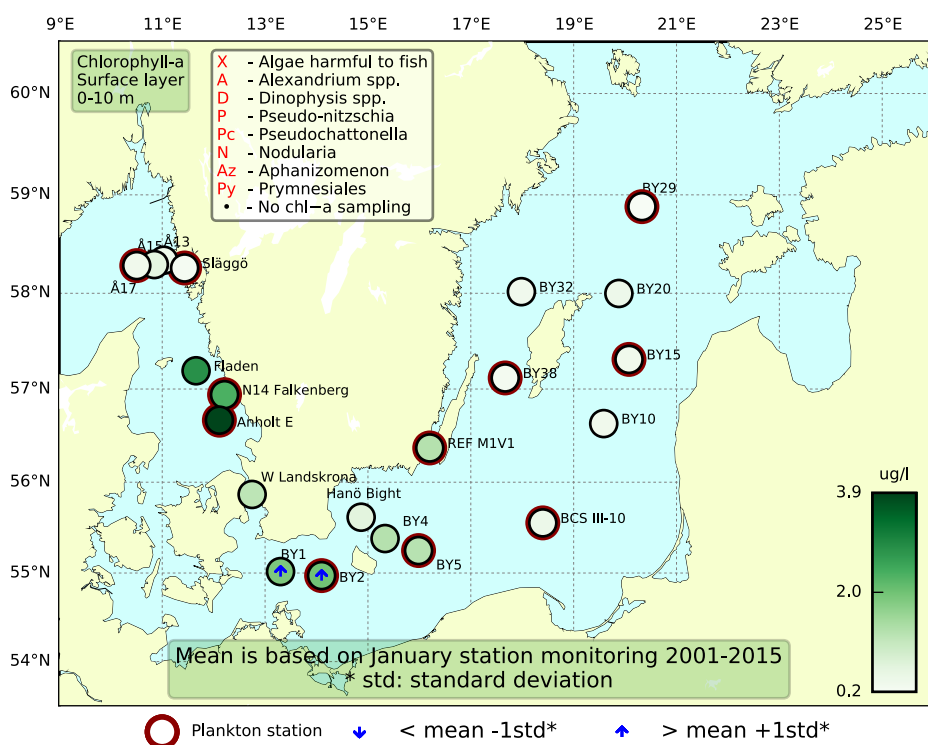


Sammanfattning

Vid Å17 längst ut i Skagerrak och Släggö vid kusten var diversiteten av växtplankton och klorofyllhalterna låga, vilket är normalt för månaden. I Kattegatt var artdiversiteten hög och vissa kiselalger fanns i väldigt höga cellantal. Klorofyllhalterna var relativt höga i ytan, men de integrerade (0-10 och 0-30 meter) värdena var inom det normala för januari.

I Östersjön var växtplanktonsamhället i vintervila. Små arter av cryptomonader, pico cyanobakteriekolonier och ciliater var närvarande. Klorofyllhalterna var över det normala för månaden i sydvästra Östersjön, annars var halterna låga.



Abstract

At Å17, the most westerly Skagerrak station and at Släggö near the coast, the phytoplankton diversity and chlorophyll concentrations were low, which is normal for this month. In the Kattegat however, the species diversity was high and some diatoms were found in very high cell numbers. The chlorophyll concentrations were high in the surface water, but the integrated (0-10 and 0-30 meters) numbers were normal for January.

The phytoplankton community was in its winter rest in the Baltic Sea. Only small cells were present like cryptomonads, pico cyanobacteria colonies and ciliates. The chlorophyll concentrations were above normal for this month in the southwestern Baltic, and low at the rest of the Baltic stations.

Below follows a more detailed information on species composition and abundance. Species marked with * are potentially toxic or harmful.

The Skagerrak

Å17 (open Skagerrak) 15th of January

The phytoplankton diversity and the chlorophyll concentrations were very low as expected for this month.

Släggö (Skagerrak coast) 22nd of January

The phytoplankton diversity and the chlorophyll concentrations were very low. The dinoflagellate *Ceratium lineatum* was the most abundant species.

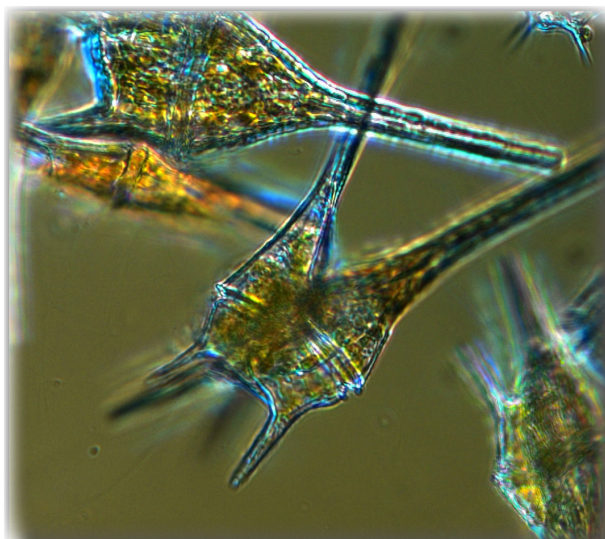


Photo 1: The dinoflagellate *Ceratium lineatum* was abundant in the Kattegat and at Släggö in the Skagerrak.



Photo 2: There were high cell numbers of the diatom genera *Proboscia alata* and *Pseudo-nitzschia** at Anholt E.

The Kattegat

Anholt E and N14 Falkenberg 15th of January

The species diversity was high and mostly represented by diatoms and dinoflagellates, but a few other groups of algae were also present. The diatom *Skeletonema marinoi* was the most abundant species at both stations, and at Anholt E there were high cell numbers of *Proboscia alata* and *Pseudo-nitzschia* spp*. *Ceratium lineatum* was the most abundant dinoflagellate. The integrated chlorophyll concentrations were normal for this month.

The Baltic Sea

The total cell numbers were low at all stations and the plankton community was dominated by small cells of cryptomonadales, pico cyanobacteria colonies and ciliates. The chlorophyll concentrations were however high in the southwestern part of the Baltic.

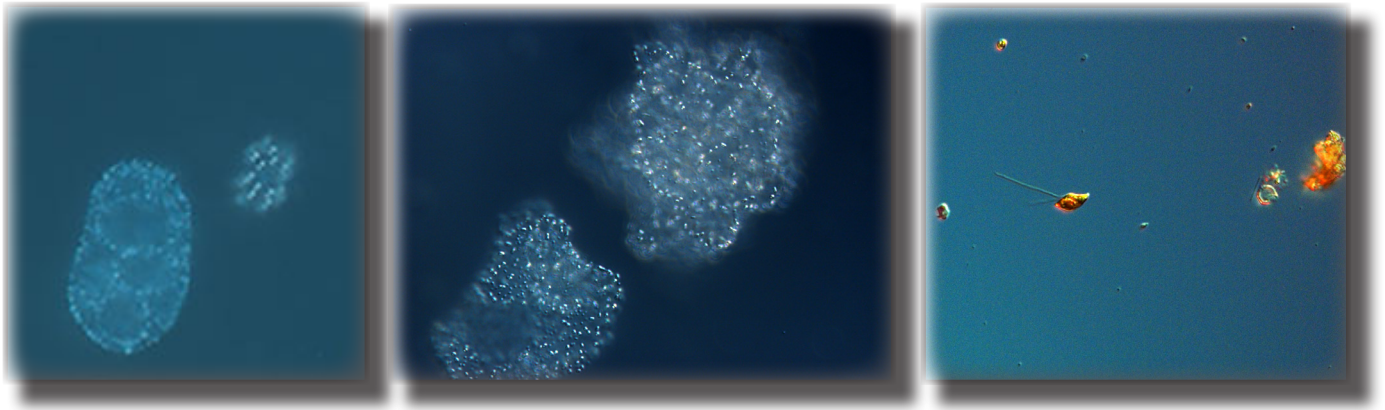
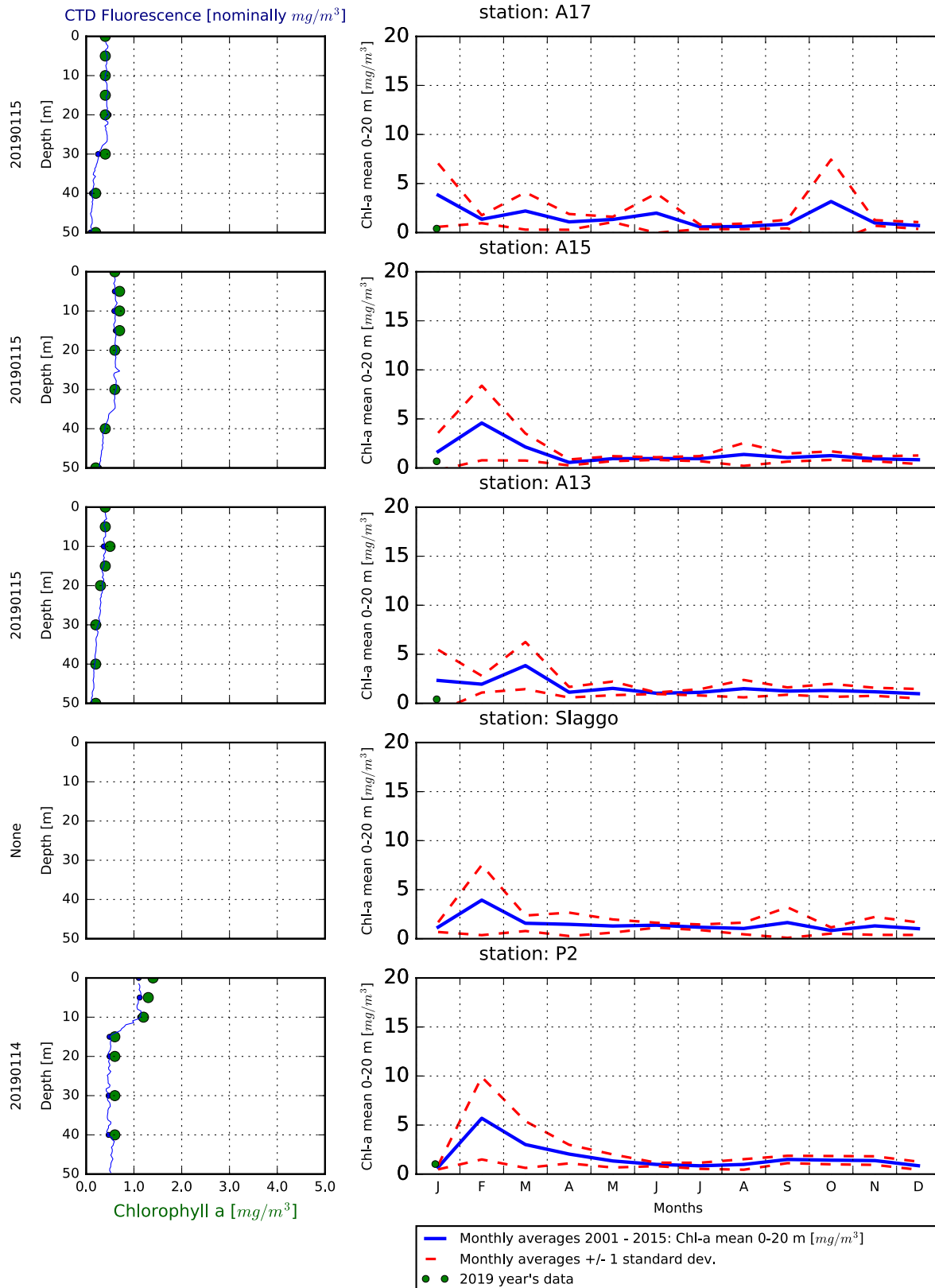


Photo 3: There were mainly small cells in the Baltic samples, like pico cyanobacteria, two photos to the left (Photo: Malin Mohlin) and cryptomonadales (Photo: A-T Skjevik).

Selection of observed species	Anholt E	N14 Falkenberg	Släggö	Å17
Red=potentially toxic species	15/1	15/1	22/1	15/1
Hose 0-10 m	presence	presence	presence	presence
<i>Attheya septentrionalis</i>	present			
<i>Centrales</i>				present
<i>Chaetoceros contortus</i>		present		
<i>Chaetoceros convolutus</i>	present			
<i>Chaetoceros danicus</i>	present	present		
<i>Chaetoceros similis</i>	present			
<i>Chaetoceros subtilis</i>	present	present		
<i>Cylindrotheca closterium</i>			present	
<i>Dactyliosolen fragilissimus</i>	present		present	
<i>Guinardia delicatula</i>	present	present		present
<i>Guinardia flaccida</i>	present			
<i>Leptocylindrus danicus</i>	present	present		
<i>Nitzschia longissima</i>	present	present		present
<i>Proboscia alata</i>	common	present	present	
<i>Pseudo-nitzschia</i> spp	common	present	present	present
<i>Rhizosolenia pungens</i>		present		
<i>Rhizosolenia setigera</i>	common	present		
<i>Skeletonema marinoi</i>	very common	very common	present	present
<i>Thalassionema nitzschioides</i>	present	common	present	present
<i>Thalassiosira angulata</i>	present			
<i>Thalassiosira rotula</i>	present	present		
<i>Azadinium</i> spp				present
<i>Ceratium furca</i>			present	present
<i>Ceratium lineatum</i>	common	common	common	present
<i>Ceratium tripos</i>	present	present	present	
<i>Dinophysis acuminata</i>	present		present	
<i>Dinophysis norvegica</i>		present		
<i>Gymnodiniales</i>	present	present	present	present
<i>Gyrodinium flagellare</i>				present
<i>Heterocapsa</i> spp				present
<i>Katodinium glaucum</i>	present		present	
<i>Peridinales</i>	present			present
<i>Peridiniella danica</i>				present
<i>Phalacroma rotundatum</i>		present		
<i>Protoperidinium</i> spp	present	present	present	
<i>Protoperidinium bipes</i>	present	present		
<i>Protoperidinium depressum</i>	present	present		
<i>Emiliania huxleyi</i>	present	present	present	present
<i>Prymnesiales</i>		present		present
<i>Dictyocha fibula</i>				present
<i>Dictyocha speculum</i>	present	present	present	
<i>Pterosperma</i> spp			present	
<i>Pseudopedinella</i> spp	present			
<i>Eutreptiella</i> spp			present	
<i>Pseudanabaena</i> spp			present	
<i>Cryptomonadales</i>	present	present	present	present
<i>Heterosigma</i> spp	present			
<i>Telonema</i> spp				present
<i>Laboea strobila</i>			present	
<i>Strombidium</i> spp			present	
<i>Ciliophora</i>	present	present	present	present

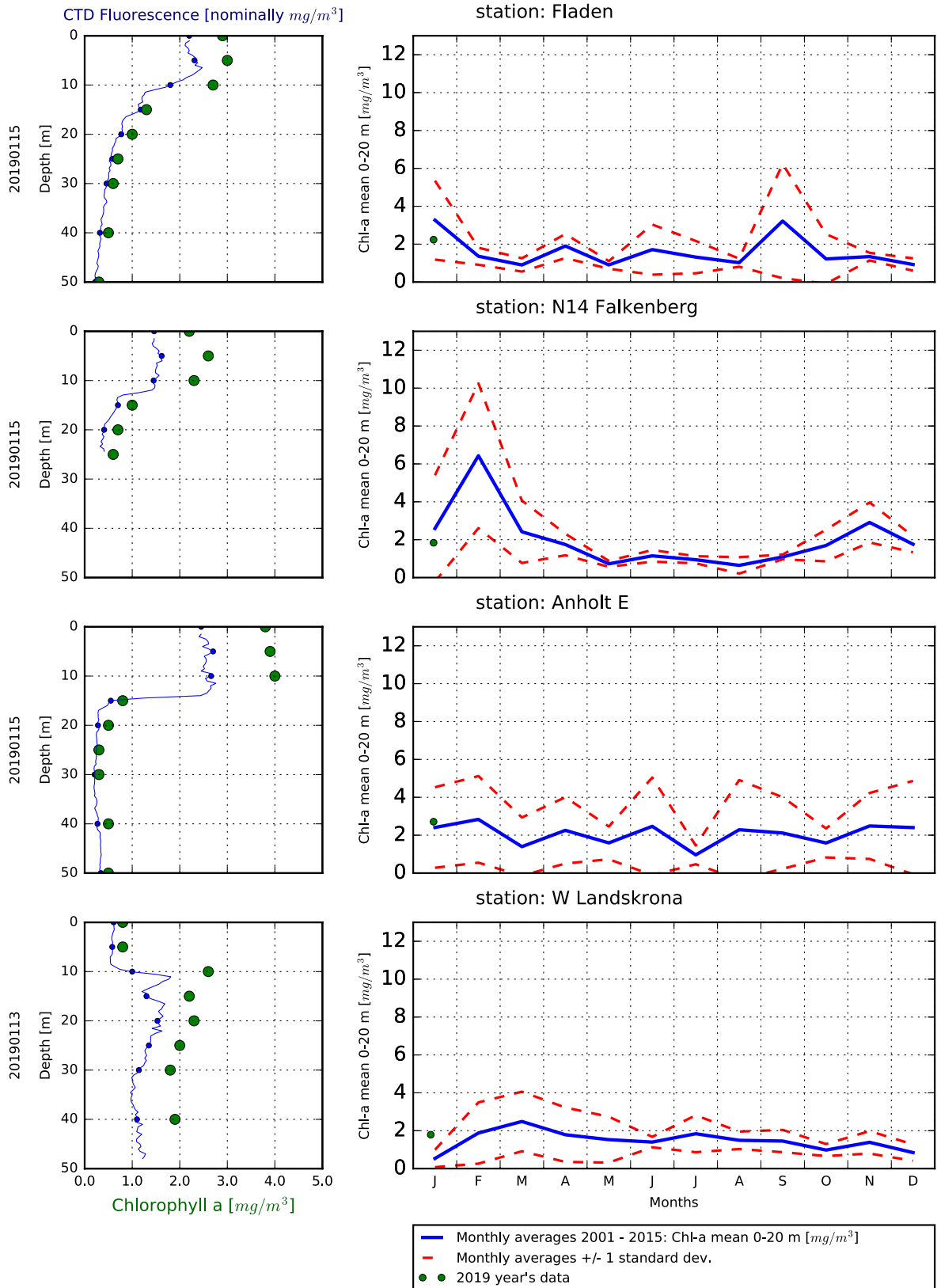
Selection of observed species	BCSIII-10	BY2	BY5	BY15	BY29	BY31	BY38	Ref M1V1
Red=potentially toxic species	12/1	12/1	12/1	11/1	18/1	10/1	17/1	16/1
Hose 0-10 m	presence	presence	presence	presence	presence	presence	presence	presence
Actinocyclus spp	present	present	present					
Centrales		common	present	present	present		present	
Chaetoceros danicus								present
Nitzschia longissima								present
Proboscia alata							present	
Skeletonema marinoi					present		present	present
Thalassiosira spp								present
Amphidinium longum	present							
<i>Dinophysis norvegica</i>							present	
Gymnodiniales	present			common	present	present	present	present
Peridiniella catenata							present	
<i>Prymnesiales</i>					present			
Aphanocapsa spp	present							
Lemmermanniella spp							present	present
Snowella spp					present		present	
Woronichinia spp	present	present	present	present		present		
Cryptomonadales	common	very common	very common	present	present	present	present	common
Pseudopedinella spp							present	
Eutreptiella spp							present	present
Choanoflagellata			present					
Planctonema lauterbornii					present			
Oocystis spp	present	present	present		present	present		
Pterosperma spp					present			
Telonema subtile						present		
Mesodinium rubrum	present	common				present	present	present
Ciliophora	present	very common	common	present	present	present	present	present

The Skagerrak

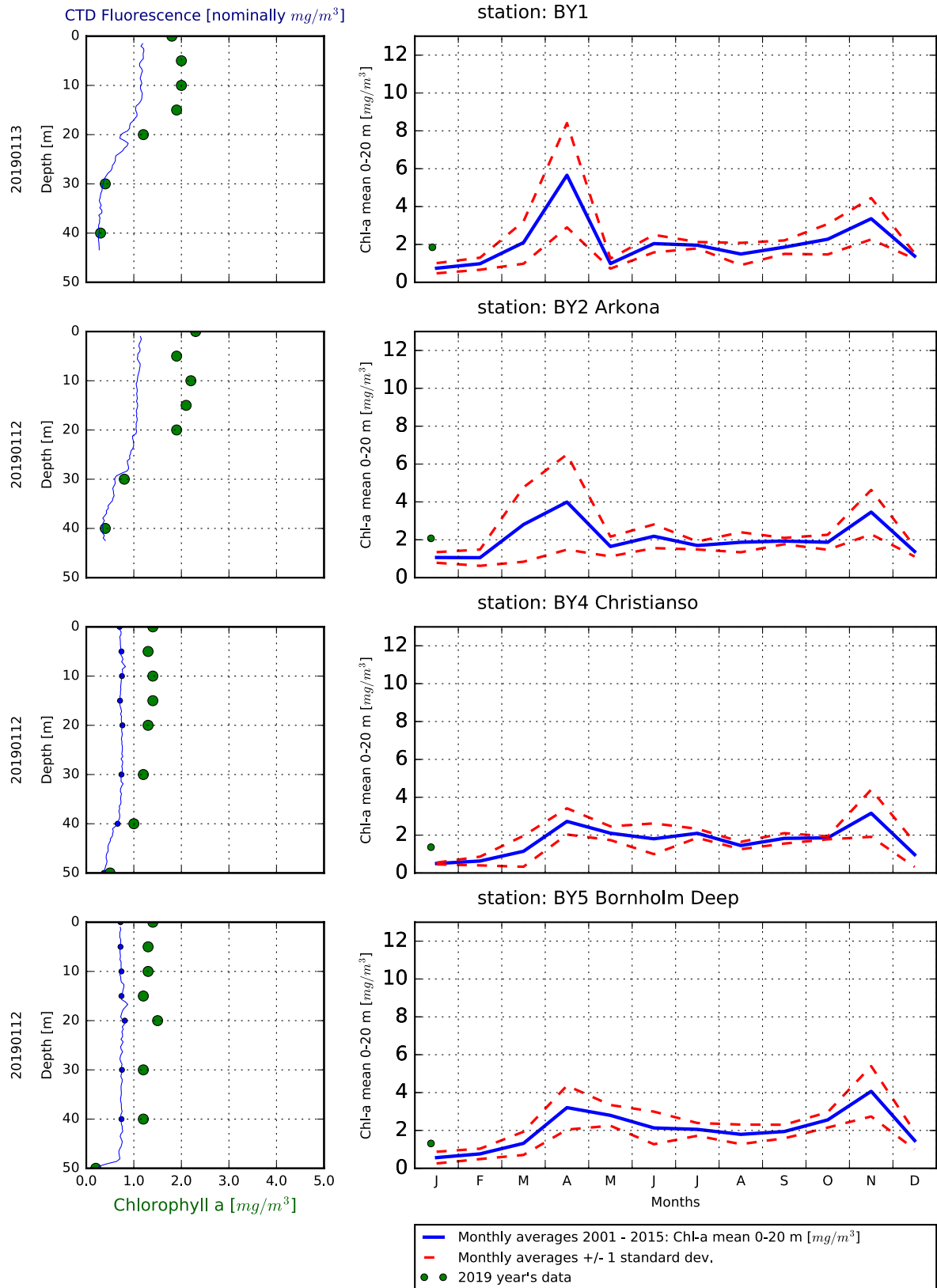


No permission was granted to sample at Släggö close to the Skagerrak coast due to using the foreign vessel R/V Aranda. Släggö was visited later with another ship and the results were not ready to be used in this diagram.

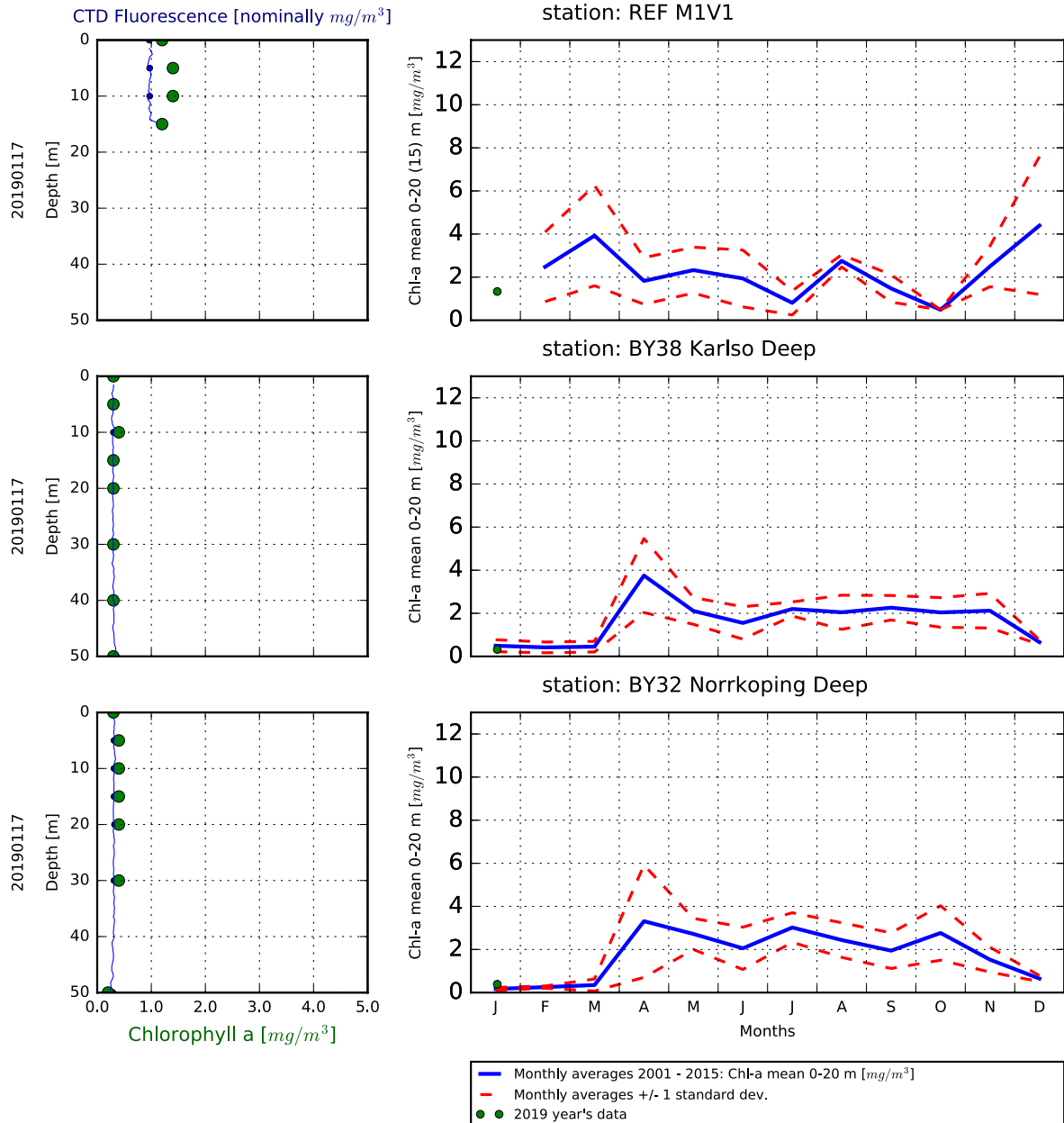
The Kattegat and The Sound



The Southern 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 are 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 månatliga expeditioner i Östersjön och Västerhavet. Resultat baserade på semikvantitativ mikroskopanalys av planktonprover samt klorofyllmätningar presenteras kortfattat i denna rapport. Information från SMHIs satellitövervakning av algbloomningar finns under perioden juni-augusti på www.smhi.se. Resultat från provtagningarna kan hämtas från SMHI:s databas på sharkweb.smhi.se. Hydrografidata läggs ut varje månad, växtplanktondata läggs ut en gång per år.

About AlgAware

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 SMHIs satellite monitoring of algal blooms is found on www.smhi.se during the period June-August. Results from the expeditions are found in the SMHI database, sharkweb.smhi.se. Data are published monthly, phytoplankton data however, are published once a year.

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, kramp	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 (0-10 m) vid de olika stationerna. Pil upp eller ned indikerar om resultatet är över eller under en standardavvikelse från medel. Medel är beräknat utifrån aktuell månad under perioden 2001-2015. 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 (0-10 m) at sampling stations. The arrow up or down indicate whether the result is above or below one standard deviation from mean. The mean value is calculated using results from the actual month during the period 2001-2015. Presence of harmful algae at stations where species analysis is performed is shown with a symbol.

