

Ireland: Predictions

ASP event: Low
AZP event: **High**
DSP event: **High**
PSP event: High (site specific , moderate in general)

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	2	0

ASP: While it would be unusual to have an issue at this time of year and the species present do not appear to be causing any toxin issues , a slight level of caution is advised due to presence of cell levels in some sites.

AZP: **Highest caution** is advised with this difficult species. As previously indicated the potential causative species have been increasingly observed and the related toxins and coverage spread. This is the main historical occurrence period, suitable environmental conditions exist and the toxin is currently present in low levels. Issues with this toxin can occur suddenly and acutely . Highest caution is advised .

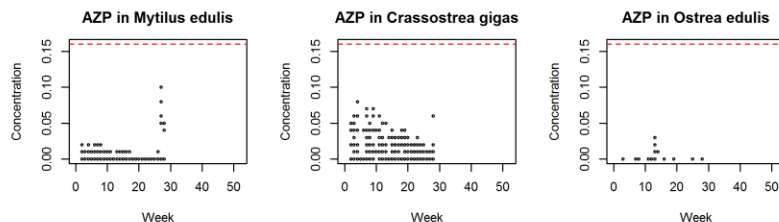
DSP: **Highest caution** - Continued toxicity issues in some sites (SW) but cell levels increasing slowly in many areas throughout the coastline. All sites should insure best sampling practices and obtaining the most recent results available. Continued rise and impact of this species is to be expected at present based on current trends, historic patterns and predictive marine models.

PSP: High levels of caution still advised in historically affected sites (S) and any site with significant species levels as the current weather pattern could provide ideal environmental rapid localised bloom conditions.

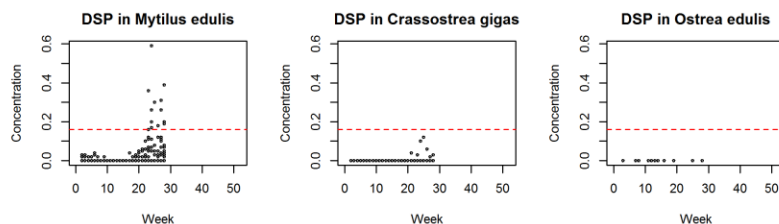
Blooms: There is a **high risk of bloom conditions** due to current environmental conditions. Any unusual water discoloration should be noted and regional labs contacted if concerned /regarding possible need for additional sampling. All feedback is welcome at Joe.Silke@Marine.ie .

National Monitoring Programme

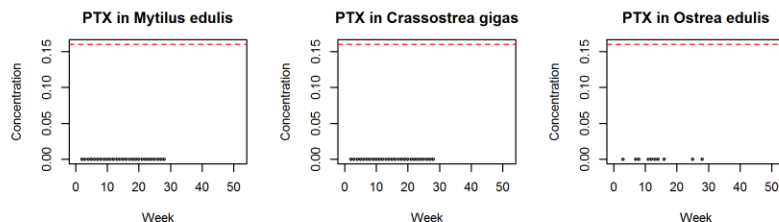
AZP



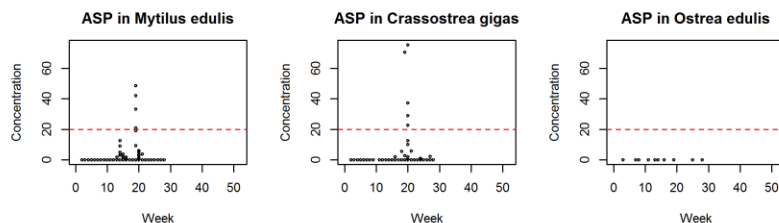
DSP



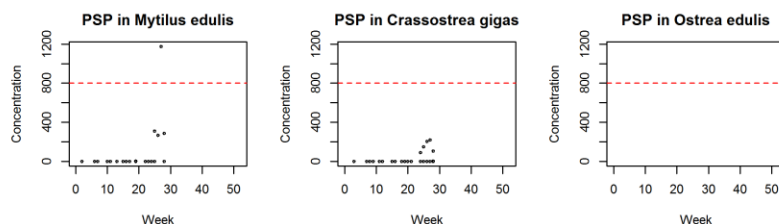
PTX



ASP



PSP



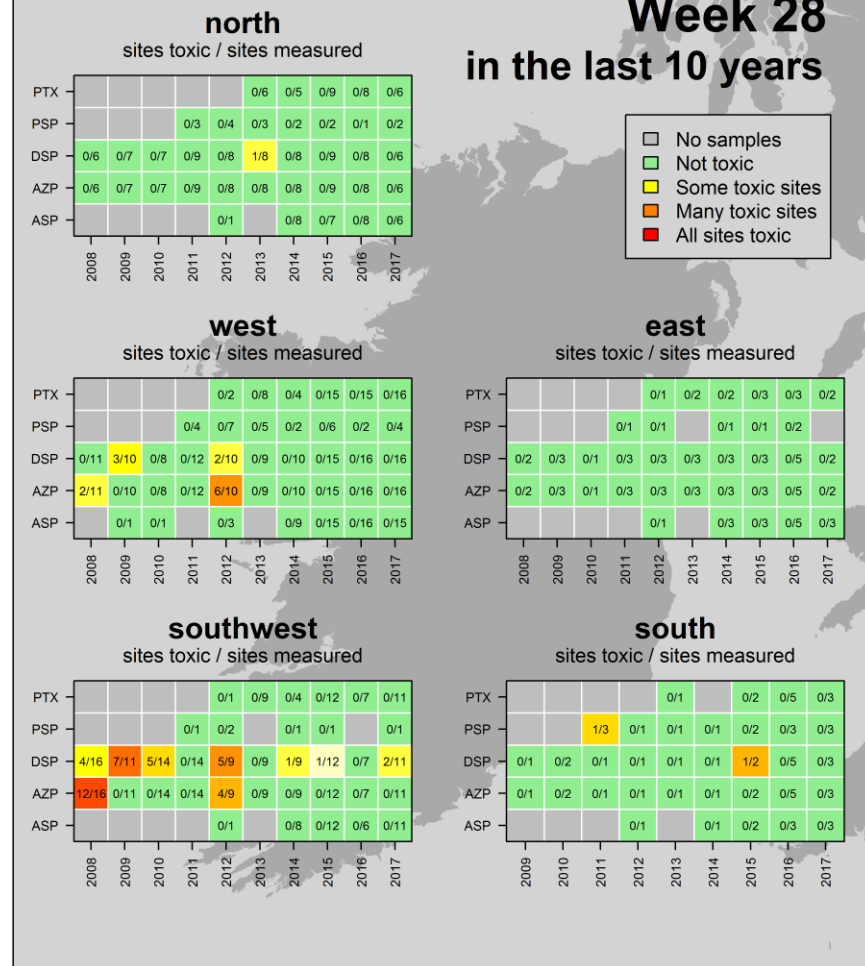
Levels from week 1 to present week. Regulatory limit - - - - -



HISTORIC TRENDS



Week 28
in the last 10 years



ASP events: mid-March to early May

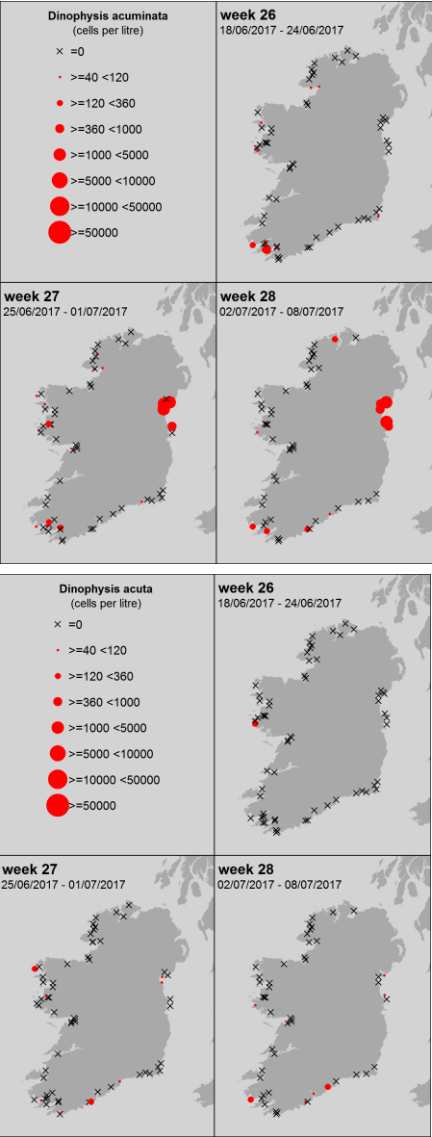
AZP events: April to December

DSP events: May to December

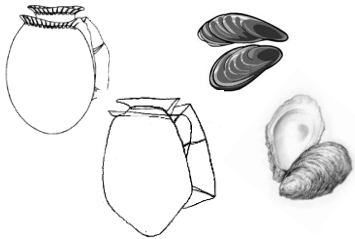
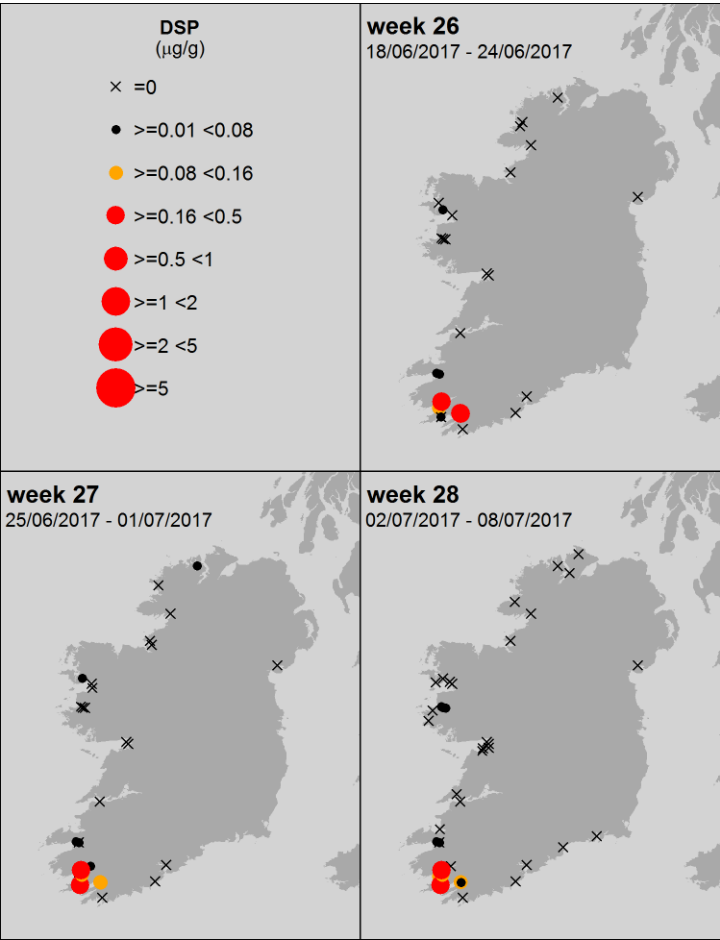
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

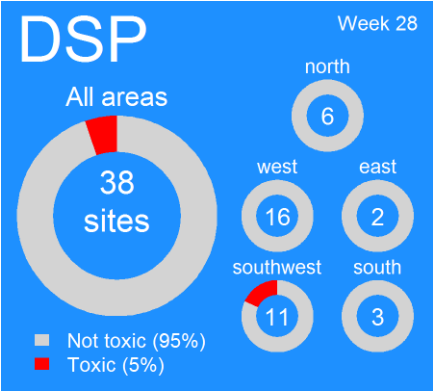
Phytoplankton species – 3 wks.



All levels of DSP biotoxin recorded- 3 wks.

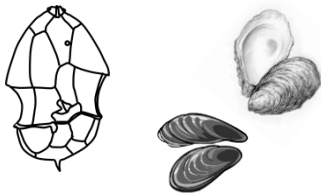


Current closures levels
≥ DSP 0.16 µg/g



Comment – Dinophysis species continue to cause a toxicity issue in some sites in SW. Cell levels will probably go higher and increase coastal area coverage before the end of the traditional risk period. Continued high caution advised.

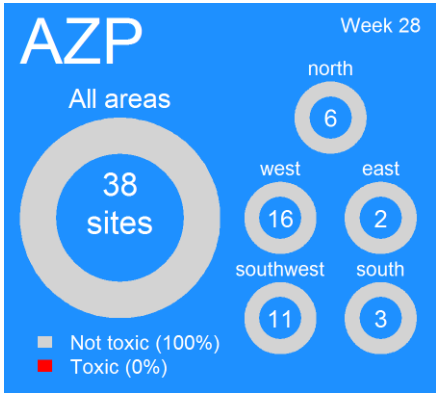
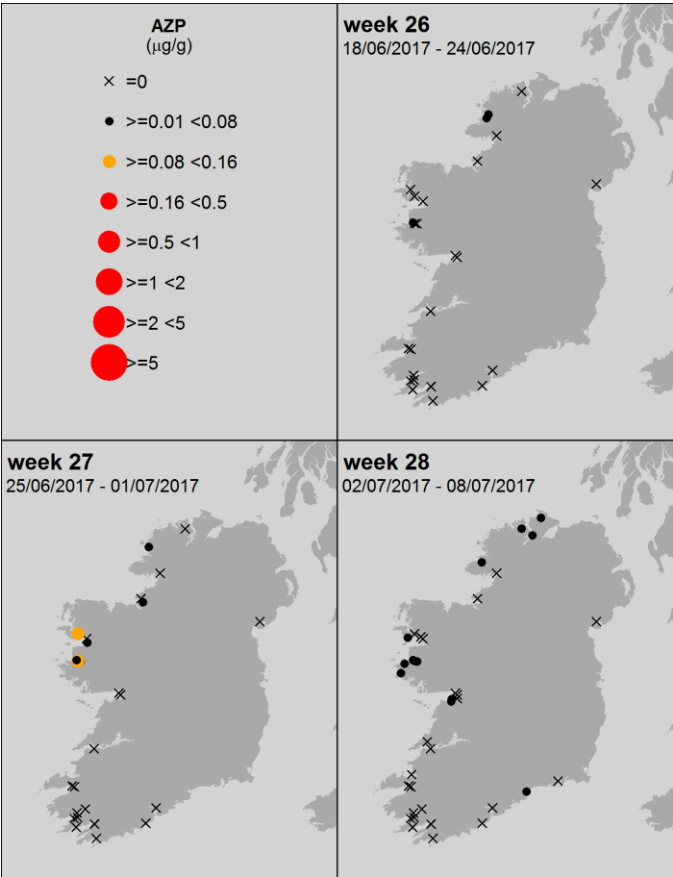
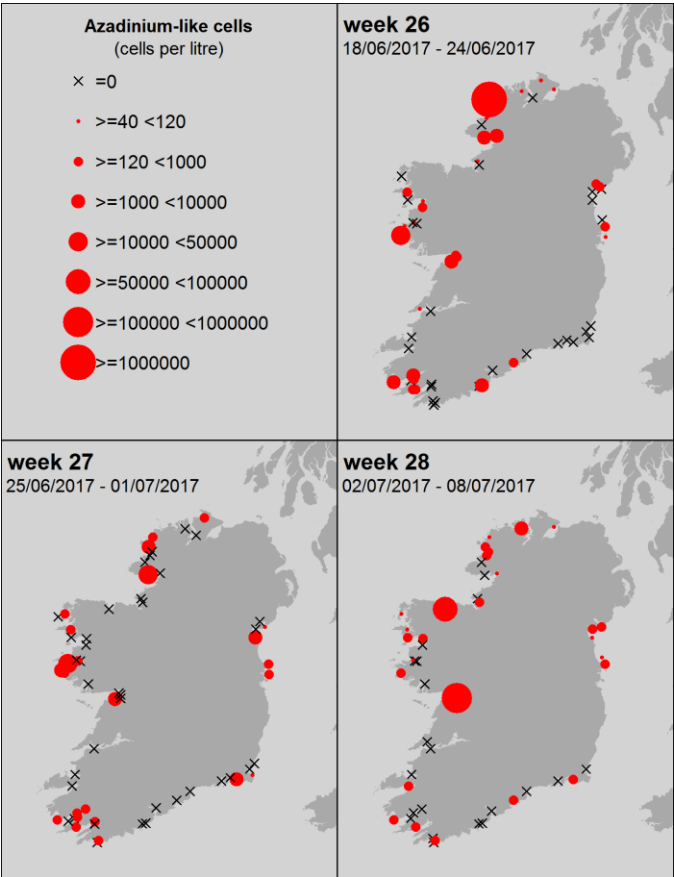
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

Current closures levels
≥ AZP 0.16 µg/g

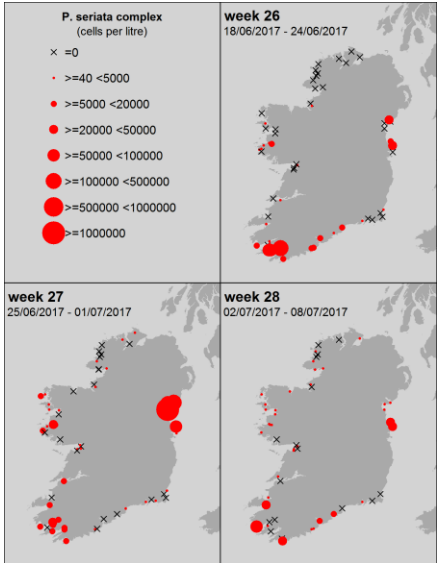
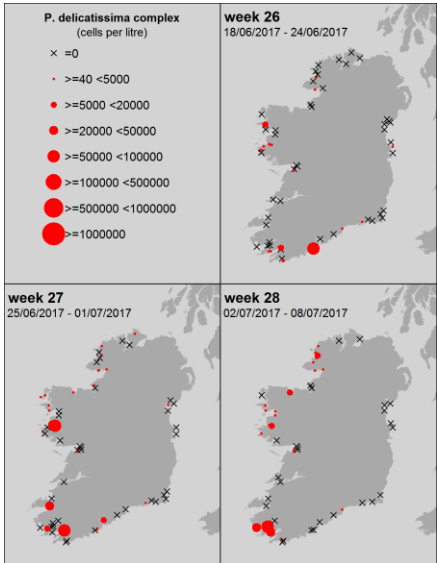


Comments

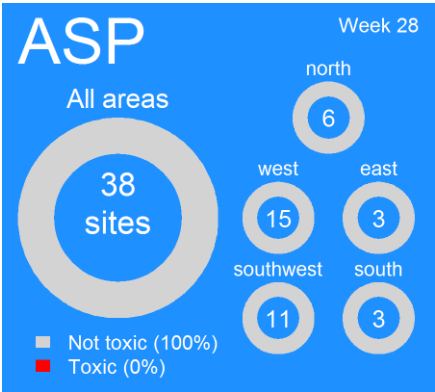
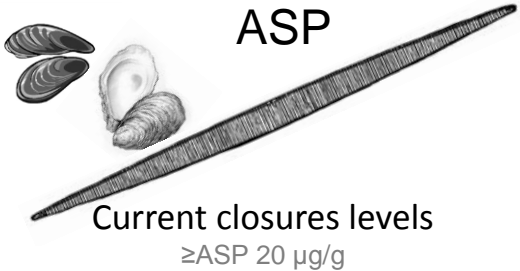
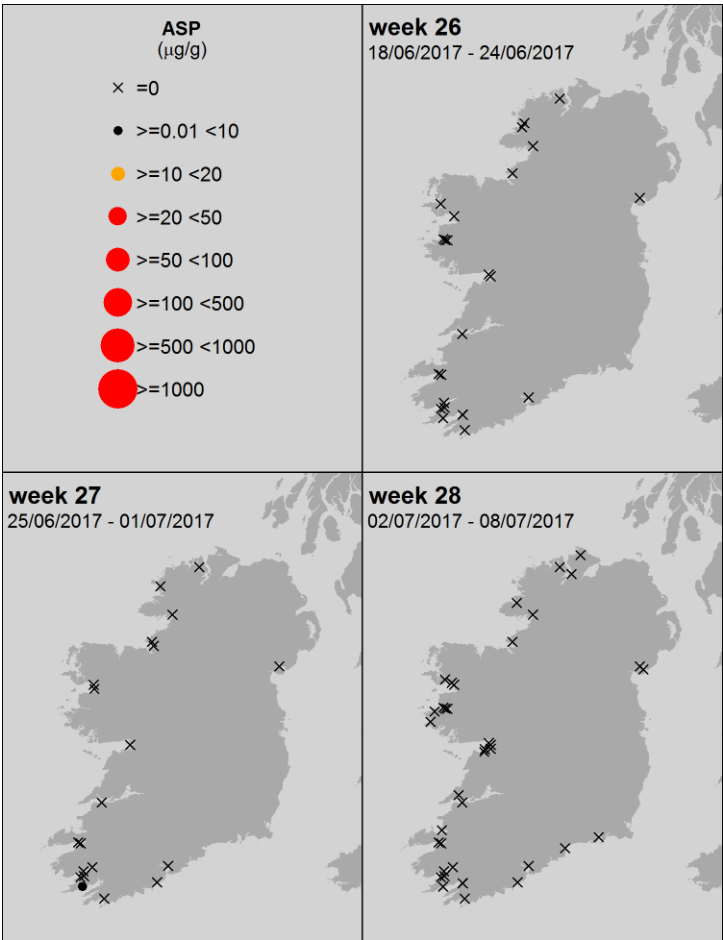
Continued need for highest level of caution and observance- main historical period of occurrence, 3 week increasing trend of toxin detection, in 12 sites currently. This species has been recorded previously to rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year- sudden acute issues possible.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



All levels of ASP biotoxin recorded - 3 wks.



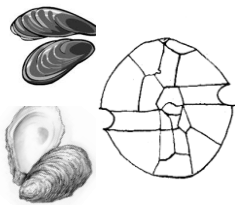
Comments

Cell levels appear to be returning to normal background levels and a toxin event would be unlikely at this time of year.

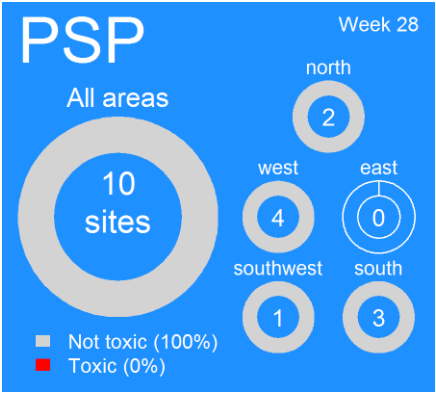
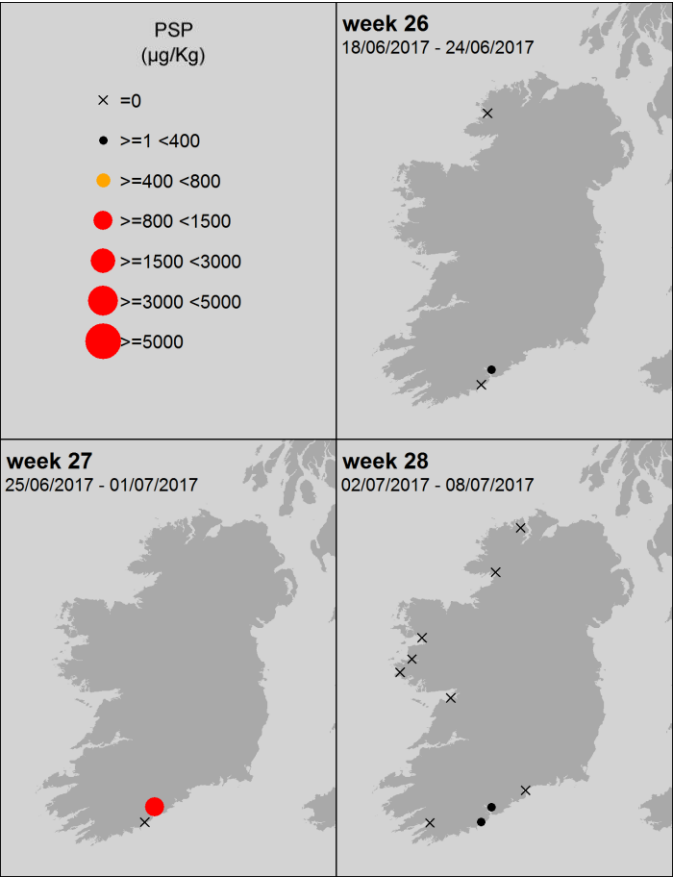
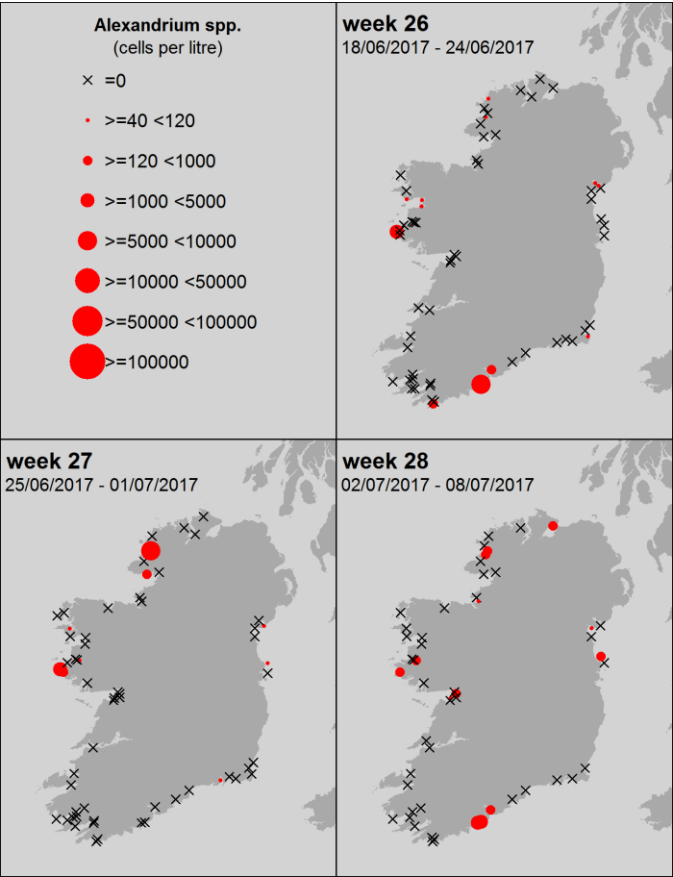
PSP and Alexandrium sp. current trends

Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



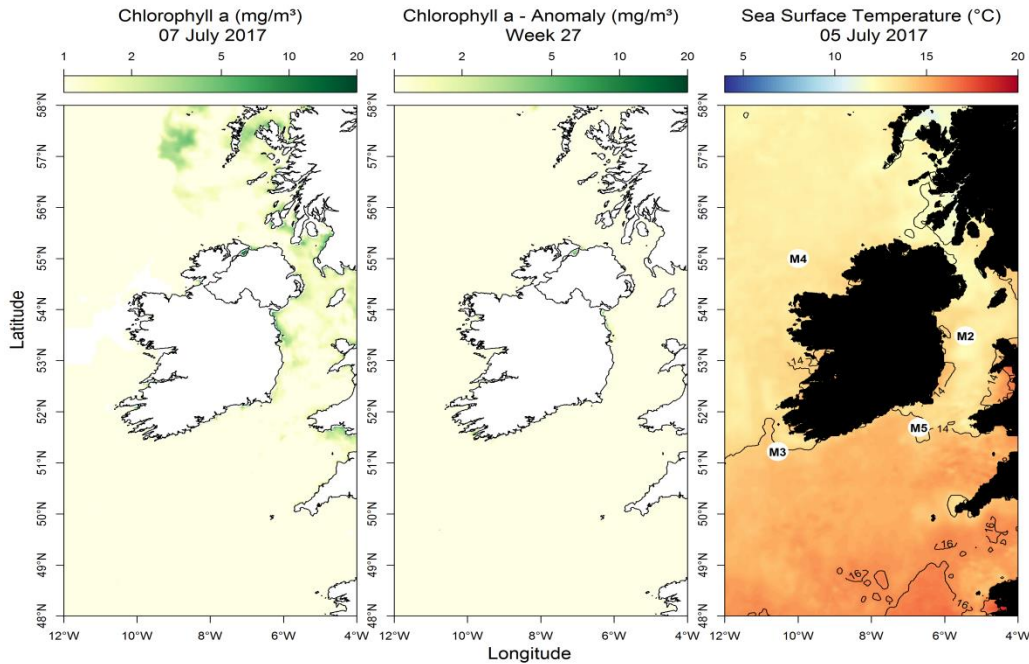
Current closures levels
≥ PSP 800 µg/Kg



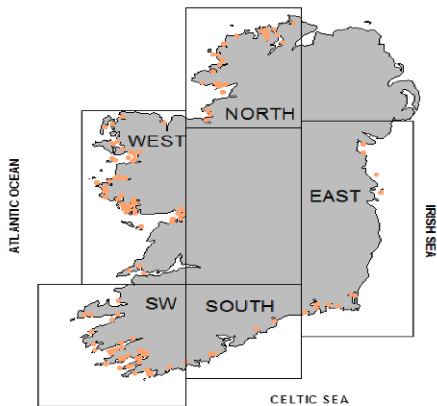
Comments

This is the peak time of historical likely occurrence and currently environmental conditions remain relatively favourable so full caution advised.

Most up to date available satellite data



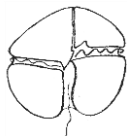
Diatoms species more prominent and dominant in the water but dinoflagellate levels rising. High levels of mixed beneficial and potential toxic diatoms (see table) in some inshore areas.



NW coast (M4) Below average by 0.76°C wk27
SW coast (M3) Unavailable
SE coast (M5) Below average by 0.03°C wk26

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Euglena/Eutreptiella spp.	558000
2	east	Leptocylindrus danicus	68000
3	east	Rhizosolenia sp	43000
4	east	Chaetoceros (Hyalochaete) spp.	42000
5	east	Pseudo-nitzschia seriata f.seriata	37000
1	north	Asterionellopsis glacialis	348000
2	north	Cryptophyte	325000
3	north	Chaetoceros (Hyalochaete) spp.	244000
4	north	Microflagellate sp.	120000
5	north	Cylindrotheca closterium/ Nitzschia longissima	100000
1	south	Chaetoceros (Hyalochaete) spp.	416000
2	south	Prymnesiophytes	132000
3	south	Lauderia / Detonula sp	86000
4	south	Bacteriastrium spp.	77000
5	south	Leptocylindrus danicus	60000
1	southwest	Lauderia / Detonula sp	292000
2	southwest	Leptocylindrus minimus	246000
3	southwest	Skeletonema costatum	147000
4	southwest	Haptophytes	132000
5	southwest	Detonula confervacea	124000
1	west	Chaetoceros socialis	3878000
2	west	Chaetoceros (Hyalochaete) spp.	857000
3	west	Euglena/Eutreptiella spp.	454000
4	west	Glenodinium spp.	360000
5	west	Azadinium/heterocapsa spp.	125000



Karenia mikimotoi bloom warning level
- High -

This is now the peak season for the potential occurrence of *Karenia* blooms. These blooms , millions of cells/ lt, tend to establish offshore and get transported inshore during suitable environmental conditions, sometimes quite rapidly. Significant warning levels of cells have been observed currently in the south west. Increased awareness is advised that this species may cause issues, particularly in SE and SW areas.

Other bloom species news

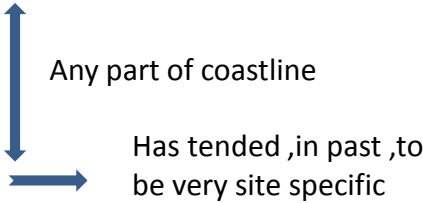
Most species have the potential to reach high numbers and be considered a bloom. The majority of such blooms are short lived and not a problem. At this time of year the typical species to watch out for , that can cause problems, are:

Karenia mikimotoi

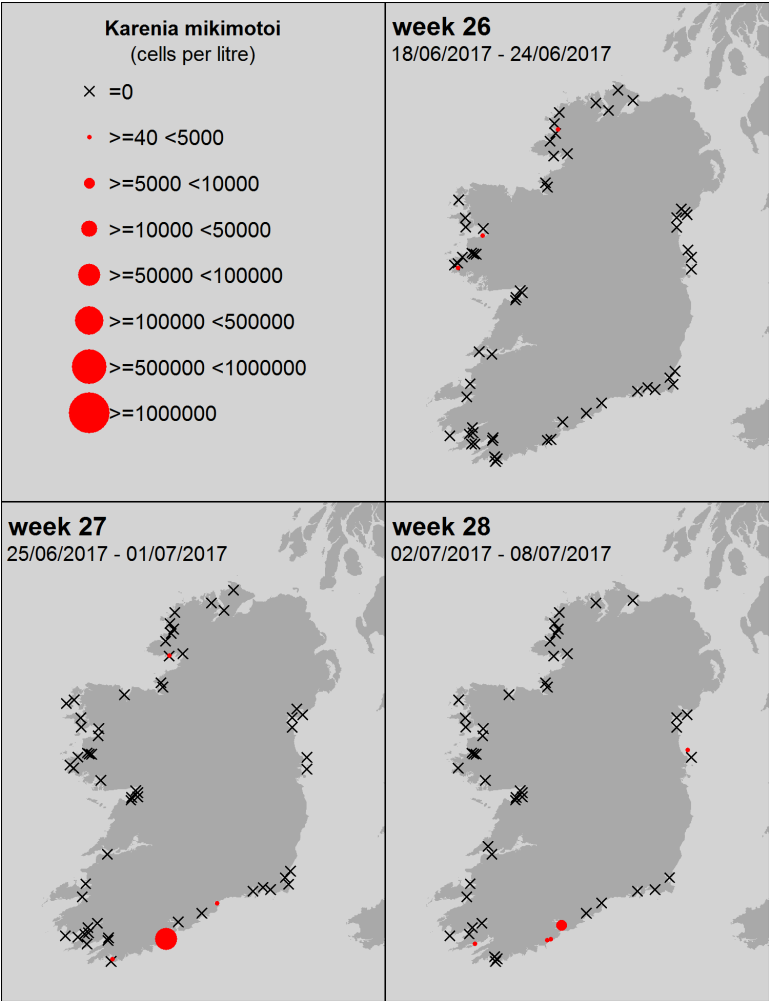
Heterocapsa spp.

Noctiluca scintillans

Alexandrium spp.



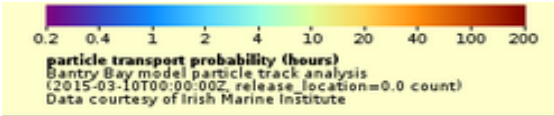
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



SOUTHWEST: Bantry Bay

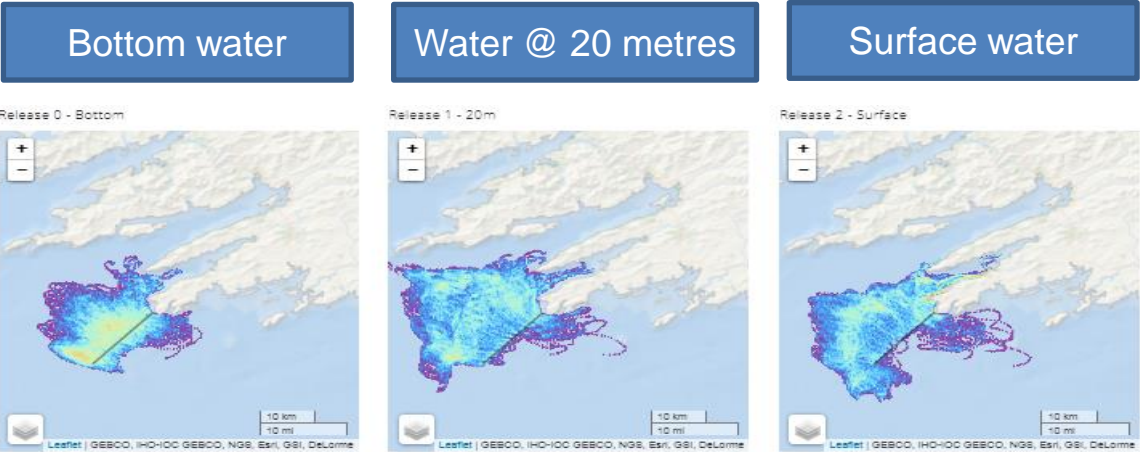
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

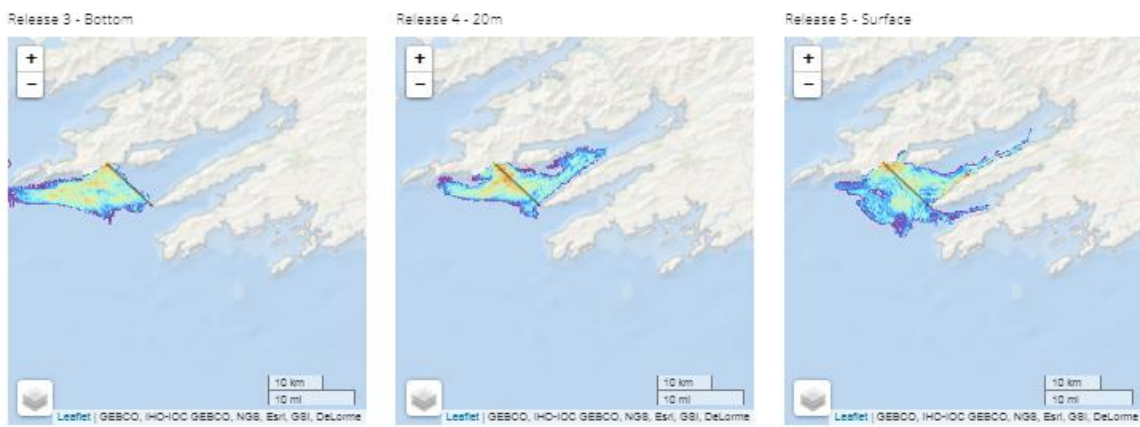


particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days



Mixed northerly water movement , particularly as depth decreases towards surface levels. Incursions of offshore waters into inner bay areas very likely.



Similar to last week patterns - Inner bay down welling possible. Surface outer bay waters reaching inner bay areas likely.

Bantry Bay

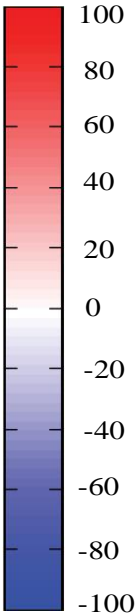
3 day estimated water flows at the mouth and mid-bay sections of Bantry Bay



Forecast for next 3 days

Shot Head cross section: Inward flows are expected at all depths on the inner part of the Bay. Incursions of off shore water likely

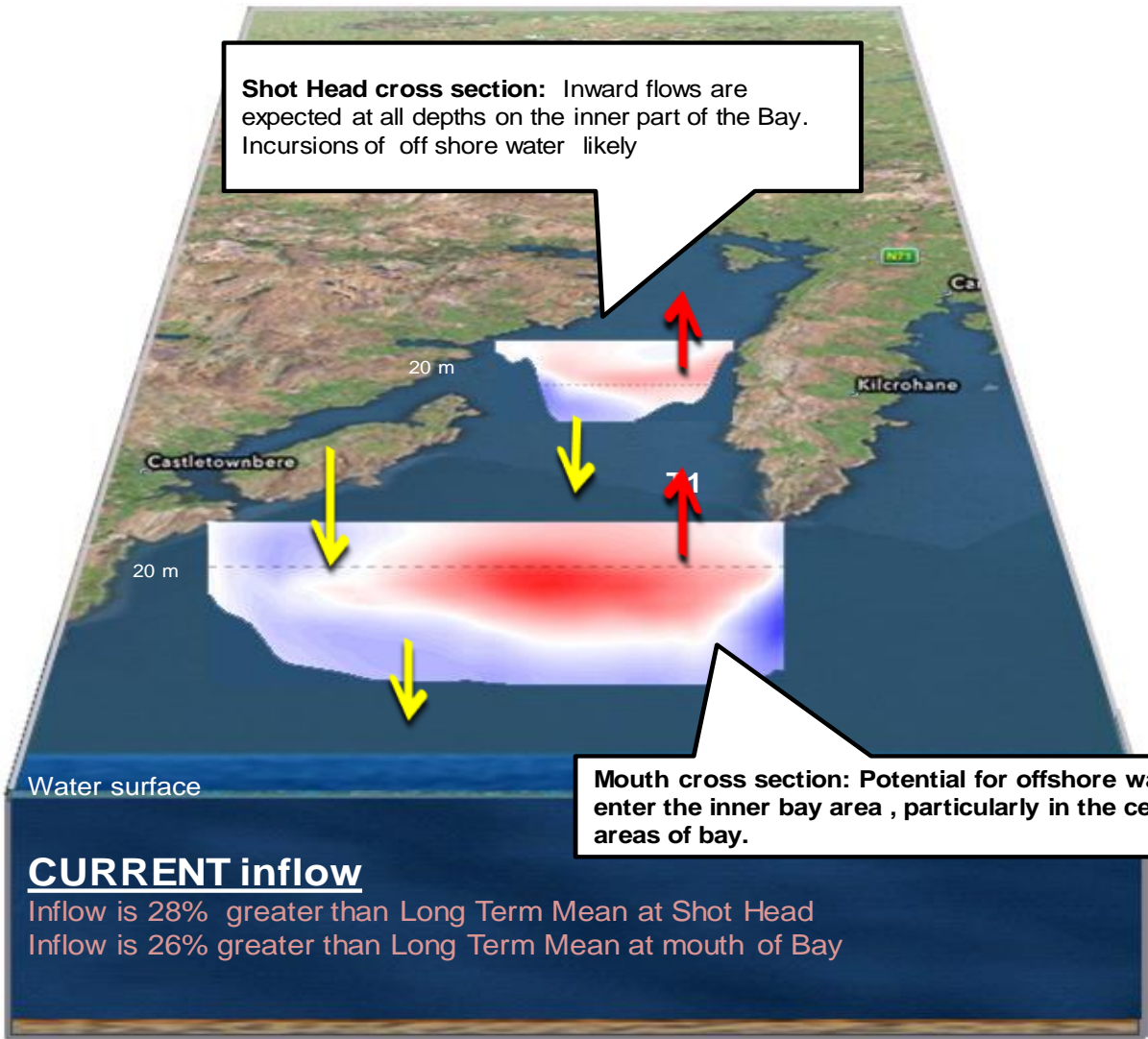
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth



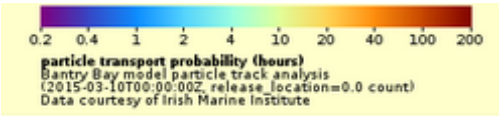
Mouth cross section: Potential for offshore waters to enter the inner bay area , particularly in the centre areas of bay.

WEST: Killary Harbour

Forecast for the next 3 days

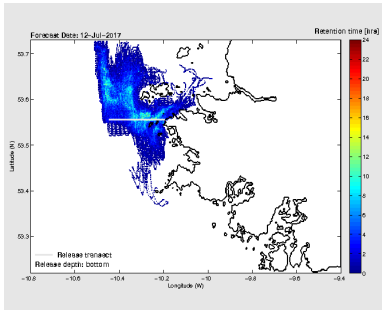
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

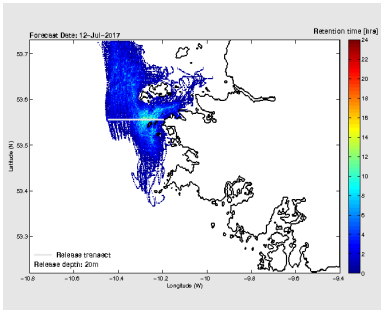


0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

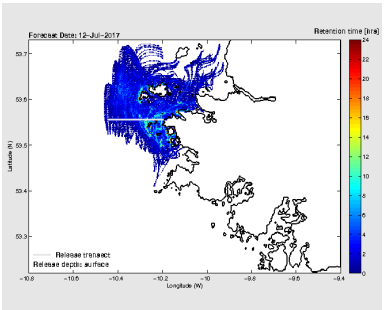
Bottom water



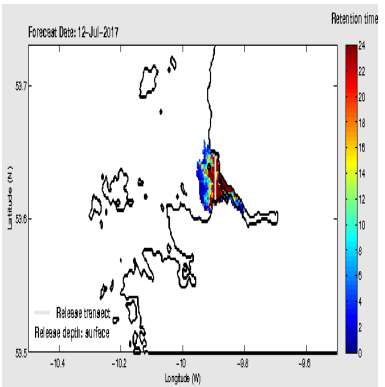
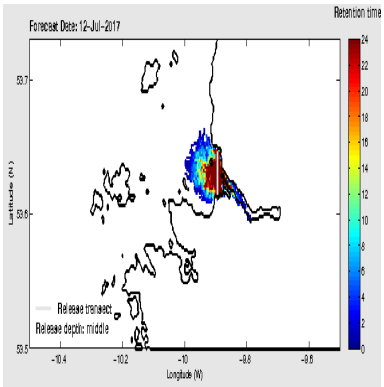
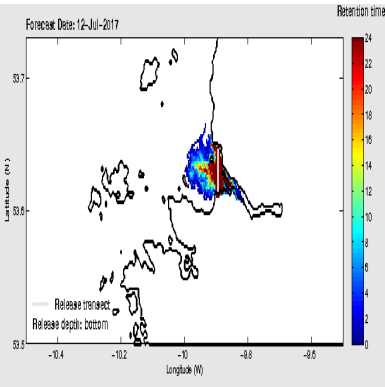
Water @ 20 metres



Surface water



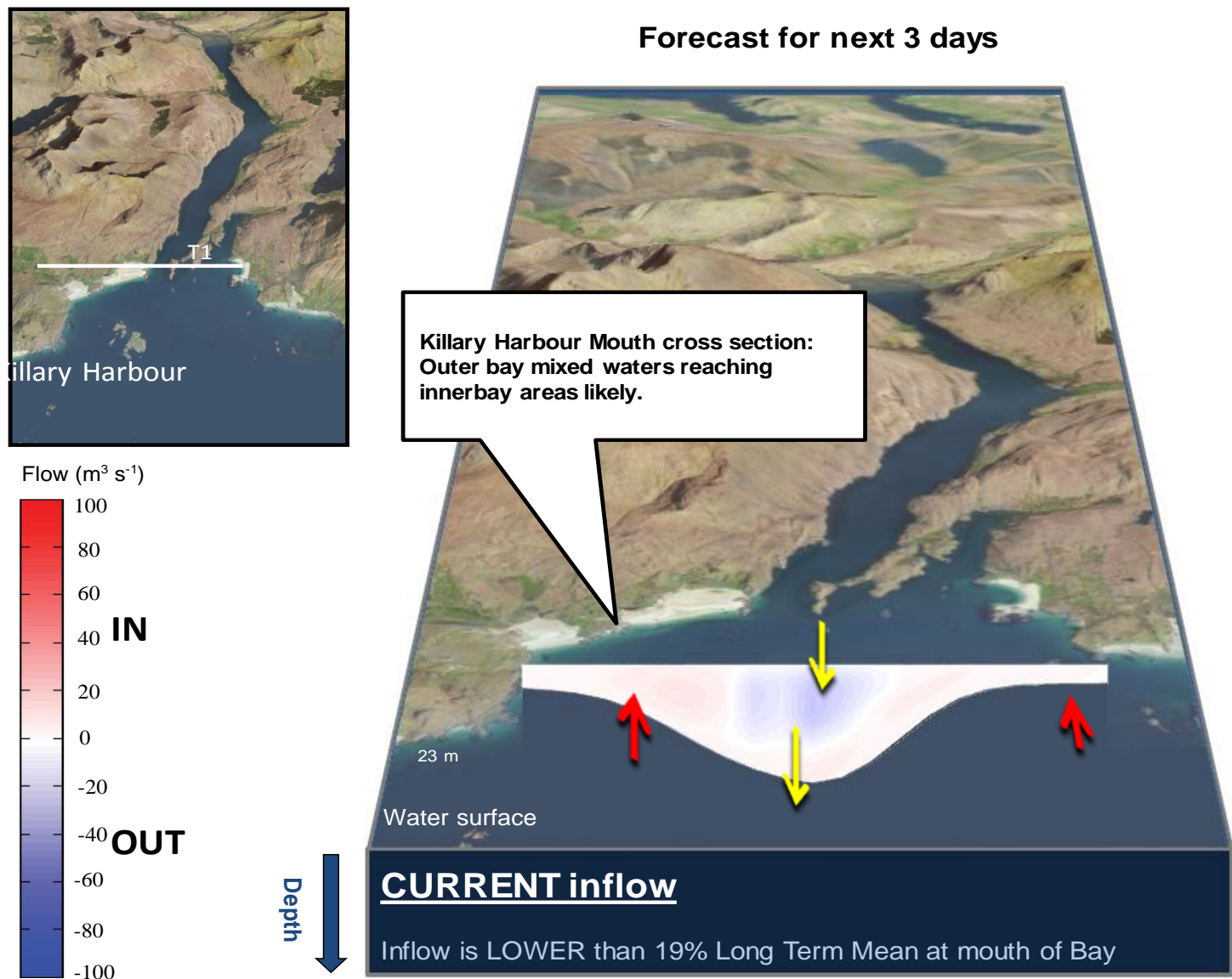
Cleggan
Similar to last week - strong predominantly northerly water movements at all depths. Offshore waters reaching near shores areas likely.



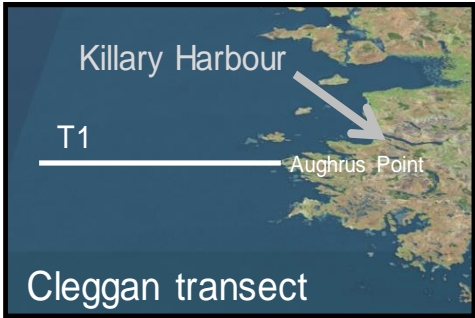
Killary
Outer bay waters reaching inner bay areas , at all depths, likely. Waters at all depths moving northward outside bay mouth area .

Killary Harbour

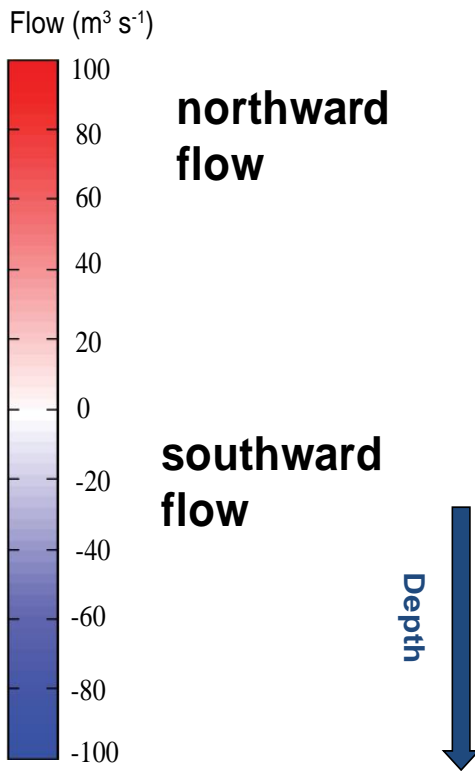
3 day estimated water flows at the mouth of Killary Harbour



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



Forecast for next 3 days



Cleggan section: Strong and dominant water transport movement in northerly direction at all sub surface water depths. Weaker surface water moving in a southerly direction.

