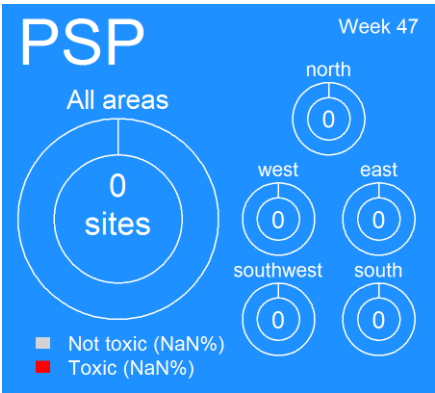
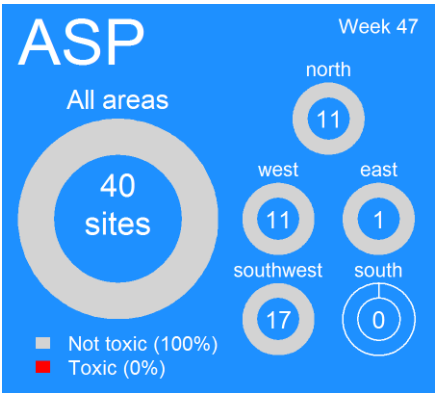
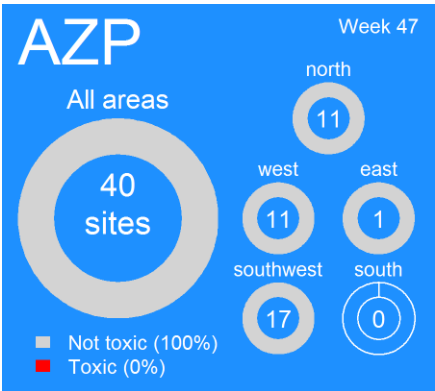
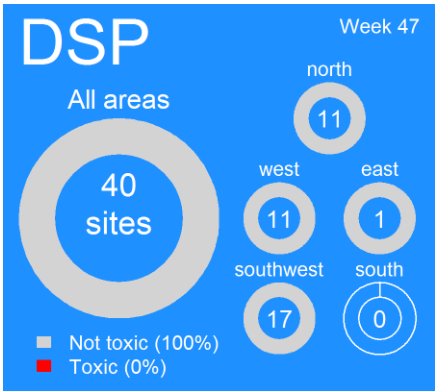


Ireland: Current Conditions

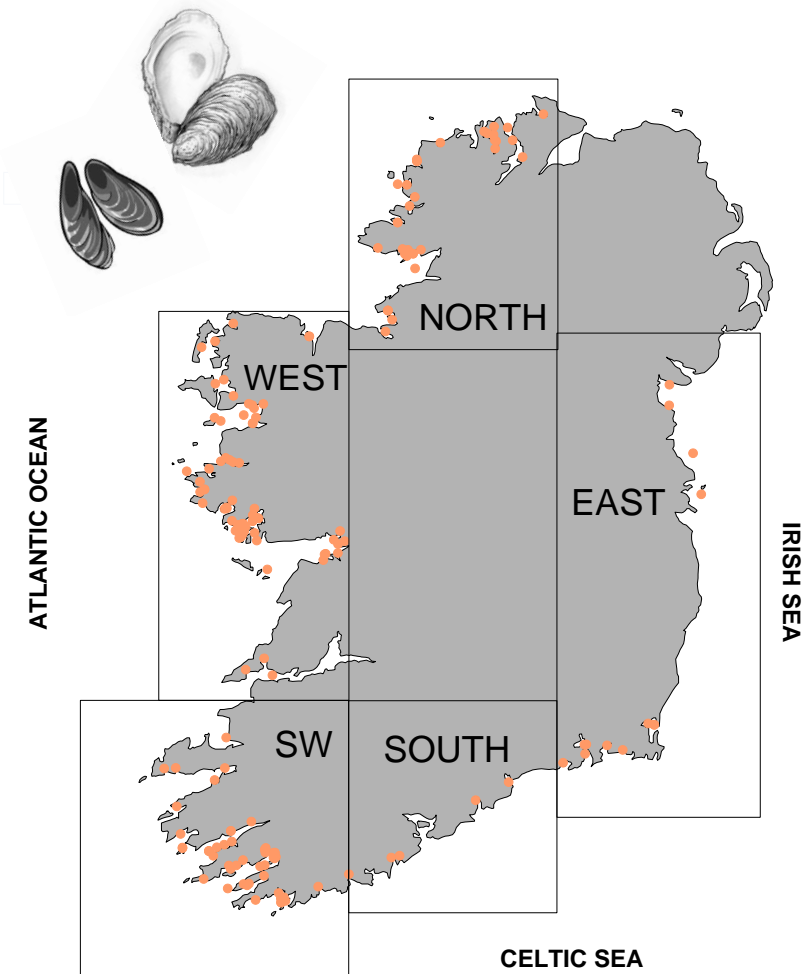
Shellfish biotoxin report (last week)



EU Regulatory Limit:
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Toxin groups
ASP = **A**mnestic **S**hellfish **P**oisoning; AZP = **AZ**spiracid **P**oisoning;
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning

National Monitoring Programme Designated Sampling Sites



● = aquaculture site

Ireland: Predictions

Prediction for this week:

ASP event: Low

AZP event: Medium

DSP event: Low

PSP event: Low

Why do we think this?

ASP: Issues related to toxins from this species are not expected at this time of year. While low cell levels of both *Pseudo-nitzschia* groups continue to be observed around the coast, corresponding ASP biotoxins have not been observed.

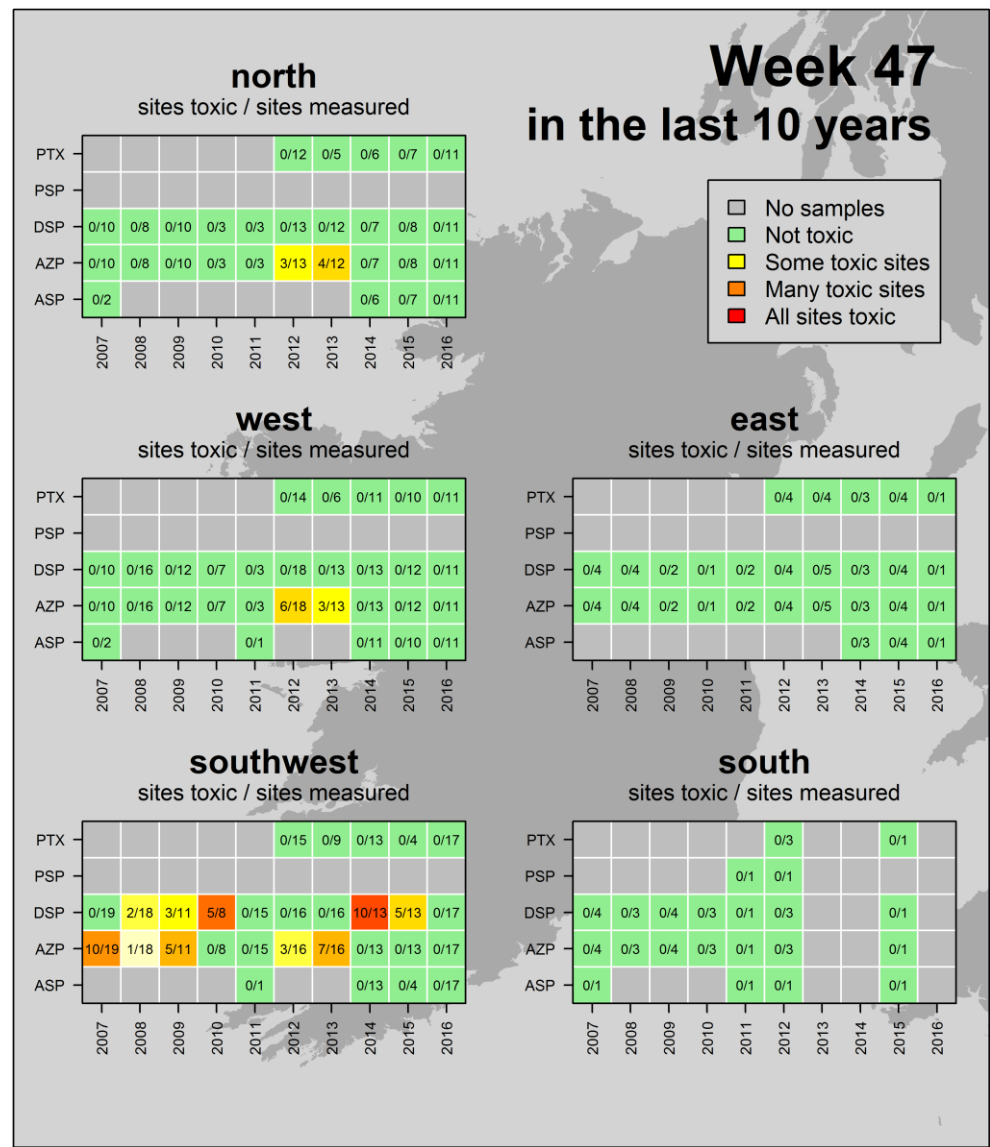
AZP: This is considered still to be a risk period for AZP. Fluctuating levels of *Azadinium* spp. continue to be observed around the coast. All sites still remain below regulatory limits. Caution is still advised as this species can 'come in rapidly'.

DSP: Historically this time period is towards the end of the risk period. DSP is now below regulatory limits in all sites. It would be unlikely to get a toxic event at this time of year.

PSP: A toxic event is not expected at this time of year.

Ireland: Historic Conditions

A look back at how last weeks biotoxin results compares to other years



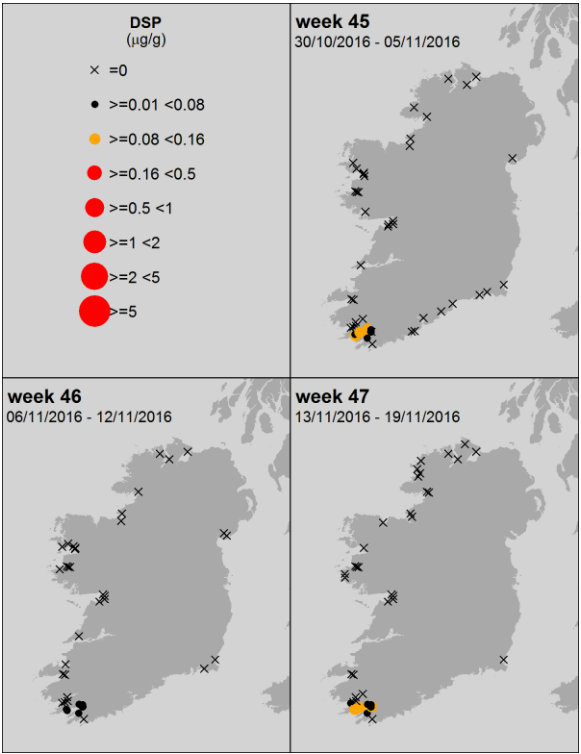
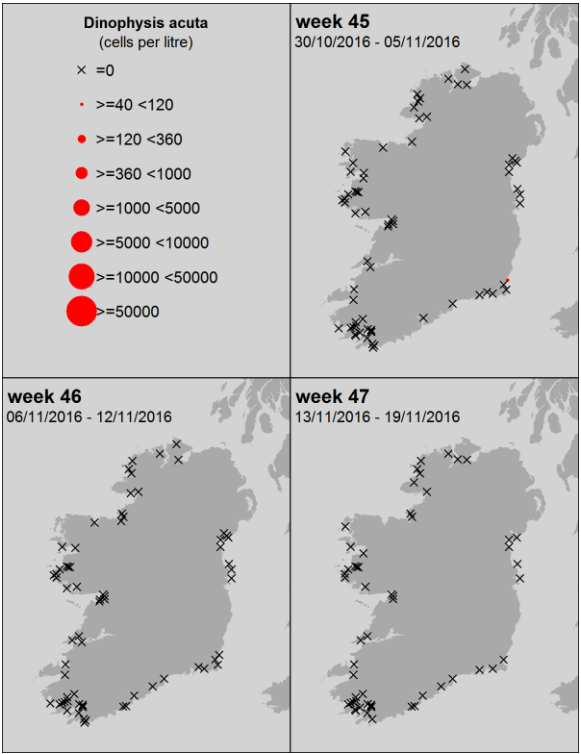
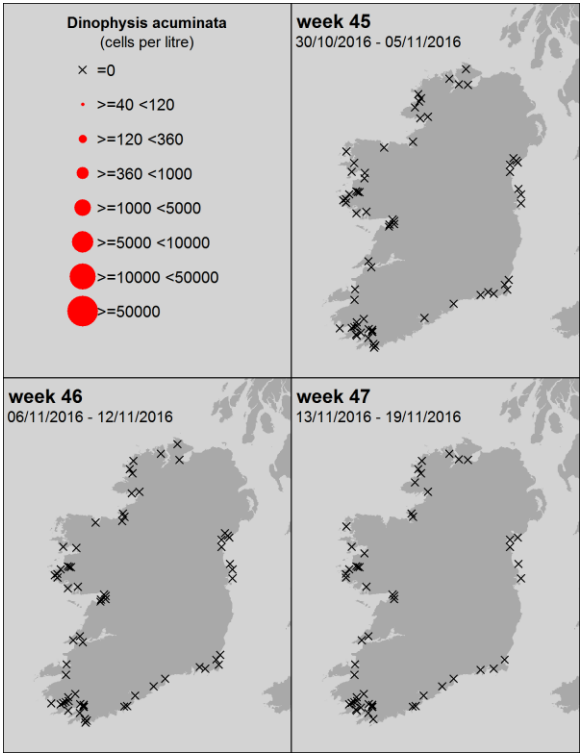
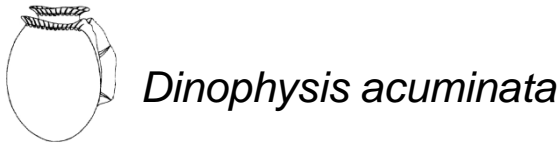
Ireland HISTORIC TRENDS

Likely times for Shellfish Toxicity: does not include winter carry over of biotoxins

- ASP events: mid-March to early May
- AZP events: April to December
- DSP events: May to December
- PSP events: June to mid-July and end September; only in Cork Harbour



Ireland: Last 3 weeks of available National Monitoring Programme data



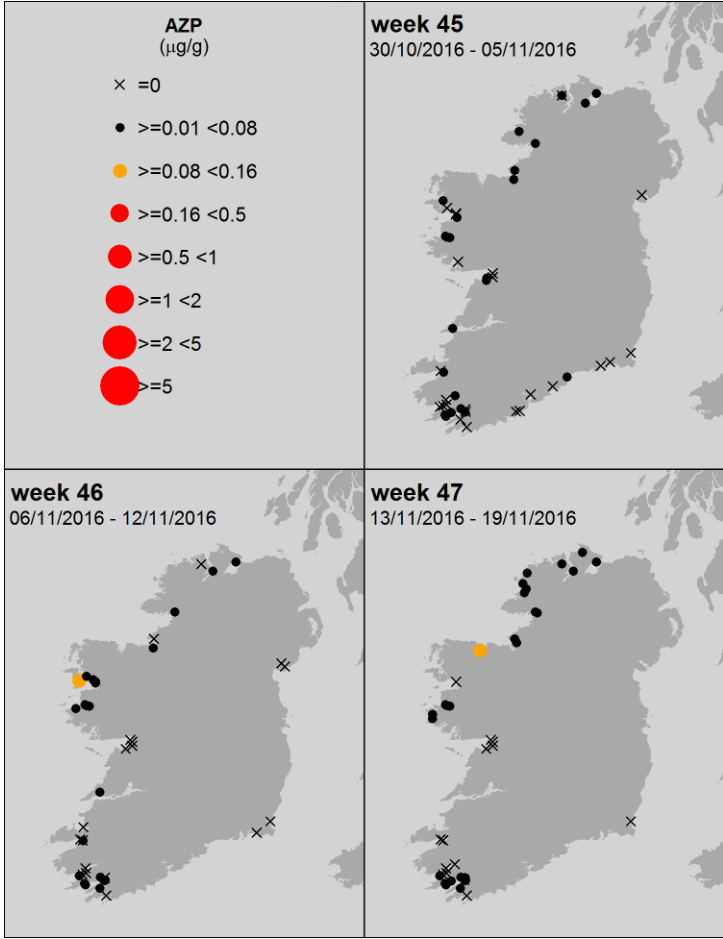
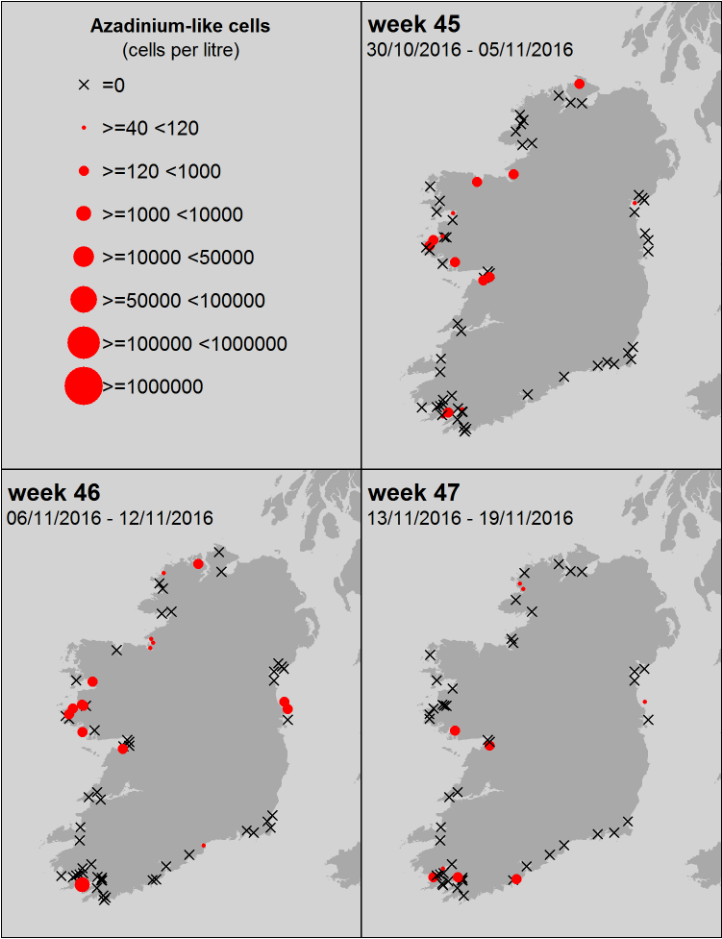
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

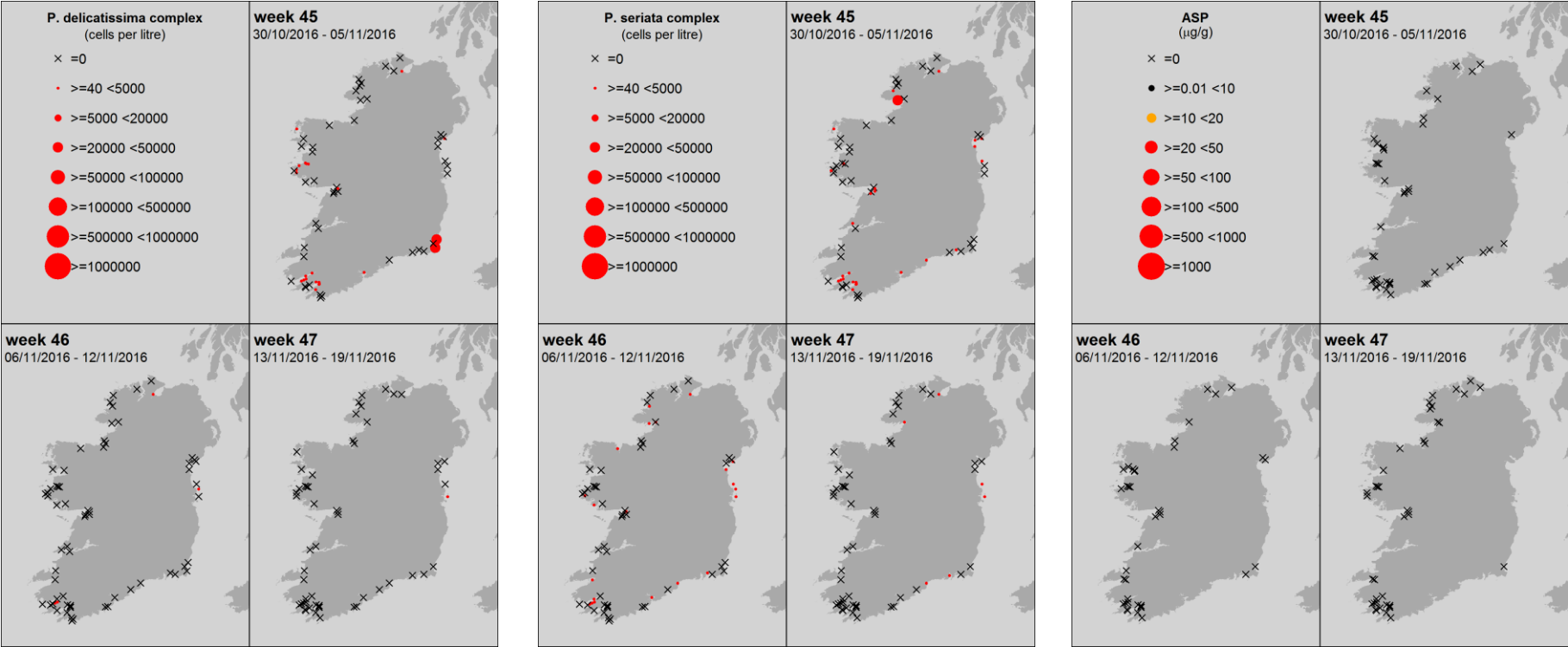
Pseudo-nitzschia spp.



ASP

“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

“*P. seriata*” complex = large cells
Taken from the literature:
7 species confirmed in Irish waters



Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

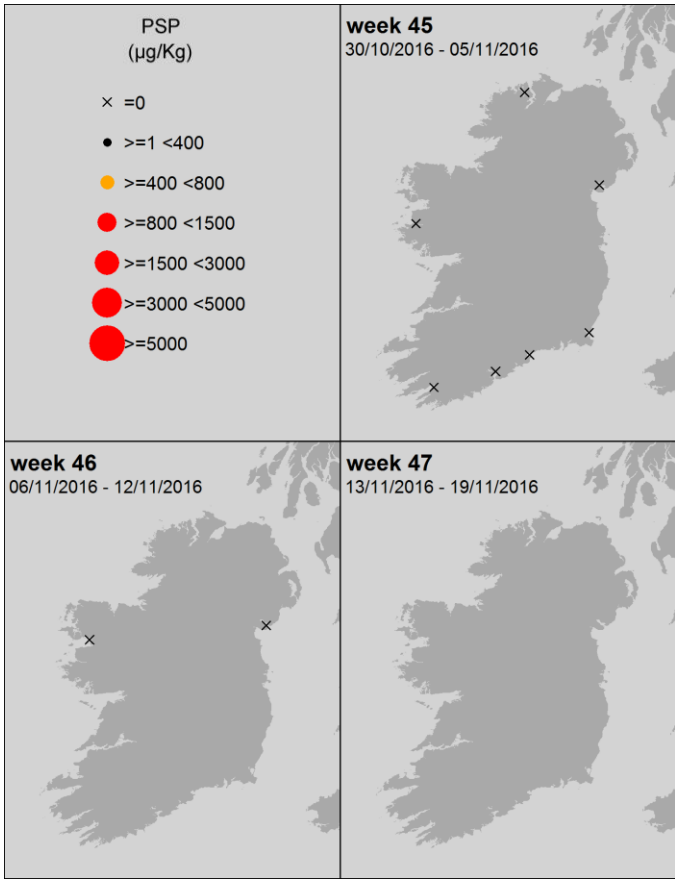
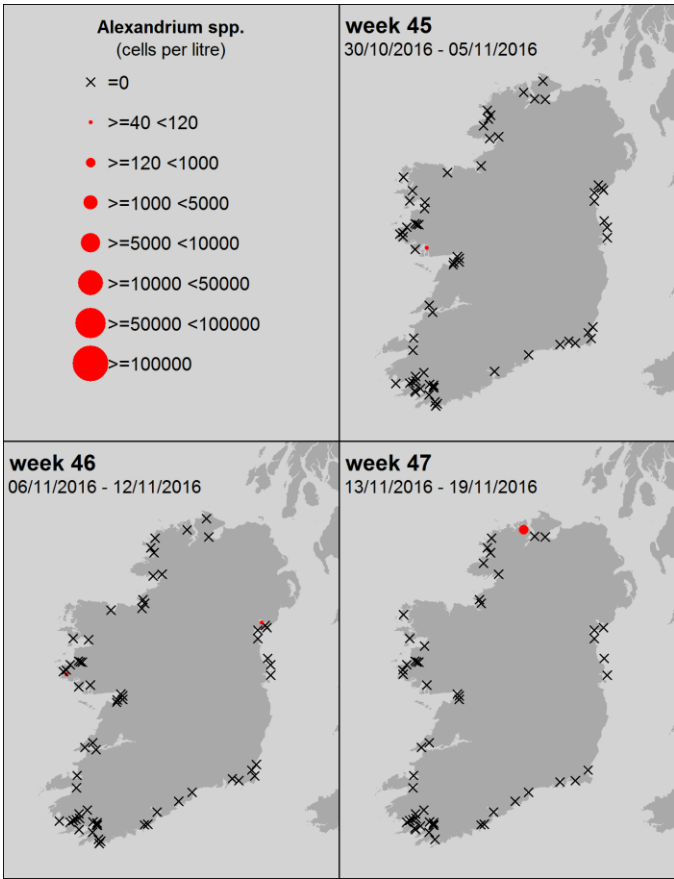
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



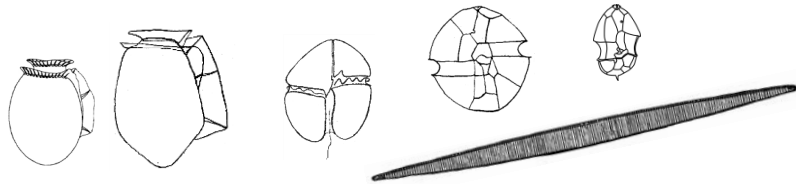
PSP



Ireland HAB & Biotoxin temporal trends

Ireland: **HABs and biotoxins** Levels from week 1 to present

Ireland: Biotoxins



Toxin groups

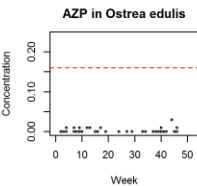
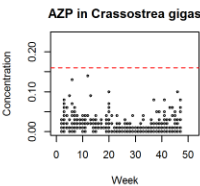
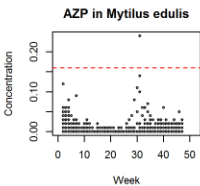
mussels

oysters

oysters

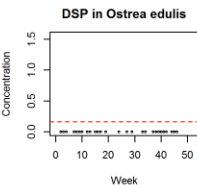
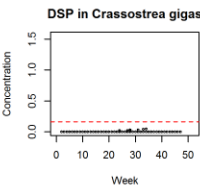
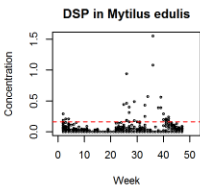
AZP

AZaspiracid
Poisoning



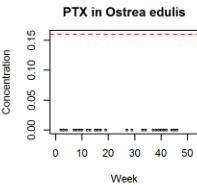
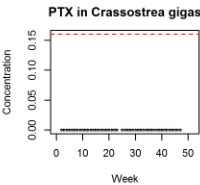
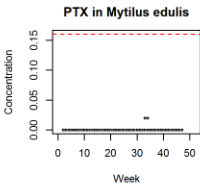
DSP

Diarrhetic
Shellfish
Poisoning



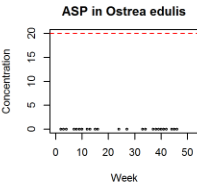
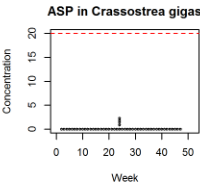
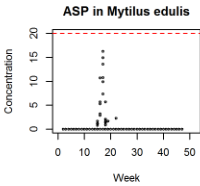
PTX

Pectenotoxin



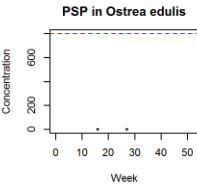
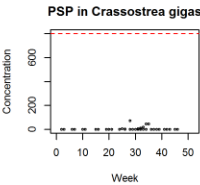
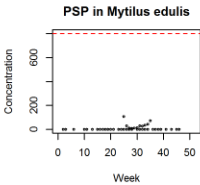
ASP

Amnesic
Shellfish
Poisoning



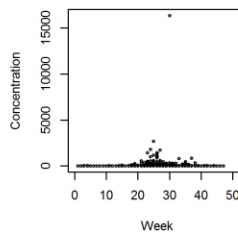
PSP

Paralytic
Shellfish
Poisoning

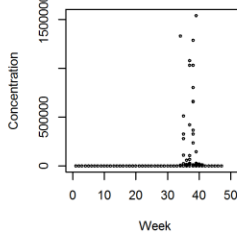


Ireland: HABs

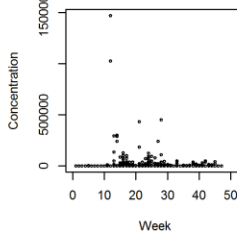
Dinophysis acuminata



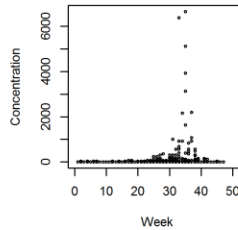
Karenia mikimotoi



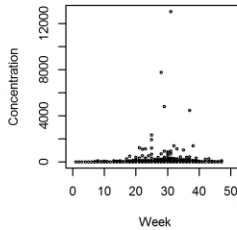
P. delicatissima complex



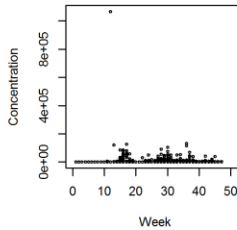
Dinophysis acuta



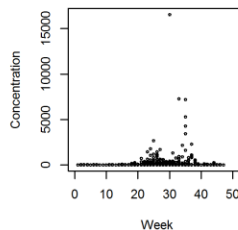
Alexandrium spp.



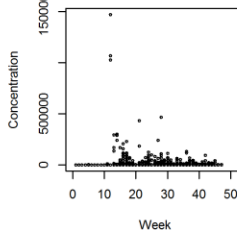
P. seriata complex



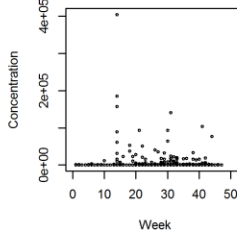
All Dinophysis spp.



All Pseudo-nitzschia spp.



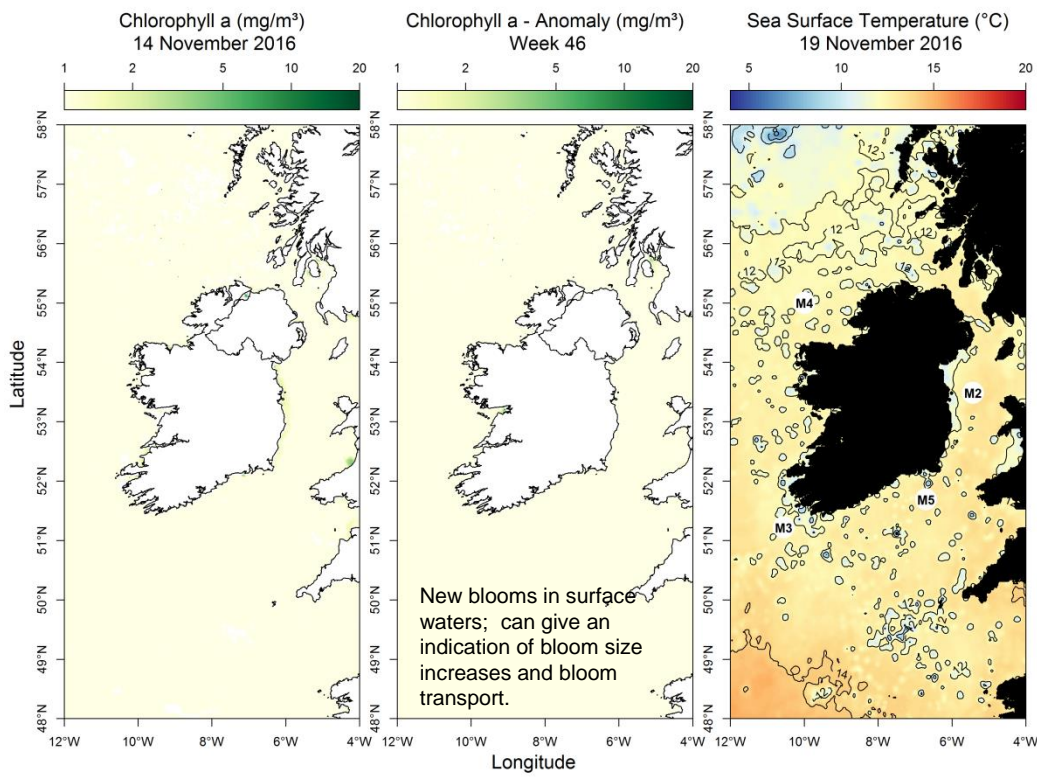
Azadinium-like cells



EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■

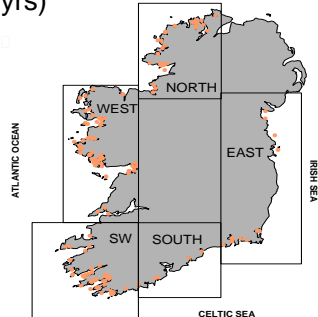
Most up to date available satellite data



SST (°C) anomaly for last week:

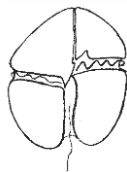
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) above average by 0.58 °C
- SW coast (M3) above average by 0.65 °C
- SE coast (M5) above average by 0.75 °C



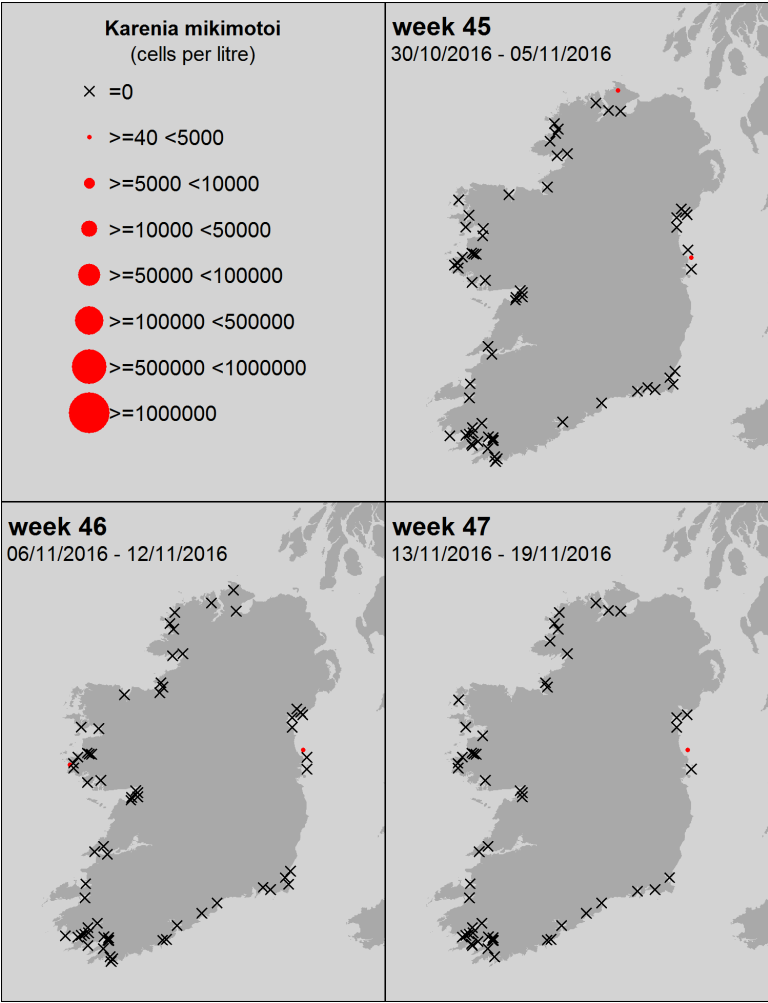
What phytoplankton species dominated inshore coastal sites last week?

Rank	Region	Species	Rounded Count cells/lt
1 east		Chaetoceros (Hyalochaete) spp.	10000
2 east		Rhizosolenia sp	10000
3 east		Lauderia / Detonula sp	9000
4 east		Centric Diatom	7000
5 east		Guinardia delicatula	5000
6 east		Pseudo-nitzschia seriata complex	4000
1 north		Asterionellopsis spp.	36000
2 north		Pennate diatom	8000
3 north		Bacillaria paxillifera	7000
4 north		Chaetoceros (Hyalochaete) spp.	4000
5 north		Striatella spp.	3000
6 north		Cylindrotheca closterium/ Nitzschia longissima	2000
1 south		Pennate diatom 20-50um	2000
2 south		Pseudo-nitzschia seriata complex	1000
3 south		Odontella spp.	1000
4 south		Paralia sulcata	1000
5 south		Synedra spp.	1000
5 south		Dinobryon spp.	1000
1 southwest		Microflagellate spp. <10um	4959000
2 southwest		Cyanophyte	200000
3 southwest		Navicula spp. 20-50 um	123000
4 southwest		Nitzschia spp. (small)	87000
5 southwest		Pennate diatom 20-50um	86000
6 southwest		Nitzschia spp.	10000
1 west		Pennate diatom	85000
2 west		Bacillaria spp.	5000
3 west		Paralia sp.	2000
4 west		Striatella spp.	2000
5 west		Paralia sulcata	2000
6 west		Skeletonema spp.	1000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

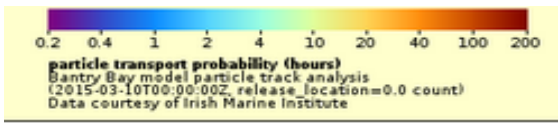
A *Karenia mikimotoi* bloom
is NOT expected this week



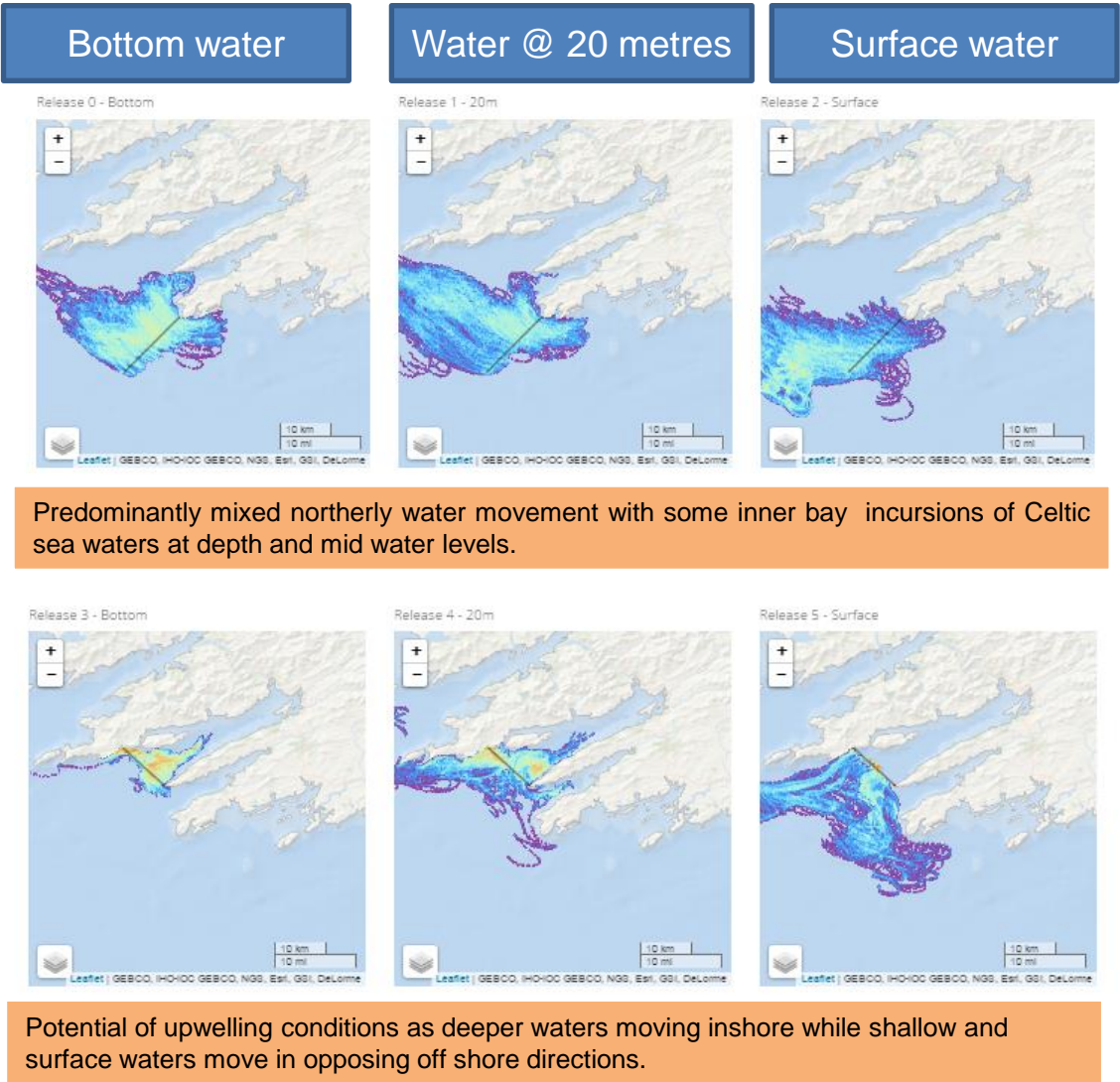
SOUTHWEST: Bantry Bay

The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



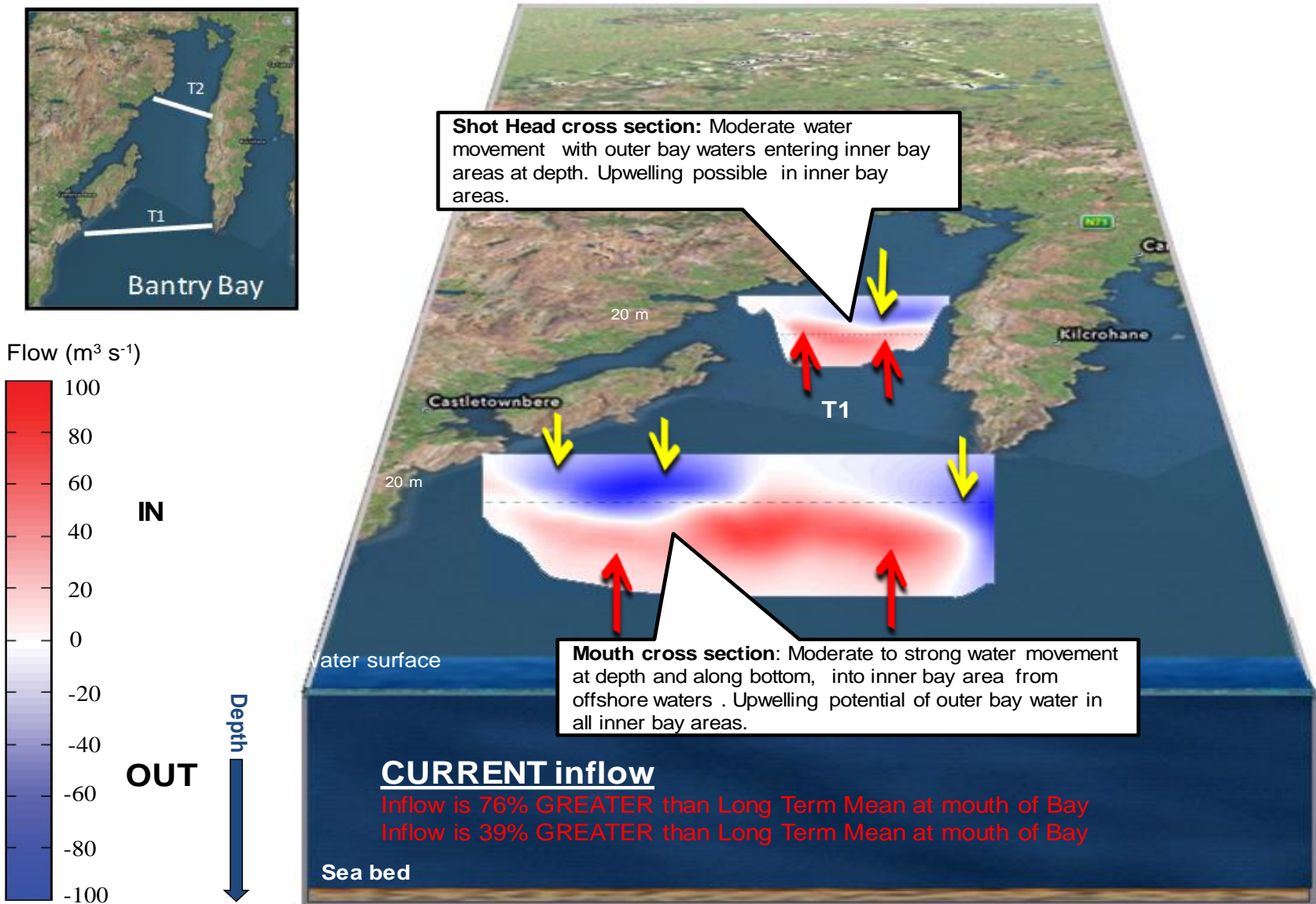
Forecast for the next 3 days



Go to <http://vis.marine.ie/particles/> to view daily forecasts

Bantry Bay

3 day estimated water flows at the mouth and mid-bay sections of Bantry Bay




WEST: Killary Harbour

The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

Reddish colours represent areas where phytoplankton remain longest

Cooler colours represent areas where phytoplankton remain for shorter periods

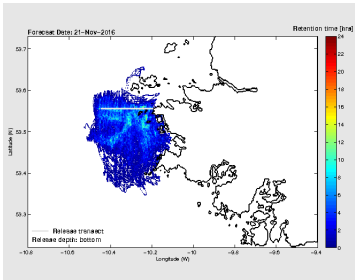


0.2 0.4 1 2 4 10 20 40 100 200

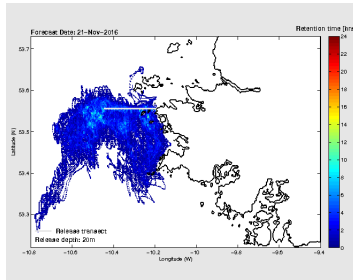
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

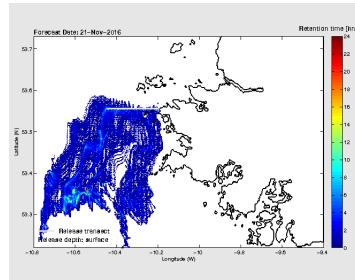
Bottom water



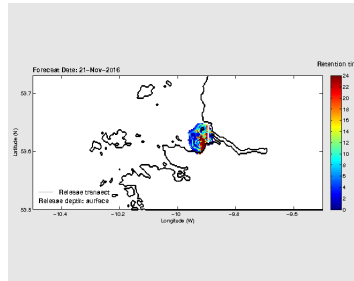
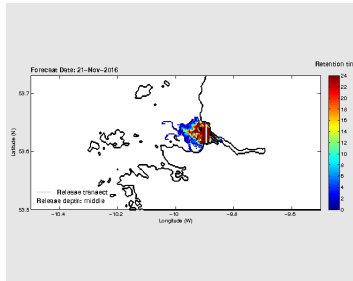
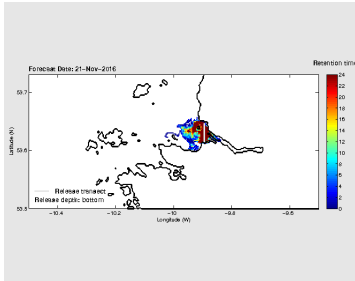
Water @ 20 metres



Surface water



Water movement in a mixed Southerly direction expected. Potential minimal incursions into outer bay area possible.



Low water movement in terms of mixing and upwelling from outer bay areas, forecasted for the next few days.

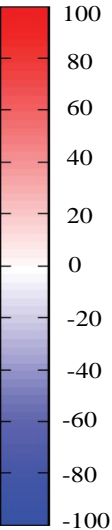
Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour

Forecast for next 3 days



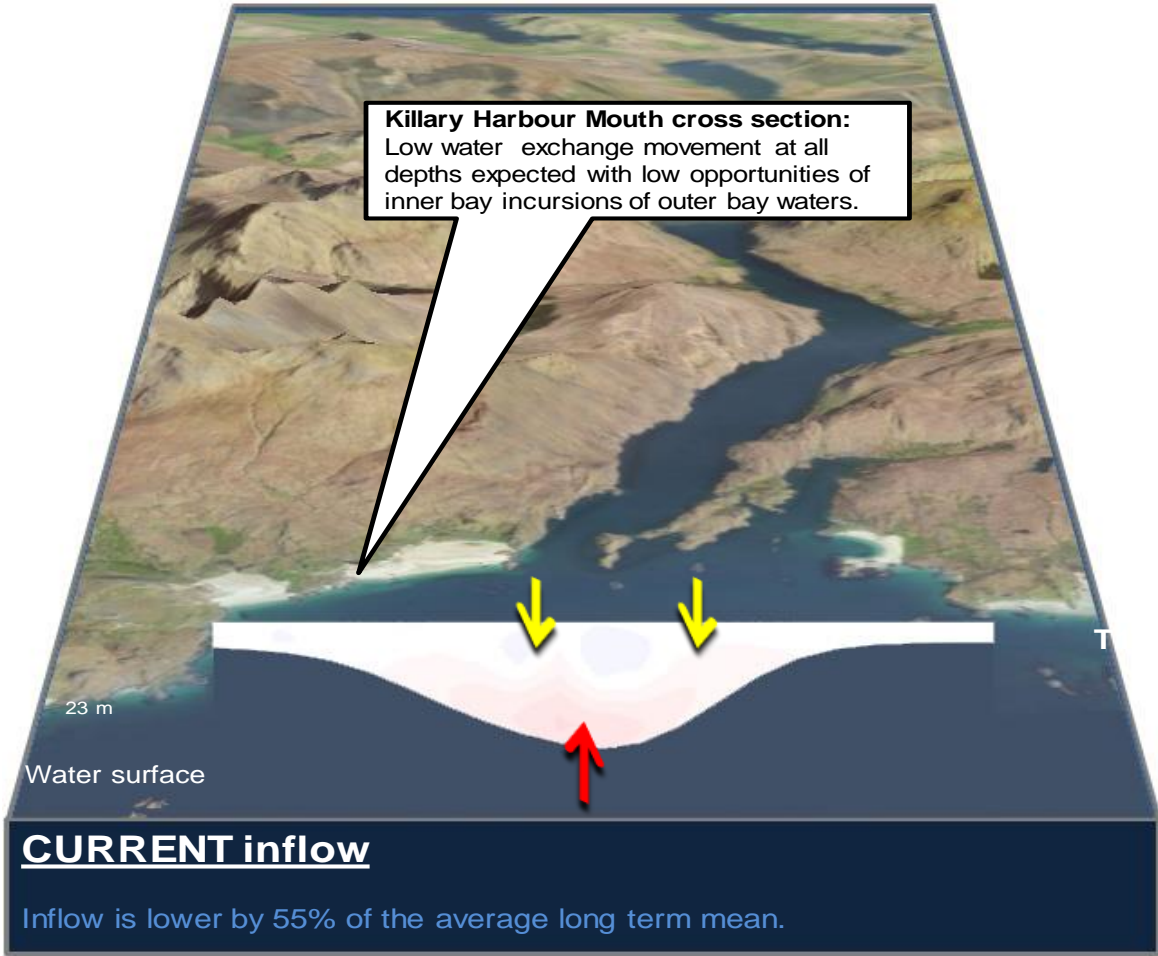
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

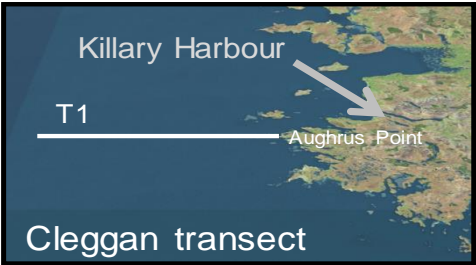
OUT

Depth

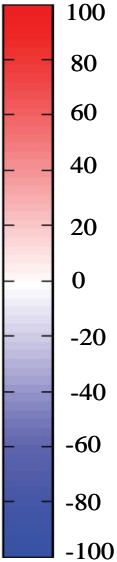


West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



Flow ($\text{m}^3 \text{s}^{-1}$)



northward
flow

southward
flow

Depth

