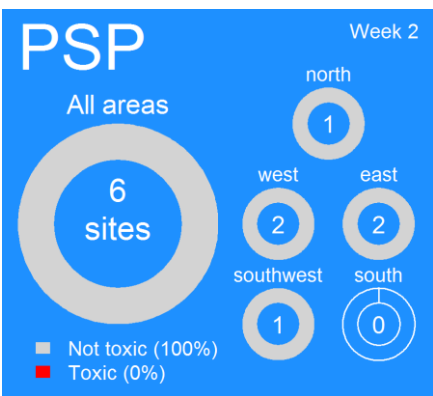
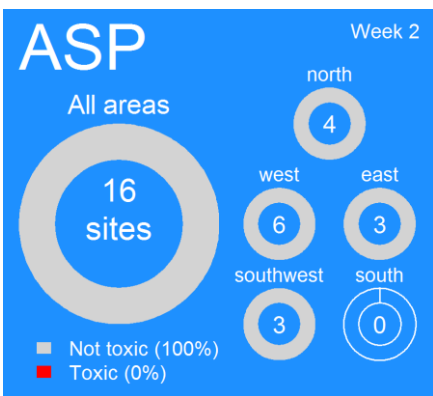
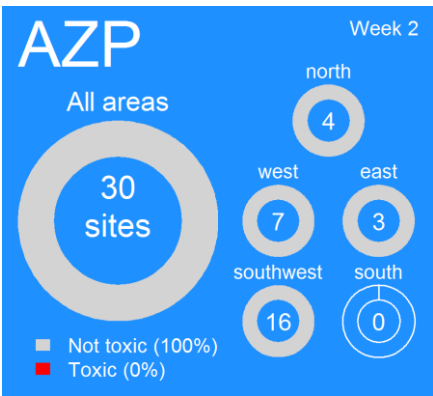
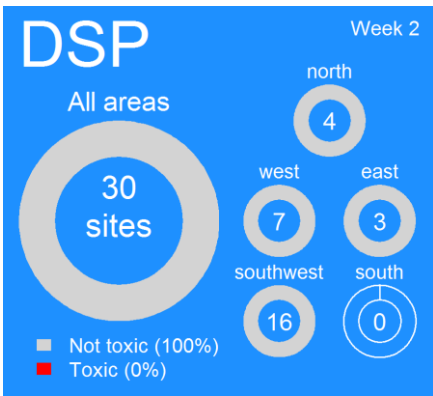


# Ireland: Current Conditions

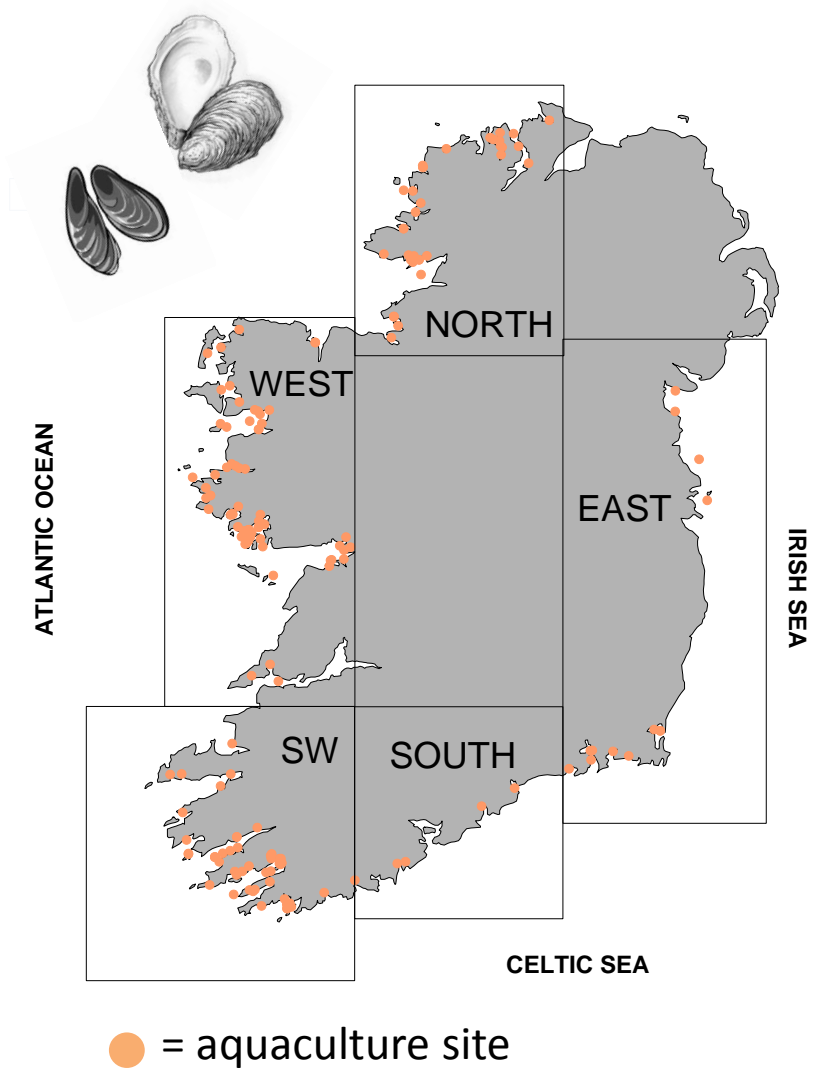
## Shellfish biotoxin report (last week)



**EU Regulatory Limit:**  
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

**Toxin groups**  
ASP = Amnesic Shellfish Poisoning; AZP = AZaspiracid Poisoning;  
DSP = Diarrhetic Shellfish Poisoning; PSP = Paralytic Shellfish Poisoning

### National Monitoring Programme Designated Sampling Sites



# Ireland: Predictions

ASP event: Low

AZP event: Low

DSP event: Low

PSP event: Low

## Why do we think this?

ASP: Toxin issues from this species are not expected at this time of year. Cell levels of *Pseudo-nitzschia* groups are negligible currently around the coast. ASP biotoxins were not detected at any site countrywide.

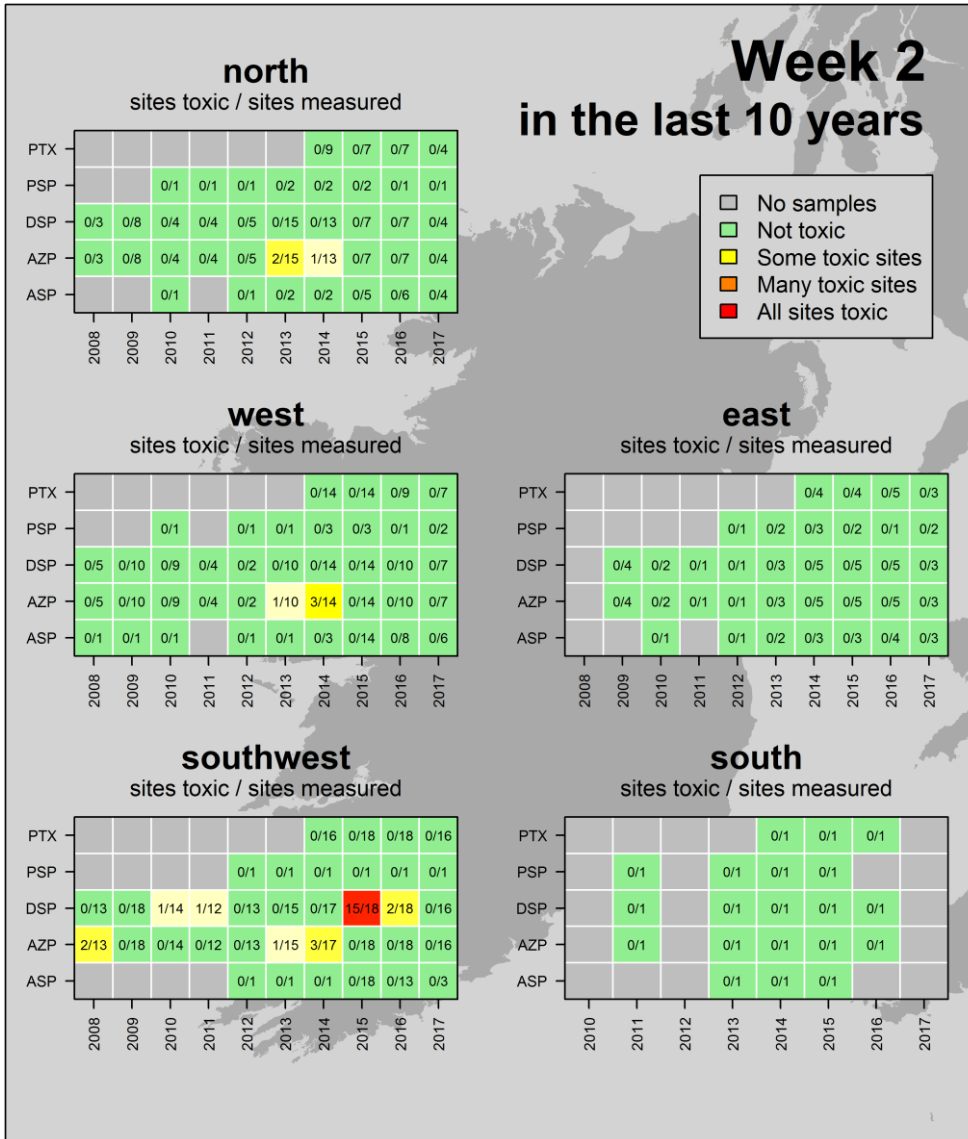
AZP: Biotoxins have remained below EU regulatory levels. However, *Azadinium* - like cells are present at low levels at some sites. Historical data demonstrates that this bio toxin can be present in shellfish at this time of year, this is usually the result of winter carry over from late autumn contamination 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: A toxic event is not expected at this time of 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 HAB & Biotoxin Distribution maps

[current status of harmful and toxic algae]

## Ireland: Last 3 weeks of available National Monitoring Programme data



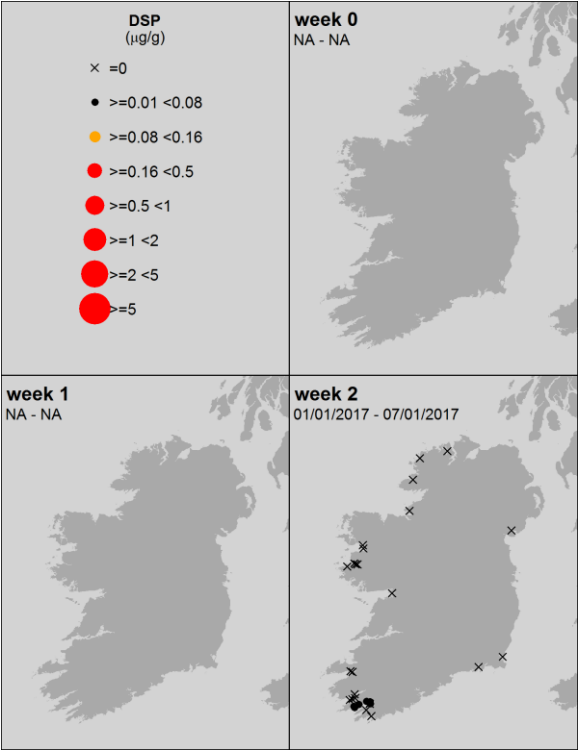
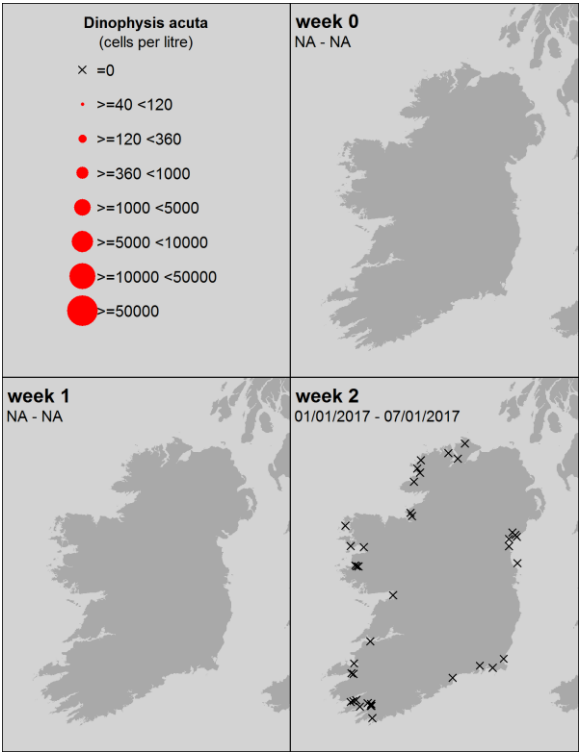
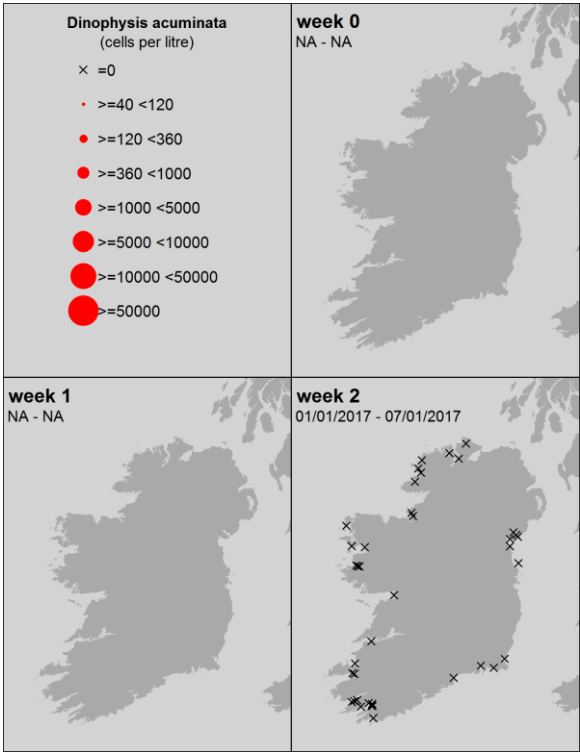
*Dinophysis acuminata*



*Dinophysis acuta*



DSP



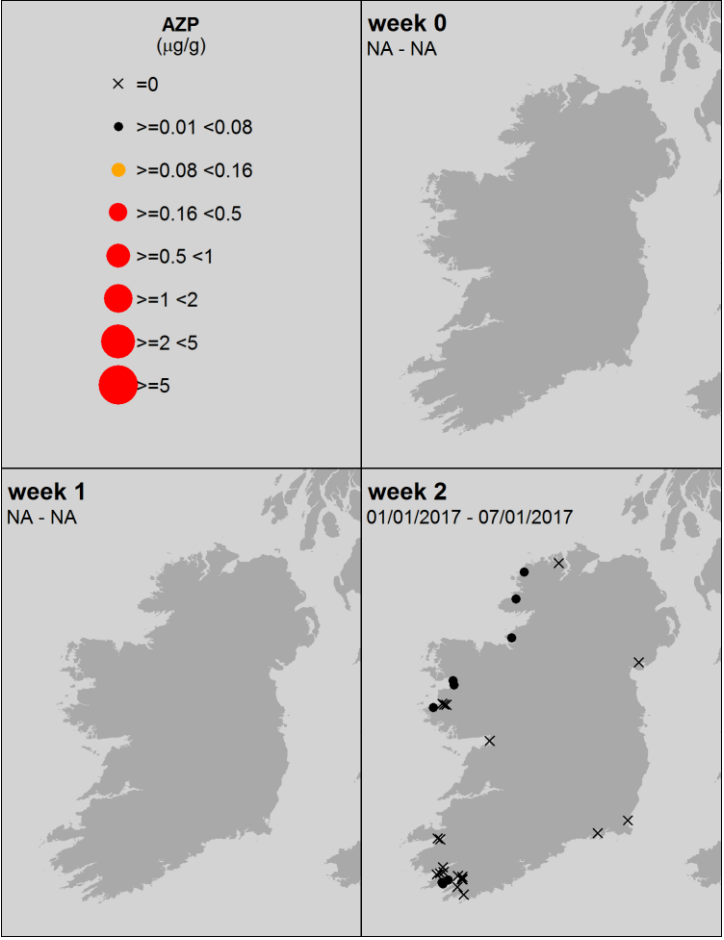
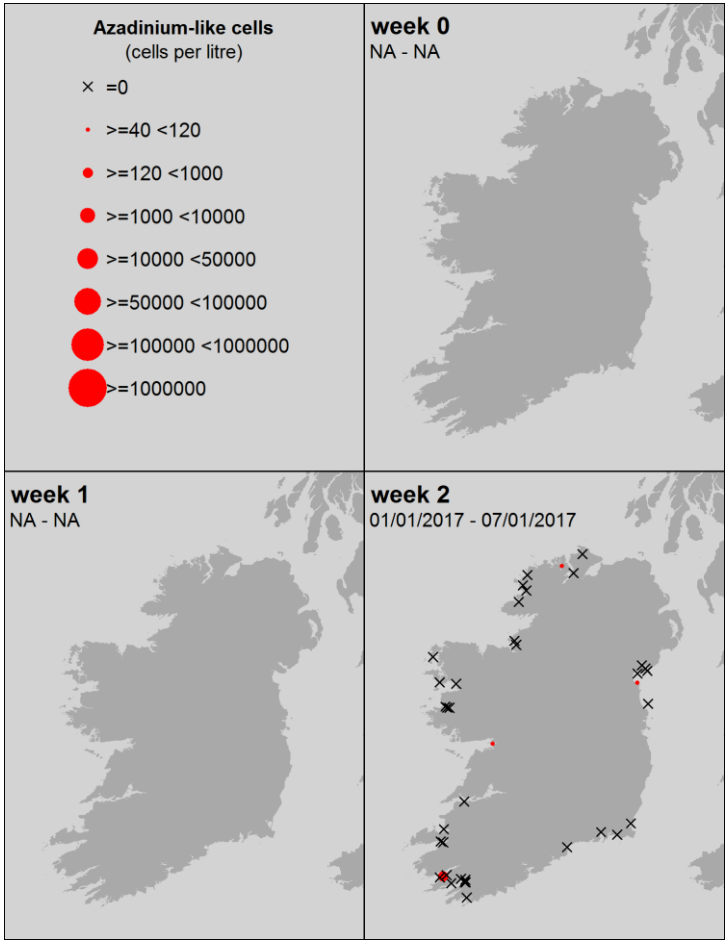
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

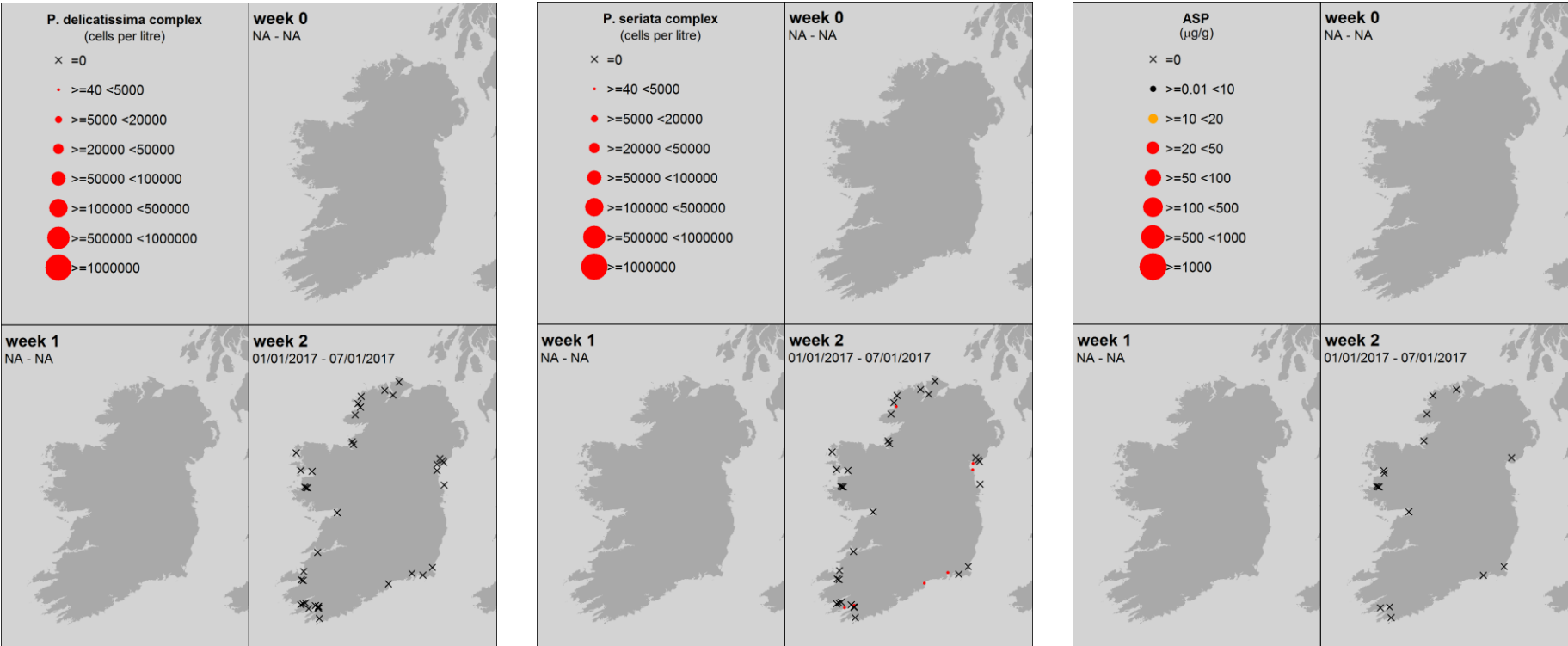
*Pseudo-nitzschia* spp.



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

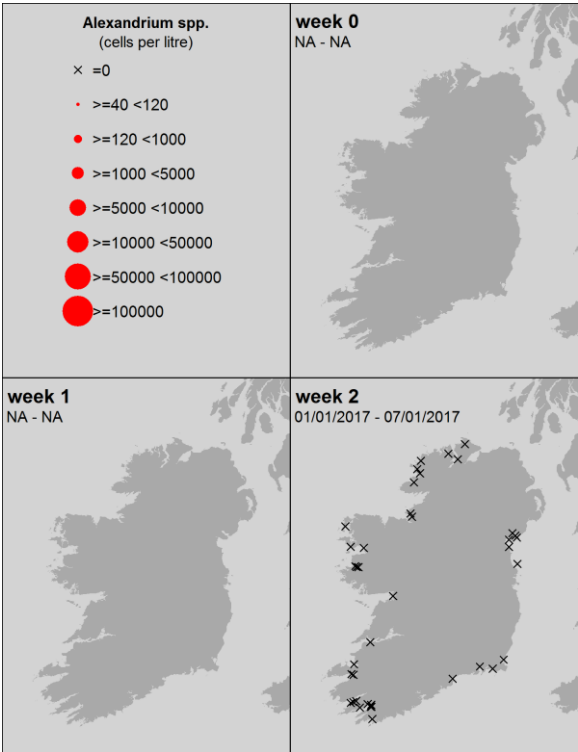


**Taken from the literature:** Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

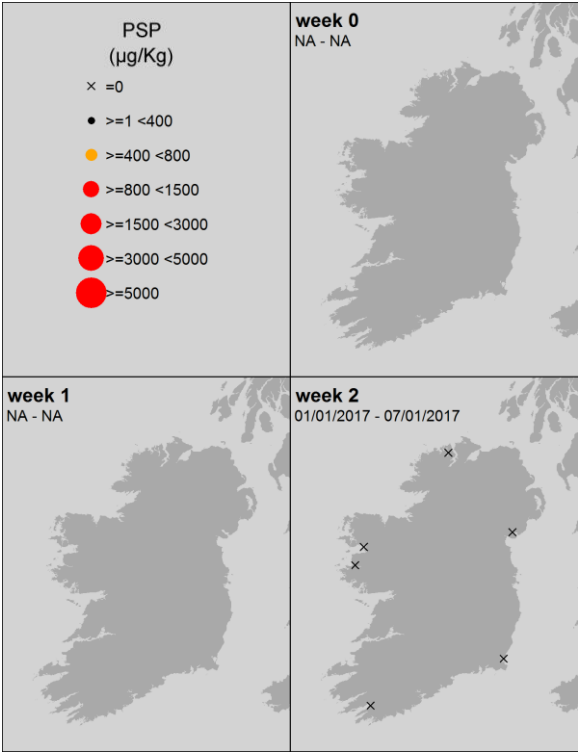
Ireland: Last 3 weeks of available National Monitoring Programme data



*Alexandrium* spp.



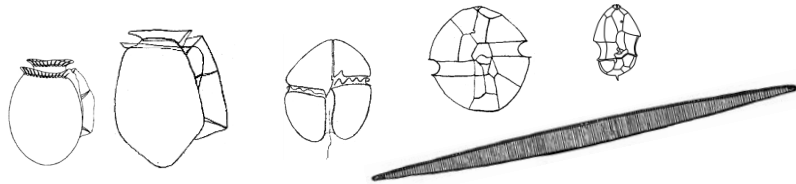
PSP



# Ireland HAB & Biotoxin temporal trends

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

## Ireland: Biotoxins



Toxin groups

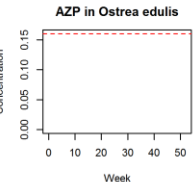
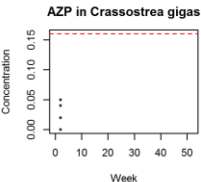
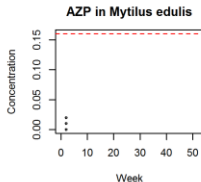
mussels

oysters

oysters

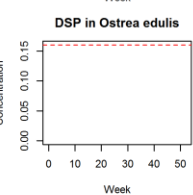
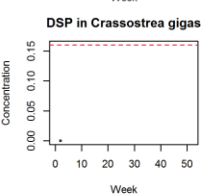
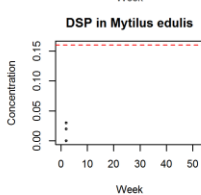
**AZP**

AZaspiracid  
Poisoning



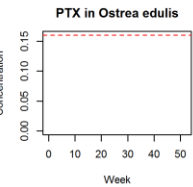
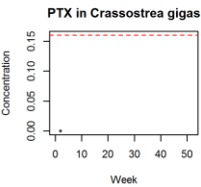
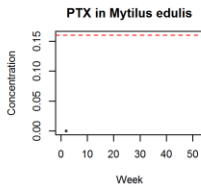
**DSP**

Diarrhetic  
Shellfish  
Poisoning



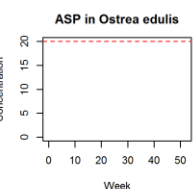
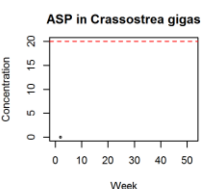
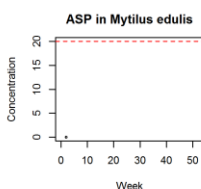
**PTX**

Pectenotoxin



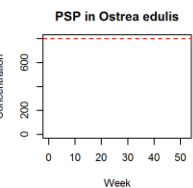
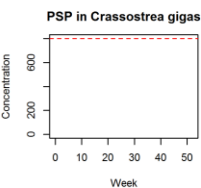
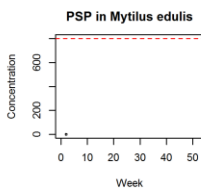
**ASP**

Amnesic  
Shellfish  
Poisoning

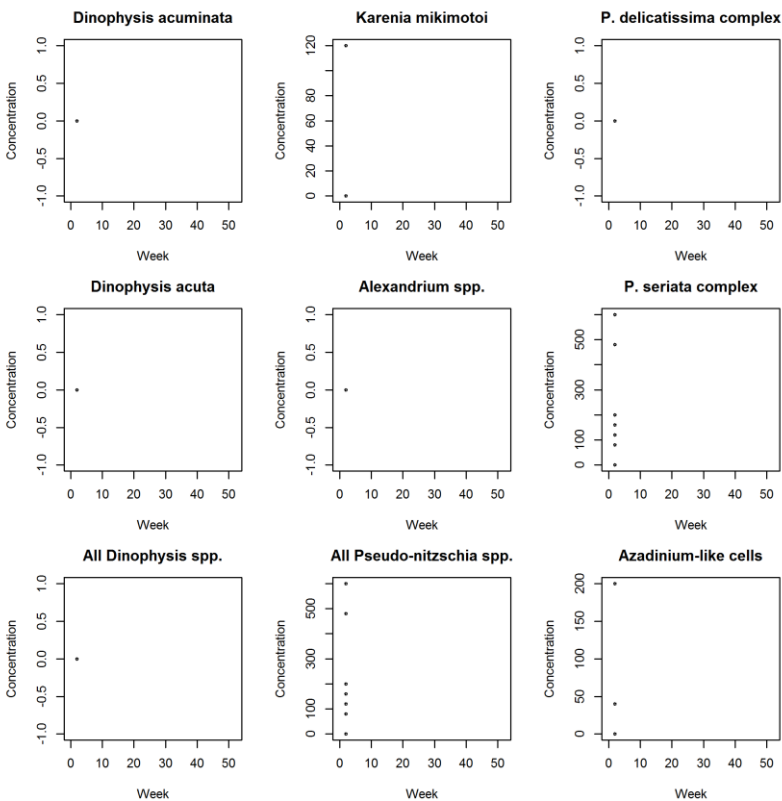


**PSP**

Paralytic  
Shellfish  
Poisoning



## Ireland: HABs

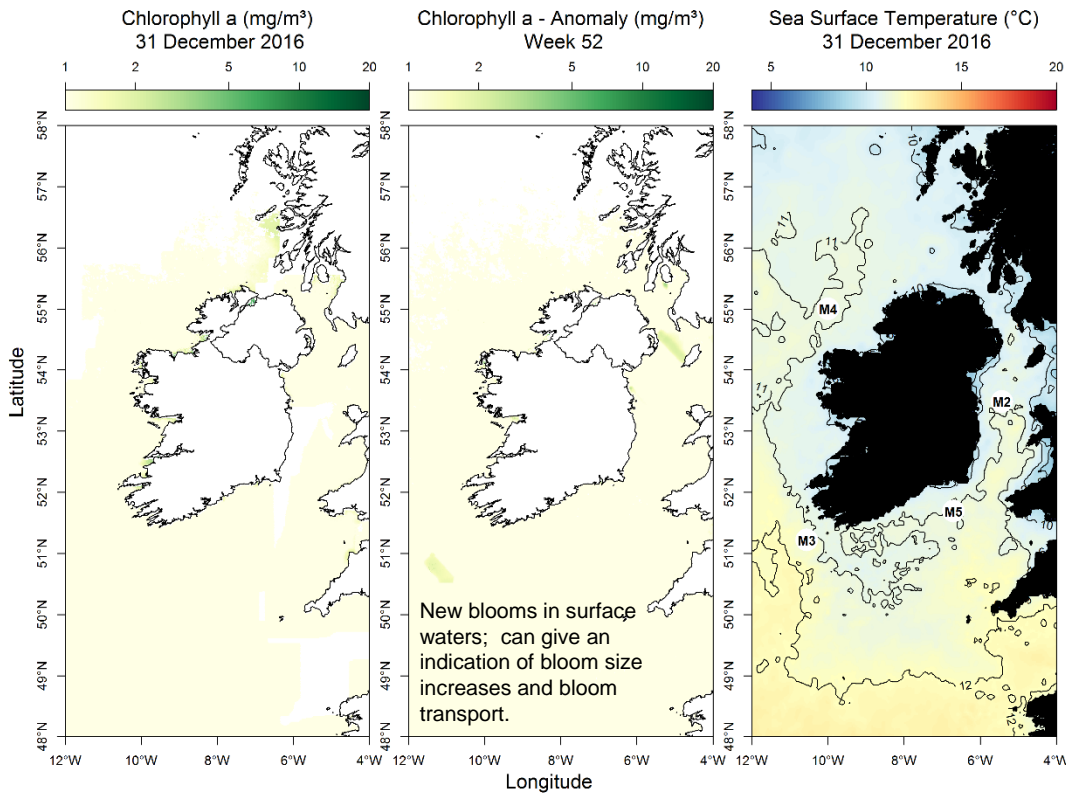


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■■

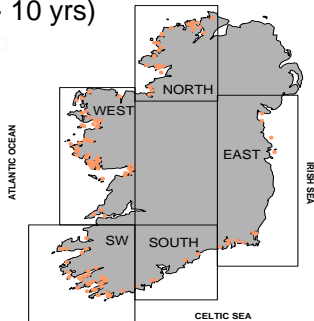


Most up to date available satellite data



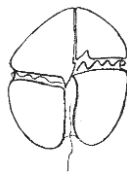
**SST (°C) anomaly for last week:**  
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) Offline
- SW coast (M3) Offline
- SE coast (M5) above average by 0.86 °C



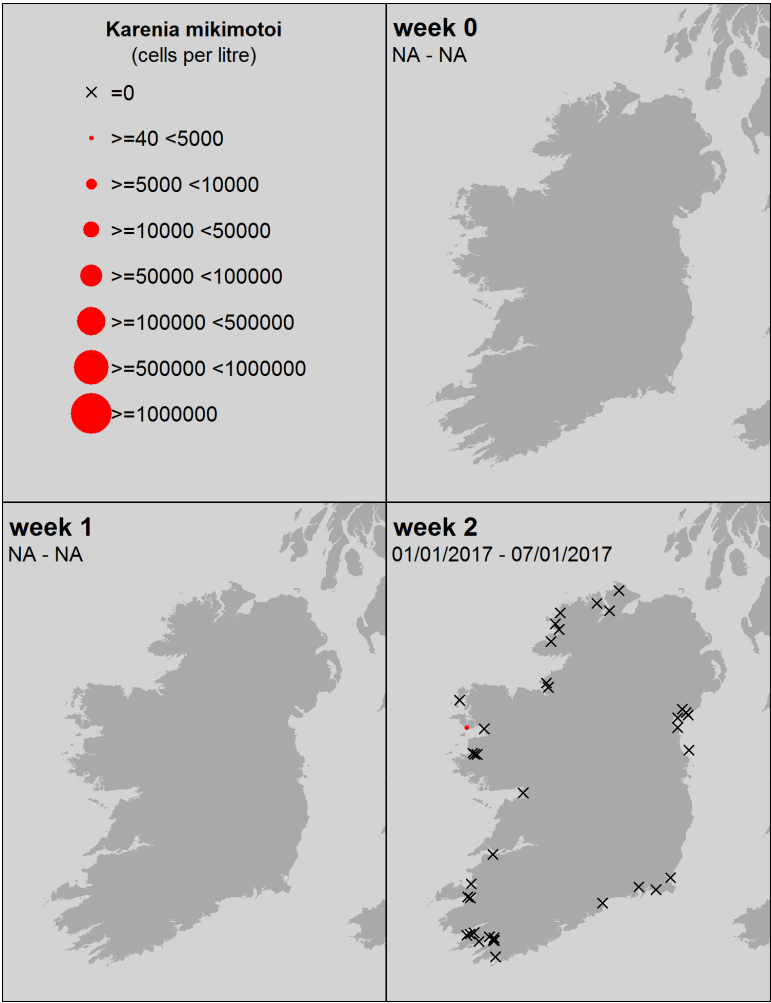
What phytoplankton were blooming at inshore coastal sites last week?

Region	Species	Rounded Count
east	Pennate diatom	9000
east	<i>Chaetoceros</i> (Hyalochaete) spp.	6000
east	<i>Skeletonema</i> spp.	6000
east	<i>Thalassiosira</i> 20-50µm	5000
east	<i>Cerataulina</i> spp.	3000
north	<i>Asterionellopsis</i> spp.	11000
north	Pennate diatom	4000
north	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	2000
north	<i>Chaetoceros</i> (Hyalochaete) spp.	1000
north	Ciliates	0
south	<i>Odontella</i> spp.	1000
south	Pennate diatom 20-50µm	0
south	<i>Skeletonema</i> spp.	0
south	<i>Rhizosolenia</i> spp.	0
south	<i>Cryptophyte</i>	0
southwest	Pennate diatom 20-50µm	3000
southwest	<i>Skeletonema</i> spp.	3000
southwest	Pennate diatom	2000
southwest	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	2000
southwest	<i>Paralia sulcata</i>	1000
west	Pennate diatom	16000
west	<i>Skeletonema</i> spp.	5000
west	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	4000
west	<i>Melosira</i> spp.	1000
west	<i>Cryptophyte</i>	1000



*Karenia mikimotoi*  
(old name: *Gyrodinium aureolum*)

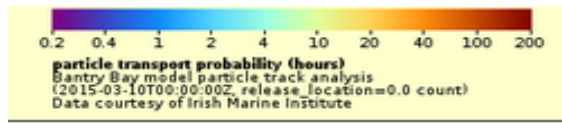
A *Karenia mikimotoi* bloom  
is NOT expected this week



## SOUTHWEST: Bantry Bay

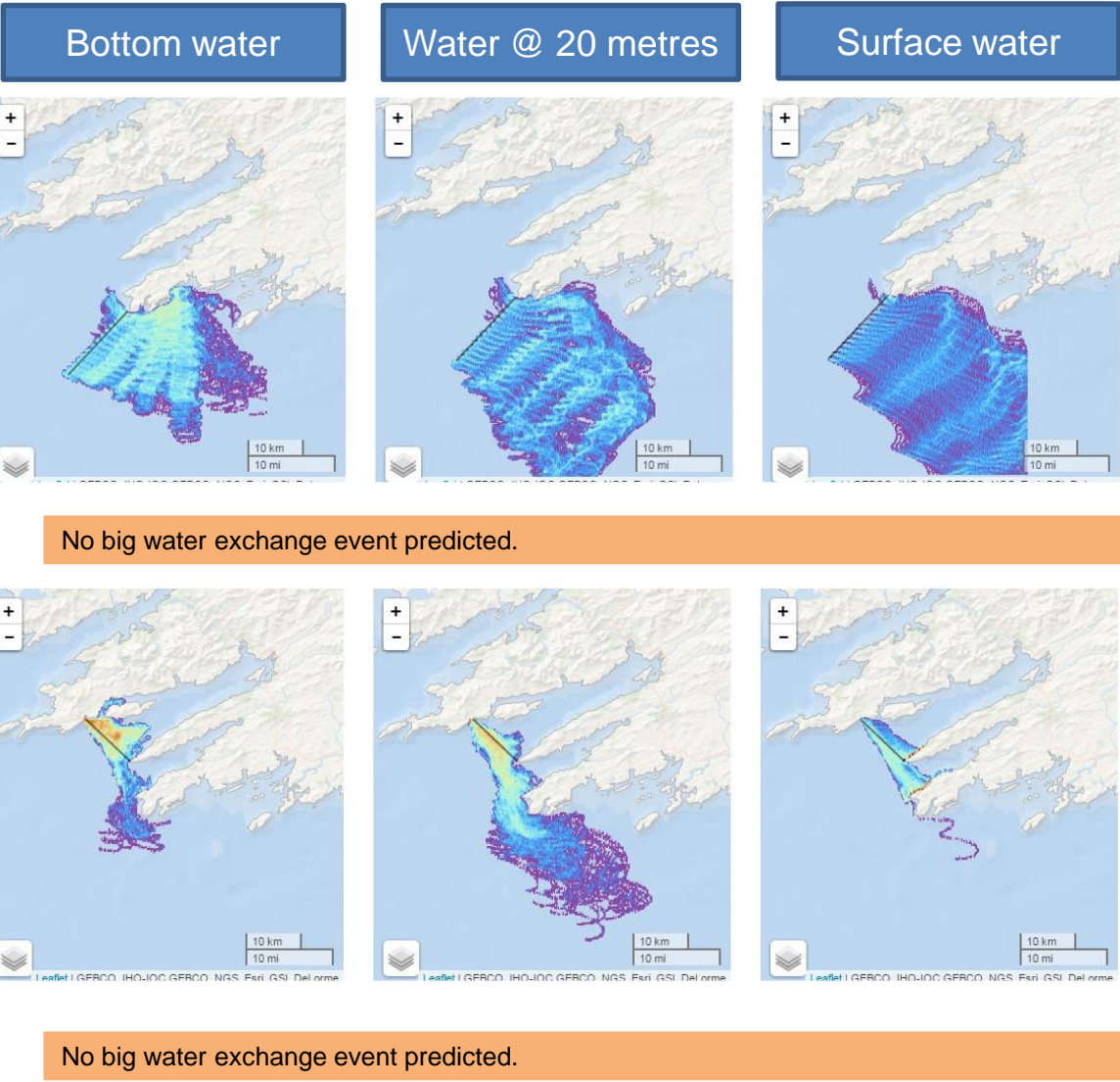
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

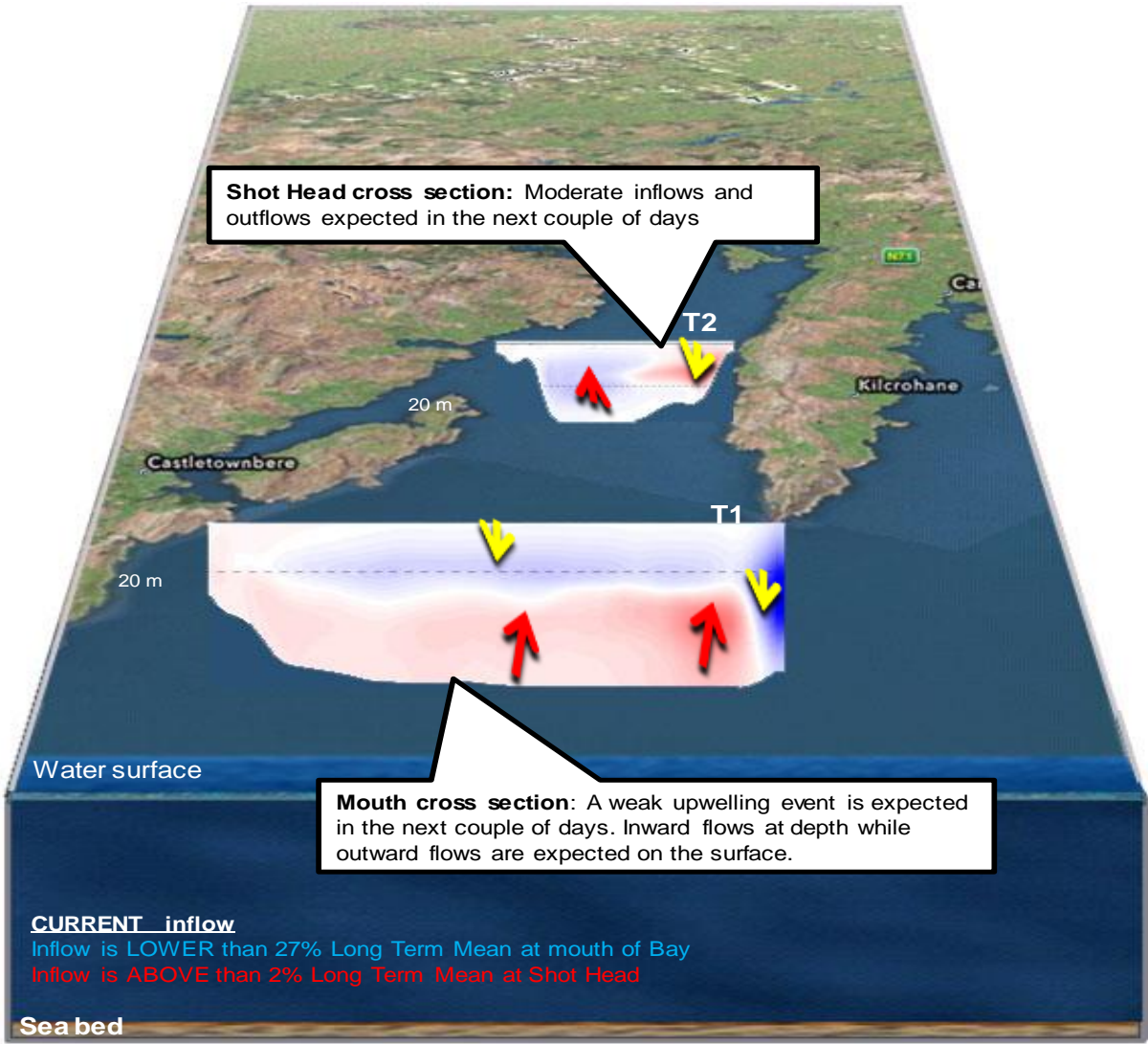
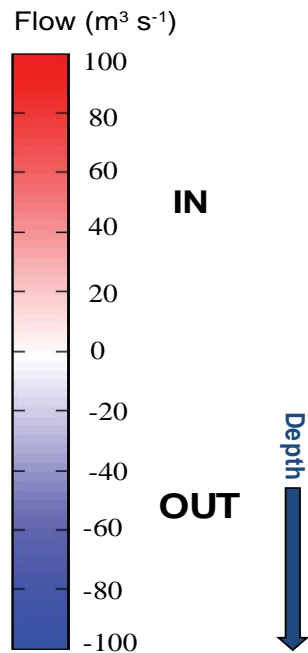
### Forecast for the next 3 days



# 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

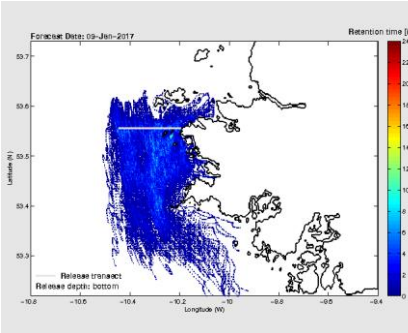
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

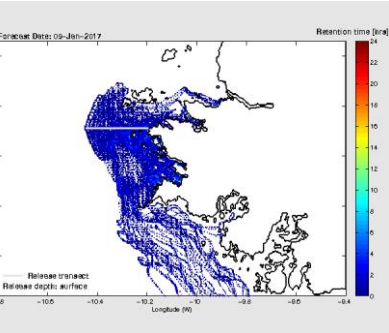


0.2 0.4 1 2 4 10 20 40 100 200  
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

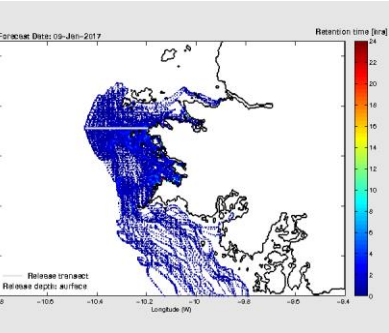
Bottom water



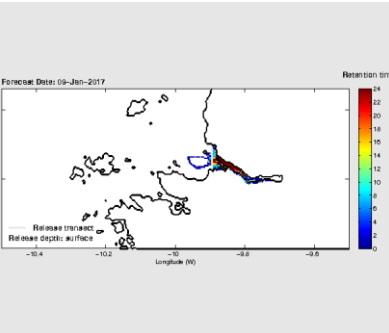
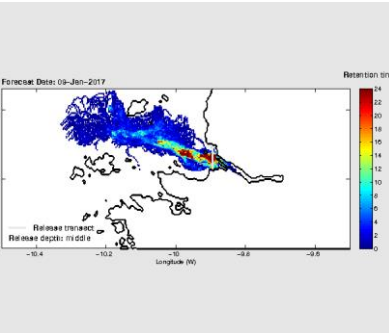
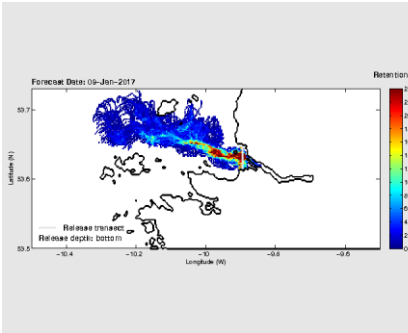
Water @ 20 metres



Surface water



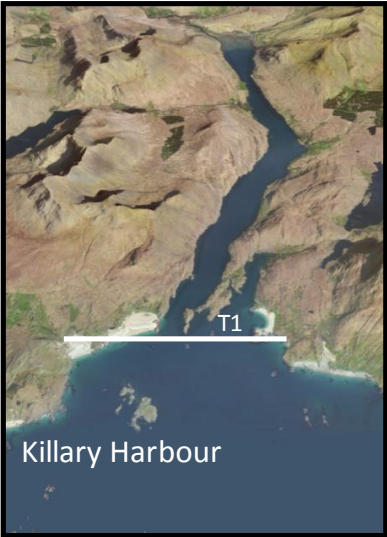
Water of the west coast is mixed southerly/southeast onto coastline.



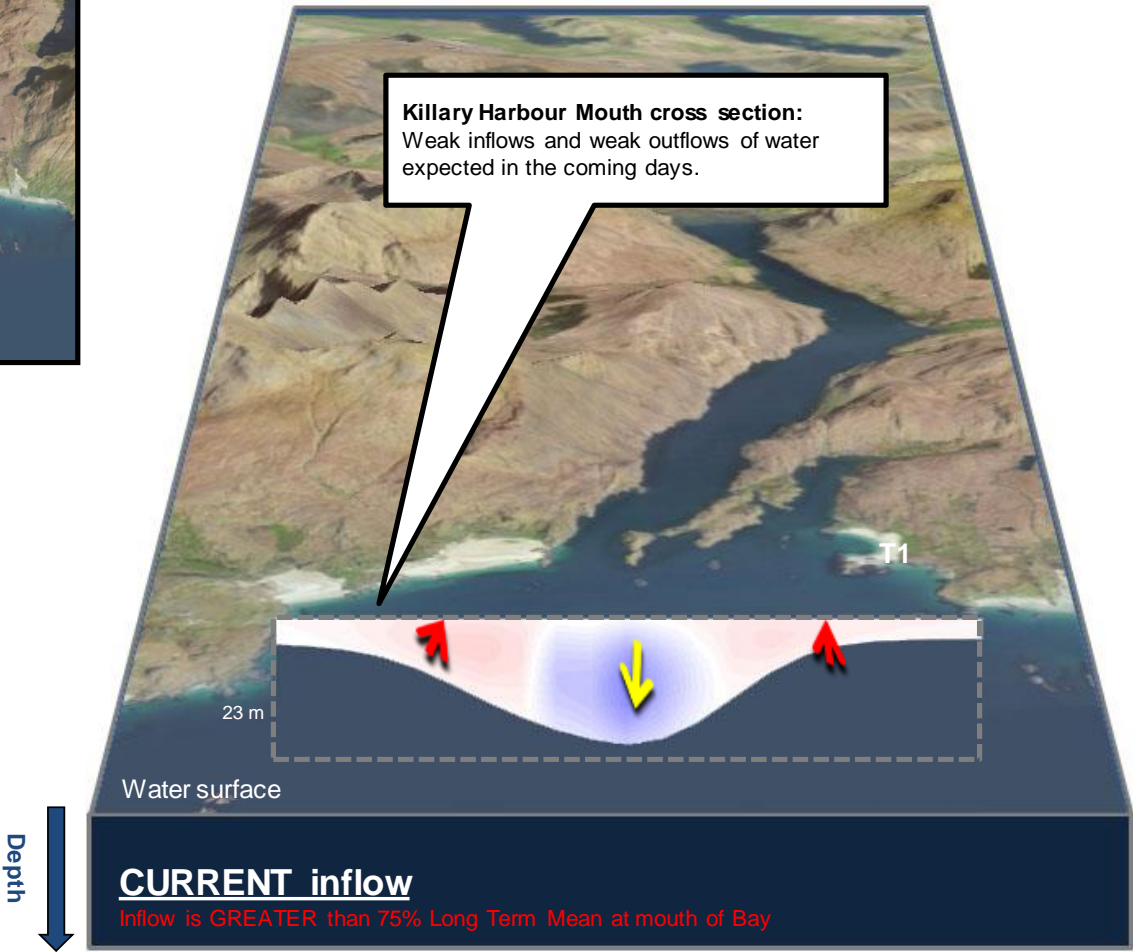
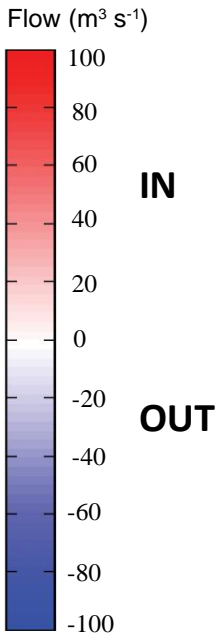
Moderate bottom and mid water at the mouth of Killary Harbour will flow out west with surface water expected to flow into Killary Inner.

# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour

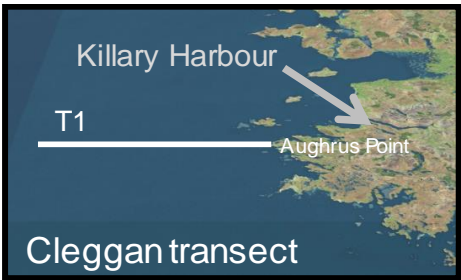


Forecast for next 3 days

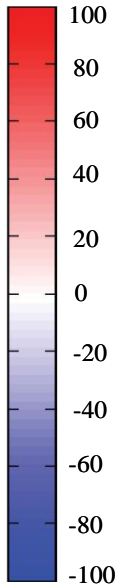


# West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward  
flow

southward  
flow

Depth

