Shetland Bulletin on the status of harmful & toxic algae Week 37, 8th - 14th Aug 2025

Biotoxin report:

PSP toxins: Thirteen samples were analysed this week. Toxins were detected in low concentrations in Baltasound mussels.

DSP toxins: Sixteen samples were analysed this week. Toxins were detected above trigger level in Busta Voe Lee. They were detected at warning level in Scarvar Ayre, Sandsound Voe, Wadbister Voe, North Flotta, and Hamar Voe. They were detected in low levels in Stream Sound, Cole Deep, Parkgate, East of Linga, Seggi Bight and Slyde.

ASP toxins: Thirteen samples were analysed this week. Toxins were detected in low concentrations in Inner Site 1.

AZA toxins: Sixteen samples were analysed this week. No toxins were detected.

YTX toxins: Sixteen samples were analysed this week. No toxins were detected.

Harmful algae report:

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

Pseudo-nitzschia delicatissima: Thirteen samples were analysed this week. *P.delicatissima* was detected in low numbers in all sites except North Flotta.

Pseudo-nitzschia seriata: Thirteen samples were analysed this week. *P.seriata* was detected above trigger in Inner Site 1 and Bunya Sand. It was detected in low numbers in all other sites.

Dinophysis: Thirteen samples were analysed this week. *Dinophysis* was detected at trigger level in Scarvar Ayre, Braewick Voe, Parkgate, Sandsound Voe, North Flotta and Busta Voe Lee. It was found in low numbers in Stream Sound, East of Linga, Inner Site 1 and Slyde.

Prorocentrum lima: Thirteen samples were analysed this week. *P. lima* was detected above trigger level in Baltasound Mussels and Scarvar Ayre. It was detected in low numbers in East of Linga, North Flotta, Seggi Bight and Inner Site 1.

Karenia mikimotoi: Thirteen samples were analysed this week. Karenia was detected in low numbers in Inner Site 1.

Shetland: trends and forecast

***Alexandrium*/PSP:** *Alexandrium* wasn't detected this week. Toxins were detected in low concentrations in one site. It is very unlikely that there will be a toxic bloom this week.

***Dinophysis*/DSP:** *Dinophysis* was detected above trigger level in six sites and in low numbers in four others. Toxins were detected above trigger level in one site, at warning level in five and at low levels in six others. We would advise caution.

***Pseudo-nitzschia*/ASP:** *Pseudo-nitzschia delicatissima* was detected in low numbers in twelve sites. *P. seriata* was detected above trigger level in two sites and in low numbers in all others. Toxins were detected in low concentrations in one site. It is 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: High**

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.

SAMS

SeafoodShetland

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

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/#.UY0TkcqTQ6O

Warning/Threshold Levels

Alexandrium (PSP causative)	Warning 20 cells/l Threshold 40 cells/l
Pseudo nitzschia (ASP causative)	Warning: 40,000 cells/l Threshold: 50,000 cells/l
Dinophysis (DSP causative)	Warning : 80 cells/l Threshold:100 cells/l
Prorocentrum lima (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 ug/kg of Okadaic acid equivalents

YTXs: 3.75 milligram of yessotoxin equivalent/kilogram

AZAs: 160 micrograms of azaspiracids equivalents/kilogram

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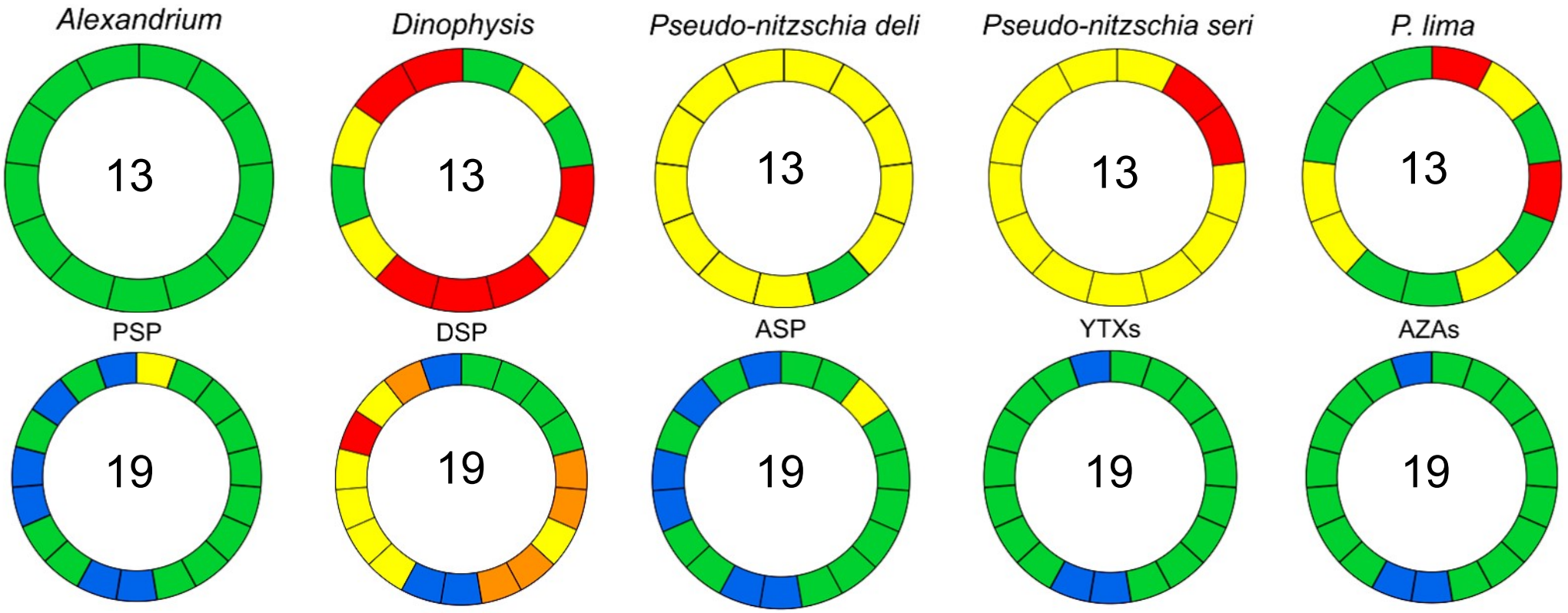
Status of biotoxins & harmful algae present in Shetland



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
Alexandrium	<20 cells/l	n/a	20 cells/l	≥ 40 cells/l	Not sampled
Dinophysis	<20 cells/l	20 - 79 cells/l	80 - 99 cells/l	≥100 cells/l	Not sampled
Pseudo nitzschia	<20 cells/l	20 - 39,999 cells/l	40,000 - 49,999 cells/l	≥50,000 cells/l	Not sampled
Prorocentrum lima	<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

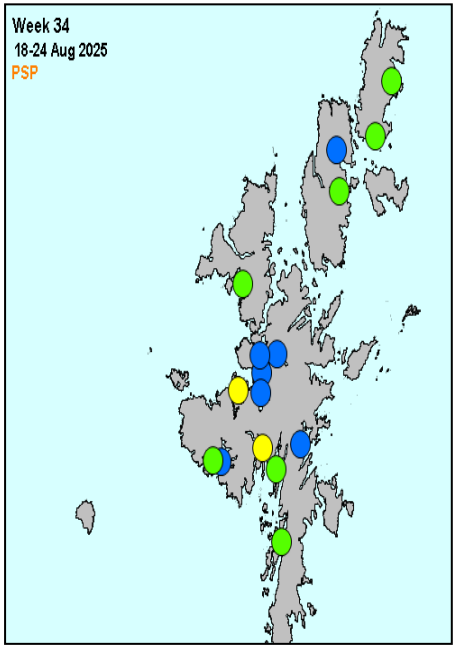
Shetland Bulletin on the status of harmful & toxic algae Week 37, 8th - 14th Aug 2025

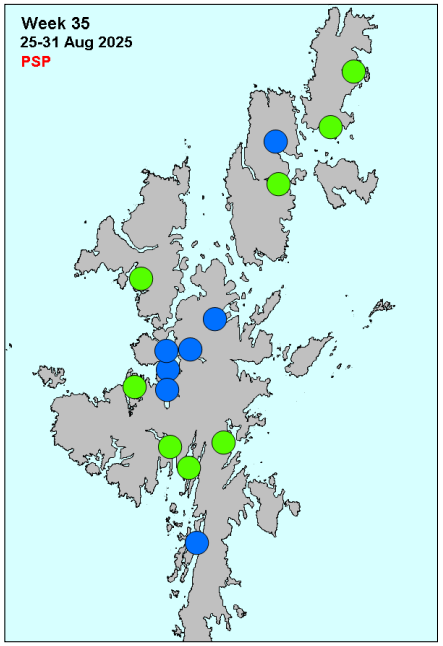
Paralytic shellfish poisoning toxins & causative phytoplankton

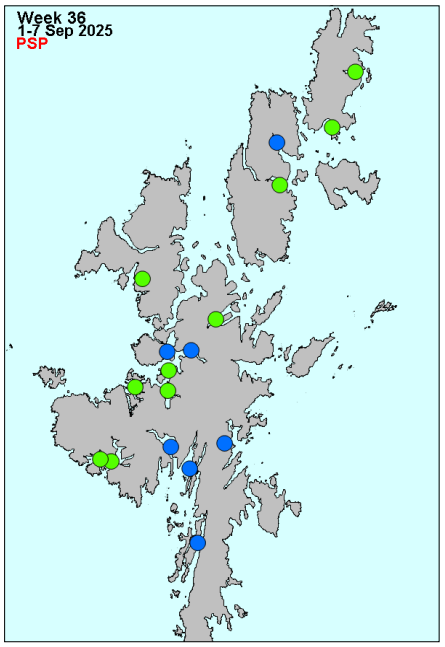
PSP

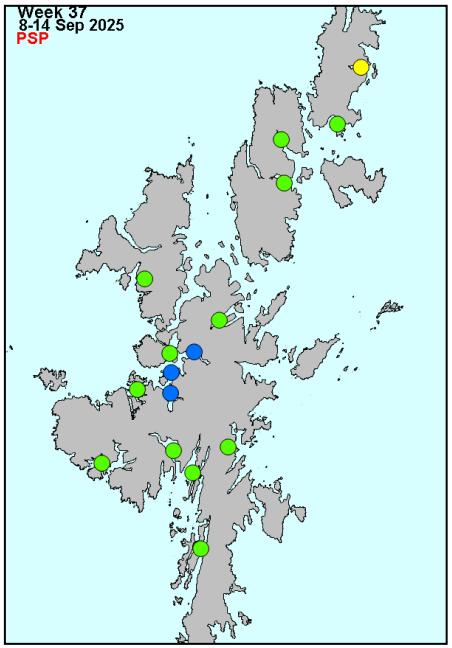
µg STX eq/kg

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





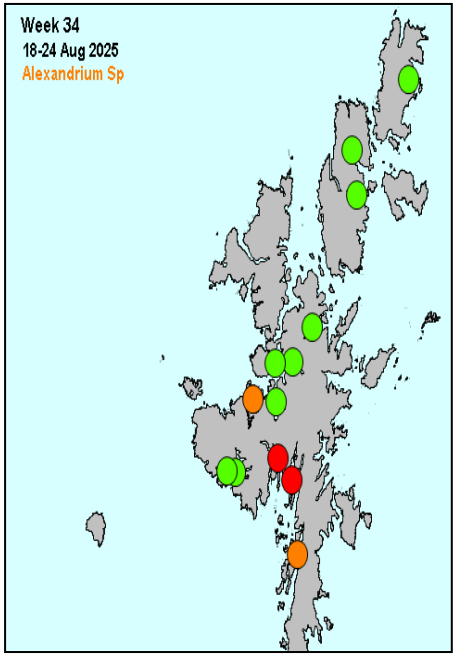


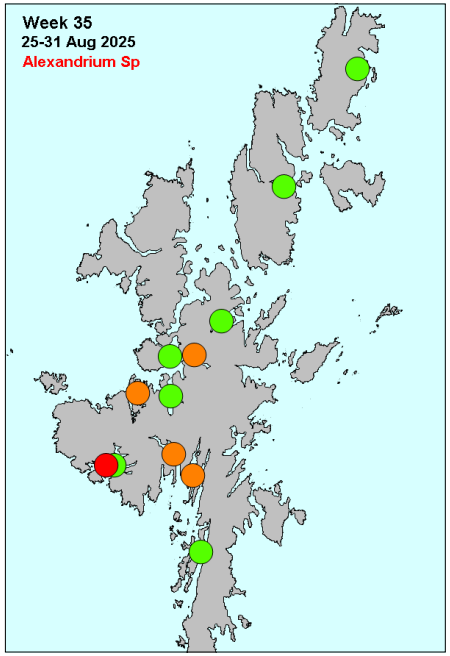


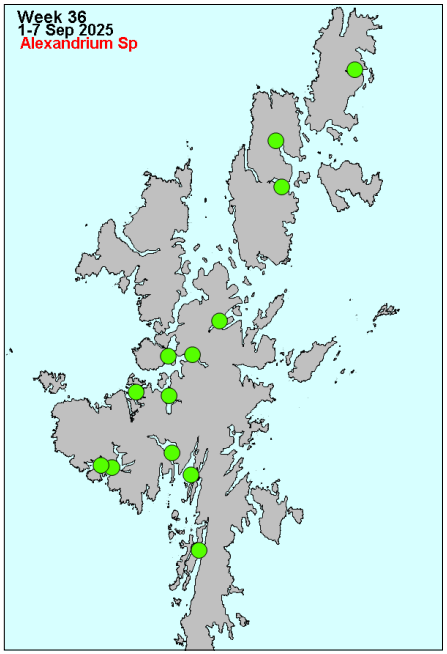
Alexandrium Sp.

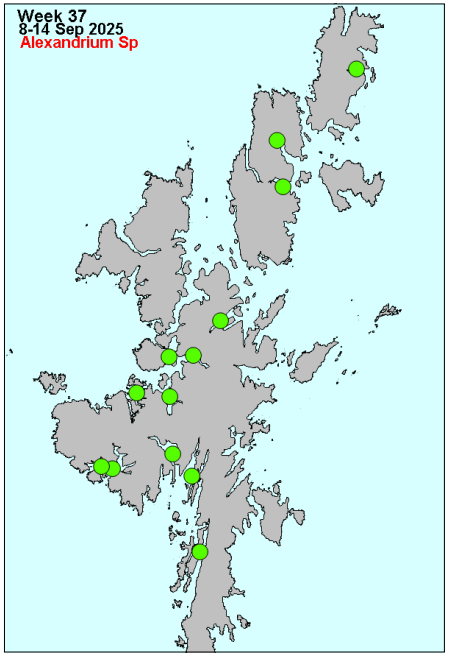
cells\l

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









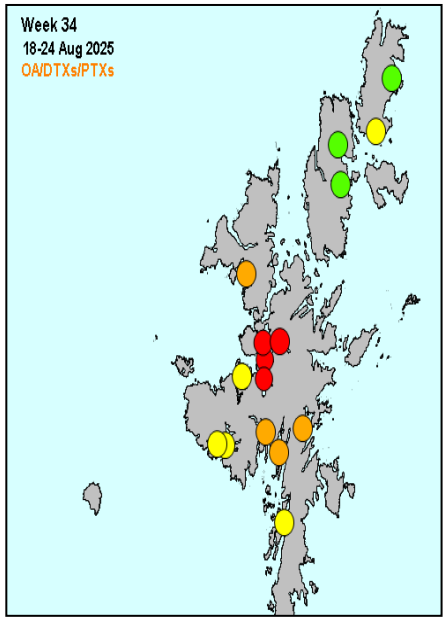
Shetland Bulletin on the status of harmful & toxic algae Week 37, 8th - 14th Aug 2025

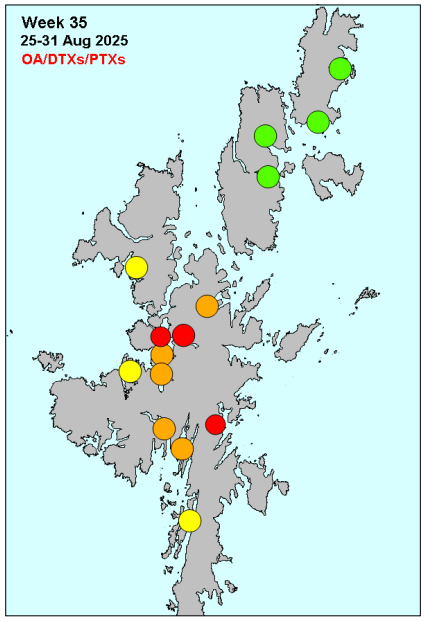
Diarrhetic shellfish poisoning toxins & causative phytoplankton

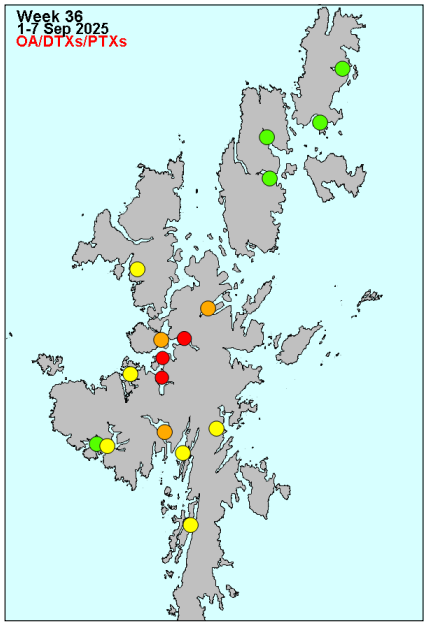
OA/DTXs/PTXs

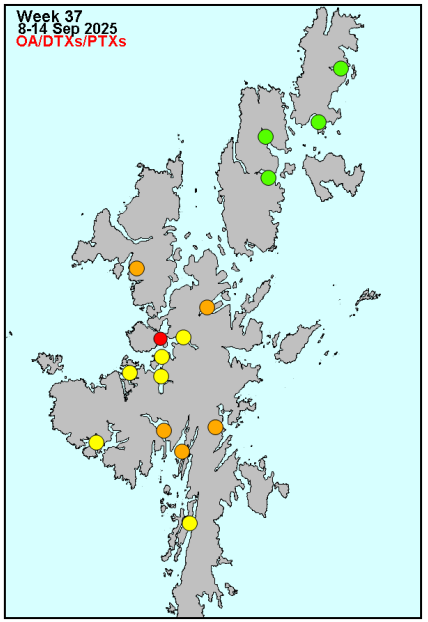
µg OA eq/kg

- Not Analyzed
- 0
- 0-80
- 80-160
- 160-500
- 500-1,000
- 1,000-2,000
- 2,000-5,000
- >=5,000





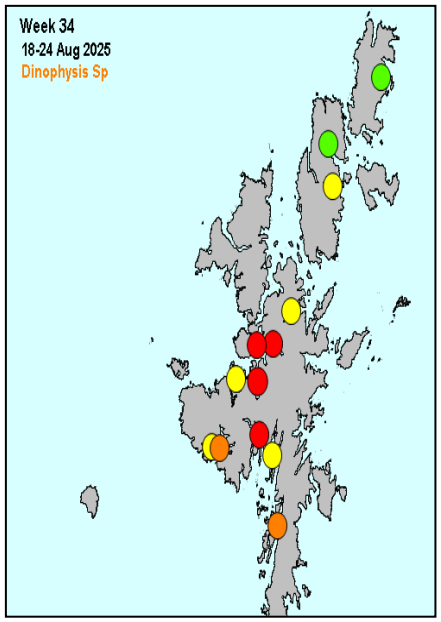


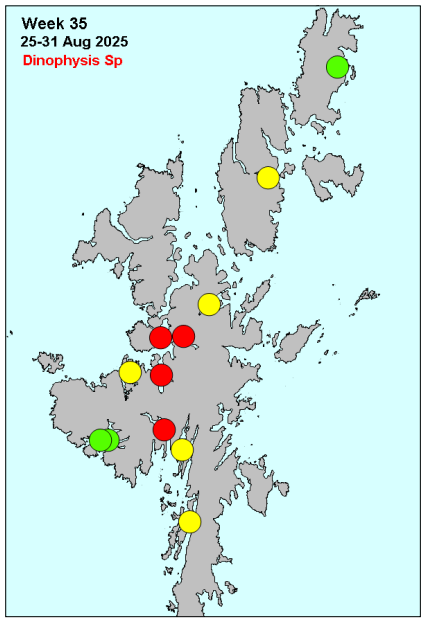


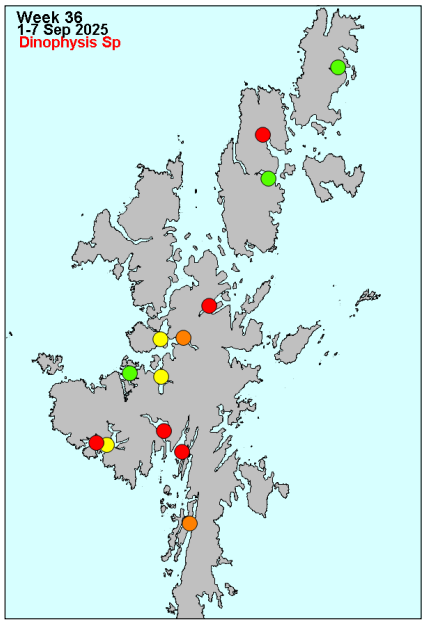
Dinophysis Sp.

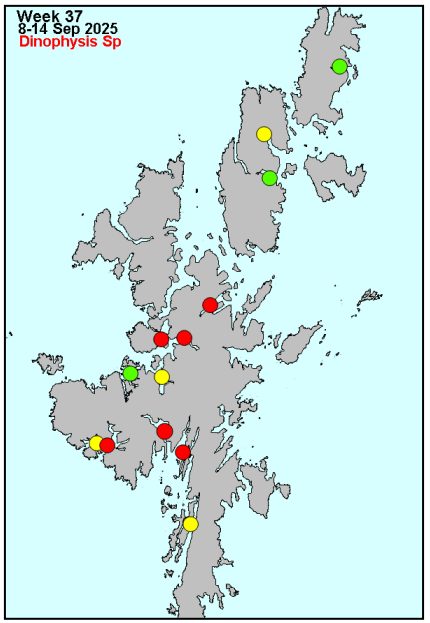
cells\l

- 0
- 0-80
- 80-100
- 100-400
- 400-1,000
- 1,000-2,000
- 2,000-5,000
- >=5,000









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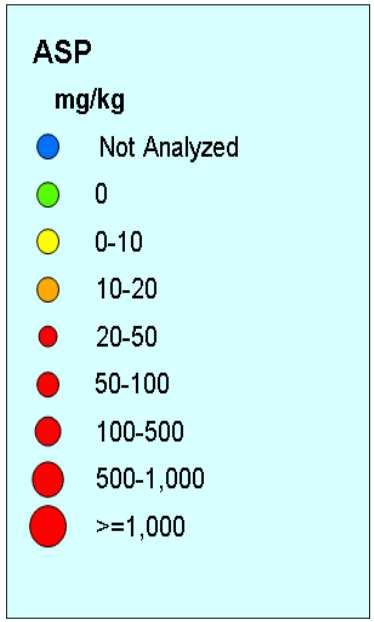
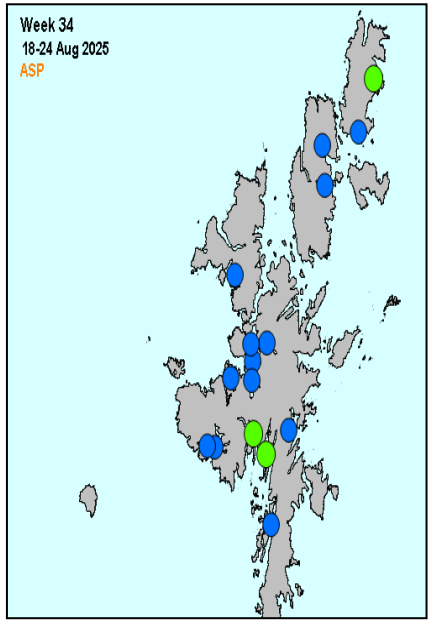
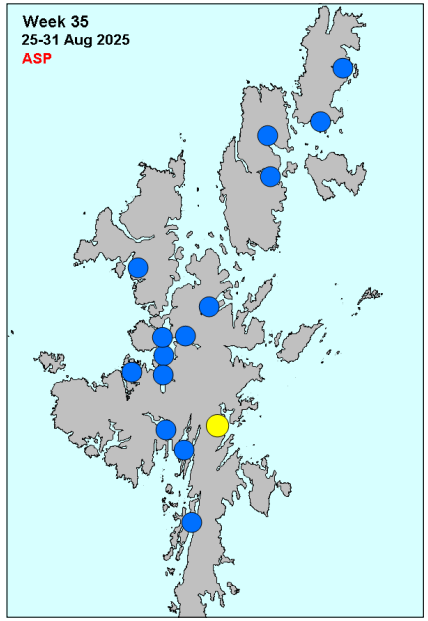
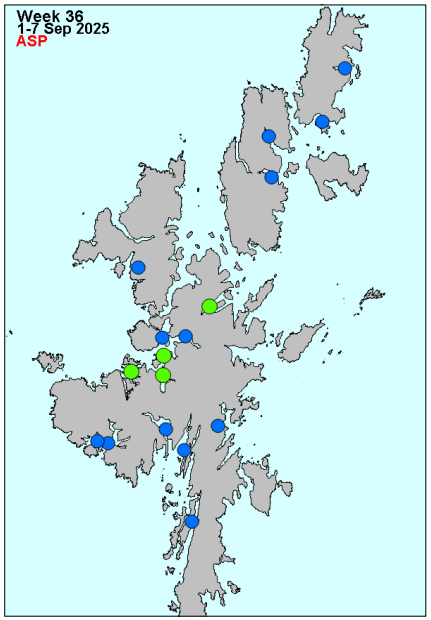
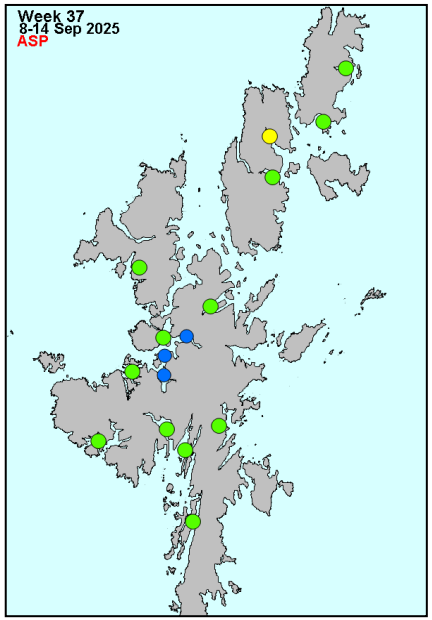
Amnesic Shellfish Poisoning & causative phytoplankton

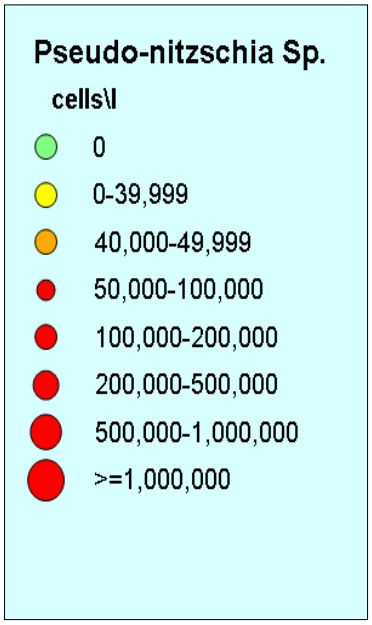


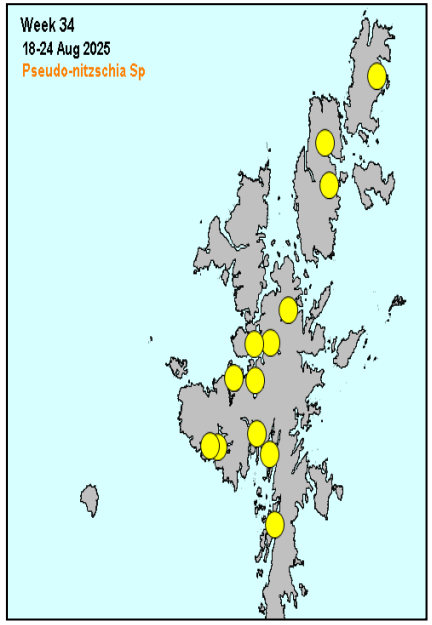


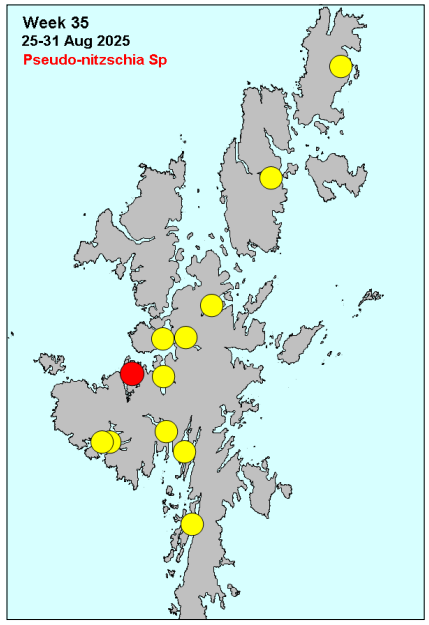


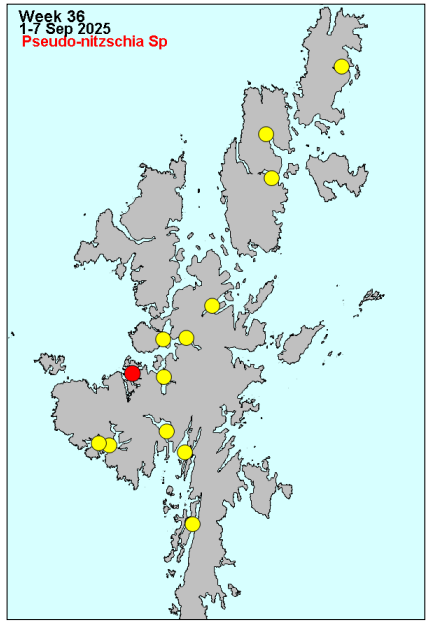


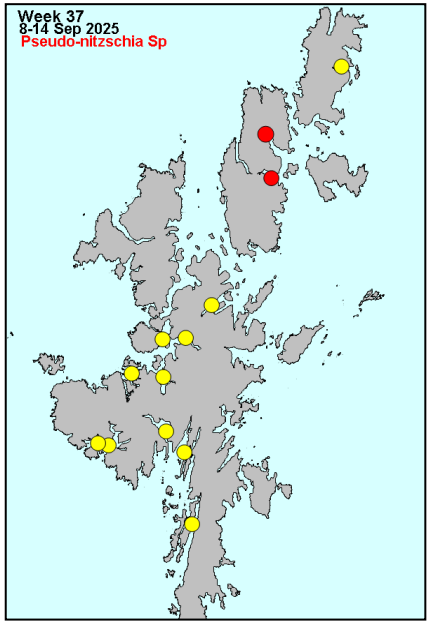












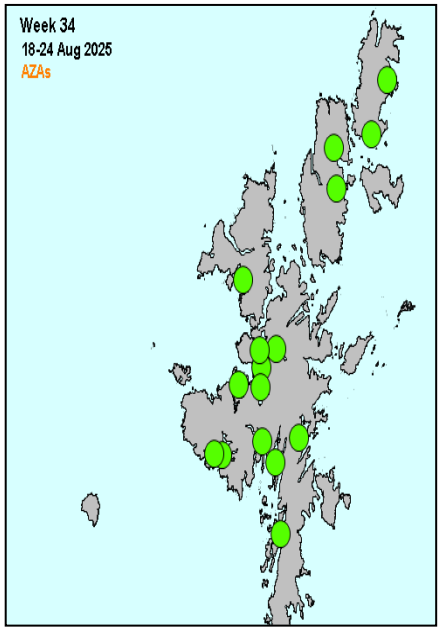
Shetland Bulletin on the status of harmful & toxic algae Week 37, 8th - 14th Aug 2025

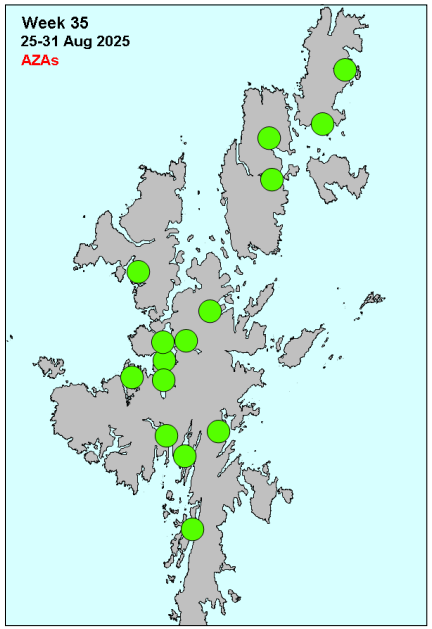
Azaspiracid & Yessotoxin shellfish poisoning toxins

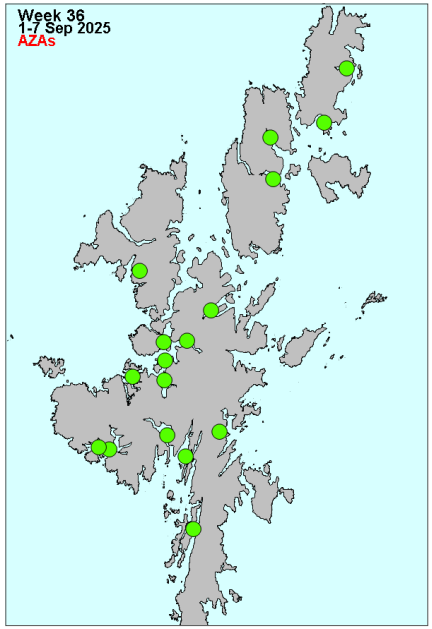
AZAs

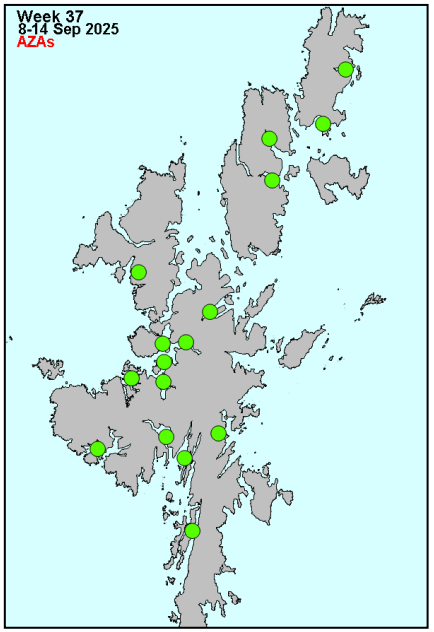
µg AZA1 eq/kg

- Not Analyzed
- 0
- 0-100
- 100-160
- 160-500
- 500-1,000
- 1,000-2,000
- 2,000-5,000
- >=5,000





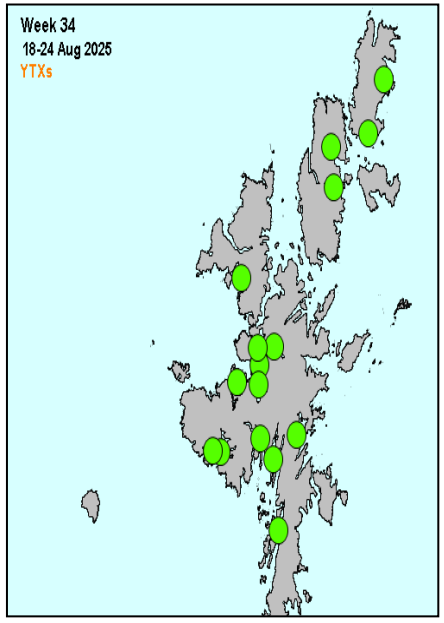


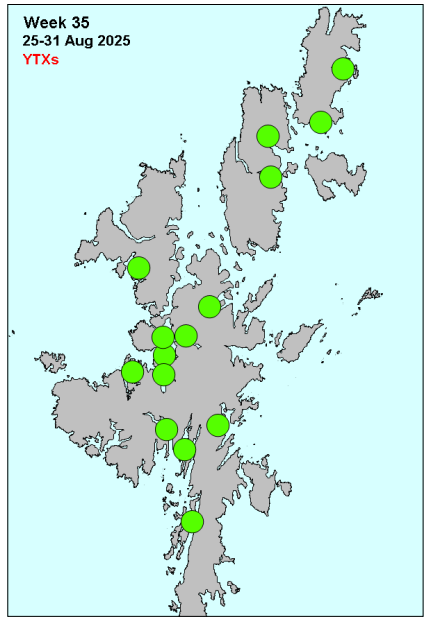


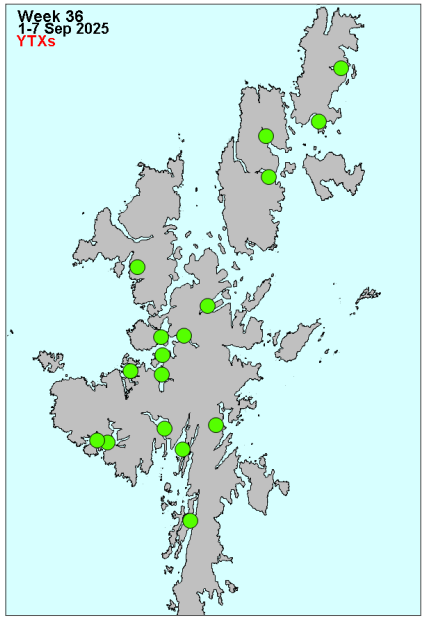
YTXs

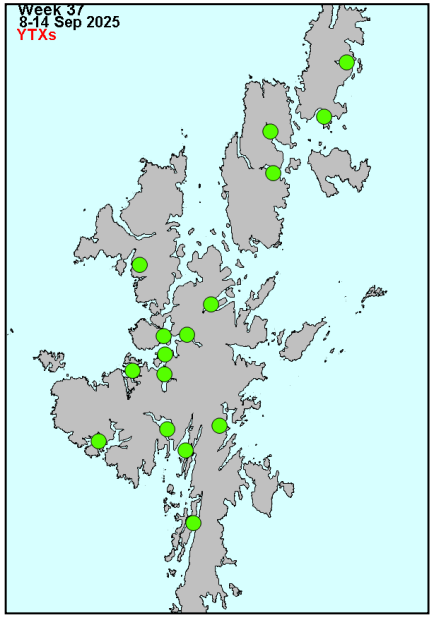
mg YTX eq/kg

- Not Analysed
- 0
- 0-1.4
- 1.5-3.74
- >=3.75



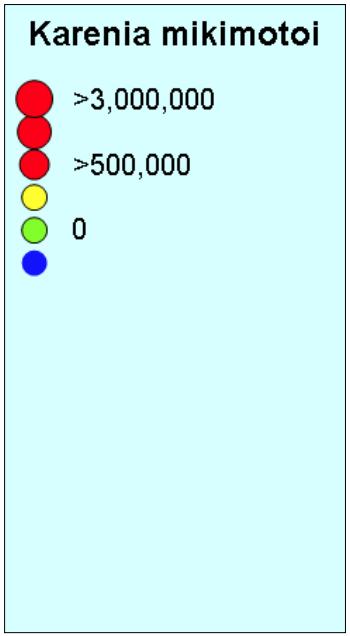


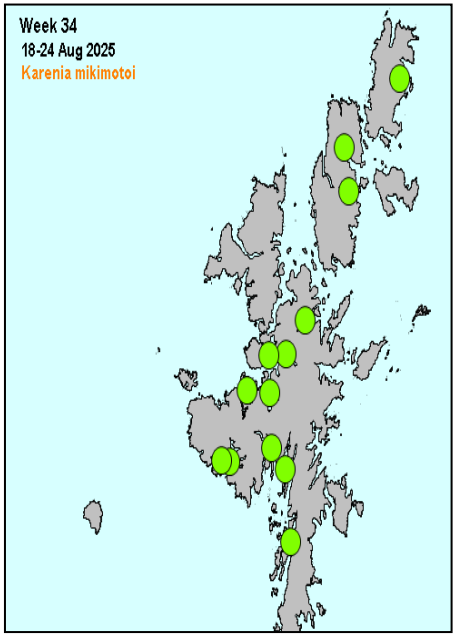


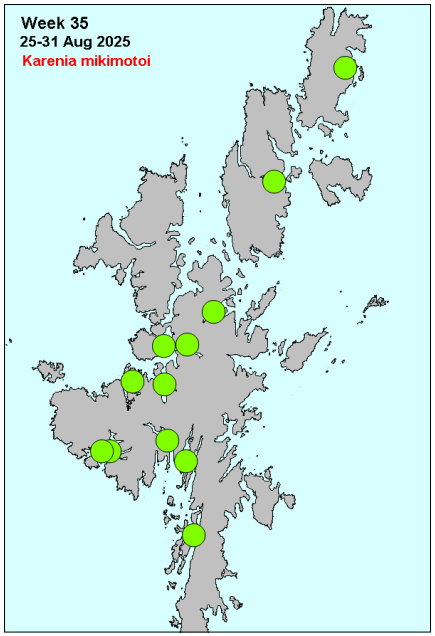


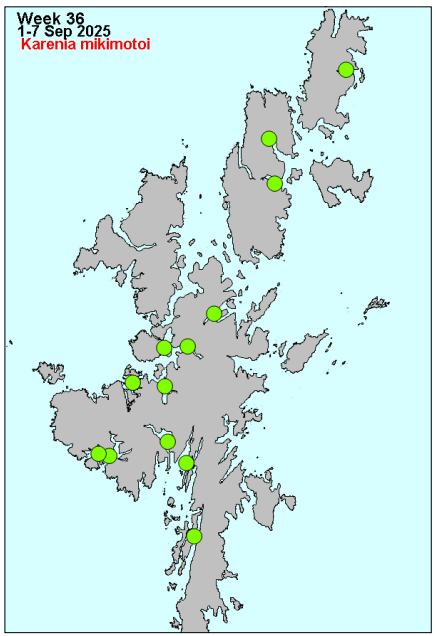
Shetland Bulletin on the status of harmful & toxic algae Week 37, 8th - 14th Aug 2025

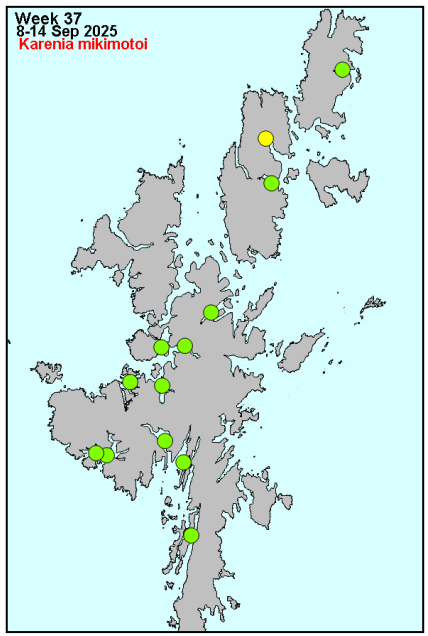
Karenia mikimotoi











Chain forming Phytoplankton

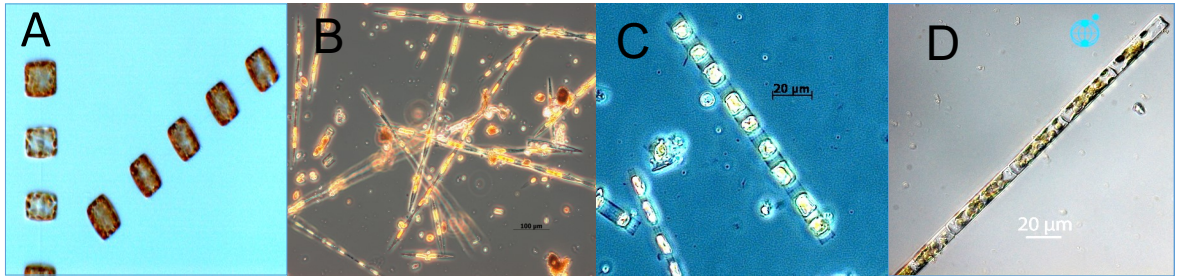
High densities of chain forming diatoms including, but not limited to the genus, *Chaetoceros, Skeletonema, Leptocylindrus , Rhizosolenia, Thalassiosira, Corethron* and *Pseudo-nitzschia,* the centric species *Coscinodiscus wailesii,* and species with long spines such as *Ceratium (Tripos)* can cause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

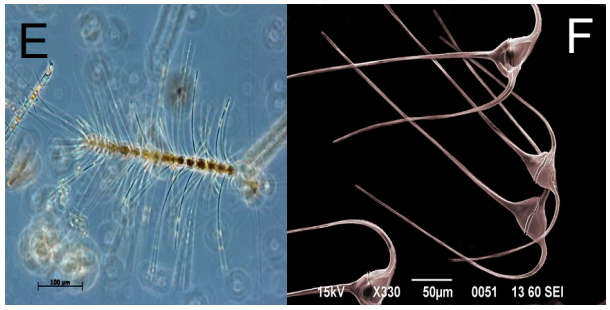
Status

Thirteen samples were analysed this week, *Karenia* was detected in low numbers in Inner Site 1.

The IFCB at Cole Deep is detecting mainly *Lauderia and Leptocylindrus.* The one at Scalloway is down for maintenance.

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





A - *Thalassiosira sp.*

B - *Pseudo-nitzschia sp.*

C - *Skeletonema sp.*

D - *Leptocylindrus sp.*

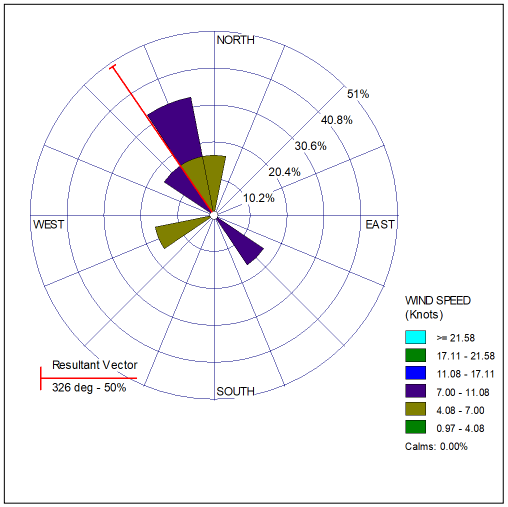
E - Chaetoceros sp.

F—*Ceratium/Tripos* sp.

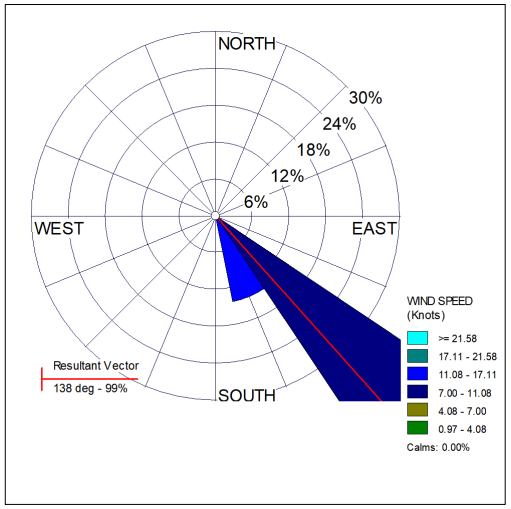
Shetland Bulletin on the status of harmful & toxic algae Week 37, 8th - 14th Aug 2025

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

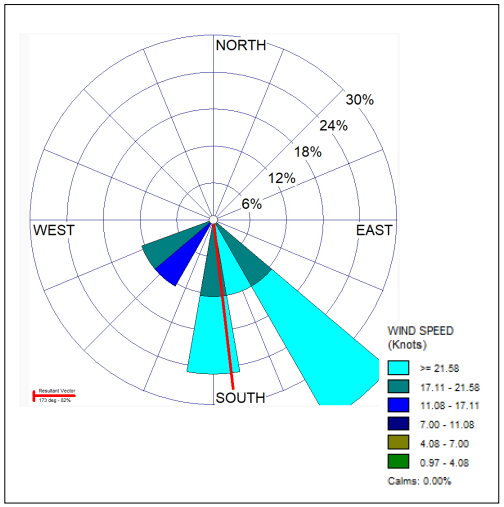
Week 34



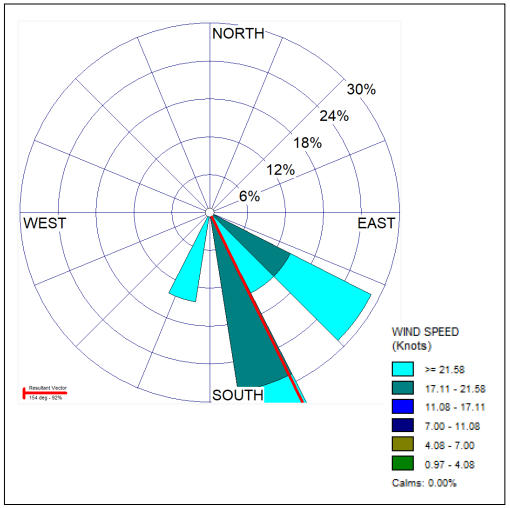
Week 35



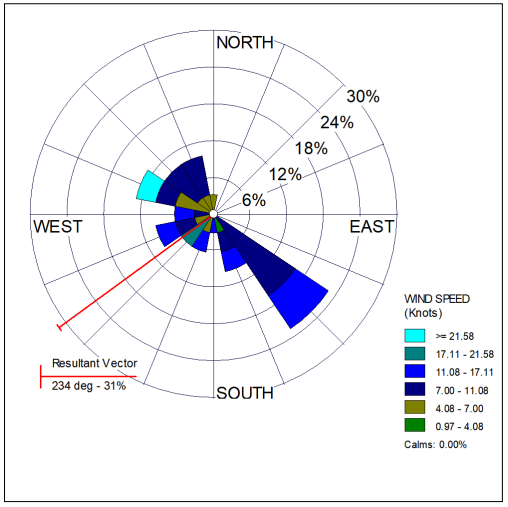
Week 36



Week 37



August



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.

Predictions:

The risk of wind blown *Dinophysis* blooms in Shetland is **low/moderate** 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. It is unlikely that there will be an advected bloom of *Dinophysis* in the coming week.

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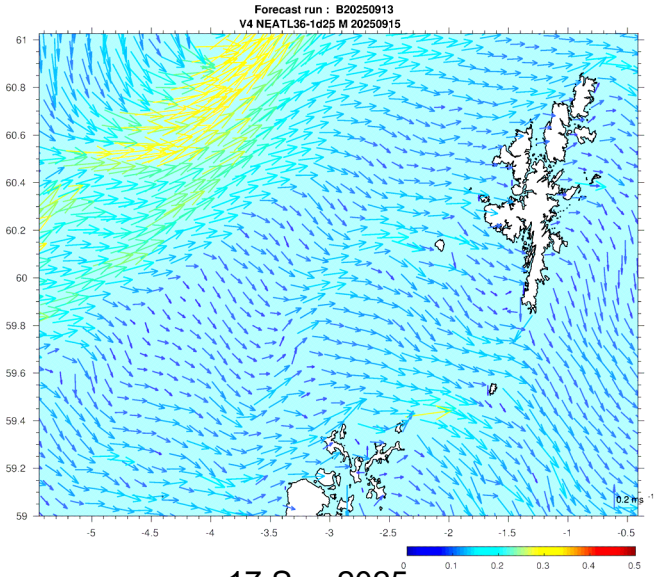
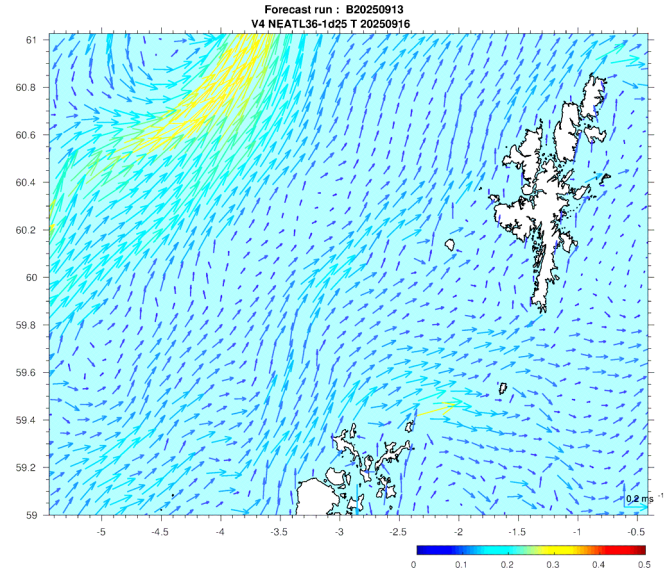
Forecasted Sea Surface currents

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 East-wards potentially carrying *Dinophysis* and *Karenia mikimotoi* blooms, from the shelf edge, into shore.

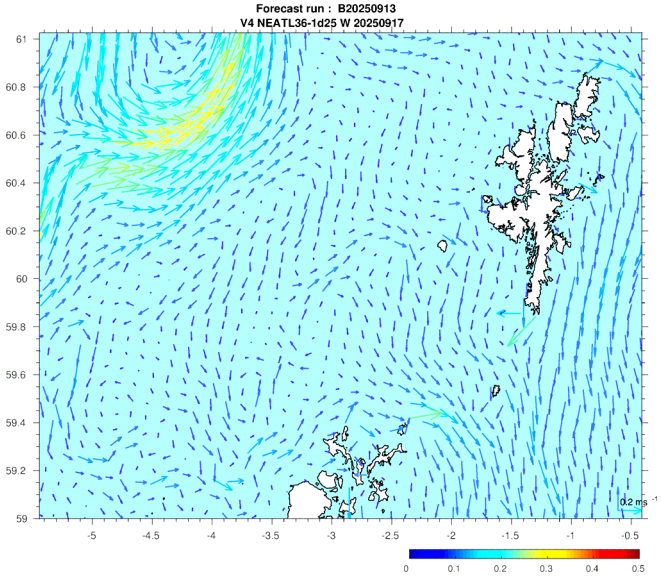
15 Sep 2025



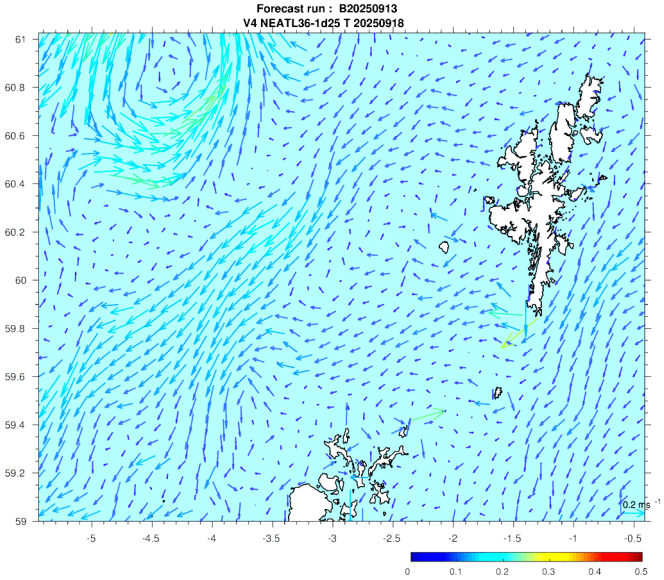
16 Sep 2025

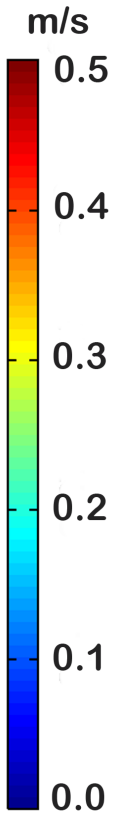


17 Sep 2025



18 Sep 2025





Forecast provided by the model-NEATL-PHY-1/36°-AF-D-PGS (IBI36QV4R1-PGS) courtesy of Mercator.

Mercator Ocean
Ocean Forecasters

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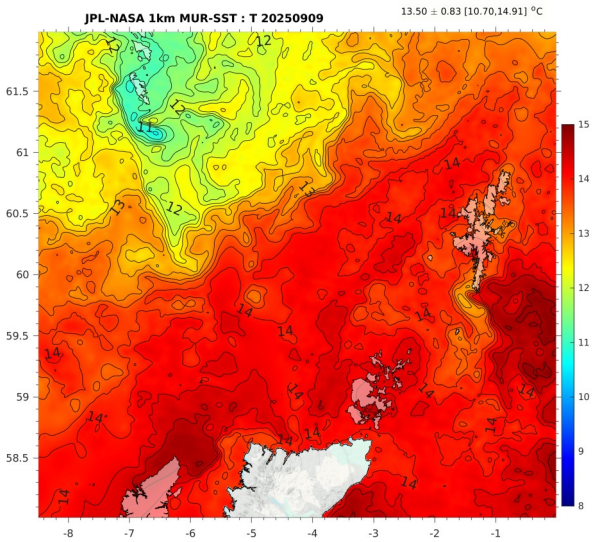
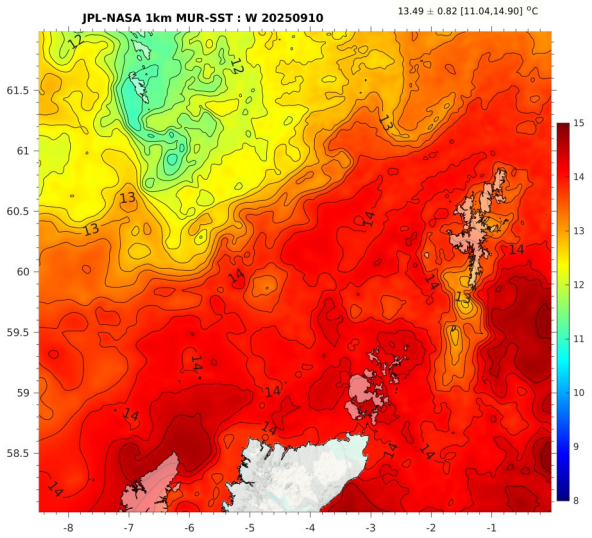
Sea Surface temperature (°C) in preceding 6 days in the Shetland Islands

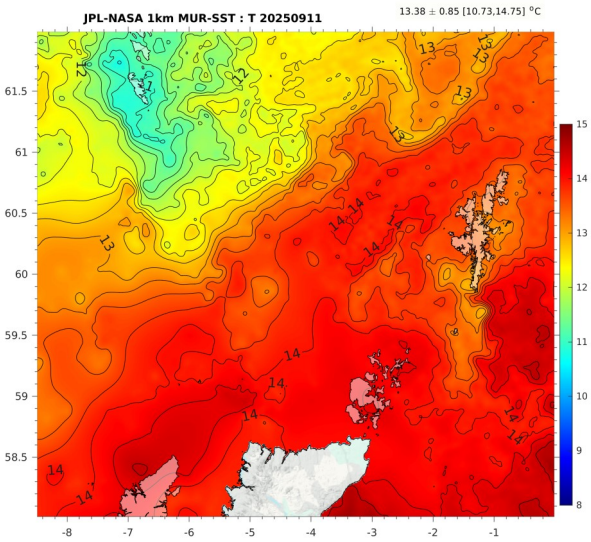
9 Sep 2025



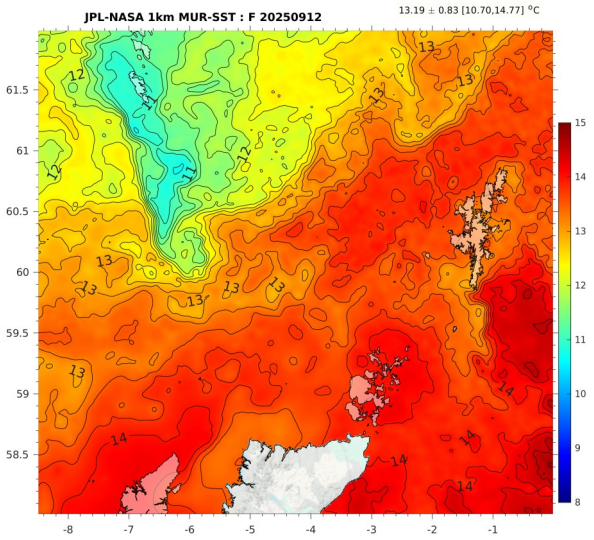
10 Sep 2025



11 Sep 2025



12 Sep 2025



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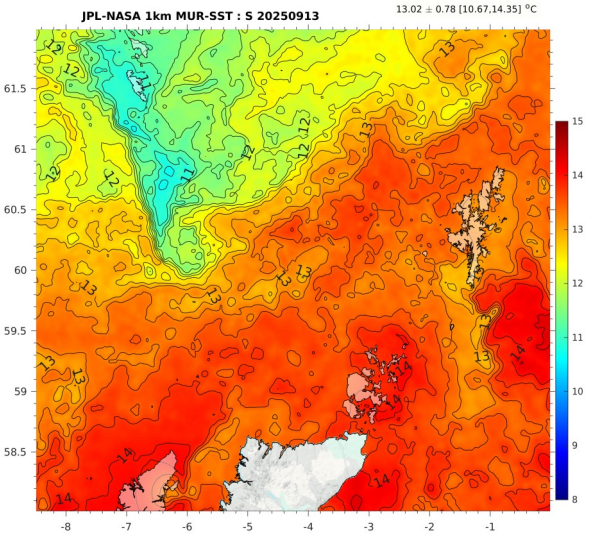
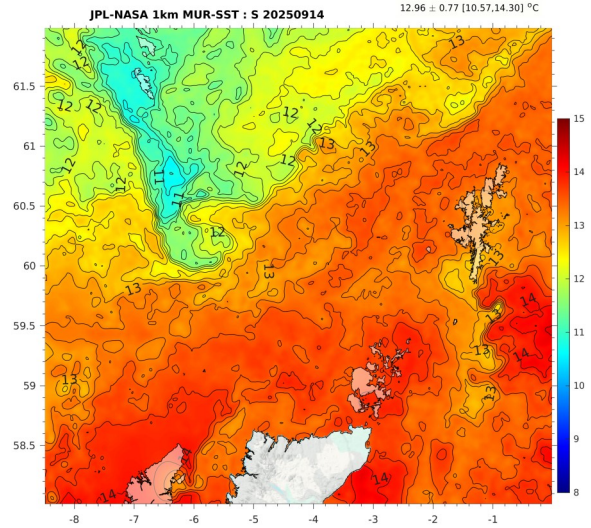


14 Sep 2025



Maps provided courtesy of the Jet Propulsion Laboratory, NASA

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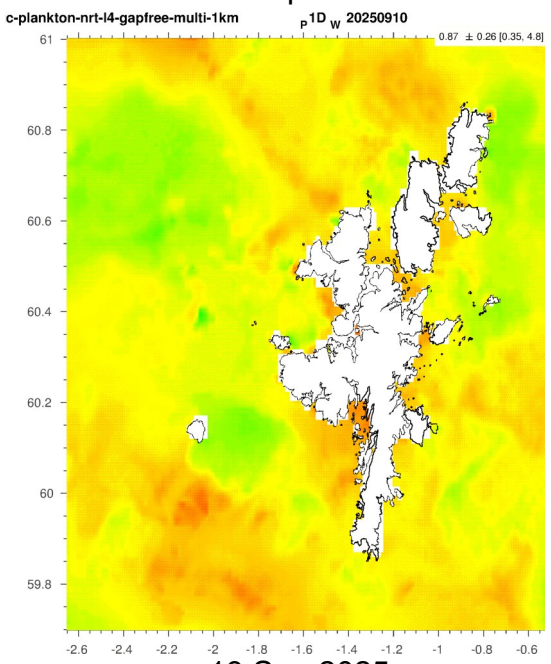
Chlorophyll concentrations (mg/m^3)

10 Sep 2025



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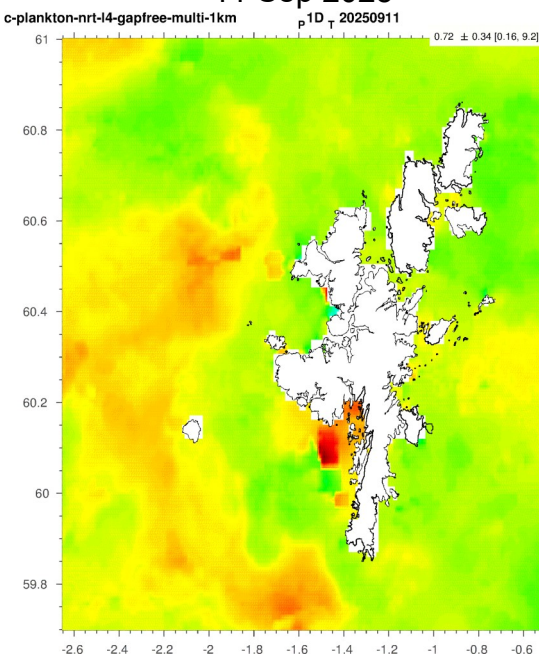
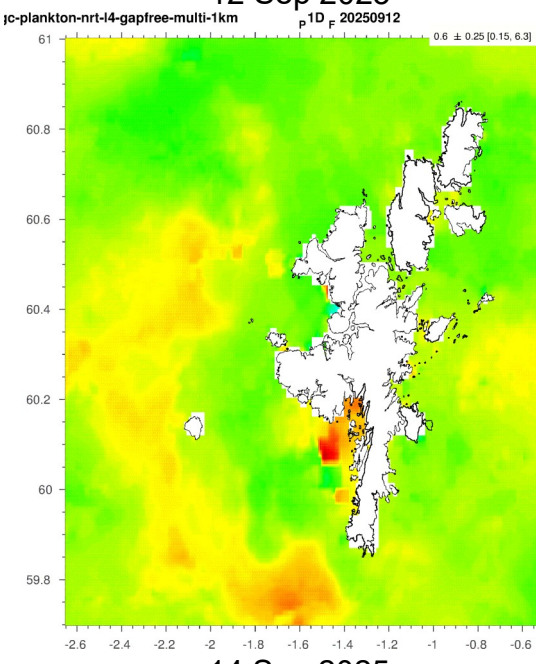


12 Sep 2025



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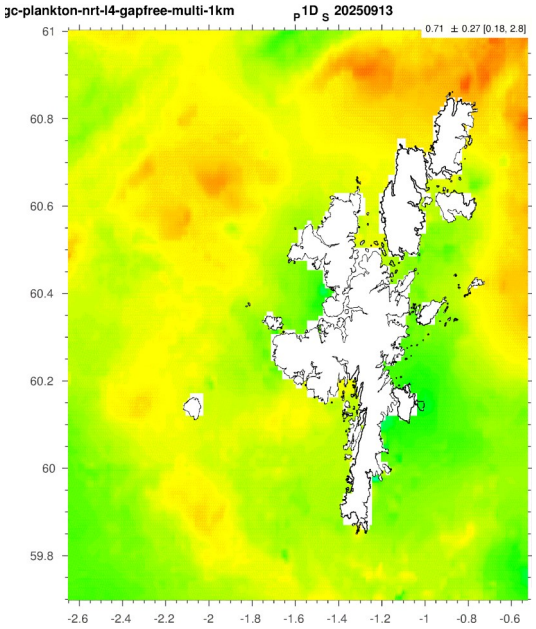

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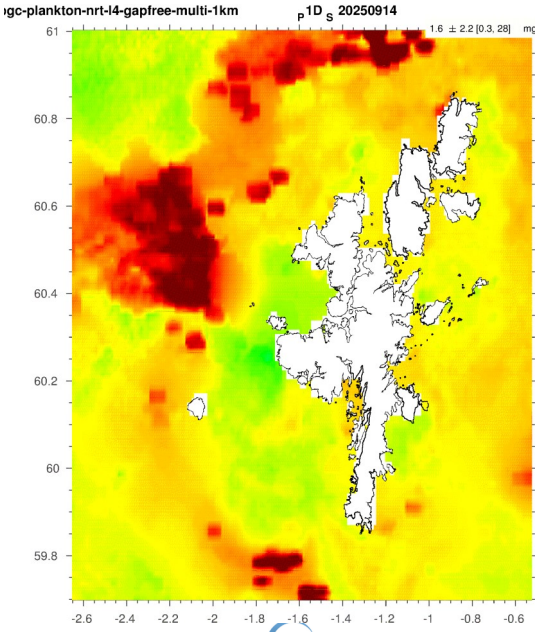

These diagrams show the mass concentration of chlorophyll-a around Shetland. Yellows to reds indicate higher concentrations. However it should be noted that turbidity and the presence of organic material deposited into near shore areas can give false positive readings making the concentrations appear 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.

Images provided by the Ocean Colour atl-chl-L-L4 NRT-Observations-009-037dataset, courtesy of Copernicus.

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Wind and rain forecast for next three days in Shetland