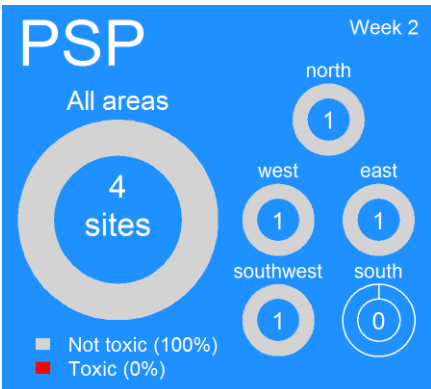
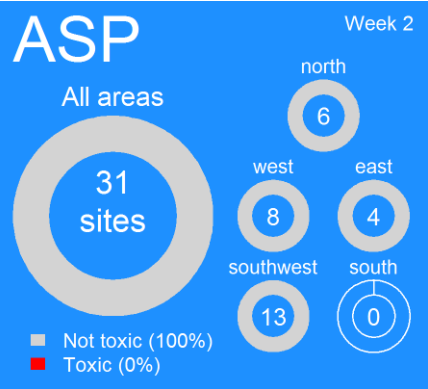
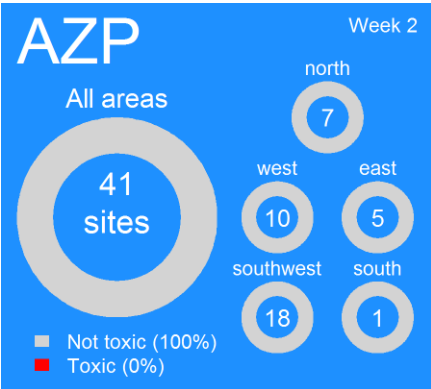
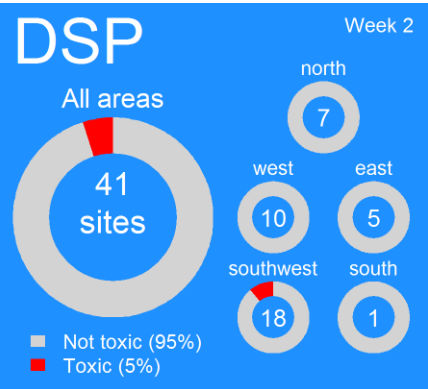


Ireland: Current Conditions

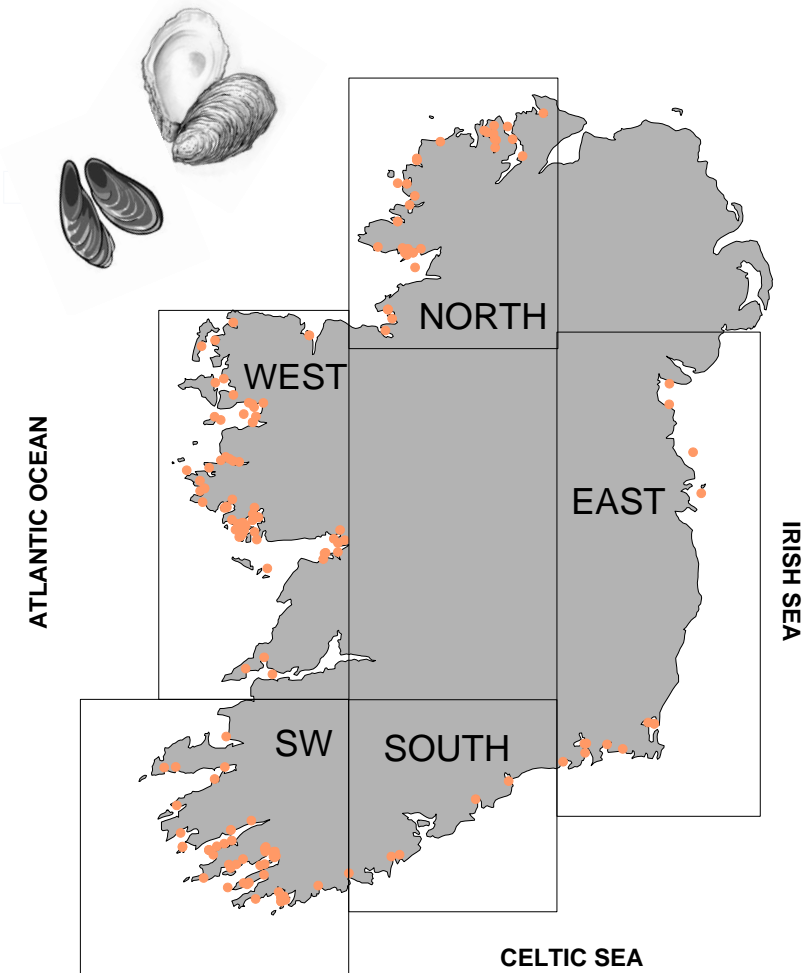
Shellfish biotoxin report (last week)



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



● = aquaculture site

Ireland: Predictions

Prediction for this week:

ASP event: Low risk.

AZP event: Moderate to low

DSP event: Moderate to low (site specific)

PSP event: Low risk

Why do we think this?

ASP: This a low risk period of the year for all sites. No bio toxin detected in recent weeks. *Pseudo-nitzschia* cell densities are low.

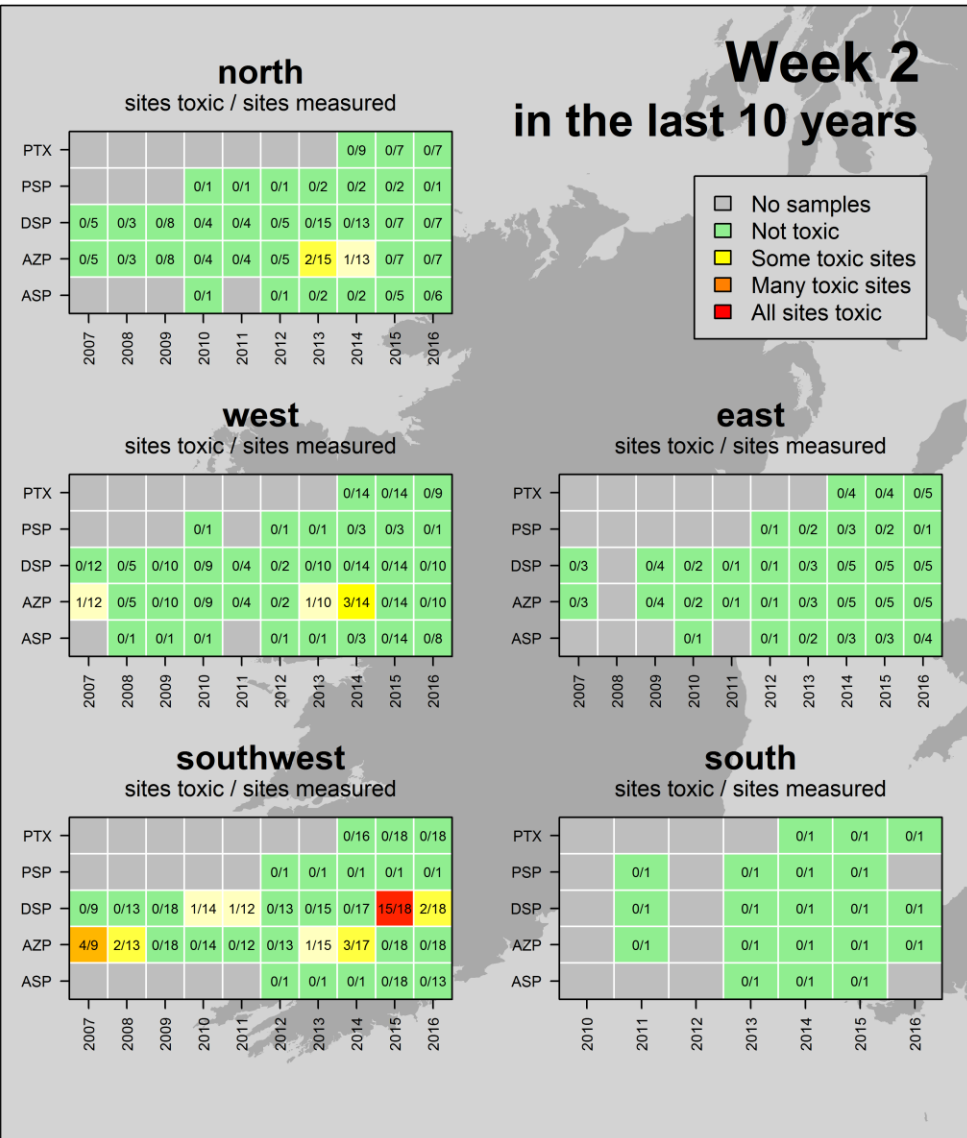
AZP: Bio toxins have remained below EU regulatory levels. However, *Azadinium* - like cells are present at low levels at some sites. Historical data demonstrates that this bio toxin can be present in shellfish at this time of year, this is usually the result of winter carry over from late autumn contamination events.

DSP: Low to negligible levels of *Dinophysis* spp and toxins 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 in unfavourable conditions.

PSP: Toxicity issues are not expected at this time in the 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

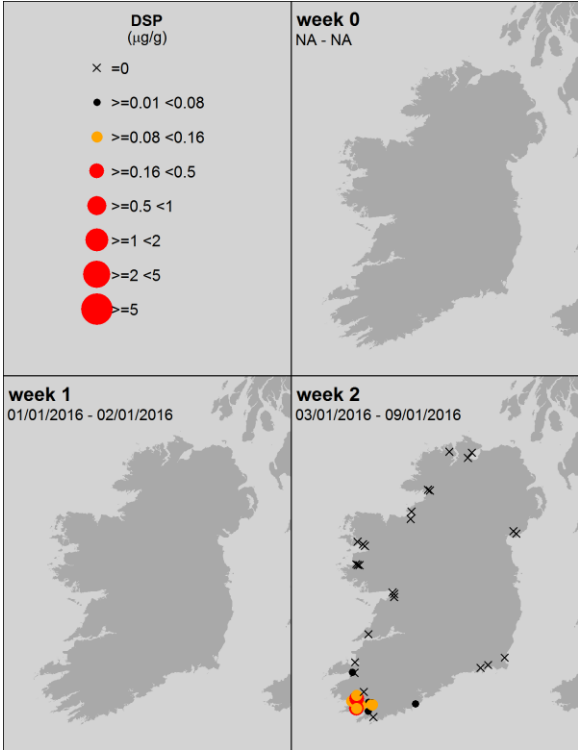
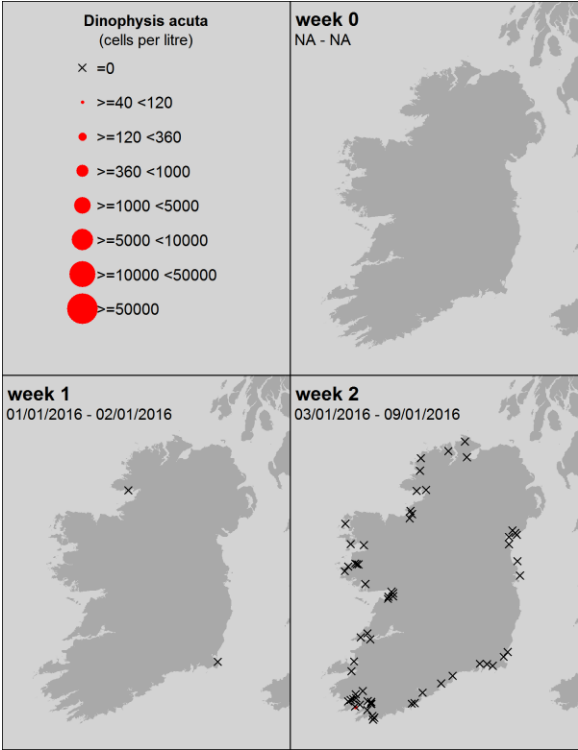
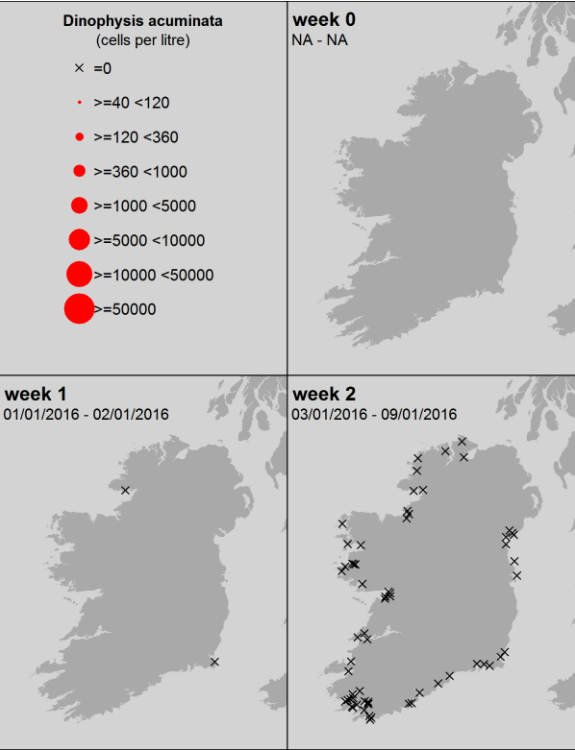
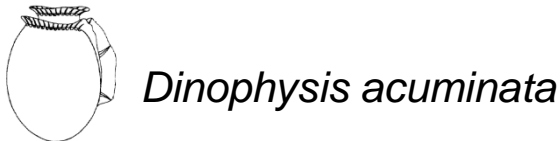
AZP events: April to December

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



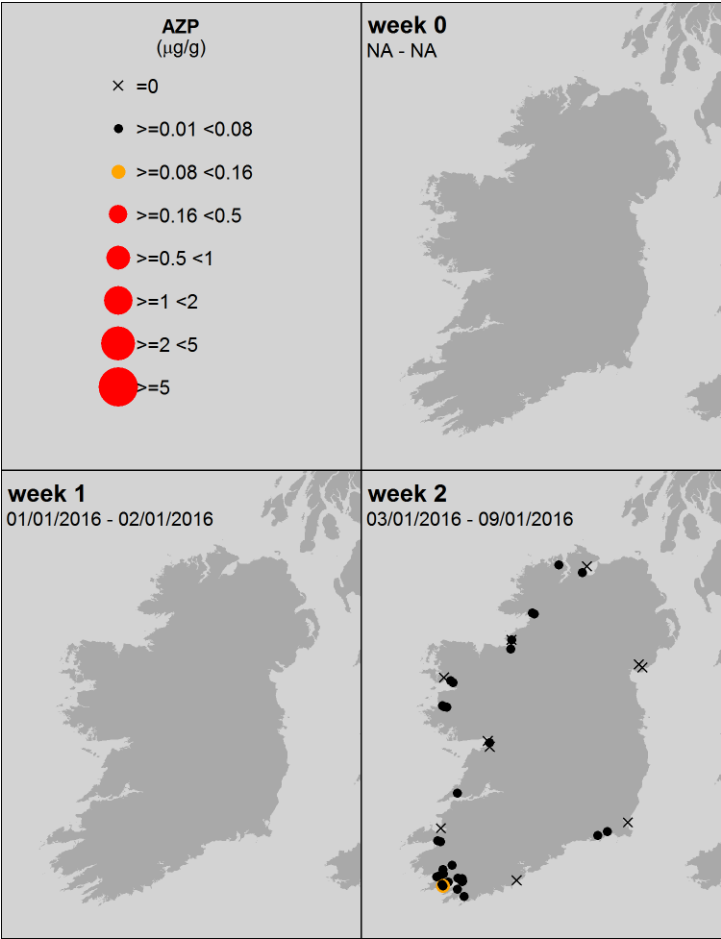
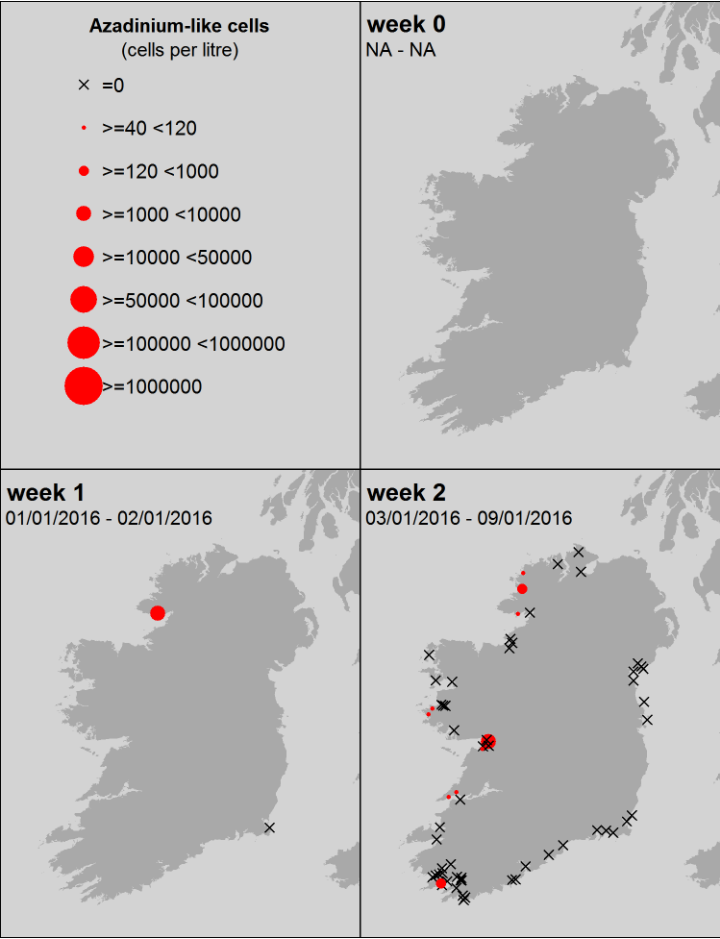
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

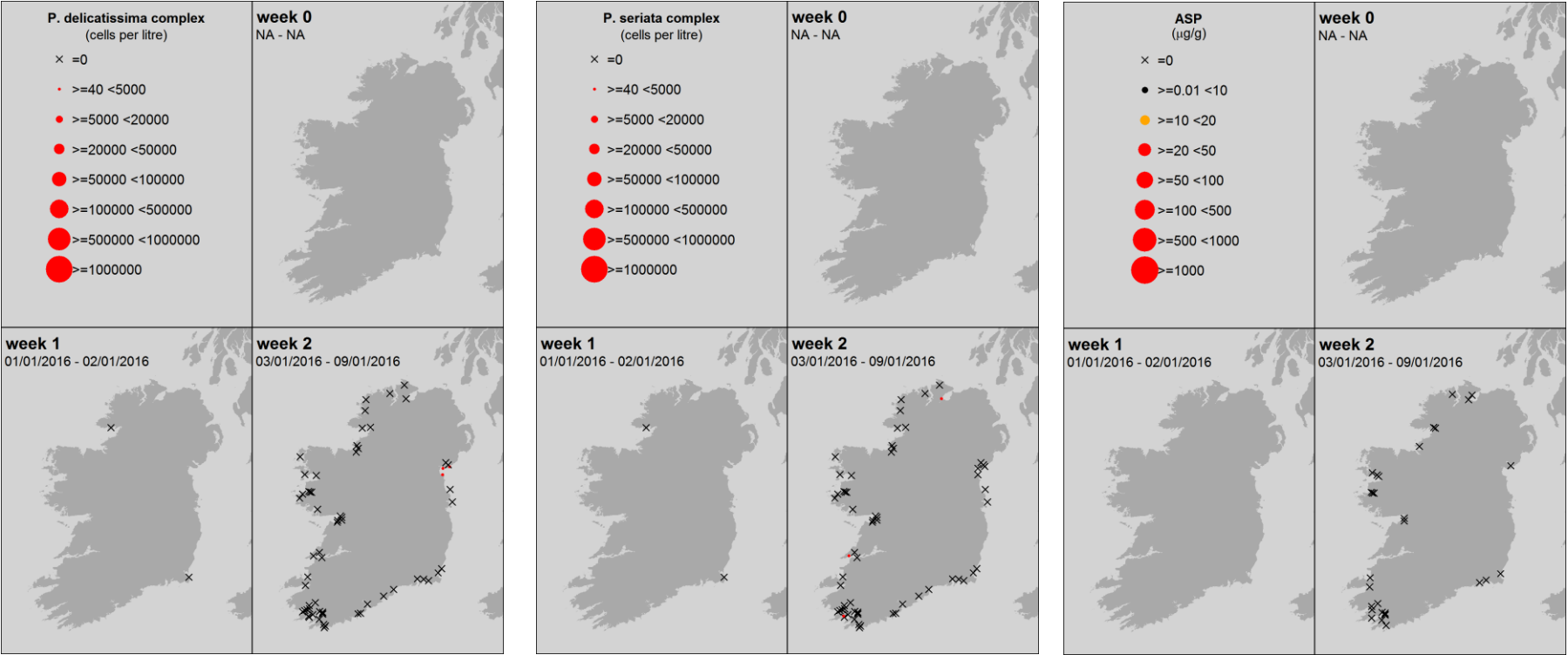
Pseudo-nitzschia spp.



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

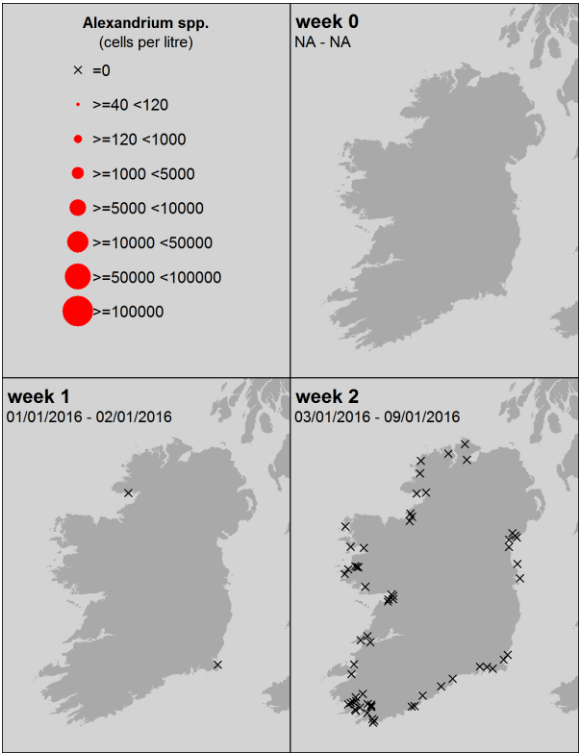


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

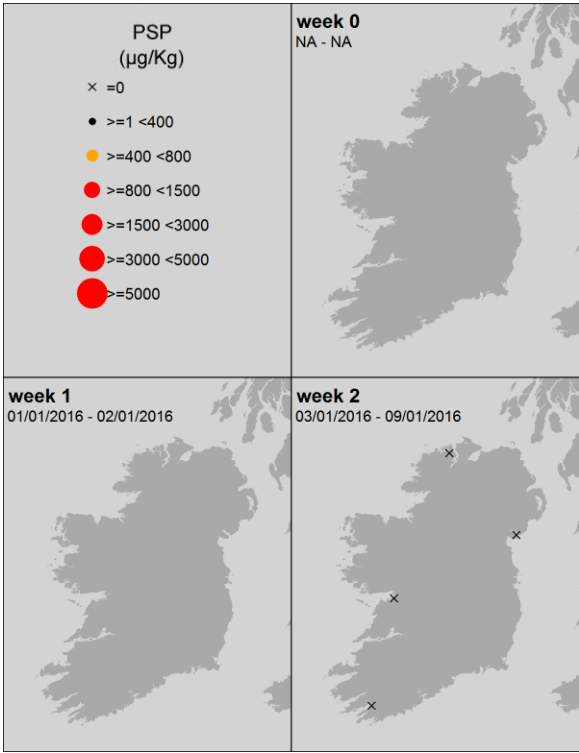
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



PSP



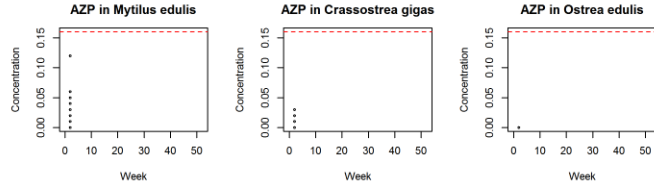
Ireland: **HABs and biotoxins** Levels from week 1 to present

Ireland: **Biotoxins**

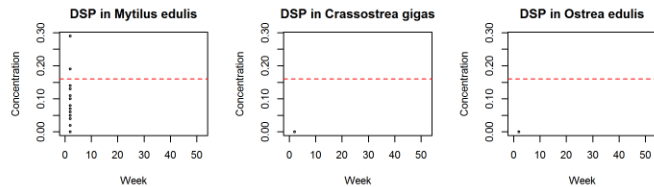


Toxin groups mussels oysters oysters

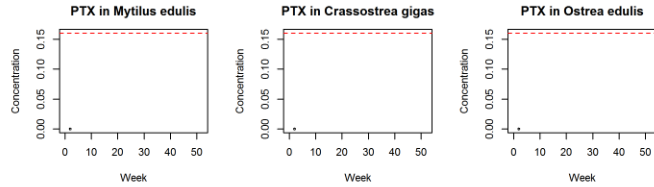
AZP
AZaspiracid
Poisoning



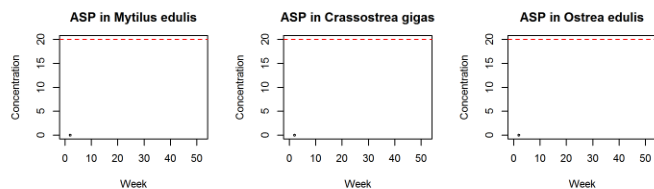
DSP
Diarrhetic
Shellfish
Poisoning



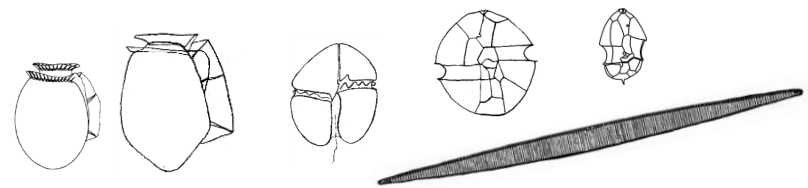
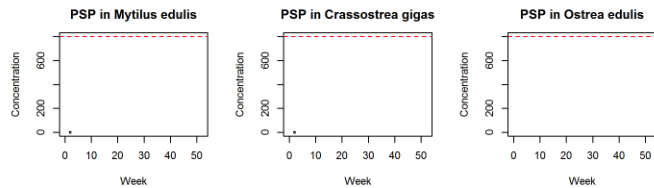
PTX
Pectenotoxin



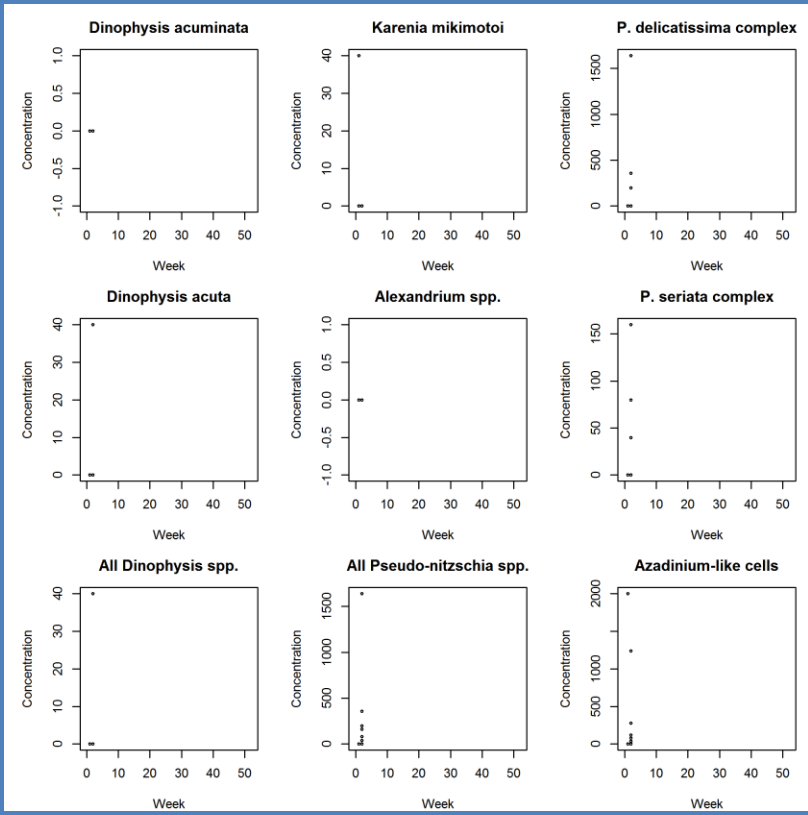
ASP
Amnesic
Shellfish
Poisoning



PSP
Paralytic
Shellfish
Poisoning



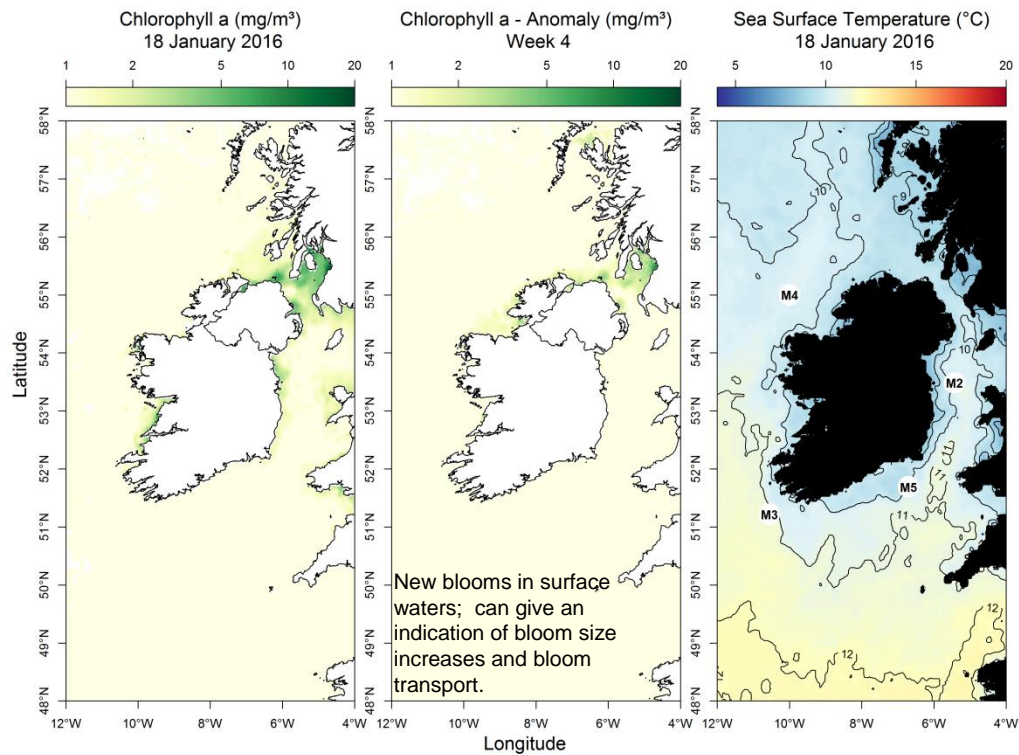
Ireland: **HABs**



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

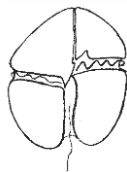


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) above average by 0.58 °C
- SW coast (M3) Offline
- SE coast (M5)

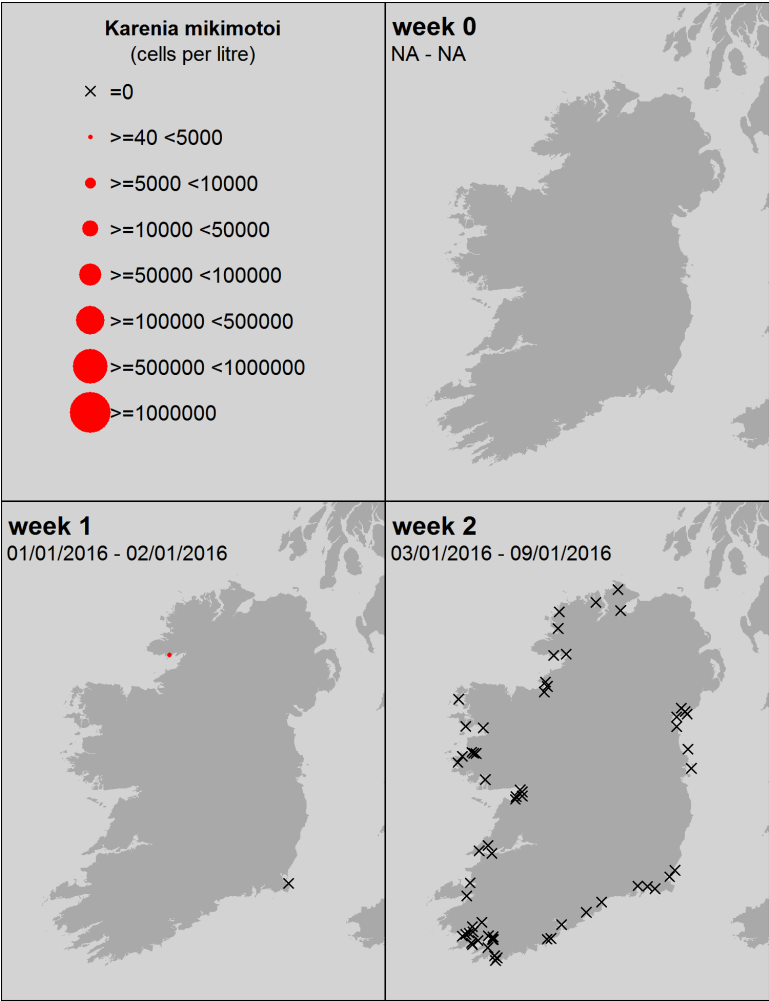
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L	Cells/L (rounded)
north:	Diatoms:		
	Pennate diatom	4,080	4,000
	<i>Plagiogrammopsis</i> sp	1,360	1,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	1,280	1,000
	<i>Skeletonema</i> spp.	840	1,000
	Others:		
west:	Microflagellate sp.	520	1,000
	Diatoms:		
	Pennate diatom	2,240	2,000
	<i>Odontella</i> spp.	2,040	2,000
	<i>Paralia</i> sp.	1,360	1,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	960	1,000
SW:	<i>Skeletonema</i> spp.	840	1,000
	Others:		
	Ciliates	1,280	1,000
	Diatoms:		
	<i>Skeletonema</i> spp.	4,200	4,000
	<i>Paralia</i> spp	3,440	3,000
south:	Others:		
	<i>Haptophytes</i>	7,080	7,000
	Diatoms:		
	Pennate diatom	8,120	8,000
	<i>Paralia</i> sp.	7,760	8,000
	<i>Skeletonema</i> spp.	5,320	5,000
east:	<i>Odontella</i> spp.	3,320	3,000
	<i>Navicula</i> spp. 20-50 µm	2,520	3,000
	Diatoms:		
	<i>Paralia</i> sp.	6,360	6,000
	Dinoflagellates:		
	<i>Fragilidium</i> sp	1,800	2,000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom
is NOT expected this week

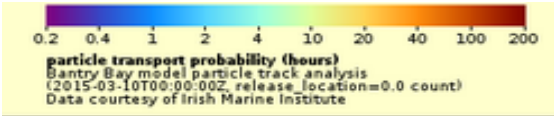


SOUTHWEST: Bantry Bay

Forecast for the next 3 days

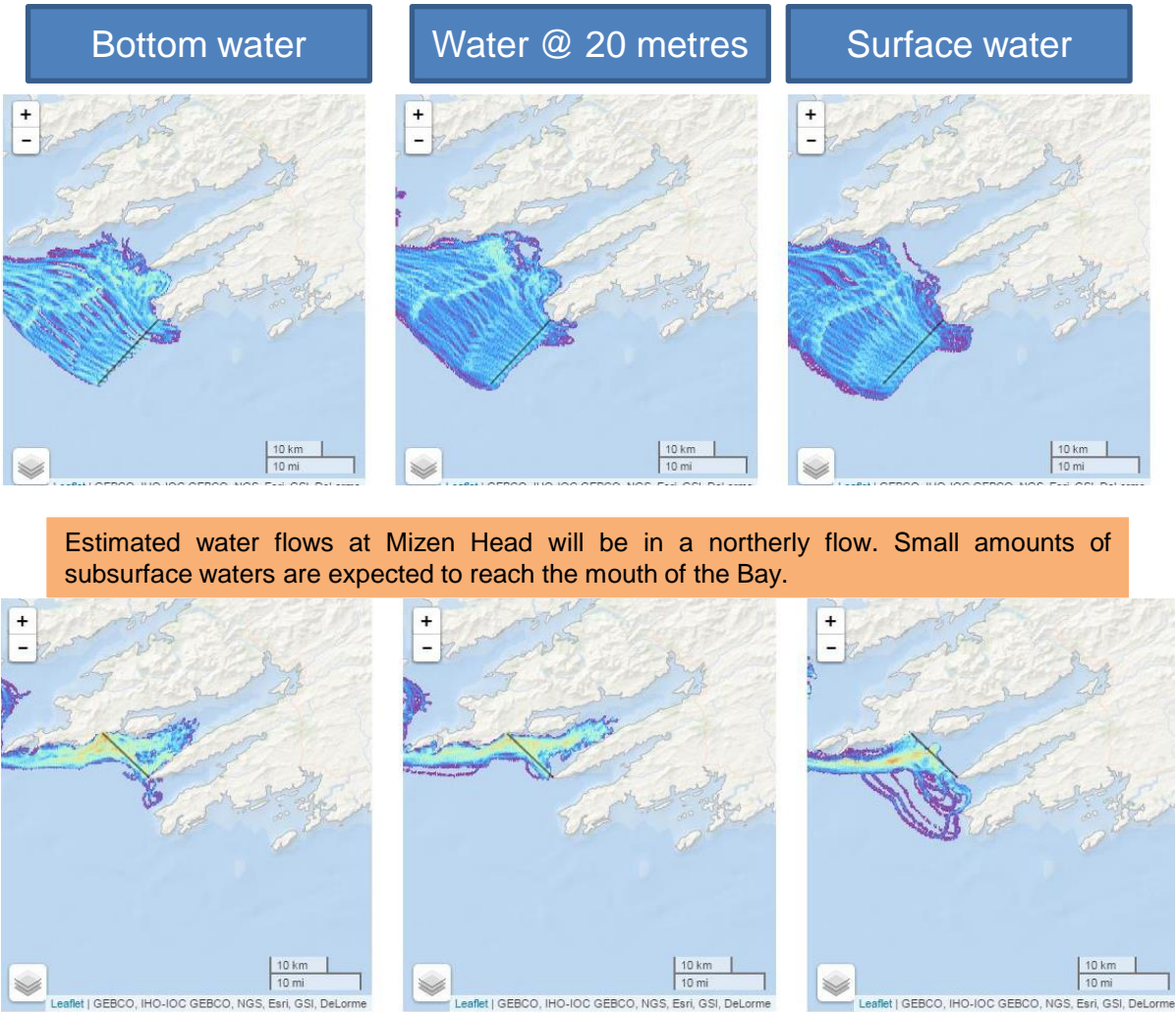
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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



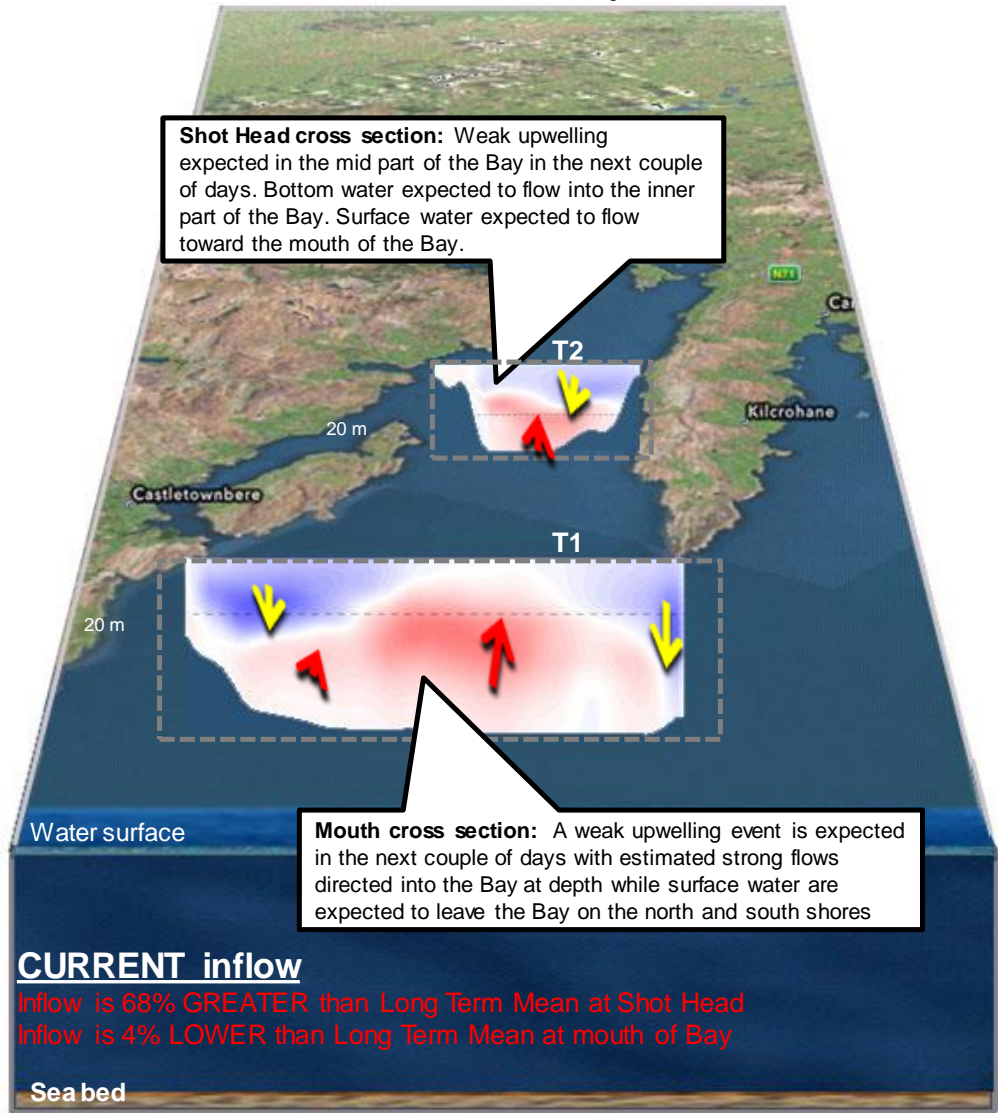
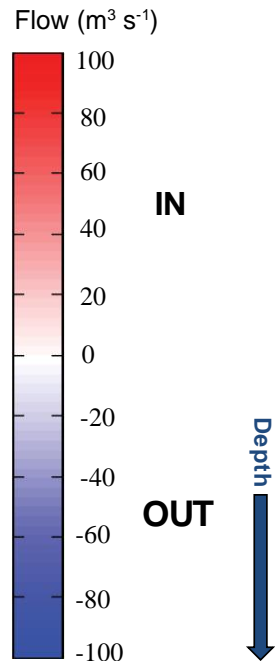
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

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

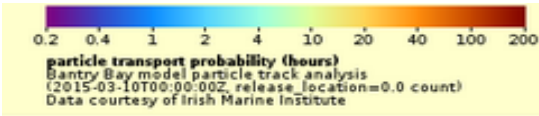


WEST: Killary Harbour

Forecast for the next 3 days

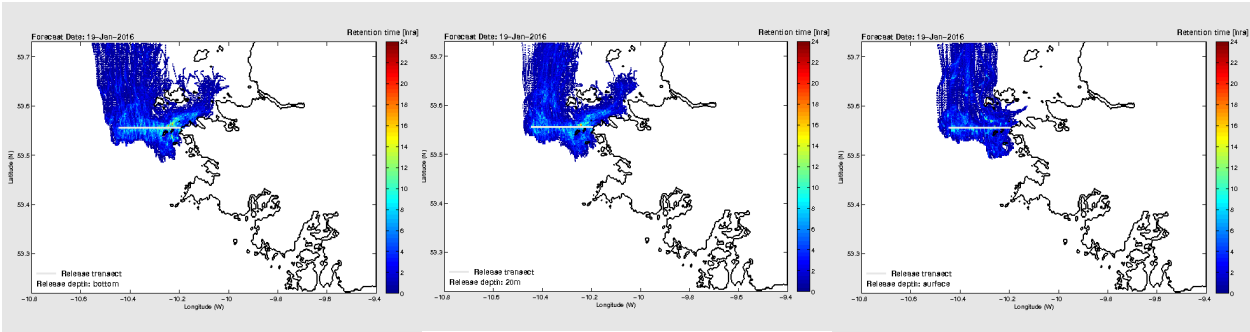
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

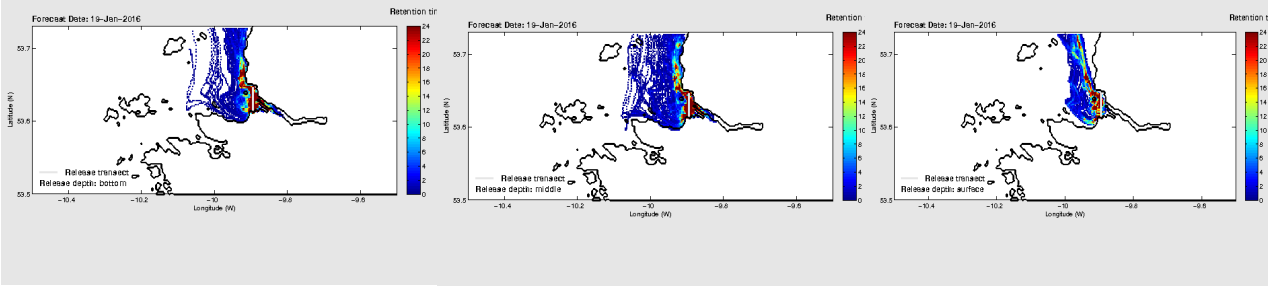


0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Bottom water Water @ 20 metres Surface water



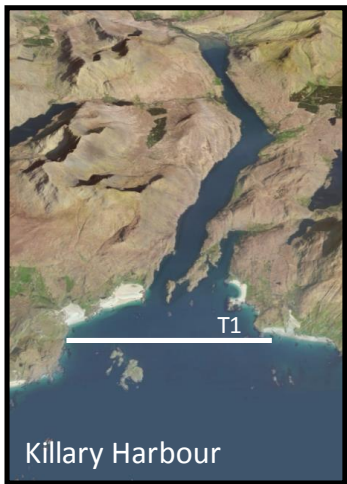
Water flows off the west coast are expected to flow in a northerly direction. Offshore waters are unlikely to reach the mouth of Killary Harbour in the next couple of days.



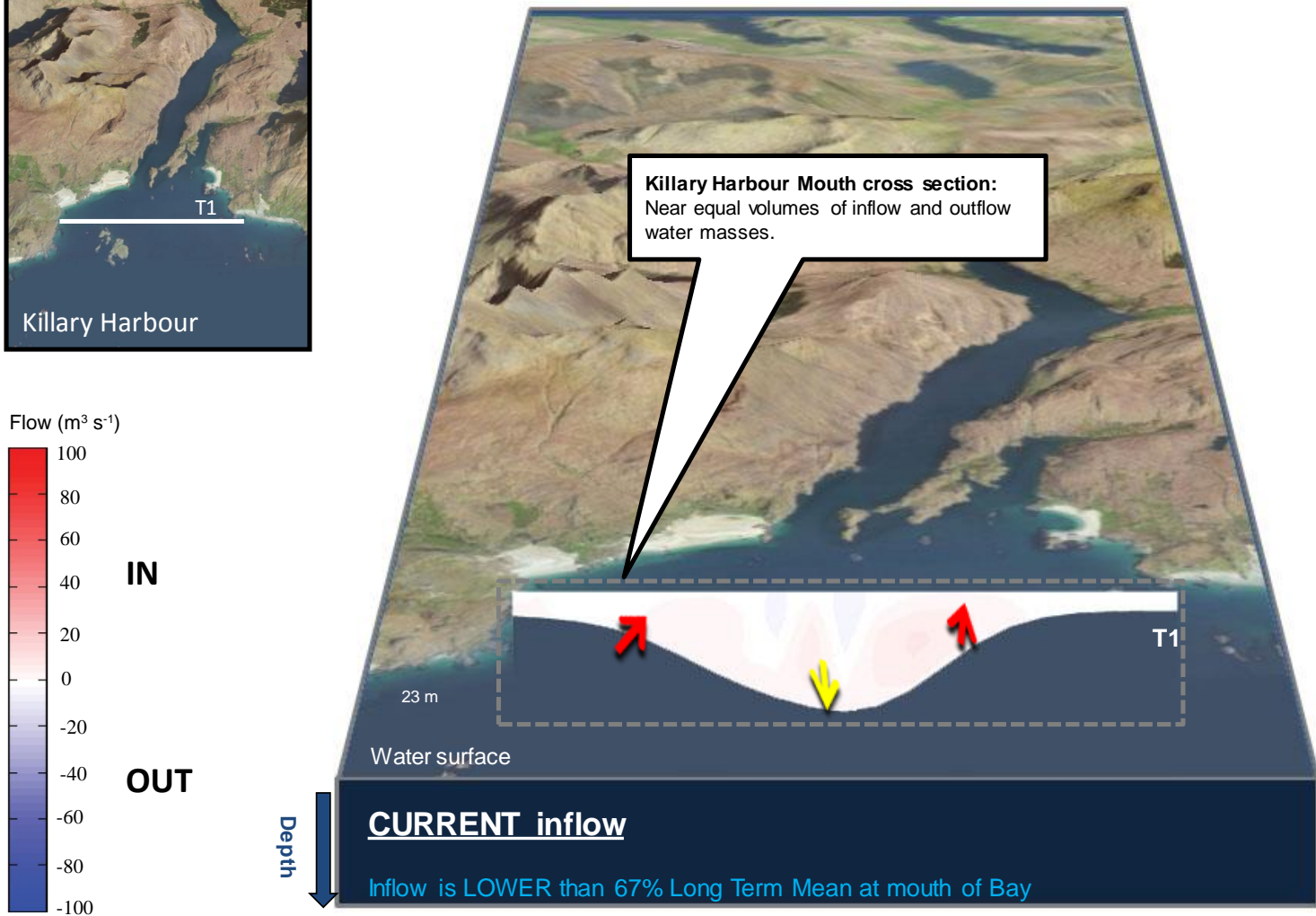
Estimated water circulation at the mouth of Killary shows that in general, waters will be retained at the mouth while more water will travel in a northerly direction at all depths. A small volume of bottom water will be able to reach the mid part of the Bay.

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

