

# Shetland Bulletin on the status of harmful & toxic algae Week 45, 3<sup>rd</sup> - 9<sup>th</sup> Nov 2025

## Biotoxin report:

**PSP toxins:** Eleven samples were analysed this week. Toxins were detected at low levels in Wadbister Voe

**DSP toxins:** Eleven samples were analysed this week. Toxins were detected at low levels in Scarvar Ayre, Cole Deep, Sandsound Voe, Wadbister Voe, Slyde, Busta Voe Lee and Hamar Voe.

**ASP toxins:** Eleven samples were analysed this week. No toxins were detected.

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

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

## Harmful algae report:

**Alexandrium:** No sites were analysed this week.

**Pseudo-nitzschia delicatissima:** No sites were analysed this week.

**Pseudo-nitzschia seriata:** No sites were analysed this week.

**Dinophysis:** No sites were analysed this week.

**Prorocentrum lima:** No sites were analysed this week.

**Karenia mikimotoi:** No sites were analysed this week.

## Shetland: trends and forecast

**Alexandrium/PSP:** No samples were analysed for *Alexandrium* this week. Toxins were found at low levels in one site. It is extremely unlikely there will be a toxic bloom this week.

**Dinophysis/DSP:** No samples were analysed for *Dinophysis* this week. Toxins were detected at low levels in seven sites. It is unlikely there will be a toxic bloom this week.

**Pseudo-nitzschia/ASP:** No samples were analysed for *Pseudo nitzschia* this week, and no toxins were detected. It is extremely unlikely that there will be a toxic bloom this week.

**AZA and YTX:** 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



SeafoodShetland

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/algatoxin/#.UY0TkcgTQ6O>

## Warning/Threshold Levels

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

The maximum permitted levels of biotoxins in shellfish are:

**PSP:** 800 µg/kg

**ASP:** 20 mg/kg

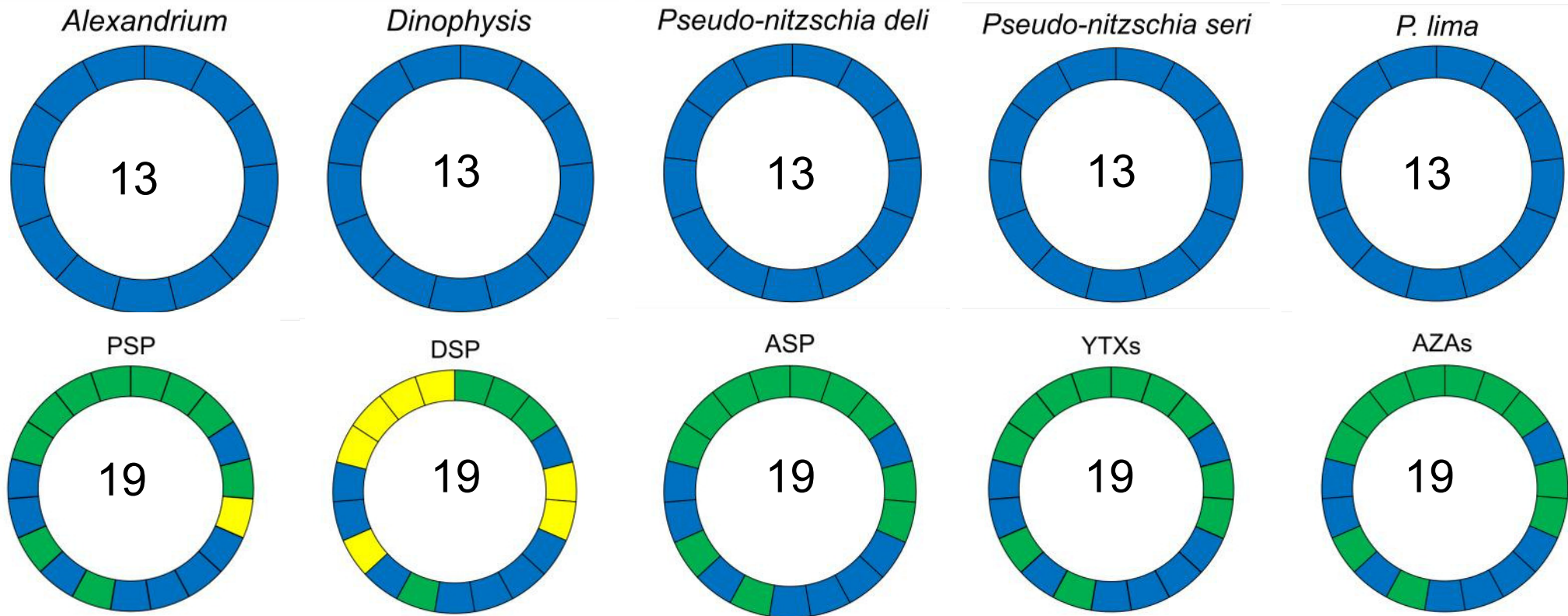
**Lipophilic toxins** (tested by LC-MS):

**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       |             |                     |                         |                 |              |
|--------------------------|-------------|---------------------|-------------------------|-----------------|--------------|
| 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

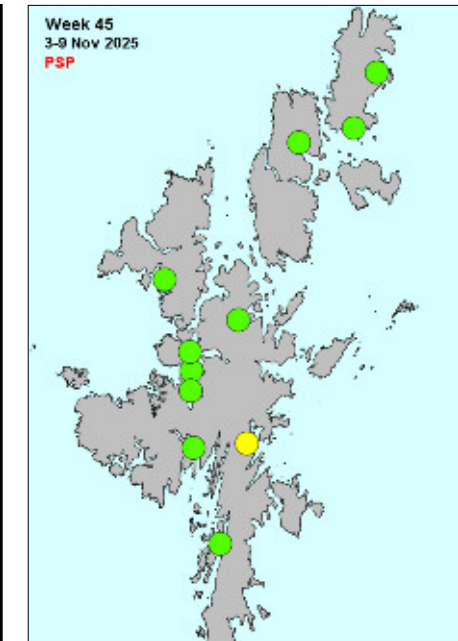
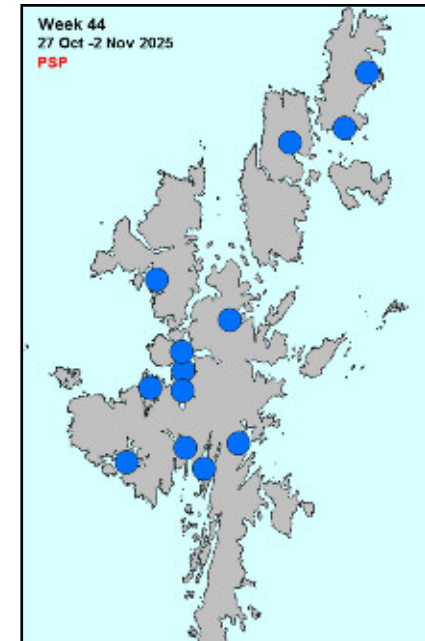
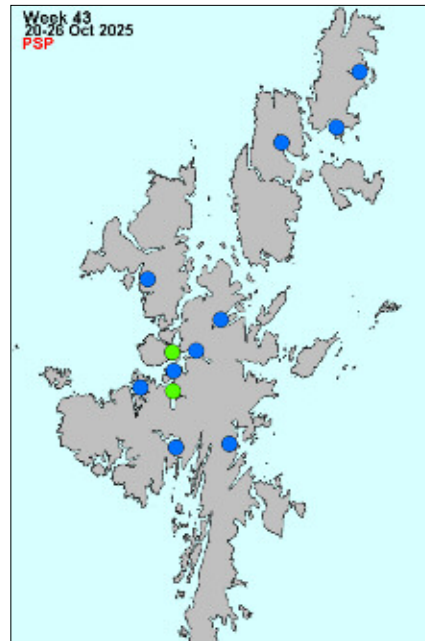
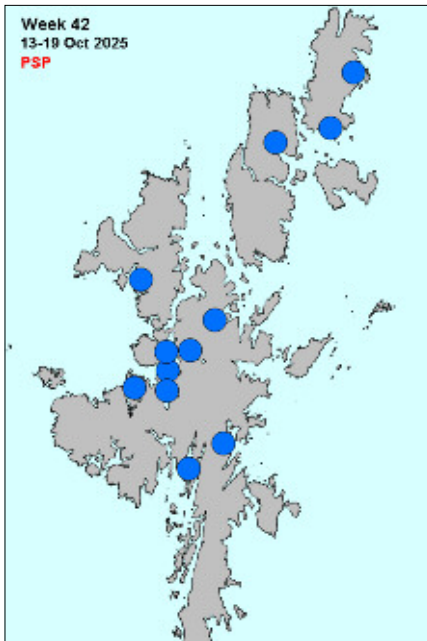
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## Paralytic shellfish poisoning toxins & causative phytoplankton

### PSP

µg STX eq/kg

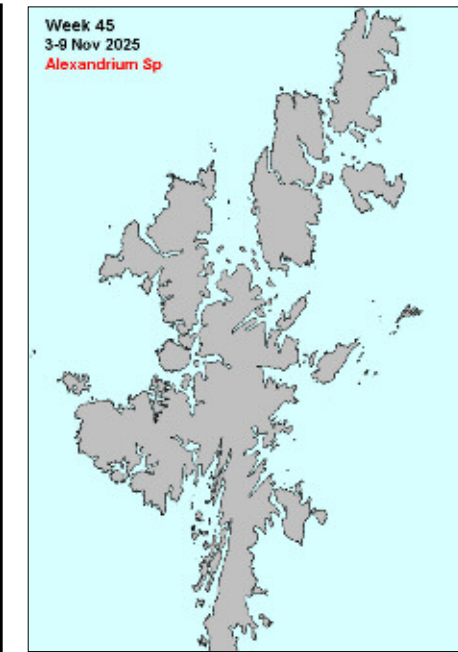
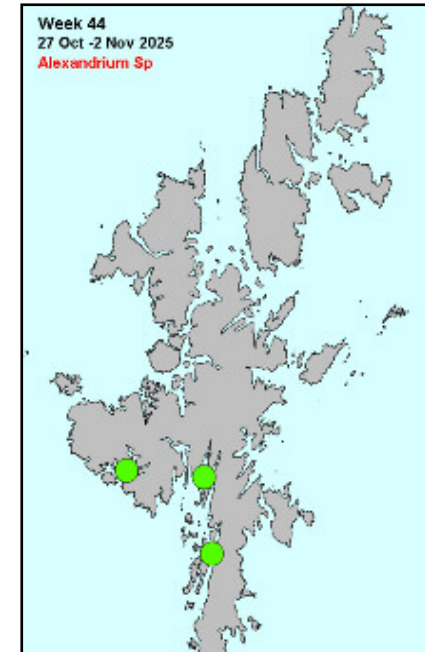
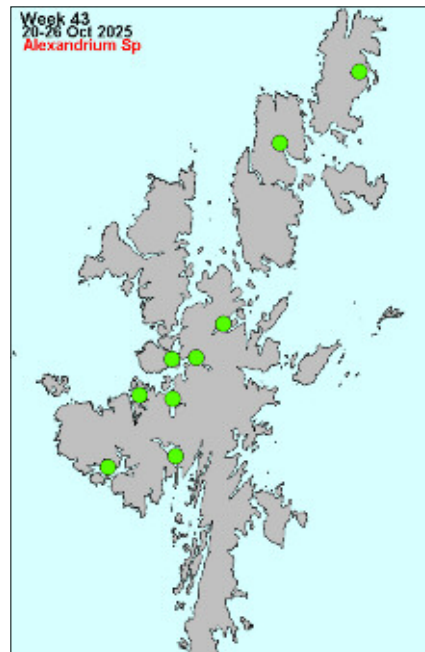
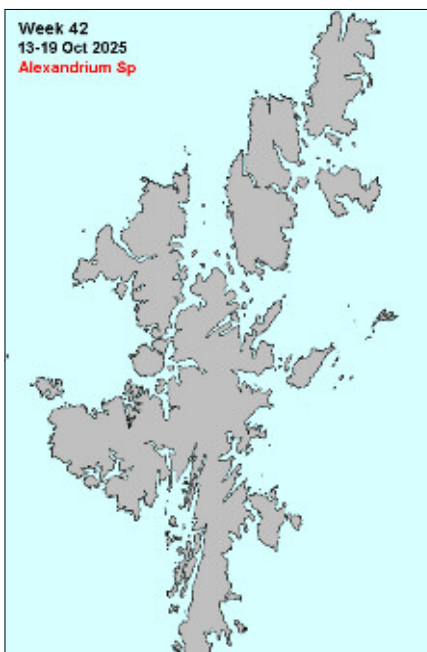
- Not Analyzed
- 0
- 0-400
- 400-800
- 800-1,600
- 1,600-2,000
- 2,000-3,000
- 3,000-4,000
- >=4,000



### Alexandrium Sp.

cells/l

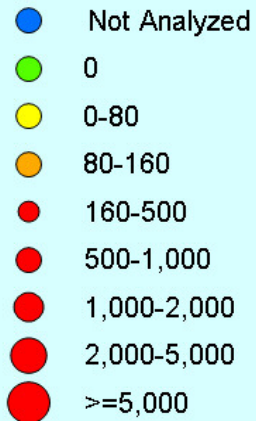
- 0
- 1-20
- 20-500
- 500-2,000
- 2,000-5,000
- 5,000-20,000
- >=20,000



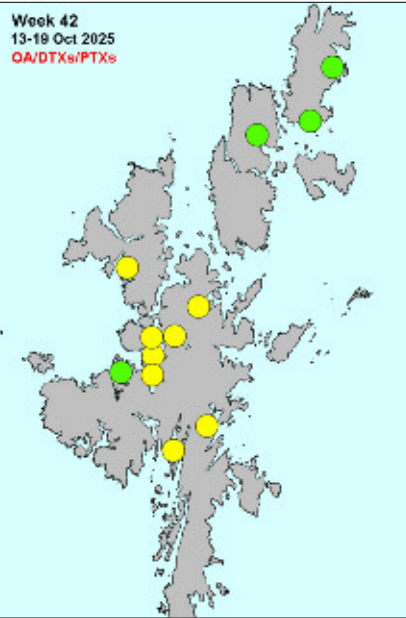
## Diarrhetic shellfish poisoning toxins & causative phytoplankton

### OA/DTXs/PTXs

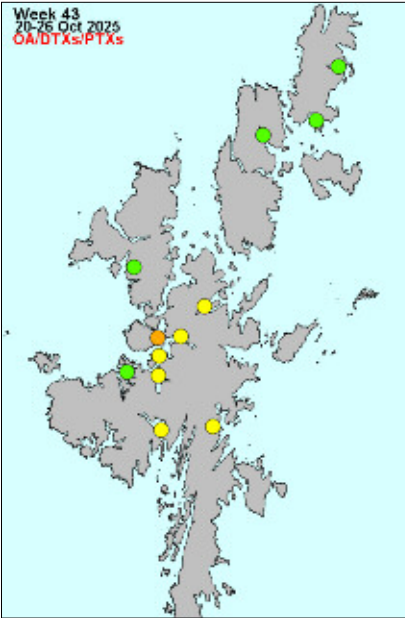
µg OA eq/kg



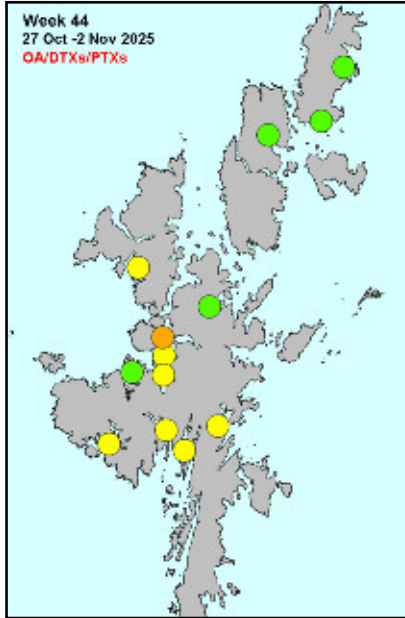
Week 42  
13-19 Oct 2025  
OA/DTXs/PTXs



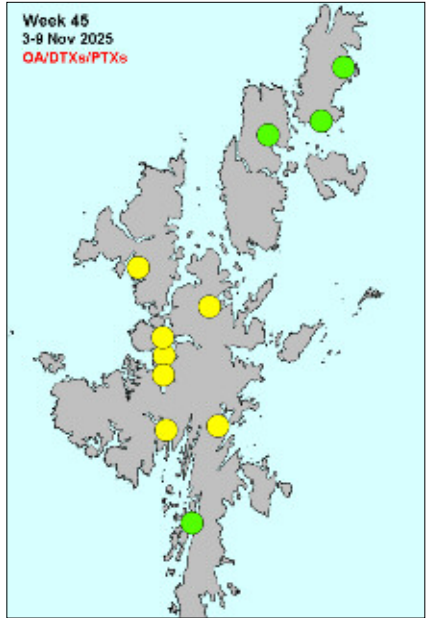
Week 43  
20-26 Oct 2025  
OA/DTXs/PTXs



Week 44  
27 Oct - 2 Nov 2025  
OA/DTXs/PTXs

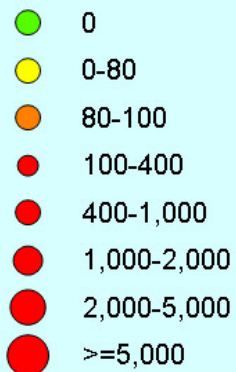


Week 45  
3-9 Nov 2025  
OA/DTXs/PTXs

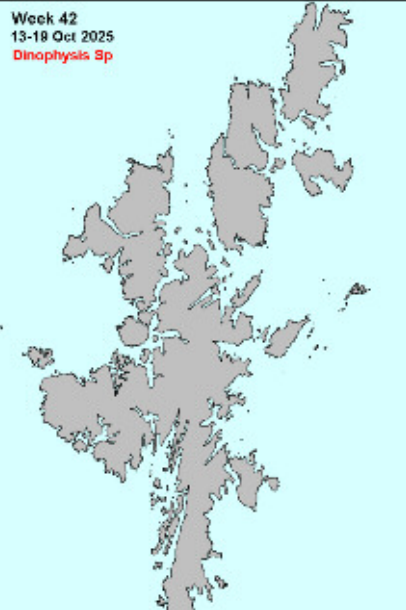


### Dinophysis Sp.

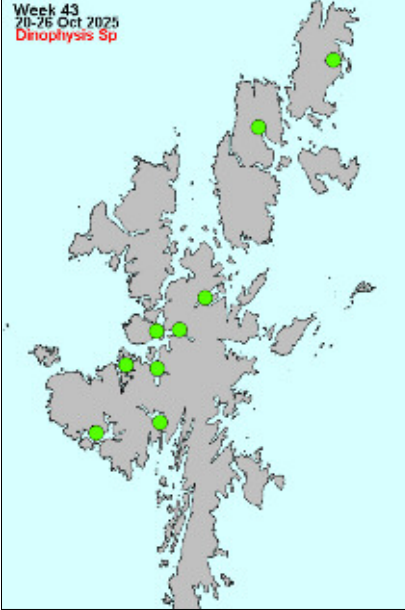
cells/l



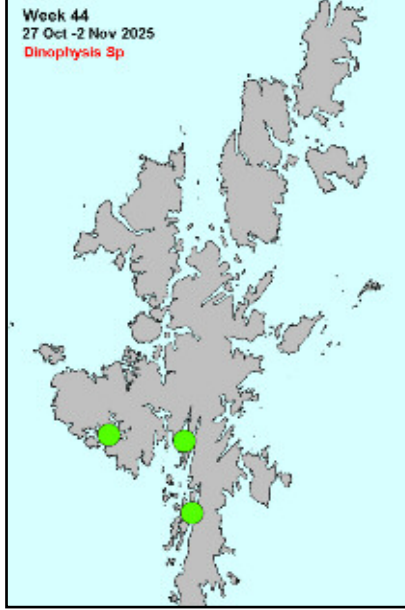
Week 42  
13-19 Oct 2025  
Dinophysis Sp



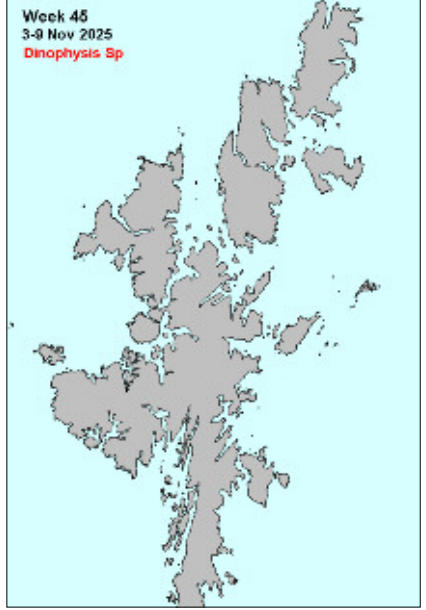
Week 43  
20-26 Oct 2025  
Dinophysis Sp



Week 44  
27 Oct - 2 Nov 2025  
Dinophysis Sp



Week 45  
3-9 Nov 2025  
Dinophysis Sp



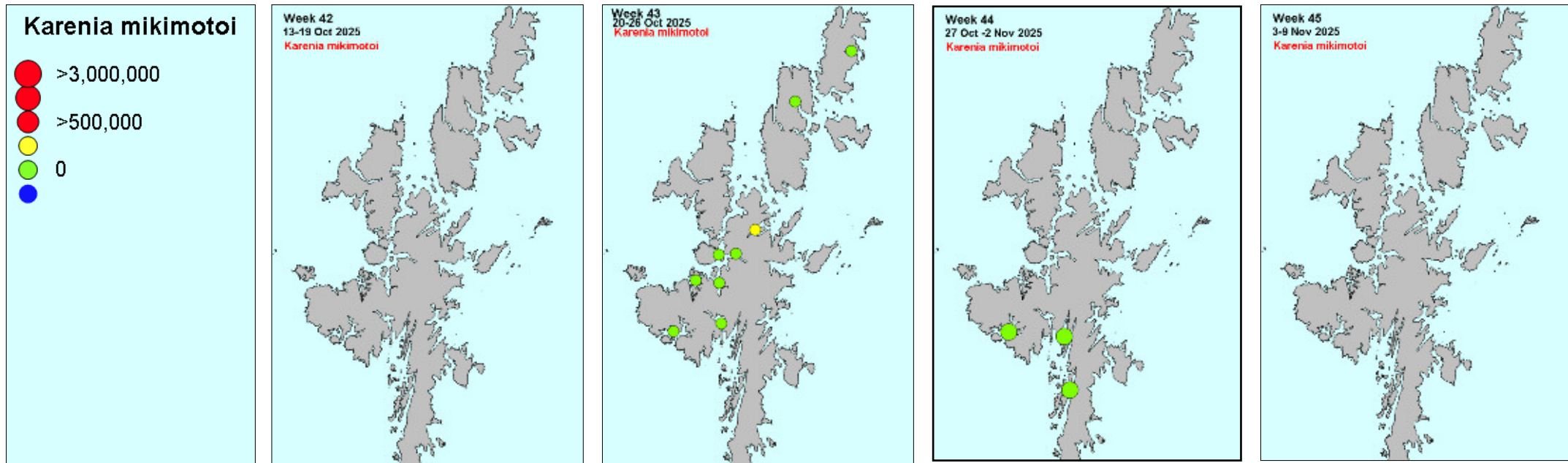
Amnesic Shellfish Poisoning & causative phytoplankton



Azaspiracid & Yessotoxin shellfish poisoning toxins



## *Karenia mikimotoi*



## Chain forming Phytoplankton

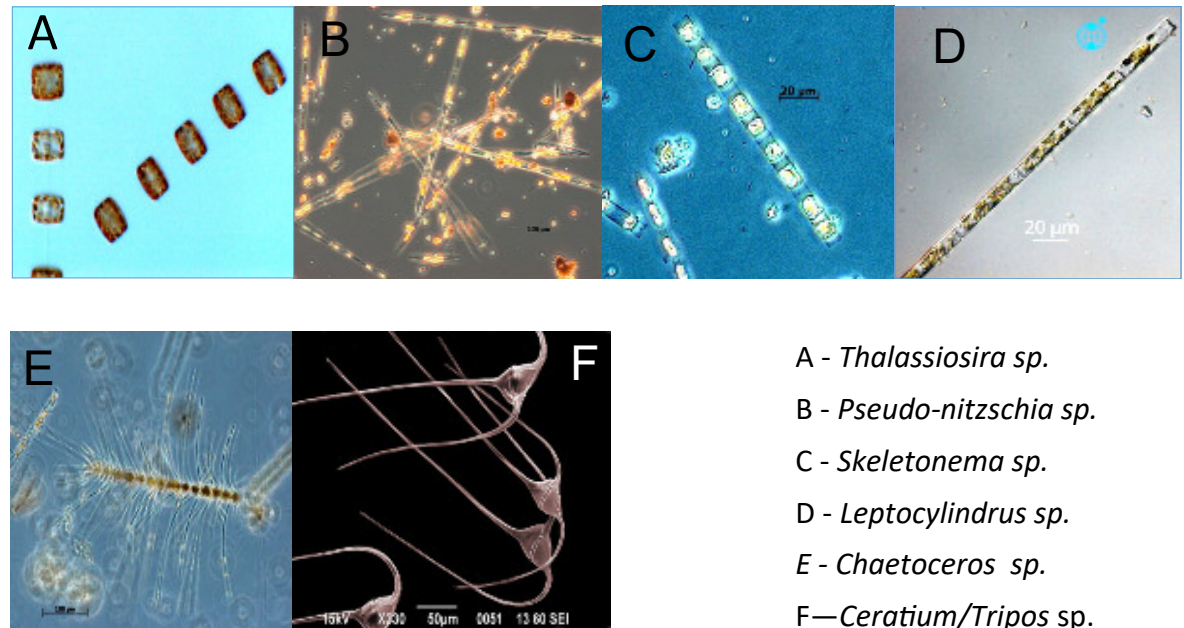
High densities of chain forming diatoms including, but not limited to the genus, *Chaetoceros*, *Skeletonema*, *Leptocylindrus*, *Rhizosolenia*, *Thalassiosira*, *Corethron* and *Pseudo-nitzschia*, the centric species *Coscinodiscus wailesii*, and species with long spines such as *Ceratium* (*Tripos*)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

## Status

No samples were analysed this week.

The IFCB at Cole Deep is detecting mainly small flagellates. The one at Scalloway remains down for maintenance.

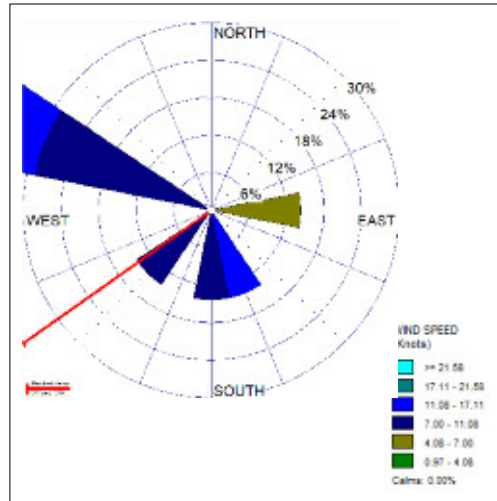
<https://www.habreports.org/ifcb-nafc.php>



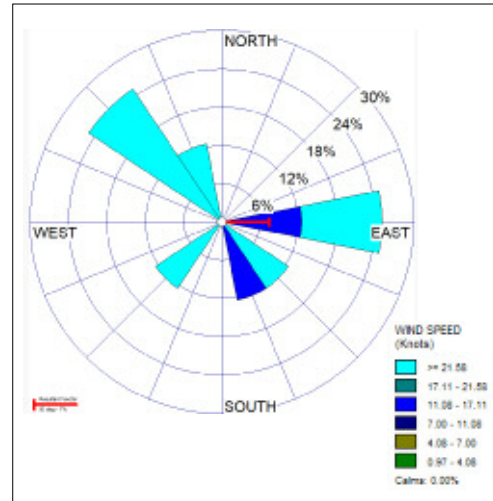
A - *Thalassiosira* sp.  
B - *Pseudo-nitzschia* sp.  
C - *Skeletonema* sp.  
D - *Leptocylindrus* sp.  
E - *Chaetoceros* sp.  
F - *Ceratium/Tripos* sp.

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

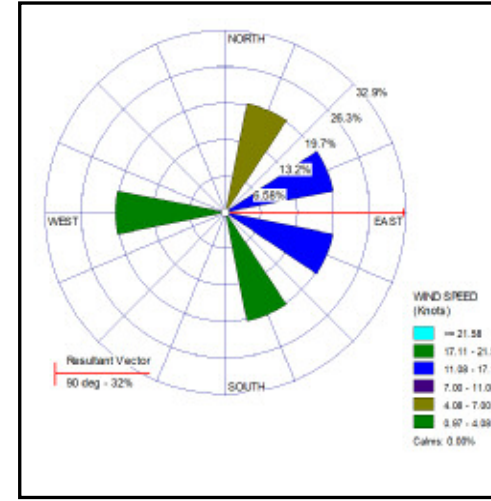
Week 42



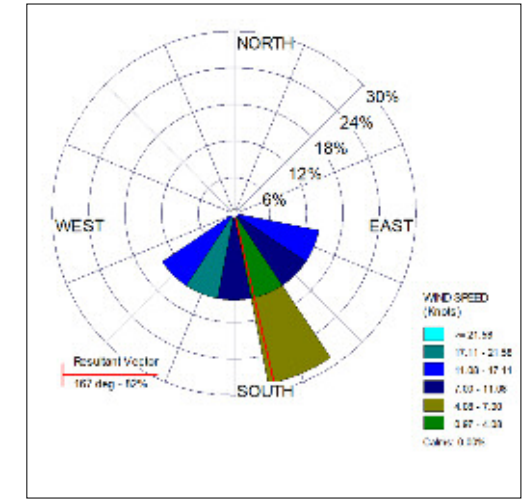
Week 43



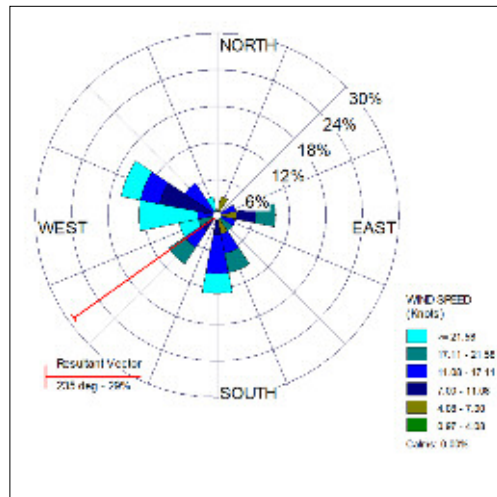
Week 44



Week 45



October



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.

### Predictions:

The risk of wind blown *Dinophysis* blooms in Shetland is **low** this week due to the winds blowing in from an southerly direction.

### Why do we think this?

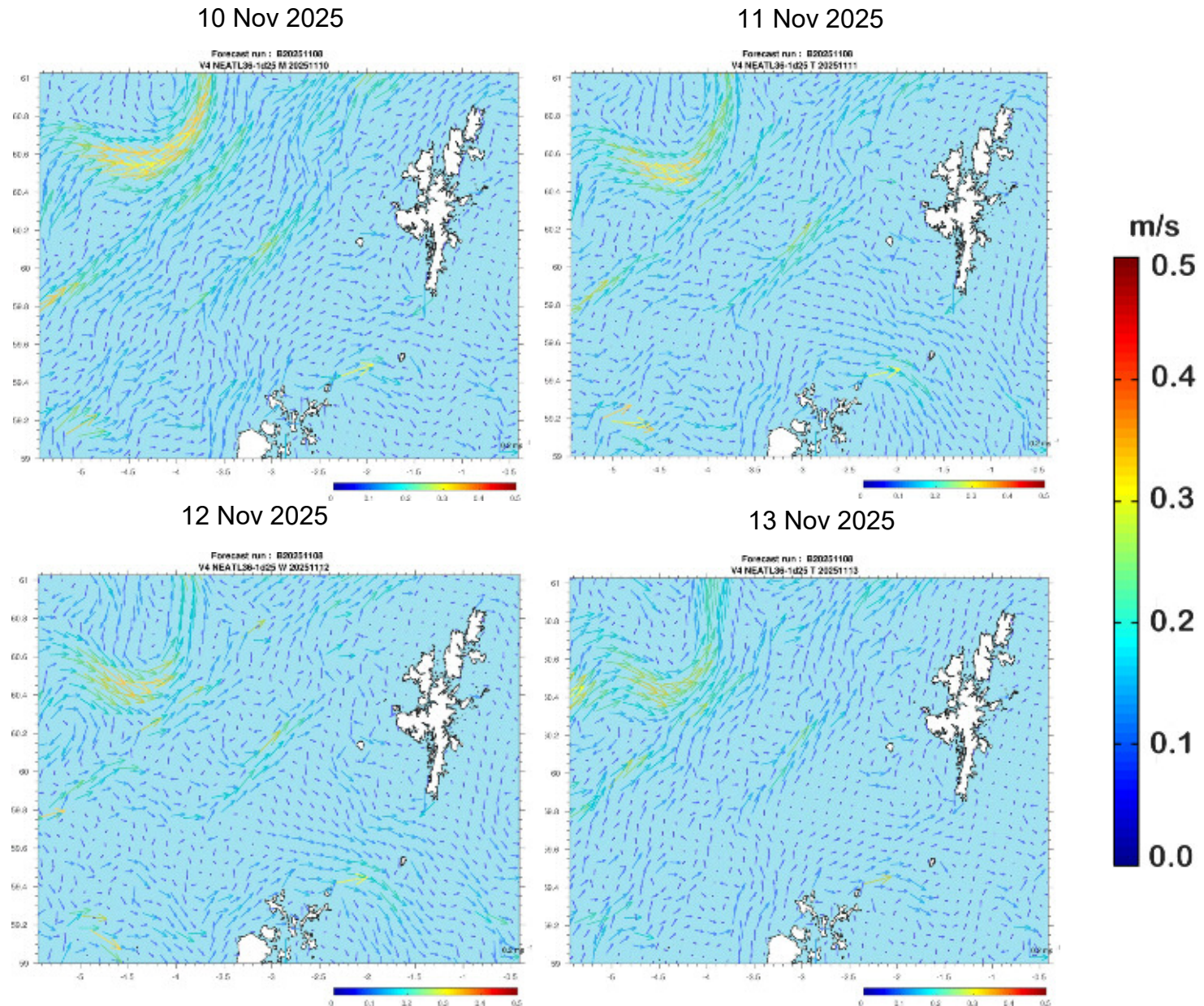
During the summer *Dinophysis* can bloom out at sea and at shelf fronts found off the West of Shetland. Westerly winds can then blow these blooms into shore. Westerly winds may also retain *Dinophysis* cells in Westerly facing voes and inlets where their numbers may increase. Wind for the past week has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

### Status:

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

## Forecasted Sea Surface currents

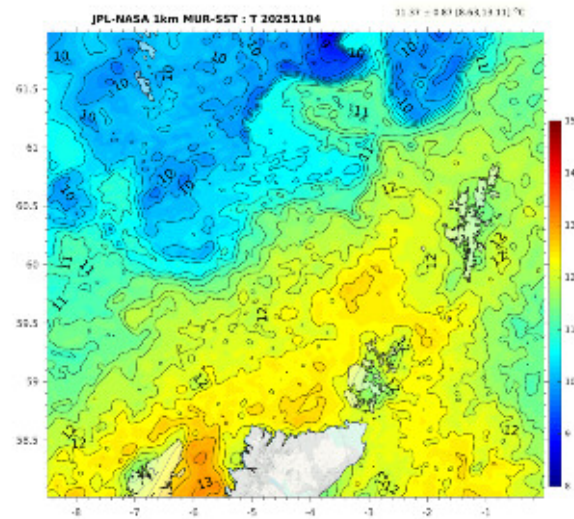
These diagrams show the predicted current directions around Shetland for the next couple of days. Greens to reds indicate stronger currents. In general strong currents run parallel to the deep water channel between the Faroes and Shetland. Problems can arise when these currents turn Eastwards potentially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



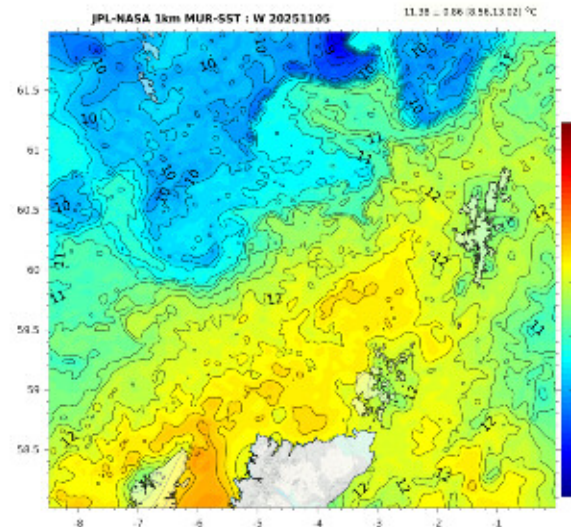
# Shetland Bulletin on the status of harmful & toxic algae Week 45, 3<sup>rd</sup> - 9<sup>th</sup> Nov 2025

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

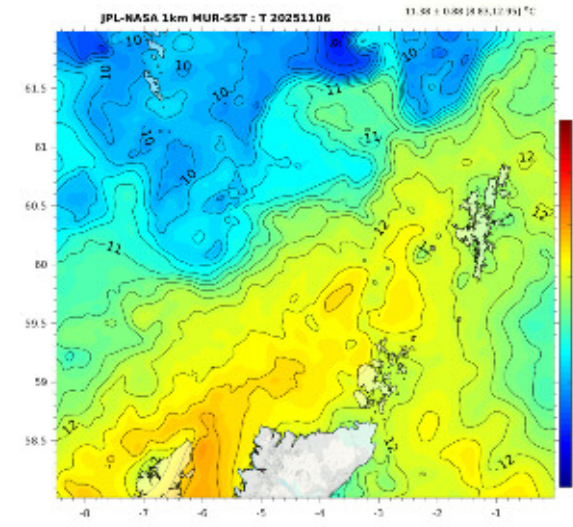
04 Nov 2025



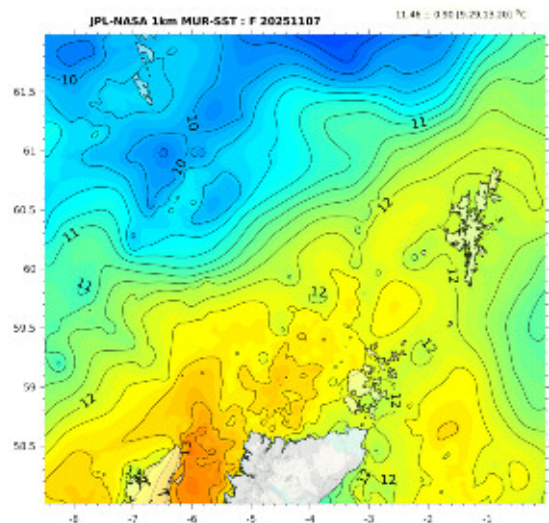
05 Nov 2025



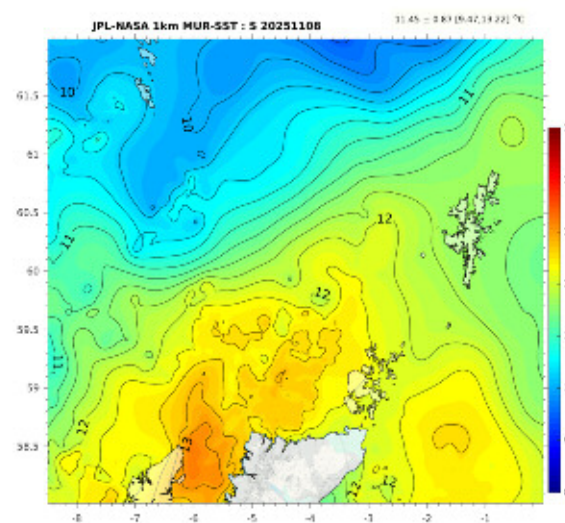
06 Nov 2025



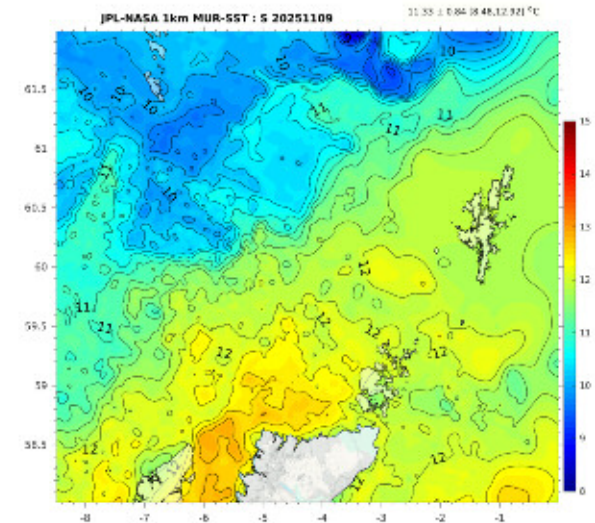
07 Nov 2025



08 Nov 2025



09 Nov 2025



Maps provided courtesy of the Jet Propulsion Laboratory, NASA

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

