

# Ireland: Predictions

ASP event: Low

AZP event: Moderate

DSP event: Low

PSP event: Very low

## NMP Current closures

ASP	AZP	DSP	PSP
0	0	0	0

Why do we think this?

ASP: Continuing steadily and slowly to increase . The weekly potential pattern of *Psuedo nitzschia* species slowly increasing (5 plus consecutive weeks in some sites) continued in distribution and cell concentrations around the coastline. All sites remain clear of toxins. Low risk at the moment but this risk factor would typically be expected to rise within the next few weeks with favourable environmental factors.

AZP: Again an increase in potential cells but no high toxin levels yet. Risk levels moderate are due to the potential pattern of slow increase in cell levels in some sites with low levels of toxins present (all currently below closure levels) . While environmental conditions may be fluctuating widely , this species has previously caused issues at this time of yr. (in the North and S.West ). Issues with this toxin can occur suddenly and acutely .Caution is advised.

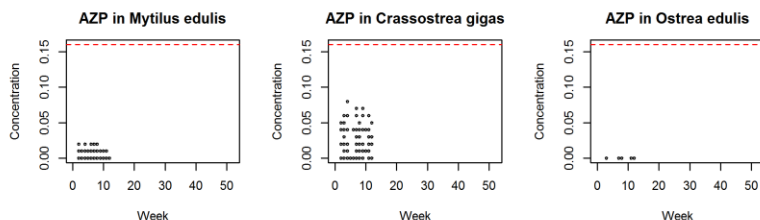
DSP: This is currently a low risk period for early DSP events and environmental conditions may not yet be ideal. All sites are currently below regulatory limits .

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

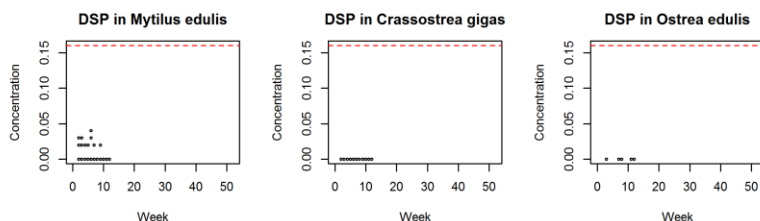
Please note: We will be updating the format of this bulletin throughout the year in an active effort to increase end user applicability and incorporate developing technologies. All feedback is welcome at [Joe.Silke@Marine.ie](mailto:Joe.Silke@Marine.ie) .

## National Monitoring Programme

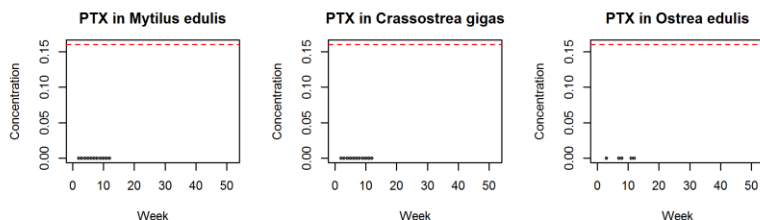
AZP



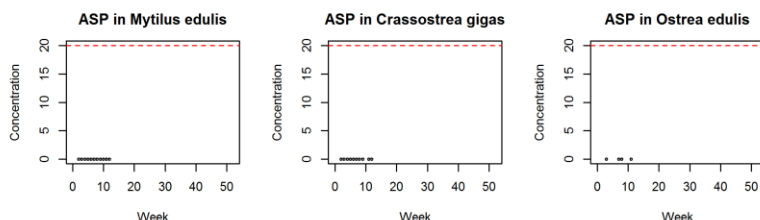
DSP



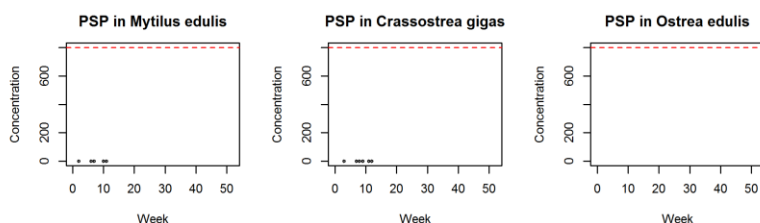
PTX



ASP



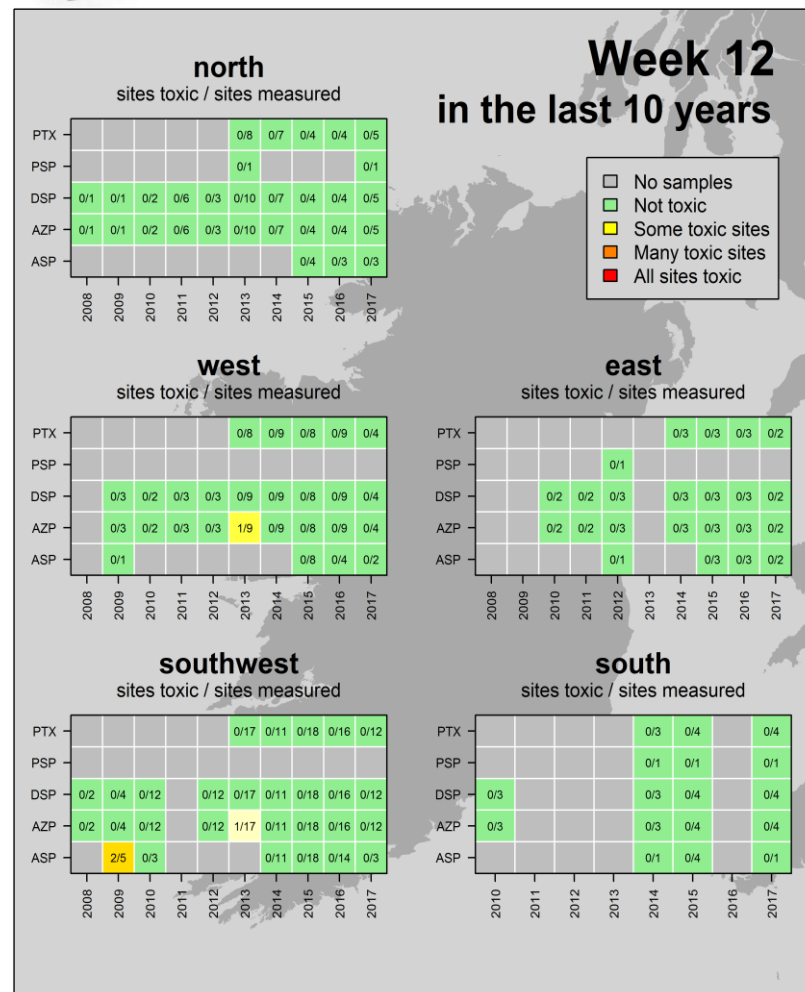
PSP



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



## HISTORIC TRENDS



ASP events: mid-March to early May

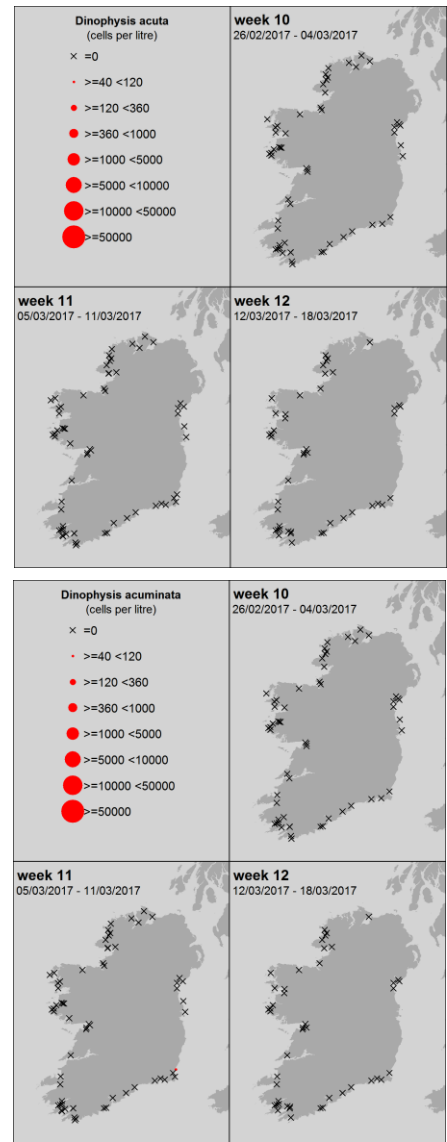
AZP events: April to December

DSP events: May to December

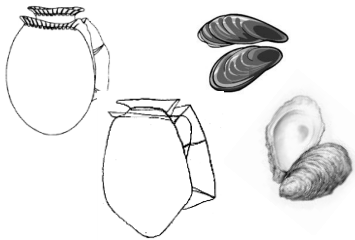
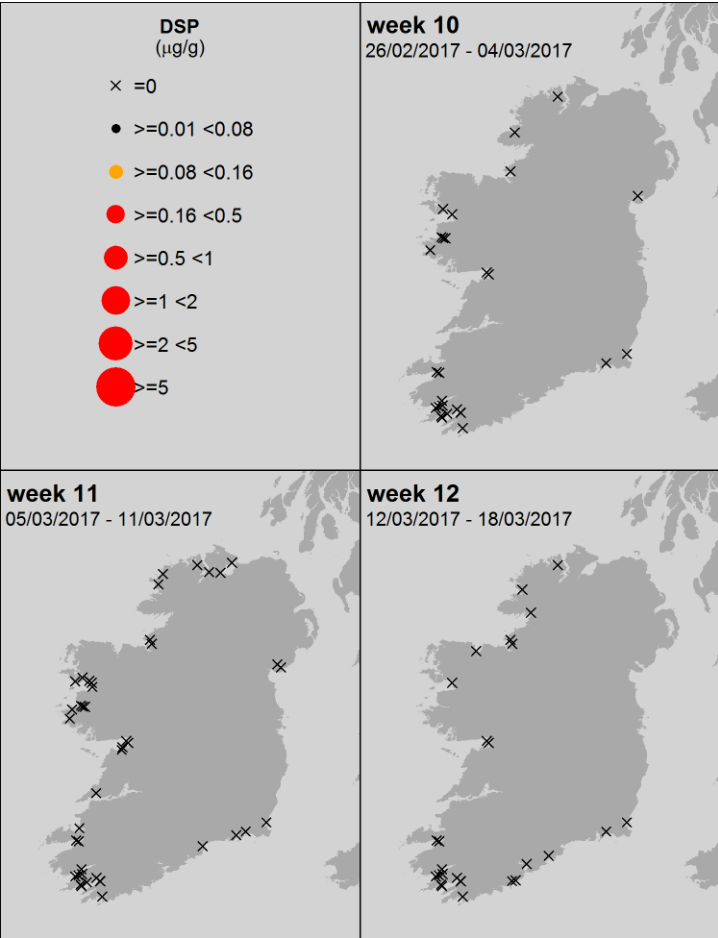
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

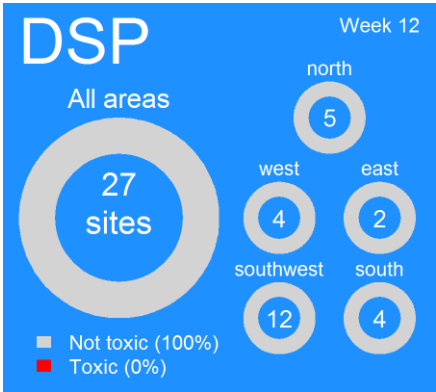
Phytoplankton species – 3 wks.



All levels of DSP biotoxin recorded- 3 wks.



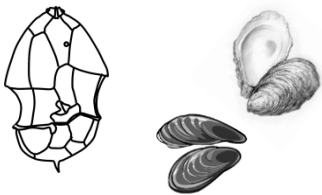
Current closures levels  
≥ DSP 0.16 µg/g



Comments

Same as the last few weeks, still a little early in season - Very low cell levels and DSP well below closure limits in all sites.

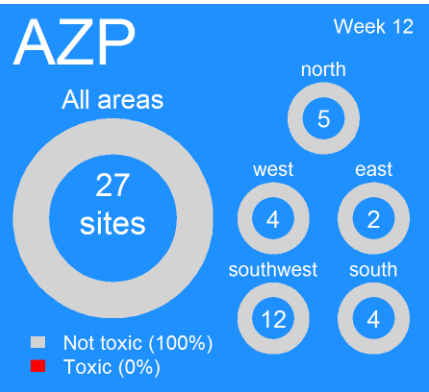
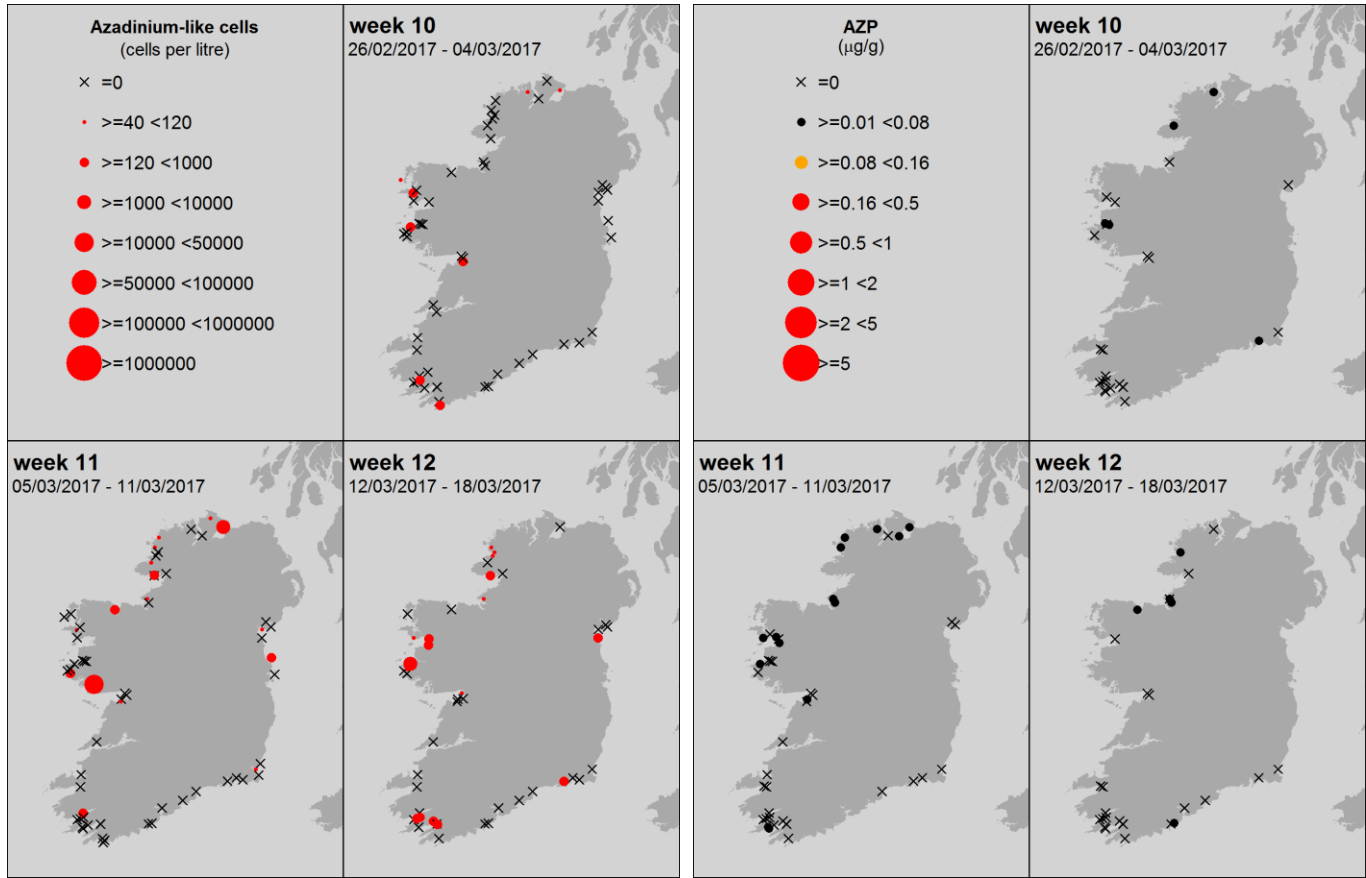
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

Current closures levels  
≥ AZP 0.16 µg/g

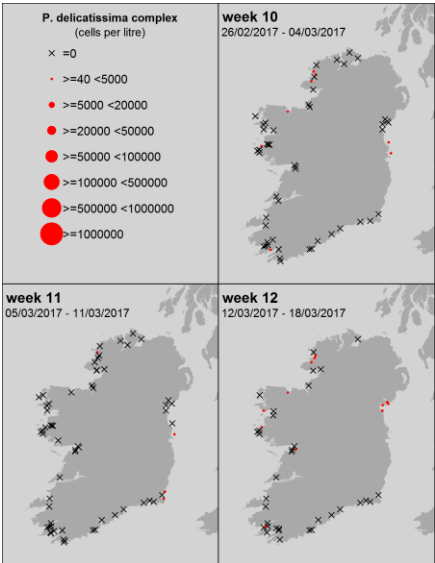
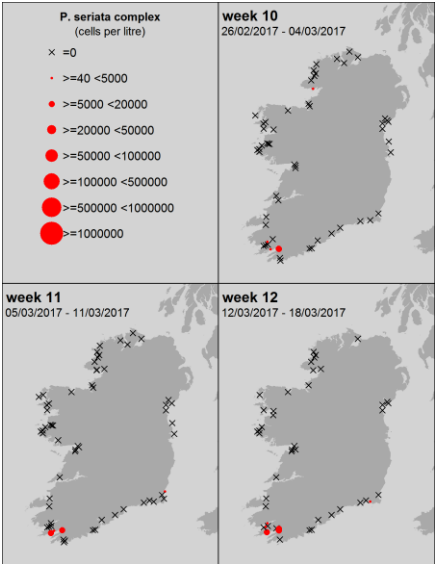


Comments

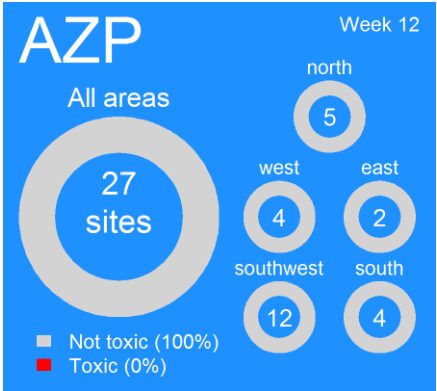
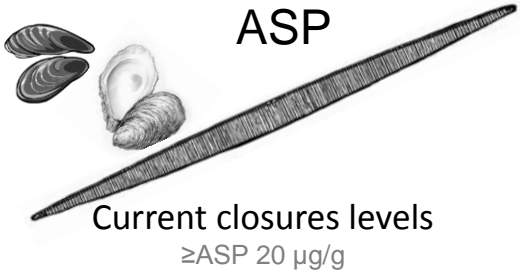
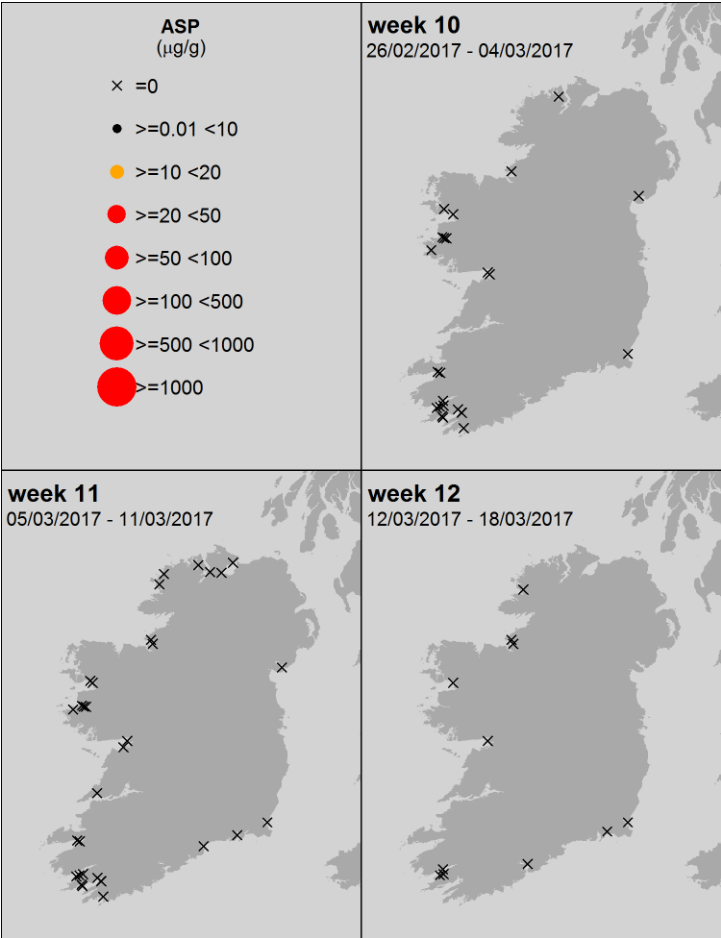
There is a still a potential trend of increasing cell levels and geographical spread combined with toxin detection levels in sites. This is a difficult species to predict so additional caution is advised.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



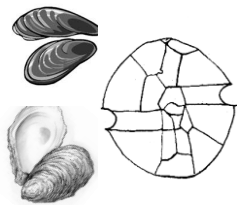
All levels of ASP biotoxin recorded - 3 wks.



Comments

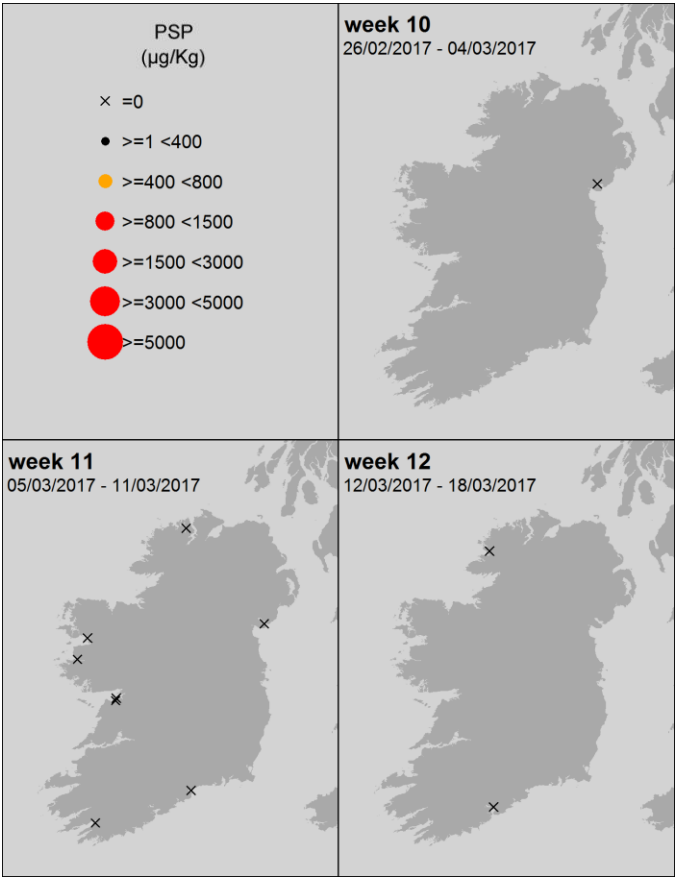
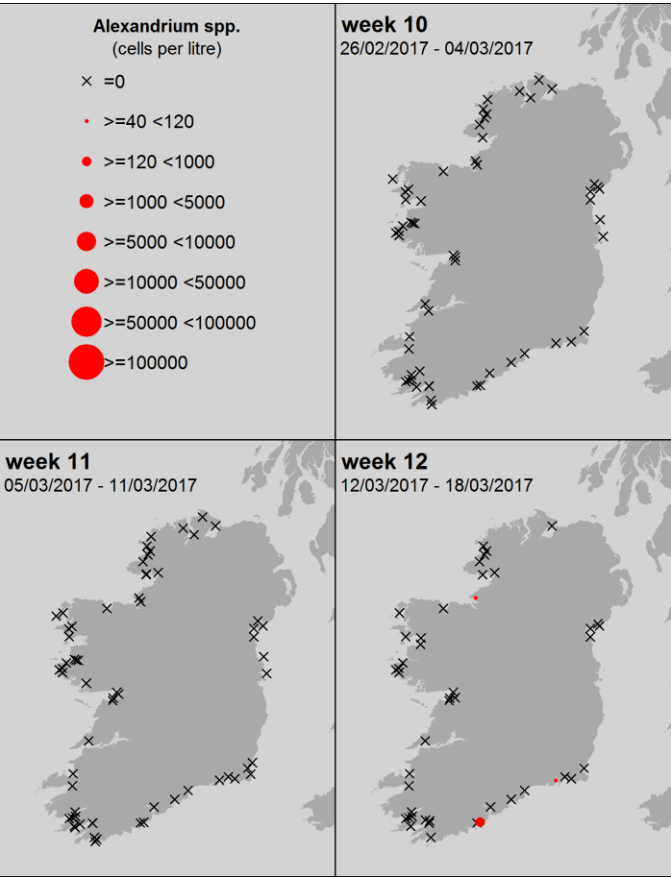
Same as the last few weeks - Continuing slow spread and increase in phytoplankton cells but all sites tested still well below biotoxin limits.

PSP and Alexandrium sp. current trends



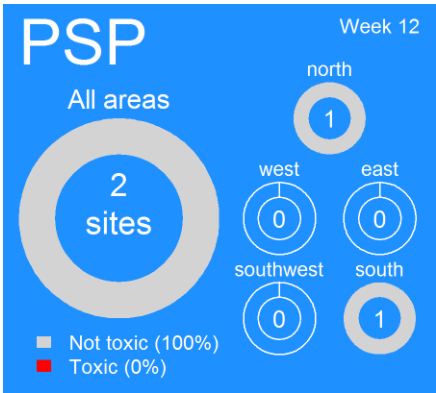
Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



Current closures levels

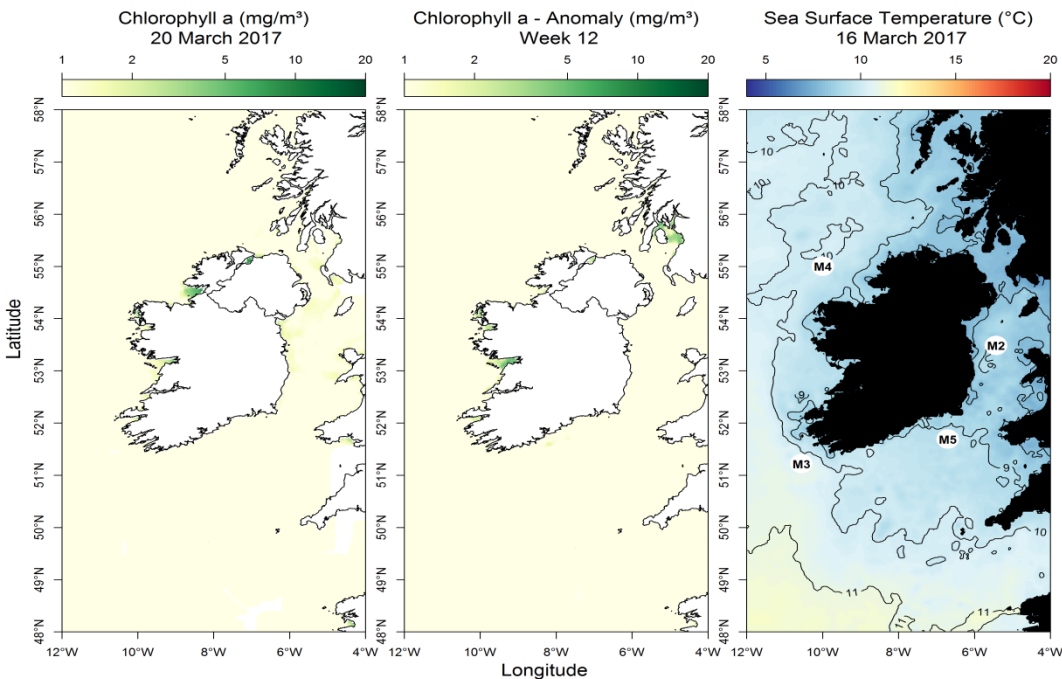
≥ PSP 800 µg/Kg



Comments

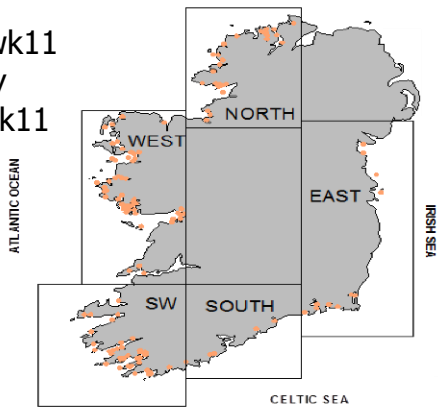
- No current changes -  
No closures and  
negligible likelihood  
of bloom at this time.

Most up to date available satellite data



Slight increase in phytoplankton potential growth in some inner bay areas.

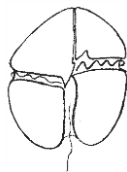
- NW coast (M4) Above average by 0.77°C wk11
- SW coast (M3) No data available currently
- SE coast (M5) Above average by 0.74°C wk11



What phytoplankton were blooming at inshore coastal sites last week?

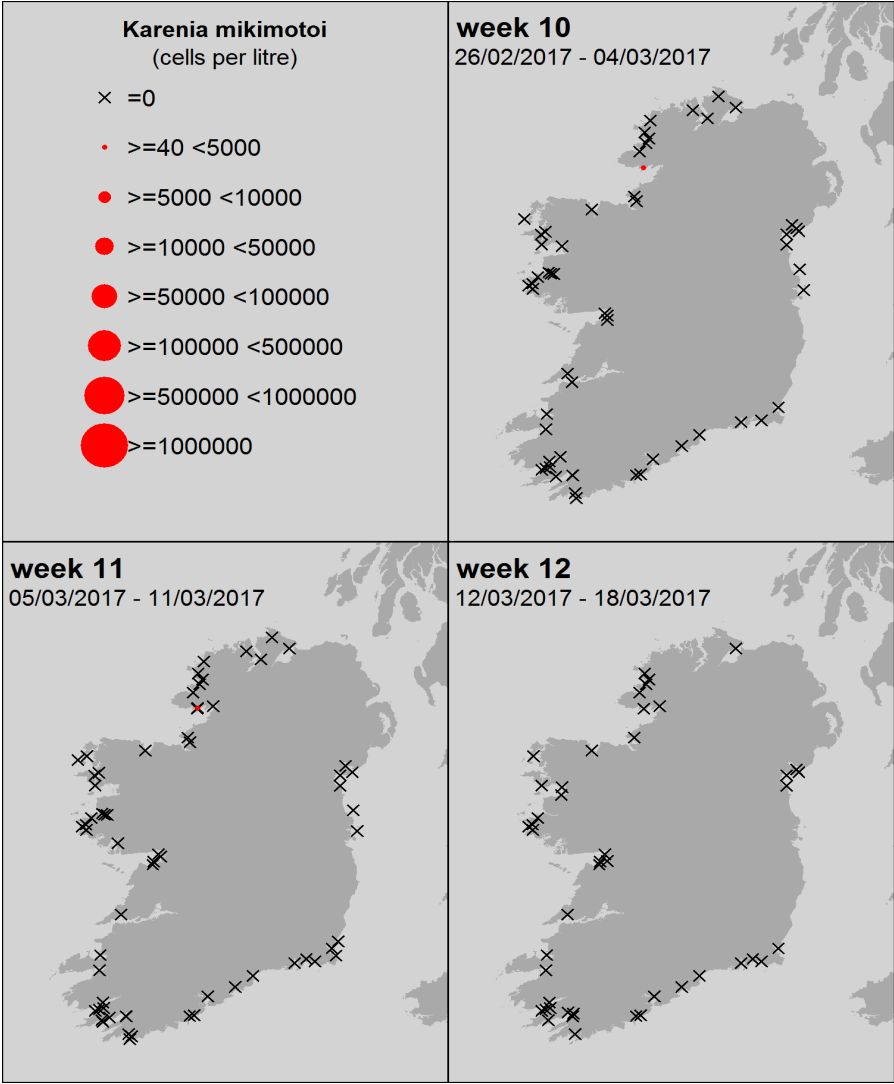
Rank	Region	Species	Rounded Count
1	east	Centric Diatom	1553000
2	east	Skeletonema spp.	29000
3	east	Pennate diatom	25000
4	east	Euglena/Eutreptiella spp.	9000
5	east	Thalassiosira spp.	2000
1	north	Asterionellopsis glacialis	222000
2	north	Centric Diatom	43000
3	north	Thalassionema nitzschioides	42000
4	north	Cylindrotheca closterium/ Nitzschia longissima	36000
5	north	Thalassiosira spp.	32000
1	south	Pennate diatom	11000
2	south	Melosira spp.	3000
3	south	Thalassiosira spp.	3000
4	south	Thalassionema spp.	1000
5	south	Odontella spp.	1000
5	south	Cylindrotheca closterium/ Nitzschia longissima	1000
1	southwest	Skeletonema costatum	191000
2	southwest	Skeletonema spp.	103000
3	southwest	Microflagellate sp.	100000
4	southwest	Thalassiosira <20um	51000
5	southwest	Thalassiosira nordenskioldii	46000
1	west	Microflagellate sp.	362000
2	west	Pennate diatom	41000
3	west	Cylindrotheca closterium/ Nitzschia longissima	35000
4	west	Thalassiosira spp.	21000
5	west	Skeletonema spp.	8000





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

A *Karenia mikimotoi* bloom  
is NOT expected this week

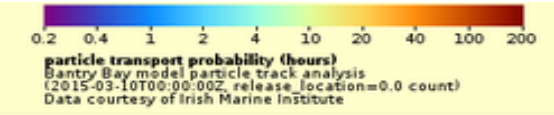




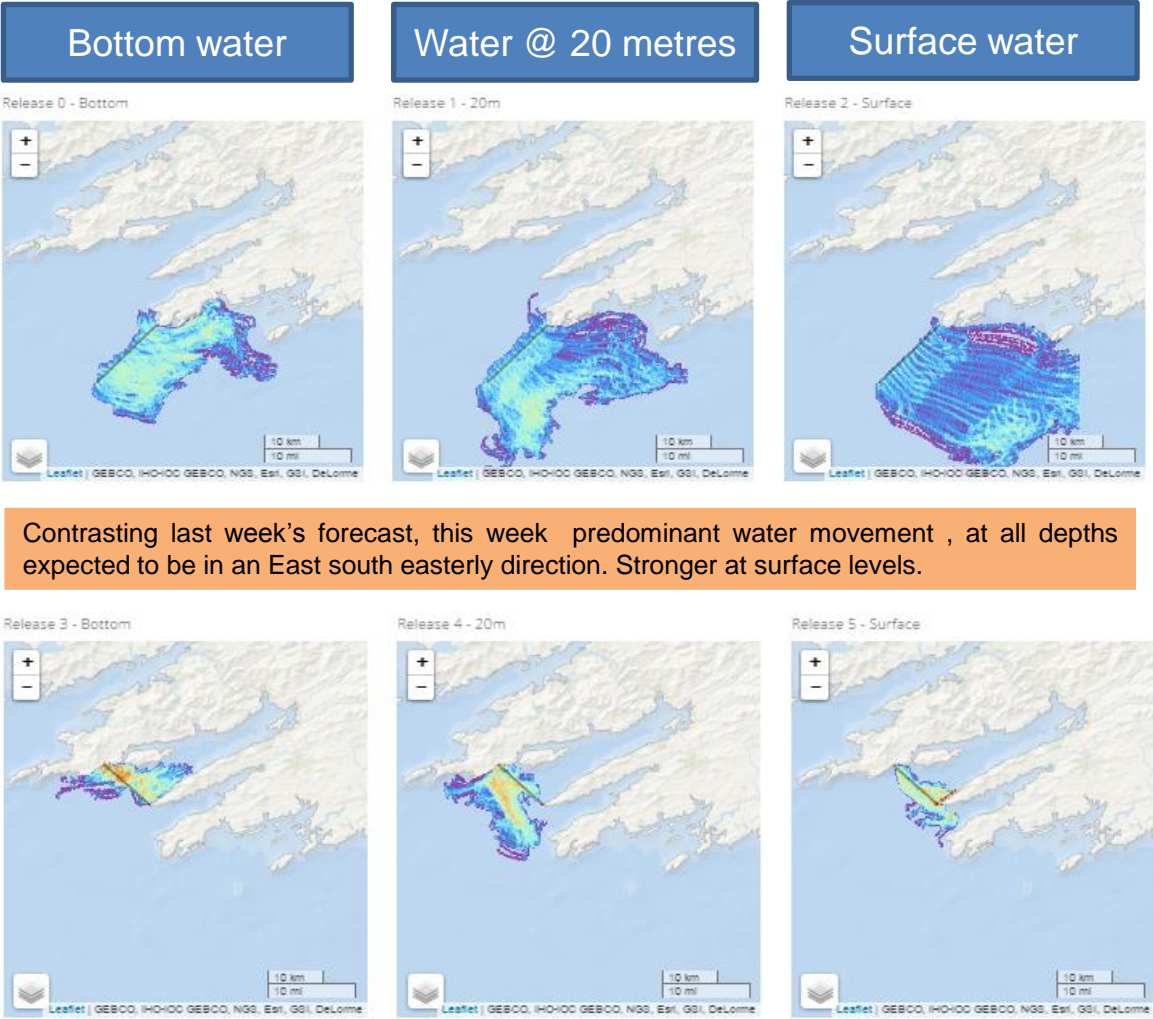
SOUTHWEST: Bantry Bay

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



Forecast for the next 3 days



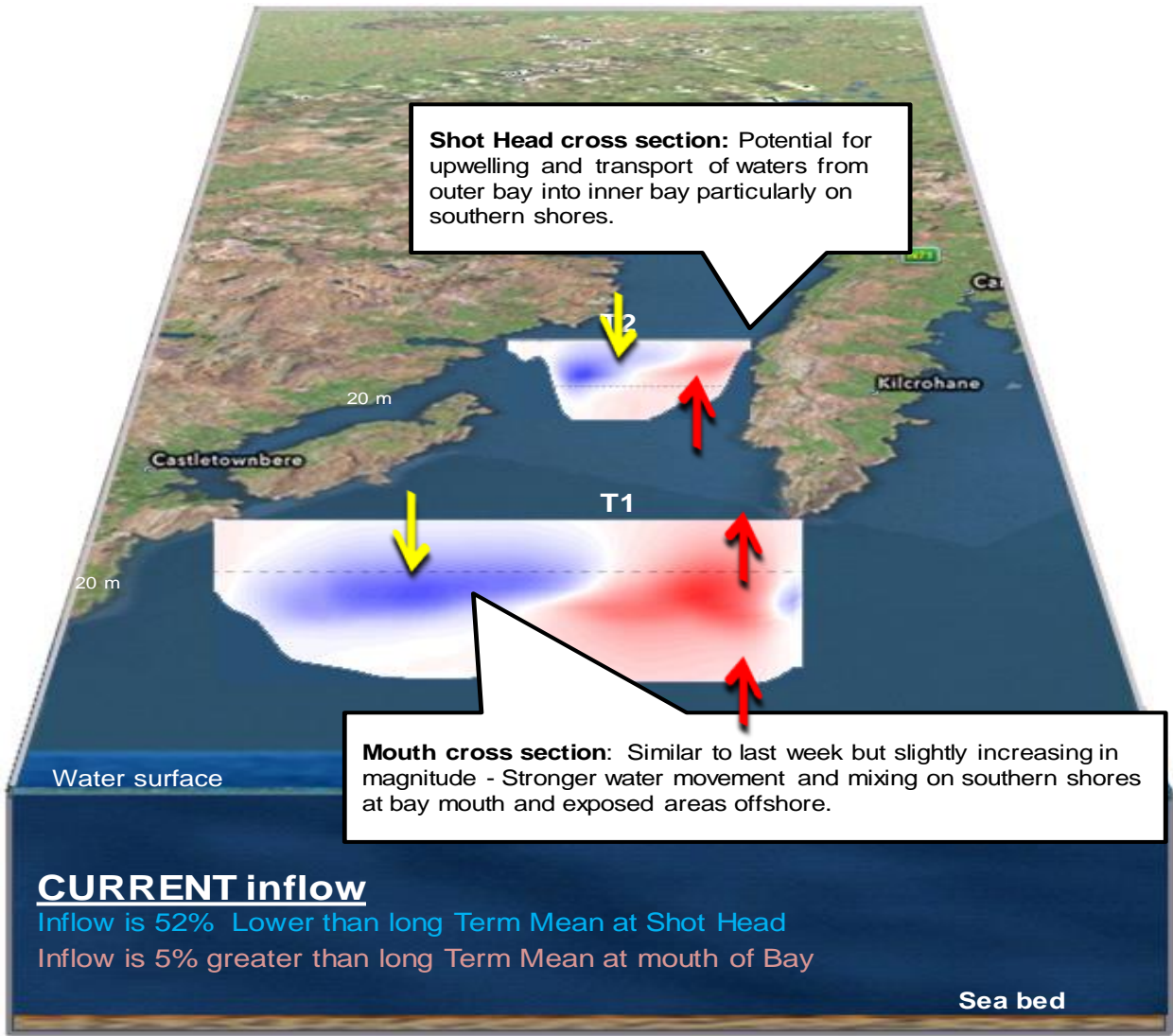
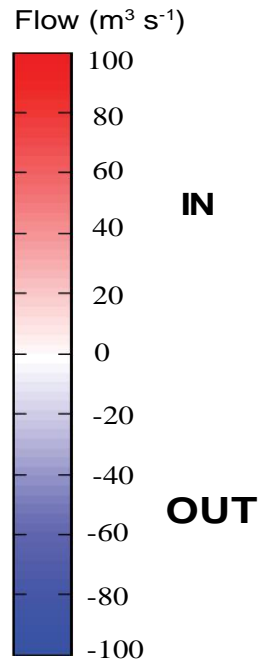
Contrasting last week's forecast, this week predominant water movement , at all depths expected to be in an East south easterly direction. Stronger at surface levels.

Potential for upwelling conditions to allow water movement at depth to enter inner bay areas.

# Bantry Bay

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

Forecast for next 3 days



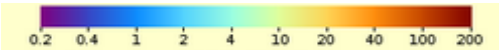
WEST: Killary Harbour

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)

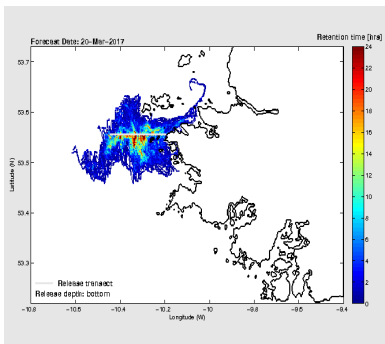
Reddish colours represent areas where phytoplankton remain longest

Cooler colours represent areas where phytoplankton remain for shorter periods

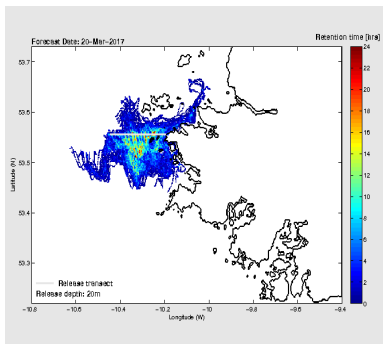


particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

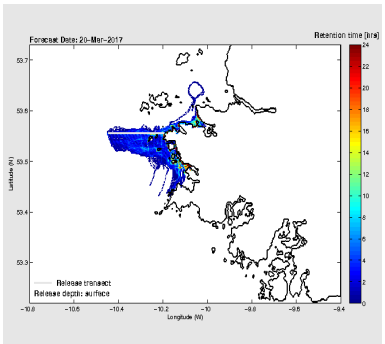
Bottom water



Water @ 20 metres

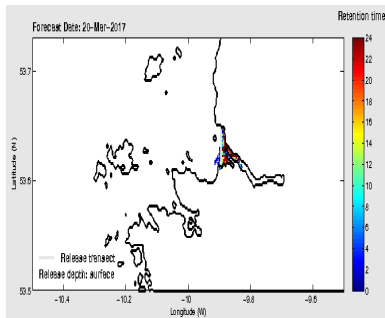
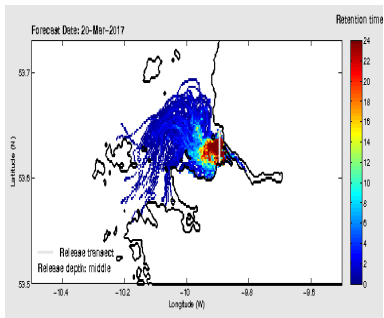
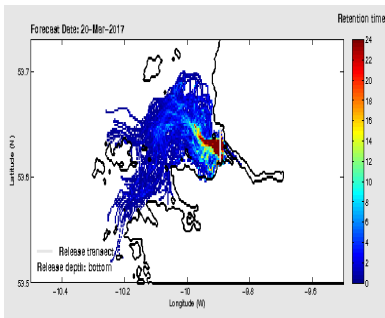


Surface water



**Cleggan**

Strong mixing and water movements in opposing directions in offshore areas as depth increases towards bottom. . Surface waters indicating predominantly mixed southerly movements.

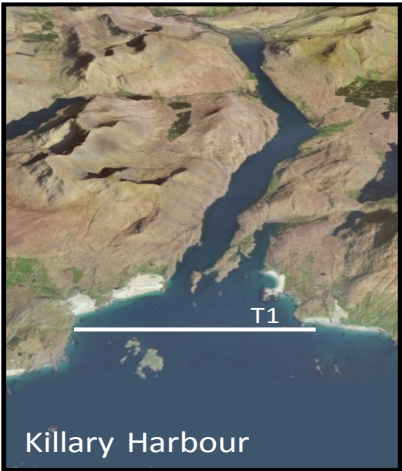


**Killary**

Outer bay areas tending to show stronger water body movements in deeper depths, moving in a predominantly mixed southerly direction. Inner bay waters indicating less movement surface levels.

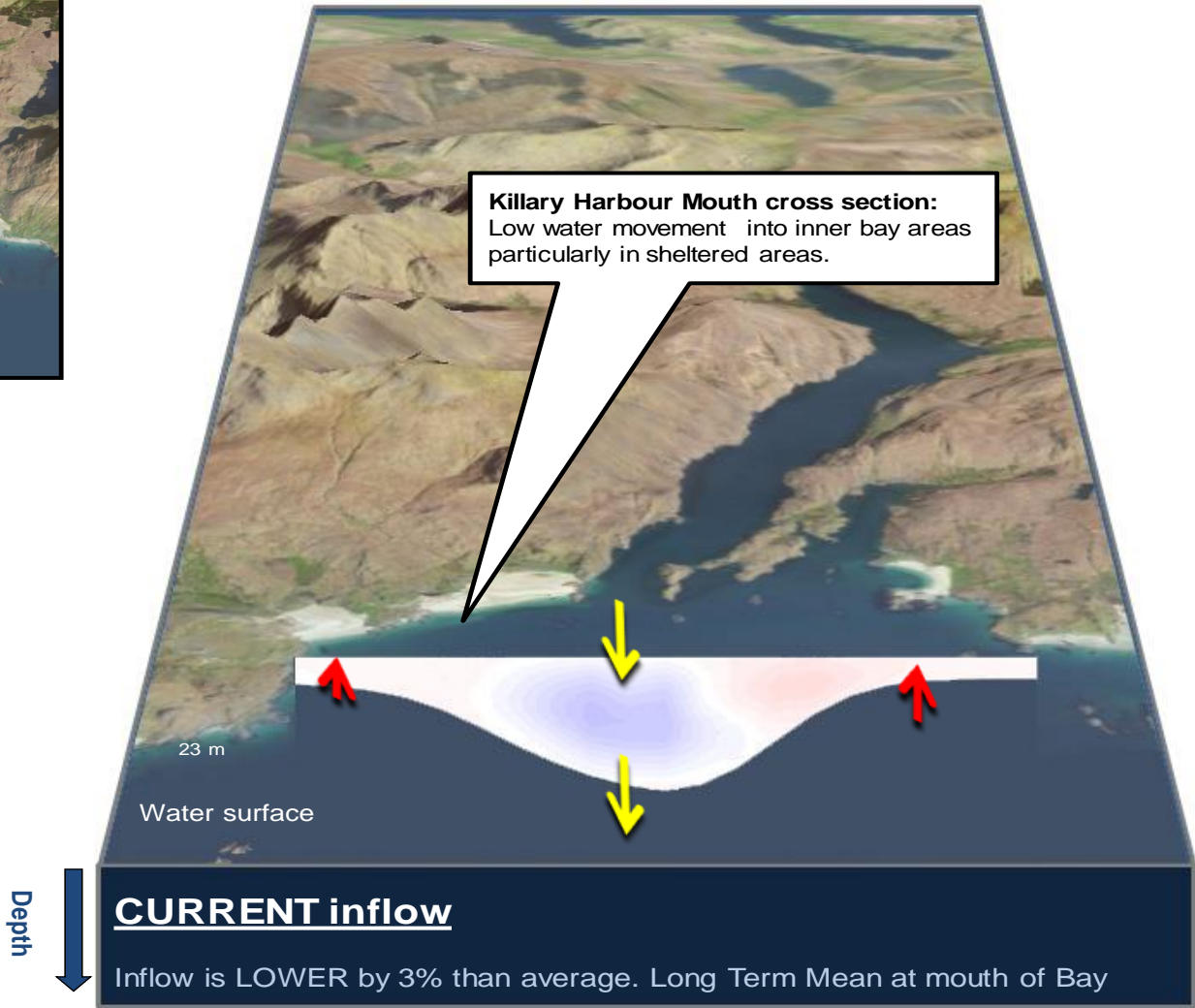
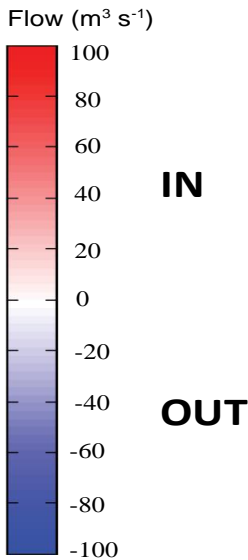
# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

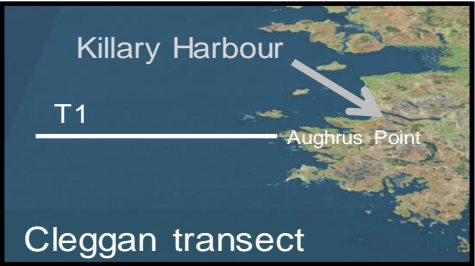
**Killary Harbour Mouth cross section:**  
Low water movement into inner bay areas particularly in sheltered areas.



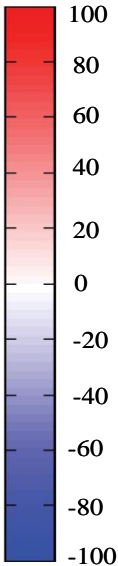


# West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward  
flow

southward  
flow

Depth

