

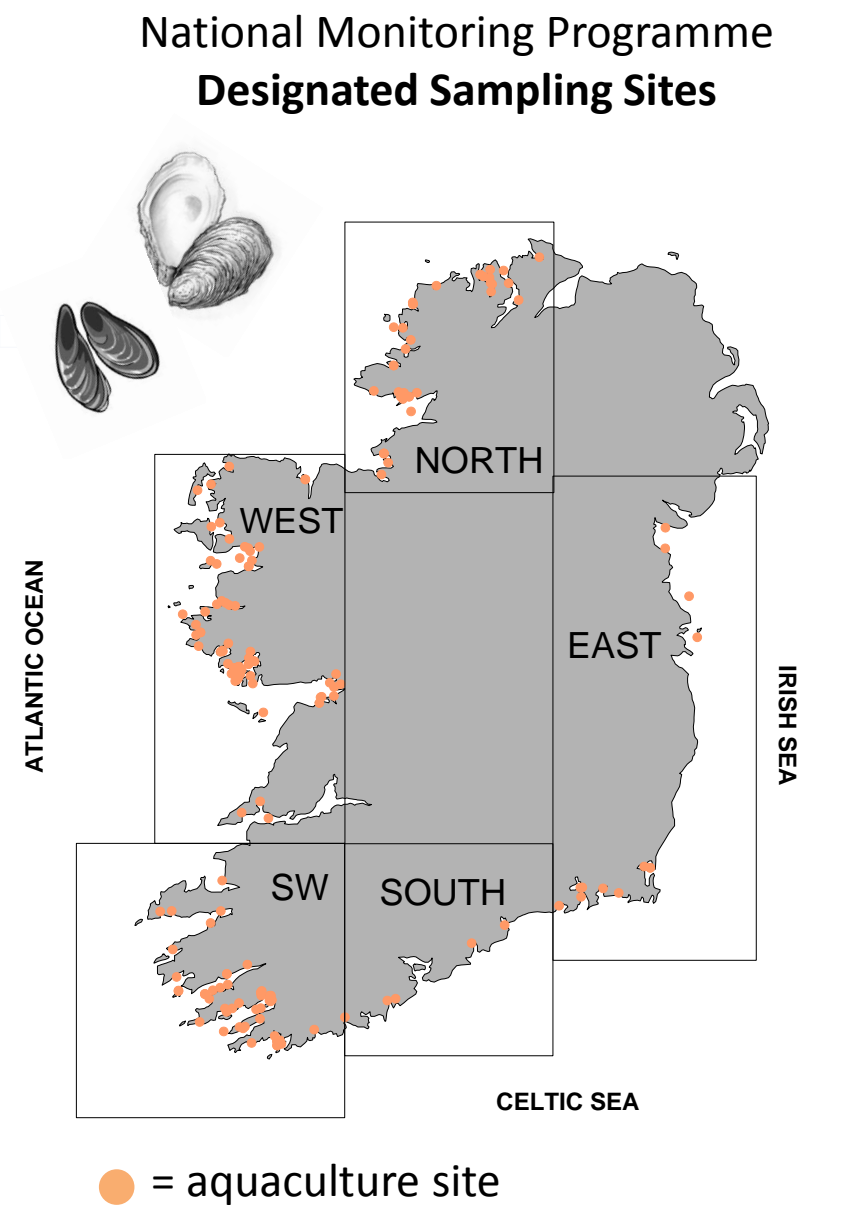
Ireland: Current Conditions

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



Ireland: Predictions

Prediction for this week:

ASP event: Low

AZP event: Low

DSP event: Low

PSP event: Low

Why do we think this?

ASP: Currently *Pseudo nitzschia species*' cell counts are very low with corresponding negligible biotoxin levels. However this is the beginning of the historical trend period of occurrence so moderate caution is advised in case of sudden rises.

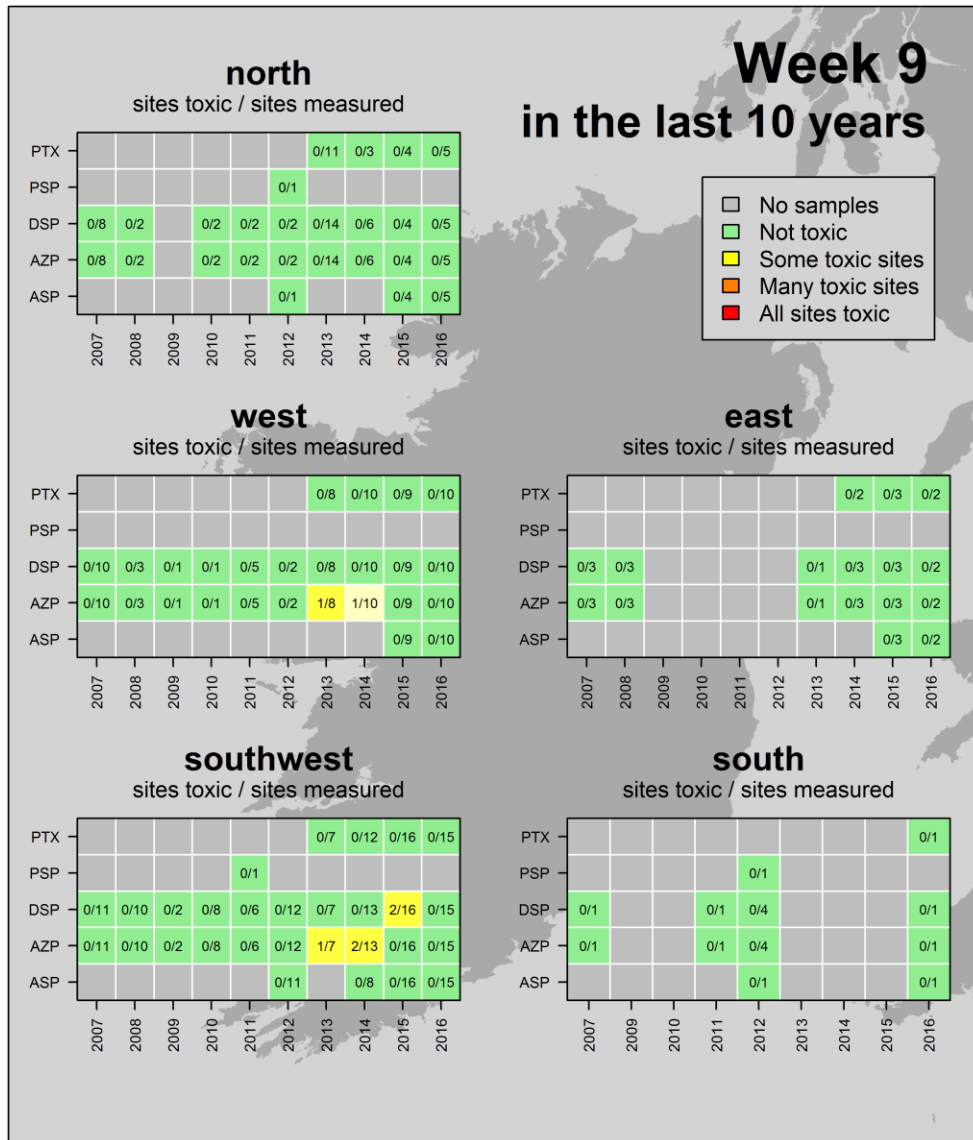
AZP: While *Azadinium* type cells are still being observed at low levels throughout the western coastline, biotoxin levels remain very low. This is not an historical high risk period but a low level of caution may still be needed.

DSP: Currently conditions do not appear to be favourable for a biotoxin issue within this group – too early in the season. Cell levels of causative agents i.e. *Dinophysis* species, are all very low as are the corresponding biotoxin levels.

PSP: Environmental conditions are not currently suitable and this is still a period of very low risk based on analysis of historical data.

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

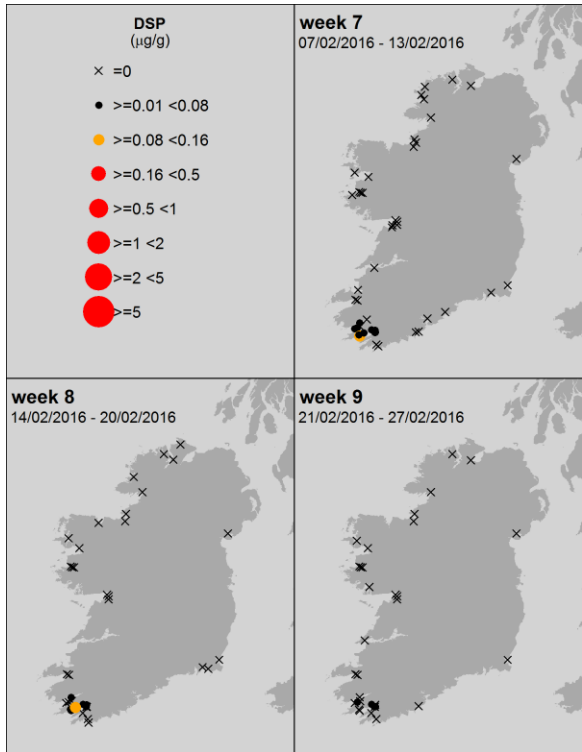
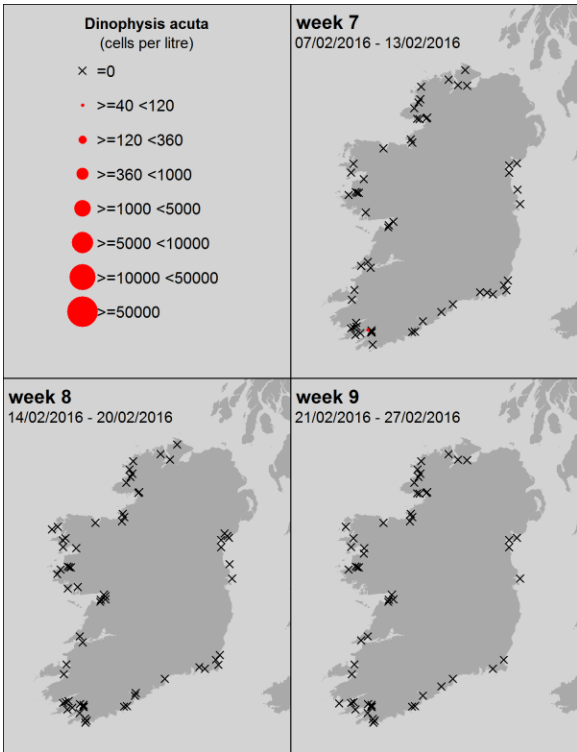
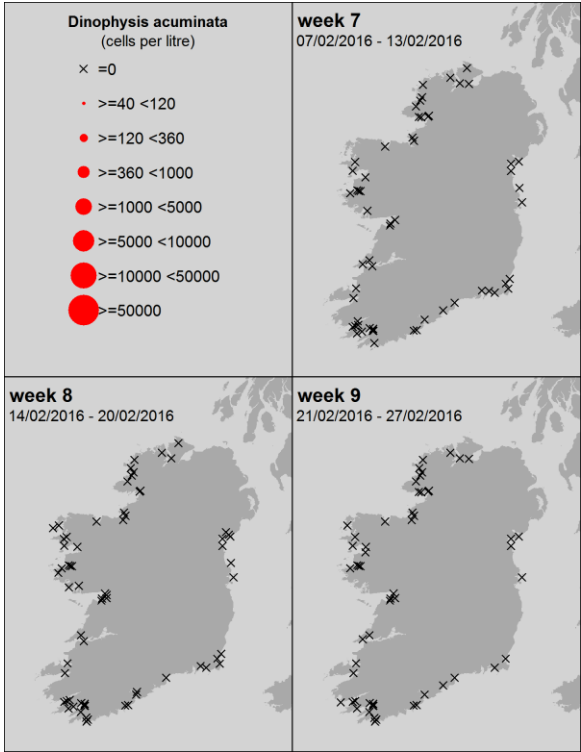
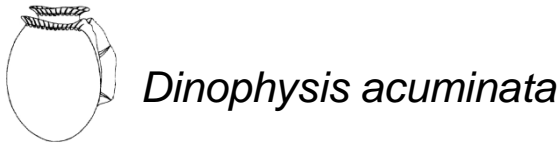
AZP events: April to December

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



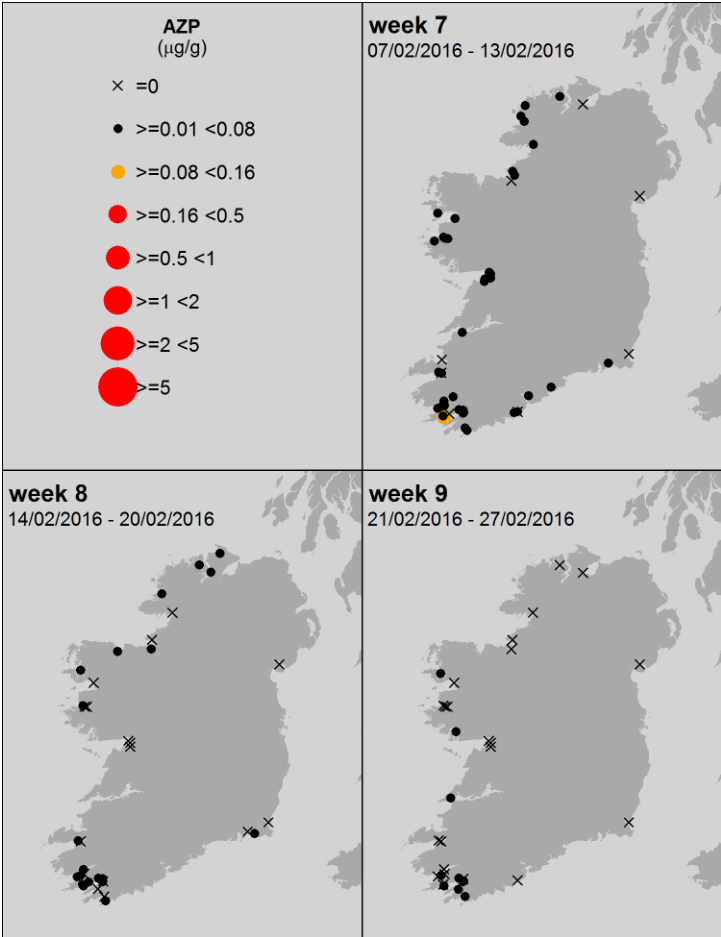
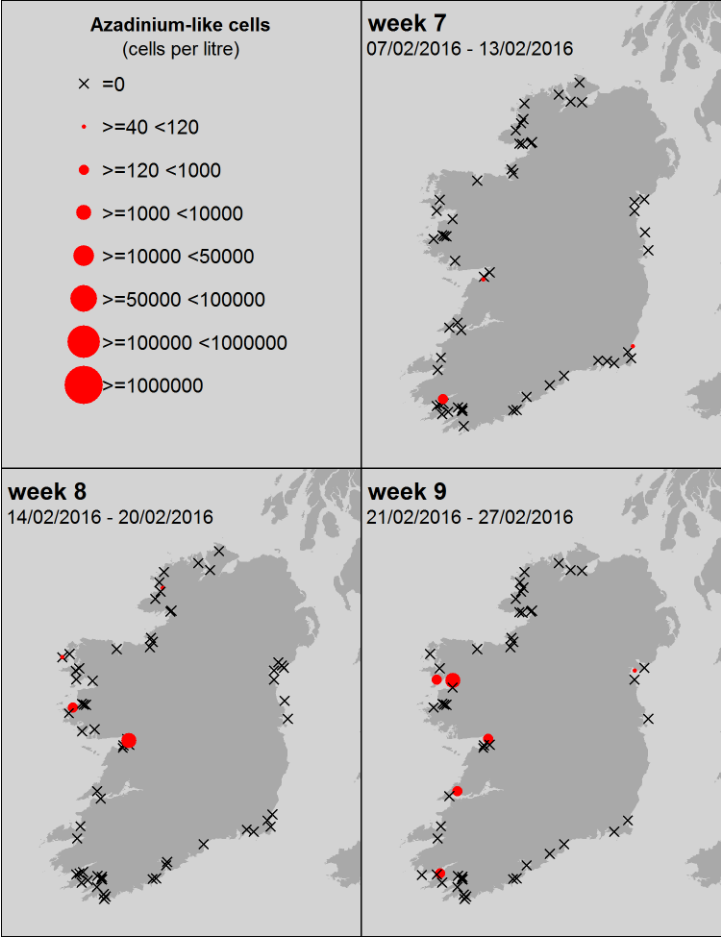
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AzP



Ireland: Last 3 weeks of available National Monitoring Programme data

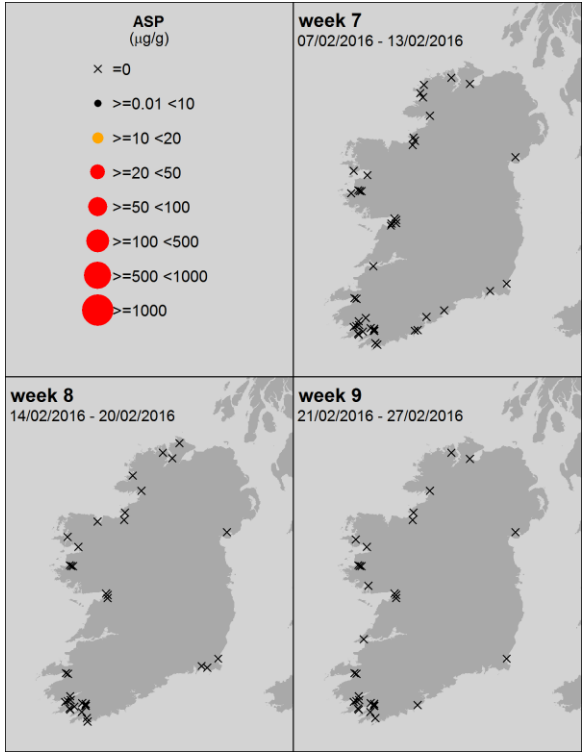
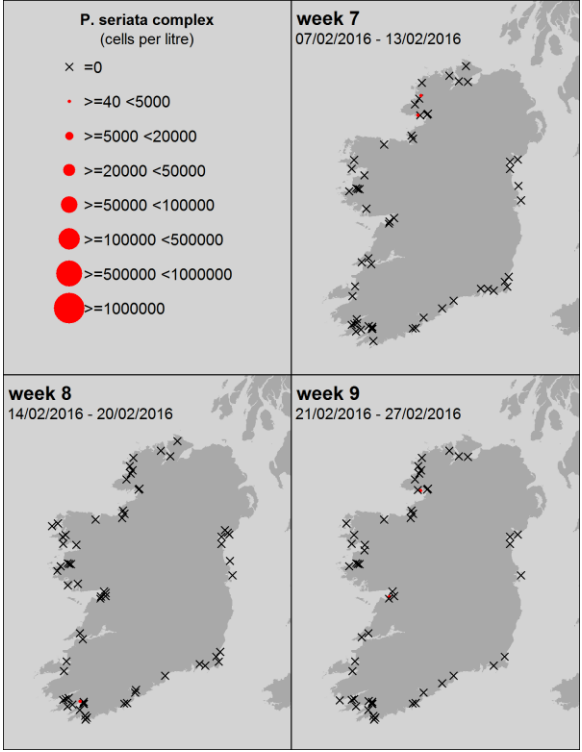
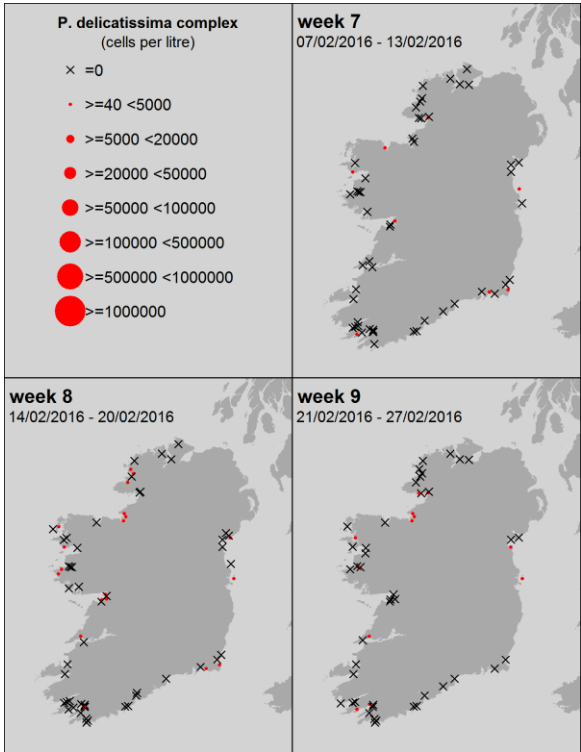
Pseudo-nitzschia spp.



ASP

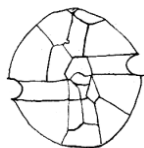
“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

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

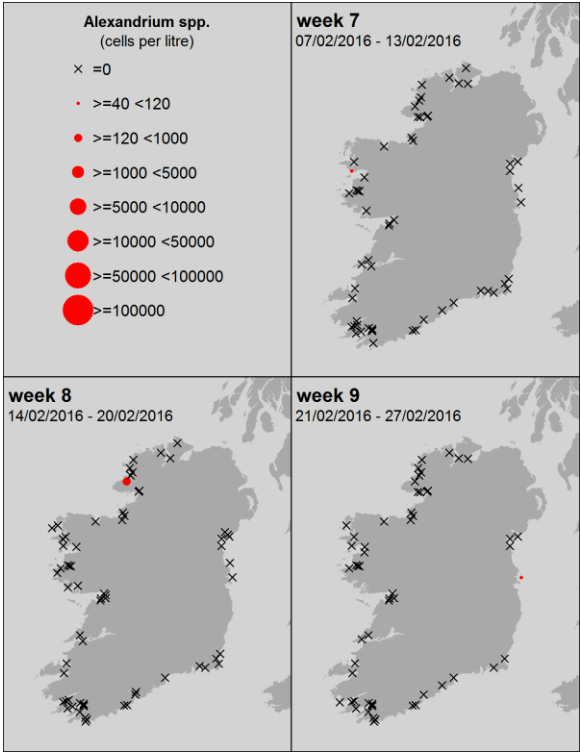


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

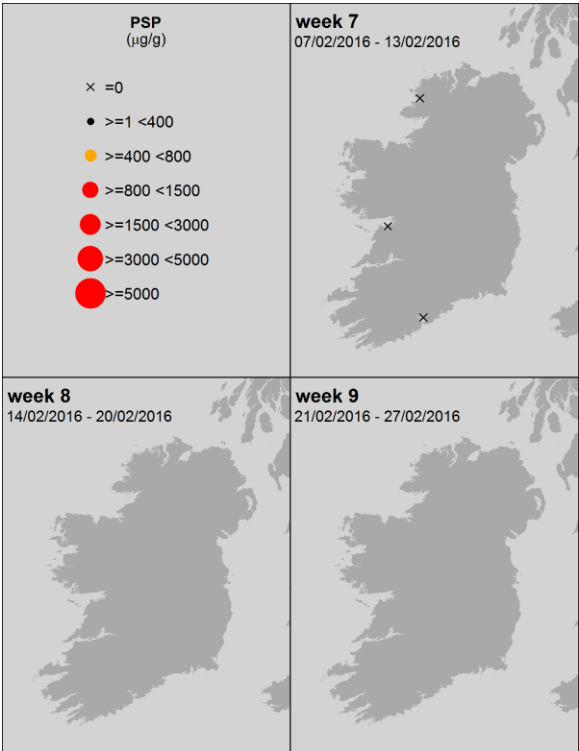
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



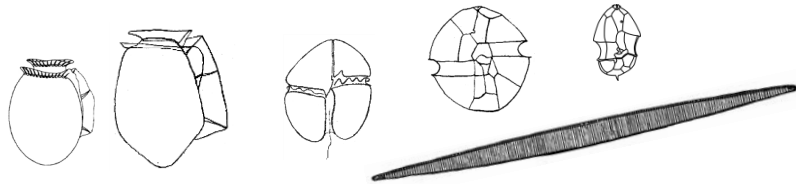
PSP



Ireland HAB & Biotoxin temporal trends

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

Ireland: Biotoxins



Toxin groups

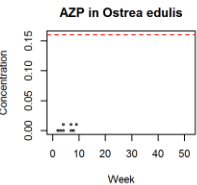
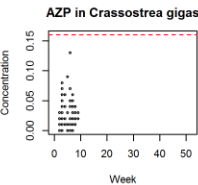
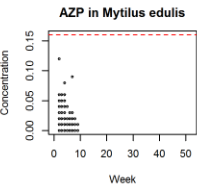
mussels

oysters

oysters

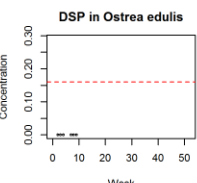
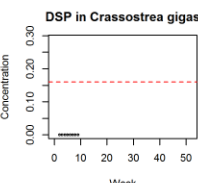
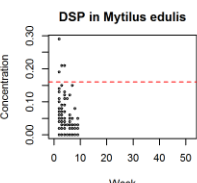
AZP

AZaspiracid
Poisoning



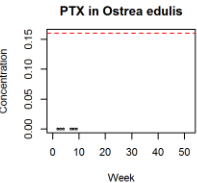
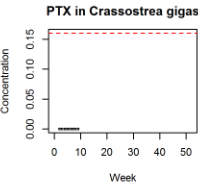
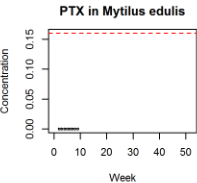
DSP

Diarrhetic
Shellfish
Poisoning



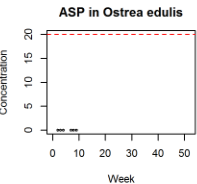
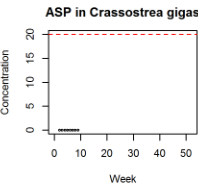
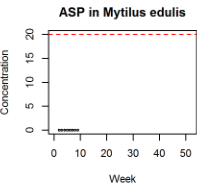
PTX

Pectenotoxin



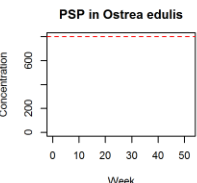
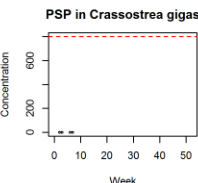
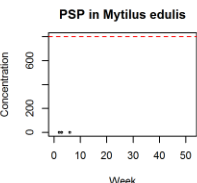
ASP

Amnesic
Shellfish
Poisoning

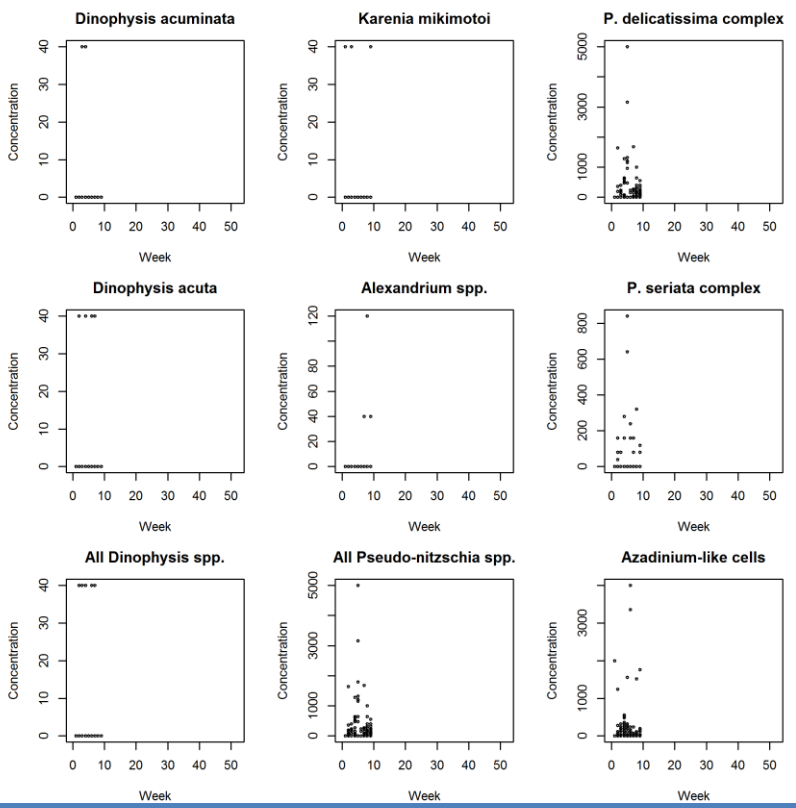


PSP

Paralytic
Shellfish
Poisoning



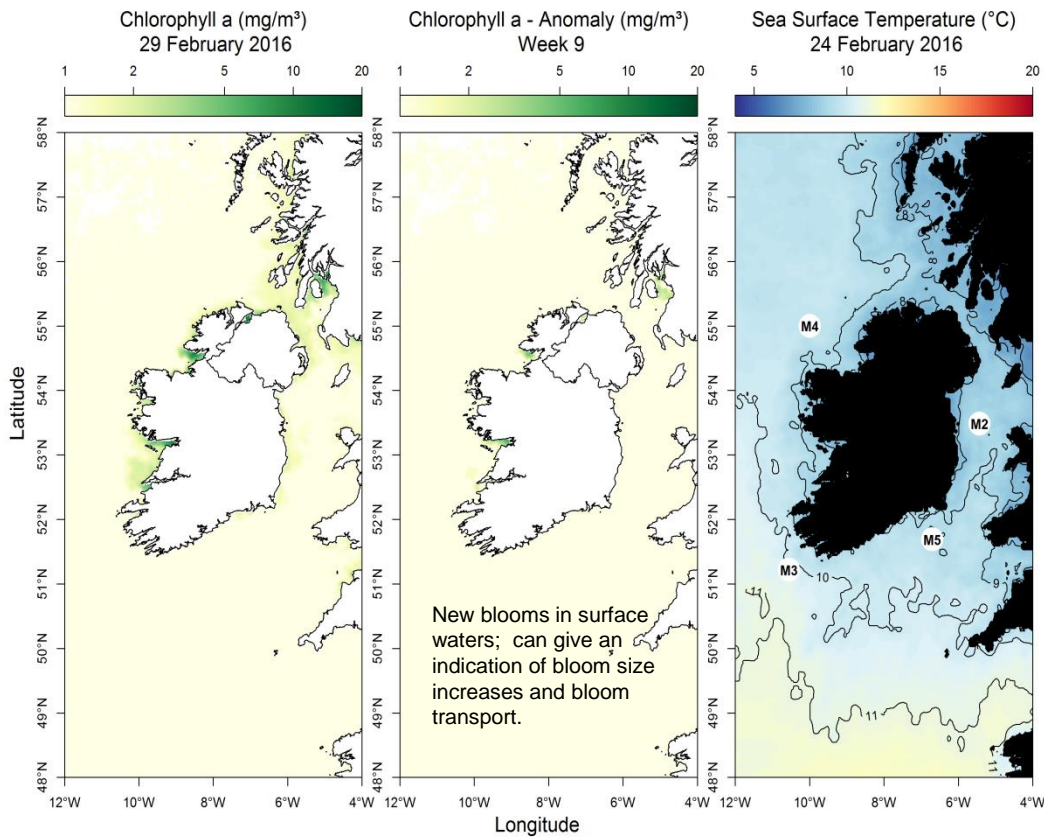
Ireland: HABs



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

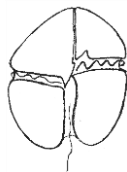


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4)** Below average by 0.89 °C
- SW coast (M3)** Offline
- SE coast (M5)** Offline

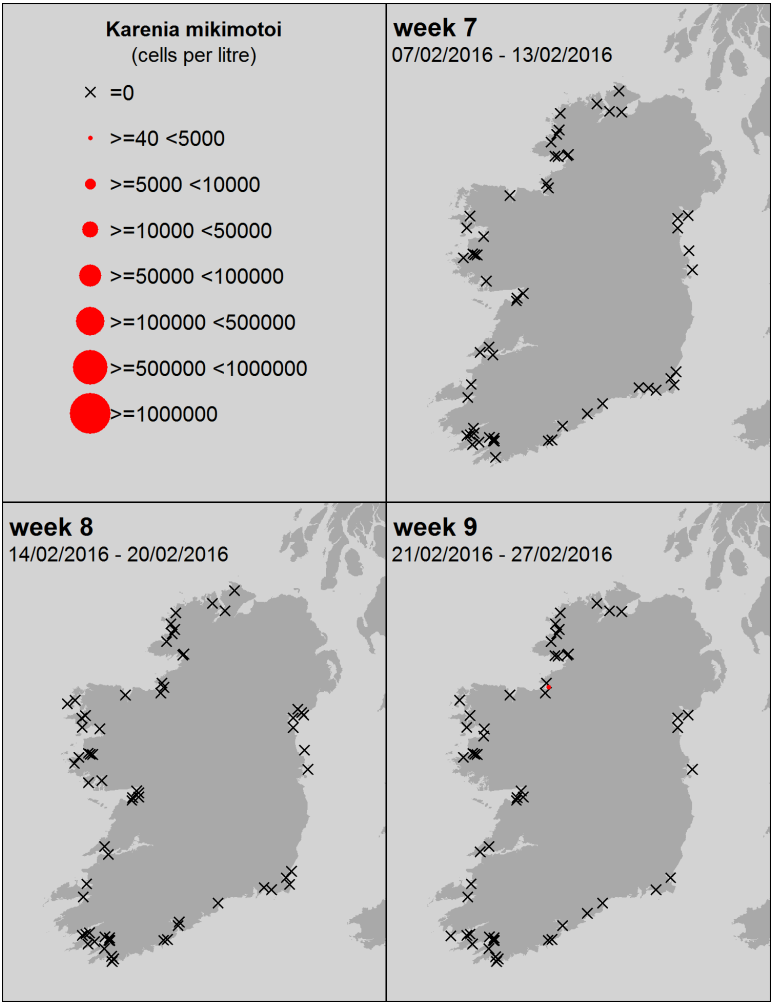
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
North:	Diatoms:	
	<i>Pseudo-nitzschia delicatissima</i> complex	400
	<i>Odontella</i> spp.	200
	Dinoflagellates:	
	<i>Heterocapsa</i> spp. <20µm	1,300
West:	<i>Akashiwo sanguinea</i>	200
	Diatoms:	
	<i>Skeletonema</i> spp.	700,100
	<i>Pseudo-nitzschia seriata</i> complex	100
	Dinoflagellates:	
SW:	<i>Prorocentrum balticum/minimum</i>	300
	<i>Azadinium/heterocapsa</i> spp.	200
	Diatoms:	
	<i>Leptocylindrus minimus</i>	630,600
	<i>Skeletonema</i> spp.	223,300
South:	<i>Pennate diatom</i> >20µm	68,900
	<i>Pseudo-nitzschia delicatissima</i> complex	600
	Dinoflagellates:	
	Armoured dinoflagellate 20-50µm	500
	Others:	
East:	Haptophytes	12,300
	Diatoms:	
	<i>Pennate diatom</i> 20-50µm	59,800
	<i>Skeletonema</i> spp.	24,700
	<i>Navicula</i> spp. <25µm	2,600
	Dinoflagellates:	
	<i>Scrippsiella</i> spp.	100
	Others:	
	Tintinnid	500
	Diatoms:	
	<i>Pseudo-nitzschia delicatissima</i> complex	0
	<i>Chaetoceros danicus</i>	0



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

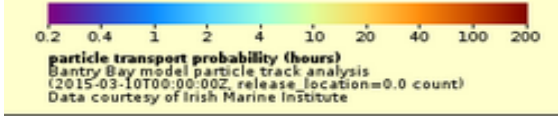
A *Karenia mikimotoi* bloom
is NOT expected this week



SOUTHWEST: Bantry Bay

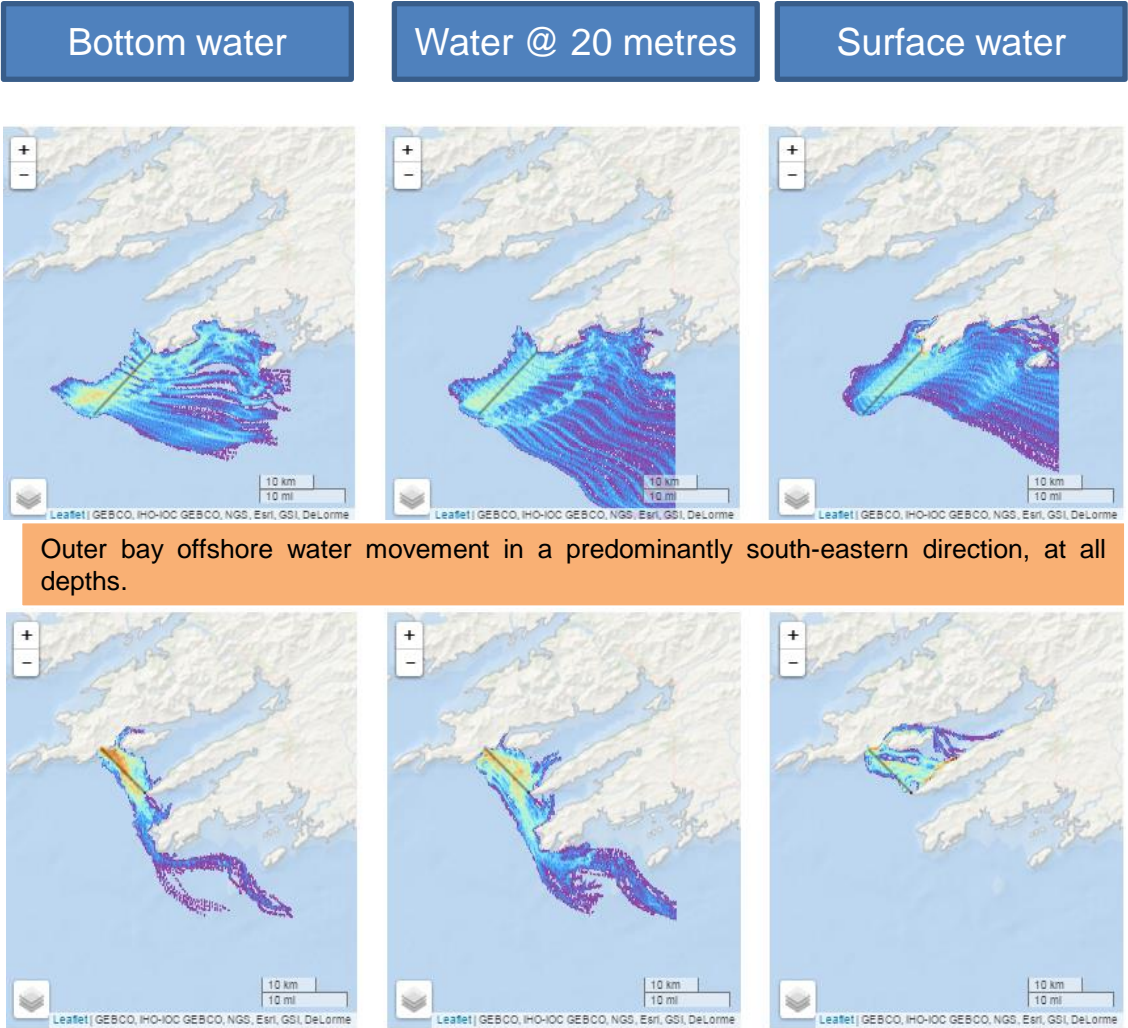
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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



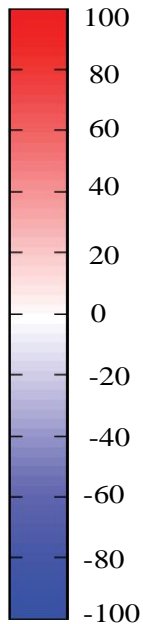
Go to <http://vis.marine.ie/particles/> to view daily forecasts

Bantry Bay

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



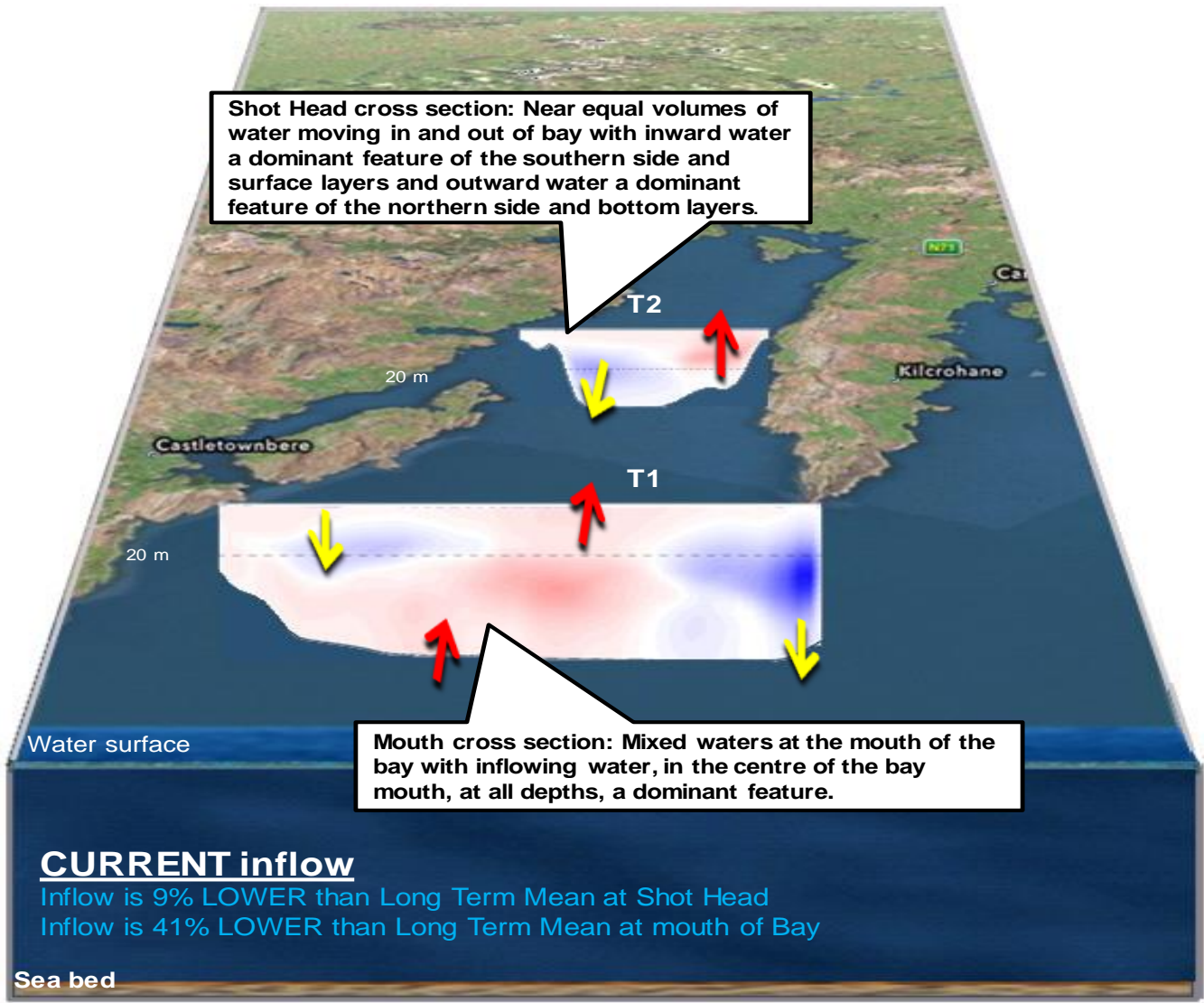
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth
↓




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

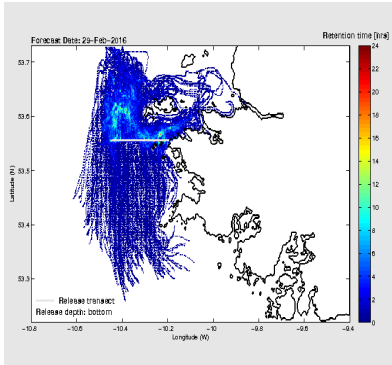
Cooler colours represent areas where phytoplankton remain for shorter periods



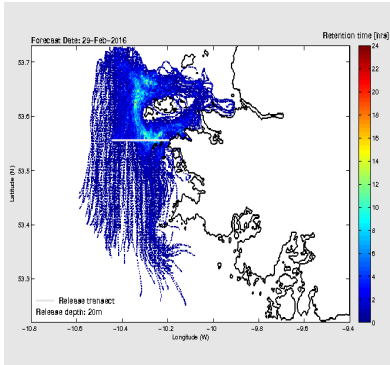
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

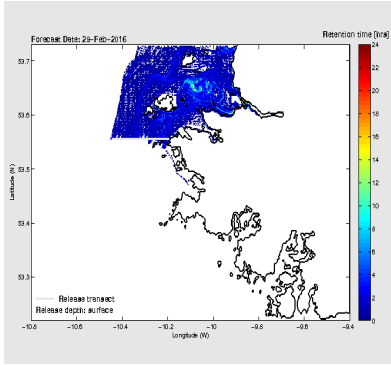
Bottom water



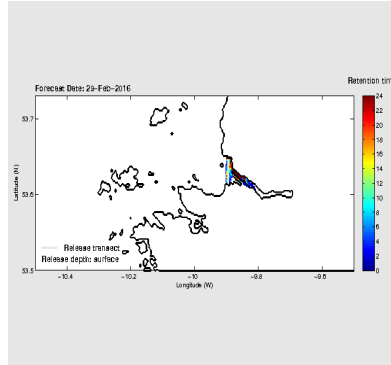
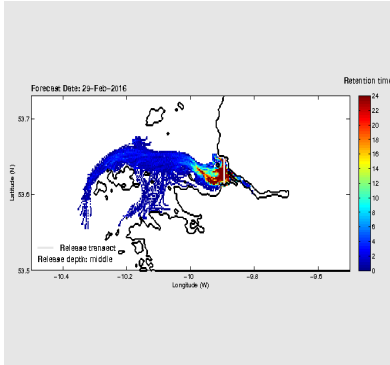
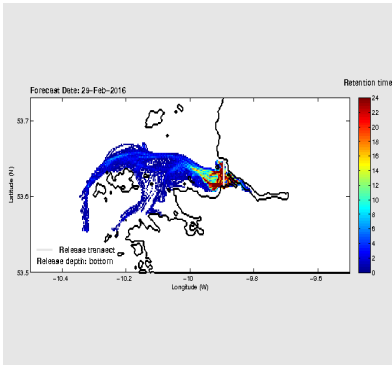
Water @ 20 metres



Surface water



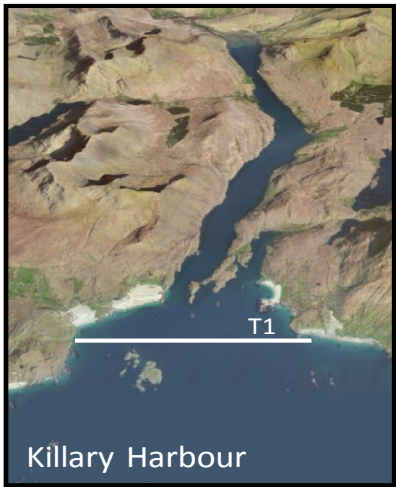
Well mixed offshore water at bottom and 20 metres, with no clear dominant direction of movement. Surface water appears to be moving in a predominantly north/north easterly direction.



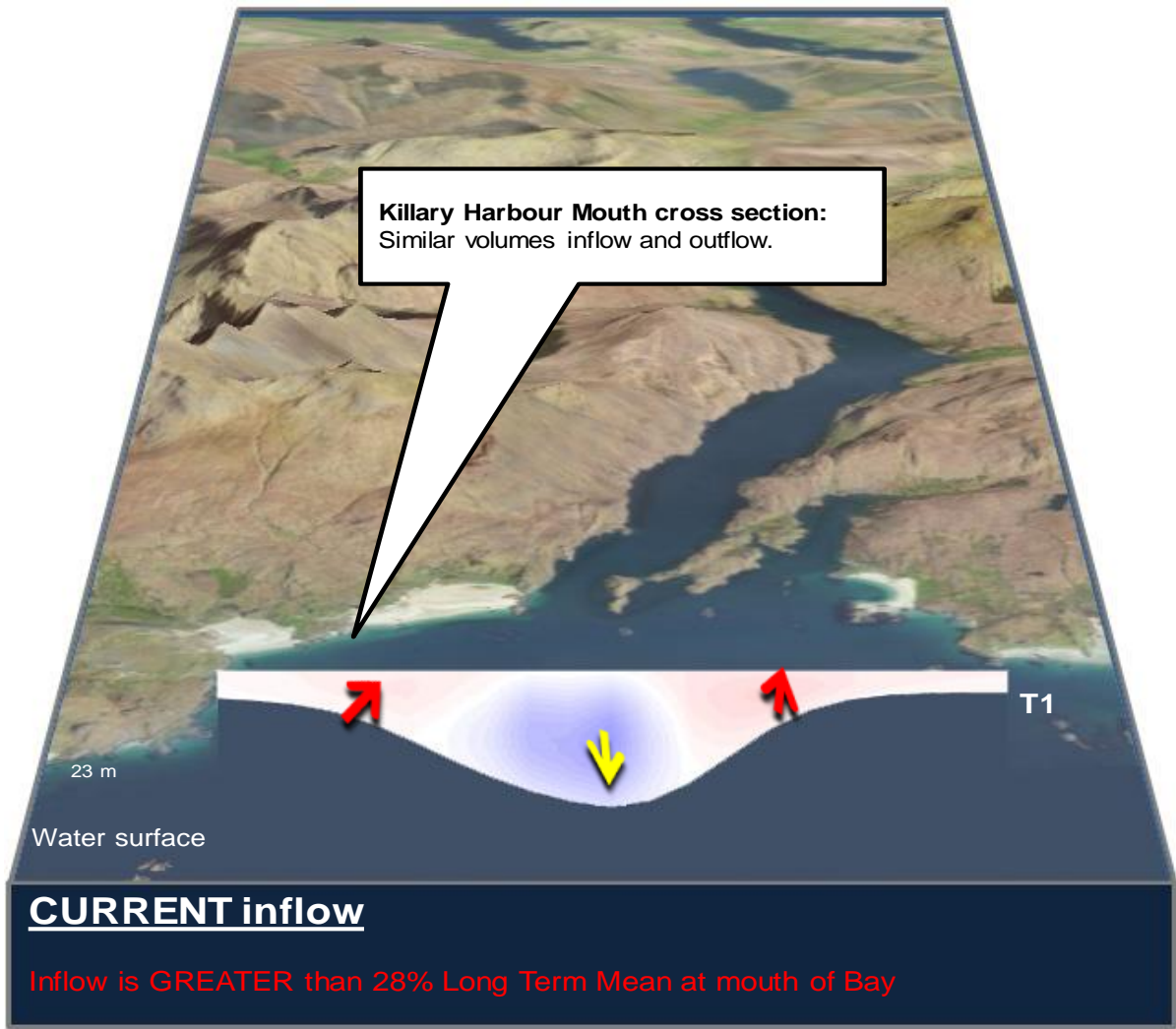
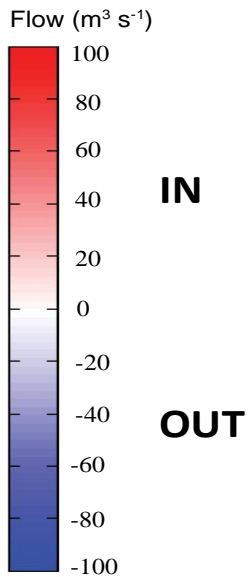
Water movement at bottom and depth predominantly west and south western with some inner bay incursions also. Water movement at surface depth dominated by inner bay transport of outer bay waters.

Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days



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

