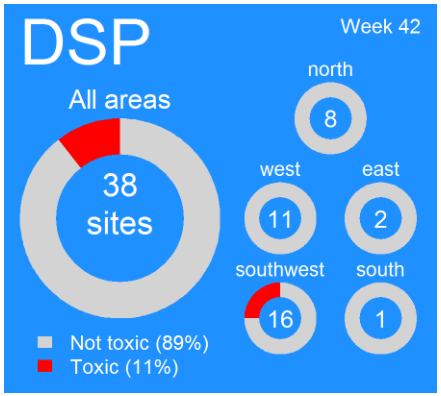
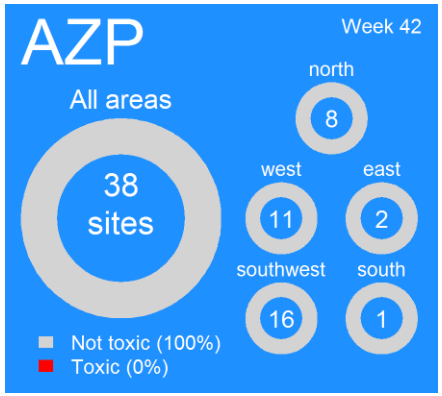
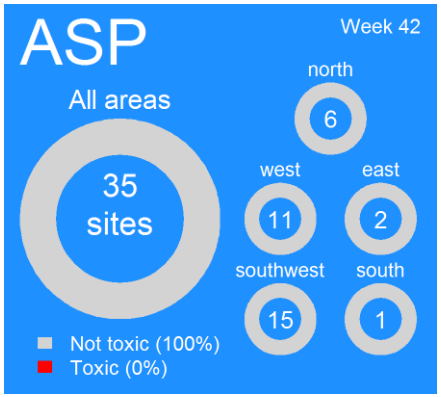
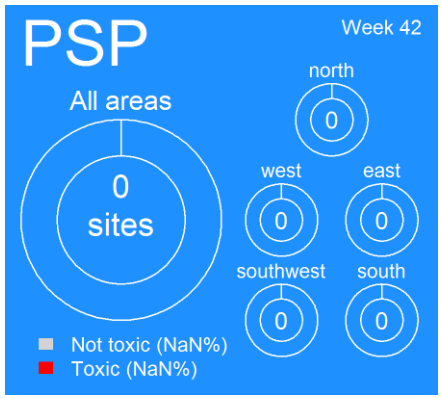
Ireland: **Current Conditions**

Shellfish biotoxin report (last week)





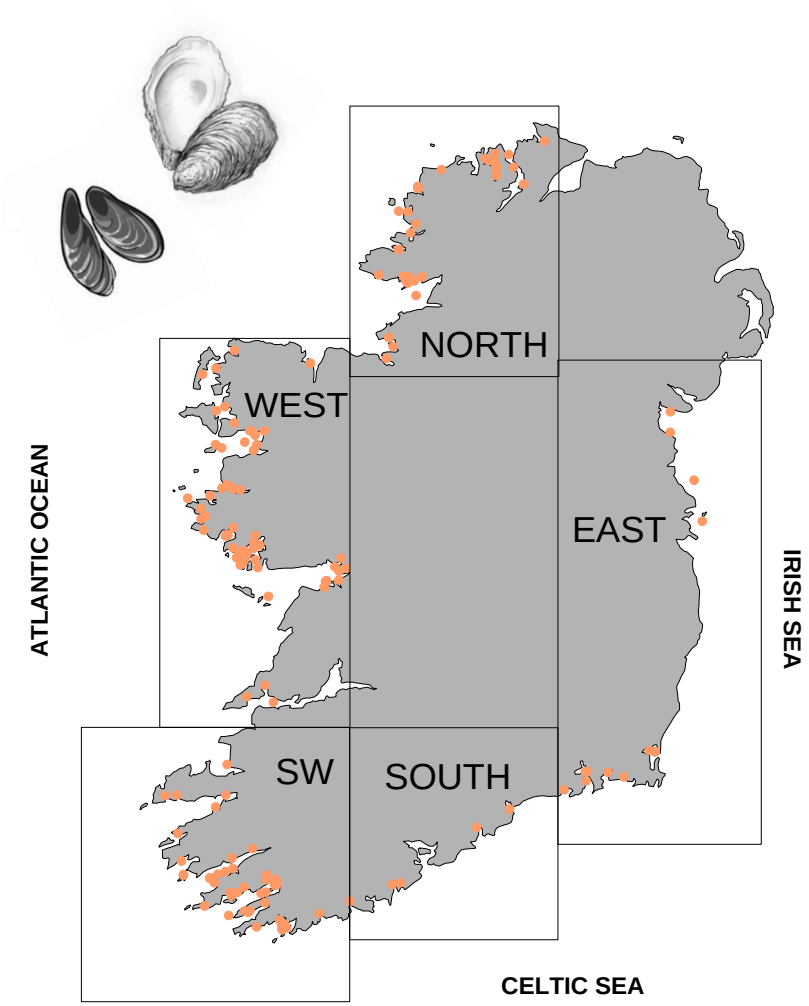




EU Regulatory Limit:
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Toxin groups
ASP = **A**mnesic **S**hellfish **P**oisoning; AZP = **AZ**aspiracid **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: High

DSP event: Medium - low

PSP event: Low

Why do we think this?

ASP: Toxin issues from this species are not expected at this time of year. Cell levels of *Pseudo-nitzschia* species*, both* groups, continue to be observed around the coast but currently corresponding biotoxin levels continue to remain well below regulatory limits.

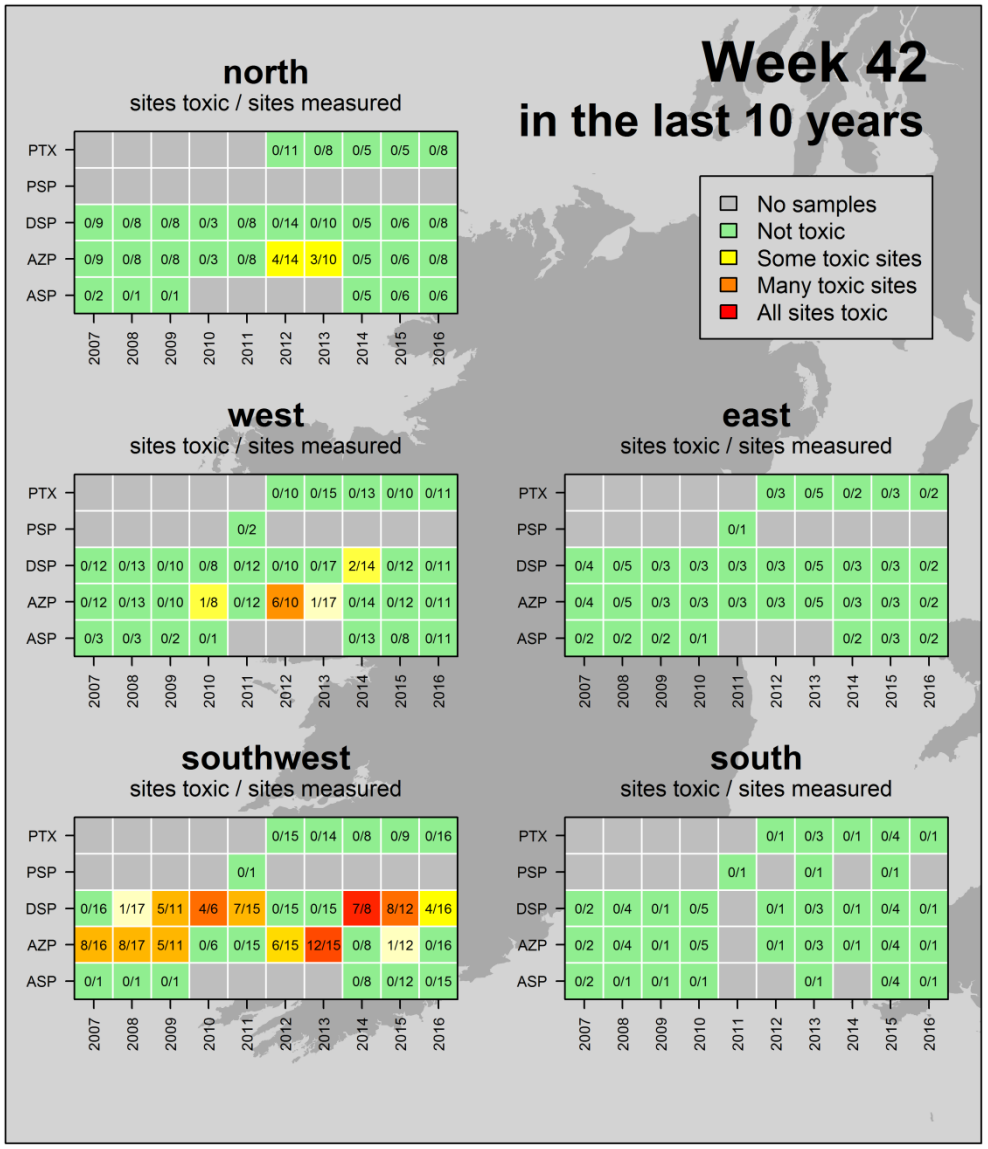
AZP: October is considered a high risk period for AZP. Fluctuating levels of *Azadinium* spp. continue to be observed around the coast, with a current slight upward trend. Biotoxin levels continue to remain below closure levels at present but caution is advised in this high risk period.

DSP: Dinophysis levels continue to decrease in the affected areas and this trend would be normal for this time of year and reflects the current cell levels observed in general in all sites.

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



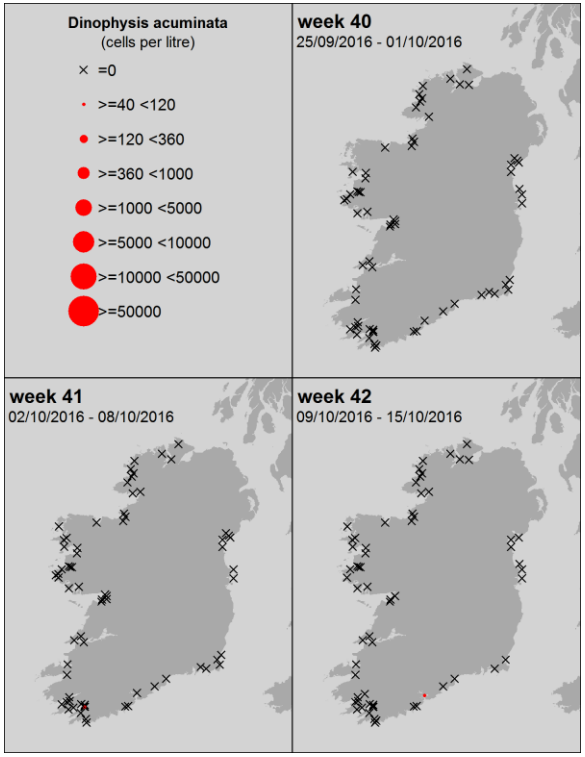
Ireland HISTORIC TRENDS

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

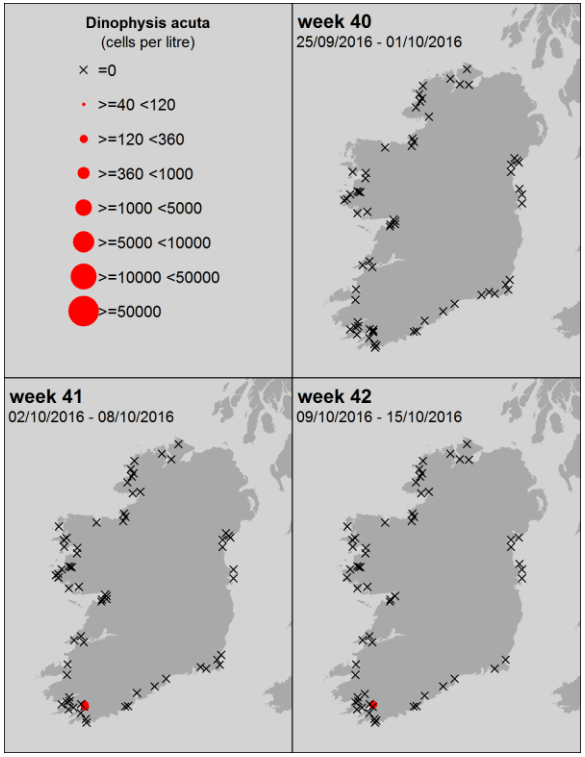
ASP events: mid-March to early May
AZP events: April to December
DSP events: May to December
PSP events: June to mid-July and end September; only in Cork Harbour

Ireland: **Last 3 weeks of available National Monitoring Programme data**

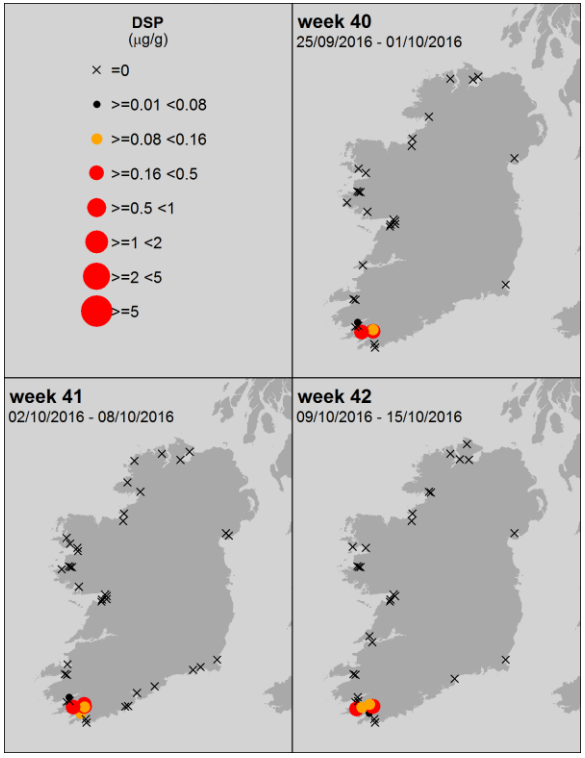
Dinophysis acuminata



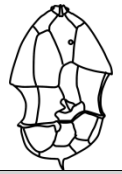
Dinophysis acuta



DSP

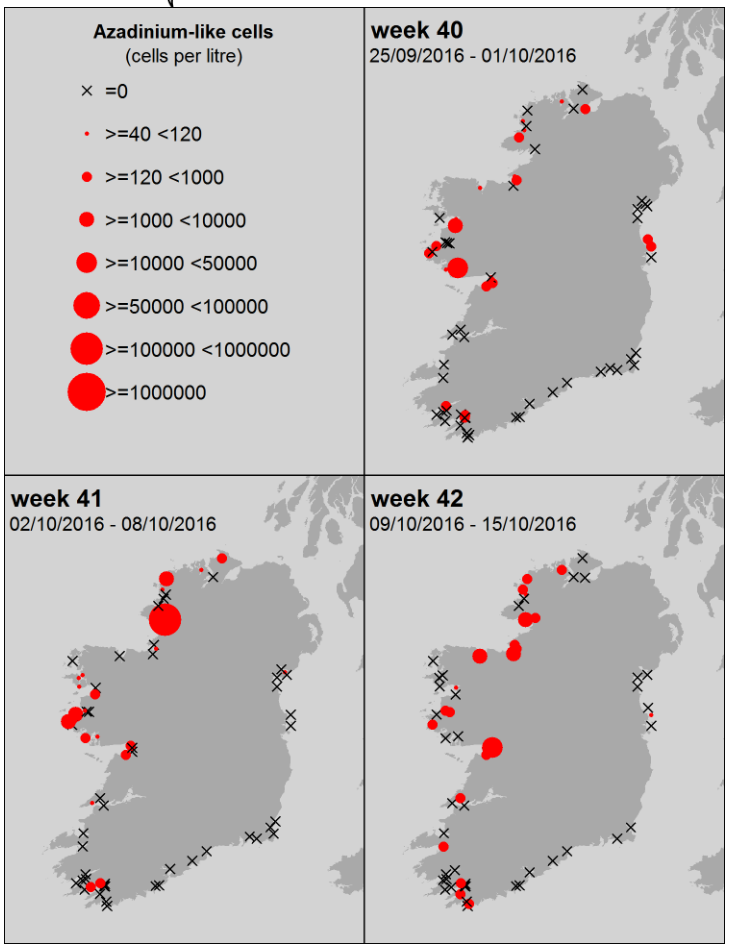


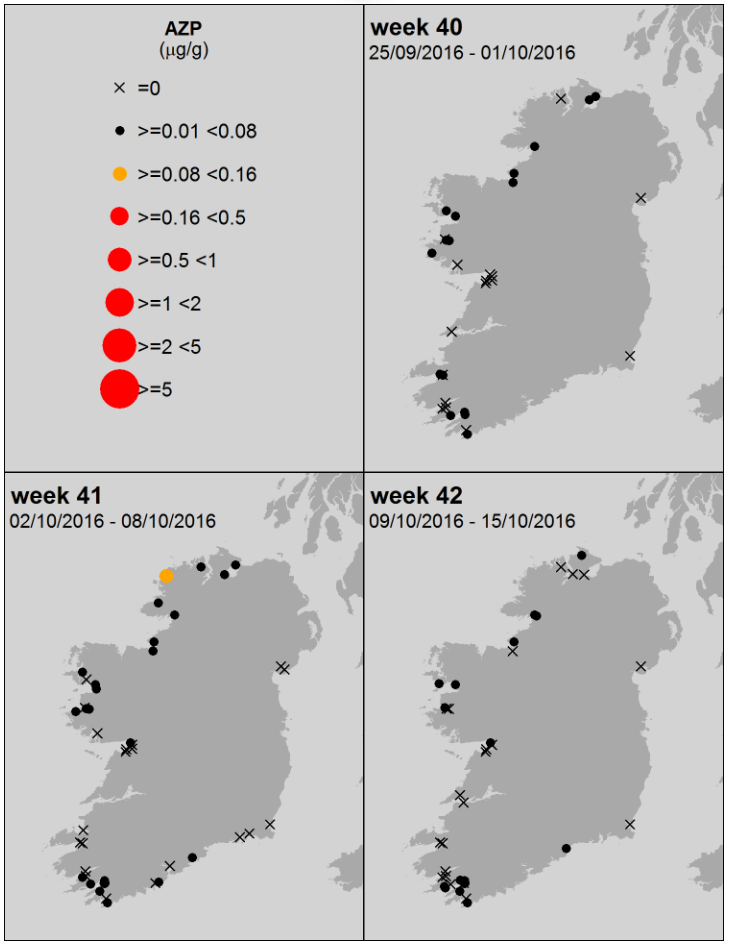
Ireland: **Last 3 weeks of available National Monitoring Programme data**



Azadinium – like spp.

AZP





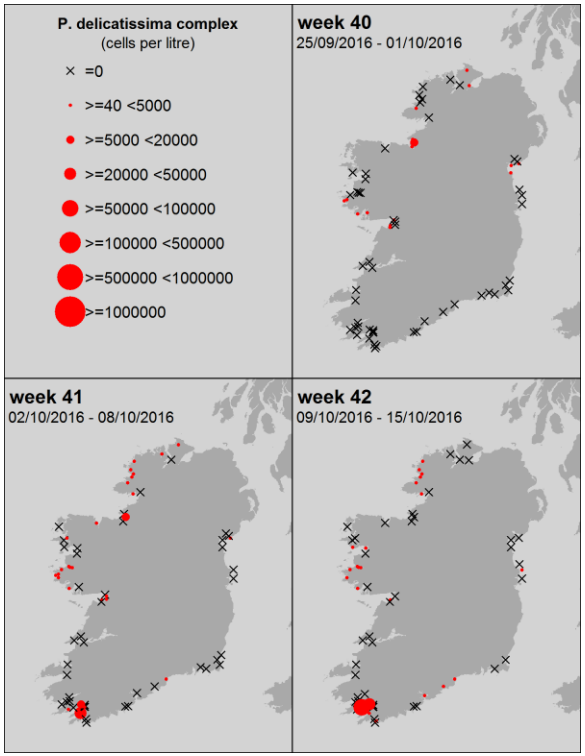
Ireland: **Last 3 weeks of available National Monitoring Programme data**

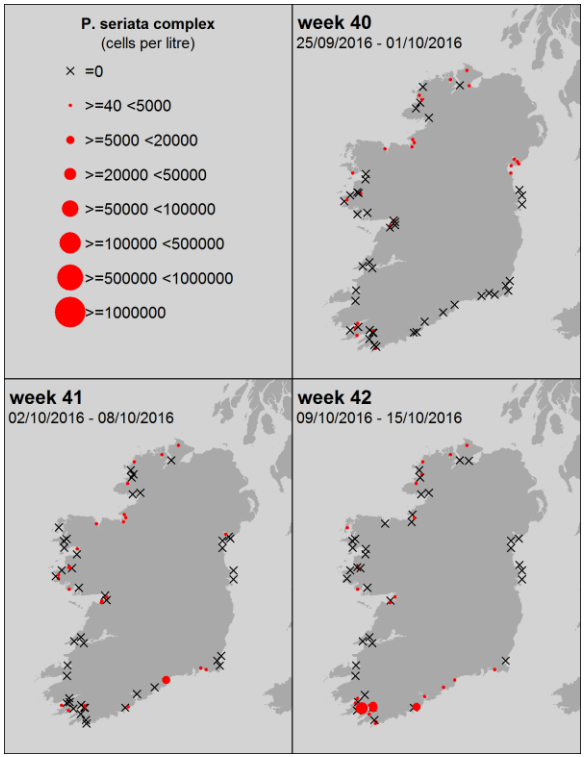
Pseudo-nitzschia spp.

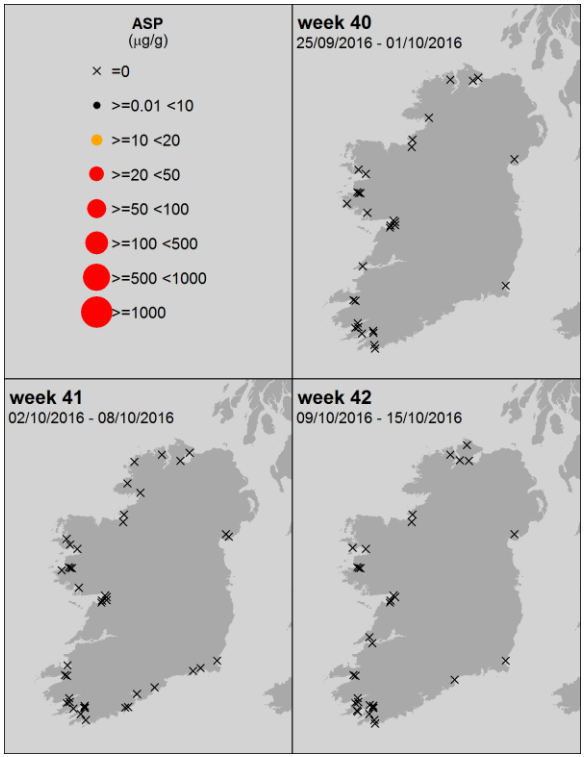
ASP

"*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

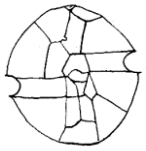






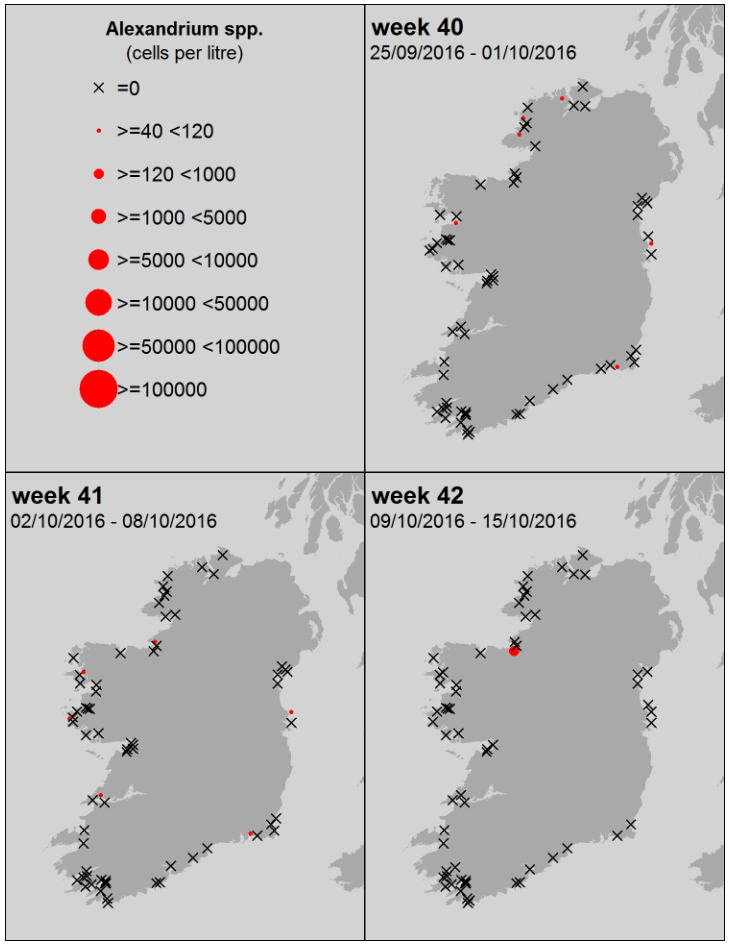
Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the "*P. seriata*" group) was toxic.

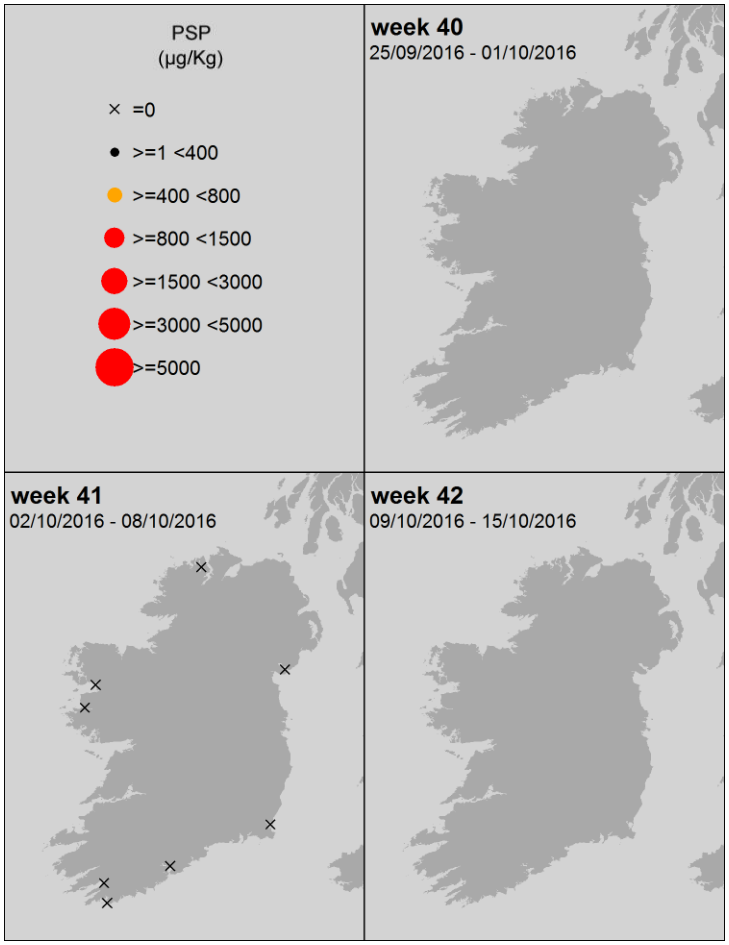
Ireland: **Last 3 weeks of available National Monitoring Programme data**



Alexandrium spp.

PSP

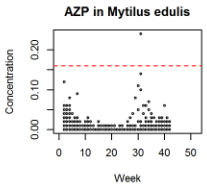
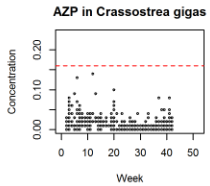
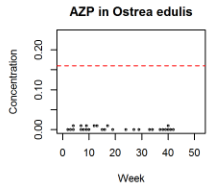
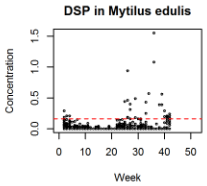
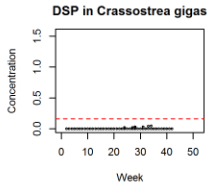
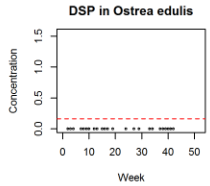
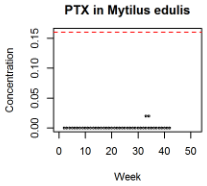
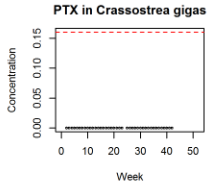
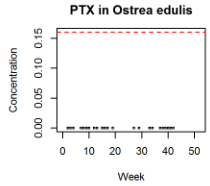
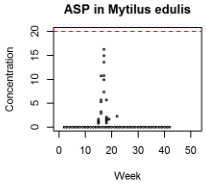
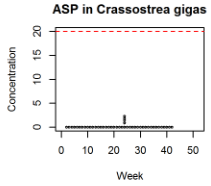
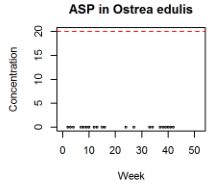
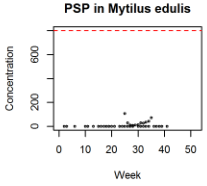
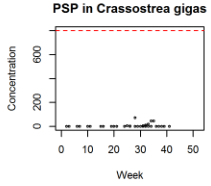
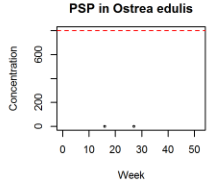


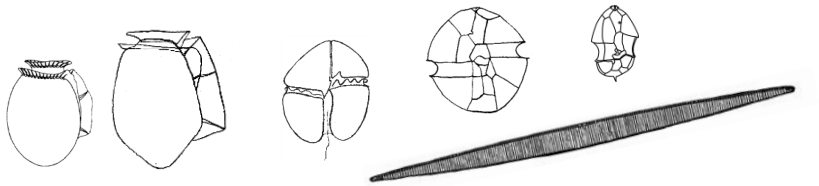


Ireland HAB & Biotoxin temporal trends

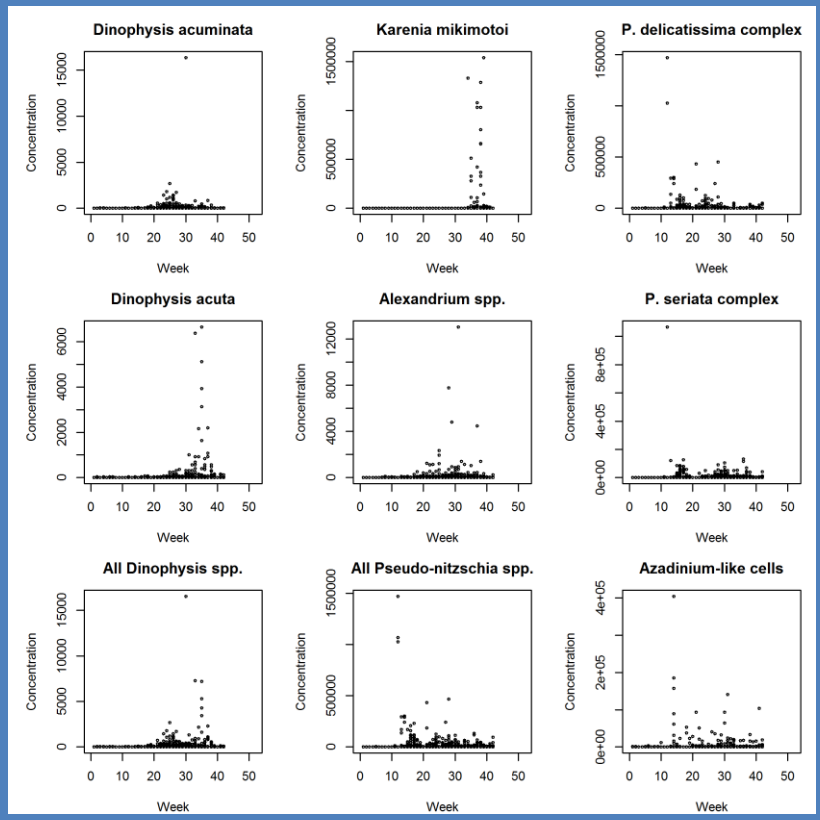
Ireland: **HABs and biotoxins** Levels from week 1 to present

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**

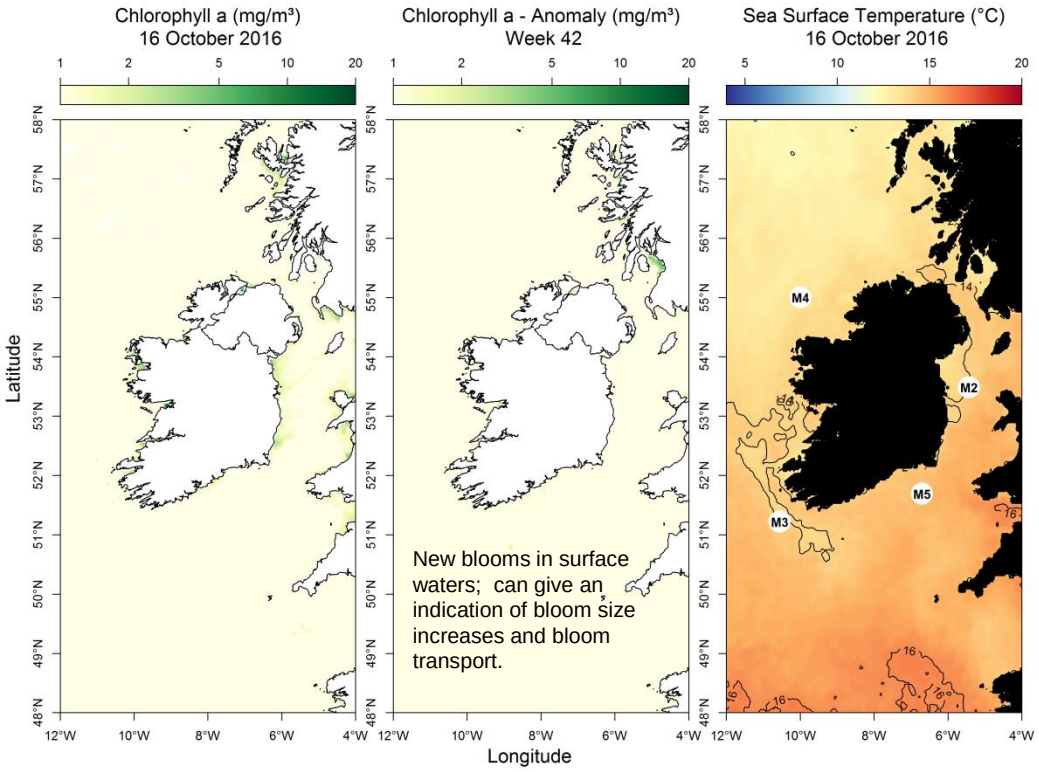


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit =

Ireland Satellite data: surface chlorophyll and temperature maps

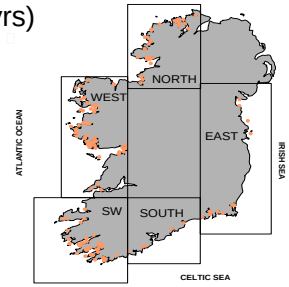
Most up to date available satellite data



SST (ºC) anomaly for last week:

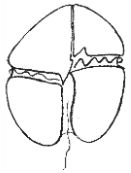
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

NW coast (M4) above average by 0.07 ºC
SW coast (M3) above average by 0.28 ºC
SE coast (M5) above average by 0.61 ºC



What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
north:	**Diatoms:**	
	Asterionellopsis glacialis	240,300
	Chaetoceros (Hyalochaete) spp.	228,800
	Cylindrotheca closterium/ Nitzschia longissima	12,700
	Dinoflagellates:	
	Azadinium/heterocapsa spp.	4,600
	Others:	
	Microflagellate sp.	648,300
west:	**Diatoms:**	
	Pennate diatom	49,000
	Cylindrotheca closterium/ Nitzschia longissima	19,500
	Dinoflagellates:	
	Azadinium/heterocapsa spp.	19,400
	Others:	
	Microflagellate sp.	26,500
	Cryptophyte	18,700
SW:	**Diatoms:**	
	Skeletonema spp.	328,300
	Lauderia / Detonula sp	60,600
	Detonula confervacaea	53,700
	Pseudo-nitzschia delicatissima complex	52,100
south:	**Diatoms:**	
	Chaetoceros curvisetus/debilis	329,100
	Skeletonema costatum	82,100
	Lauderia / Detonula sp	29,800
	Thalassiosira >50um	17,500
east:	**Diatoms:**	
	Asterionellopsis glacialis	6,400
	Cylindrotheca closterium/ Nitzschia longissima	3,300
	Chaetoceros (Hyalochaete) spp.	3,200
	Pseudo-nitzschia seriata complex	2,900

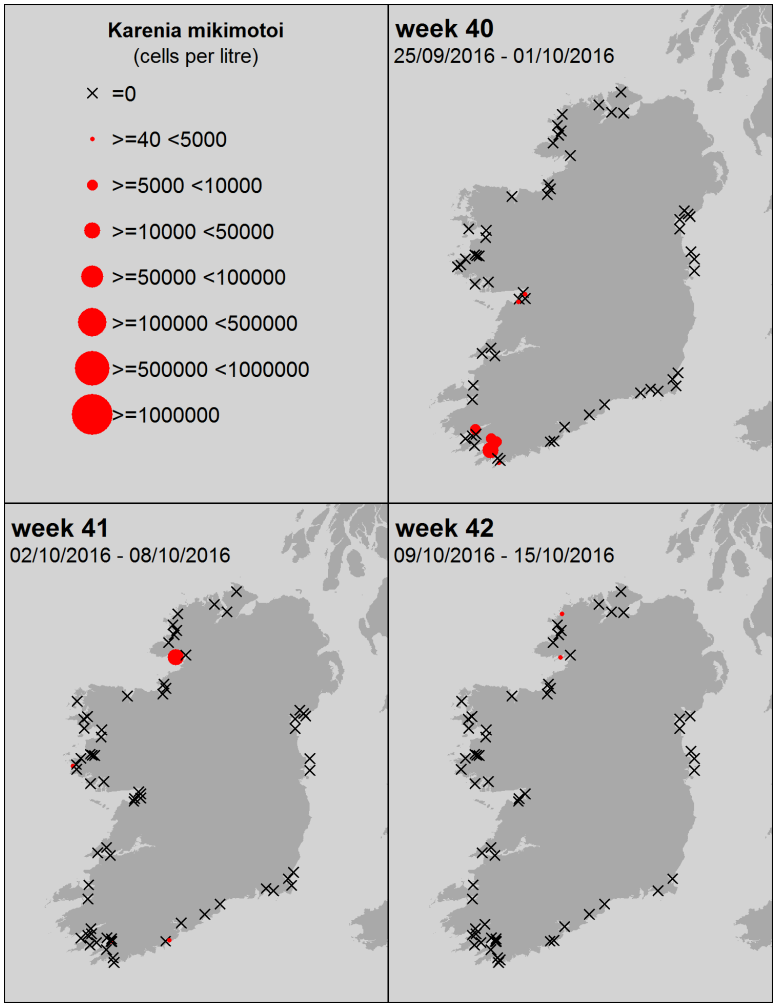


Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

Karenia spp. - Issues unlikely.

This species can cause stress and mortalities due to its effect on water quality in both farmed shellfish and finfish as well as many wild marine shore species i.e. lugworms, cockles etc.

Low impact husbandry for farmed fish is traditionally recommended to reduce any additional stress in affected sites. Increased frequency in checking fishing and keeper pots is traditionally advised for wild fisheries to remove live catch before potential losses in affected sites.

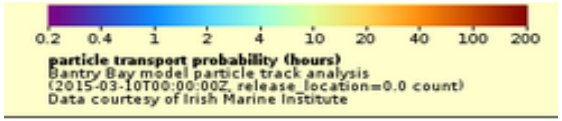


SOUTHWEST: Bantry Bay

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

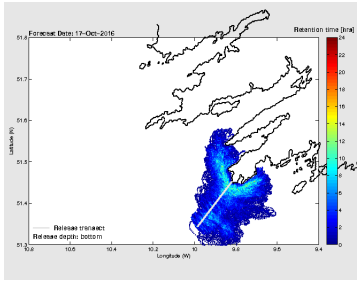
Cooler colours represent areas where phytoplankton remain for shorter periods

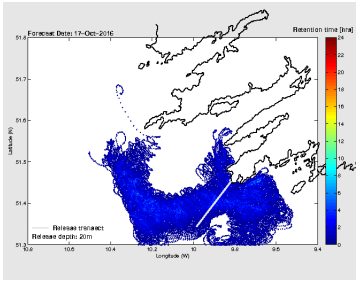


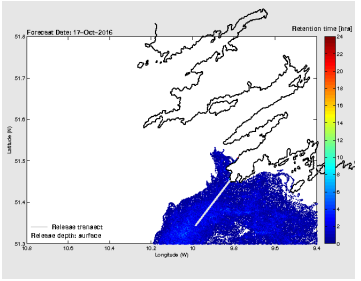
Go to http://vis.marine.ie/particles/ to view daily forecasts

Forecast for the next 3 days

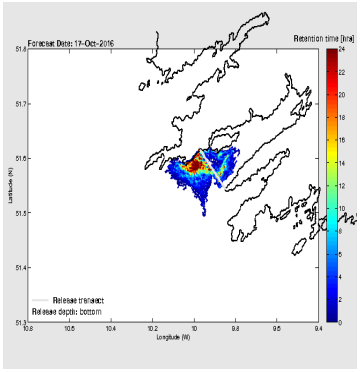
Bottom water	Water @ 20 metres	Surface water

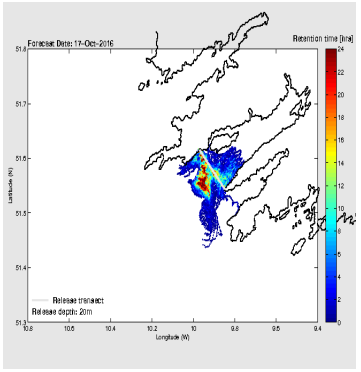


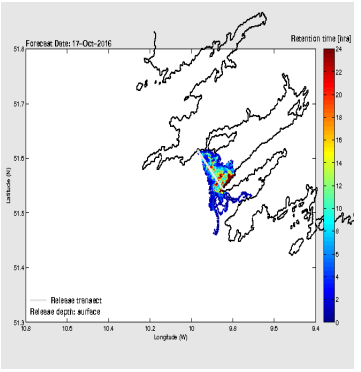




Mixed directional water movements in deeper waters with surface waters dominated by southeasterly movement.





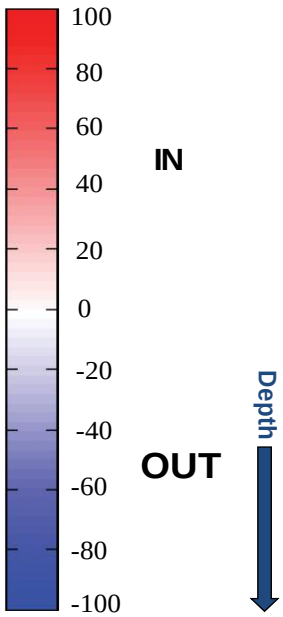


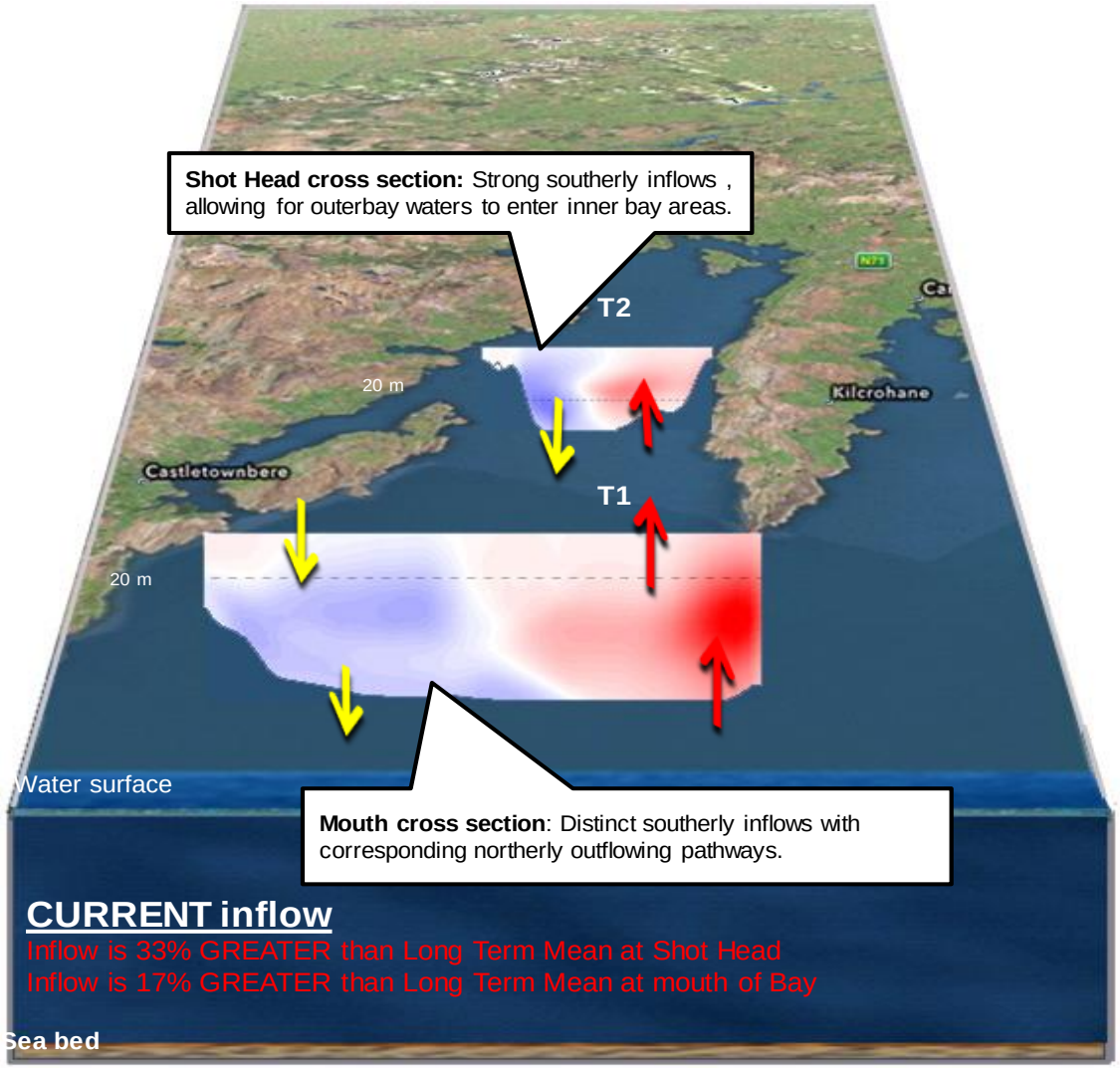
Potential for Celtic Sea waters to enter inner bay areas ,particularly at depth, while inner bay waters indicating movement in an off shore mixed southerly direction.

Bantry Bay

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

Forecast for next 3 days





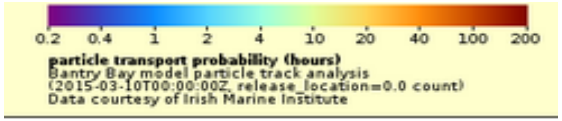
WEST: Killary Harbour

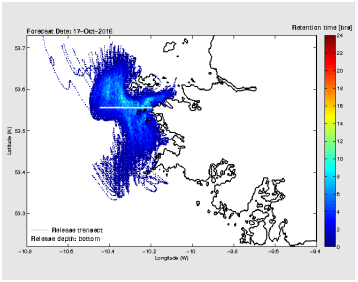
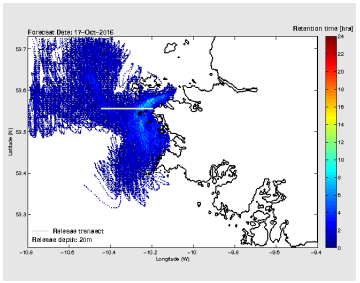
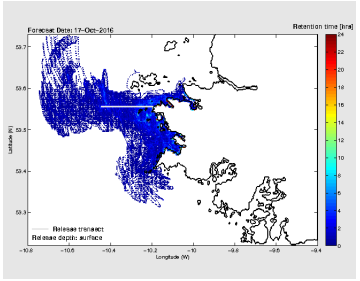
Forecast for the next 3 days

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)

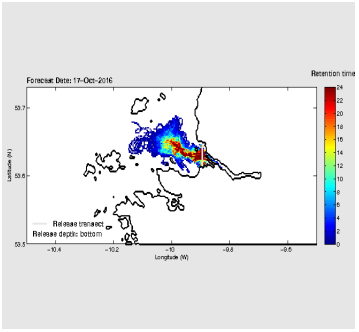
Reddish colours represent areas where phytoplankton remain longest

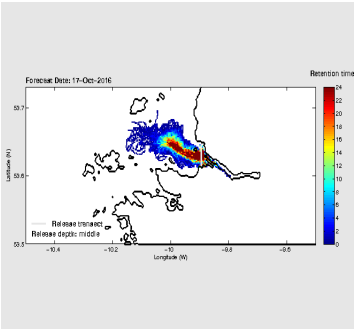
Cooler colours represent areas where phytoplankton remain for shorter periods

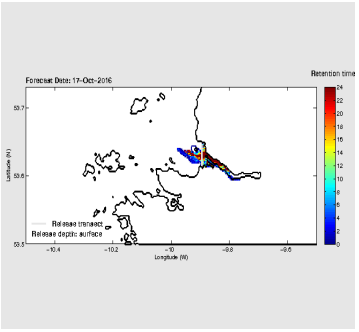


Bottom water	Water @ 20 metres	Surface water
		

Offshore water movement indicating strong mixing and transport , at all depth profiles, in equally mixed southerly and northerly directions. Potential for inner bay intrusions.



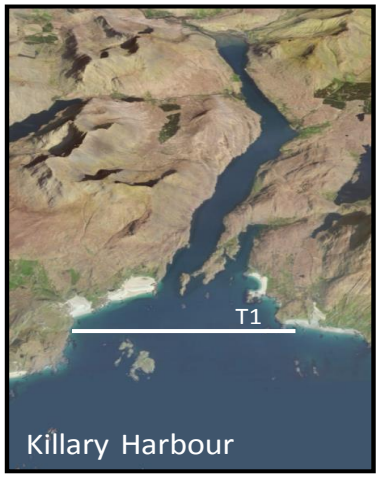


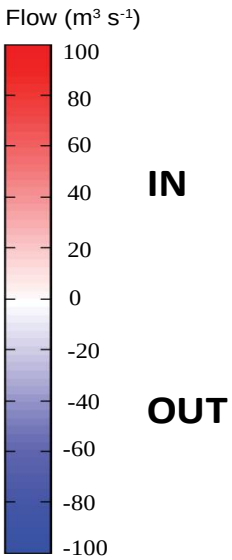


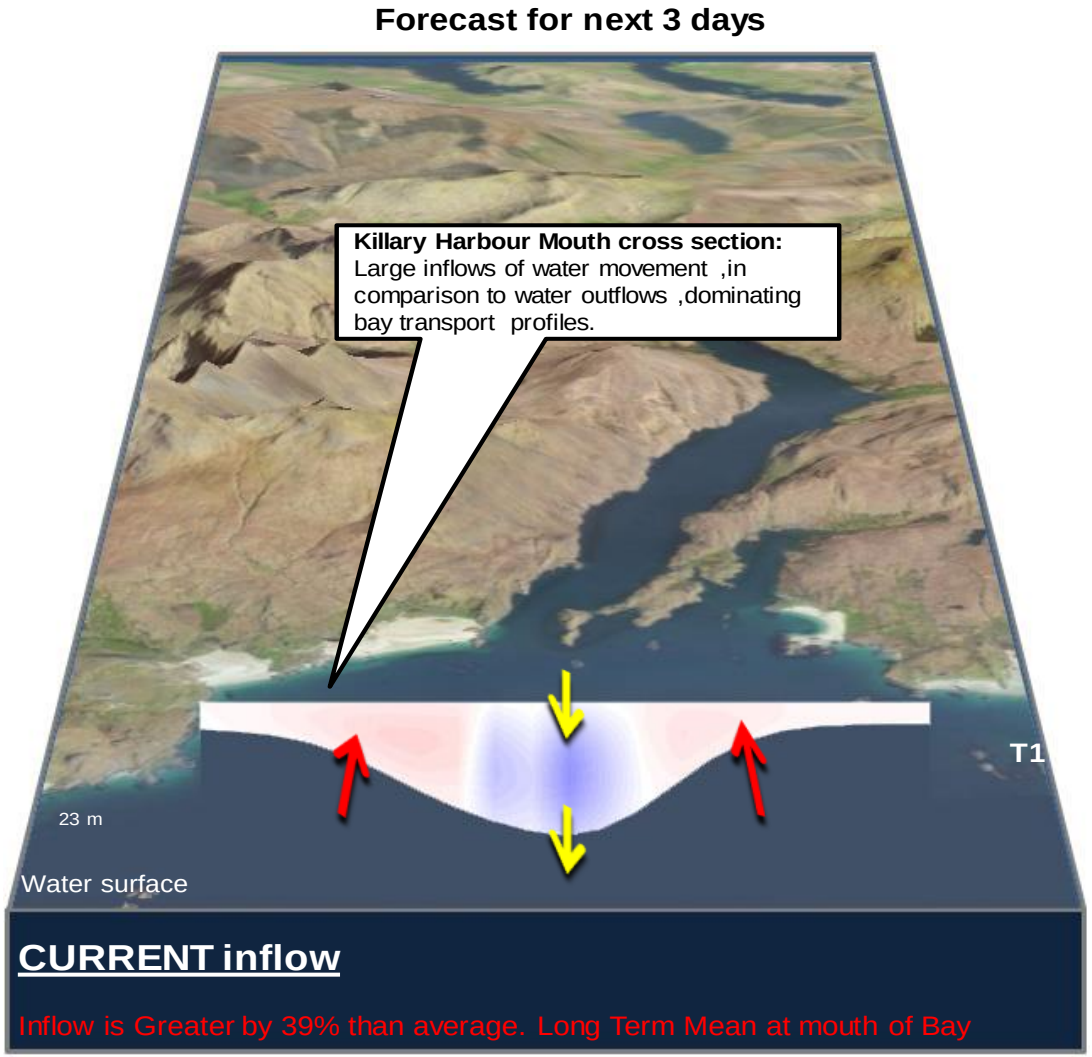
Surface waters only indicating the potential of inner bay intrusions from outer bay waters. Deeper water profiles indicating offshore water movements.

Killary Harbour

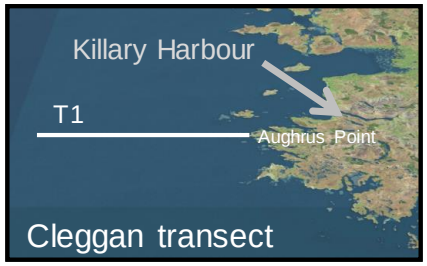
3 day estimated water flows at the mouth of Killary Harbour

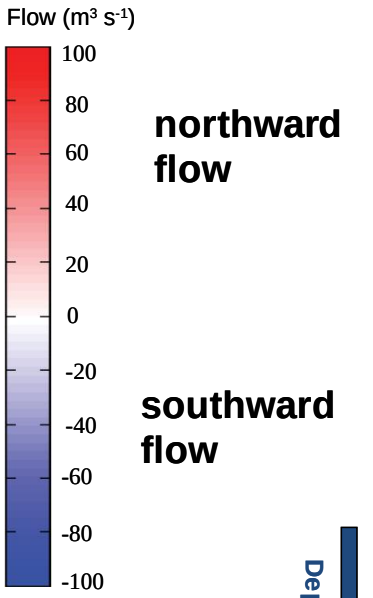






West Coast - 3 day estimated water flows along a transect off Aughrus Point





Forecast for next 3 days