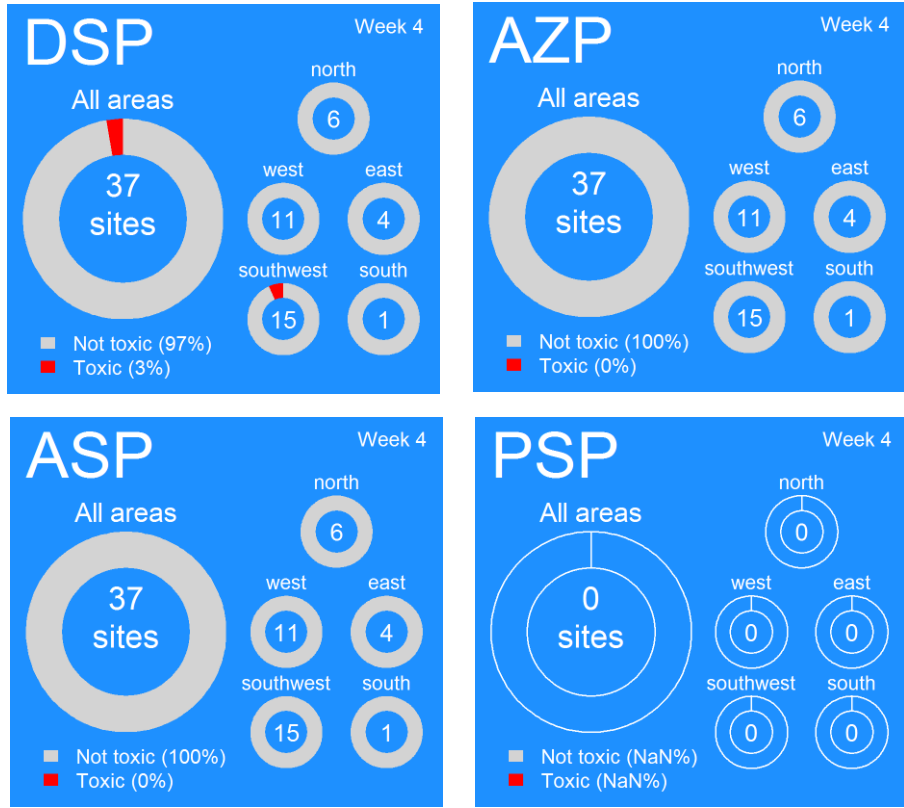


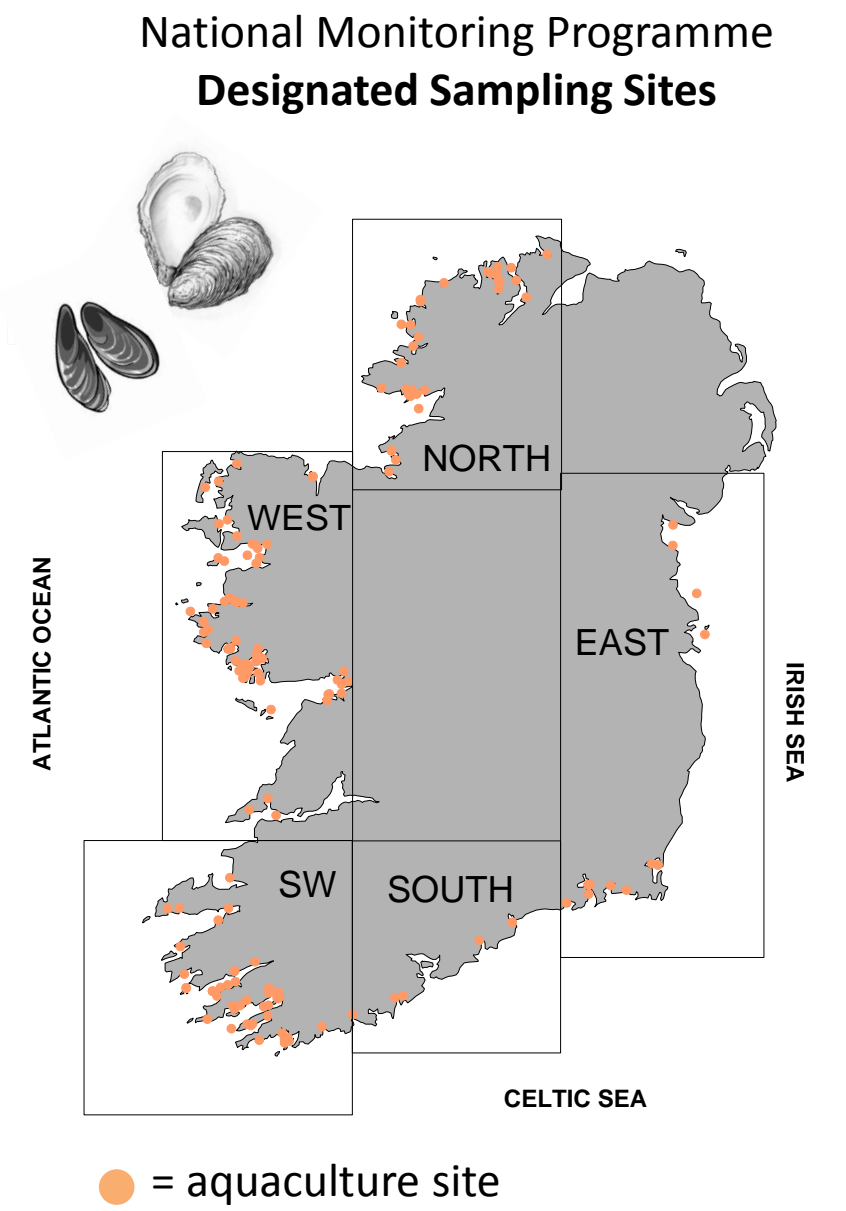
Ireland: Current Conditions

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**aspiracid **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 to moderate

AZP event: Low to moderate

DSP event: Low

PSP event: Low

Why do we think this?

ASP: Currently cells levels are very low in all sites, with corresponding toxin levels .However this is the beginning of the historical occurrence period for this toxin so the risk levels has theoretically increased.

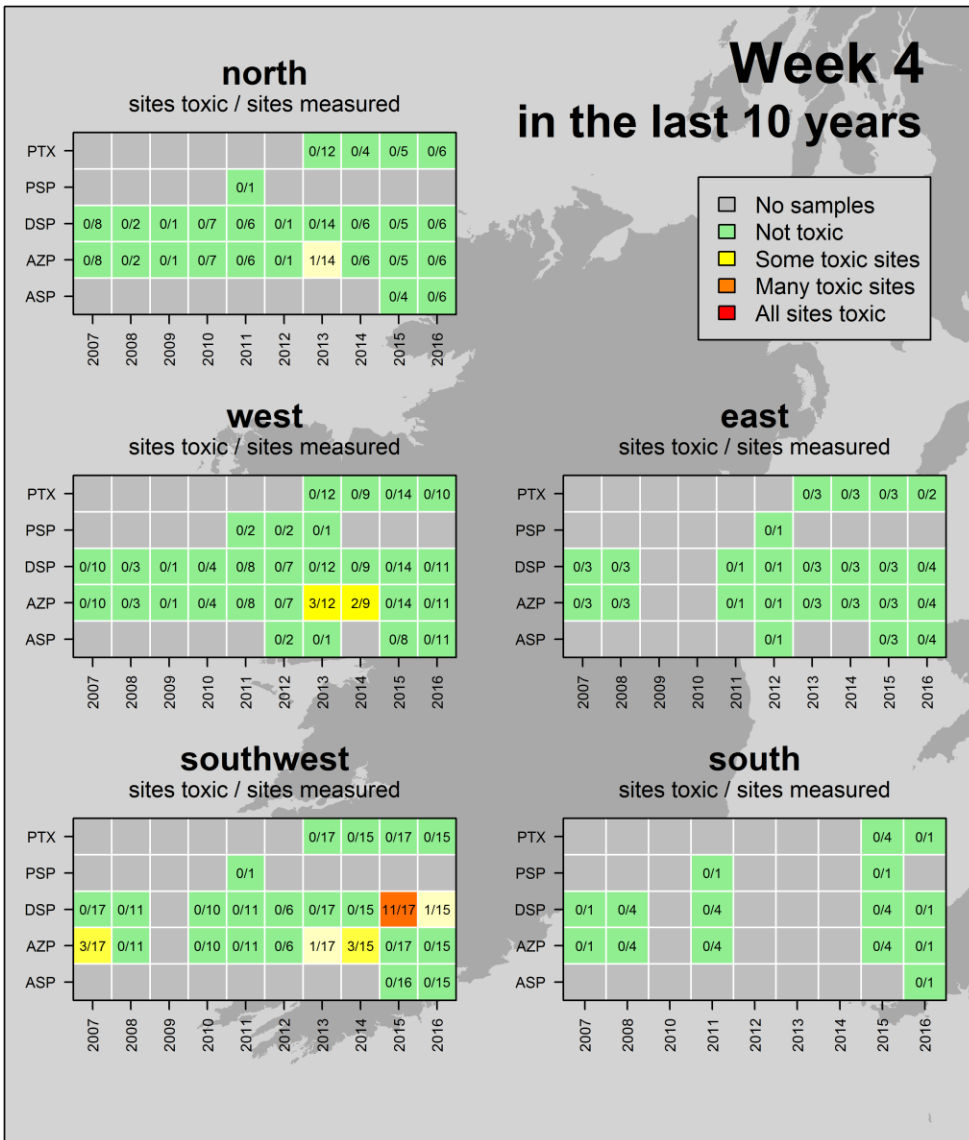
AZP: Low fluctuating levels of Azp persist in some sites throughout the coastline. This is the end of the historical period of occurrence but until environmental conditions change significantly and toxin levels drop to zero , a level of risk still exists.

DSP: Low levels of residual toxin still appears to remain in some specific sites.No new toxic event would be expected at this time and once the marine 'spring' growth season begins depuration of any toxins would be expected.

PSP: Environmental conditions are not conducive to any normal event at this time.

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

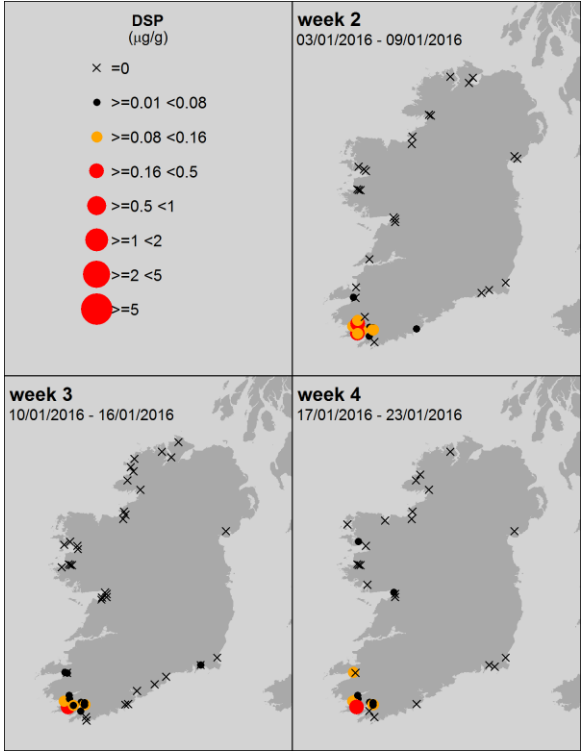
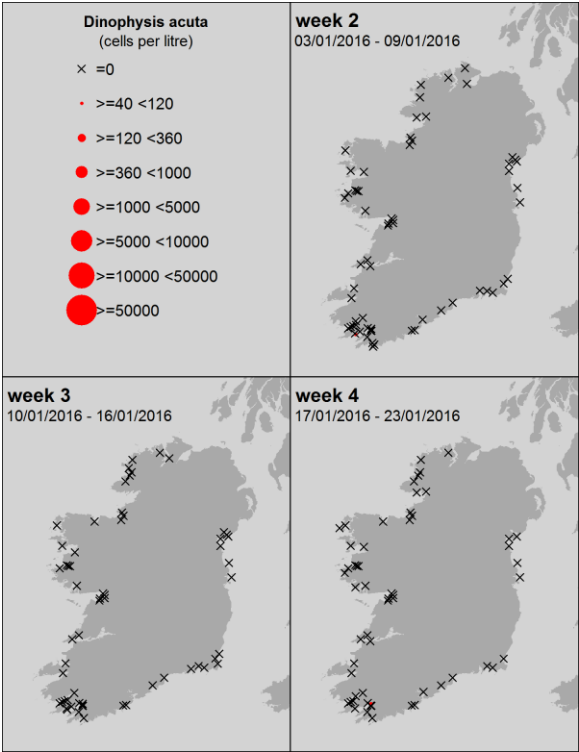
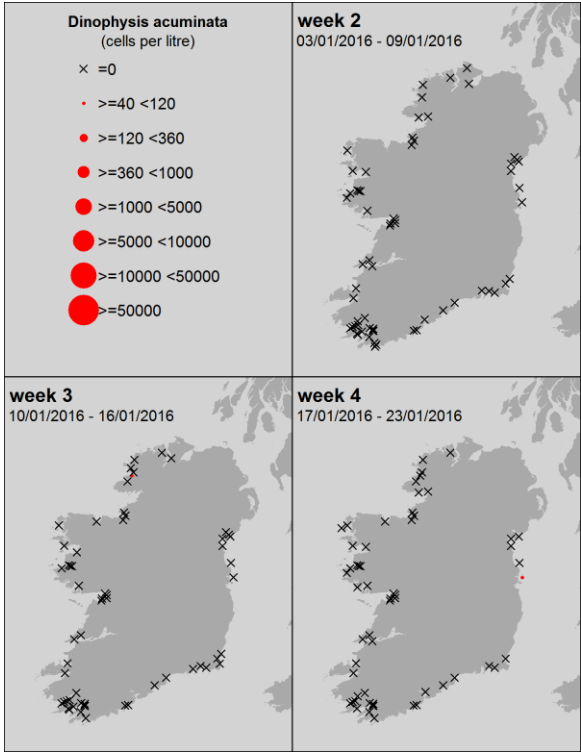
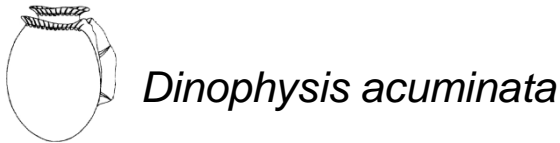
AZP events: April to December

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



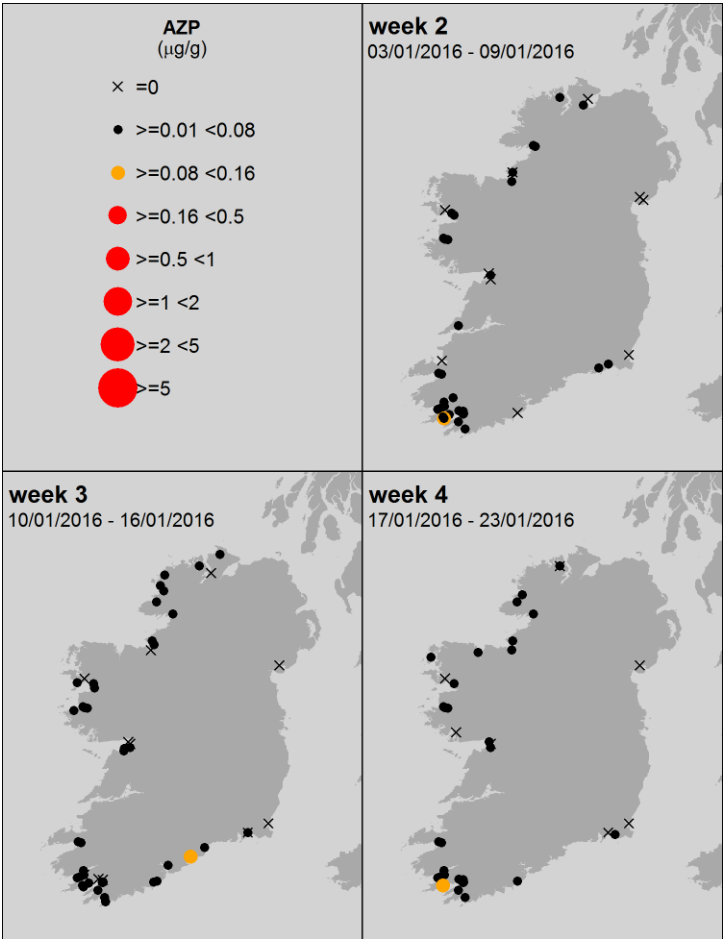
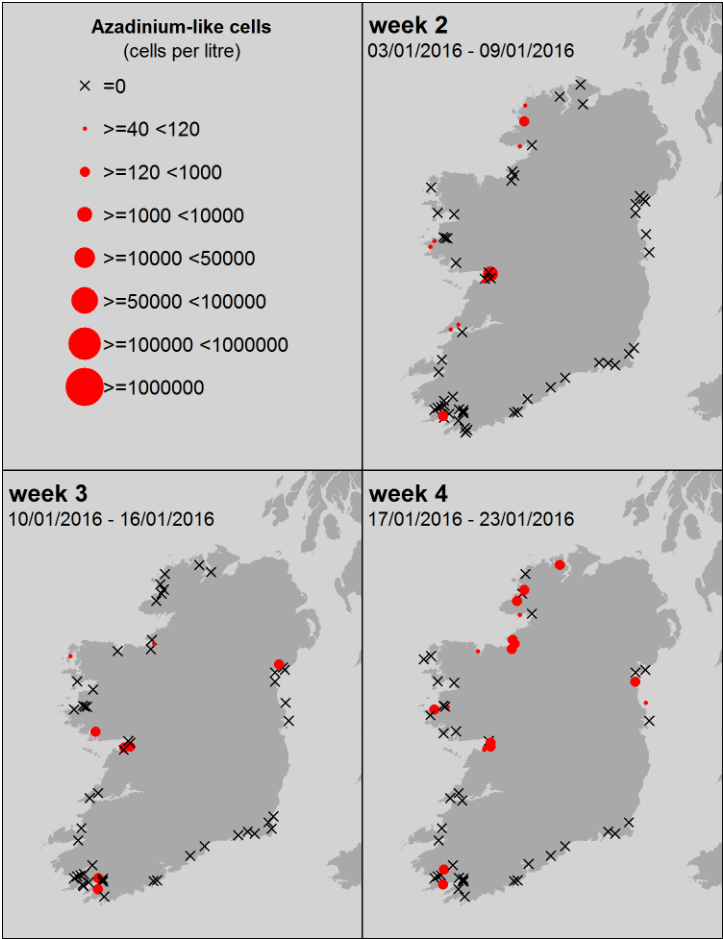
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

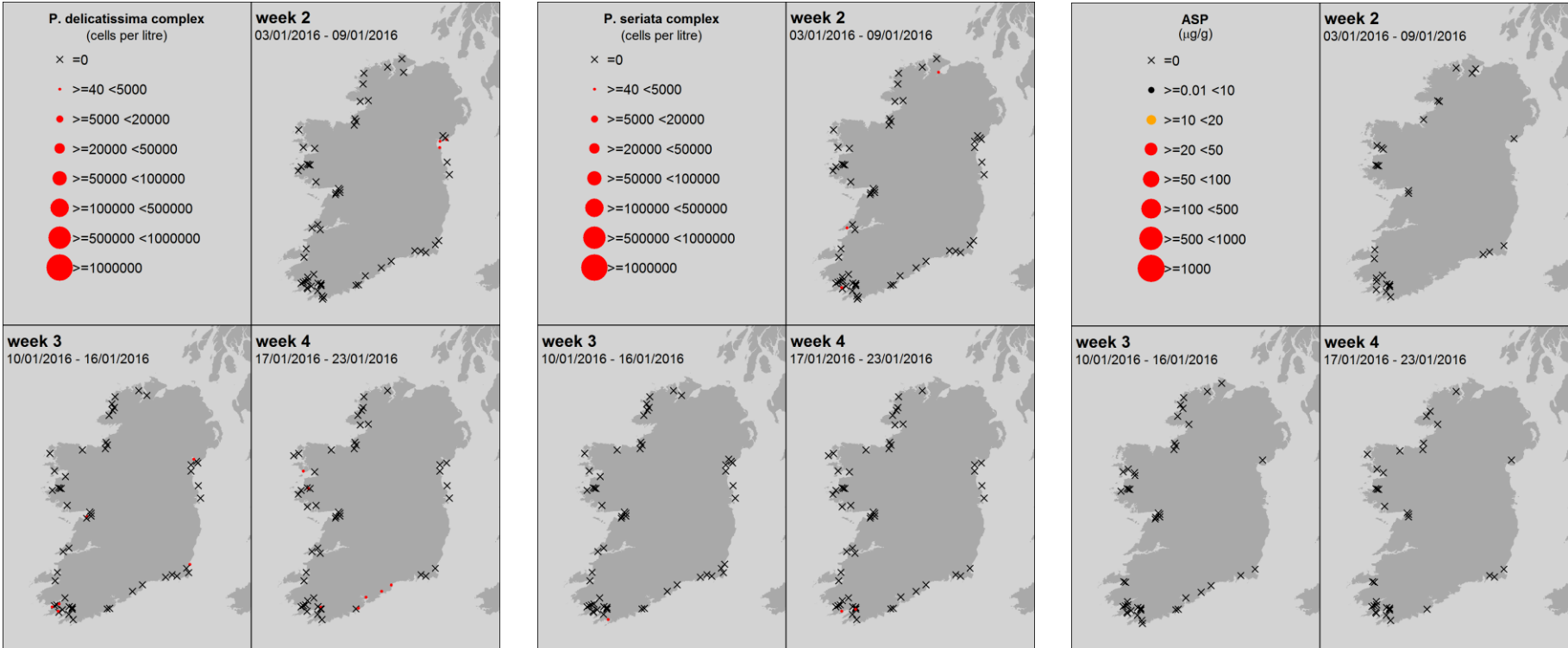
Pseudo-nitzschia spp.



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

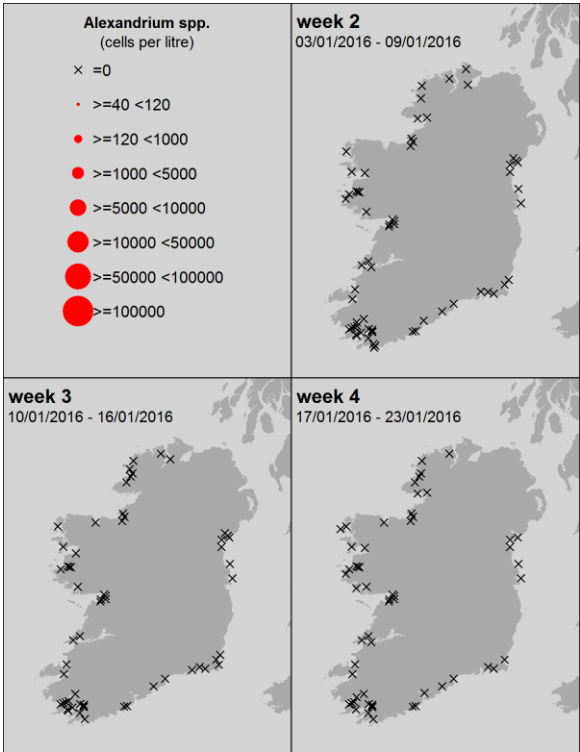


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

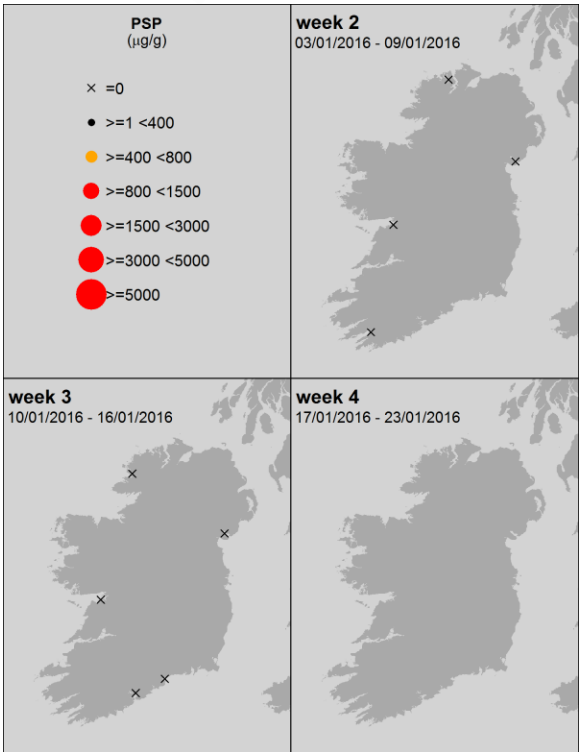
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



PSP



Ireland HAB & Biotoxin temporal trends

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

Ireland: Biotoxins



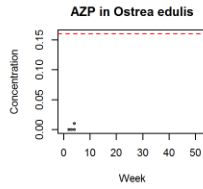
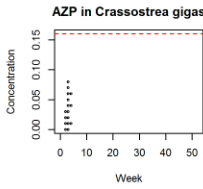
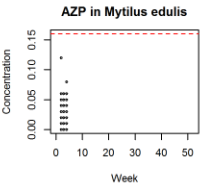
Toxin groups

mussels

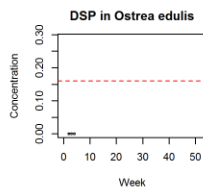
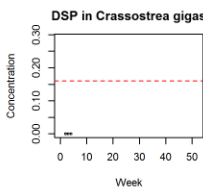
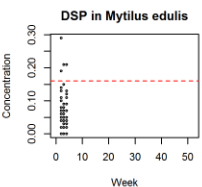
oysters

oysters

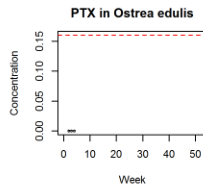
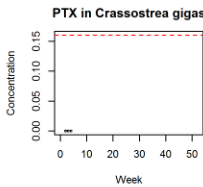
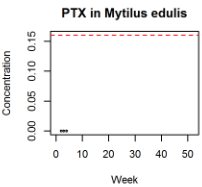
AZP
AZaspiracid
Poisoning



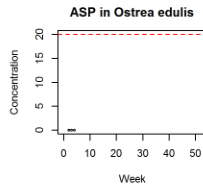
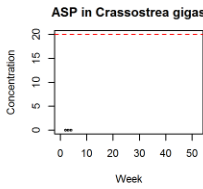
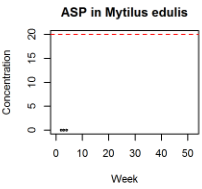
DSP
Diarrhetic
Shellfish
Poisoning



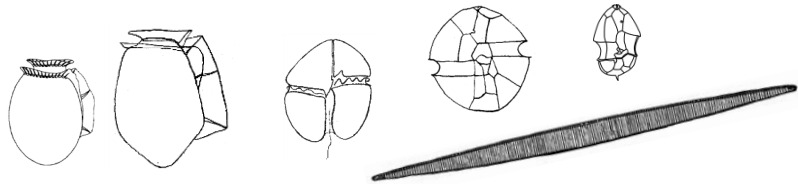
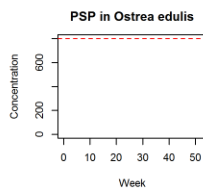
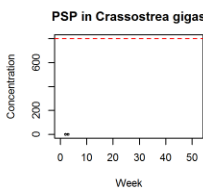
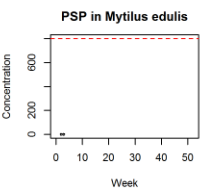
PTX
Pectenotoxin



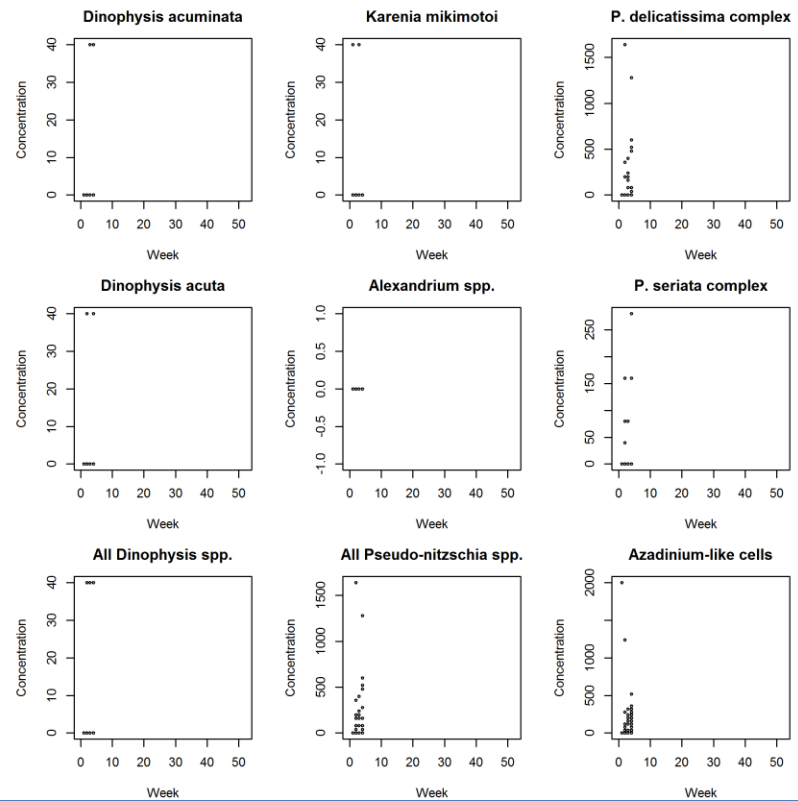
ASP
Amnesic
Shellfish
Poisoning



PSP
Paralytic
Shellfish
Poisoning



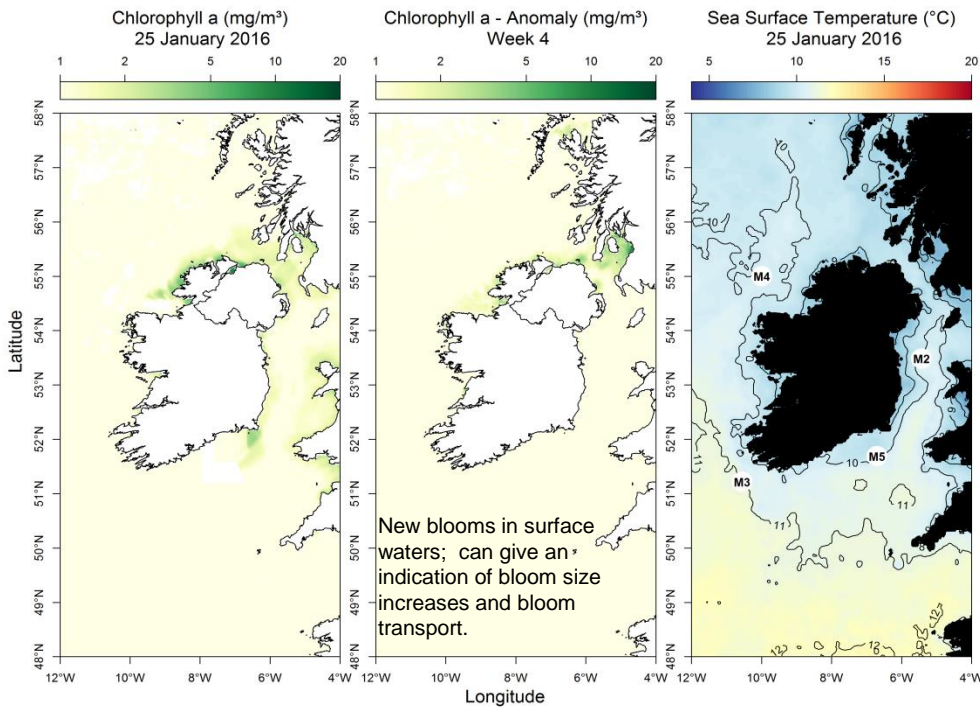
Ireland: HABs



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

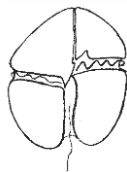


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) above average by 0.53 °C
- SW coast (M3) Offline
- SE coast (M5) Offline

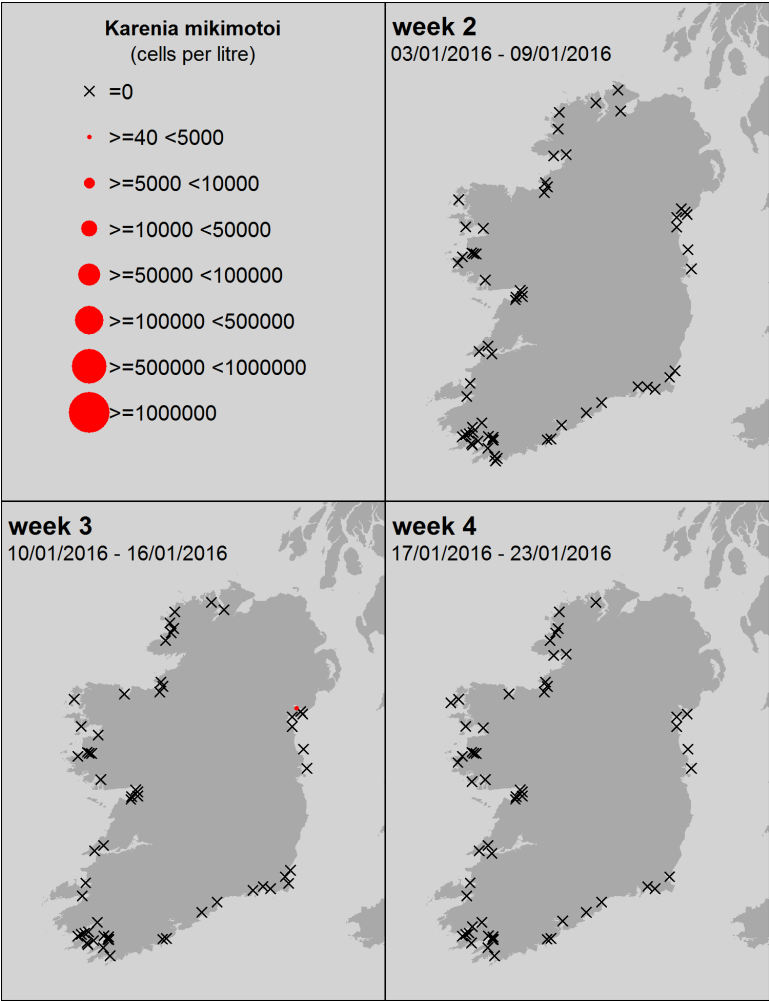
What phytoplankton were blooming at inshore coastal sites last week?

Week 4				
Region	Predominant Phytoplankton (most abundant taxa)	Cells/L	Cells/L (rounded)	
North:	Diatoms:			
	<i>Striatella</i> spp.	1,360	1,000	
	Dinoflagellates:			
	<i>Azadinium/heterocapsa</i> spp.	360	1,000	
	<i>Armoured dinoflagellate</i> <20um	160	1,000	
	Microflagellates:			
West	<i>Microflagellate</i> sp.	1440	1,000	
	Other:			
	<i>Ciliates</i>	400	1,000	
	Diatoms:			
	<i>Skeletonema costatum</i>	2,800	3,000	
	<i>Pseudo-nitzschia seriata</i> complex	160	0	
SW:	Dinoflagellates:			
	<i>Azadinium/heterocapsa</i> spp.	240	0	
	Other:			
	<i>Tintinnid</i>	600	1,000	
	Diatoms:			
	<i>Lauderia / Detonula</i> sp	16880	17,000	
South:	Dinoflagellates:			
	<i>Azadinium/heterocapsa</i> spp.	320	0	
	Microflagellates:			
	<i>Cryptophyte</i>	12240	12,000	
	<i>Haptophytes</i>	2560	3,000	
	<i>Rhaphidophytes</i>	2120	2,000	
East:	Others:			
	<i>Ciliates</i>	29120	29,000	
	Diatoms:			
	<i>Paralia sulcata</i>	240	0	
	Dinoflagellates:			
	<i>Azadinium/heterocapsa</i> spp.	280	0	
	Microflagellates:			
	<i>Cryptophyte</i>	280	0	
	Diatoms:			
	<i>Pennate diatom</i>	3560	4,000	
	Dinoflagellates:			
	<i>Scrippsiella</i> spp.	880	1,000	
	<i>Azadinium/heterocapsa</i> spp.	200	0	
	Microflagellates:			
	<i>Microflagellate</i> sp.	1240	1,000	



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom
is NOT expected this week



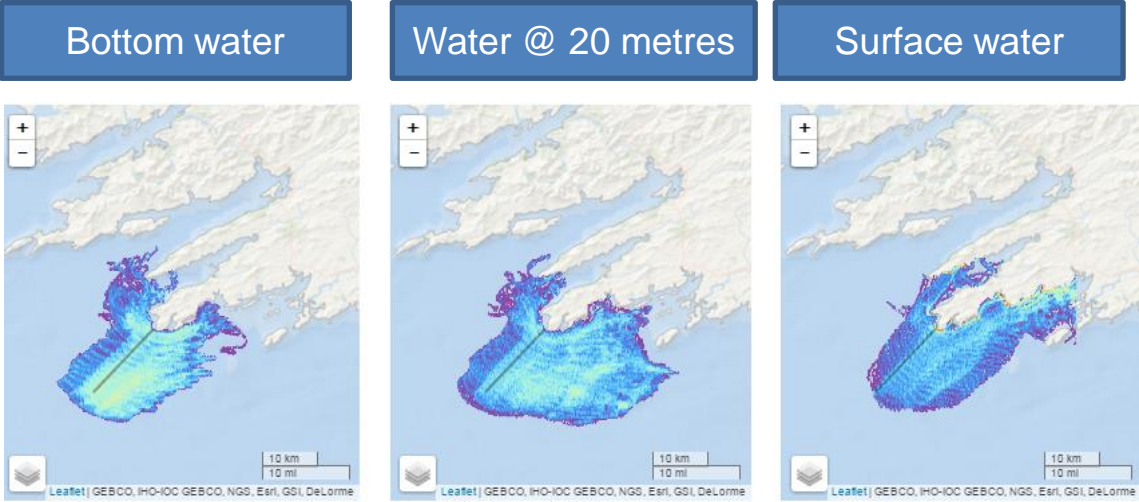
SOUTHWEST: Bantry Bay

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)

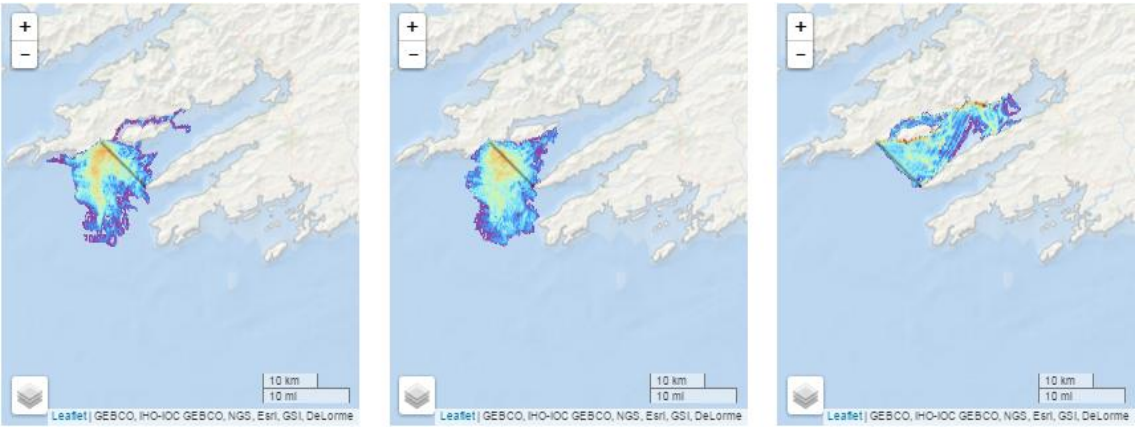
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods

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



Predominantly Southeasterly water flows may allow intrusions of offshore waters into inner bay areas particularly at surface levels.



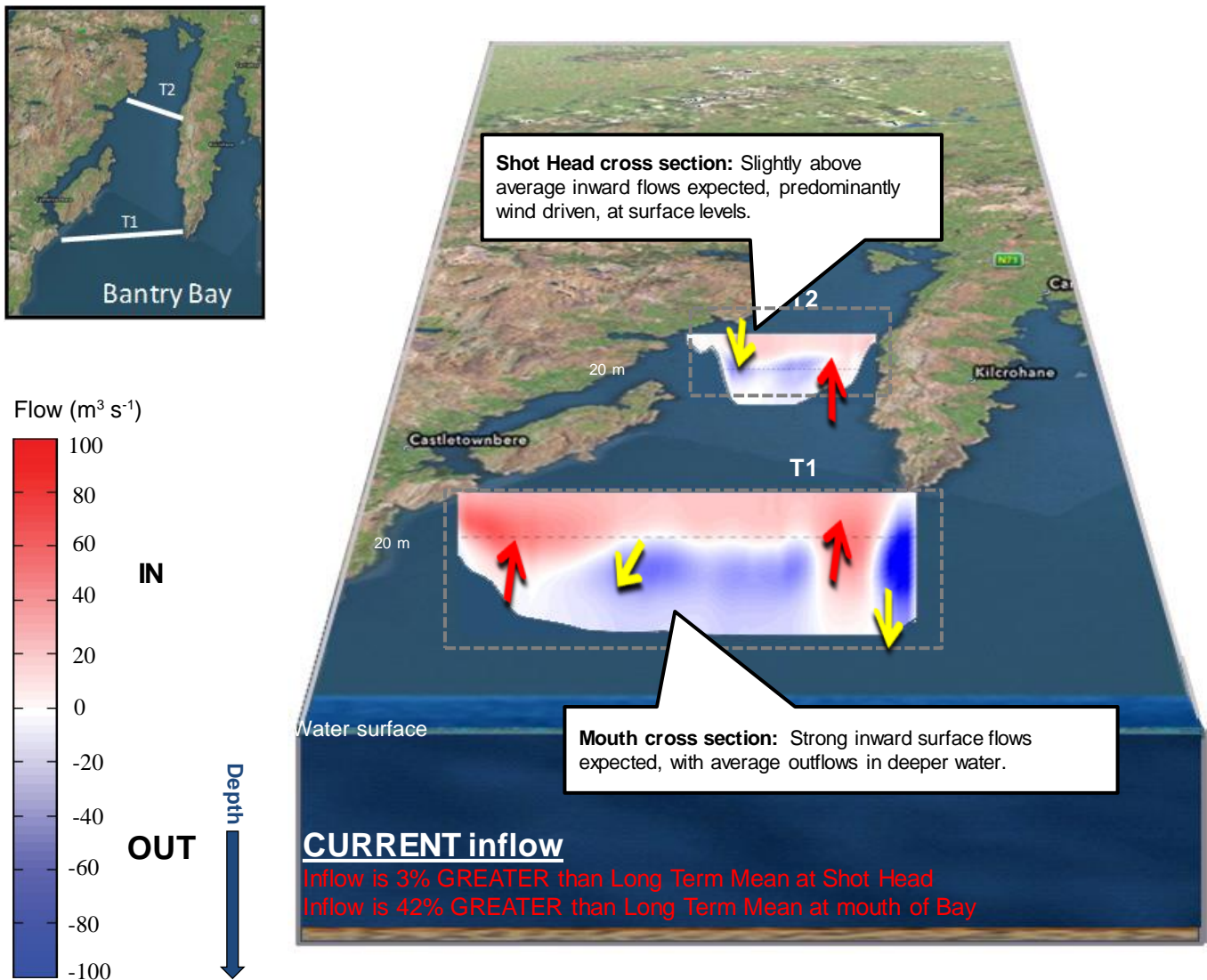
South and southeasterly waterflows may allow offshore waters to intrude into inner bay areas at all depths.

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

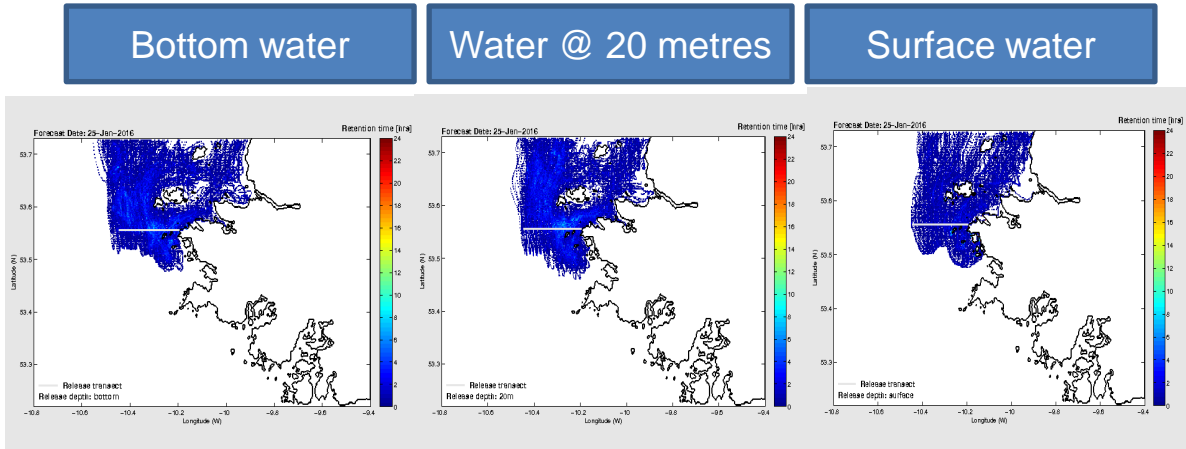
Cooler colours represent areas where phytoplankton remain for shorter periods



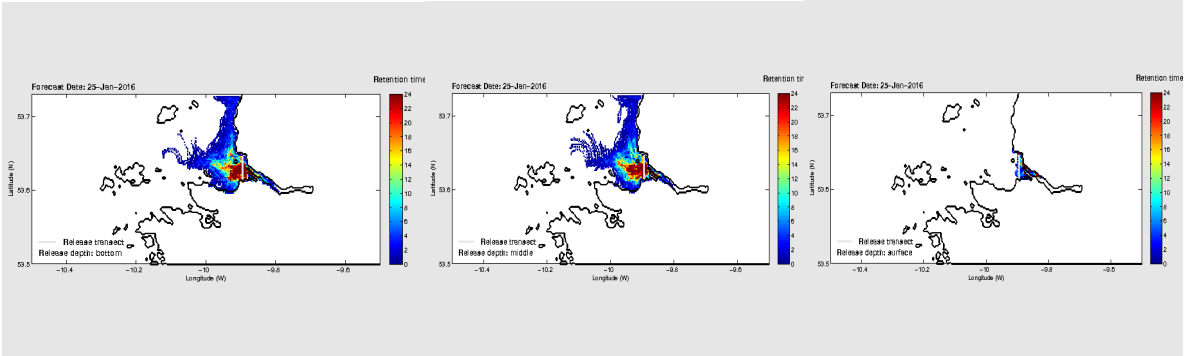
0.2 0.4 1 2 4 10 20 40 100 200

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



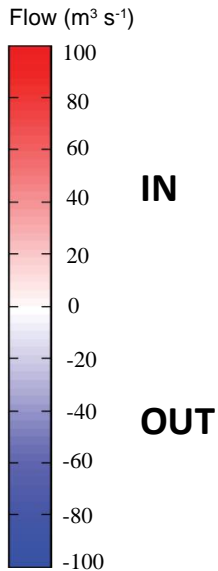
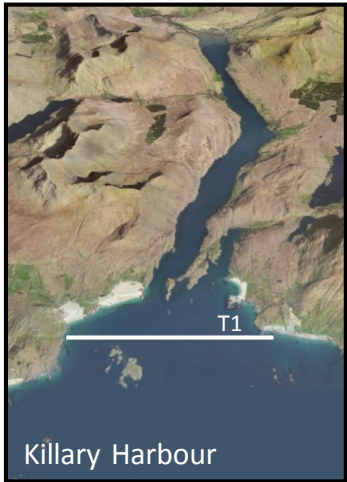
Predominantly northerly water movement at all depths.



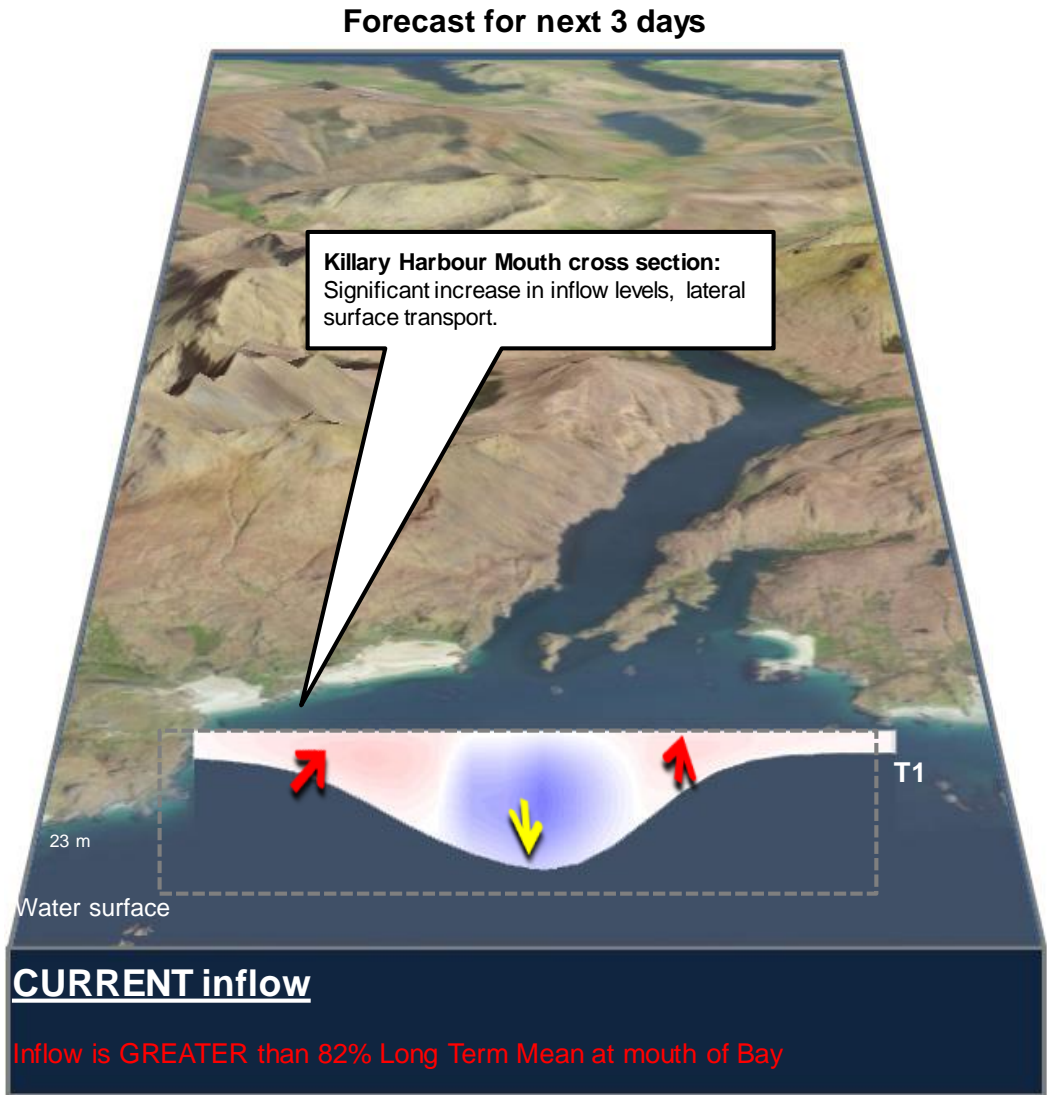
Outer mouth of bay displaying northerly movement at depths while surface water movement possibly leading to bay intrusions.

Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Depth



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

Forecast for next 3 days

