

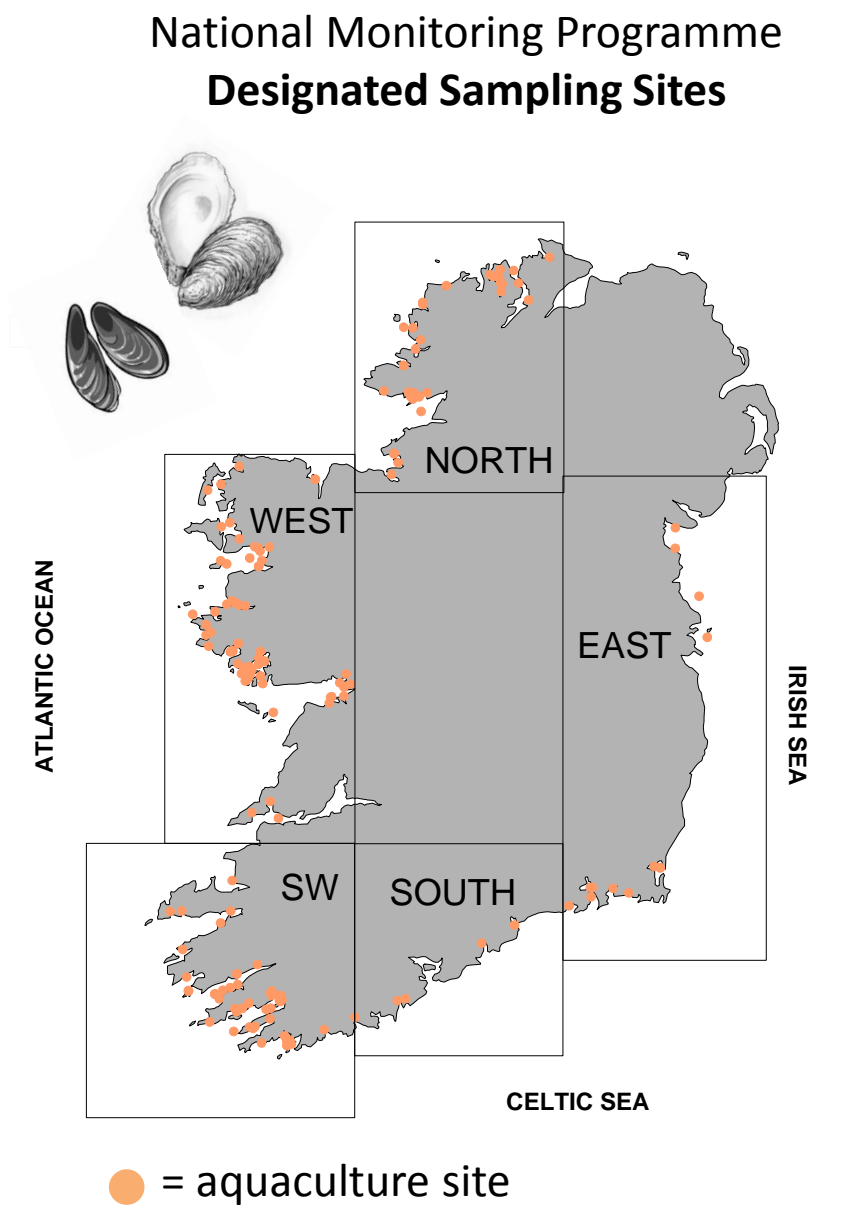
Ireland: Current Conditions

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 = **A**Zaspiracid **P**oisoning;
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning



Ireland: Predictions

Prediction for this week:

ASP event: Low

AZP event: Medium

DSP event: Low

PSP event: Low

Why do we think this?

ASP: Toxin issues 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.

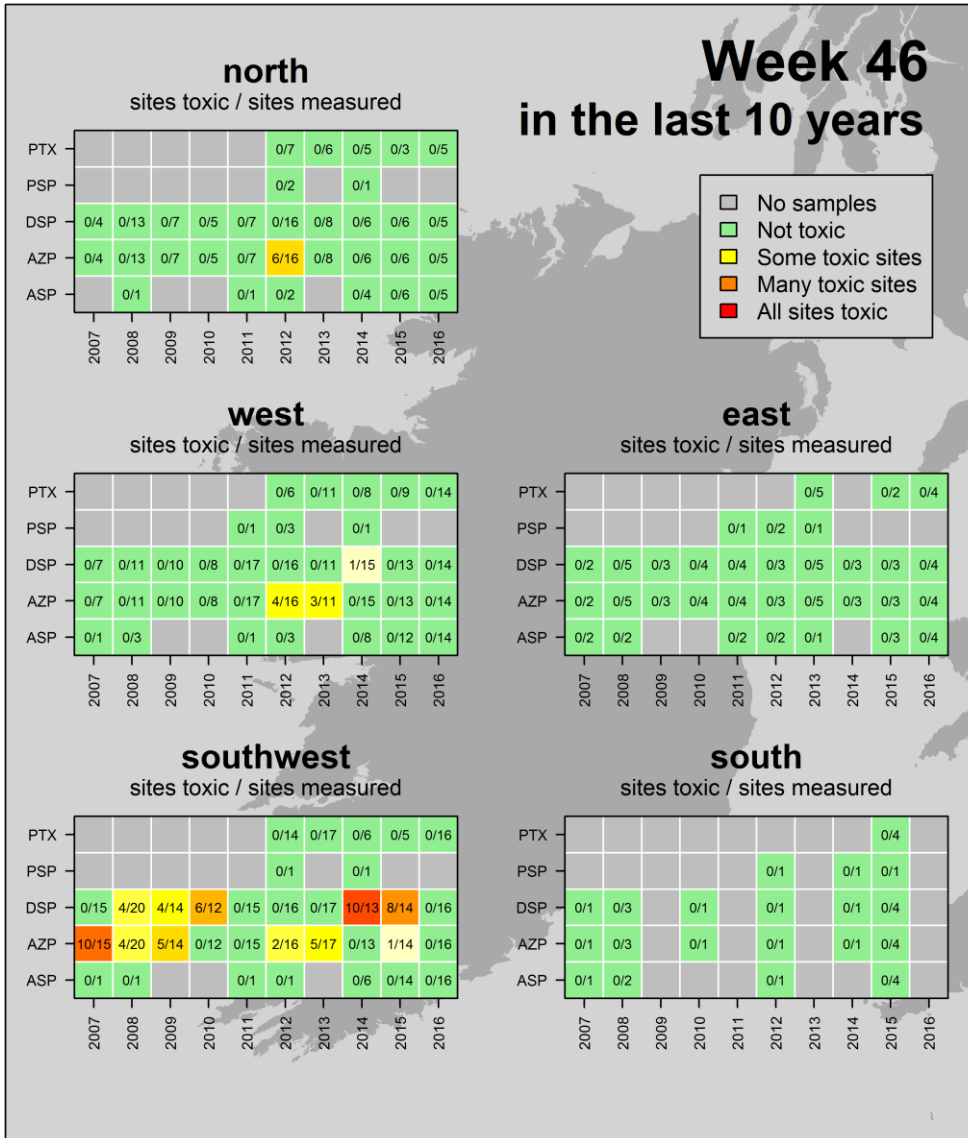
AZP: This is considered still to be a high risk period for AZP. Fluctuating levels of *Azadinium* spp. continue to be observed around the coast. There is currently a slight (week on week) upward trend with the number of sites where the toxins have been detected, however all sites are still below regulatory 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

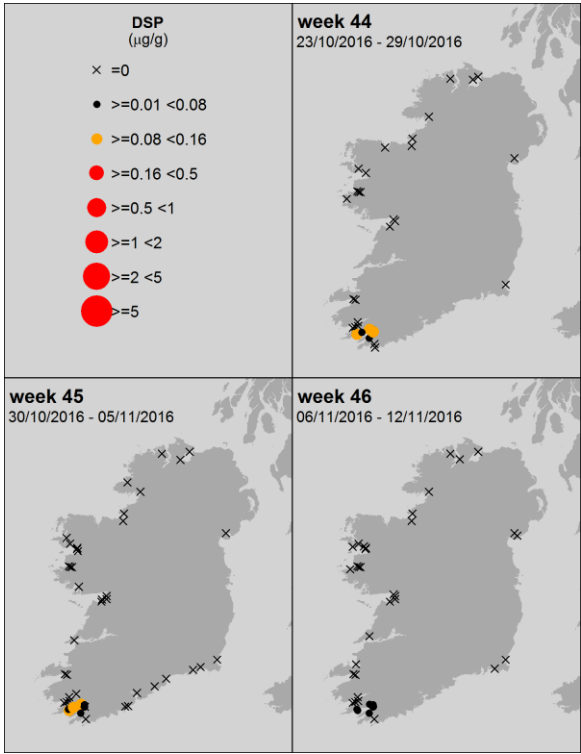
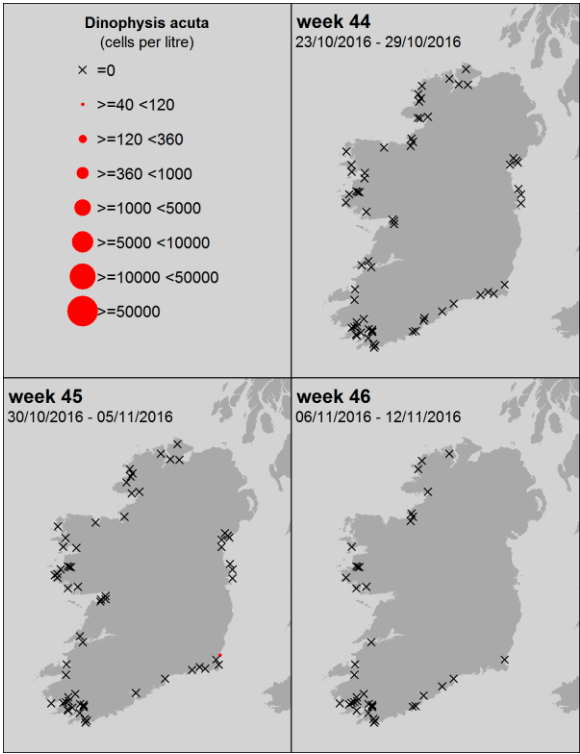
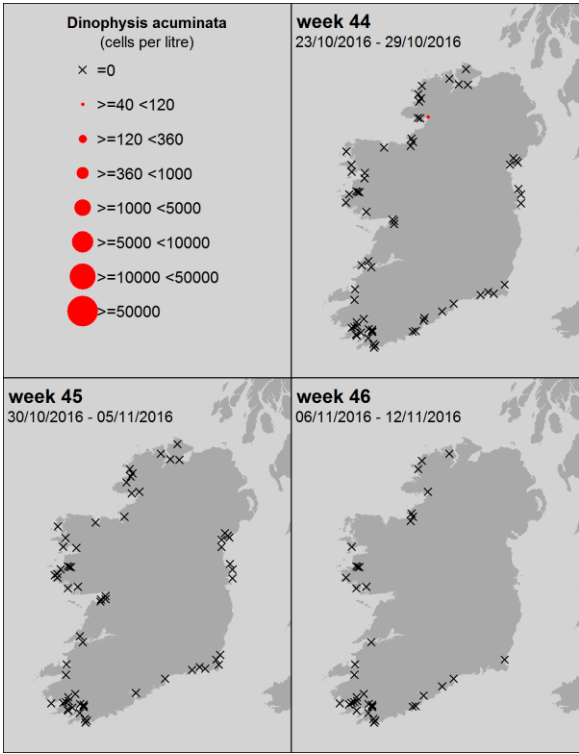
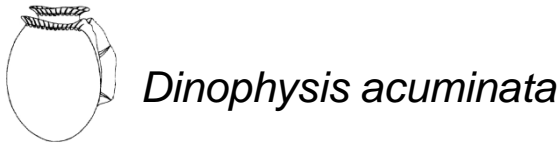
AZP events: April to December

DSP events: May to December

PSP events: June to mid-July and end September; only in Cork Harbour



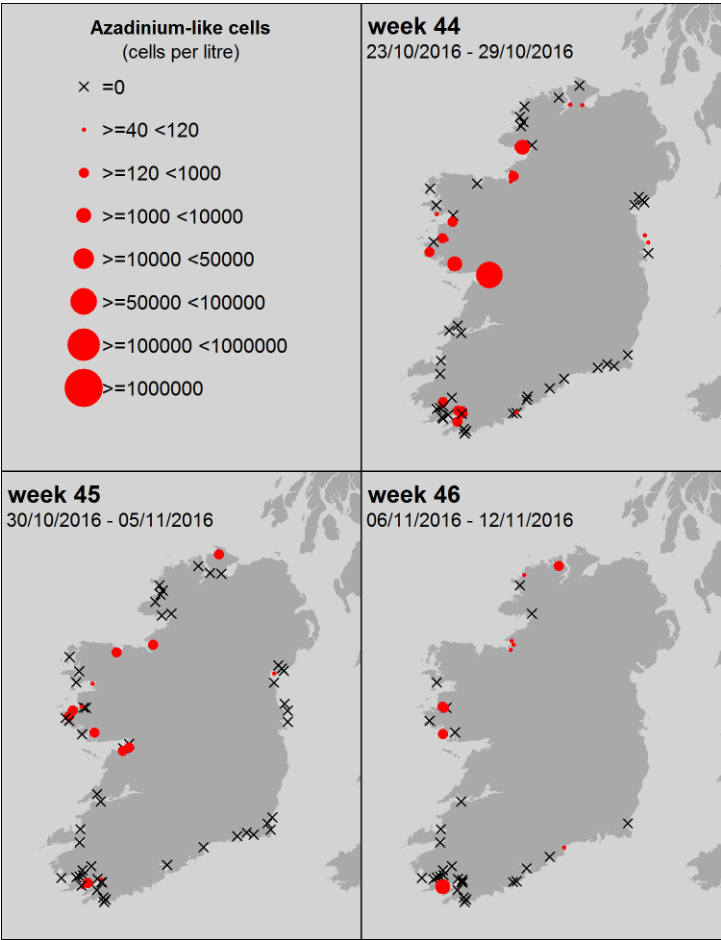
Ireland: Last 3 weeks of available National Monitoring Programme data



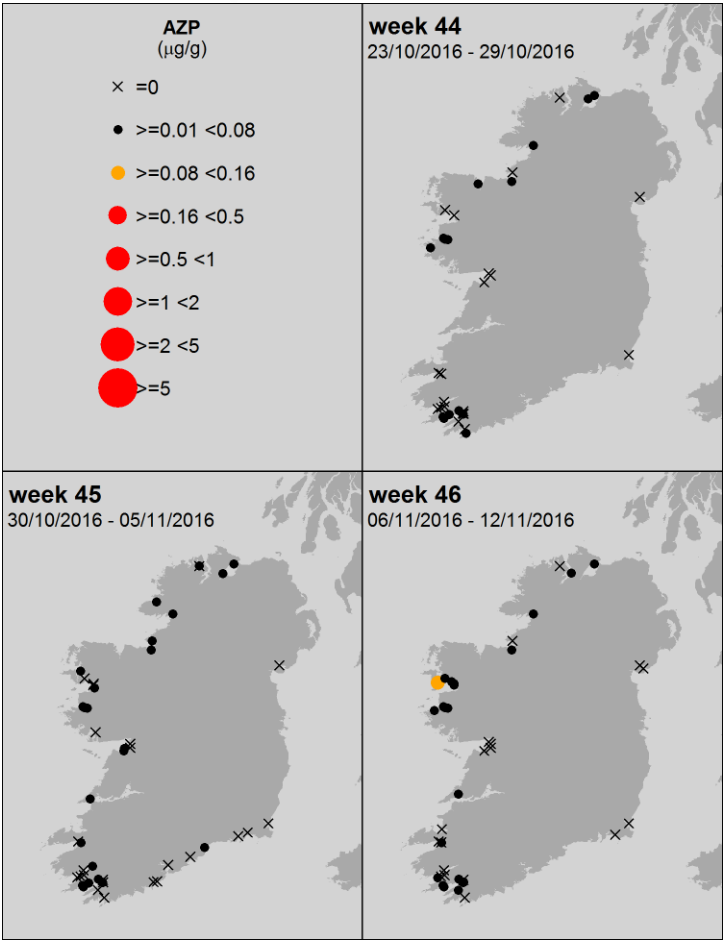
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

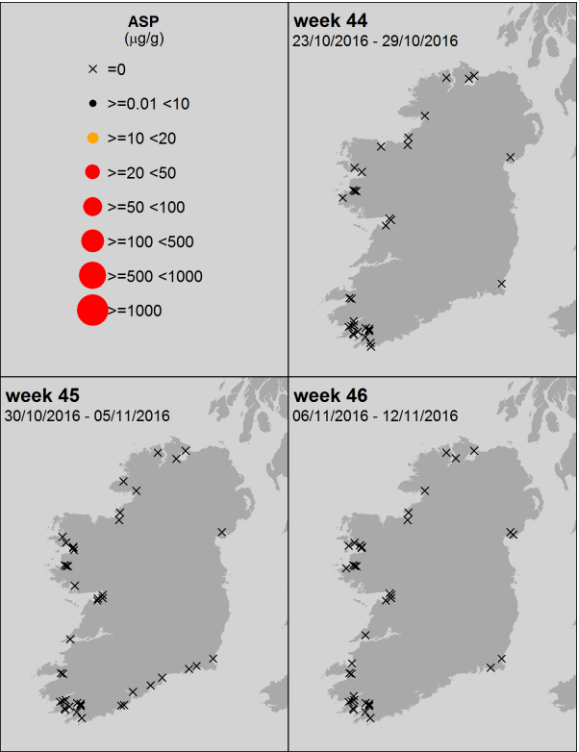
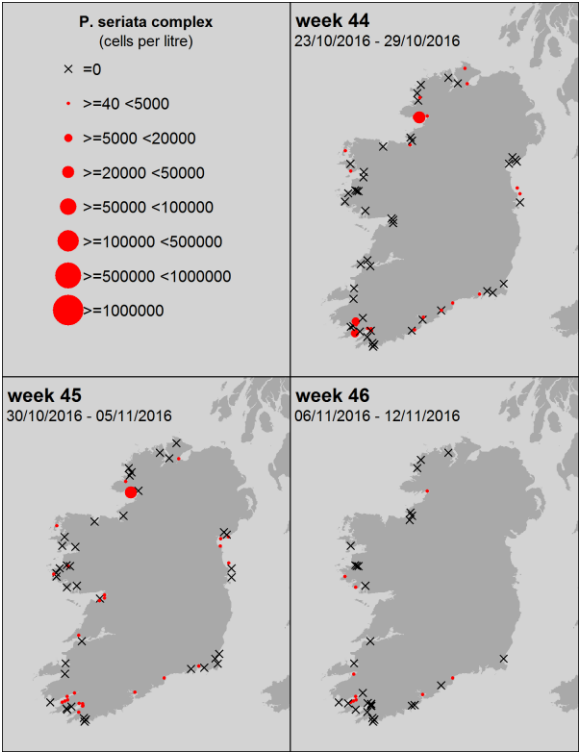
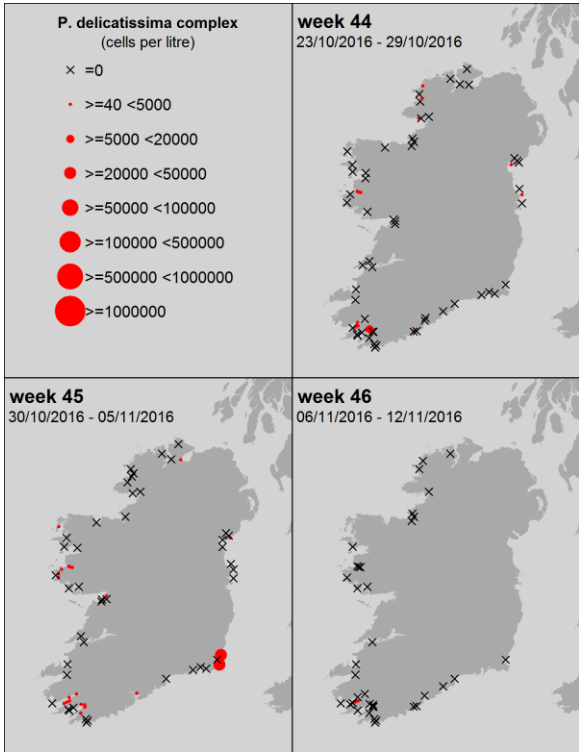
Pseudo-nitzschia spp.



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.

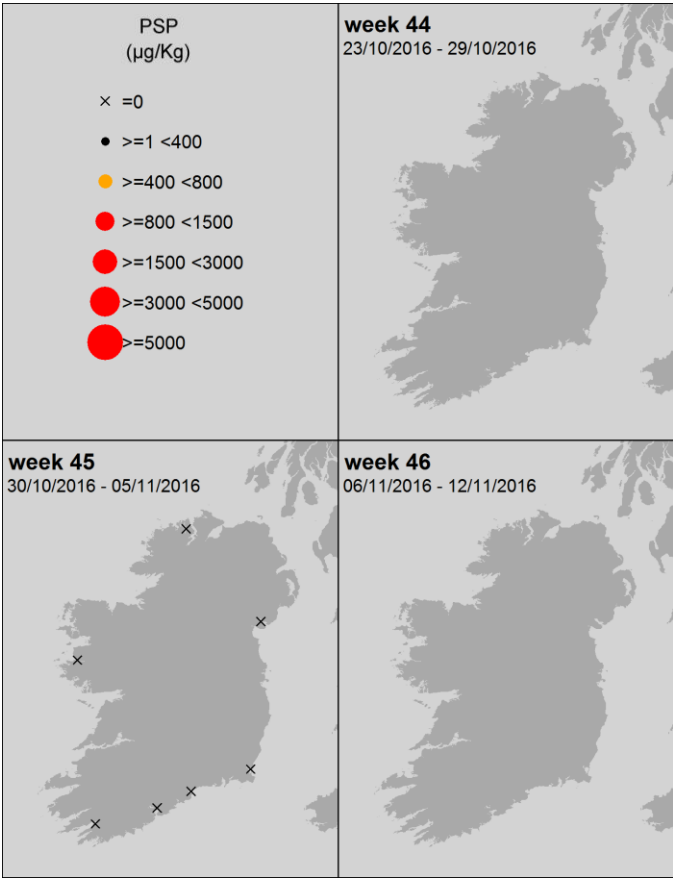
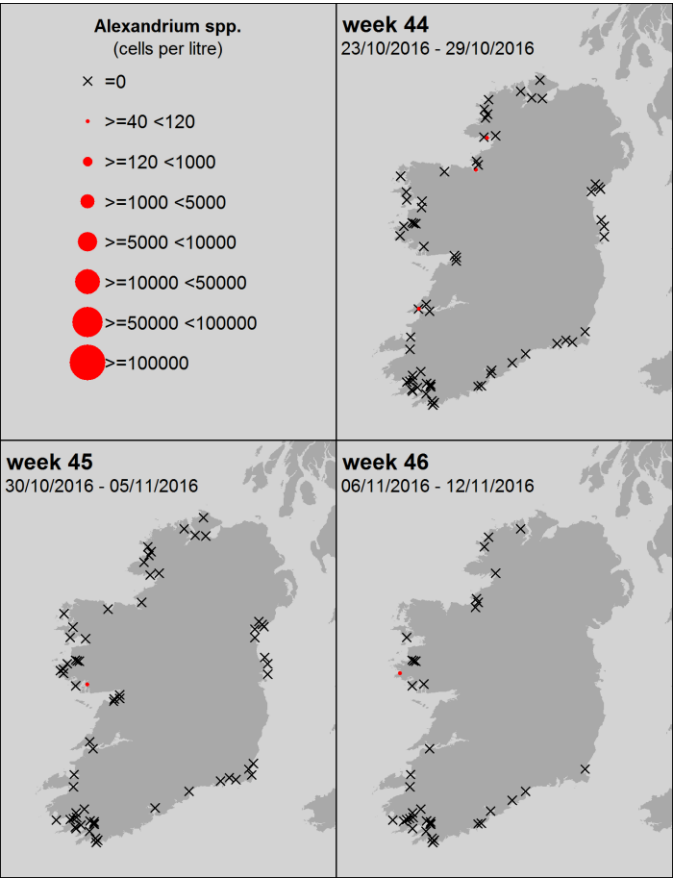
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



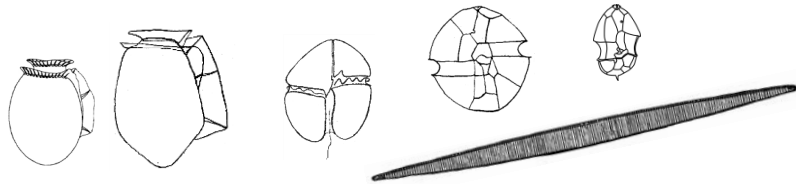
PSP



Ireland HAB & Biotoxin temporal trends

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

Ireland: Biotoxins



Toxin groups

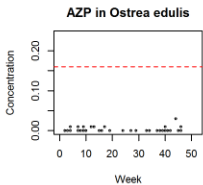
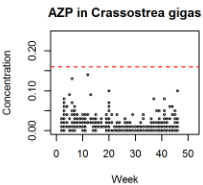
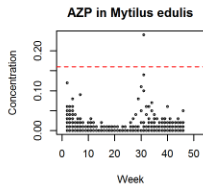
mussels

oysters

oysters

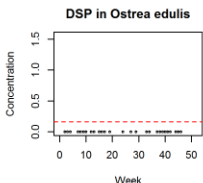
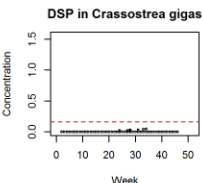
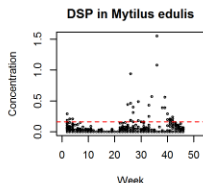
AZP

AZaspiracid
Poisoning



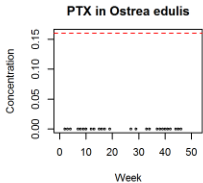
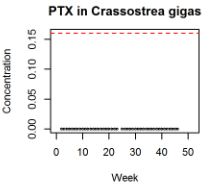
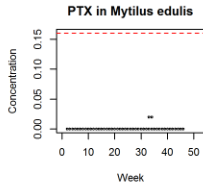
DSP

Diarrhetic
Shellfish
Poisoning



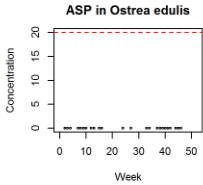
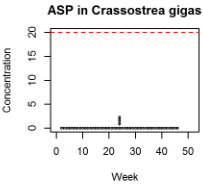
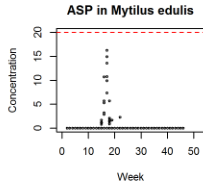
PTX

Pectenotoxin



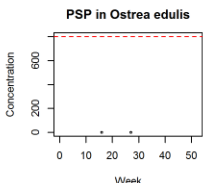
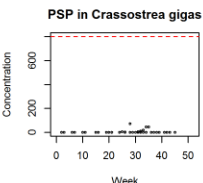
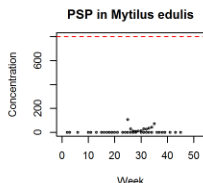
ASP

Amnesic
Shellfish
Poisoning

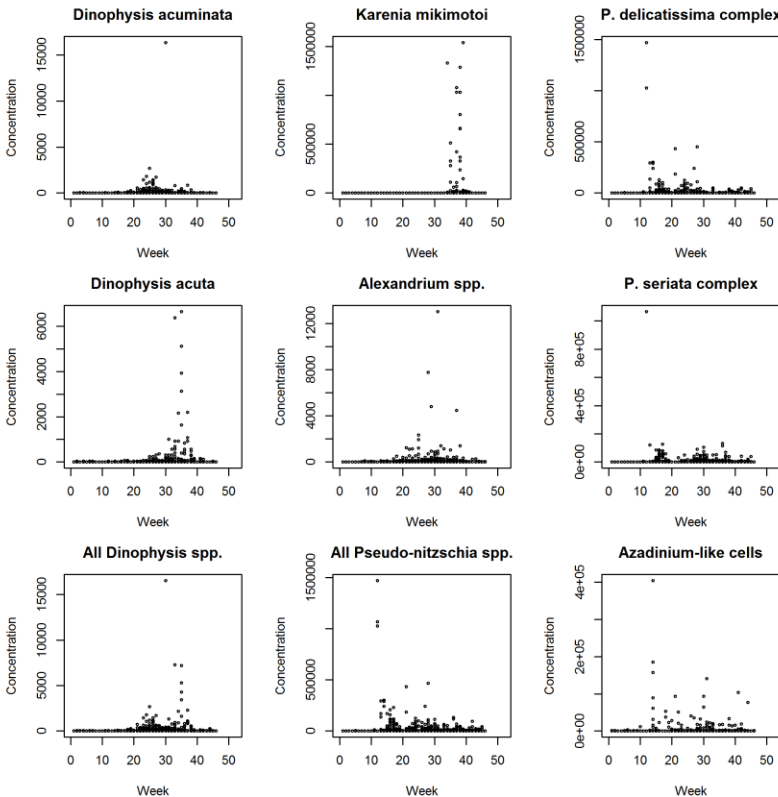


PSP

Paralytic
Shellfish
Poisoning



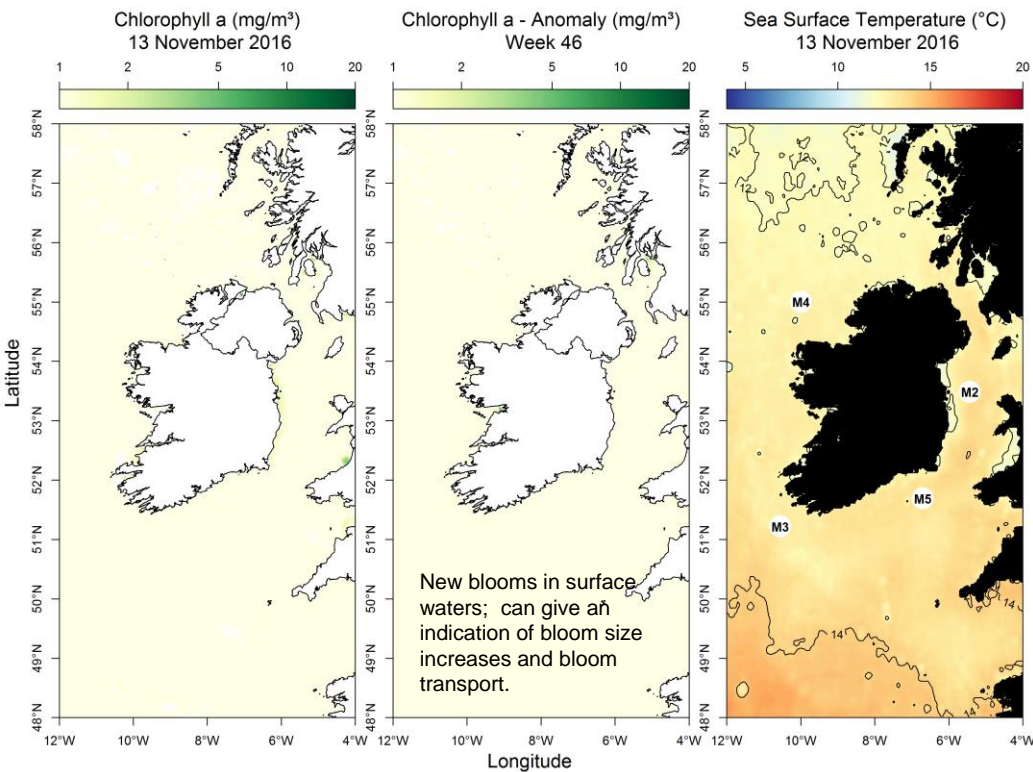
Ireland: HABs



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

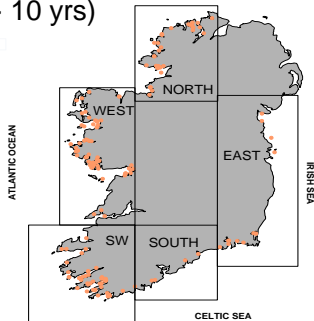
Regulatory limit = ■■■■■

Most up to date available satellite data



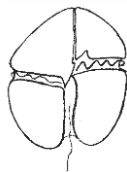
SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) above average by 0.35 °C
- SW coast (M3) above average by 0.62 °C
- SE coast (M5) above average by 0.72 °C



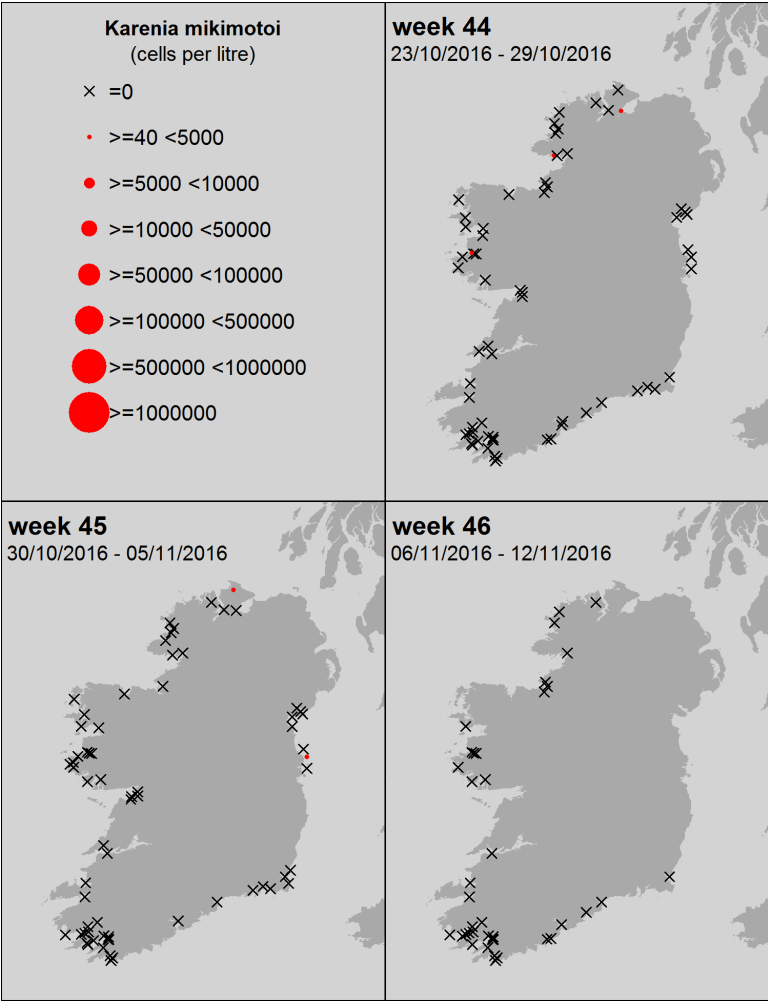
What phytoplankton species dominated inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1 east		Asterionellopsis spp.	4000
2 east		Heterocapsa triquetra	3000
3 east		Cylindrotheca closterium/ Nitzschia longissima	2000
4 east		Bacillaria paxillifera	1000
5 east		Thalassionema nitzschioides	1000
1 north		Asterionellopsis spp.	18000
2 north		Pennate diatom	4000
3 north		Chaetoceros (Hyalochaete) spp.	2000
4 north		Skeletonema spp.	2000
5 north		Chaetoceros spp. (H) (small)	1000
1 south		Thalassiosira 20-50um	4000
2 south		Paralia sp.	3000
2 south		Navicula spp. 20-50 um	3000
4 south		Thalassiosira nordenskioldii	3000
5 south		Thalassionema nitzschioides	3000
1 southwest		Navicula spp. <25um	53000
2 southwest		Prorocentrum micans	30000
3 southwest		Skeletonema spp.	23000
4 southwest		Navicula spp. 20-50 um	21000
5 southwest		Skeletonema costatum	19000
1 west		Navicula spp. <25um	54000
2 west		Skeletonema spp.	5000
3 west		Guinardia delicatula	3000
4 west		Cylindrotheca closterium/ Nitzschia longissima	1000
5 west		Pennate diatom	1000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

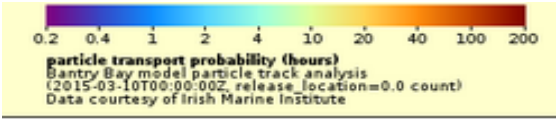
A *Karenia mikimotoi* bloom
is NOT expected this week



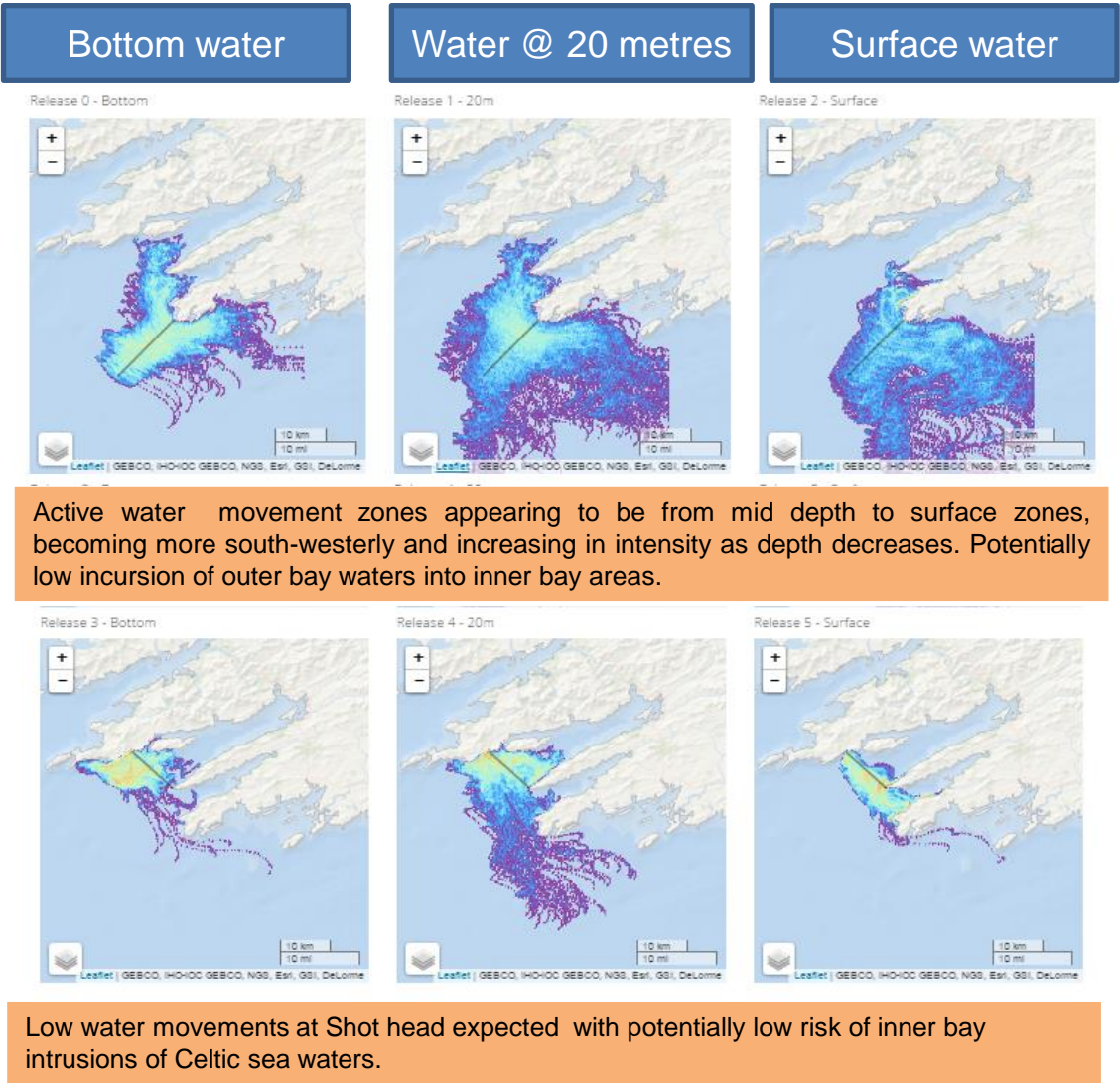
SOUTHWEST: Bantry Bay

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

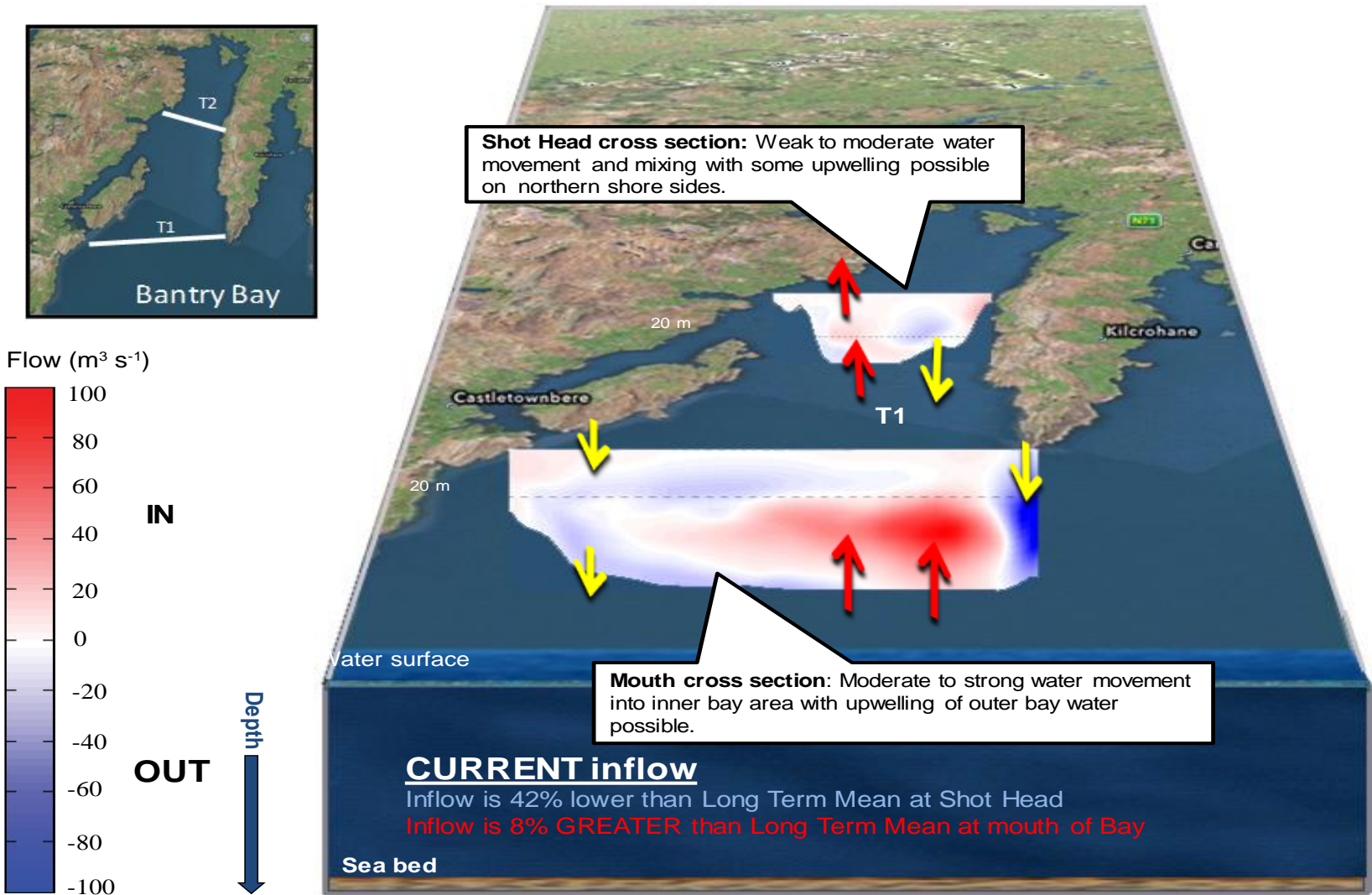


Go to <http://vis.marine.ie/particles/> to view daily forecasts

Bantry Bay

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

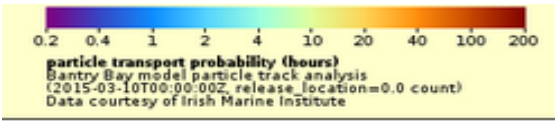
Forecast for next 3 days



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)

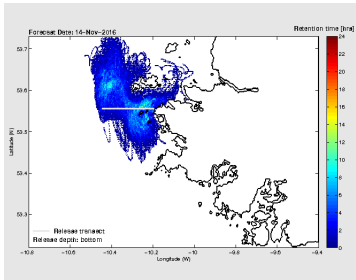
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



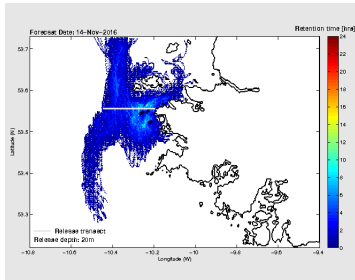
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

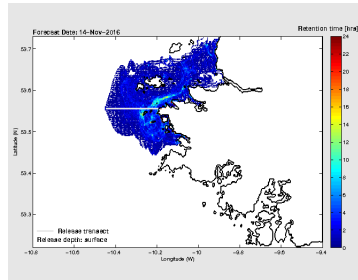
Bottom water



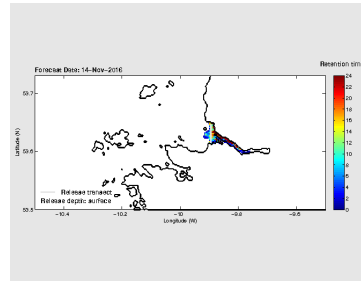
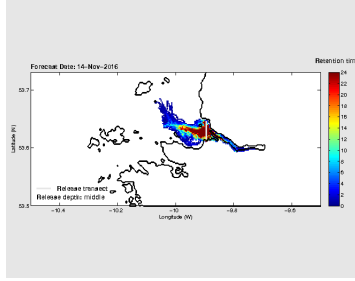
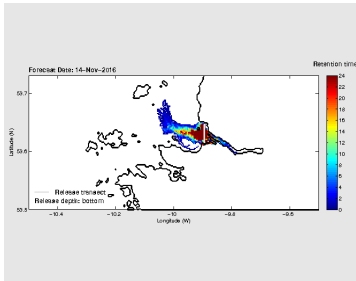
Water @ 20 metres



Surface water



Water movement in a mixed Northerly 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

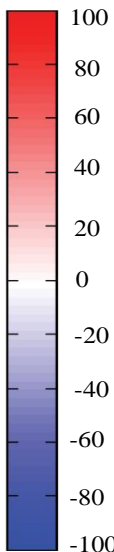
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

Killary Harbour Mouth cross section:
Moderate volumes of inflowing waters from outer bay area .Mixing of waters expected.

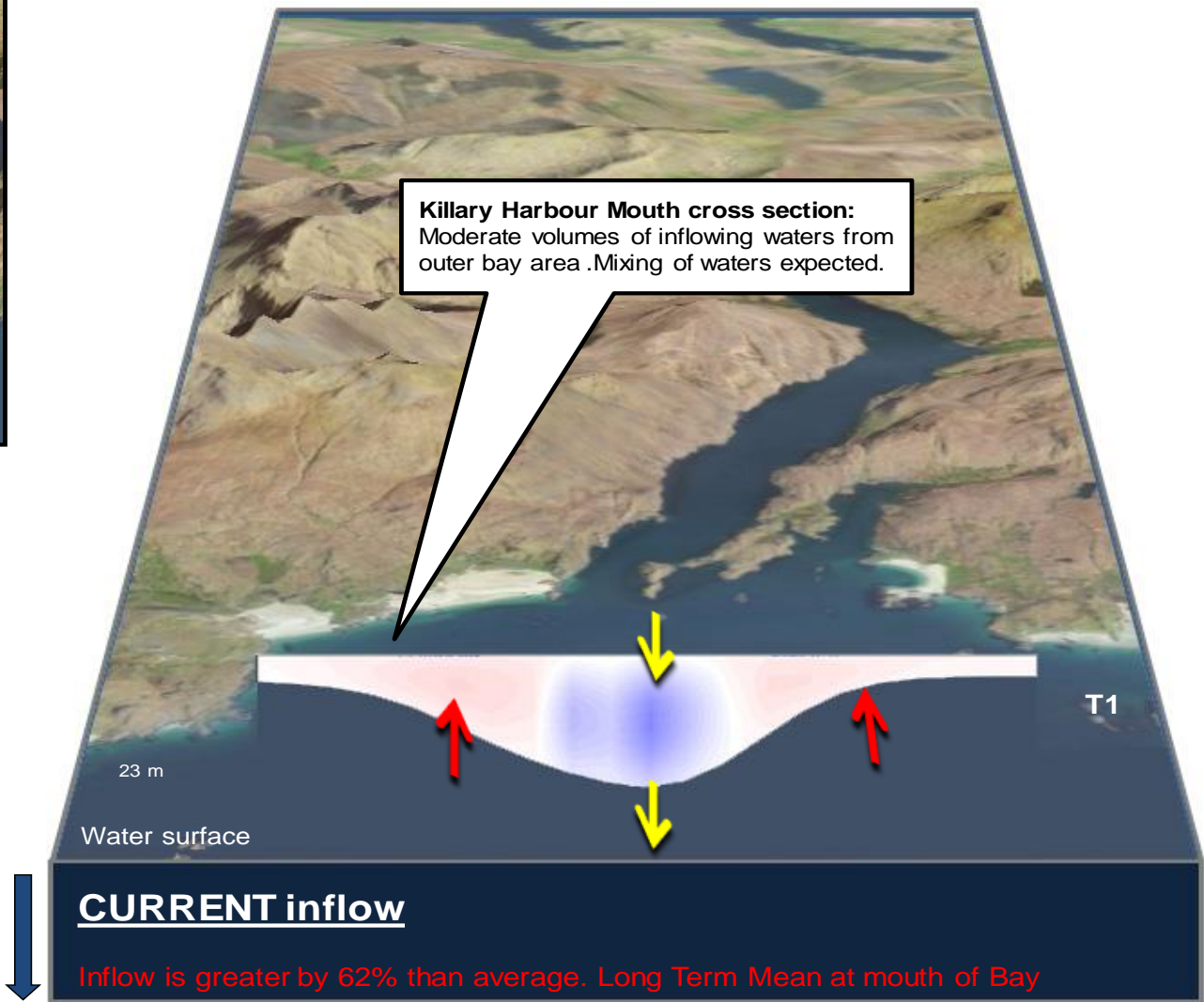
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

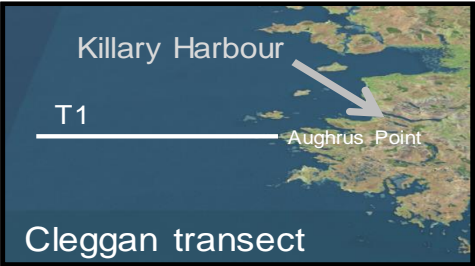
OUT

Depth

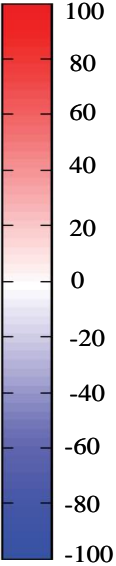


West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward
flow

southward
flow

Depth

