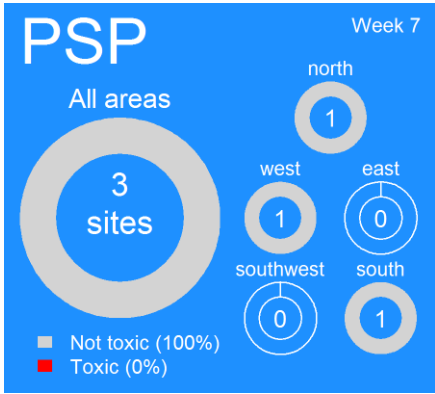
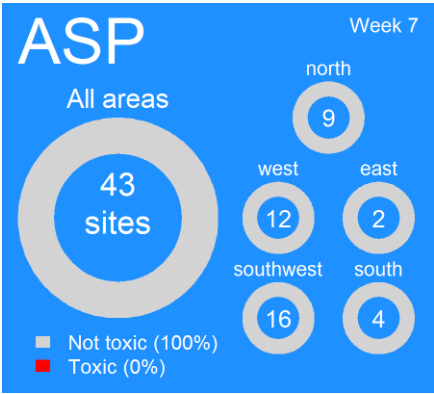
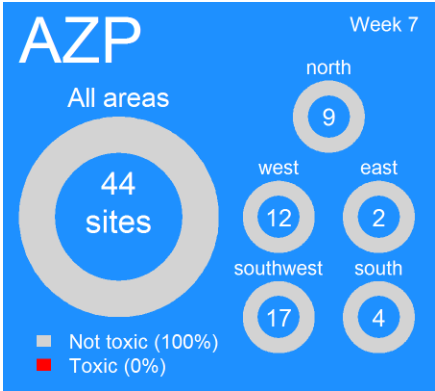
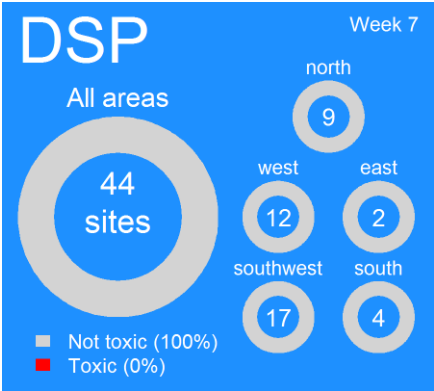


Ireland: Current Conditions

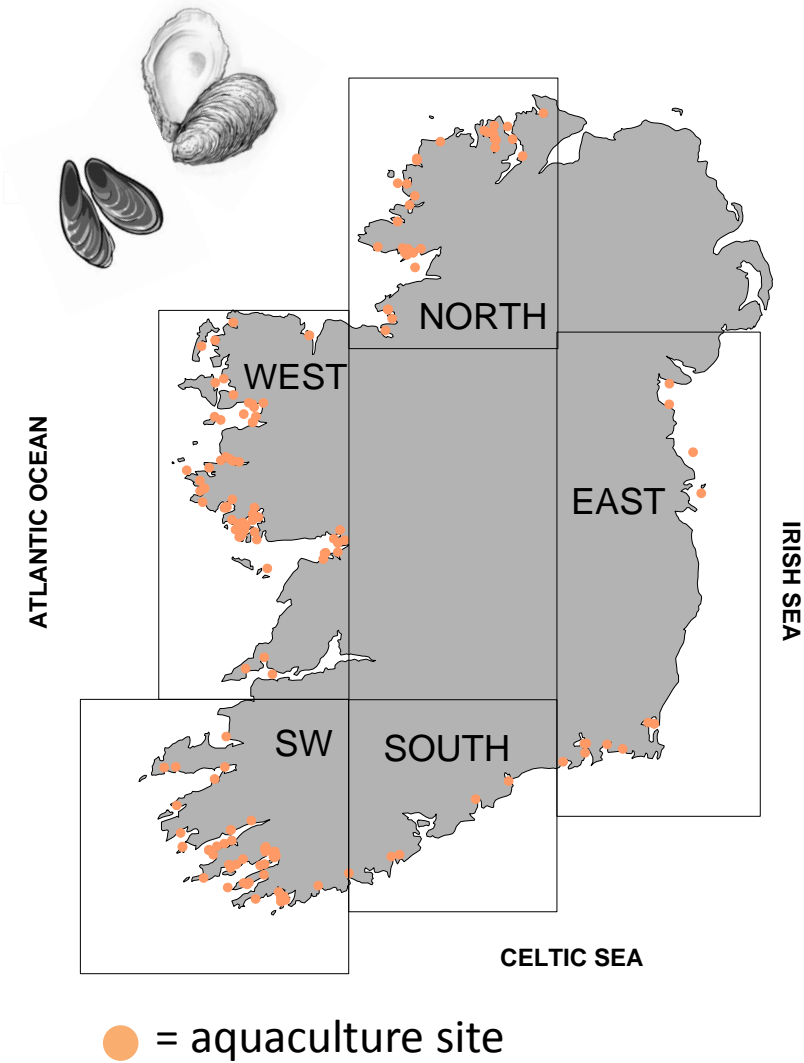
Shellfish biotoxin report (last week)



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



Ireland: Predictions

Prediction for this week:

ASP event: Low risk

AZP event: Low risk

DSP event: Low risk

PSP event: Low risk

Why do we think this?

ASP: This is a low risk period with no biotoxins detected in recent weeks. *Pseudo-nitzschia* cell densities are still low.

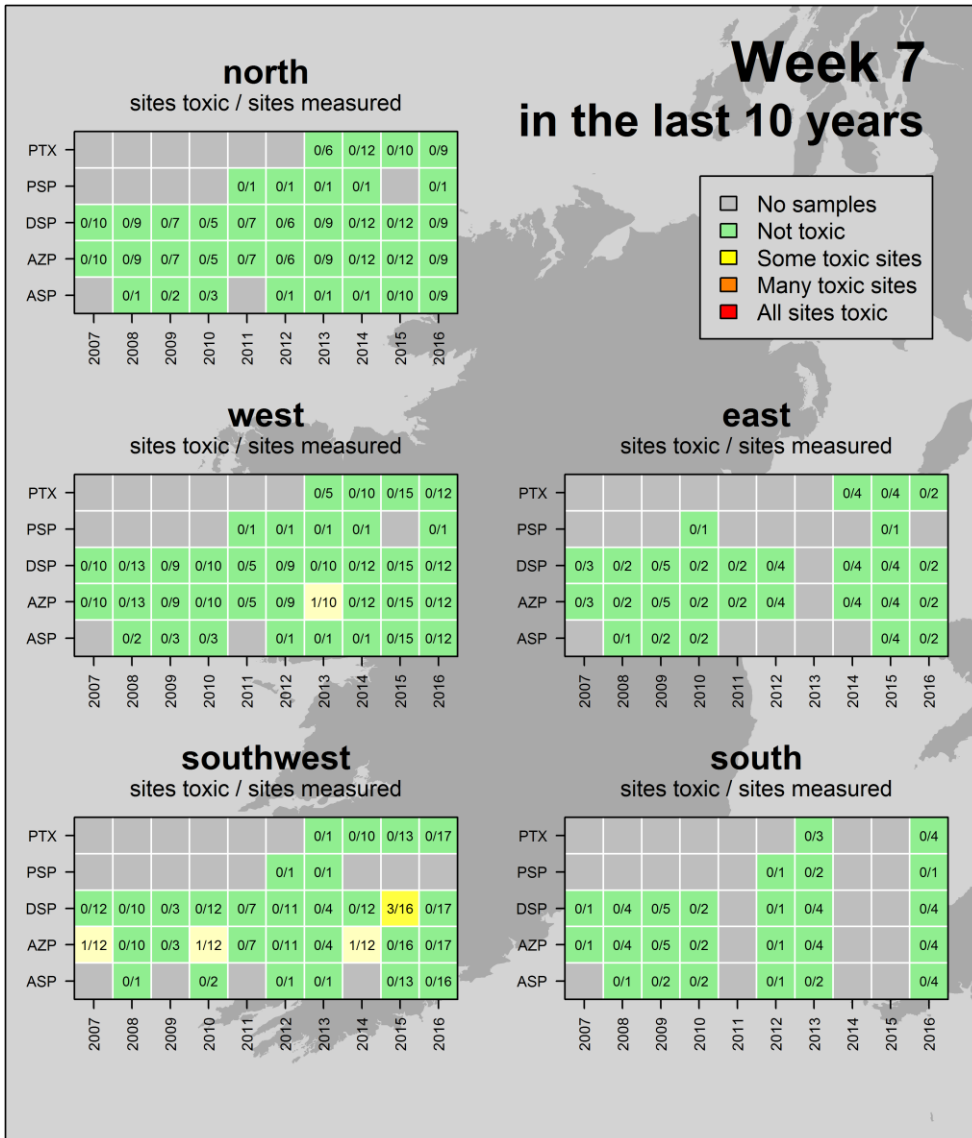
AZP: Biotoxins have remained below EU regulatory levels. However, *Azadinium* - like cells are present at low levels at some sites. Historical data demonstrates that this biotoxins can be present in shellfish at this time of year.

DSP: Low to negligible levels of *Dinophysis* spp. and biotoxins in most sites except “residual” sites in SW. Very low levels of *Dinophysis* spp. cell levels with associated residual fluctuating toxin levels still remain in SW as the shellfish continue to attempt to depurate.

PSP: Toxicity issues are not expected at this time in the year. Associated toxic phytoplankton are not blooming.

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

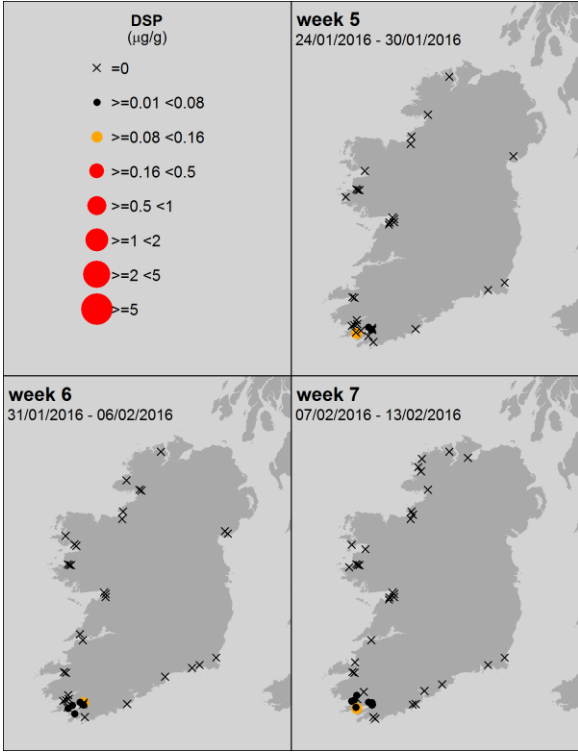
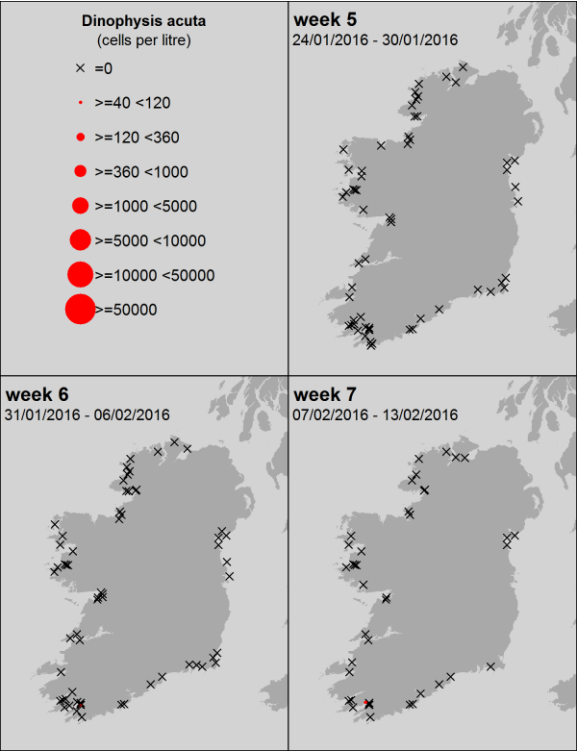
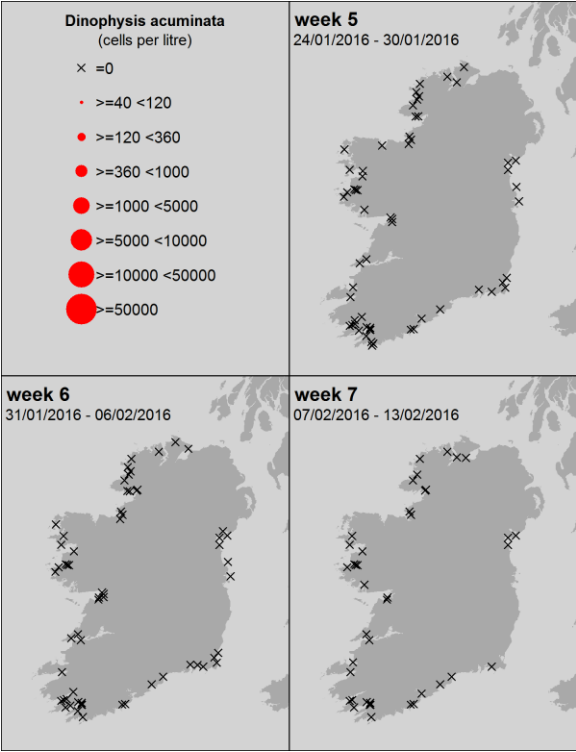
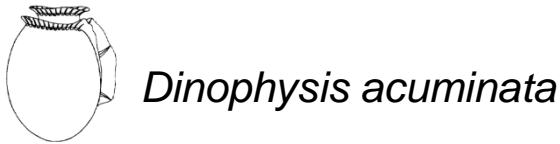
AZP events: April to December

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



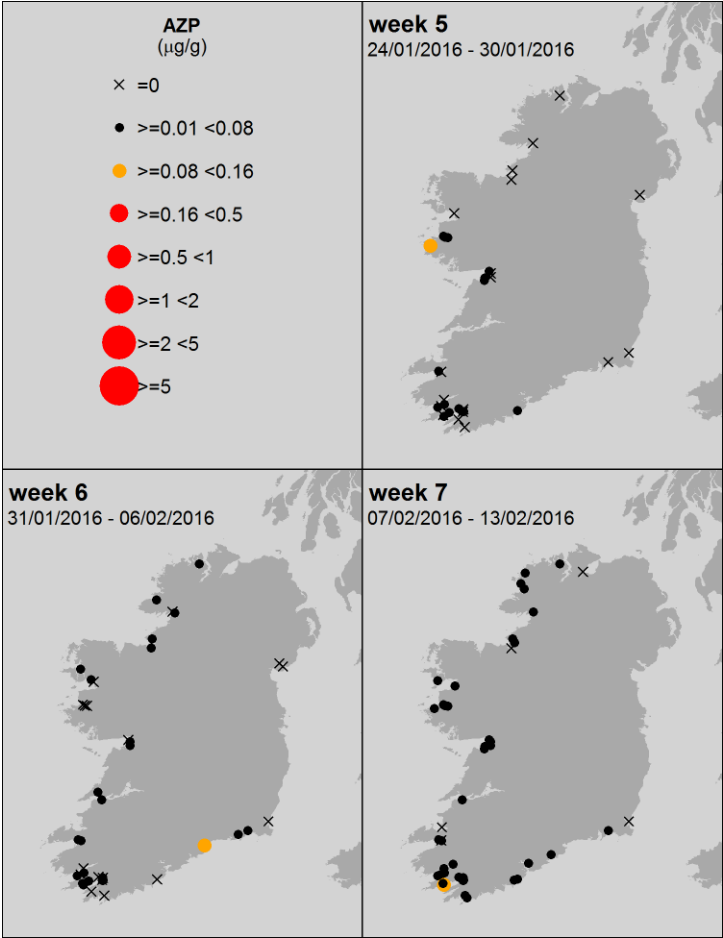
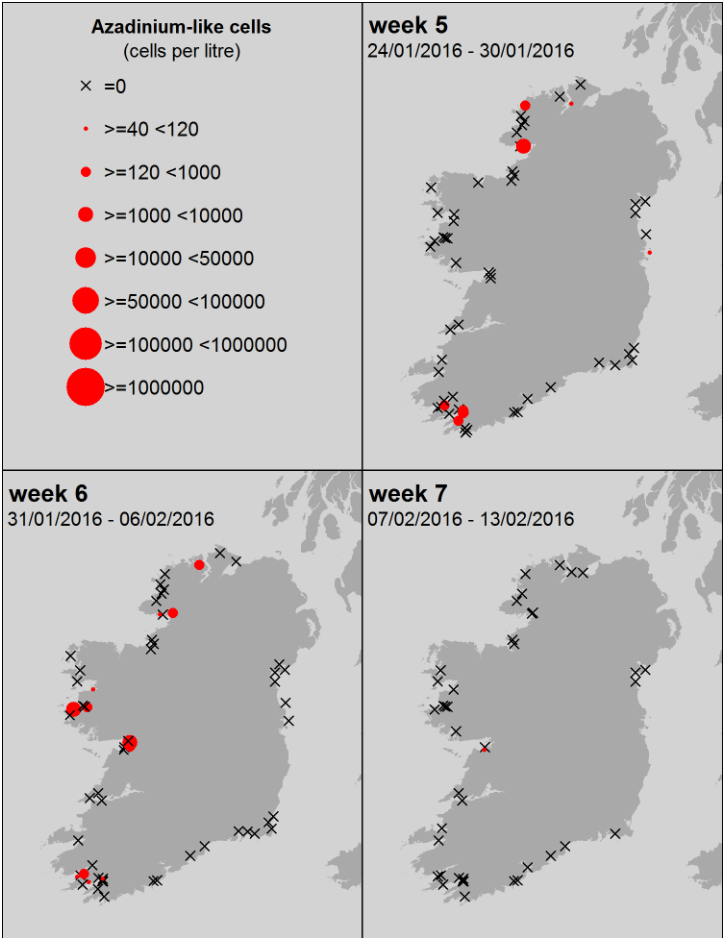
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

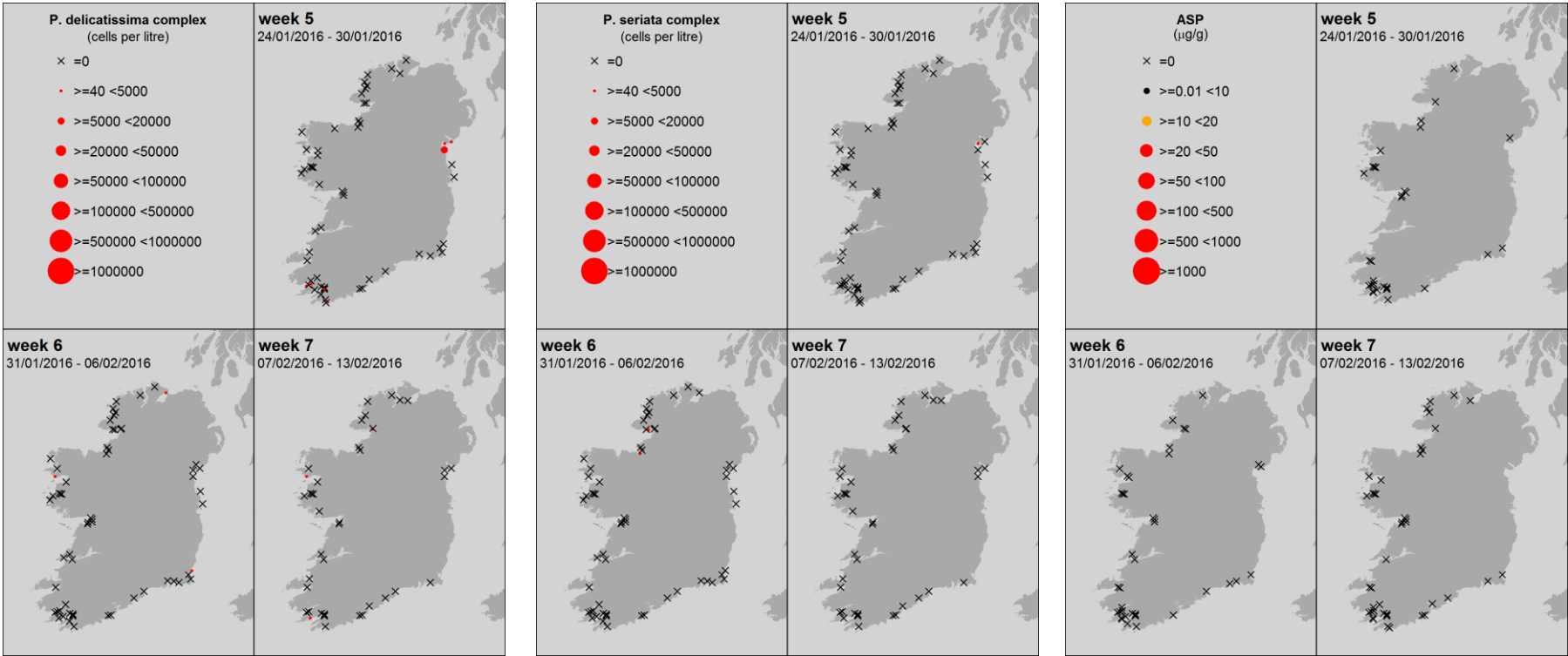
Pseudo-nitzschia spp.



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

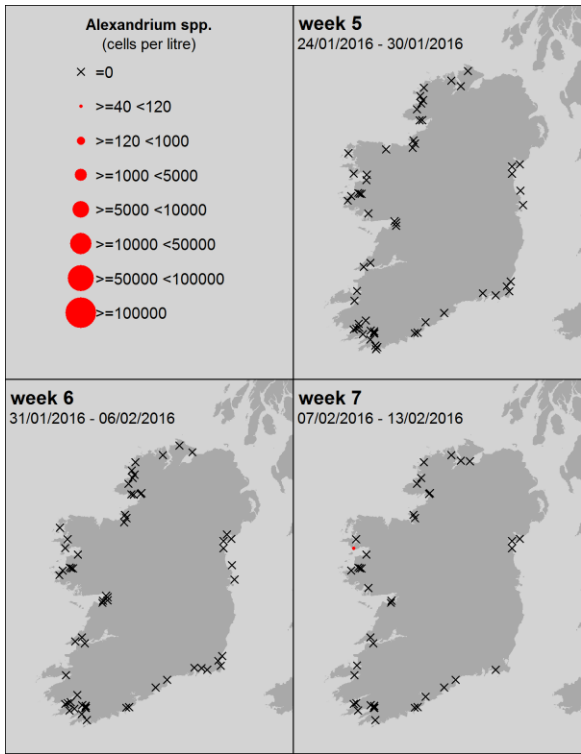


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

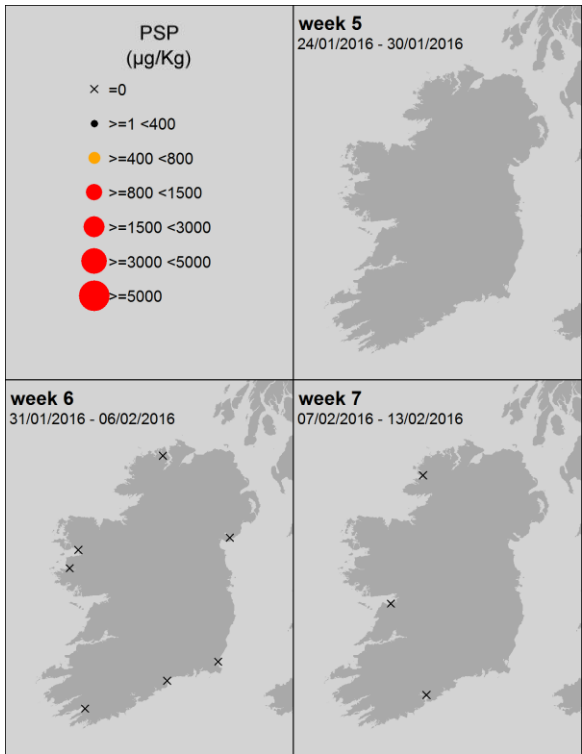
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.

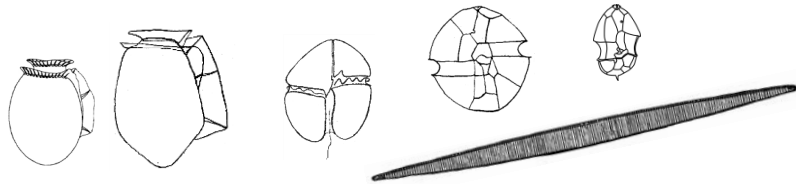


PSP



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

Ireland: **Biotoxins**



Toxin groups

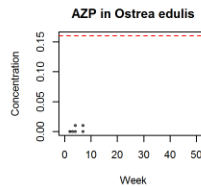
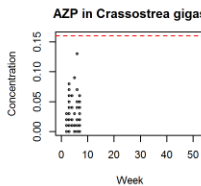
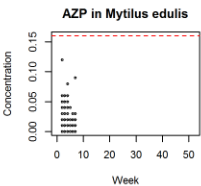
mussels

oysters

oysters

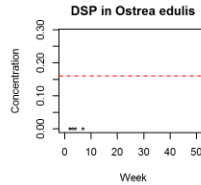
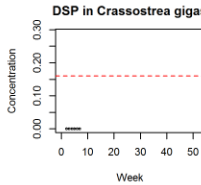
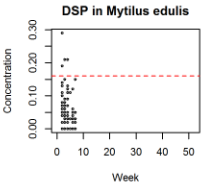
AZP

AZaspiracid
Poisoning



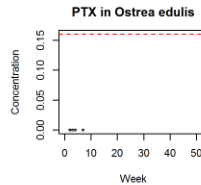
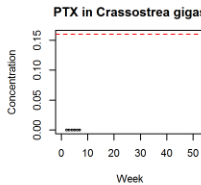
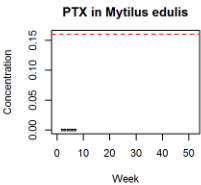
DSP

Diarrhetic
Shellfish
Poisoning



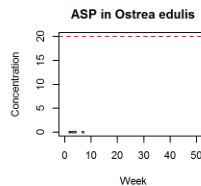
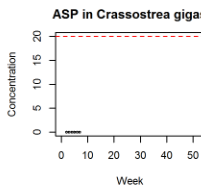
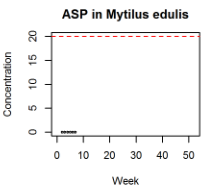
PTX

Pectenotoxin



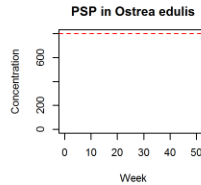
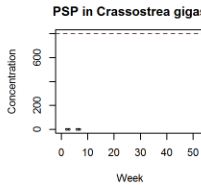
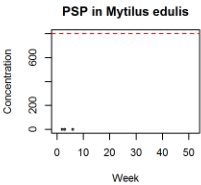
ASP

Amnesic
Shellfish
Poisoning

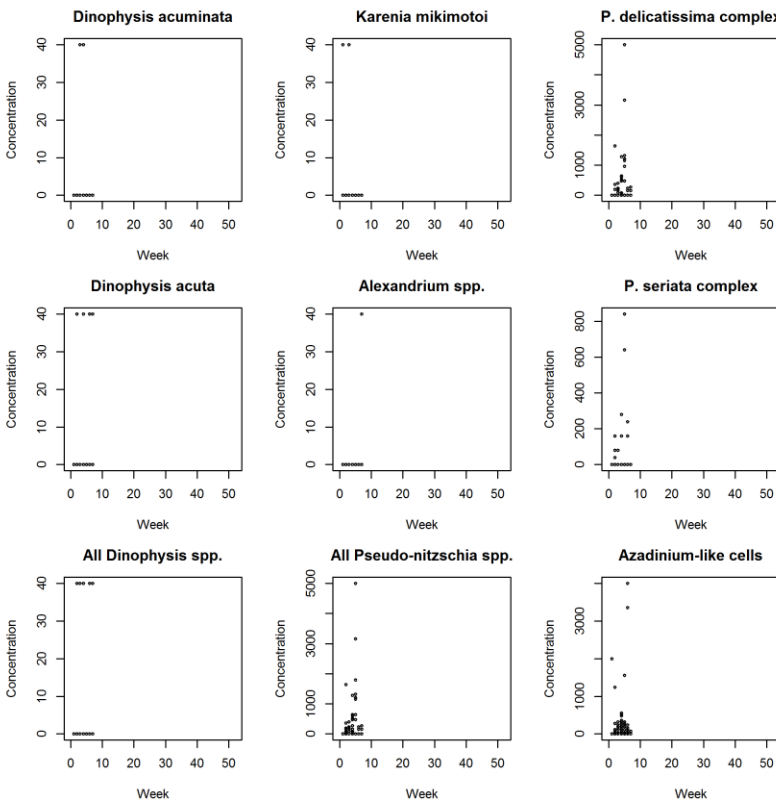


PSP

Paralytic
Shellfish
Poisoning



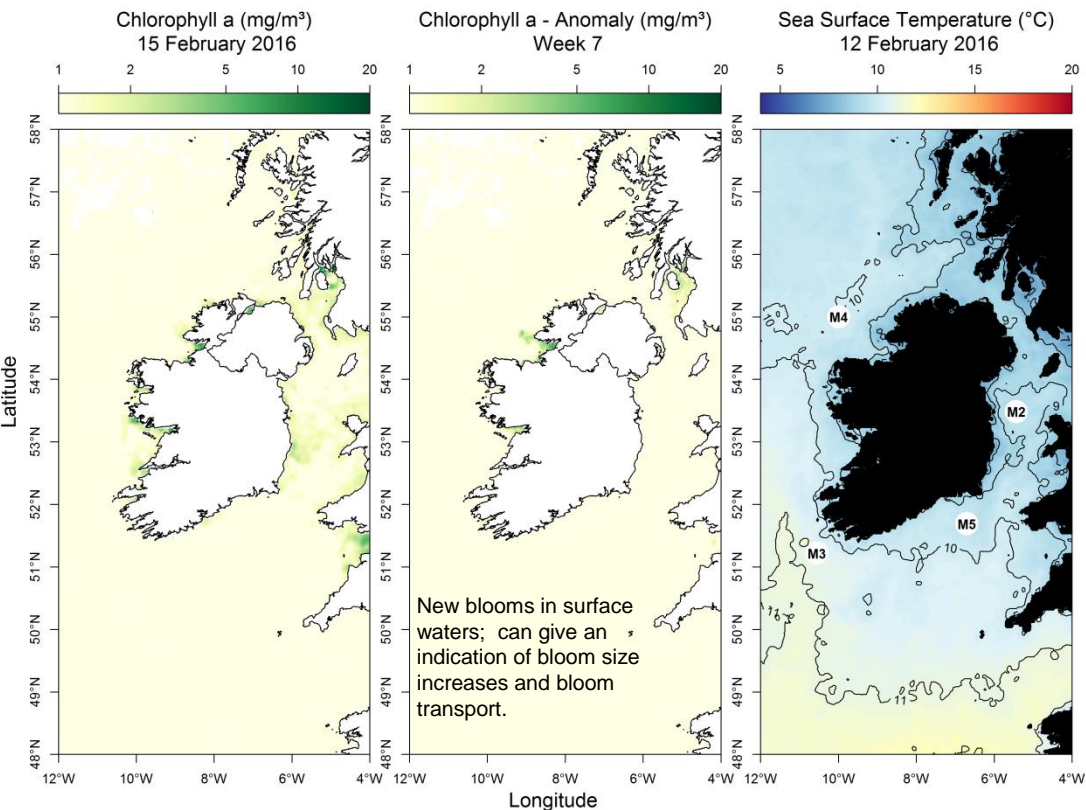
Ireland: **HABs**



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

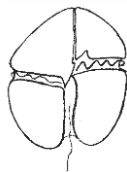


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) below average by 0.45 °C
- SW coast (M3) Offline
- SE coast (M5) Offline

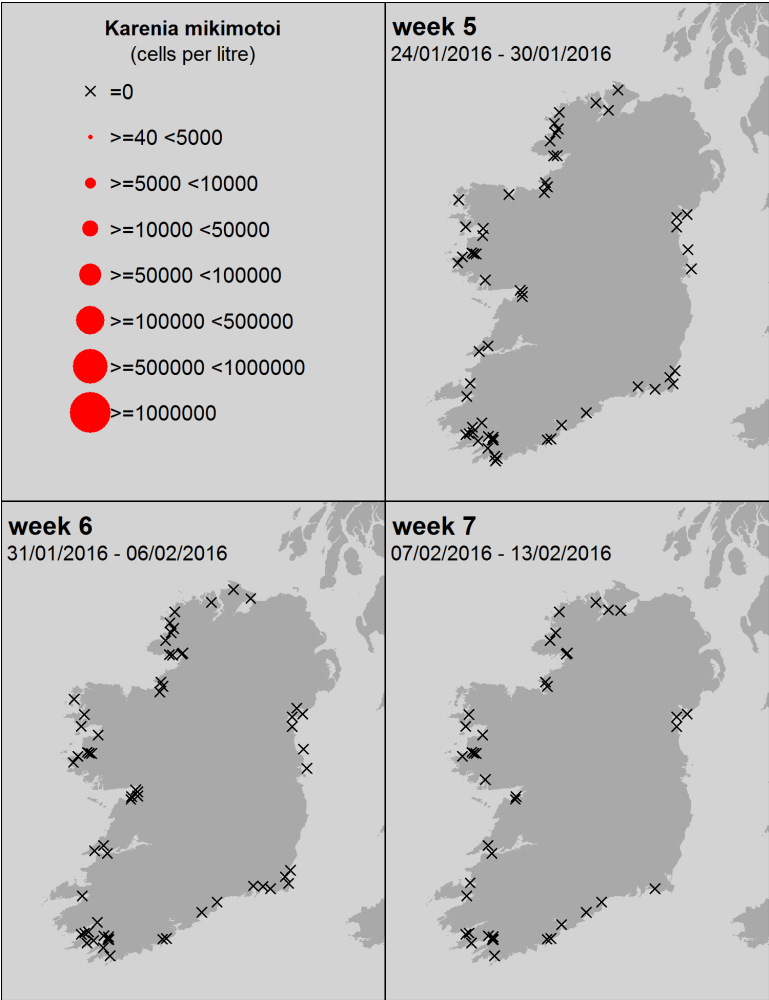
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
north:	Diatoms:	
	Pennate diatom	166,000
	<i>Striatella</i> spp	4,000
	<i>Skeletonema</i> spp.	2,000
	Others:	
	Ciliates	3,000
west:	Diatoms:	
	<i>Navicula</i> spp. 20-50 µm	38,000
	<i>Paralia sulcata</i>	13,000
	<i>Skeletonema</i> spp.	7,000
	Pennate diatom >50µm	4,000
SW:	Diatoms:	
	<i>Navicula</i> spp. 20-50 µm	39,000
	<i>Skeletonema</i> spp.	38,000
	<i>Leptocylindrus danicus</i>	12,000
	<i>Detonula confervacea</i>	11,000
	Others:	
	Prymnesiophytes	17,000
south:	Diatoms:	
	<i>Paralia</i> sp.	17,000
	<i>Skeletonema</i> spp.	17,000
	<i>Navicula</i> spp. 20-50 µm	17,000
east:	Diatoms:	
	<i>Paralia</i> sp.	20,000
	<i>Fragilaria</i> spp.	12,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	3,000
	<i>Bacillaria paxillifera</i>	1,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	1,000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom
is NOT expected this week

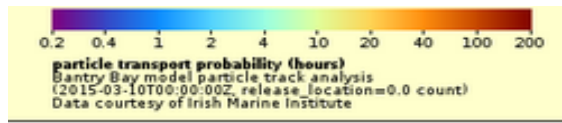


SOUTHWEST: Bantry Bay

Forecast for the next 3 days

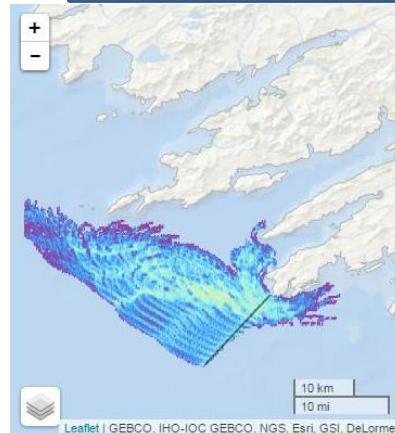
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

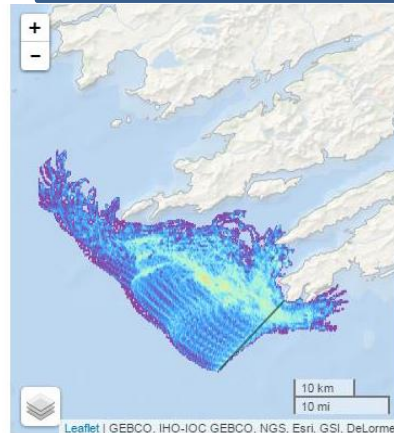


Go to <http://vis.marine.ie/particles/> to view daily forecasts

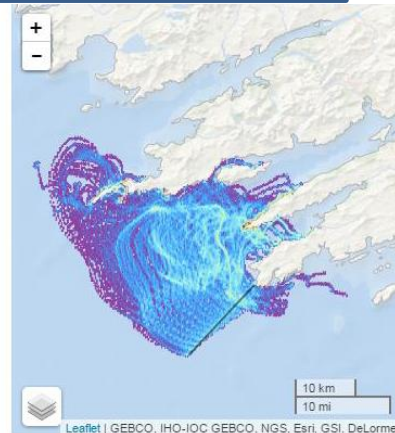
Bottom water



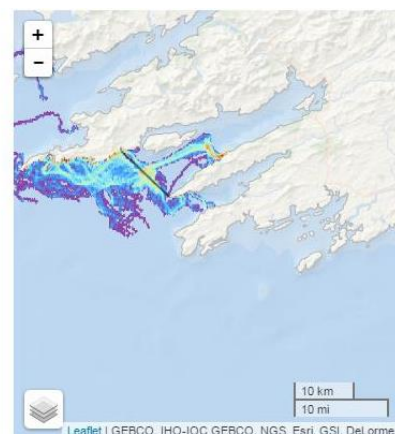
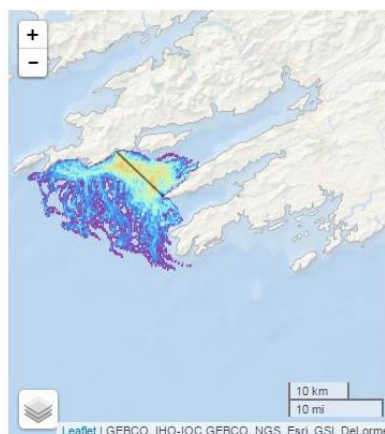
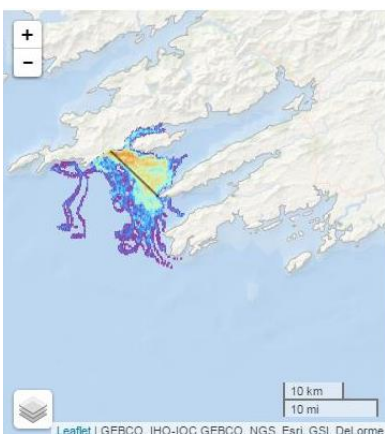
Water @ 20 metres



Surface water



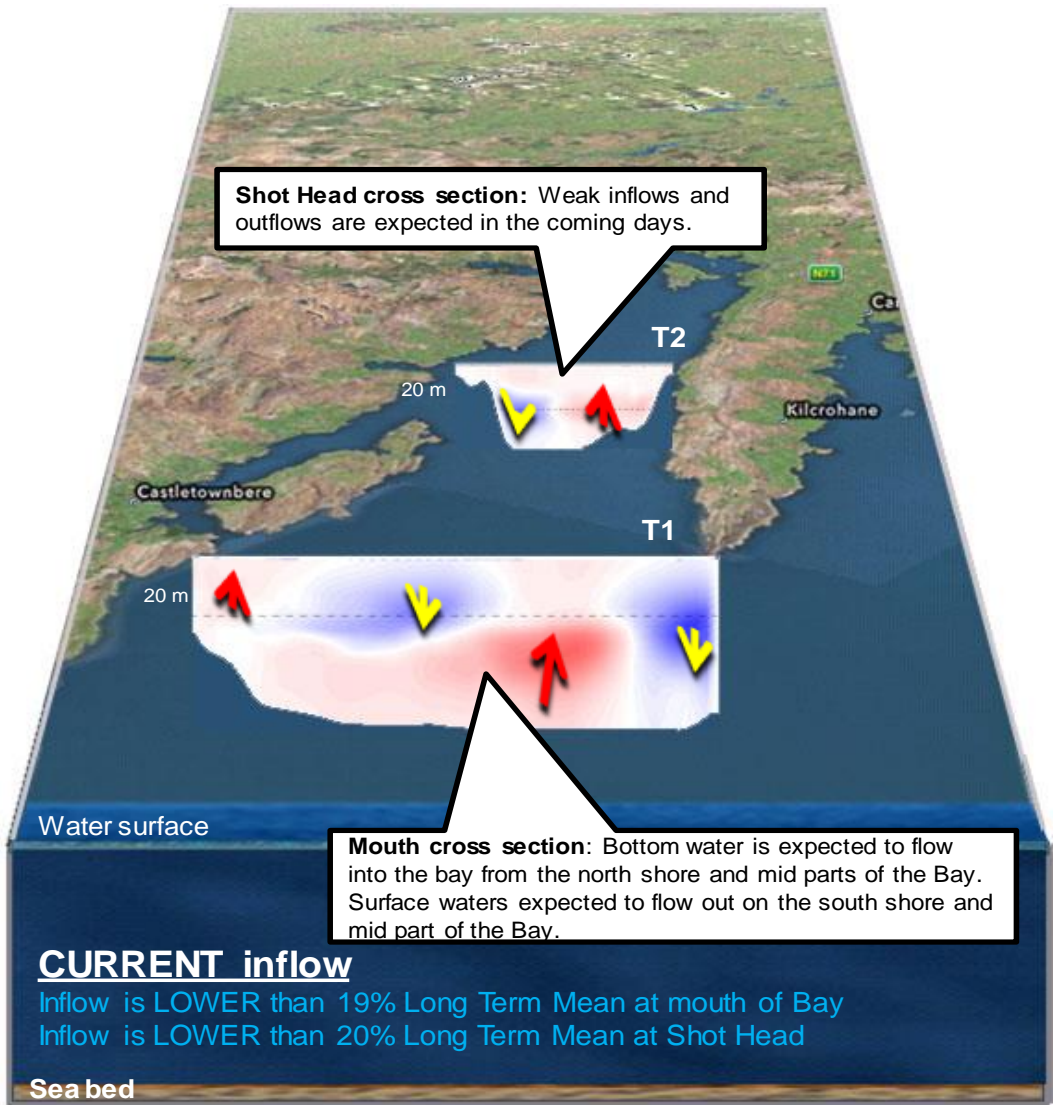
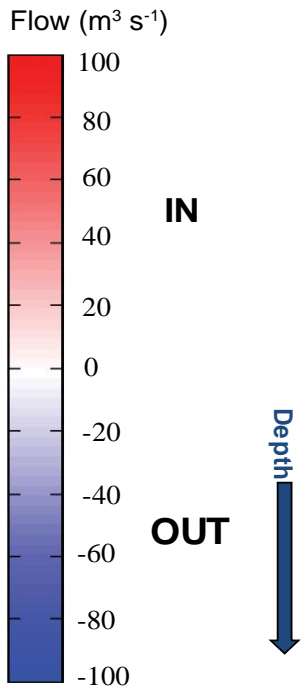
Conditions are favourable for Celtic Sea water at all depths to reach the SW bays.



Mixed conditions expected with regards to water circulation at the mouth of Bantry Bay. No BIG water exchange event is expected in the coming days.

Bantry Bay

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



CURRENT inflow


Inflow is LOWER than 19% Long Term Mean at mouth of Bay
Inflow is LOWER than 20% Long Term Mean at Shot Head

WEST: Killary Harbour

Forecast for the next 3 days

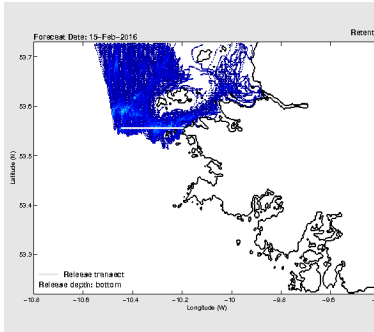
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

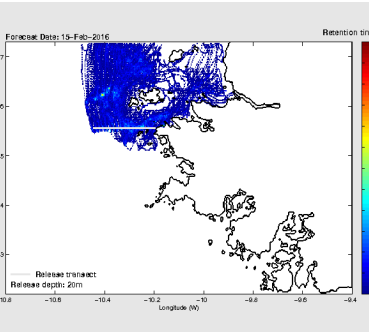


0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

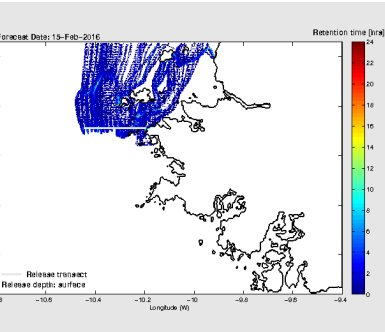
Bottom water



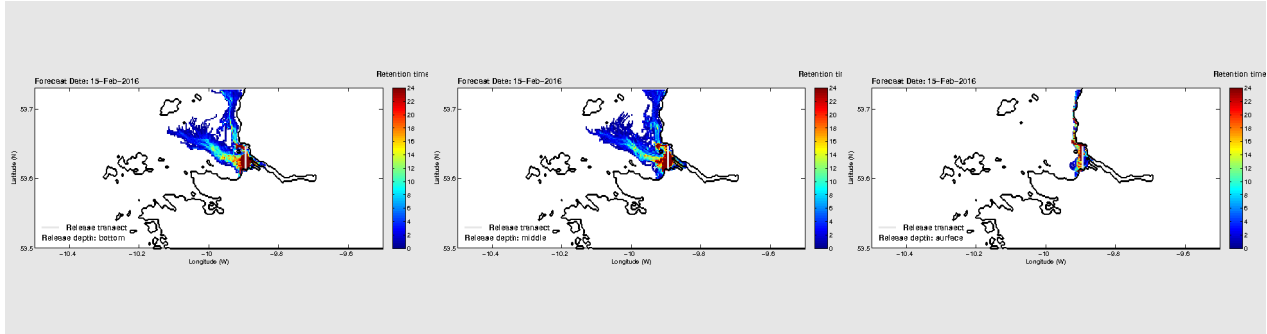
Water @ 20 metres



Surface water



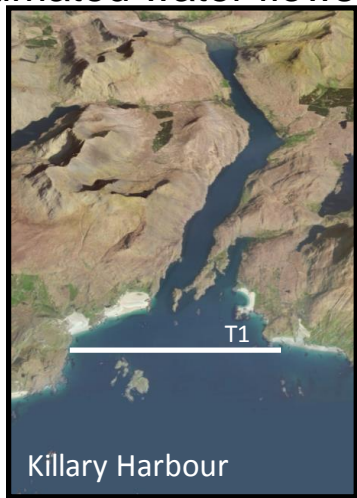
Water flows off the west coast will flow north with bottom and subsurface water likely to reach the mouth of Killary Harbour.



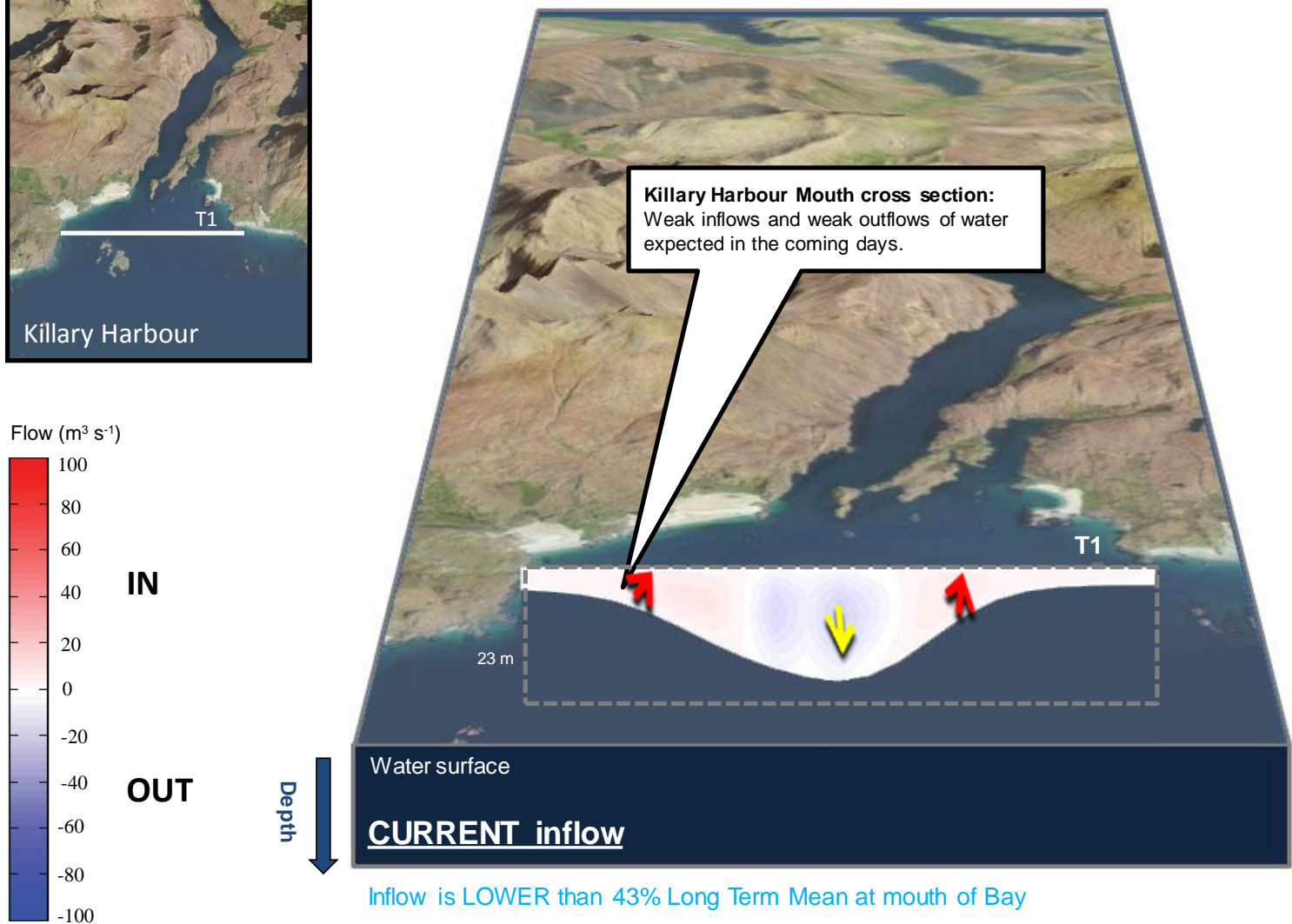
Mixed conditions with subsurface waters are likely to reach Killary.

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

Forecast for next 3 days

