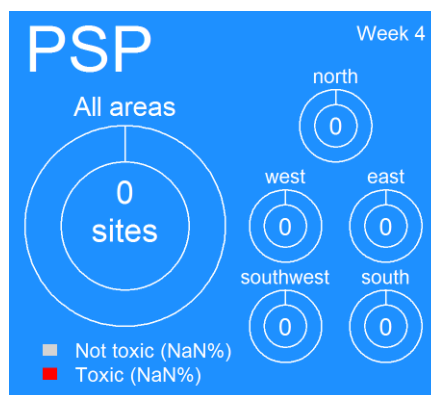
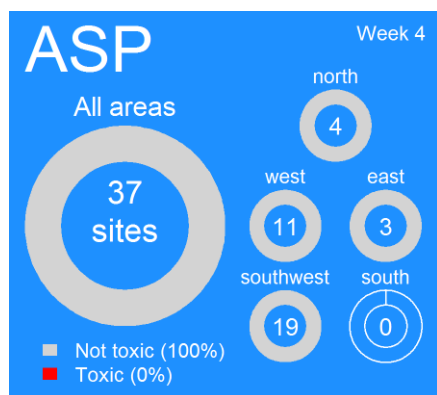
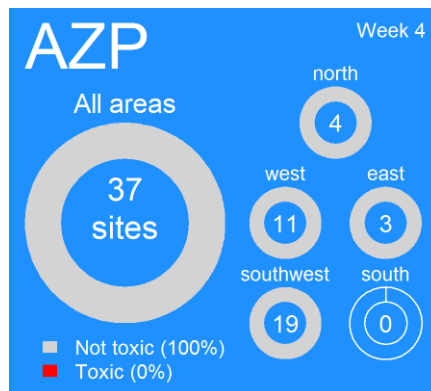
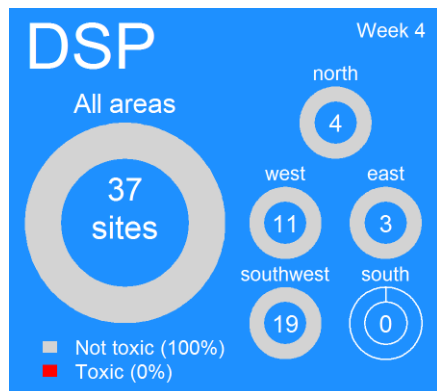


# Ireland: Current Conditions

## Shellfish biotoxin closures (last week)



### EU Regulatory Limit:

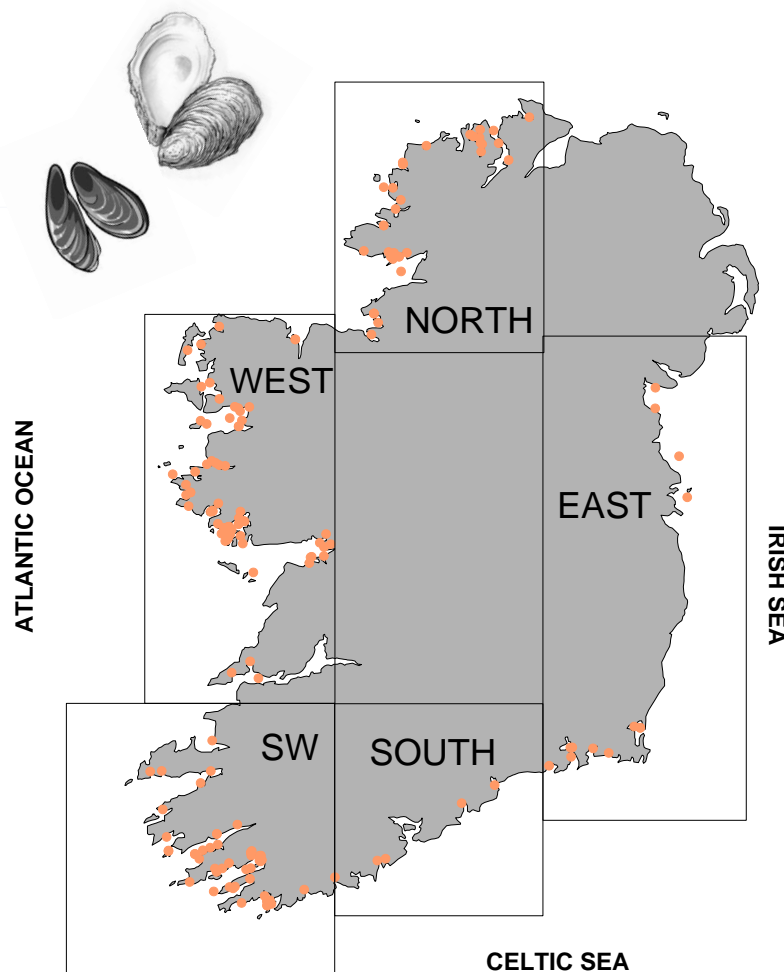
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

### 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-Medium

DSP event: Low

PSP event: Low

## Why do we think this?

ASP: No significant change from last week- While very low background levels of some *Pseudo nitzschia* species have been recorded in some sites , all sites remain clear of toxins and this trend would be expected to continue at this stage in the year.

AZP: As mentioned last week Azadinium type species' levels continue to fluctuate (during previous week the potential species' geographical presence doubled) and caution was advised during this dynamic period. One site has since increased in associated biotoxins, while still below regulatory limits. Issues with this toxin can occur suddenly and acutely .Caution is advised.

DSP: This is currently a low risk period for early DSP events. All sites are currently below regulatory limits .

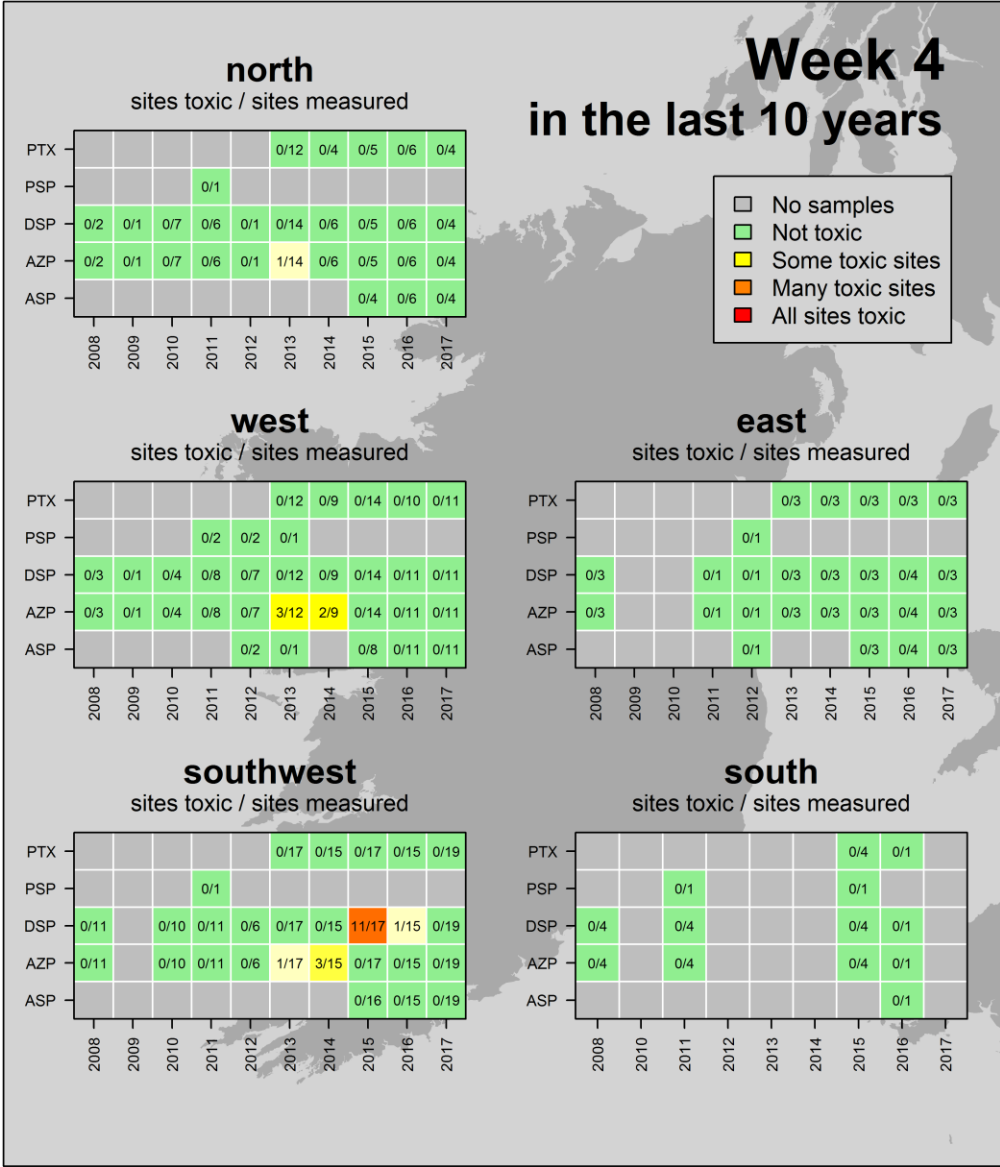
PSP: A toxic event is not expected at this time of year.

Please note: We will be updating the format of this bulletin throughout the year in an active effort to increase end user applicability and incorporate developing technologies. All feedback is welcome at [Joe.Silke@Marine.ie](mailto:Joe.Silke@Marine.ie) .

# Ireland: Historic Conditions

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

## Week 4 in the last 10 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



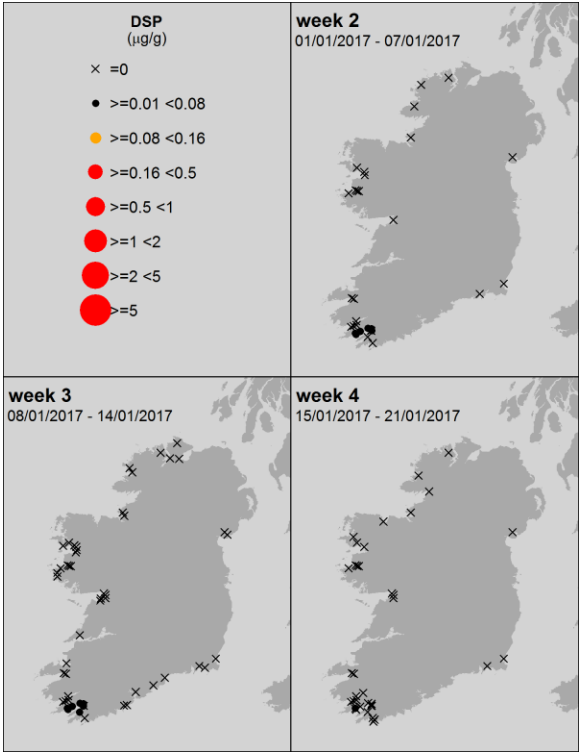
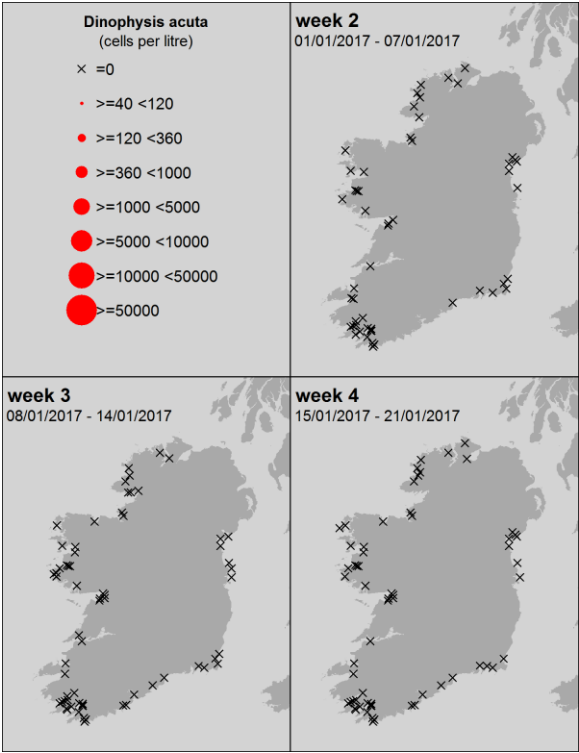
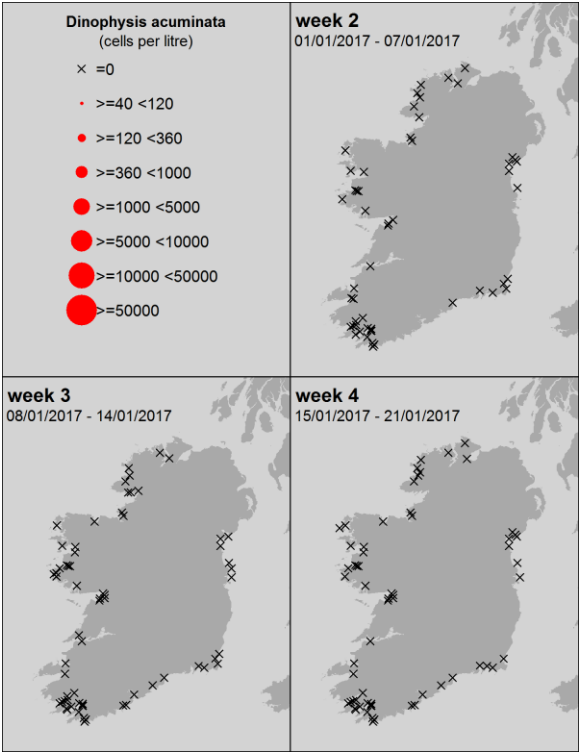
*Dinophysis acuminata*



*Dinophysis acuta*



DSP



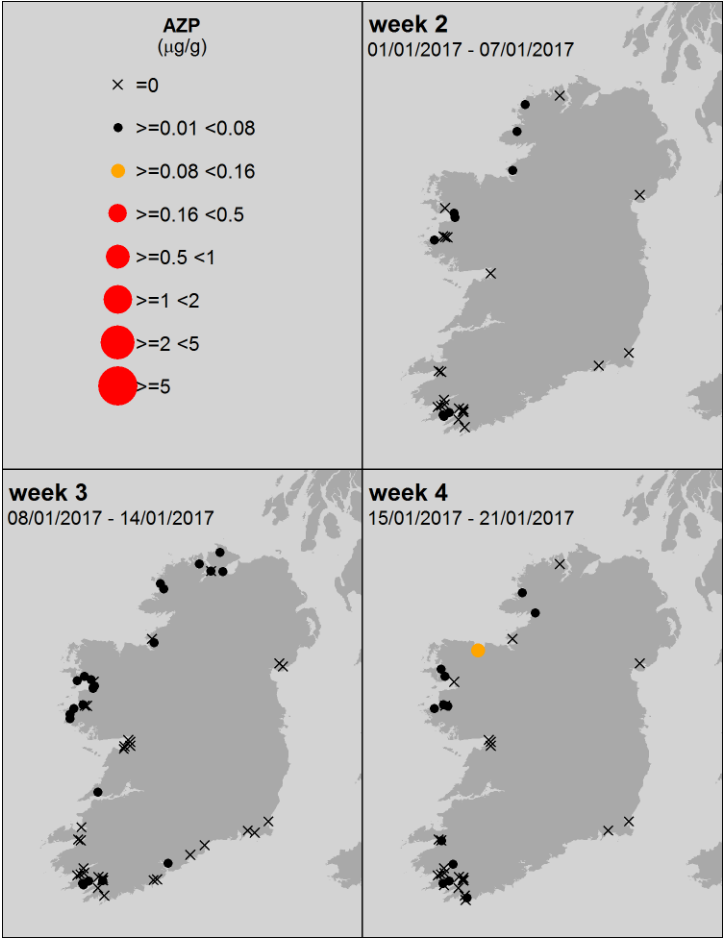
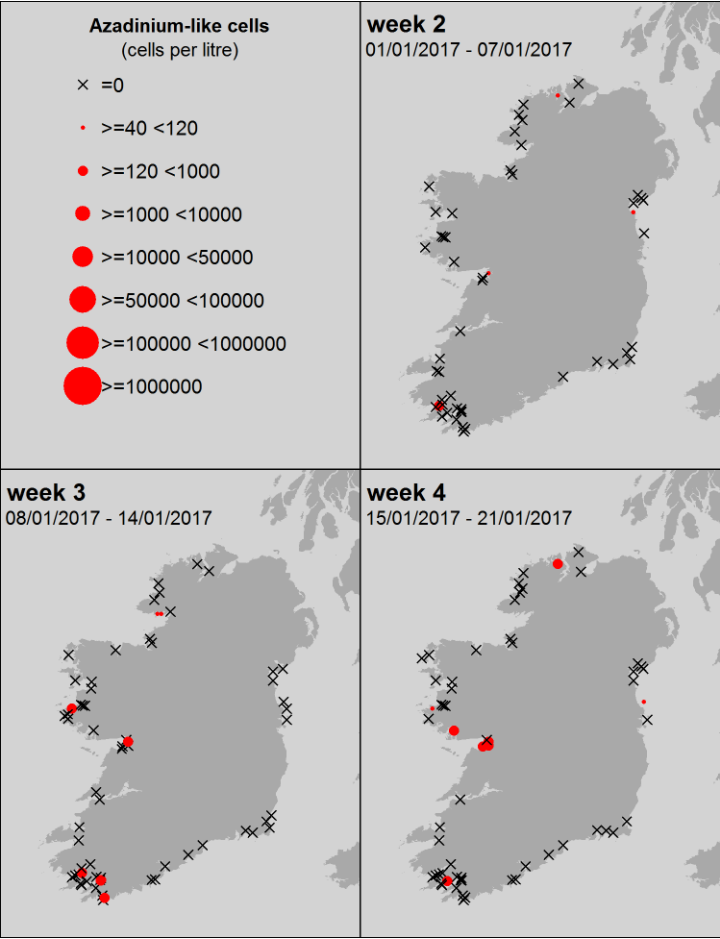
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

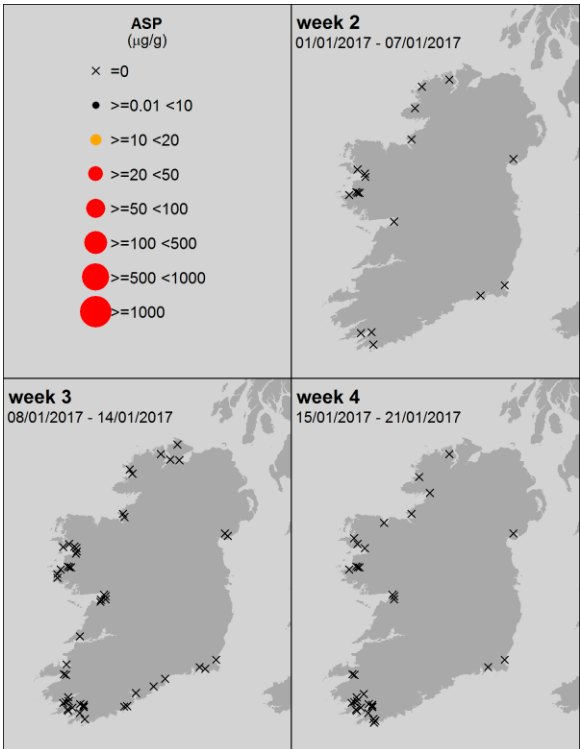
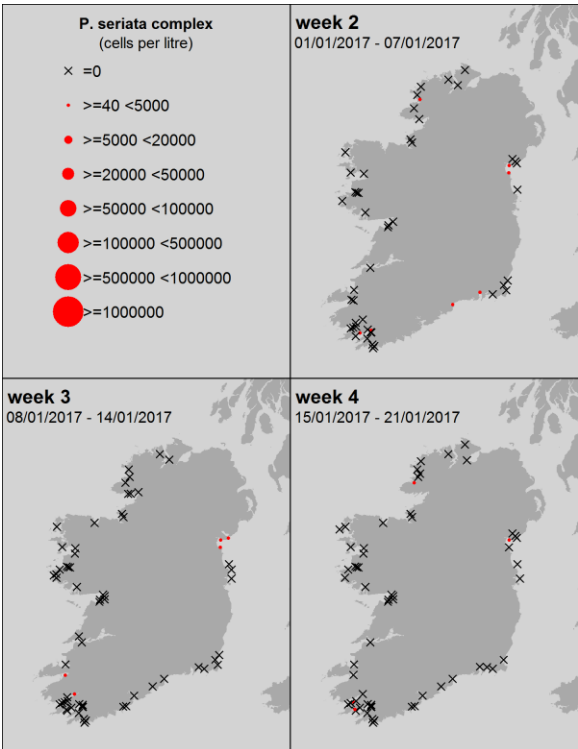
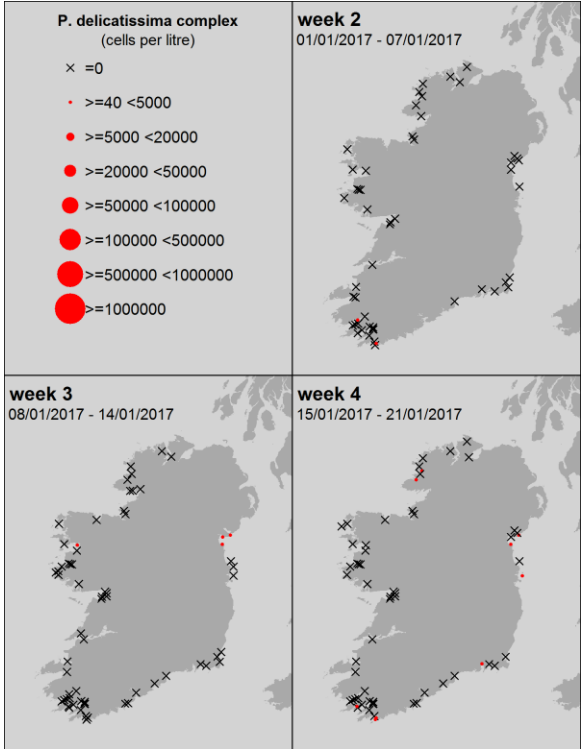
*Pseudo-nitzschia* spp.



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

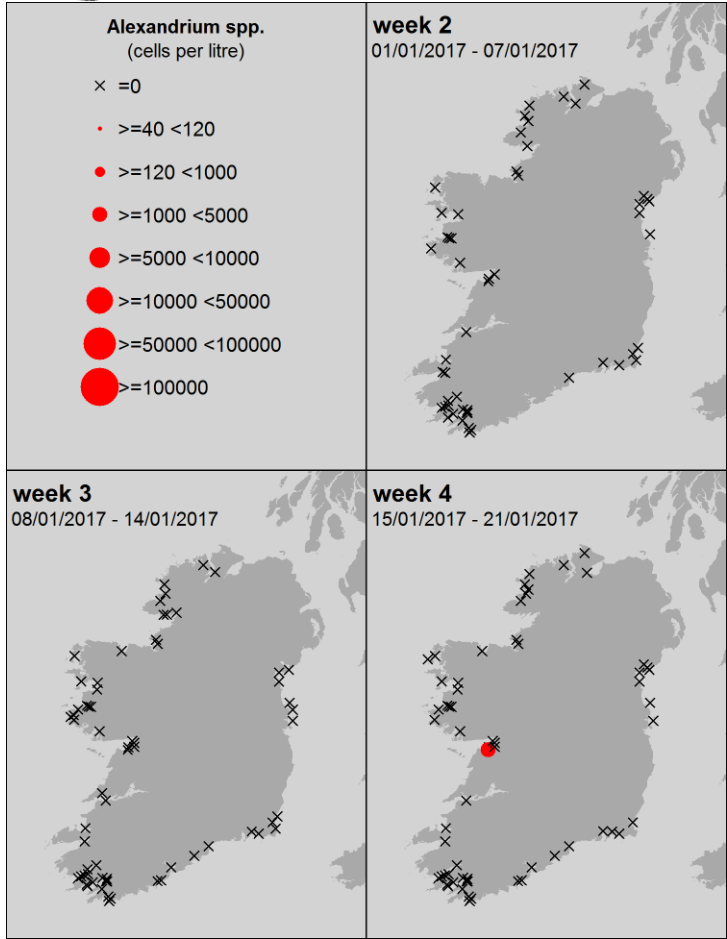


**Taken from the literature:** Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

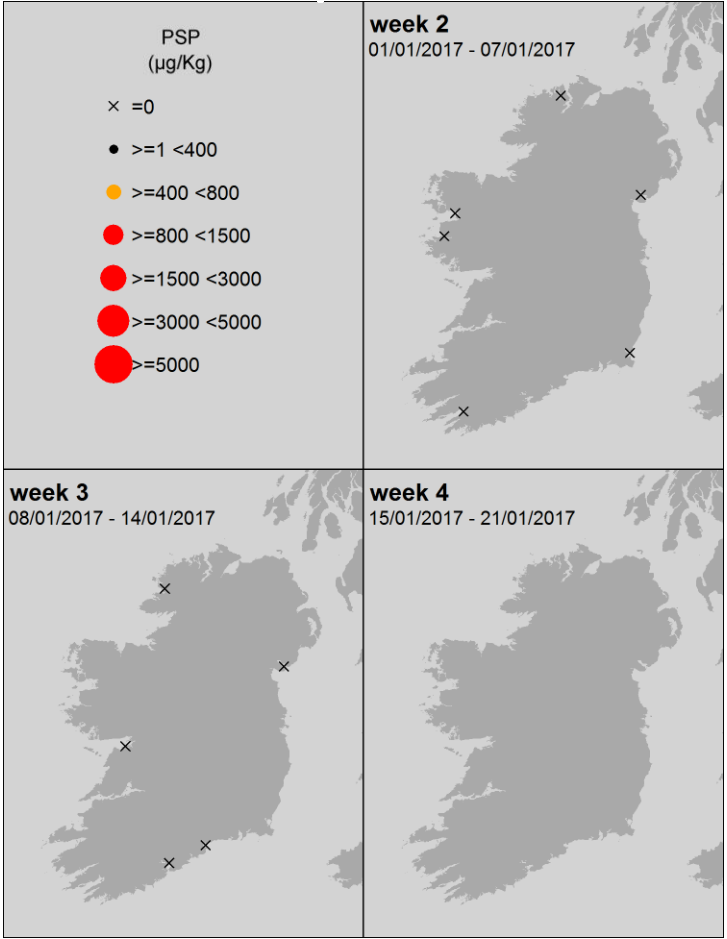
Ireland: Last 3 weeks of available National Monitoring Programme data



*Alexandrium* spp.



PSP



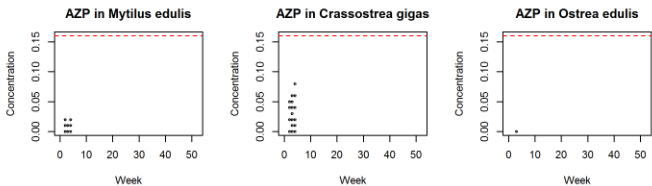
Ireland: **HABs and biotoxins** Levels from week 1 to present

Ireland: **Biotoxins**

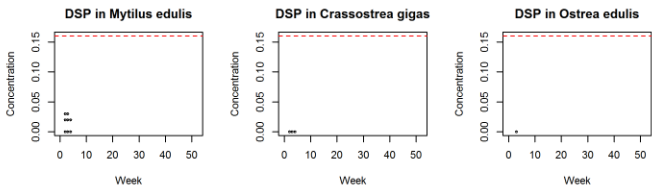


Toxin groups      mussels      oysters      oysters

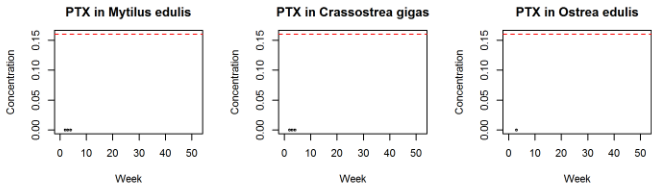
**AZP**  
AZaspiracid  
Poisoning



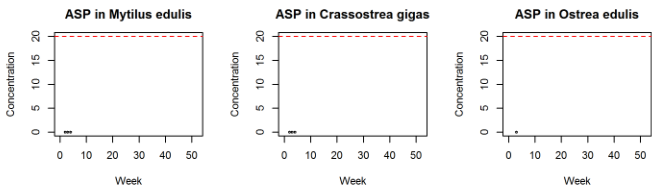
**DSP**  
Diarrhetic  
Shellfish  
Poisoning



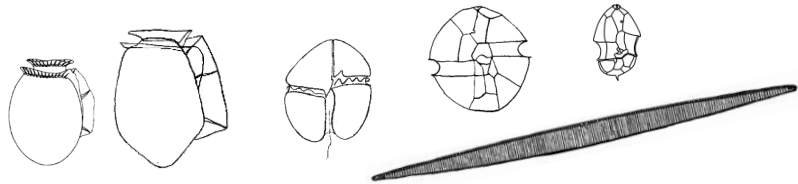
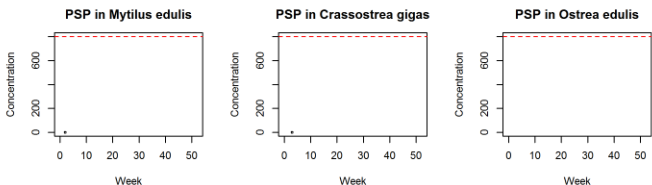
**PTX**  
Pectenotoxir



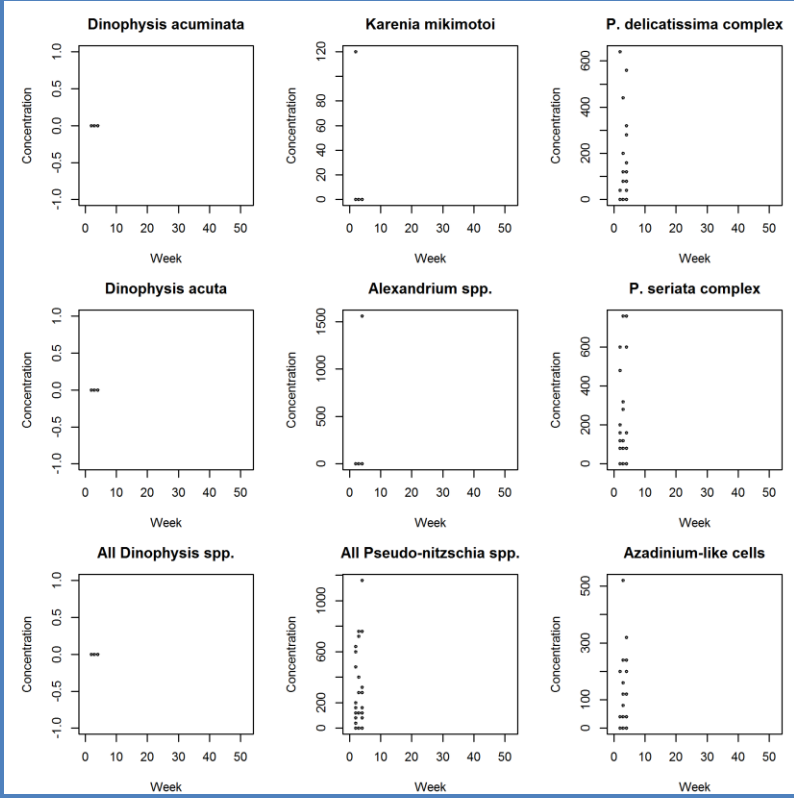
**ASP**  
Amnesic  
Shellfish  
Poisoning



**PSP**  
Paralytic  
Shellfish  
Poisoning



Ireland: **HABs**

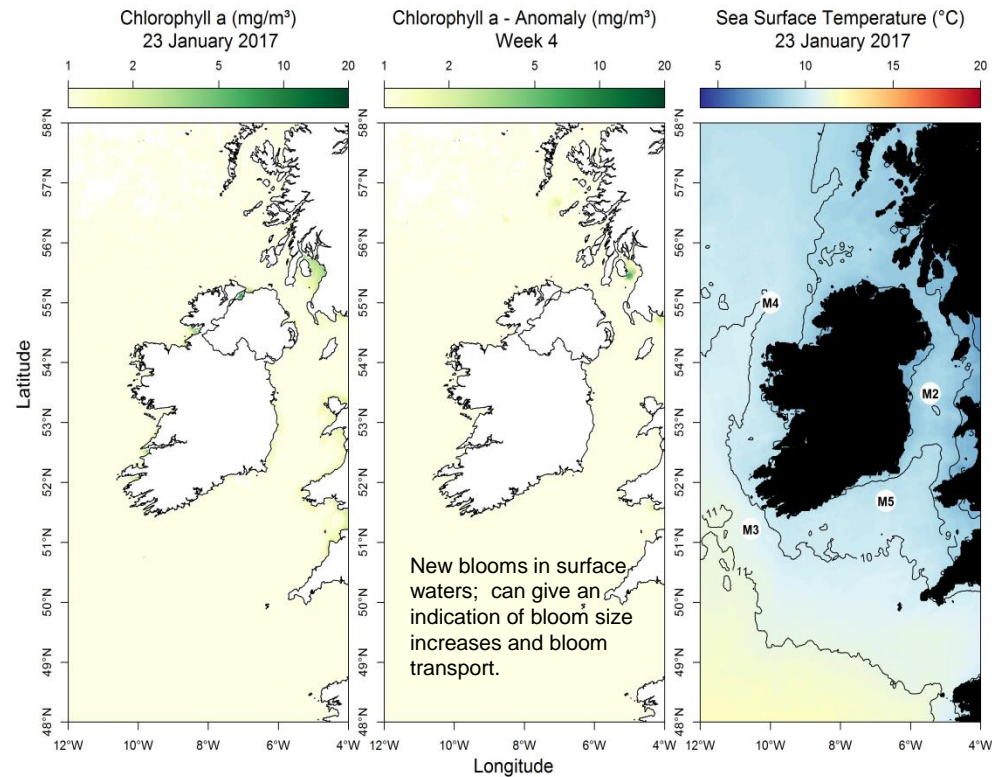


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■



Most up to date available satellite data

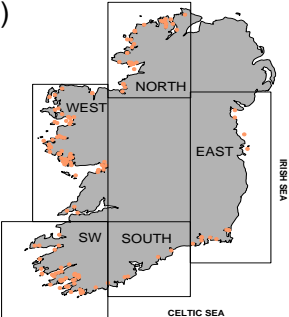


SST (°C) anomaly for last week:

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)

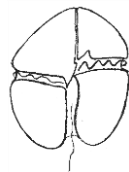
- NW coast (M4) Data unavailable
- SW coast (M3) Data unavailable
- SE coast (M5) Data unavailable

Sea surface temperature figures currently unavailable



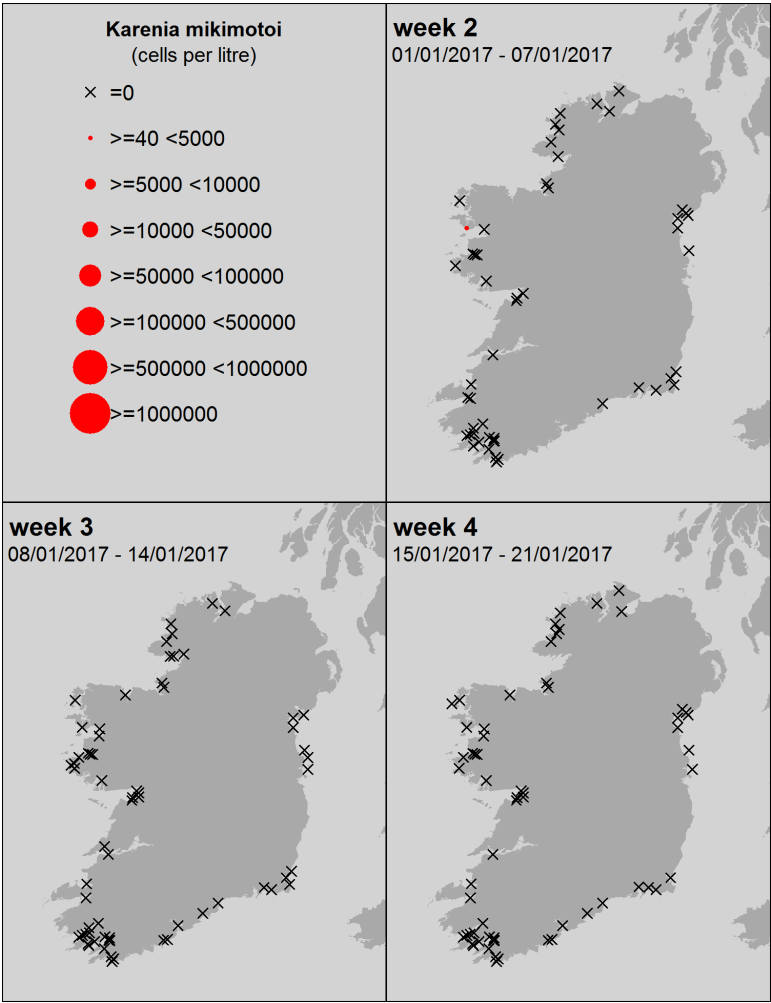
What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Thalassiosira spp.	6000
2	east	Pennate diatom	6000
3	east	Chaetoceros (Hyalochaete) spp.	3000
4	east	Skeletonema spp.	2000
5	east	Cylindrotheca closterium/ Nitzschia longissima	1000
1	north	Pennate diatom	26000
2	north	Asterionellopsis glacialis	17000
3	north	Ciliates	15000
4	north	Asterionellopsis spp.	11000
5	north	Striatella spp.	6000
1	south	Pennate diatom	3000
2	south	Paralia sp.	2000
3	south	Thalassiosira spp.	1000
4	south	Odontella spp.	1000
5	south	Thecadinium spp.	1000
1	southwest	Microflagellate spp. <10um	3329000
2	southwest	Prymnesiophytes	349000
3	southwest	Nitzschia spp. (small)	100000
4	southwest	Pennate diatom 20-50um	73000
5	southwest	Microflagellate sp.	51000
1	west	Pennate diatom	44000
2	west	Skeletonema spp.	30000
3	west	Alexandrium spp.	2000
4	west	Asterionellopsis spp.	1000
5	west	Thalassiosira spp.	1000



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

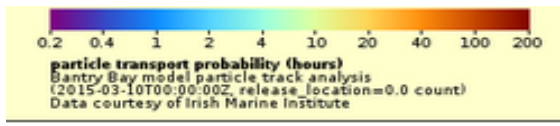
A *Karenia mikimotoi* bloom  
is NOT expected this week



# SOUTHWEST: Bantry Bay

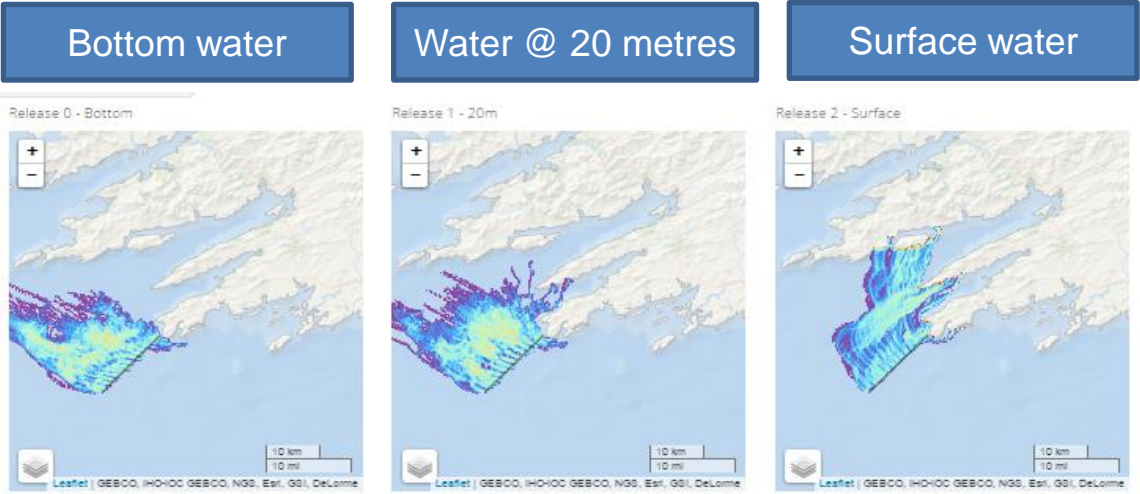
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

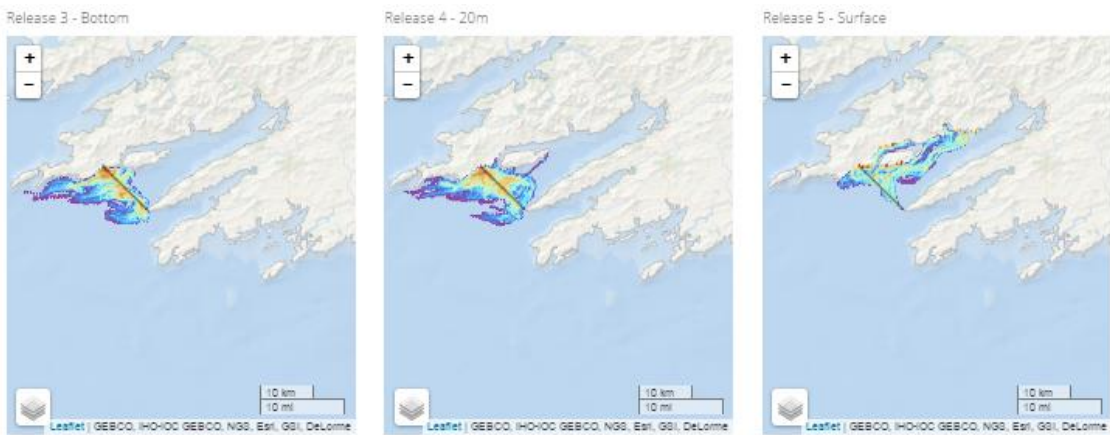


Go to <http://vis.marine.ie/particles/> to view daily forecasts

## Forecast for the next 3 days



North westerly movement of waters at depth with change to north easterly towards and at surface allowing for incursions of offshore water into bay areas.

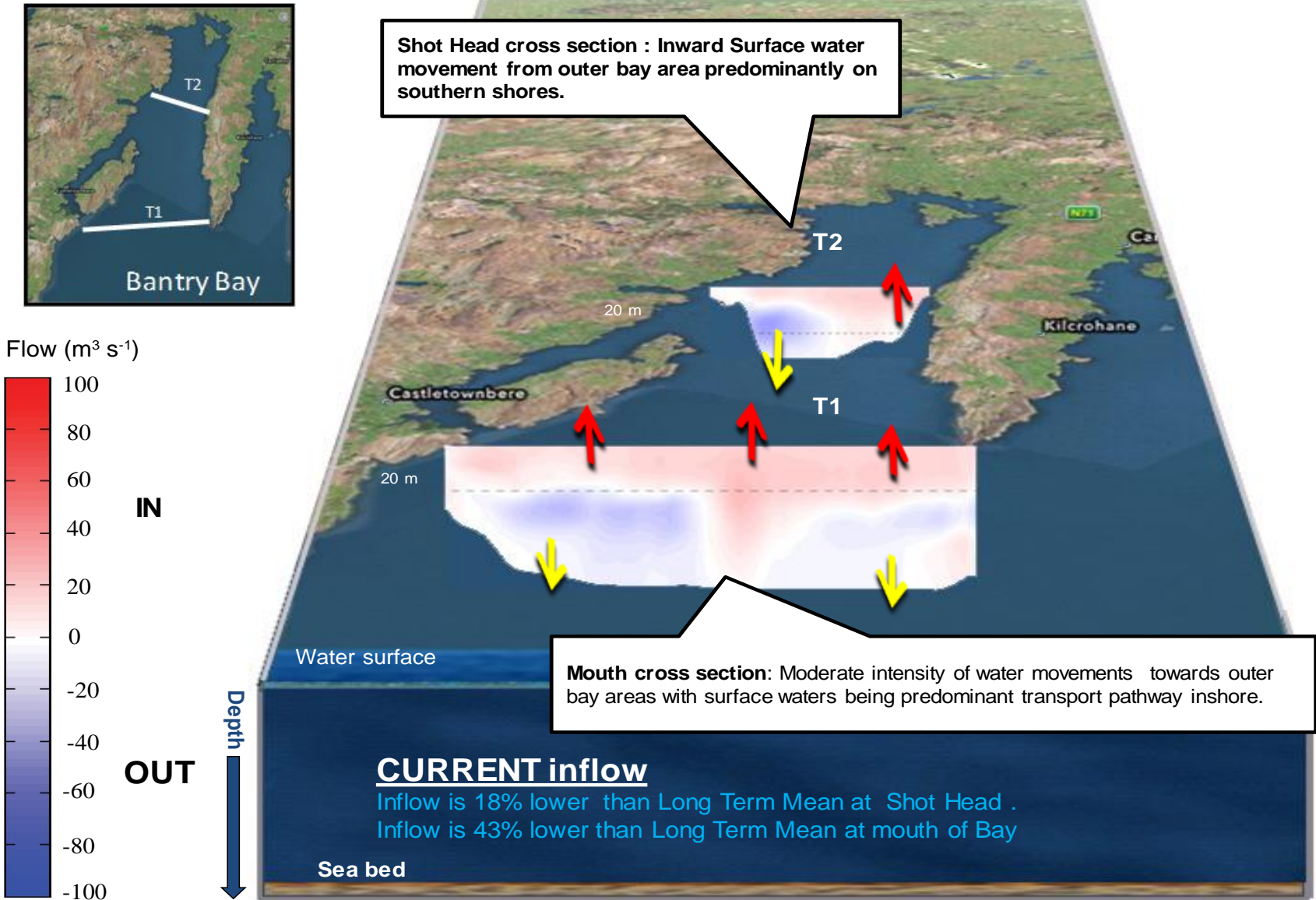


Bottom and deeper waters expected to move out of bay areas with surface waters dominating inner bay transportation particularly on northern shores. Down welling in inner areas possible.

# Bantry Bay

Forecast for next 3 days

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)

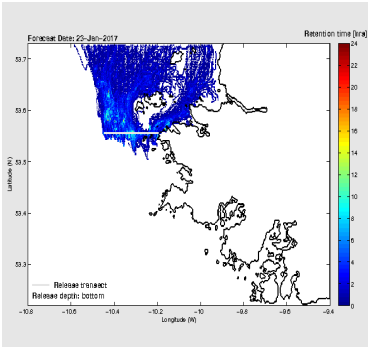
Reddish colours represent areas where phytoplankton remain longest  
Cooler colours represent areas where phytoplankton remain for shorter periods



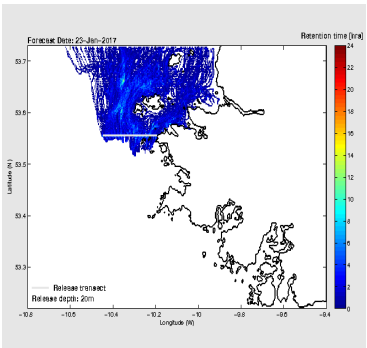
0.2 0.4 1 2 4 10 20 40 100 200  
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

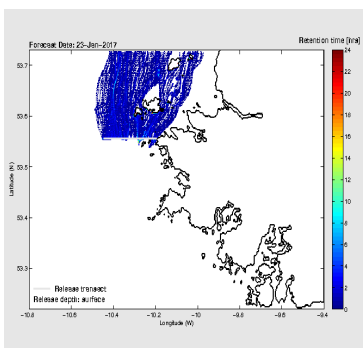
Bottom water



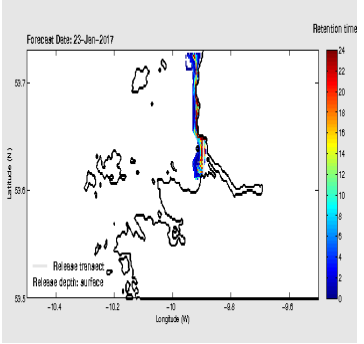
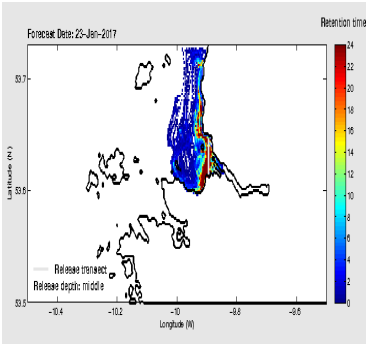
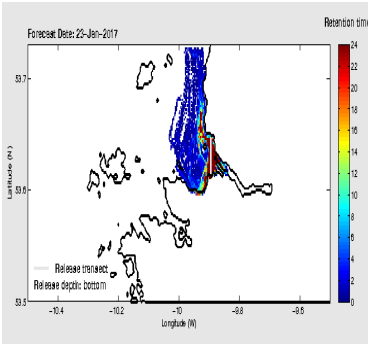
Water @ 20 metres



Surface water



Water movement in a predominantly mixed northerly direction allowing for off shore waters to reach exposed shore areas at all depths.



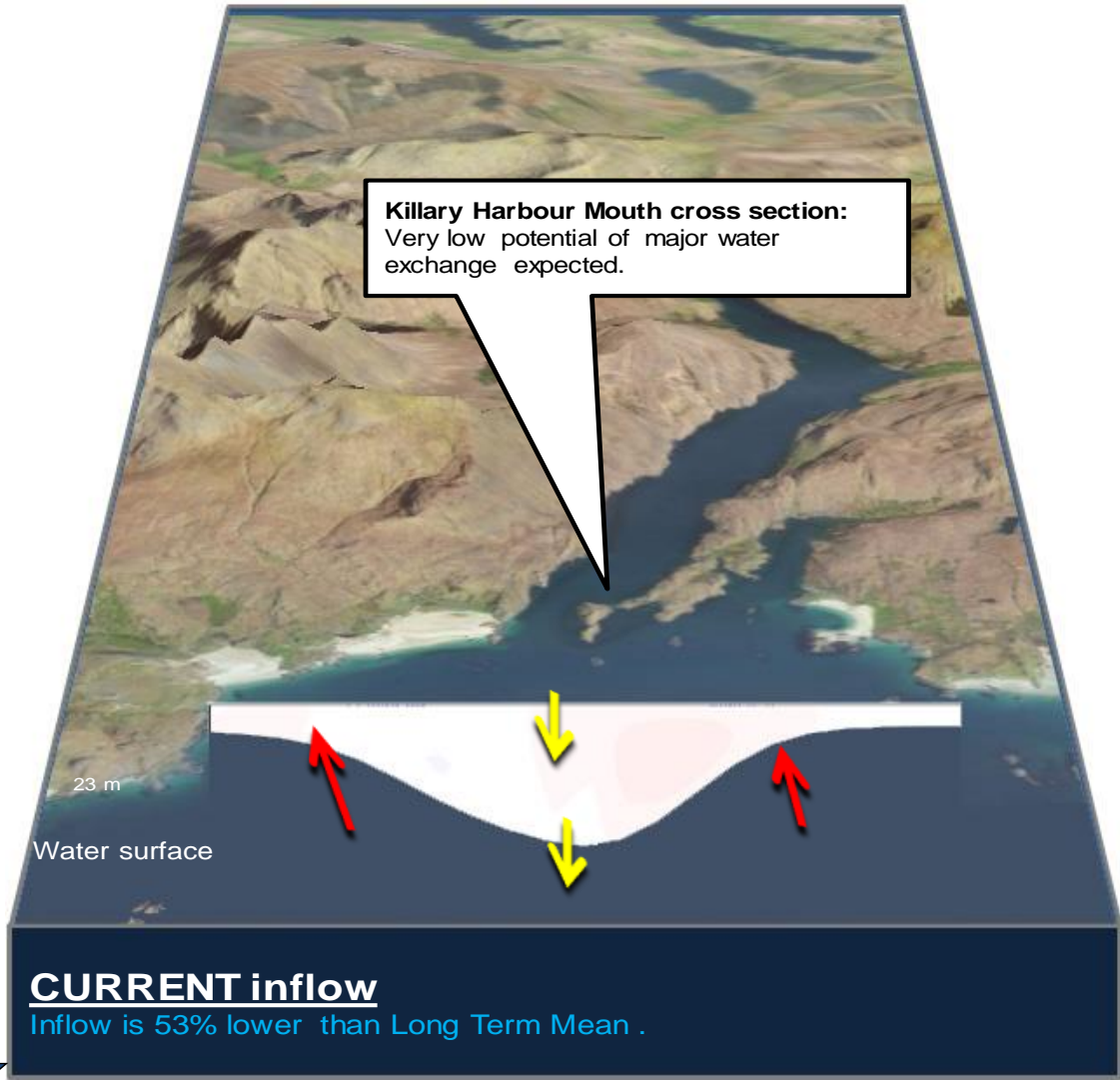
Water movement in a predominantly northerly direction with very low potential of inner bay incursions from outer bay waters.

# Killary Harbour

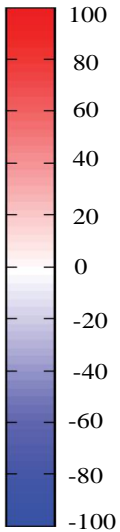
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days



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



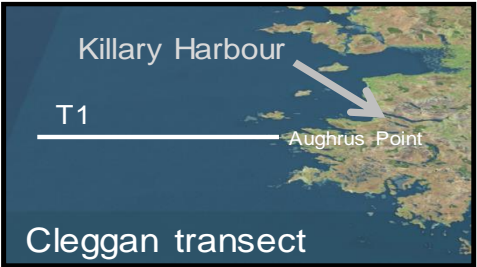
IN

OUT

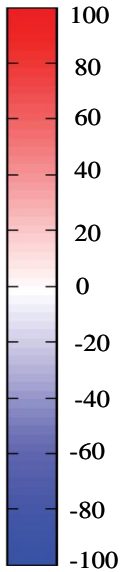
Depth

# 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

