

# Ireland: Predictions

ASP event: High

AZP event: Moderate (to high –site specific)

DSP event: Medium (to high – site specific)

PSP event: low

Why do we think this?

NMP Current closures			
ASP	AZP	DSP	PSP
4 sites (W)	0	0	0

ASP: The ASP warning level of high will remain in place until this event has clearly peaked. There is currently the start of a potential trend indicating that this event may be passing but it may take some time for this pattern to be seen uniformly in all affected areas and unique environments. High levels of caution are still advised.

AZP: Risk levels of moderate remain due to the continued observation of potential cell levels in some sites with low levels of toxins present (all currently below closure levels) . Suitable environmental conditions continue to fluctuate widely . Issues with this toxin can occur suddenly and acutely .Caution is advised.

DSP: This treat is continuing to grow slowly each week as this is the beginning of the historical season of occurrence. *Phalacroma* and *Dinophysis* spp have been observed in a few specific sites already, currently at low levels. This species now needs to be watched more closely as levels of 400cells/l to 800cells/l have in the past caused issues.

PSP: A toxic event is not expected at this time of year. Low levels of caution should be exercised as we get closer to the historical period of occurrence and/or we experience favourable environmental conditions.

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) .

## National Monitoring Programme

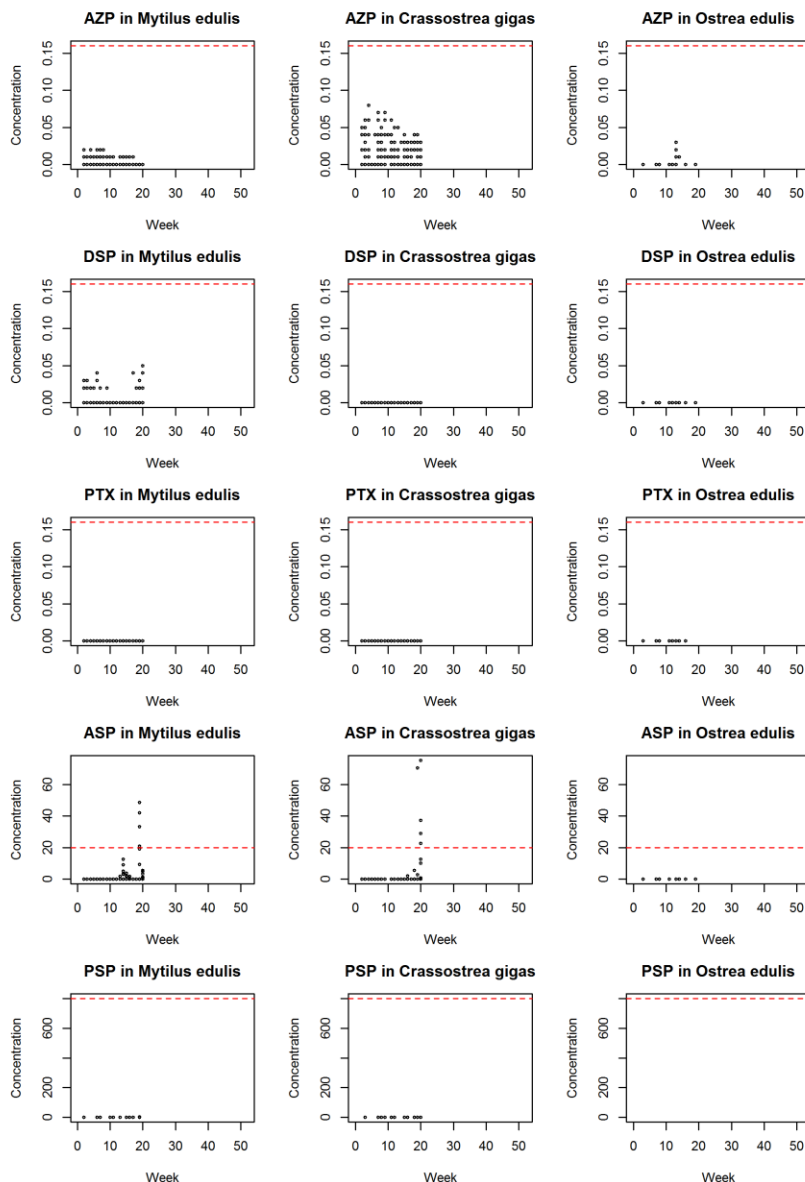
AZP

DSP

PTX

ASP

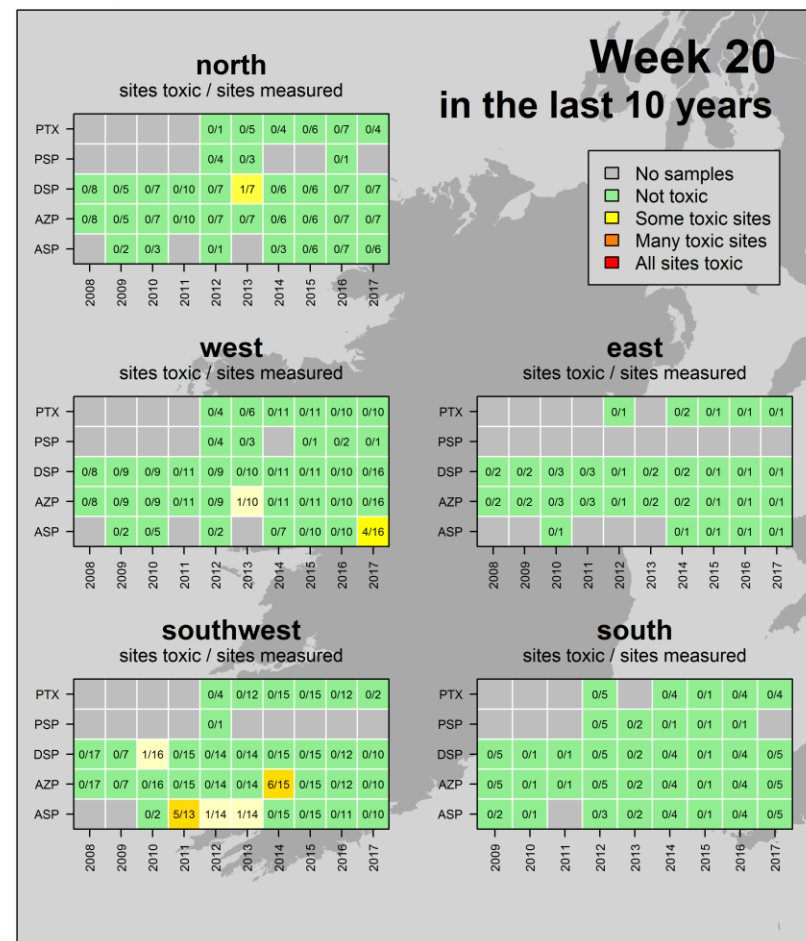
PSP



Levels from week 1 to present week. Regulatory limit - - - - -



## HISTORIC TRENDS



ASP events: mid-March to early May

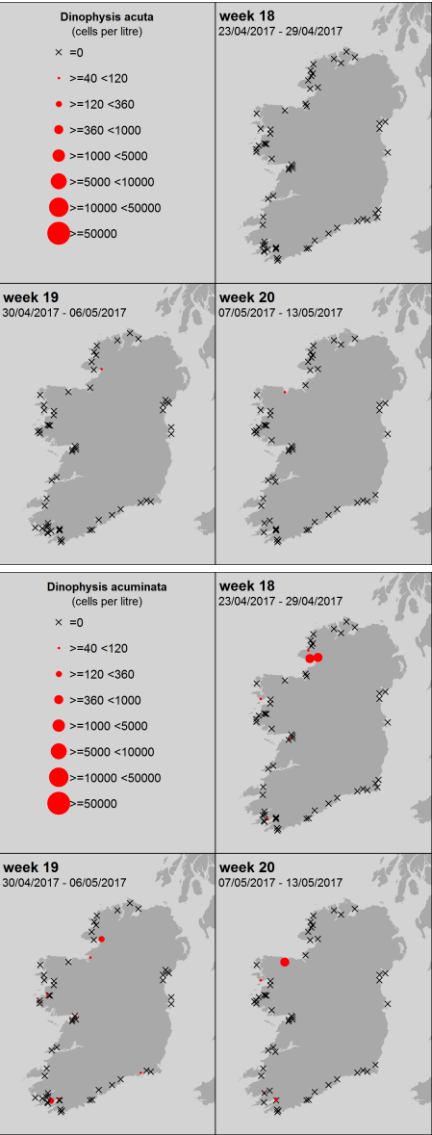
AZP events: April to December

DSP events: May to December

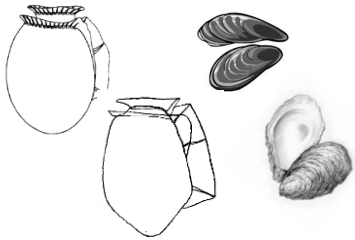
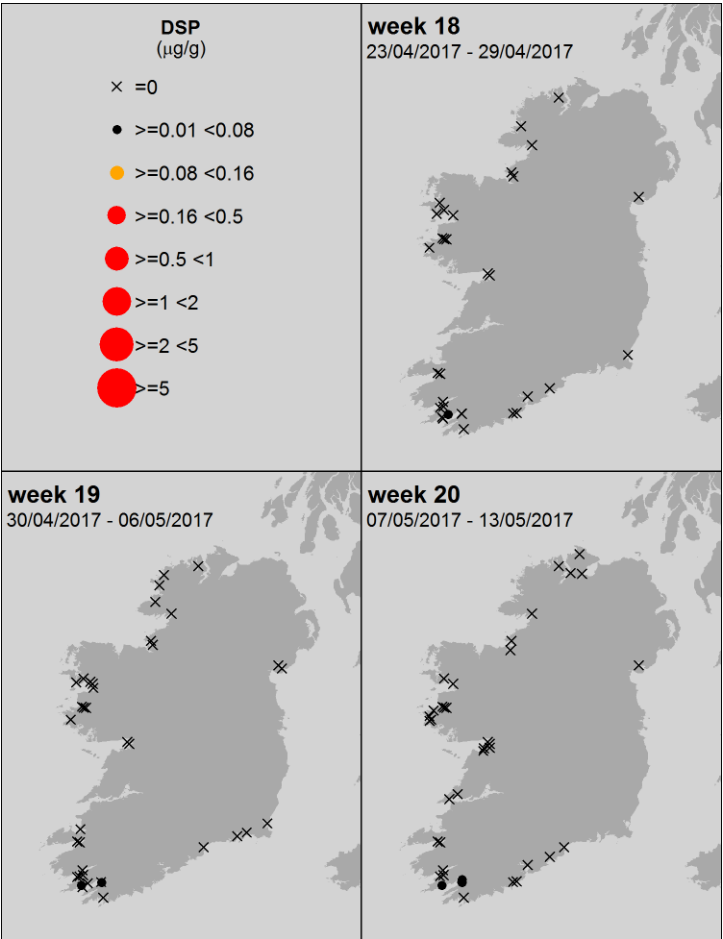
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks.

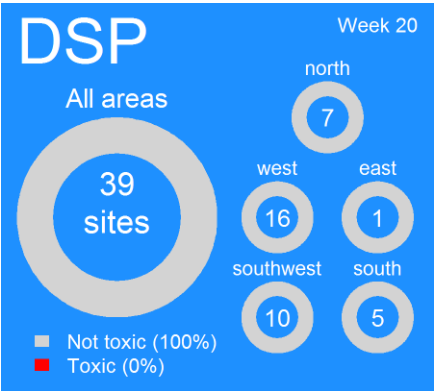


All levels of DSP biotoxin recorded- 3 wks.



Current closures levels

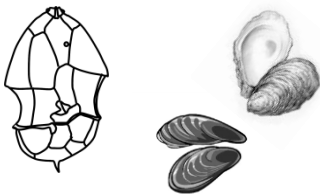
≥ DSP 0.16 µg/g



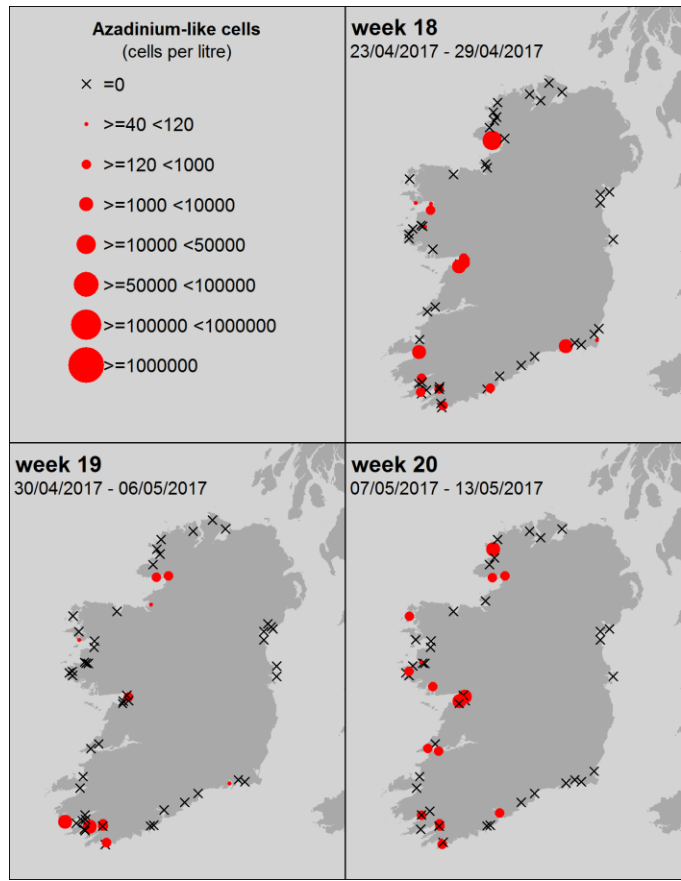
Comment

Dinophysis cell levels continue to increase , currently on the west and south west coasts. This is typical for this time of year and would be expected to continue over the next few weeks. This group historically causes seasonal closures and deserves close monitoring. High possibility of toxicity increasing.

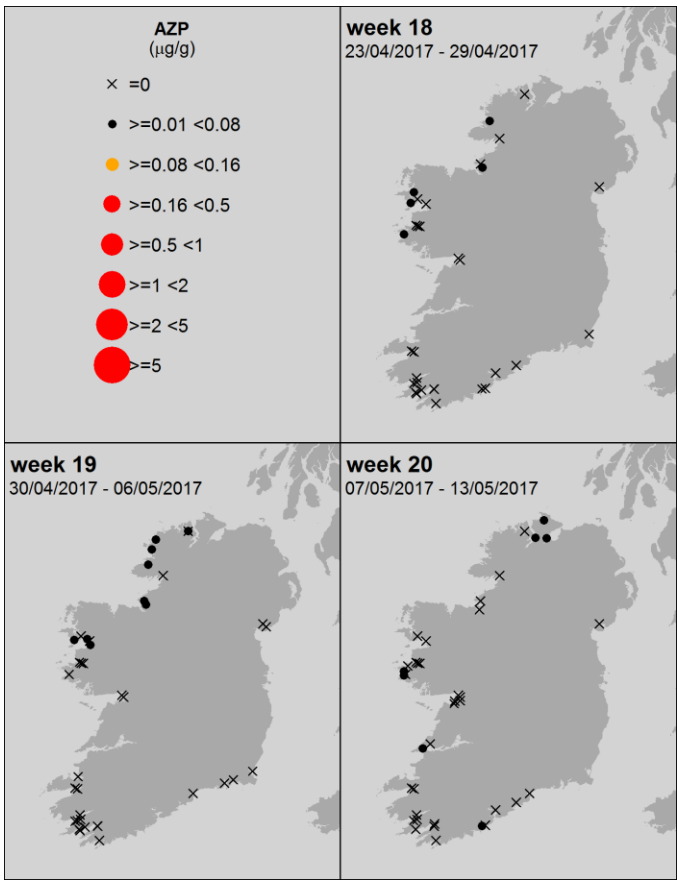
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

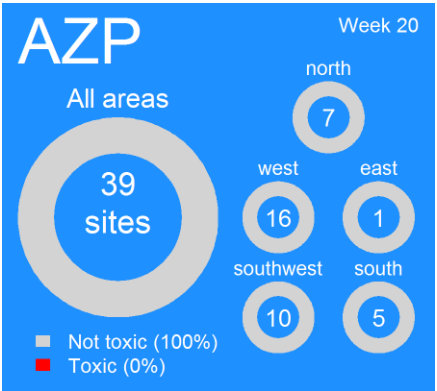


All levels of AZP biotoxin recorded - 3 wks.



Current closures levels

≥ AZP 0.16 µg/g

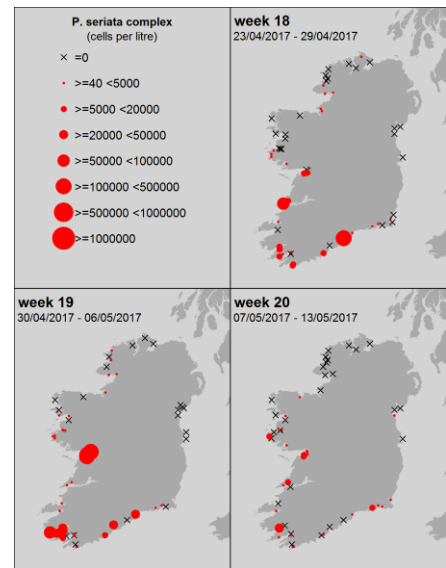
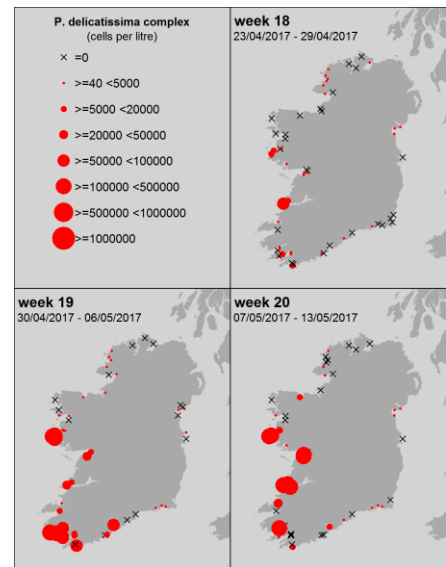


Comments

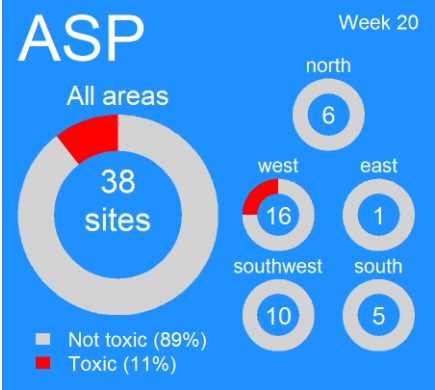
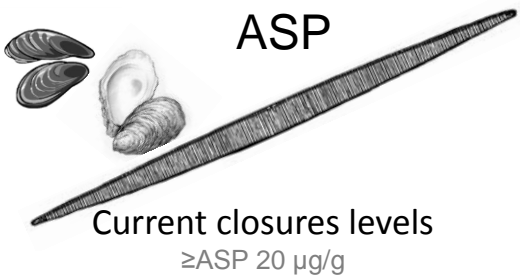
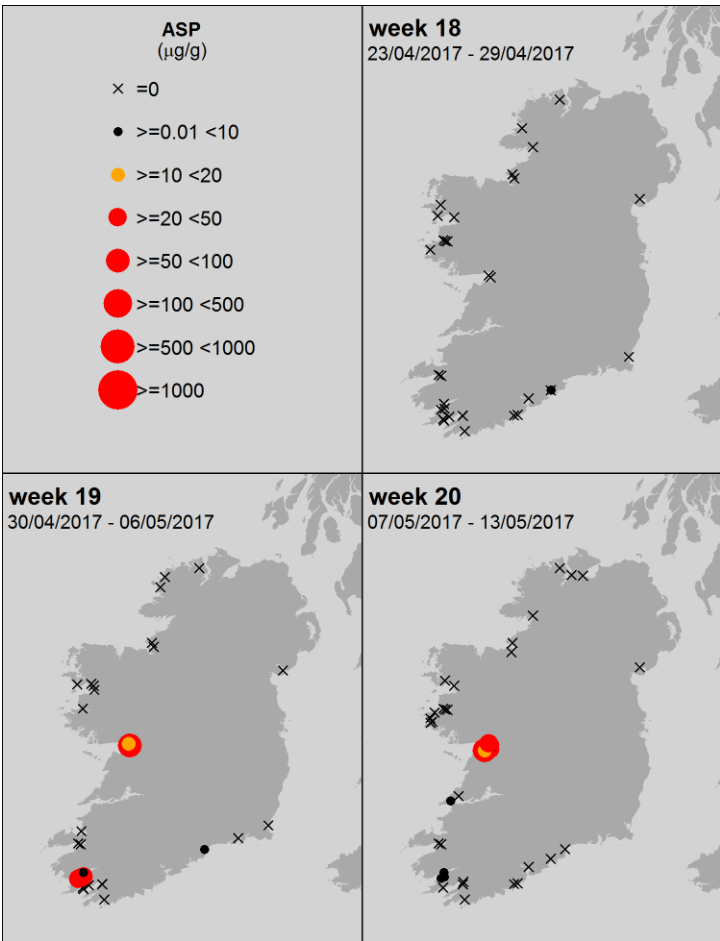
Continuing fluctuation in cell levels – currently indicating a potential increase in cells levels and occurrences. This situation may change rapidly. This species is always difficult to track and trend so caution is always advised .

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



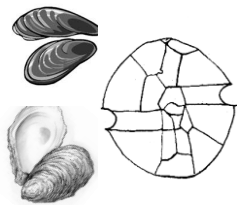
All levels of ASP biotoxin recorded - 3 wks.



Comments

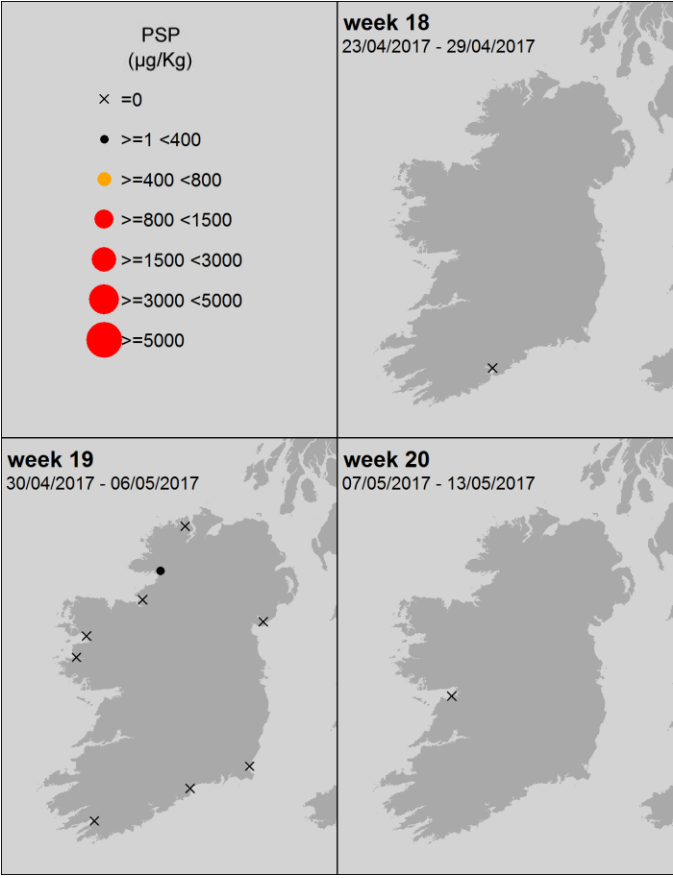
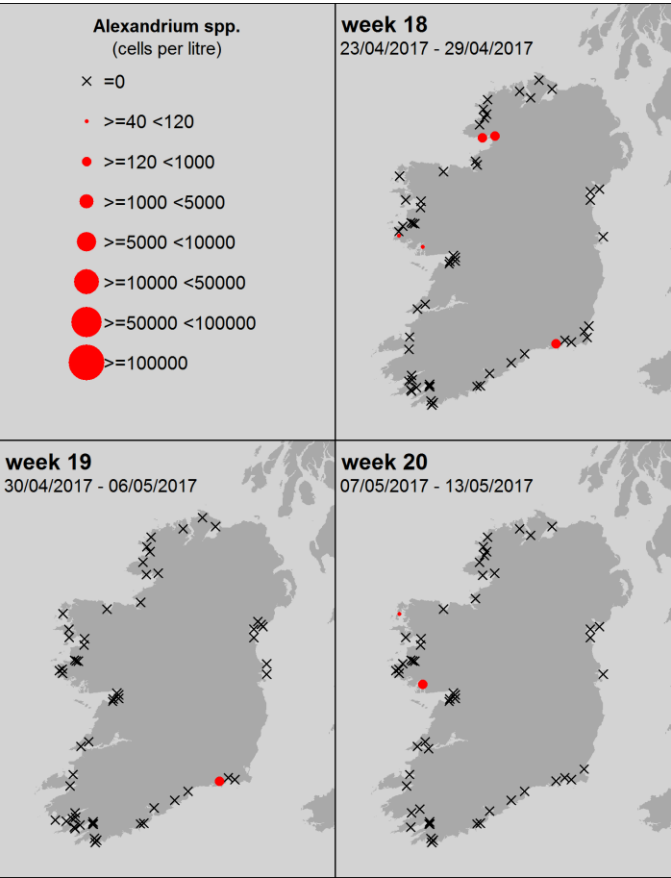
Pseudo nitzschia species still remain high and problematic in many areas. There may be a potential emerging trend for decreasing levels but it is not established yet and may not occur in all areas simultaneously. All areas are advised to continue to exercise additional caution and monitor MI website for latest updates until this issue is over.

PSP and Alexandrium sp. current trends



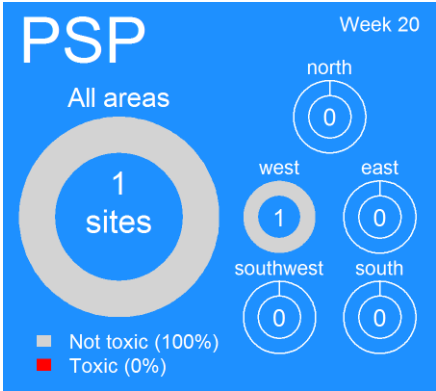
Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



Current closures levels

≥ PSP 800 µg/Kg

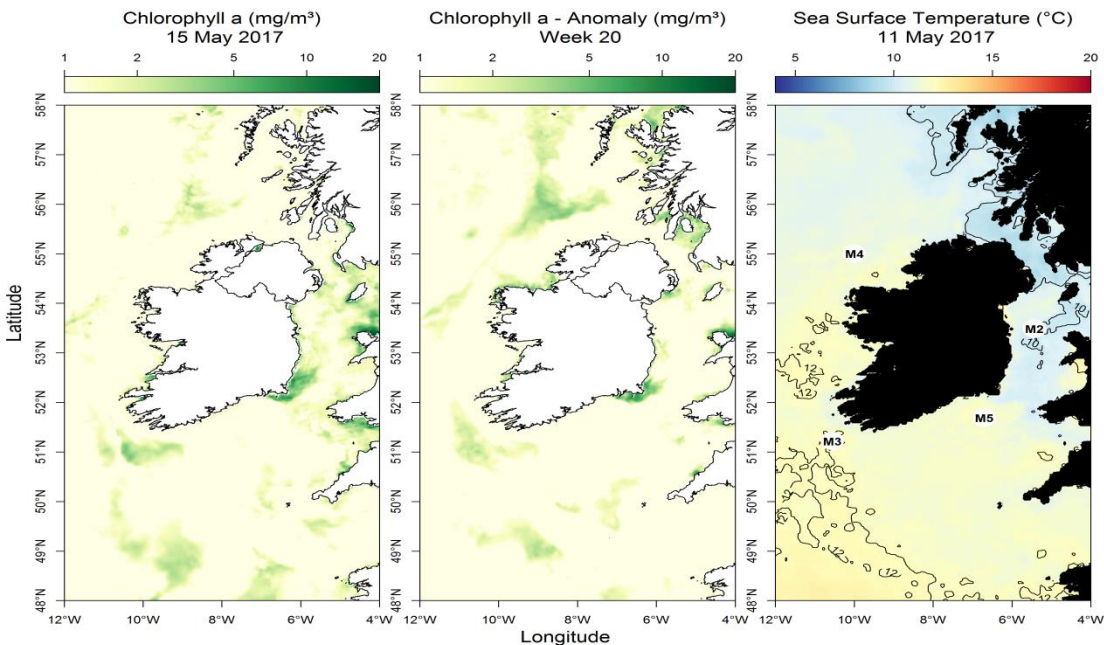


Comments

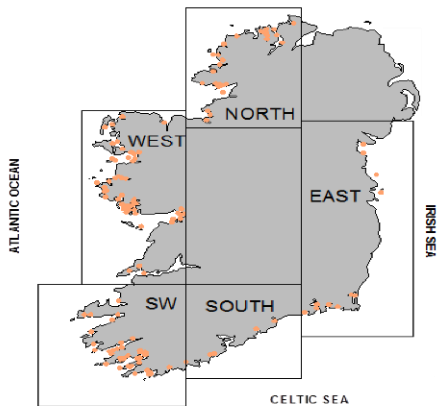
No current closures and low likelihood of bloom at this time but this risk factor would historically be increasing at this time.



Most up to date available satellite data



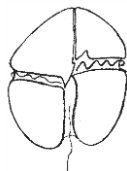
Patches of higher chlorophyll levels indicating potential phytoplankton blooms becoming move evident each week. High levels of beneficial diatoms (see table) have been observed in many areas.



**NW coast (M4)** Above average by 0.92°C wk19  
**SW coast (M3)** Below average by 0.38°C wk 19  
**SE coast (M5)** Above average by 0.73°C wk19

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Microflagellate sp.	2105000
2	east	Chaetoceros (Hyalochaete) spp.	170000
3	east	Skeletonema spp.	161000
4	east	Cylindrotheca closterium/ Nitzschia longissima	89000
5	east	Pennate diatom	15000
1	north	Skeletonema spp.	2128000
2	north	Chaetoceros (Hyalochaete) spp.	699000
3	north	Cylindrotheca closterium/ Nitzschia longissima	98000
4	north	Leptocylindrus danicus	78000
5	north	Dactyliosolen spp.	53000
1	south	Cerataulina spp.	1309000
2	south	Prymnesiophytes	82000
3	south	Microflagellate sp.	63000
4	south	Leptocylindrus minimus	15000
5	south	Pseudo-nitzschia delicatissima complex	13000
1	southwest	Pseudo-nitzschia delicatissima complex	447000
2	southwest	Navicula spp. <25um	206000
3	southwest	Leptocylindrus minimus	139000
4	southwest	Prymnesiophytes	102000
5	southwest	Cerataulina spp.	53000
1	west	Skeletonema spp.	1587000
2	west	Pennate diatom	998000
3	west	Skeletonema costatum	175000
4	west	Pseudo-nitzschia delicatissima complex	158000
5	west	Microflagellate sp.	154000

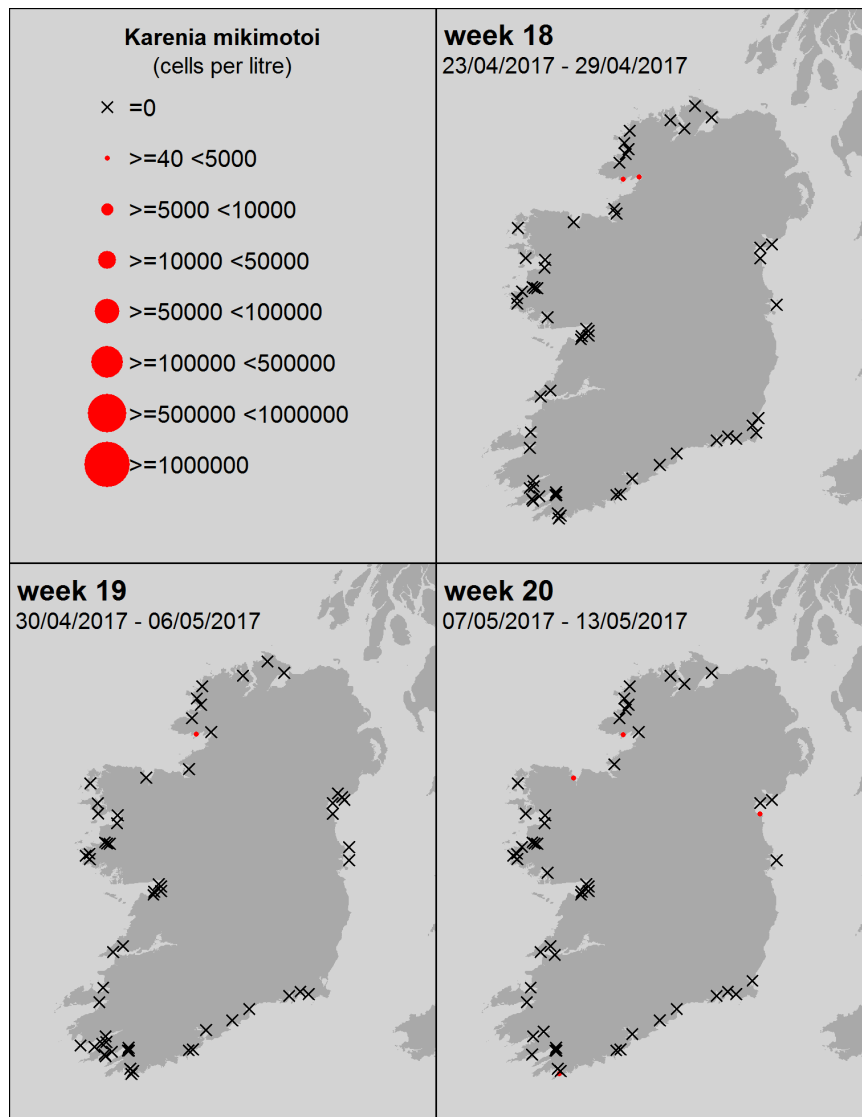


A *Karenia mikimotoi* bloom is NOT expected this week. Very low levels of cells have been observed in a isolated sites only.

Other bloom species news

Dominant species in all areas currently diatoms. Each geographical sector appears to be dominated by its unique species or group. Currently no major treats/ ictyotoxic species evident but please use the dominant species table to see specific localised areas of interest.

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

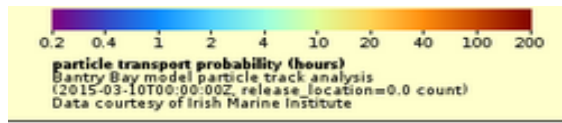




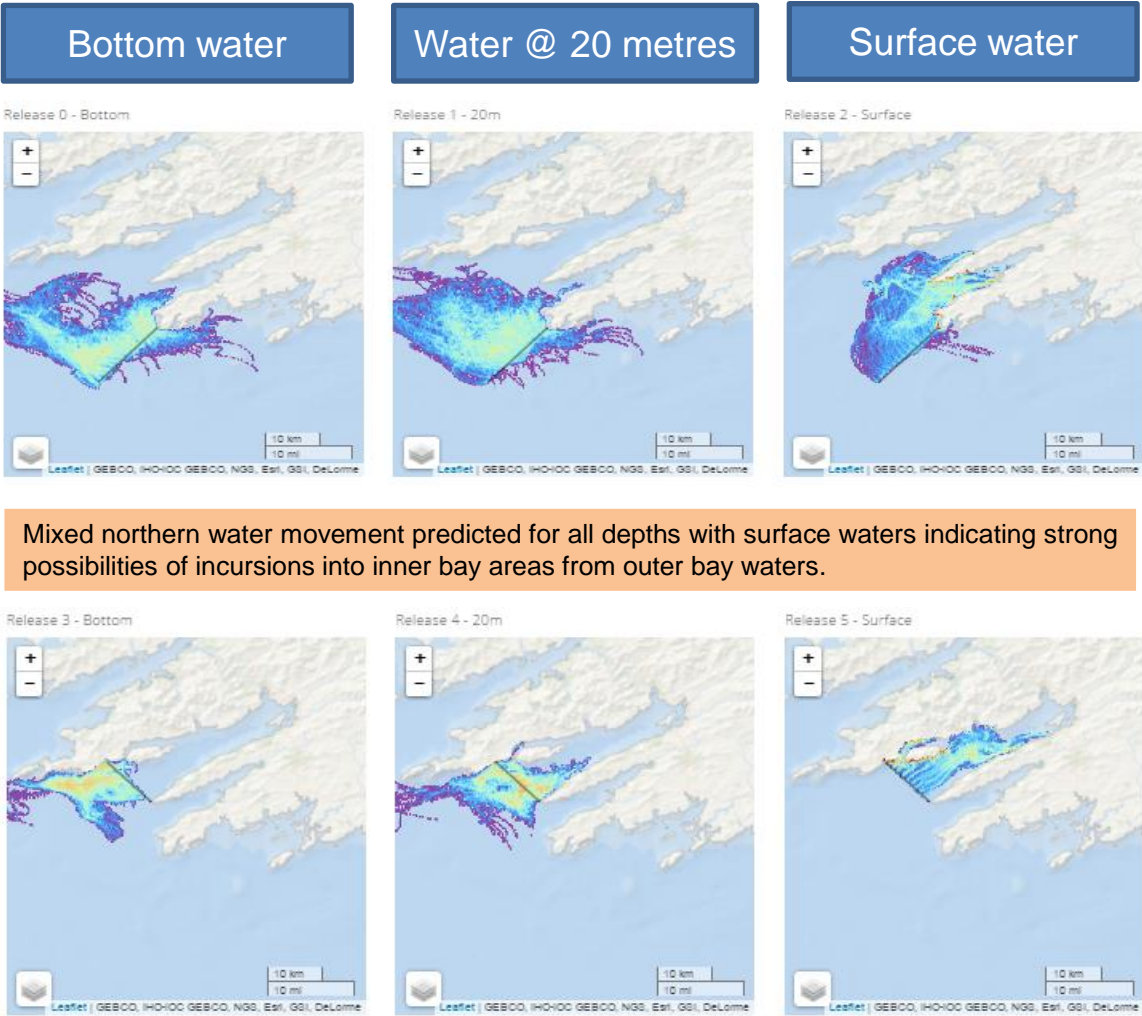
SOUTHWEST: Bantry Bay

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



Forecast for the next 3 days



Mixed northern water movement predicted for all depths with surface waters indicating strong possibilities of incursions into inner bay areas from outer bay waters.

Strong probability that surface waters may allow waters from outer bay areas to be transported into inner bay areas .Down welling possible where deeper waters are transported out of bay area.

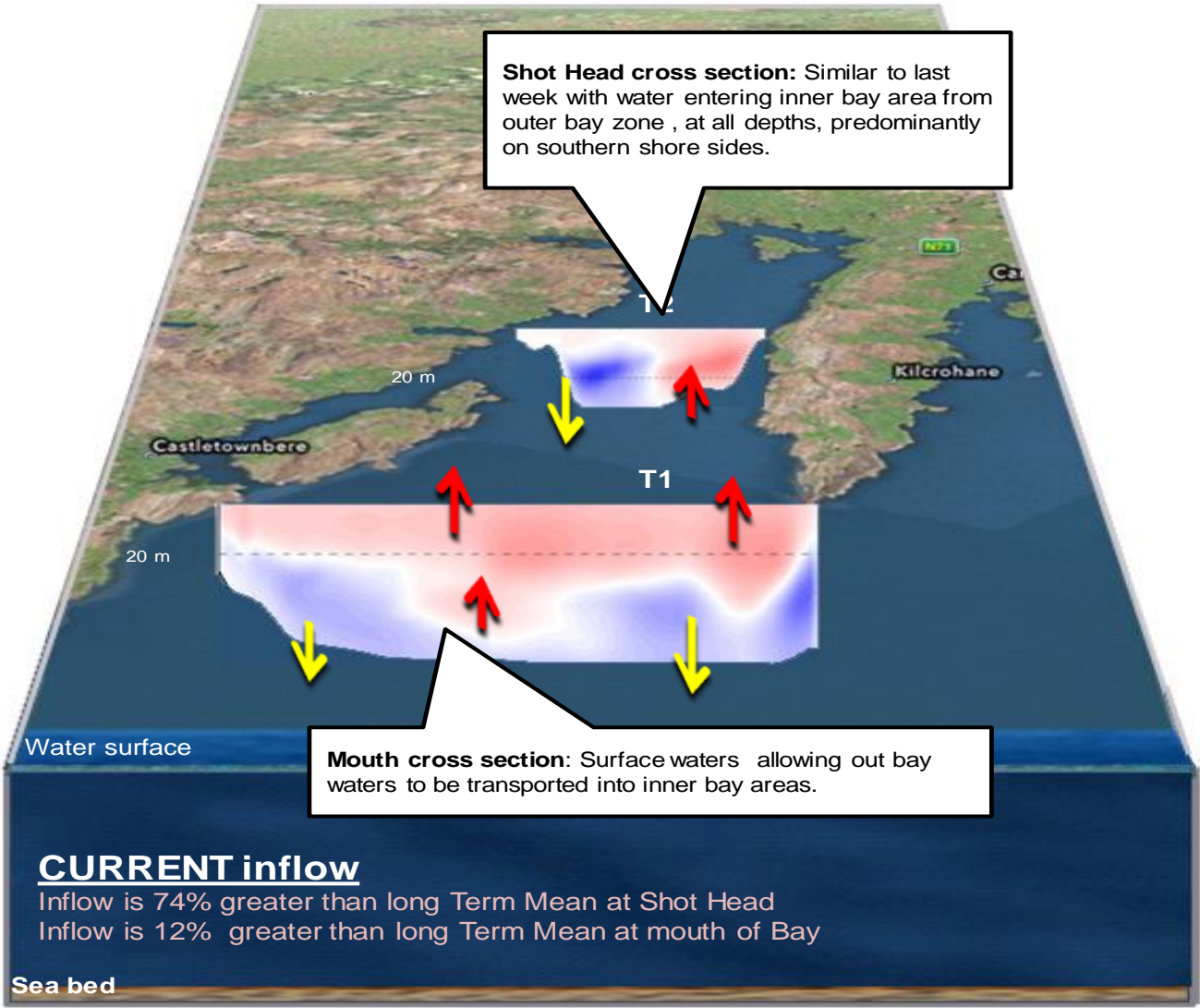
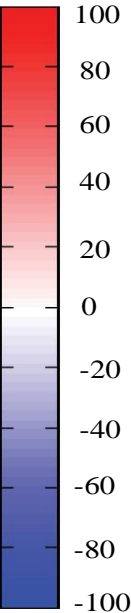
# Bantry Bay

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

Forecast for next 3 days



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

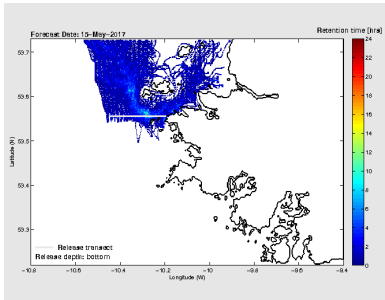


WEST: Killary Harbour

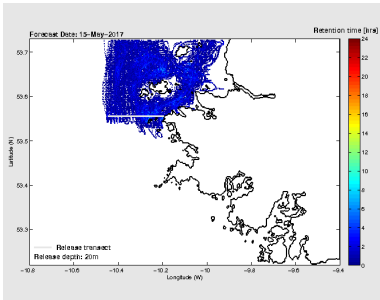
Forecast for the next 3 days

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)

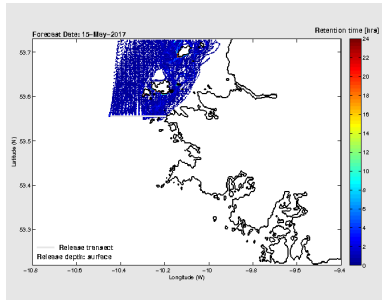
Bottom water



Water @ 20 metres



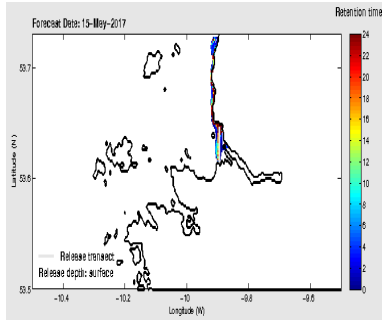
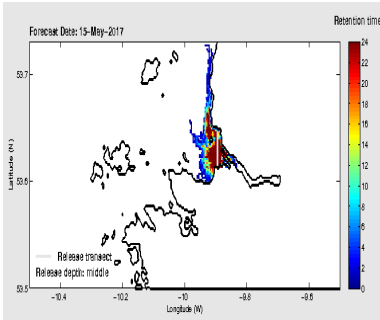
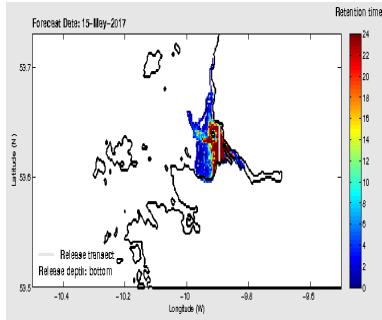
Surface water



**Cleggan**  
Strong mixing and predominantly mixed northerly water movements at all depths.

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

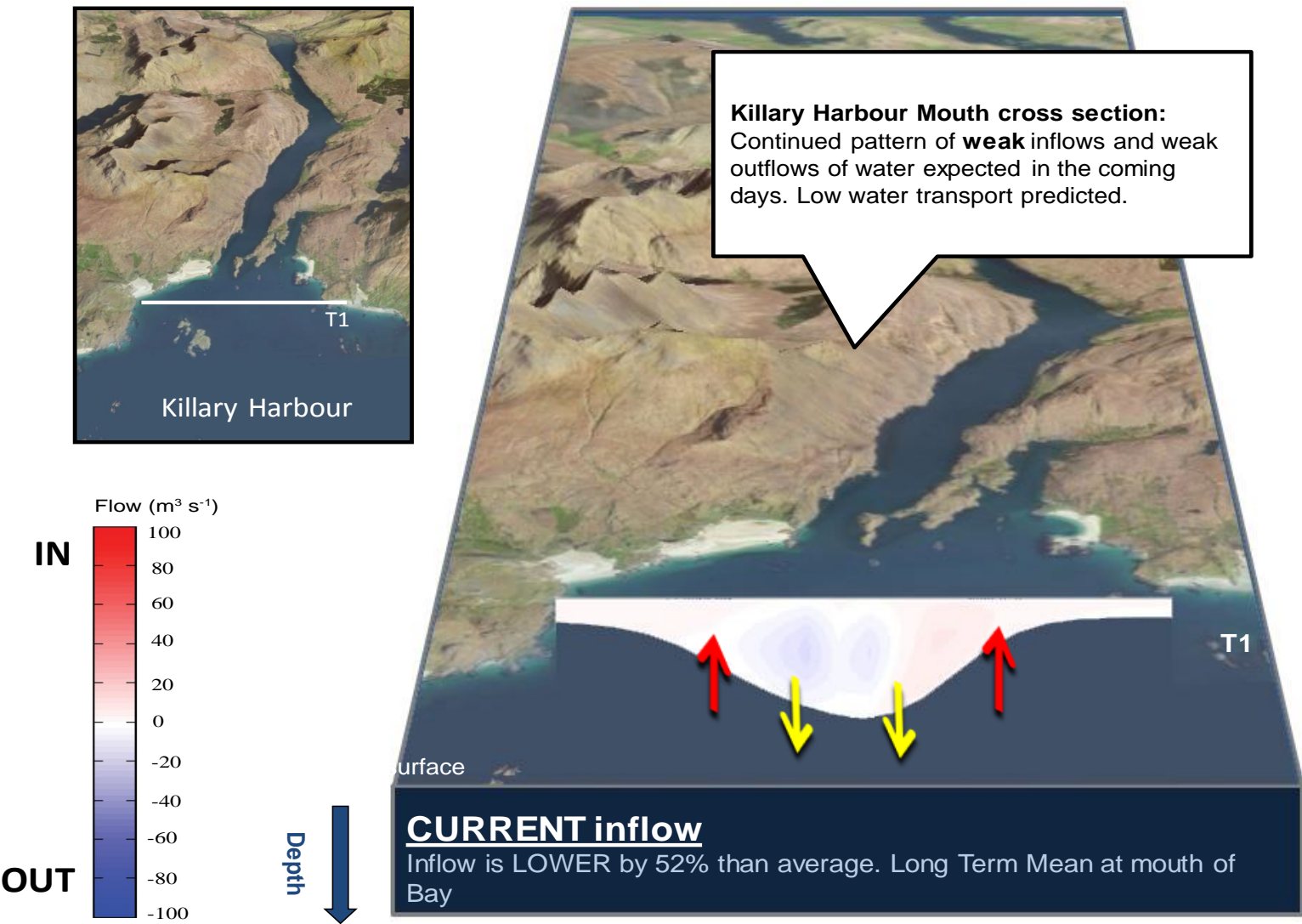


**Killary**  
Similar to last week - Exposed outer bay areas exhibiting strong water movements in a northern directions , particularly as depth increases. Inshore areas displaying low water movement and mixing, What ever offshore waters that may enter the inner bay area may reside there for a period of time.

# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour

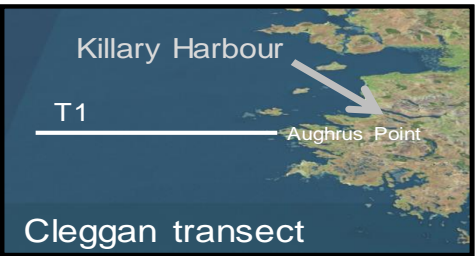
Forecast for next 3 days



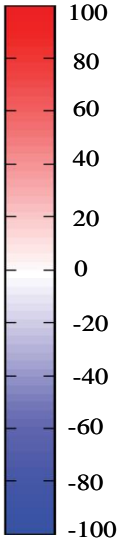


# West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward  
flow

southward  
flow

Depth

