

Ireland: Current Conditions

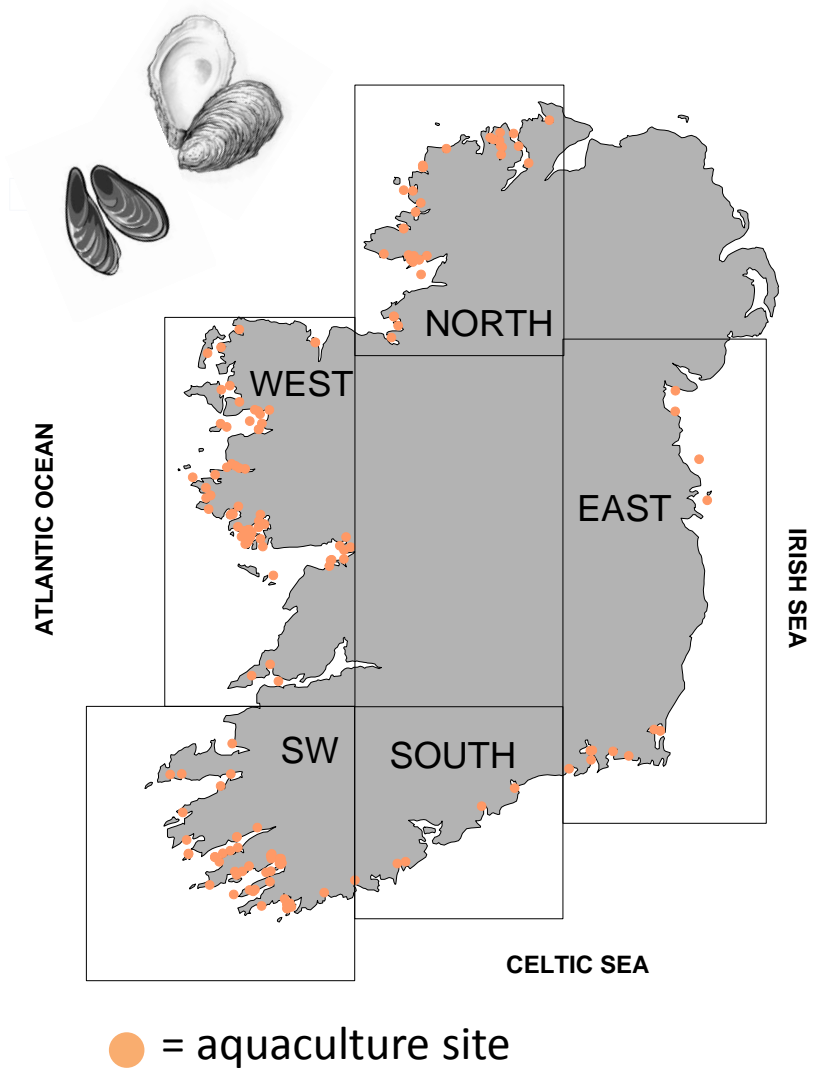
Shellfish biotoxin report (last week)



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

National Monitoring Programme Designated Sampling Sites



Ireland: Predictions

Prediction for this week:

ASP event: High

AZP event: Low to medium

DSP event: low to medium

PSP event: Low

Why do we think this?

ASP: Low levels of ASP toxins in shellfish have been detected in past week in the SW. This is associated with the toxic diatom *P.australis* which is present in SW bays and has been increasing in dominance. It is strongly advised to wait for results of ongoing ASP tests before placing product on the market due to the speed with which ASP can increase in shellfish.

AZP: Historically low levels of caution should apply at this time of the year however due to the geographical spread and persistent presence of Azadinium like cells, combined with a potential trend of low increases in biotoxin levels (still below reg. limit) additional caution is currently advised.

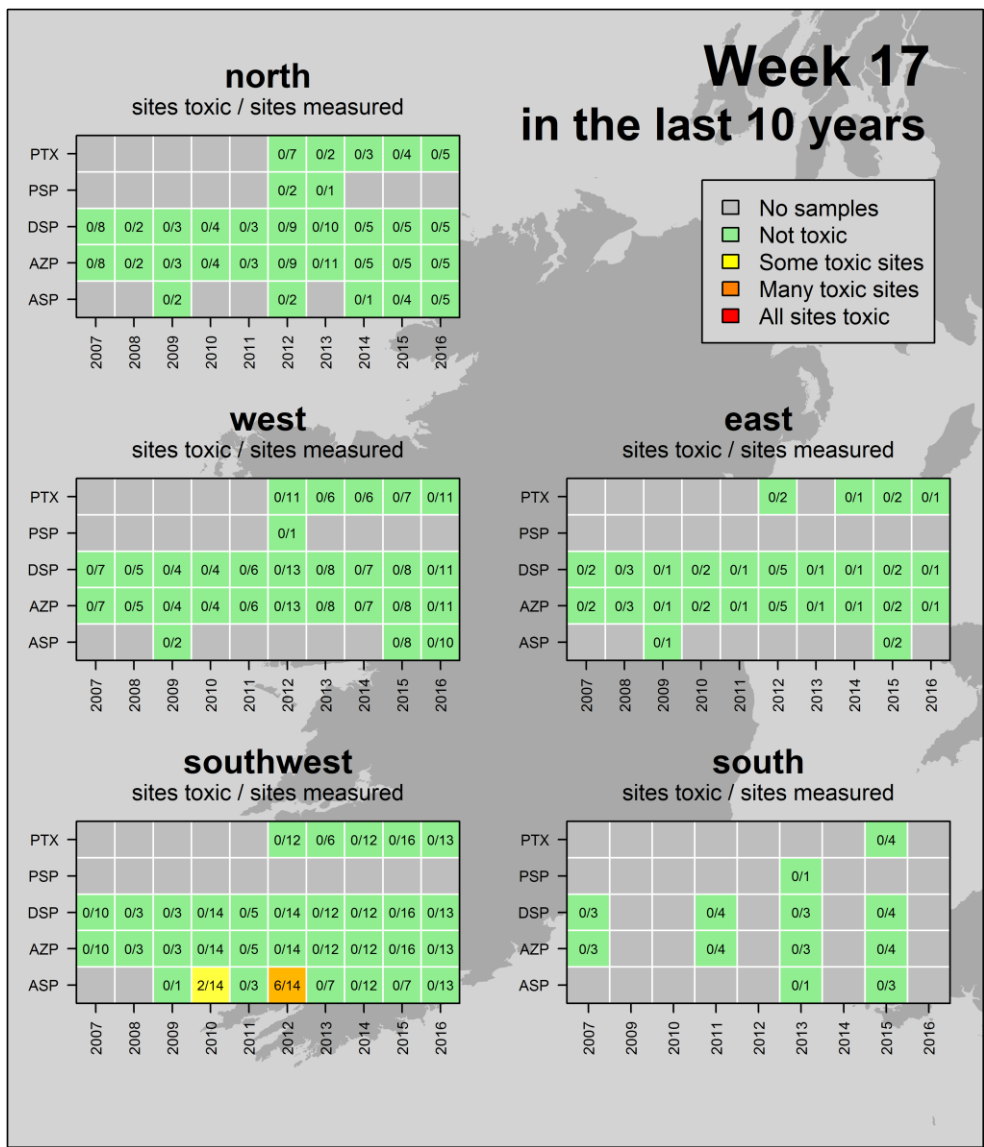
DSP: This is still early in the historical trend period and cell levels and biotoxins are very low to negligible. However current potential water movement patterns may increase the opportunity for this species to be transported to coastal sites.

PSP: Historical trends and current conditions indicate and event is unlikely to occur.

Other Blooms: *Phaeocystis* spp. at low 'bloom' levels have been observed in some bays in the south west. This species can cause potential detrimental environmental conditions during and following high bloom levels .

Ireland: Historic Conditions

A look back at how last weeks biotoxin results compares to other years



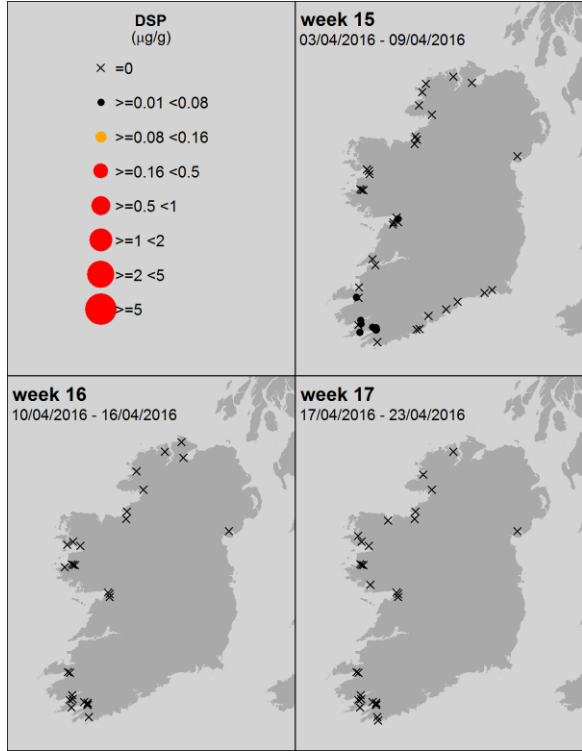
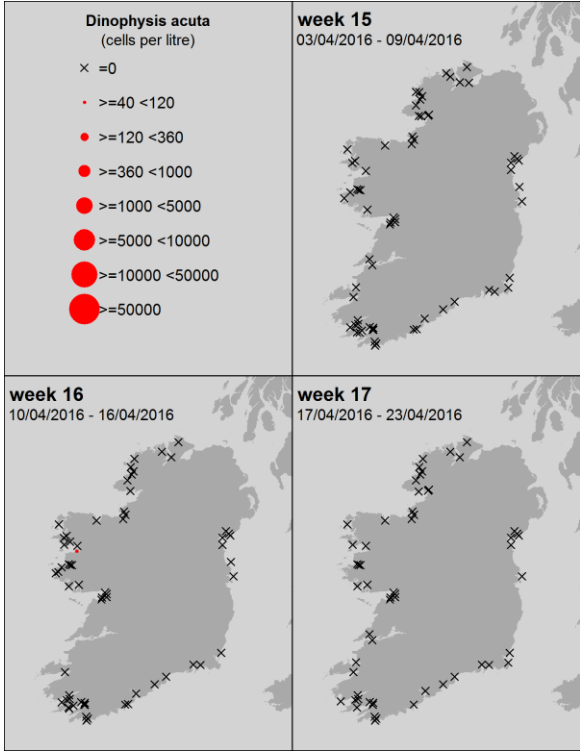
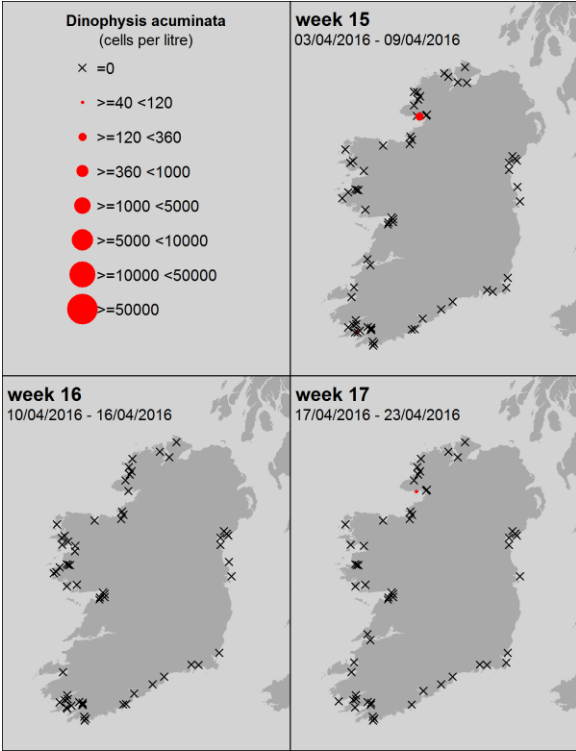
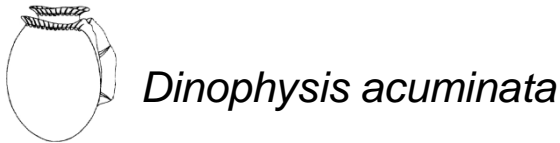
Ireland HISTORIC TRENDS

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



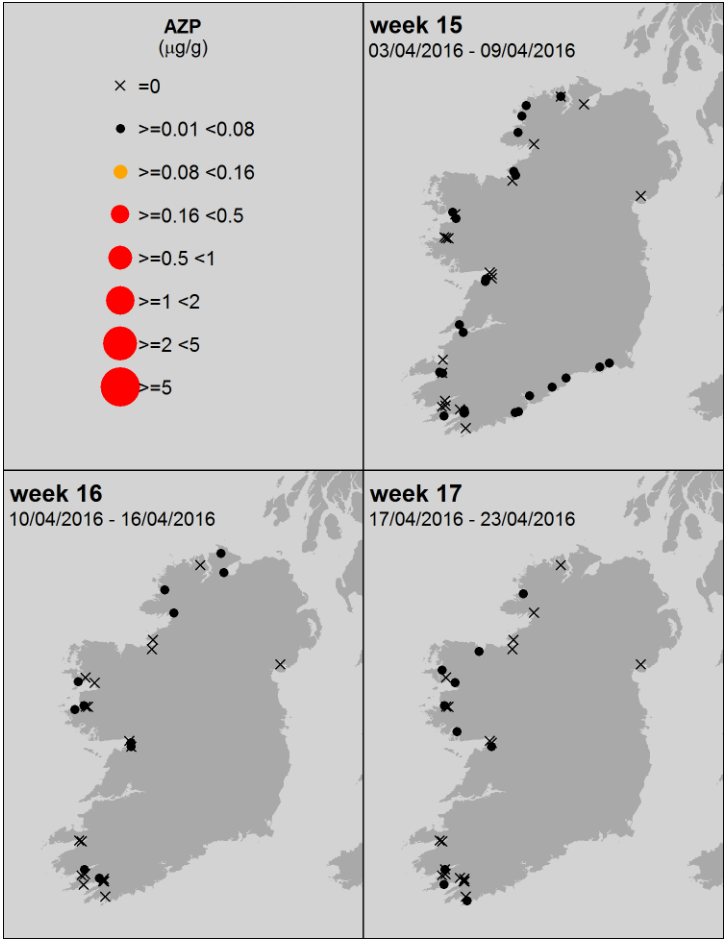
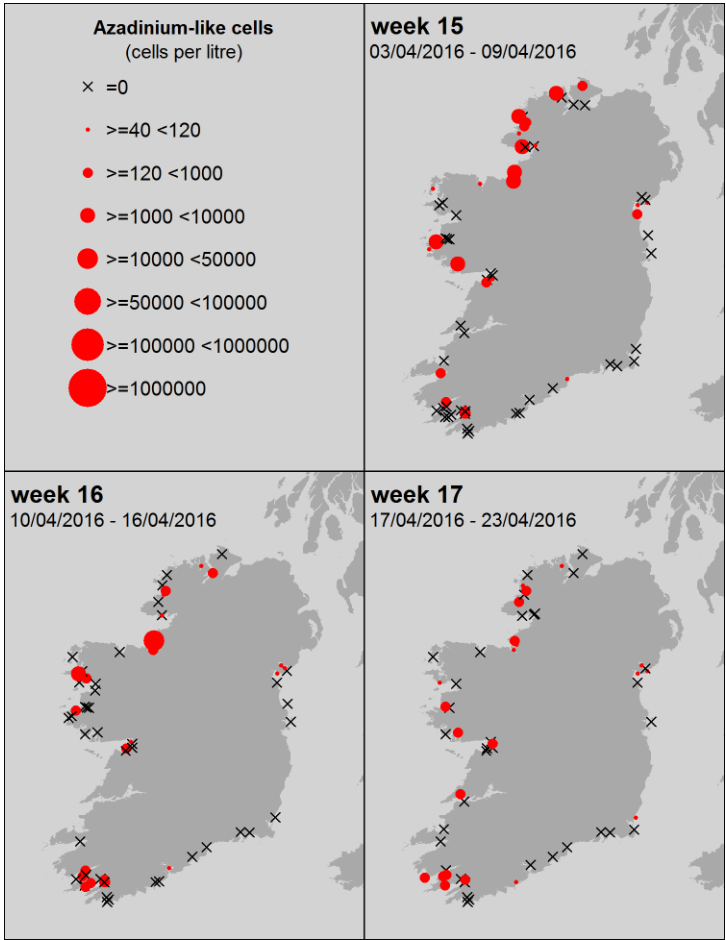
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

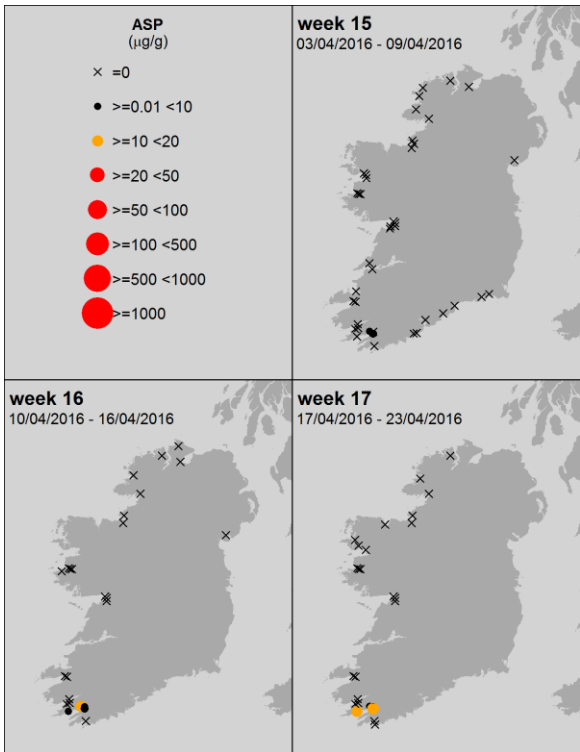
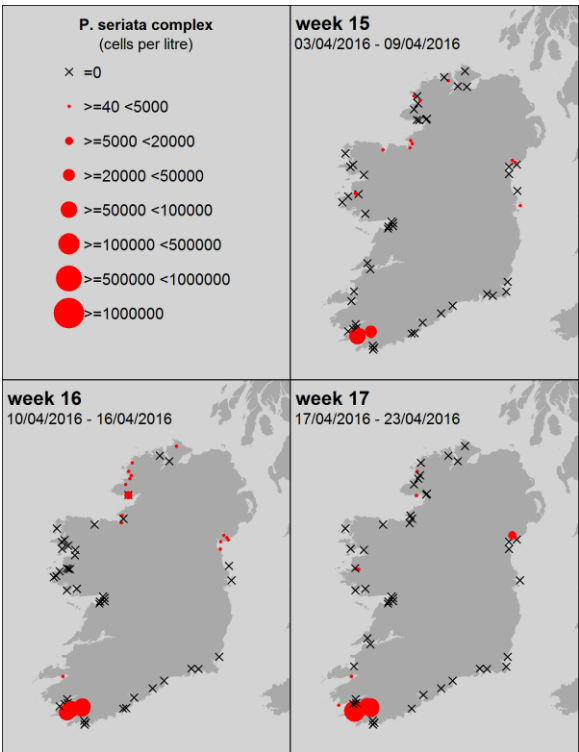
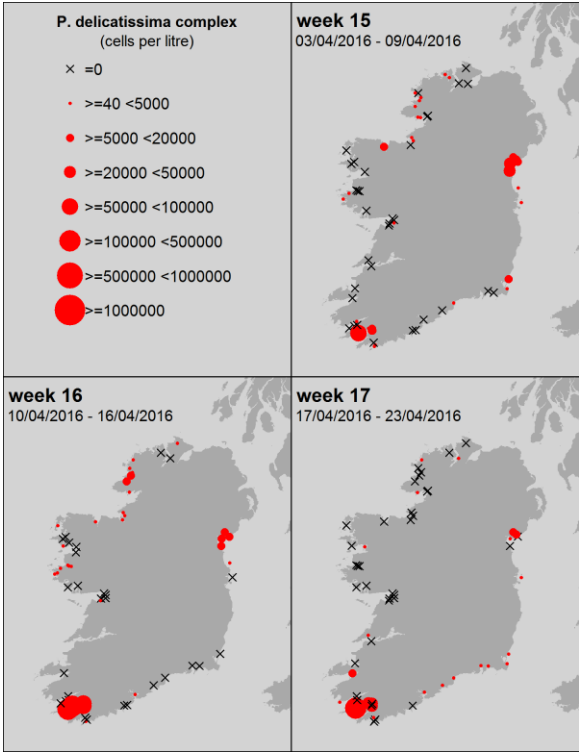
Pseudo-nitzschia spp.



ASP

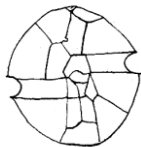
“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

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

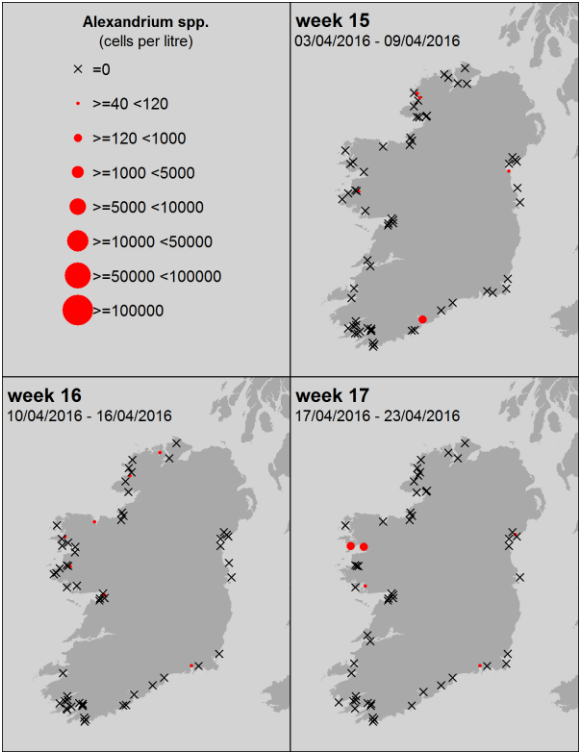


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

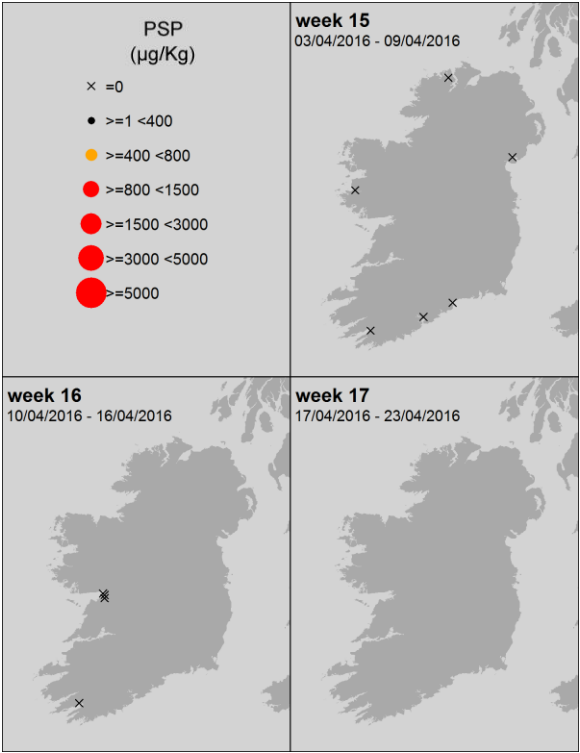
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



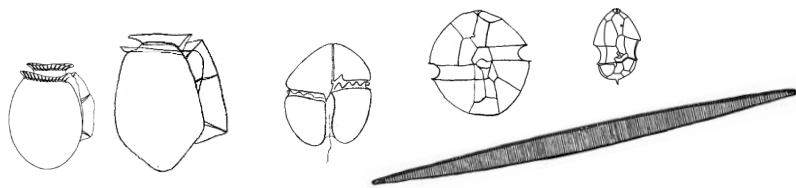
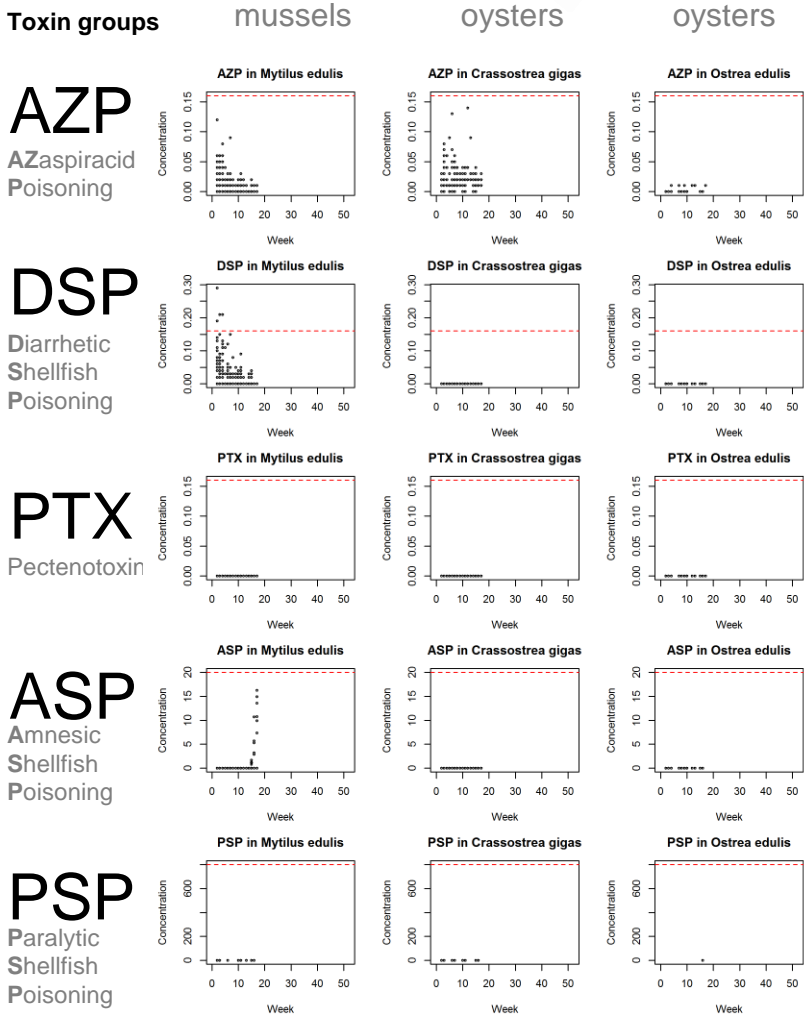
PSP



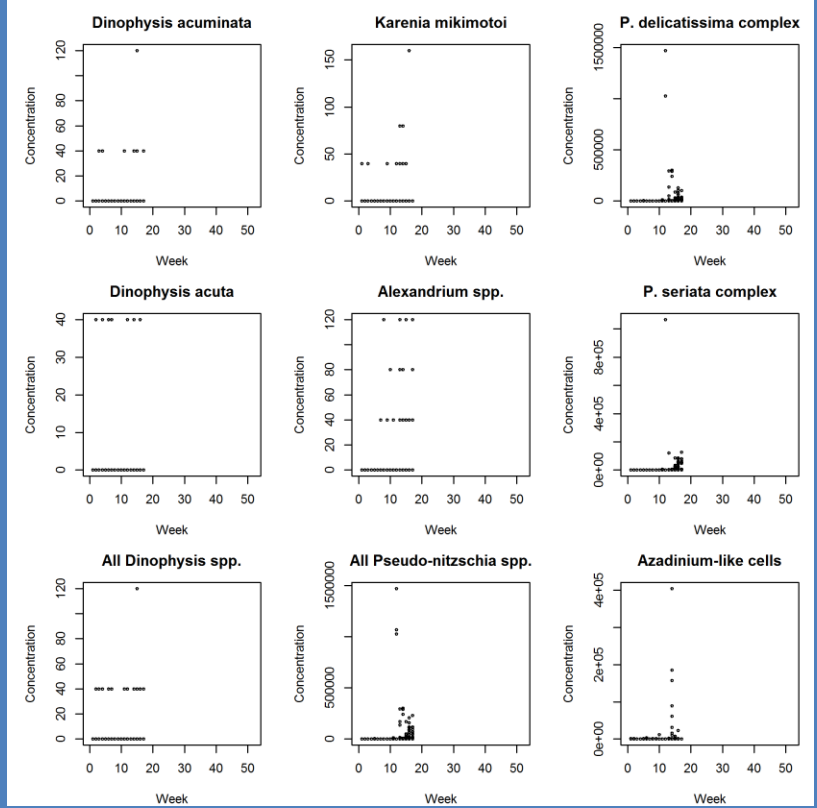
Ireland HAB & Biotoxin temporal trends

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

Ireland: Biotoxins



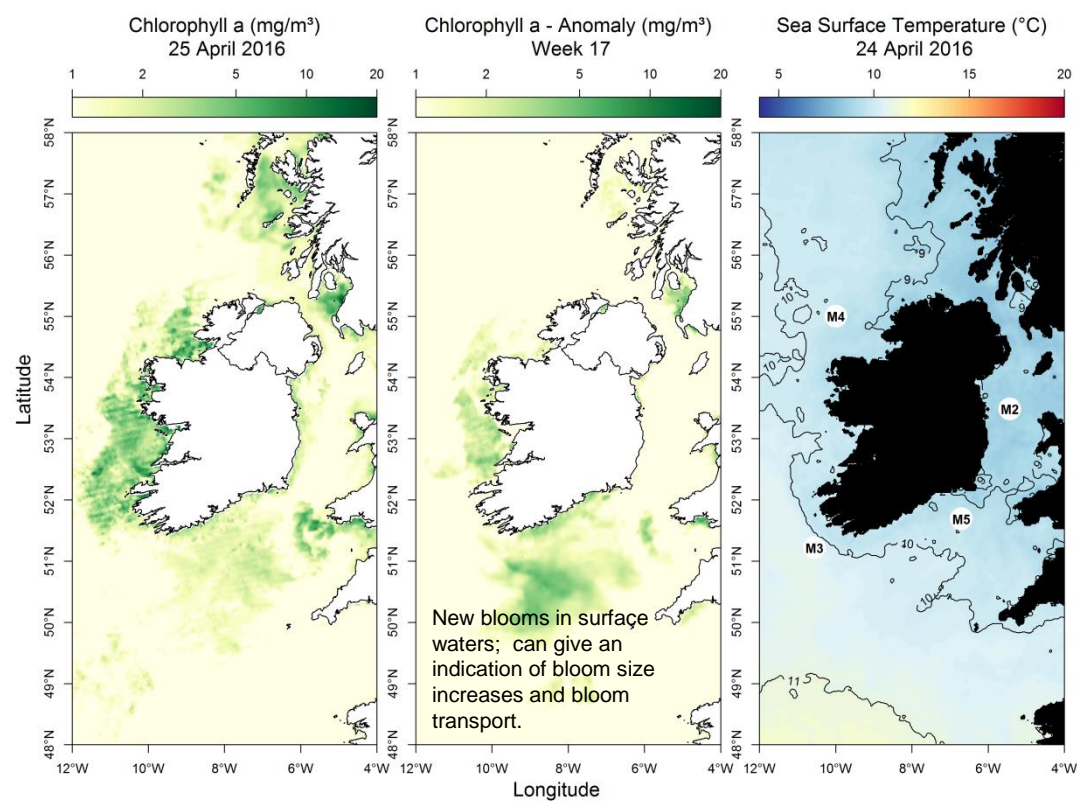
Ireland: HABs



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

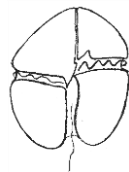


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) Offline
- SW coast (M3) Offline
- SE coast (M5) Offline

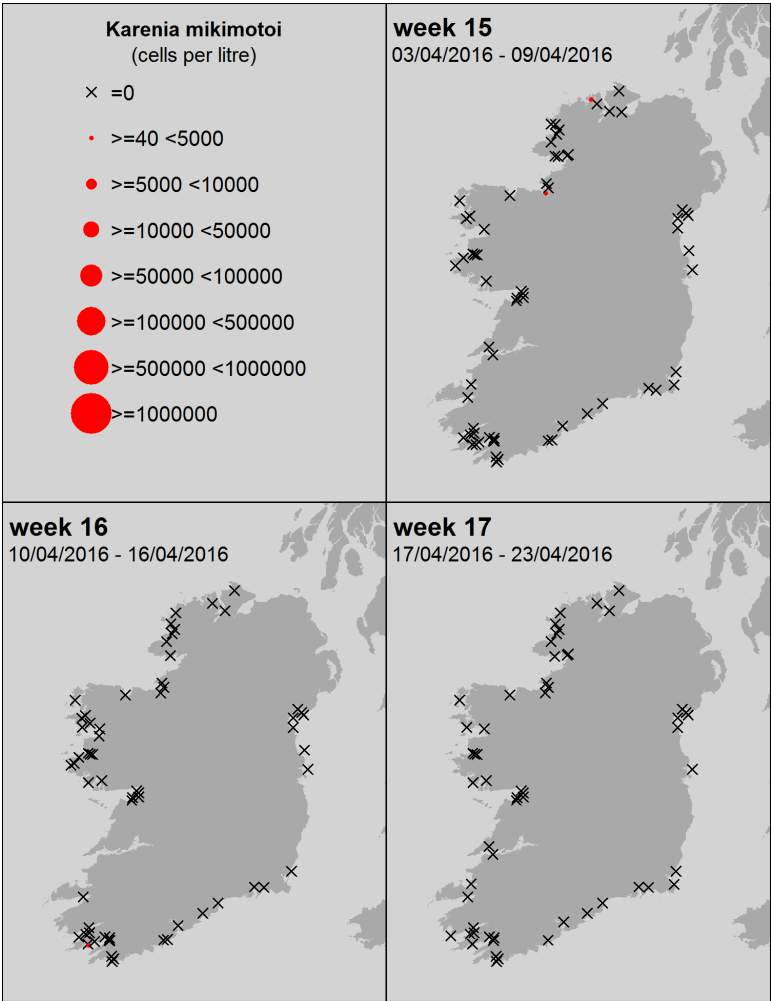
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
north:	Diatoms:	
	<i>Chaetoceros (Hyalochaete) spp.</i>	925,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	177,000
	<i>Chaetoceros socialis</i>	17,000
	Others:	
	Microflagellate sp.	4,055,000
west:	<i>Dinobryon spp.</i>	80,000
	Diatoms:	
	<i>Chaetoceros (Hyalochaete) spp.</i>	156,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	120,000
	Pennate diatom	60,000
	<i>Skeletonema spp.</i>	44,000
SW:	<i>Thalassiosira <20µm</i>	38,000
	<i>Chaetoceros socialis</i>	32,000
	Others:	
	<i>Euglena/Eutreptiella spp.</i>	284,000
	Diatoms:	
	<i>Chaetoceros (Hyalochaete) spp.</i>	147,000
south:	<i>Pseudo-nitzschia seriata complex</i>	63,000
	<i>Skeletonema spp.</i>	54,000
	<i>Chaetoceros socialis</i>	48,000
	<i>Skeletonema costatum</i>	38,000
	<i>Pseudo-nitzschia delicatissima complex</i>	34,000
	<i>Thalassiosira <20µm</i>	34,000
east:	Diatoms:	
	<i>Thalassiosira <20µm</i>	68,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	11,000
	Pennate diatom 20-50µm	3,000
	Others:	
	<i>Bacteriastrum spp.</i>	74,000
	<i>Euglena/Eutreptiella spp.</i>	3,000
	Diatoms:	
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	726,000
	<i>Thalassiosira <20µm</i>	695,000
	<i>Skeletonema spp.</i>	124,000
	<i>Melosira spp.</i>	59,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	38,000
	<i>Thalassiosira spp</i>	31,000
	<i>Lauderia / Detonula sp</i>	15,000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

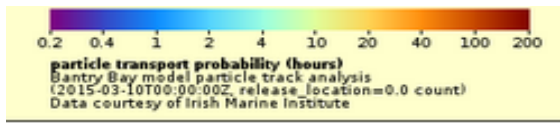
A *Karenia mikimotoi* bloom
is NOT expected this week



SOUTHWEST: Bantry Bay

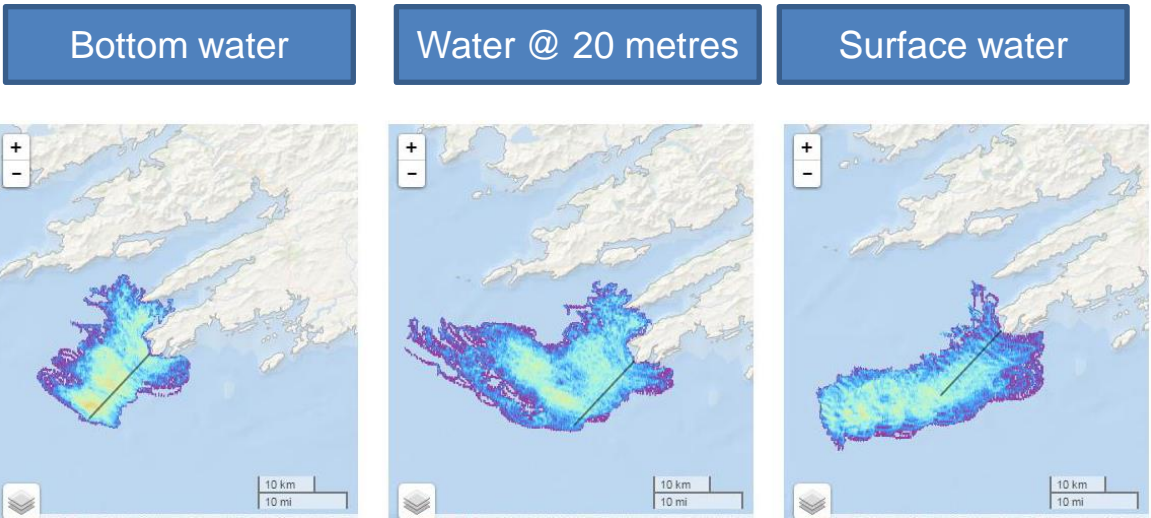
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

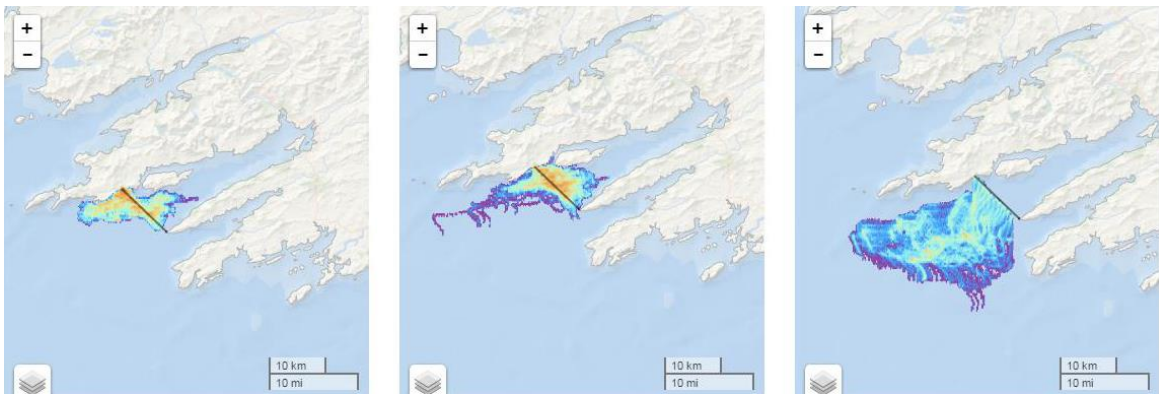


Go to <http://vis.marine.ie/particles/> to view daily forecasts

Forecast for the next 3 days



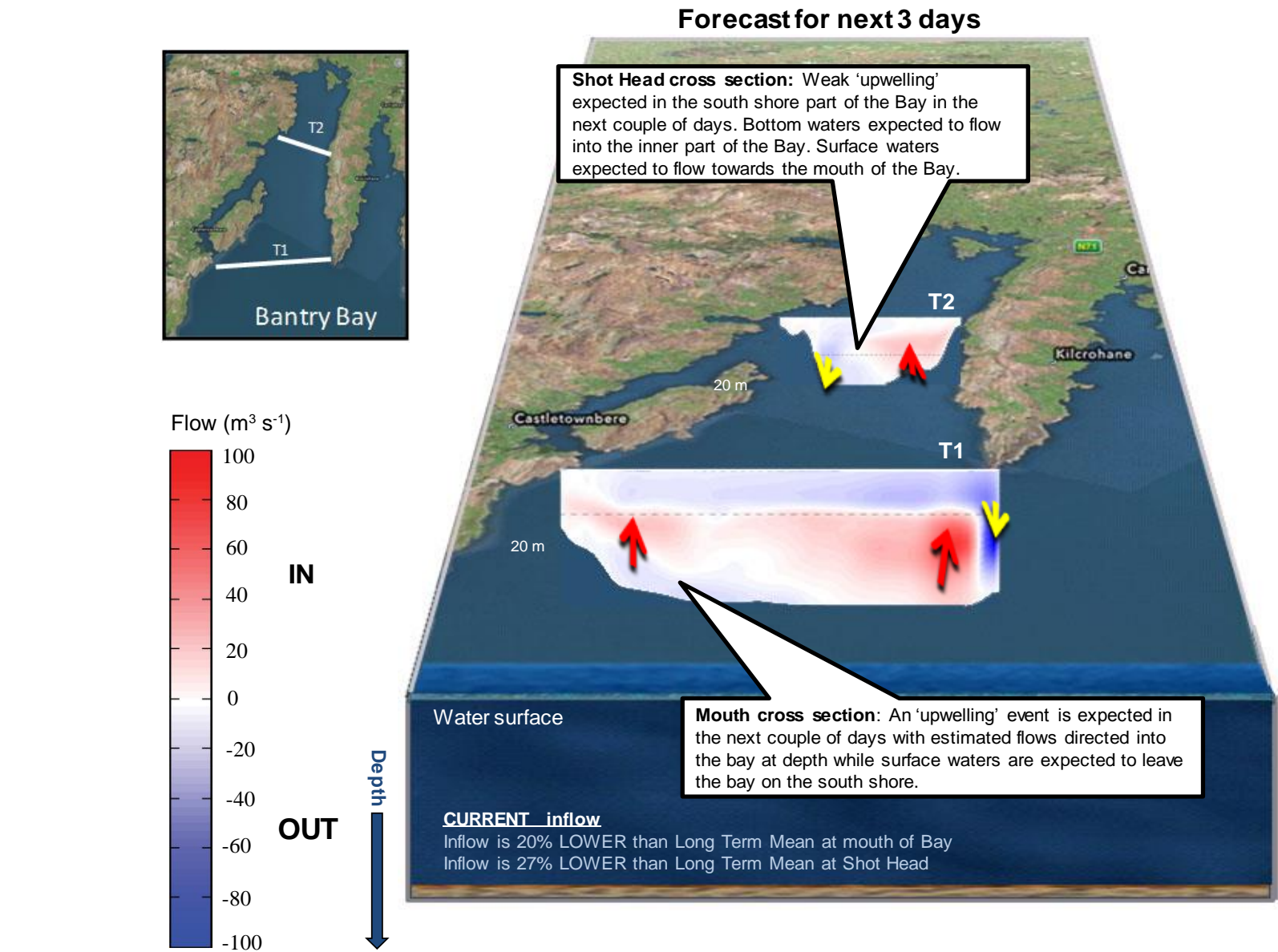
Estimated water circulation patterns at Mizen head will flowing in a northwest direction. Water is not expected to reach Bantry Bay.



Some bottom waters are expected to enter Bantry Bay while surface waters will exit the Bay.

Bantry Bay


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



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

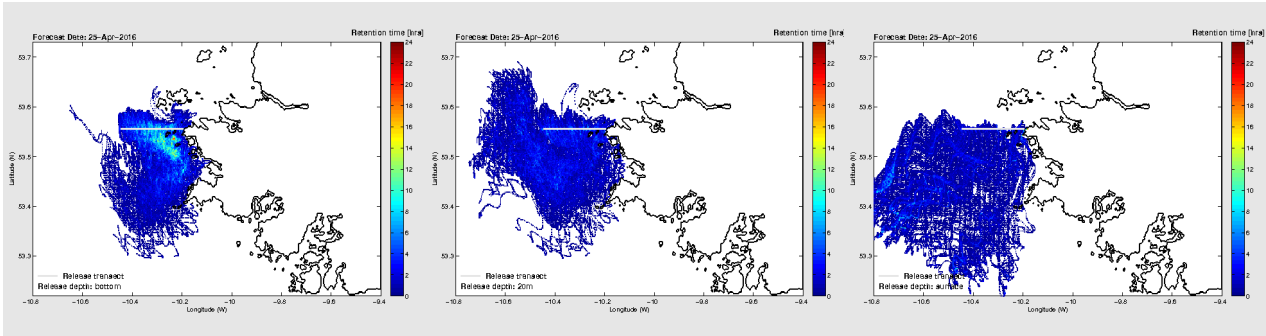


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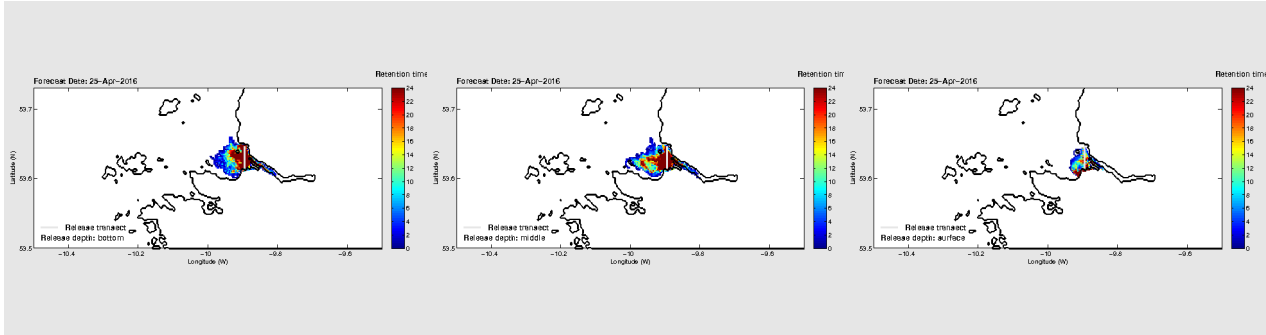
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

- Bottom water
- Water @ 20 metres
- Surface water



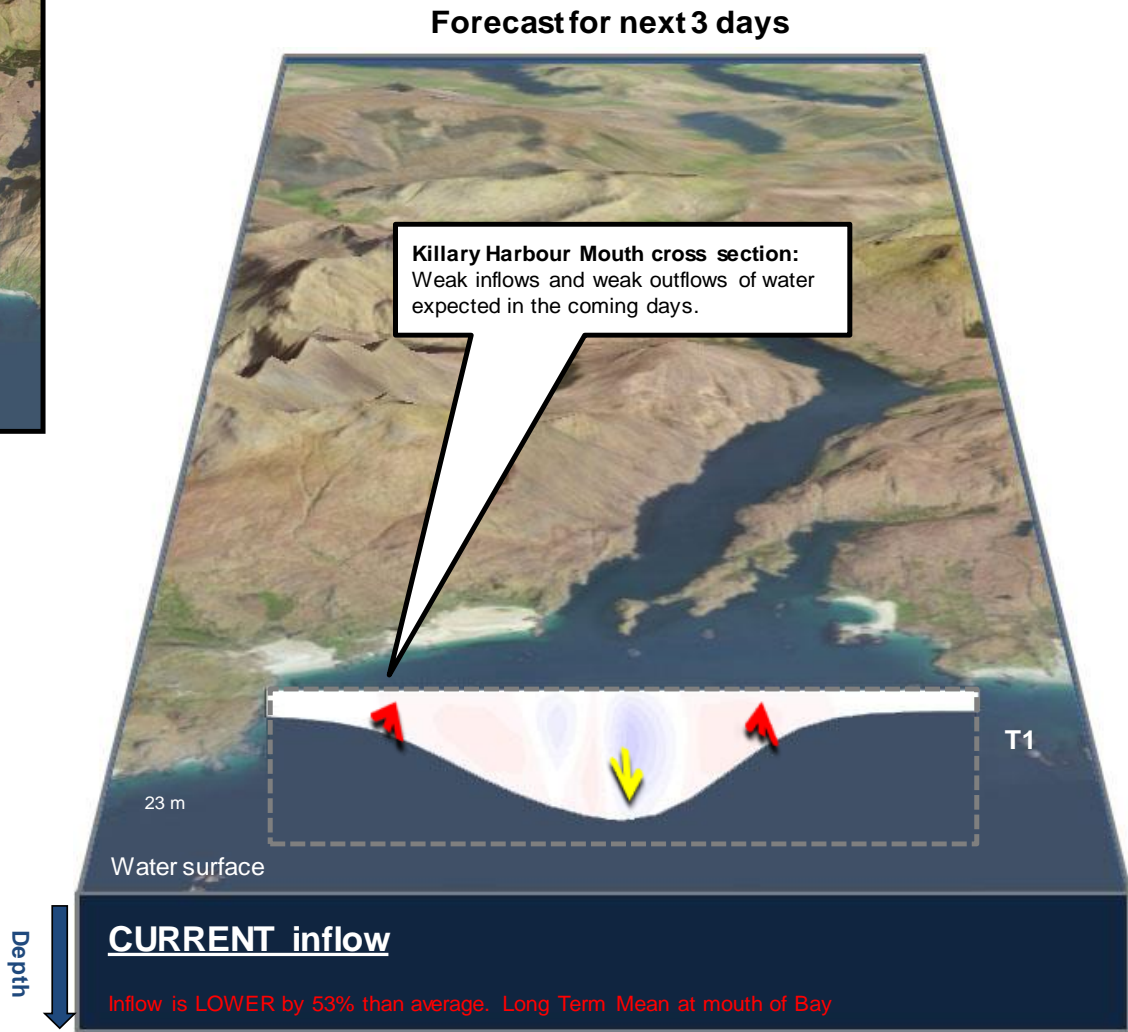
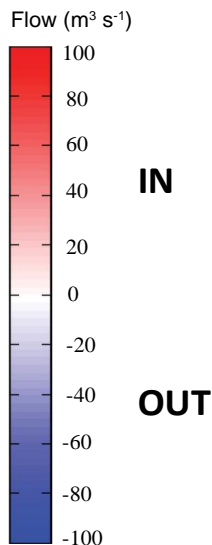
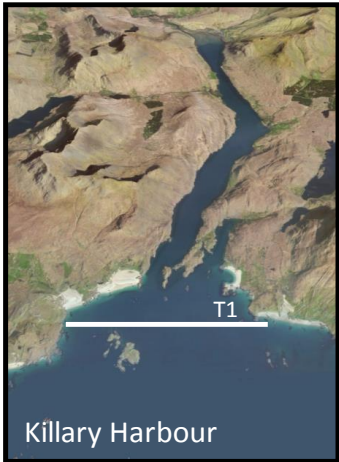
Water flows off the west coast will travel south offshore waters will not reach Killary Harbour in the next couple of days.



Estimated water circulation at the mouth of Killary Harbour shows that in general, waters will be retained at the mouth. However small volumes of subsurface water will be able to reach Killary Middle.

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

