

## Biotoxin report:

**PSP toxins:** Thirteen samples were analysed this week. No toxins were detected.

**DSP toxins:** Thirteen samples were analysed this week. No toxins were detected.

**ASP toxins:** Thirteen samples were analysed this week. Toxins were detected at low levels in Stream Sound.

**AZA toxins:** Thirteen samples were analysed this week. No toxins were detected.

**YTX toxins:** Thirteen samples were analysed this week. No toxins were detected.

## Harmful algae report:

**Alexandrium:** Thirteen samples were analysed this week. *Alexandrium* was detected at trigger level in Braewick Voe and Slyde.

**Pseudo-nitzschia delicatissima:** Thirteen samples were analysed this week. *P. delicatissima* was detected above trigger level in Braewick Voe, East of Linga, Busta Voe Lee and Bunya Sand, and in low numbers in all other sites.

**Pseudo-nitzschia seriata:** Thirteen samples were analysed this week. *P. seriata* was detected in low numbers in Baltasound, Inner-Site 1 and Bunya Sand.

**Dinophysis:** Thirteen samples were analysed this week. *Dinophysis* was not detected.

**Prorocentrum lima:** Thirteen samples were analysed this week. *P. lima* was detected in low numbers in Bunya Sand.

**Karenia mikimotoi:** Thirteen samples were analysed this week. *Karenia* was not detected.

## Shetland: trends and forecast

**Alexandrium/PSP:** *Alexandrium* was detected above trigger at two sites this week. However numbers are still low and it is unlikely that there will be a toxic bloom this week.

**Dinophysis/DSP:** Given the time of year, it is unlikely that there will be a toxic bloom this week.

**Pseudo-nitzschia/ASP:** *P. delicatissima* was detected above trigger in four sites, toxins were detected at low levels at one site. It is unlikely that there will be a toxic bloom this week.

**AZA and YTX:** Given the time of year, it is extremely unlikely that there will be a toxic bloom this week.

Risk for **PSP:** Low

Risk for **DSP:** Low

Risk for **ASP:** Low

Risk for **YTX:** Low

Risk for **AZA:** Low

While this bulletin is based on our expert opinion, SAMS cannot accept responsibility for harvesting or husbandry decisions. Those remain the responsibility of the industry.



Toxin concentrations provided courtesy of the Centre for Environment, Fisheries and Aquaculture Science



Funding for these bulletins is kindly provided by Seafood Shetland

Primary data for biotoxins and biotoxin producing phytoplankton available at: <http://www.food.gov.uk/enforcement/monitoring/shellfish/algaltoxin/#.UY0TkcgTQ6O>

Warning/Threshold Levels

<i>Alexandrium</i> (PSP causative)	Warning 20 cells/l Threshold 40 cells/l
<i>Pseudo nitzschia</i> (ASP causative)	Warning: 40,000 cells/l Threshold: 50,000 cells/l
<i>Dinophysis</i> (DSP causative)	Warning : 80 cells/l Threshold:100 cells/l
<i>Prorocentrum lima</i> (DSP causative)	Warning: 80 cells/l Threshold: 100 cells/l

The maximum permitted levels of biotoxins in shellfish are:

**PSP:** 800 µg/kg

**ASP:** 20 mg/kg

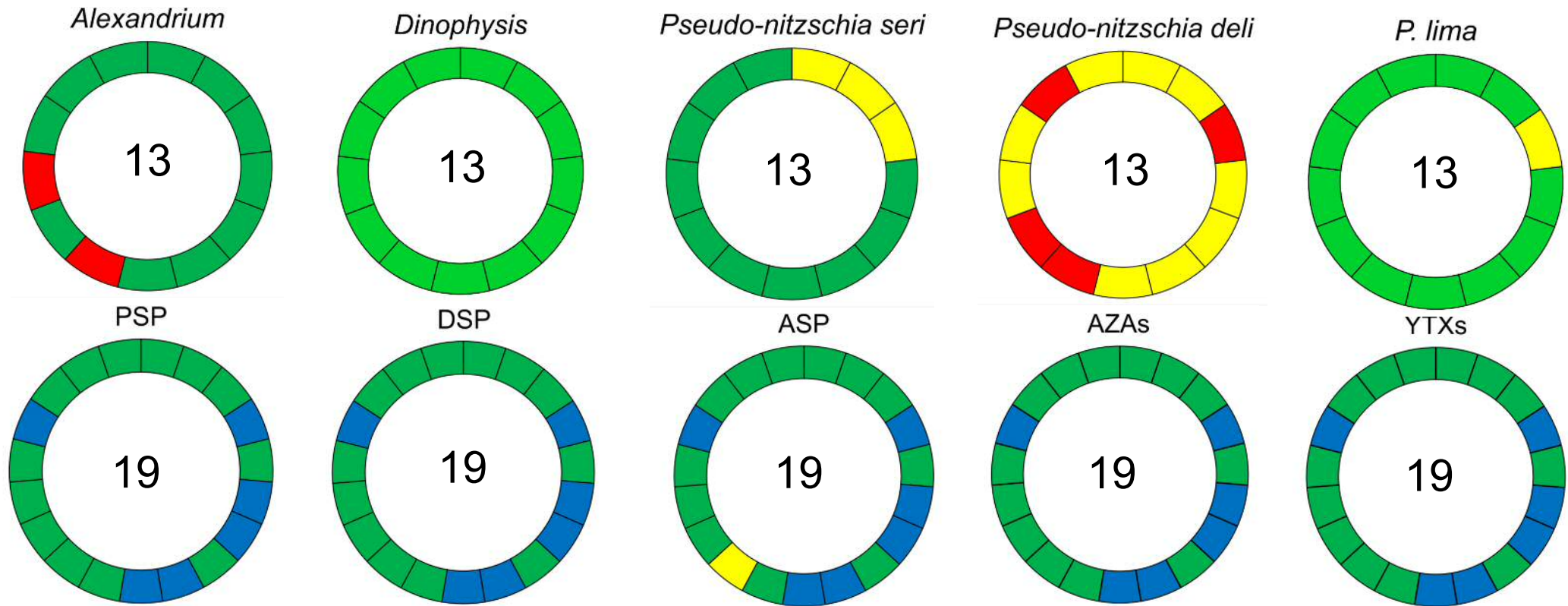
**Lipophilic toxins** (tested by LC-MS):

**OA/DTXs/PTXs:** 160 µg/kg of Okadaic acid equivalents

**YTXs:** 3.75 milligram of yessotoxin equivalent/kilogram

**AZAs:** 160 micrograms of azaspiracids equivalents/kilogram

## Status of biotoxins & harmful algae present in Shetland



Segments - no of individual sites, Colours: Green, red, amber and yellow as per key. Blue - not analysed. Coloured segment indicates approximate position of site in Shetland

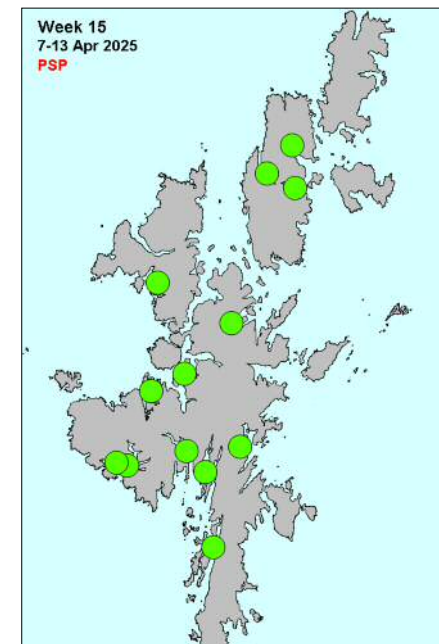
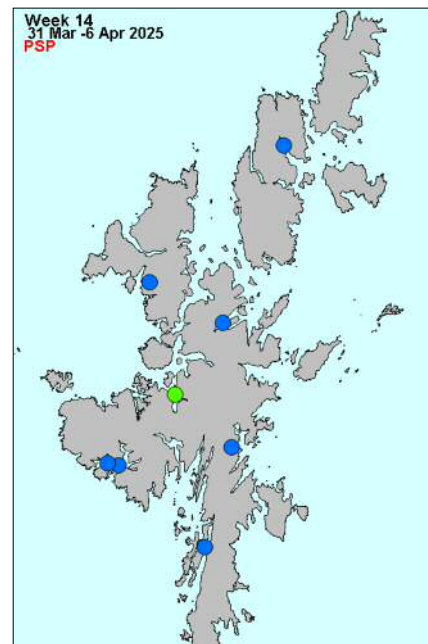
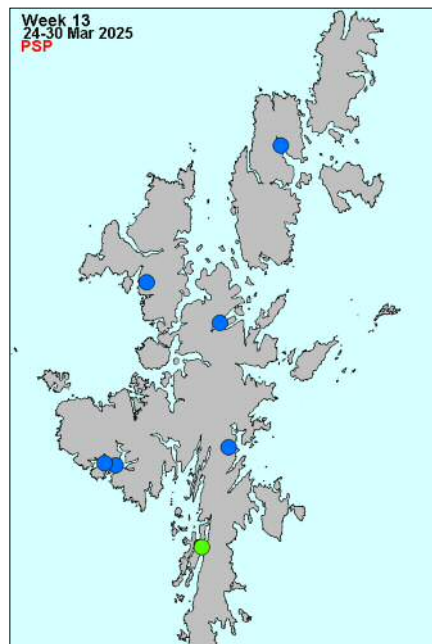
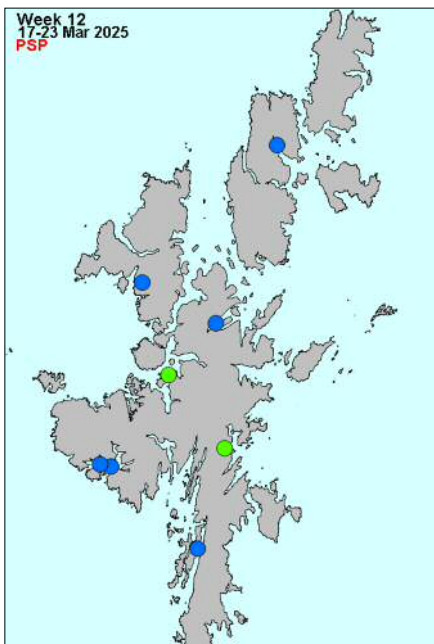
Biotoxin & Species	Green	Yellow	Amber	Red	Blue
PSP	<RL	RL - 399 µg/kg	400 - 800 µg/kg	>800 µg/kg	Not analysed
OA/DTX/PTX	<RL	1 - 79 µg/kg	80 - 160 µg/kg	>160 µg/kg	Not analysed
ASP	<LOQ	LOQ - 9.9 mg/kg	10 - 20 mg/kg	>20 mg/kg	Not analysed
YTX	<RL	1 - 1.7 mg/kg	1.8 - 3.75 mg/kg	>3.75 mg/kg	Not analysed
AZA	<RL	1 - 79 µg/kg	80 - 160 µg/kg	>160 µg/kg	Not analysed
<i>Alexandrium</i>	<20 cells/l	n/a	20 cells/l	≥ 40 cells/l	Not sampled
<i>Dinophysis</i>	<20 cells/l	20 - 79 cells/l	80 - 99 cells/l	≥100 cells/l	Not sampled
<i>Pseudo nitzschia</i>	<20 cells/l	20 - 39,999 cells/l	40,000 - 49,999 cells/l	≥50,000 cells/l	Not sampled
<i>Prorocentrum lima</i>	<20 cells/l	20 - 79 cells/l	80 - 99 cells/l	≥100 cells/l	Not sampled

**NOTE:**  
 This page is intended as a quick overview of the situation in the Shetland Islands. If the status for a particular species or biotoxin is amber or red please check the relevant pages in the bulletin for more details and specific locations.  
 RL- reporting limit;  
 LOQ – Limit of quantification

## Paralytic shellfish poisoning toxins & causative phytoplankton

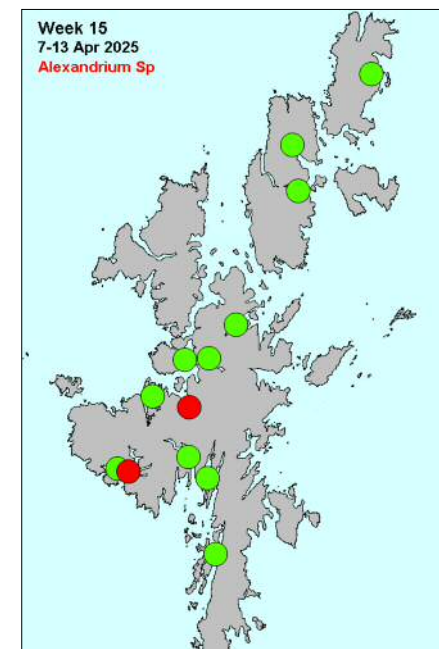
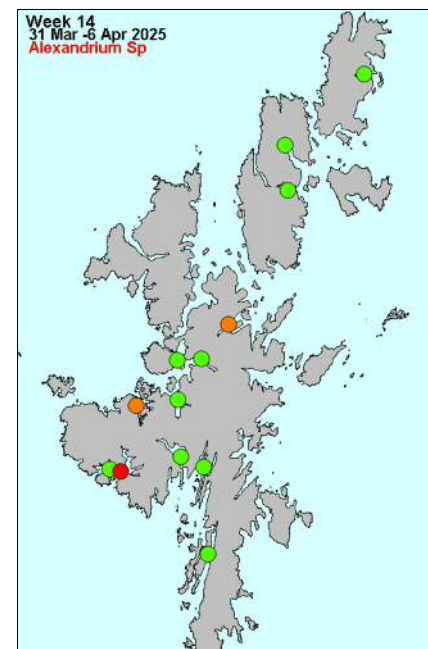
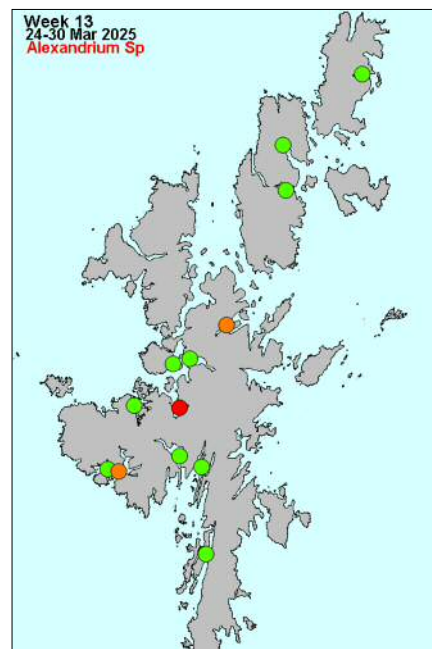
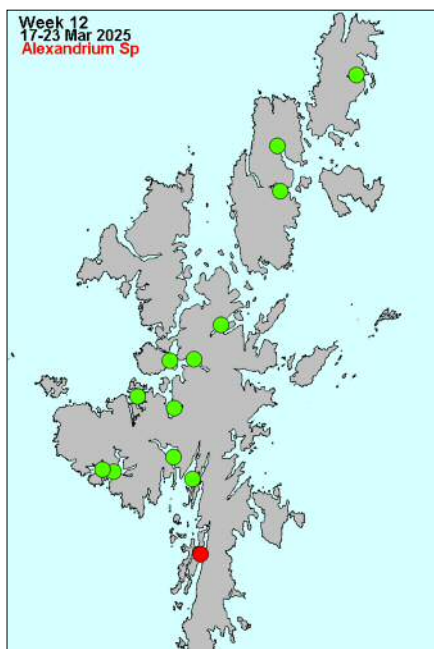
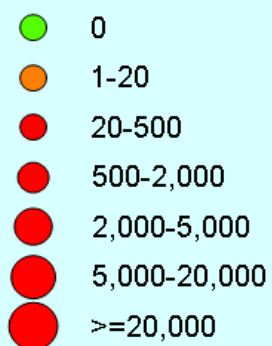
### PSP

µg STX eq/kg



### Alexandrium Sp.

cells/l

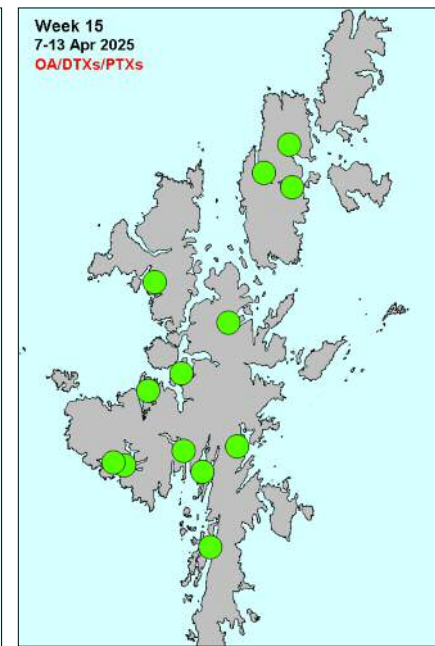
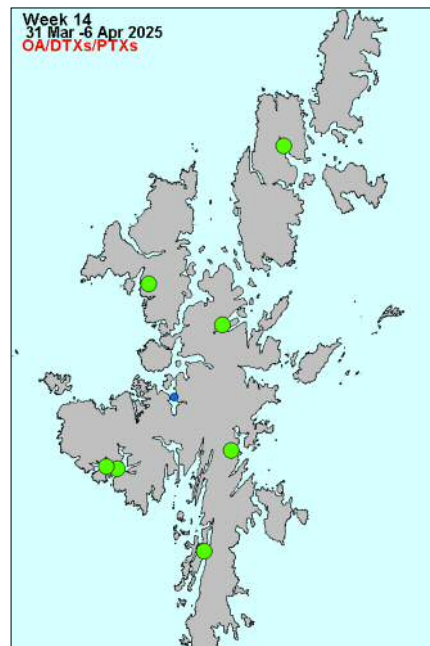
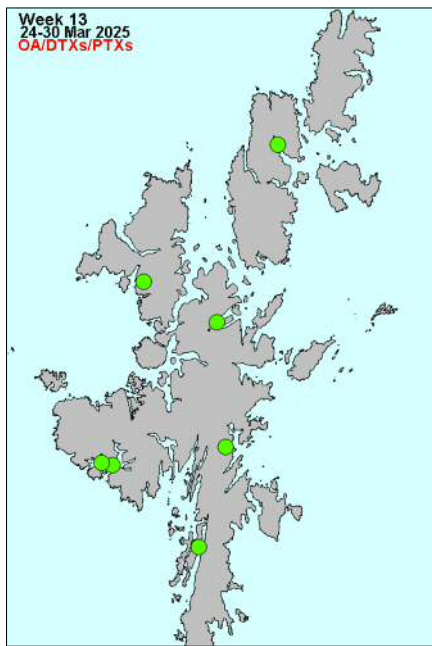
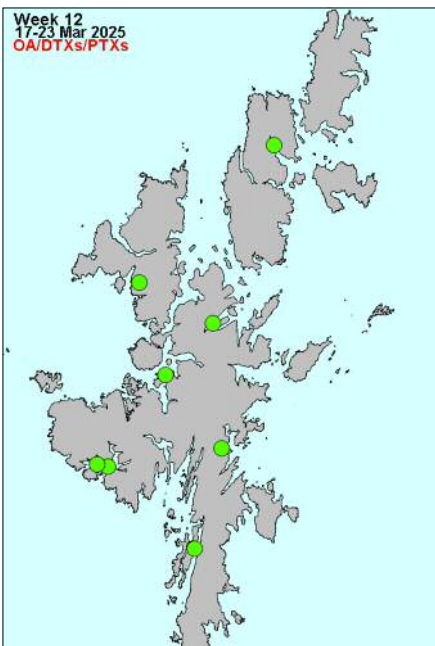


# Shetland Bulletin on the status of harmful & toxic algae Week 15, 7<sup>th</sup> - 13<sup>th</sup> Apr 2025

## Diarrhetic shellfish poisoning toxins & causative phytoplankton

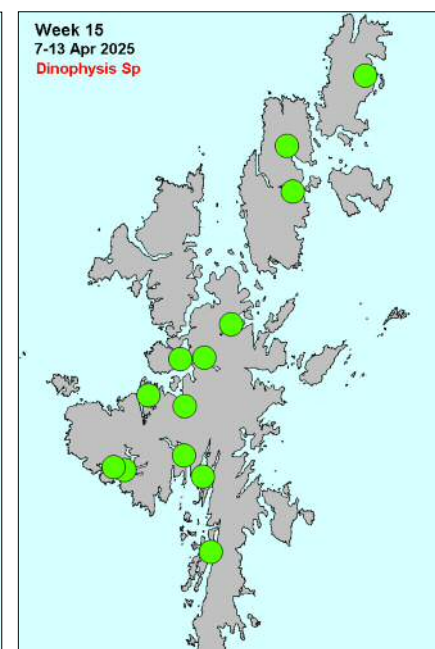
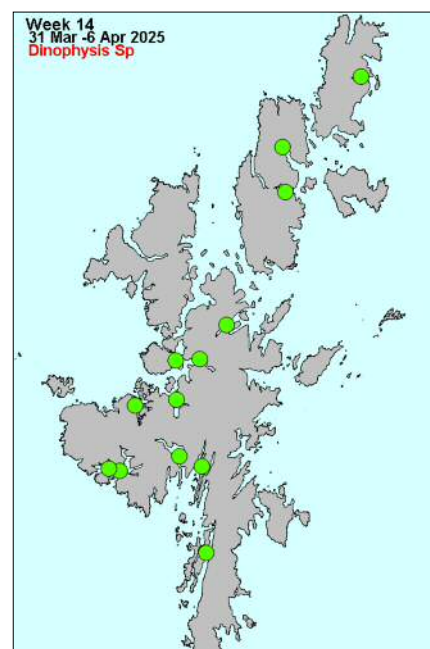
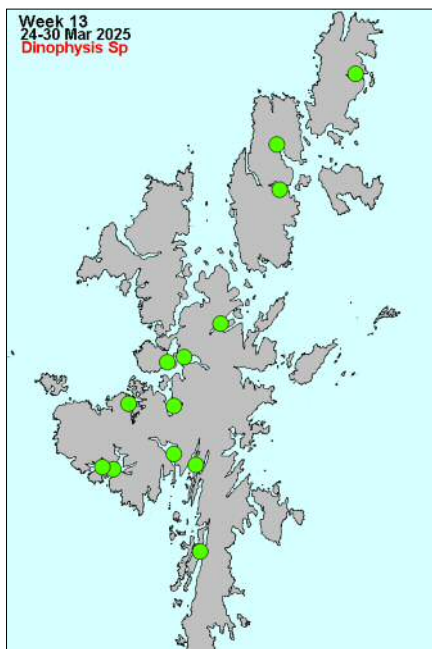
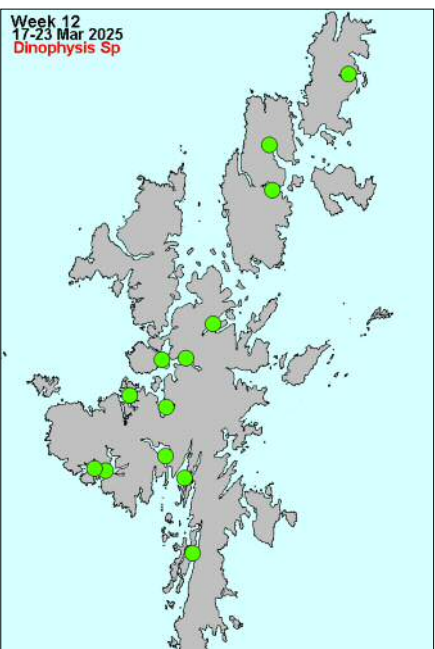
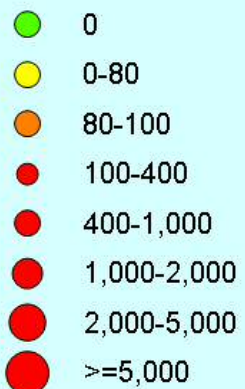
### OA/DTXs/PTXs

µg OA eq/kg



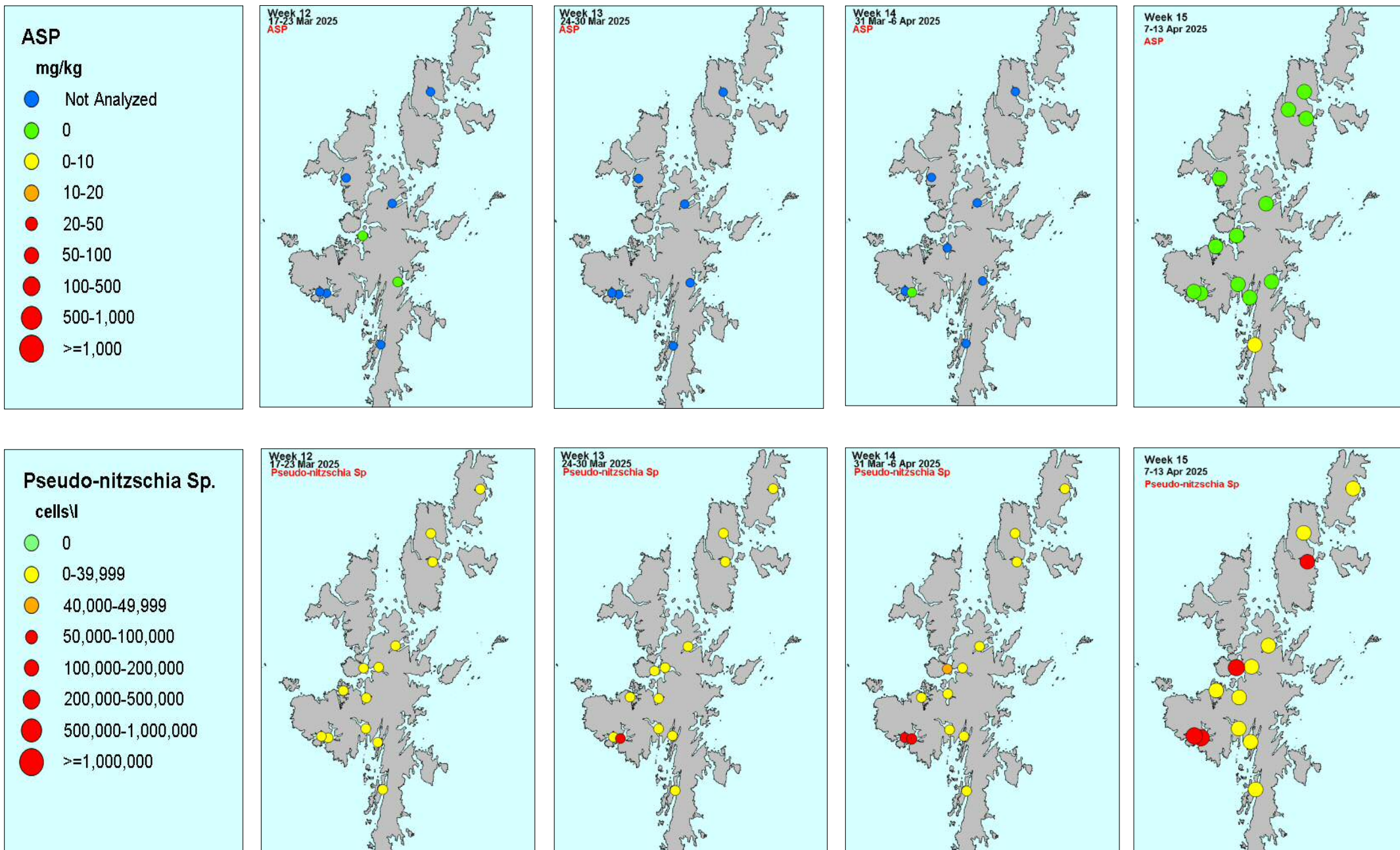
### Dinophysis Sp.

cells/l

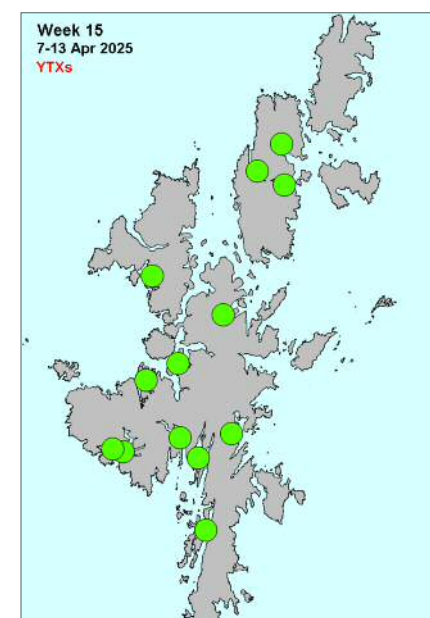
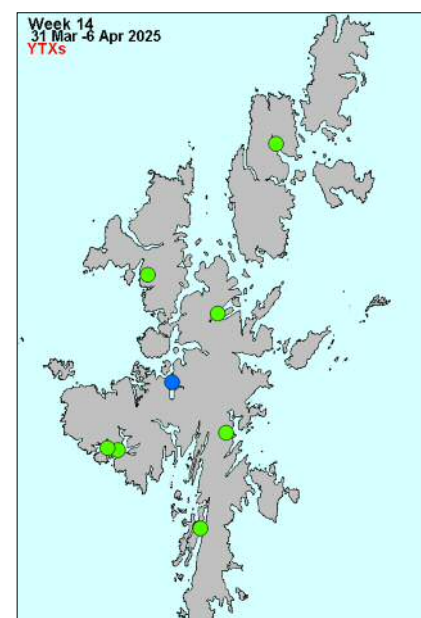
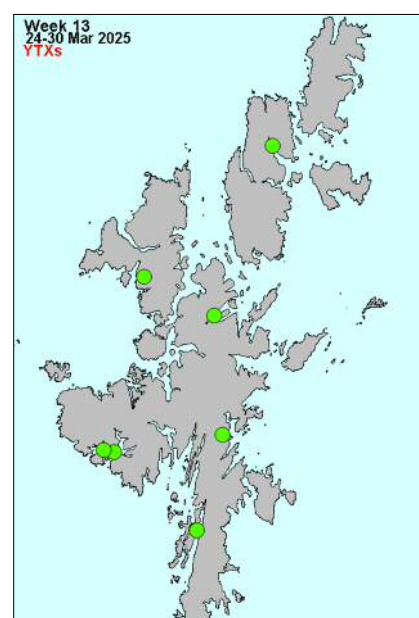
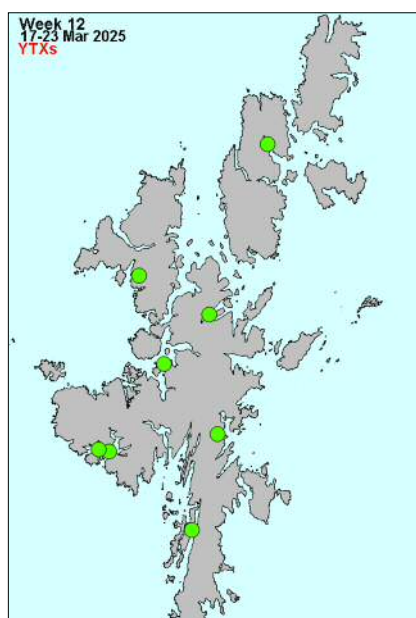
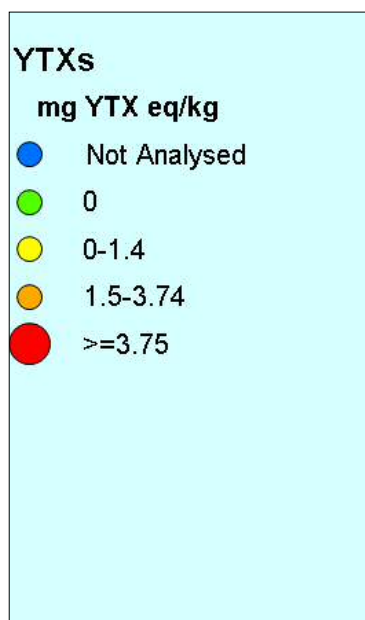
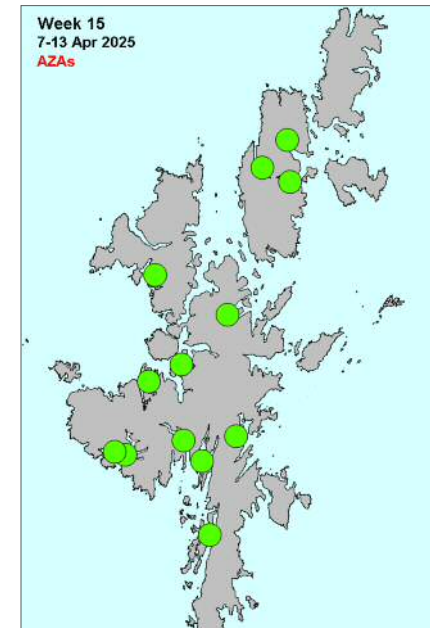
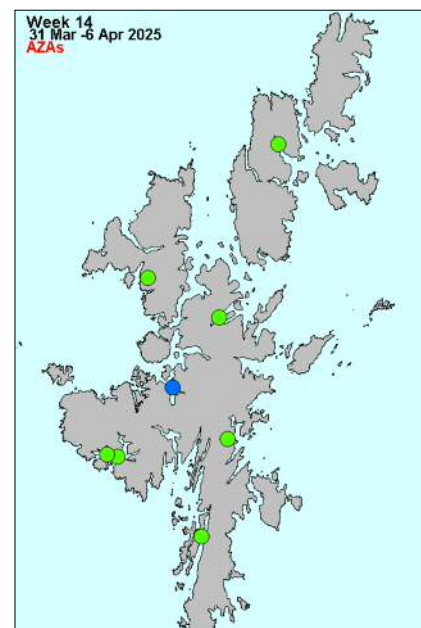
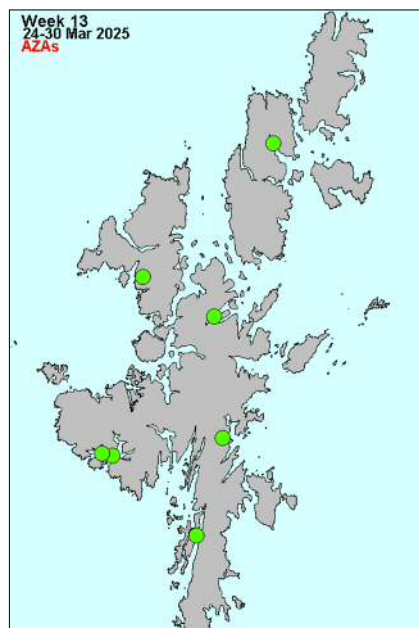
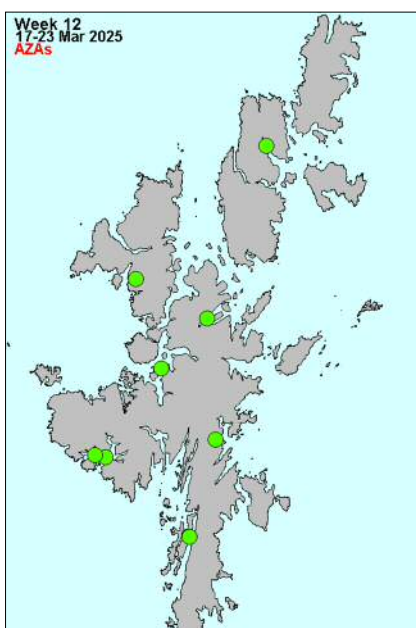
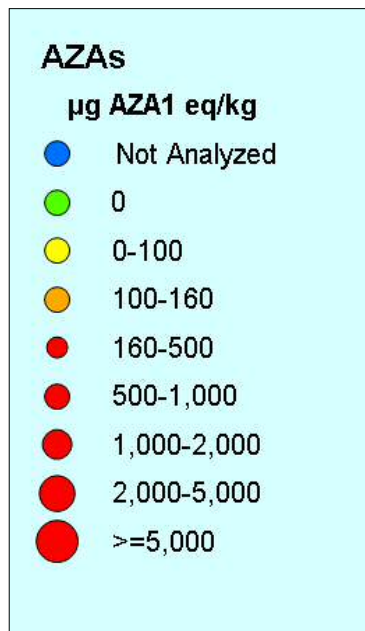


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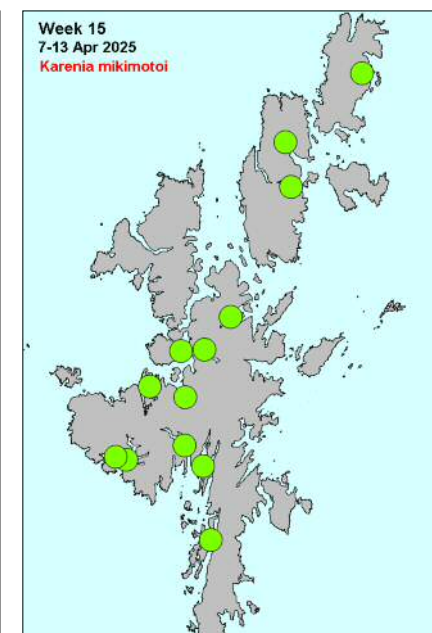
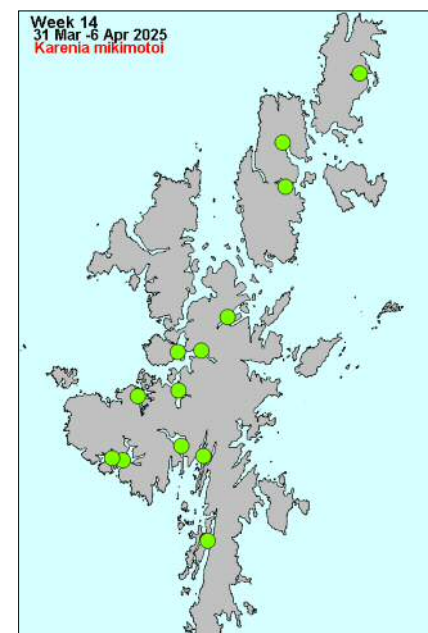
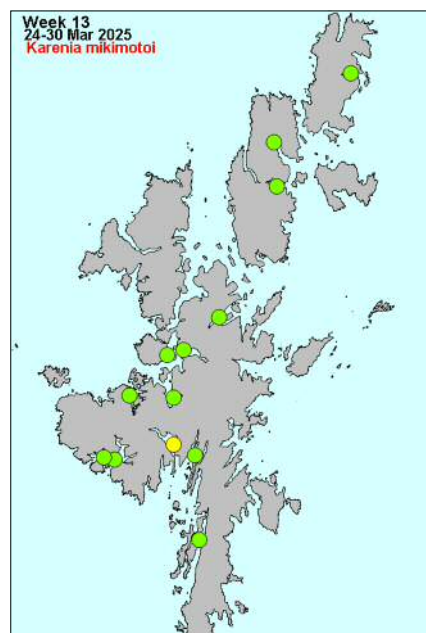
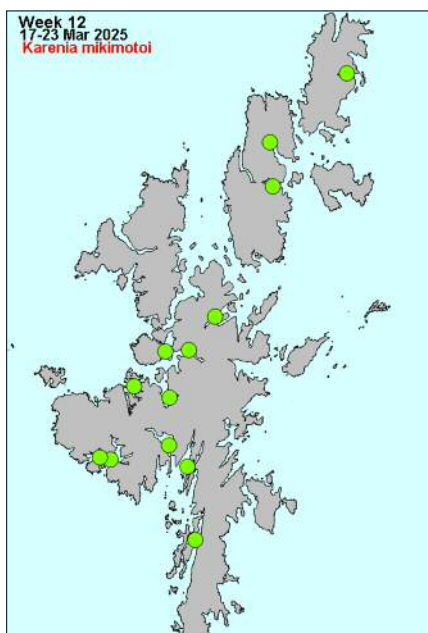
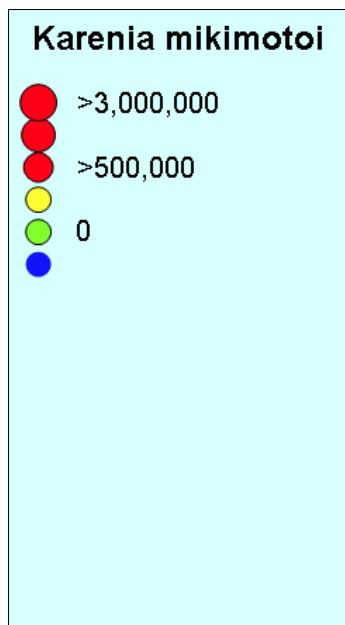
## Amnesic Shellfish Poisoning & causative phytoplankton



## Azaspiracid & Yessotoxin shellfish poisoning toxins



## *Karenia mikimotoi*



### Chain forming Phytoplankton

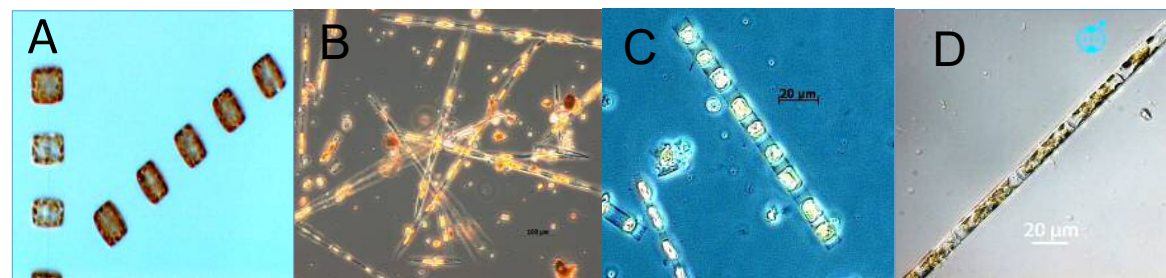
High densities of chain forming diatoms including, but not limited to the genus, *Chaetoceros*, *Skeletonema*, *Leptocylindrus*, *Rhizosolenia*, *Thalassiosira*, *Corethron* and *Pseudo-nitzschia*, the centric species *Coscinodiscus wailesii*, and species with long spines such as *Ceratium* (*Tripos*) can cause debilitating damage to fish gills.

### Status

Thirteen samples were analysed this week. *Karenia* was not detected.

The IFCB at Scalloway and at Cole Deep are mainly detecting *Thalassiosira*, *Skeletonema*, *Pseudo-nitzschia* and *Chaetoceros*.

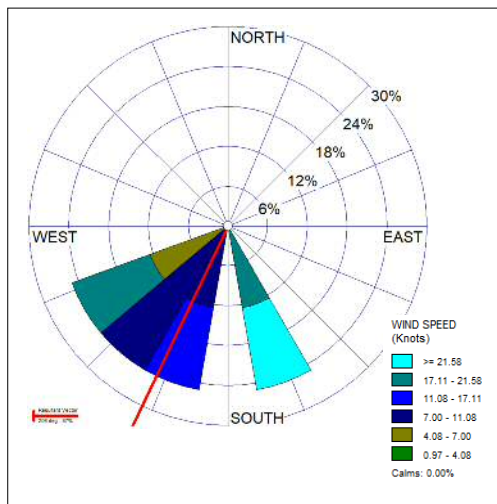
<https://www.habreports.org/ifcb-nafc.php>



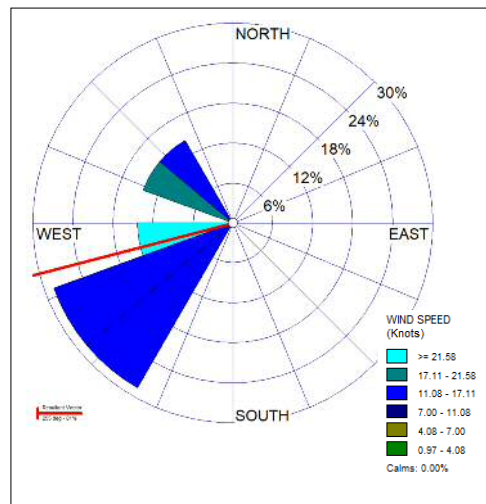
A - *Thalassiosira* sp.  
 B - *Pseudo-nitzschia* sp.  
 C - *Skeletonema* sp.  
 D - *Leptocylindrus* sp.  
 E - *Chaetoceros* sp.  
 F - *Ceratium* sp.

## Mean wind direction observed in Shetland for current and three preceding weeks

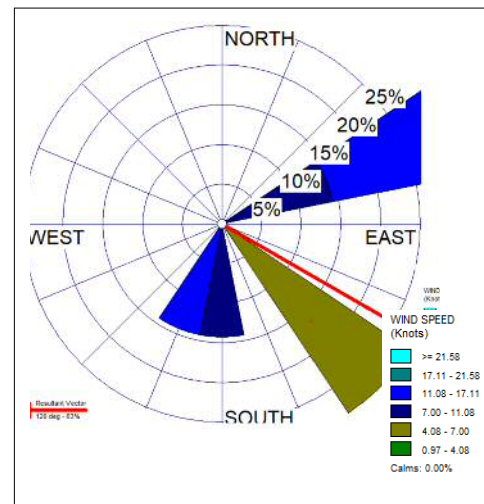
Week 12



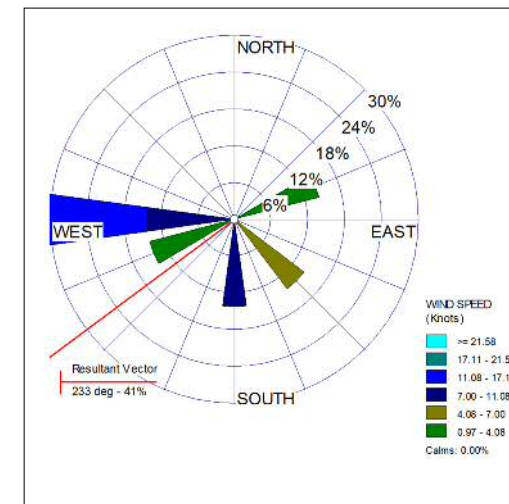
Week 13



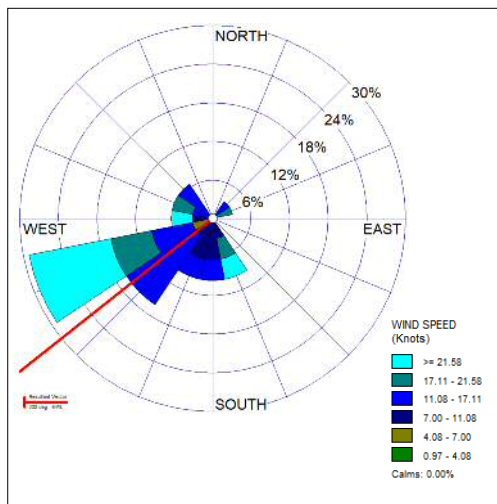
Week 14



Week 15



March



Mean wind direction and speed observed in Shetland over the past four weeks. Higher wind speeds are shown in lighter shades. The percentage of time the wind blew from any particular direction is shown by the length of the triangle. The resultant vector, represented by the red or blue line, shows the average wind direction for the week. It is based on wind direction only and includes periods of calm which are not indicated on the diagram. The data used is taken from the weather station at Sumburgh.

### Status:

Over the past week the average wind direction has been from the south west.

### Predictions:

The risk of wind blown *Dinophysis* blooms in Shetland is **low** this week.

### Why do we think this?

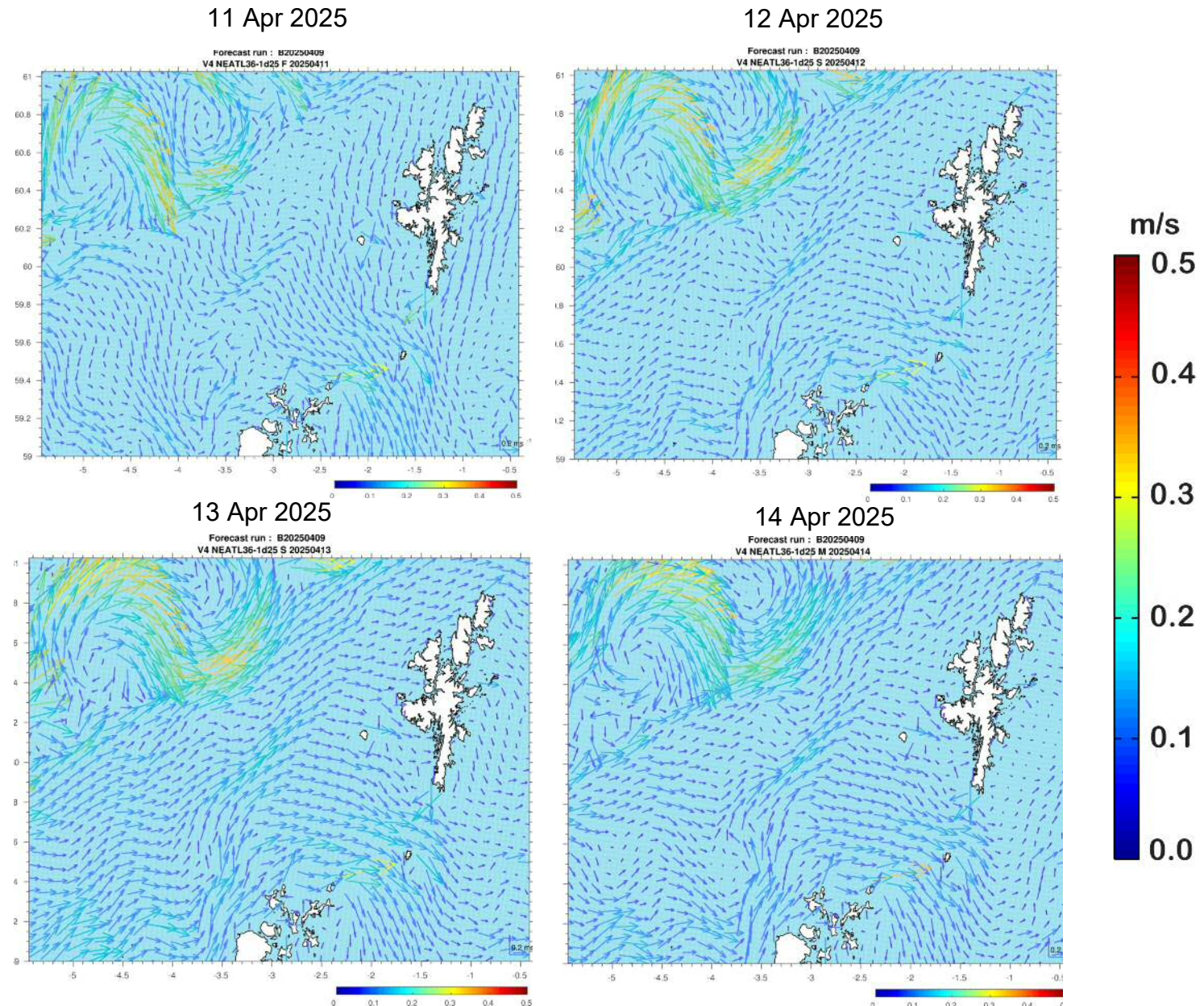
During the summer *Dinophysis* can bloom out at sea and at shelf fronts found off the West of Shetland. Westerly winds can then blow these blooms into shore. Westerly winds may also retain *Dinophysis* cells in Westerly facing voes and inlets where their numbers may increase. Wind for the past week has been predominantly from the south west. It is unlikely that there will be an advected bloom of *Dinophysis* in the coming week.



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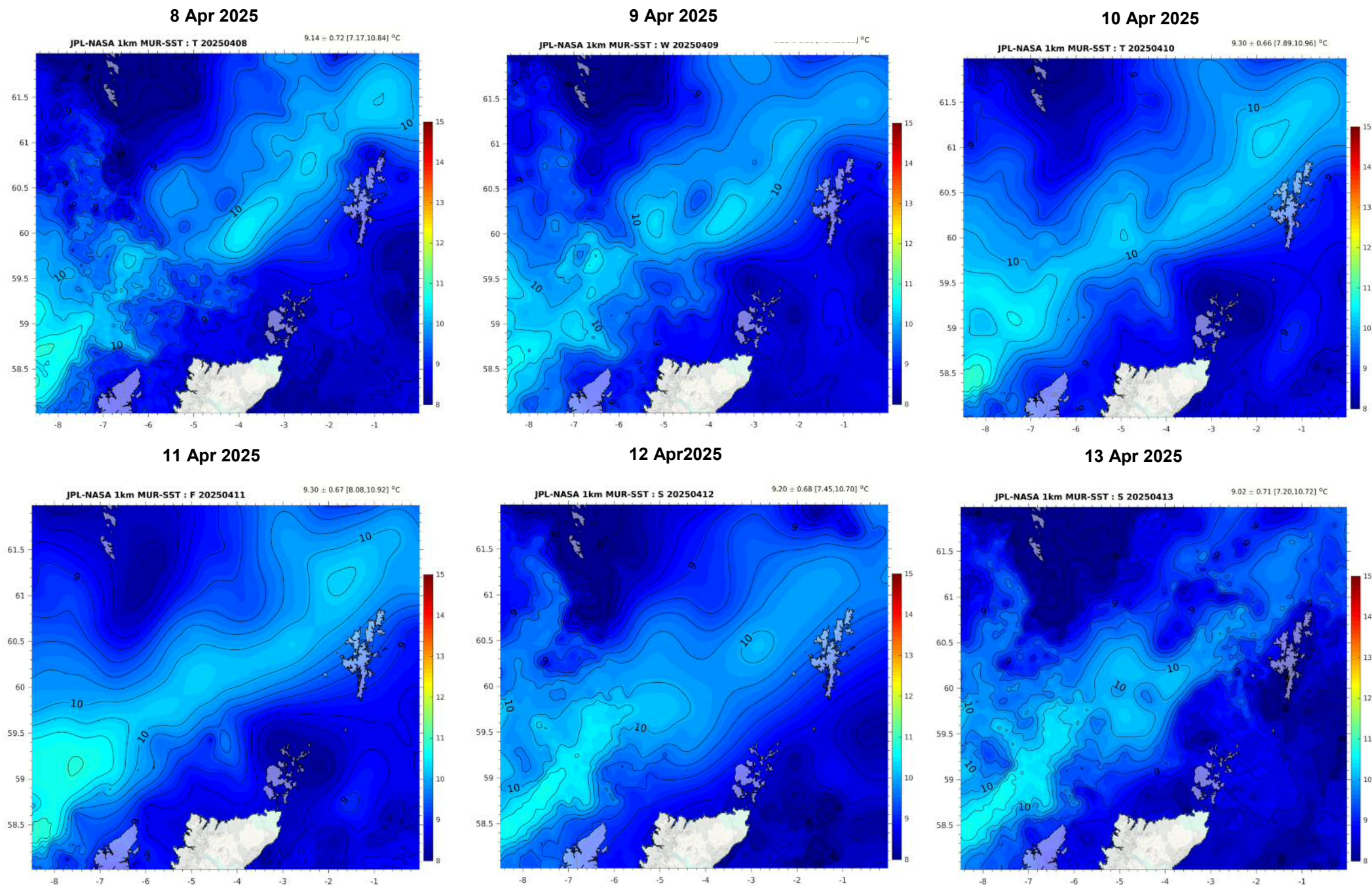
## Forecasted Sea Surface currents

These diagrams show the predicted current directions around Shetland for the next couple of days. Greens to reds indicate stronger currents. In general strong currents run parallel to the deep water channel between the Faroes and Shetland. Problems can arise when these currents turn Eastwards potentially carrying *Dinophysis* and *Karenia mikimotoi* blooms, from the shelf edge, into shore.

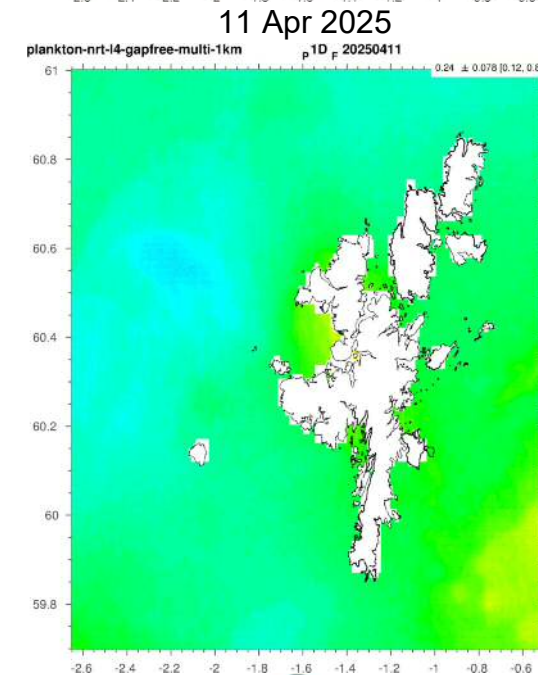
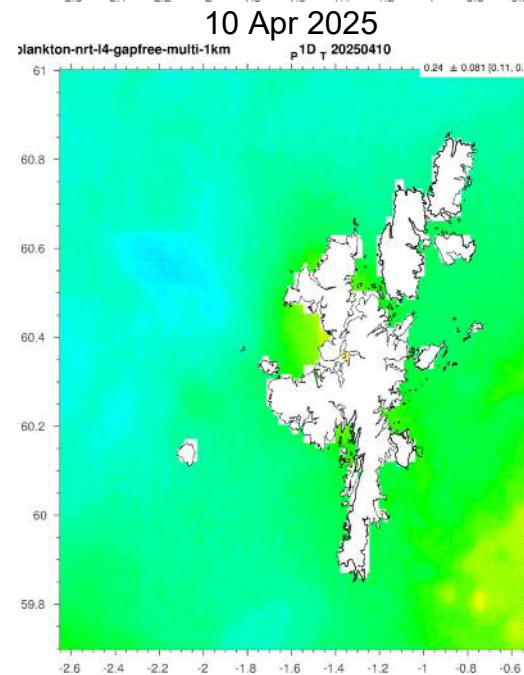
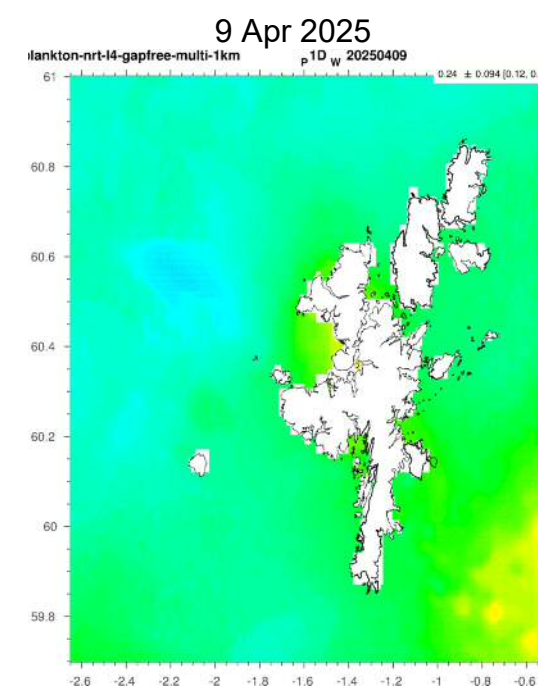
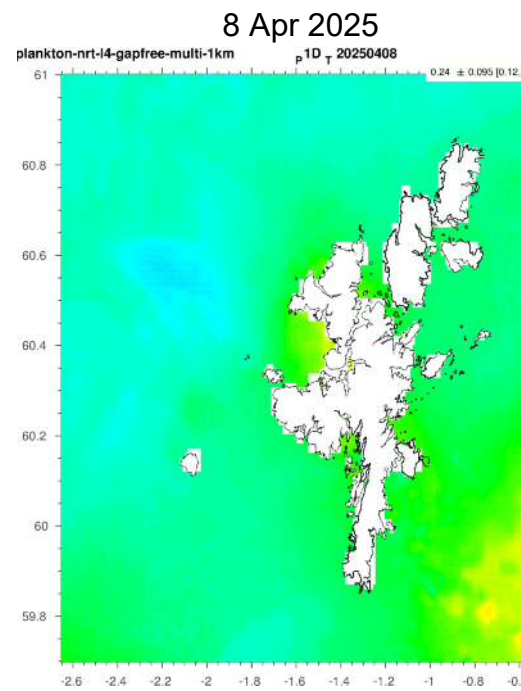
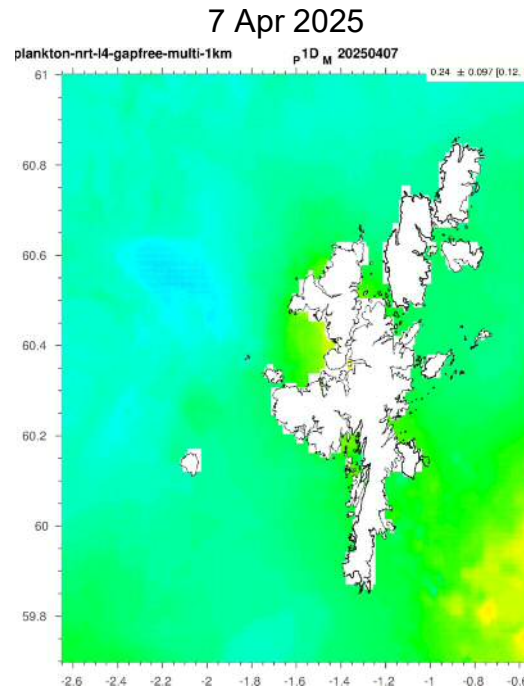


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## Sea Surface temperature (°C) in preceding 6 days in the Shetland Islands



## Chlorophyll concentrations (mg/m<sup>3</sup>)



These diagrams show the mass concentration of chlorophyll-a around Shetland. Yellows to reds indicate higher concentrations. However it should be noted that turbidity and the presence of organic material deposited into near shore areas can give false positive readings making the concentrations appear much higher than *in situ* observations would indicate. Blank areas or areas bounded by straight lines on the map are usually the result of data loss due, for example, to persistent cloud cover in which case the data has been interpolated and may not accurately depict the actual concentrations present.