

Ireland: Predictions

ASP event: Moderate (- decreasing)
AZP event: Moderate (to high –site specific)
DSP event: High (increasing - S, SW and W)
PSP event: low (very slow increase)

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	0	0

Why do we think this?

ASP: The ASP warning level of moderate will remain in place until this event has clearly passed and cell levels have dropped further. Suitable environmental and water transportation patterns predicted may slow the trend of decreasing risk so caution is still advised this week.

AZP: Same as last week-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.

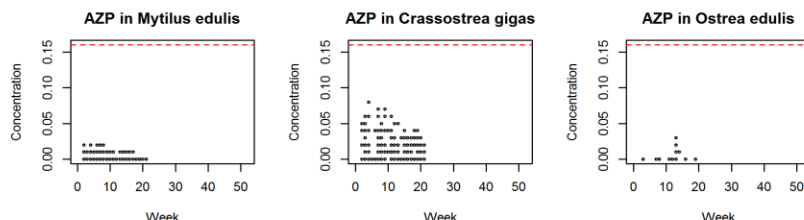
DSP: This is the traditional season for this species to occur naturally and unfortunately have an impact. Levels of 400cells/lit to 800cells/lit have in the past caused issues. High levels of caution advised in all sites. Please watch cell levels closely and insure routine sampling to get the most current information.

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.

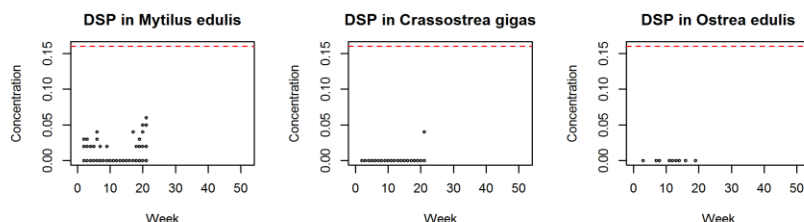
Please note: We will be updating the format of this bulletin throughout the year in an active effort to increase end user applicability and incorporate developing technologies. All feedback is welcome at Joe.Silke@Marine.ie .

National Monitoring Programme

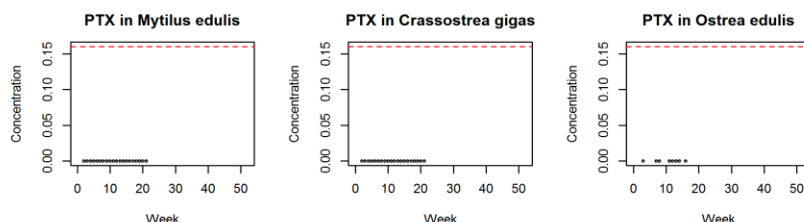
AZP



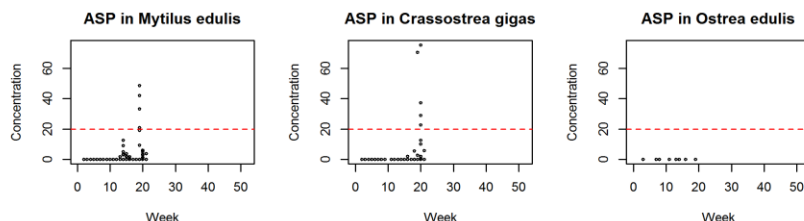
DSP



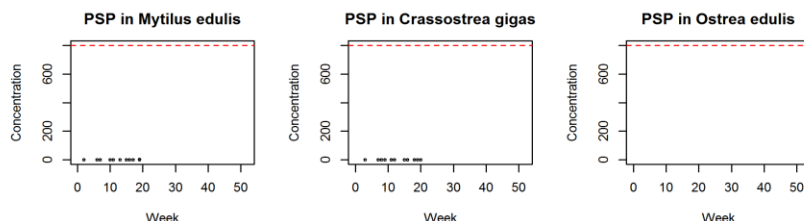
PTX



ASP



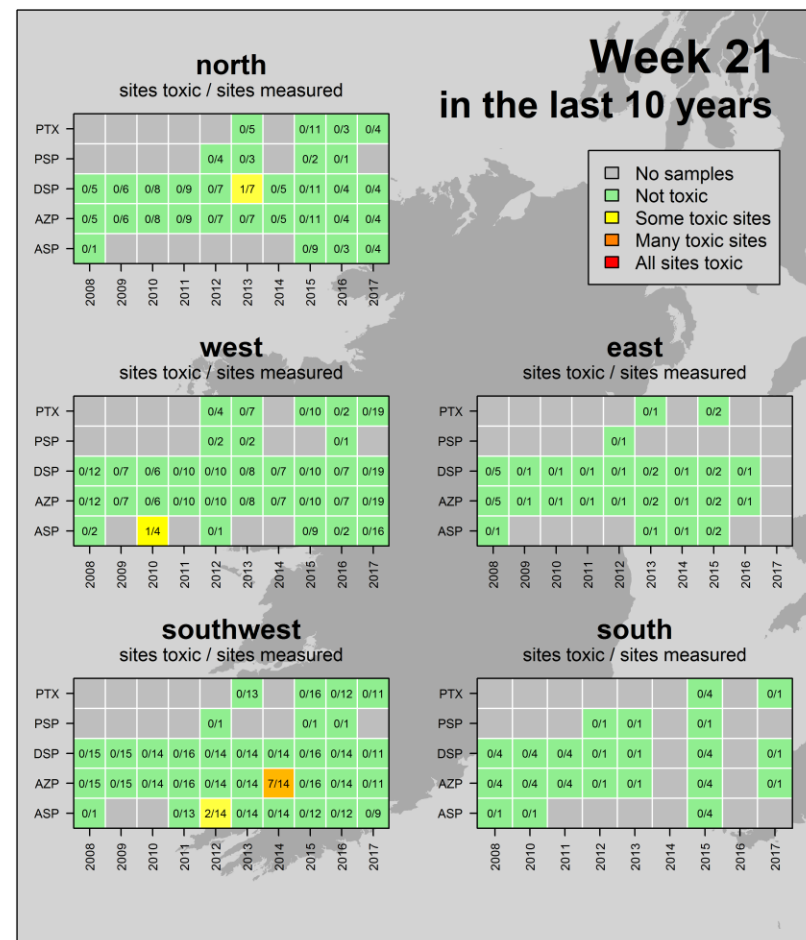
PSP



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



HISTORIC TRENDS



ASP events: mid-March to early May

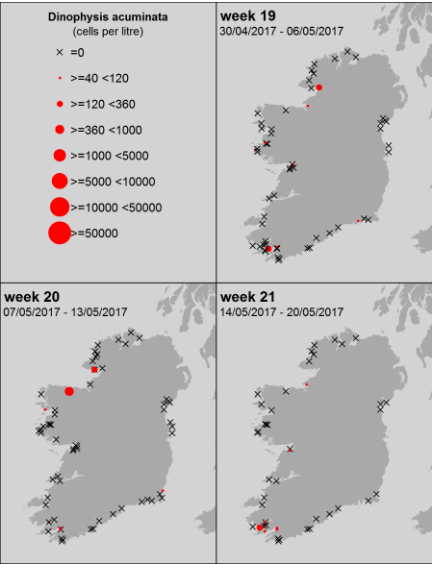
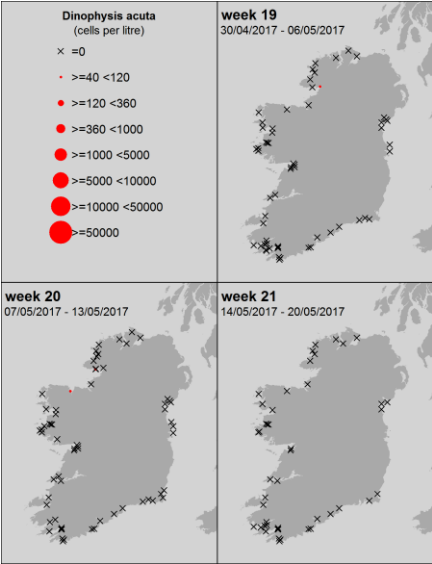
AZP events: April to December

DSP events: May to December

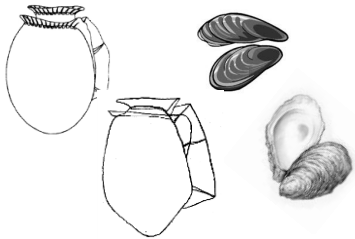
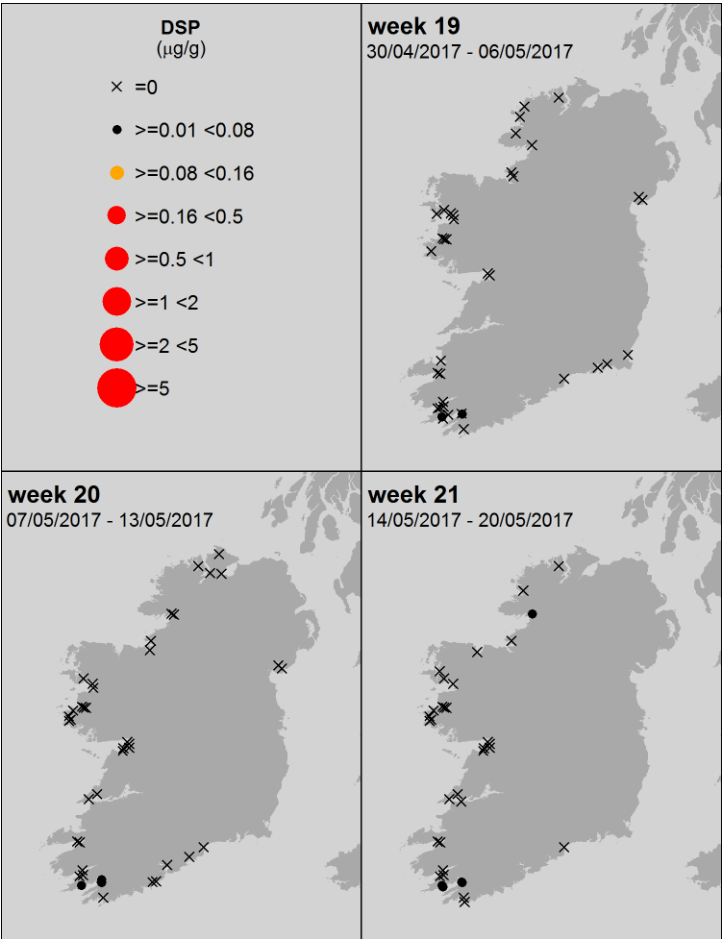
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks.

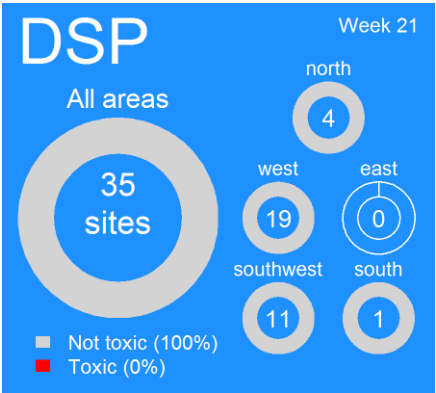


All levels of DSP biotoxin recorded- 3 wks.



Current closures levels

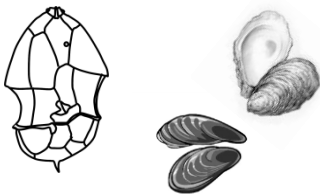
≥ DSP 0.16 µg/g



Comment

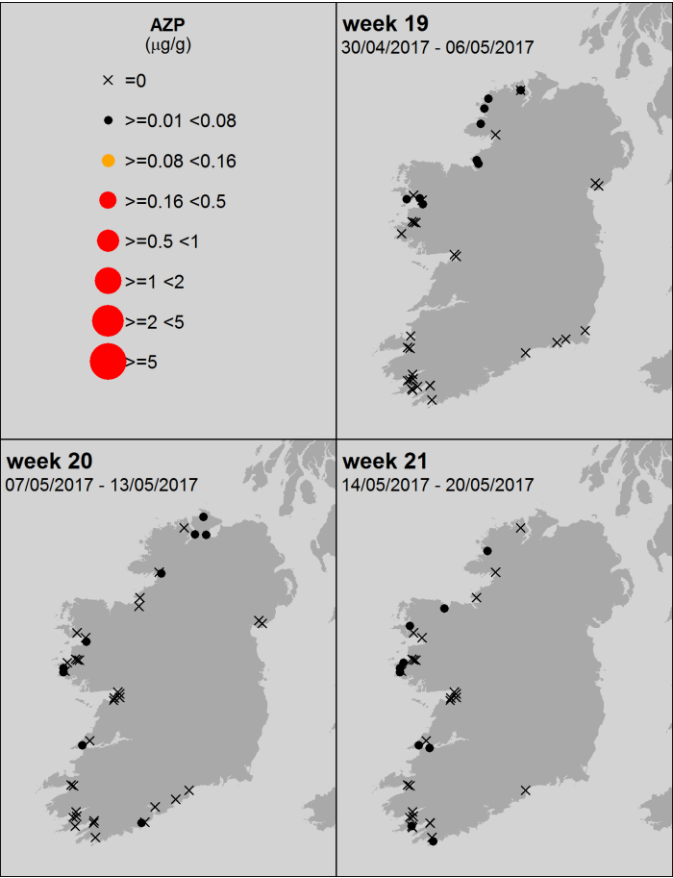
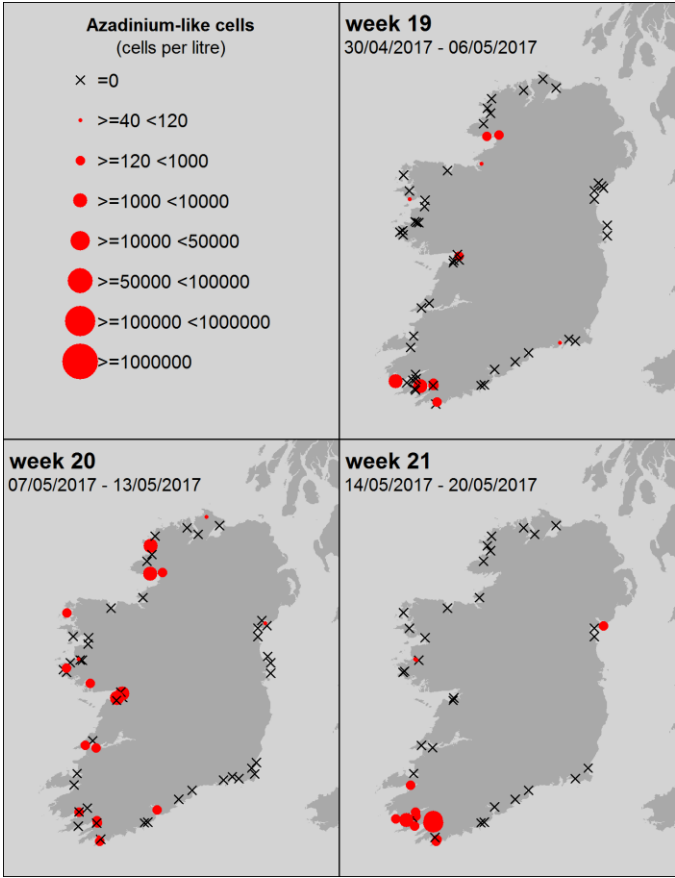
Dinophysis cell levels continue to appear around the coast. This group do not need to reach high levels to cause a toxicity issue. Water transportation patterns, good weather predictions and historical period of occurrences, all indicate high possibility of toxicity increasing and becoming an issue in some sites. High level of caution.

AZP and Azadinium like species current trends



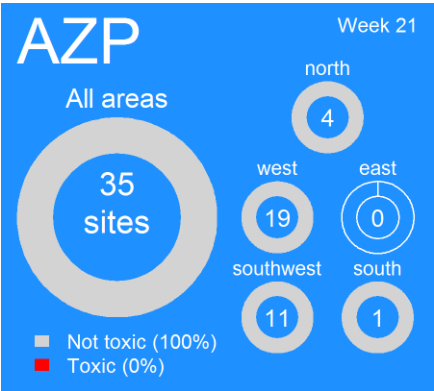
Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.



Current closures levels

$\geq \text{AZP } 0.16 \mu\text{g/g}$

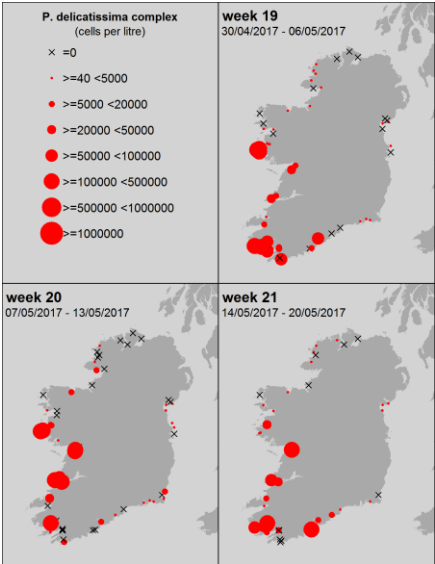
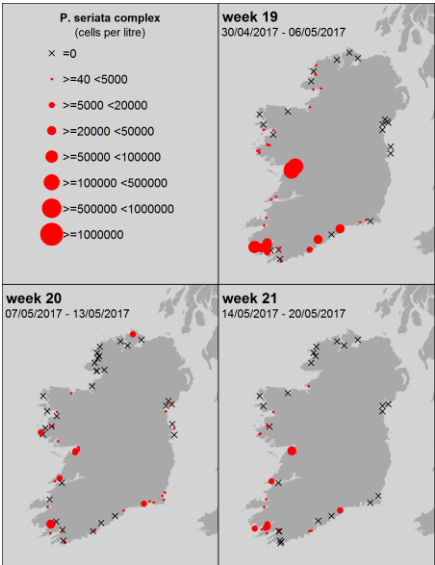


Comments

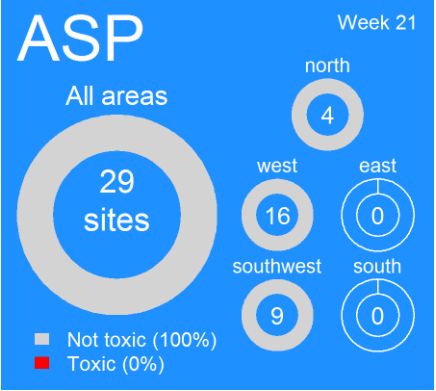
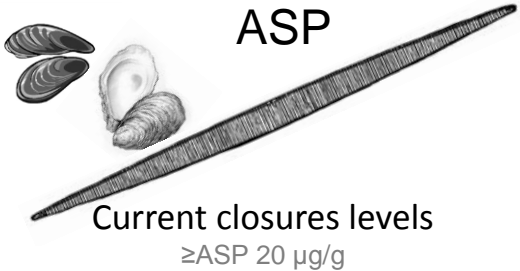
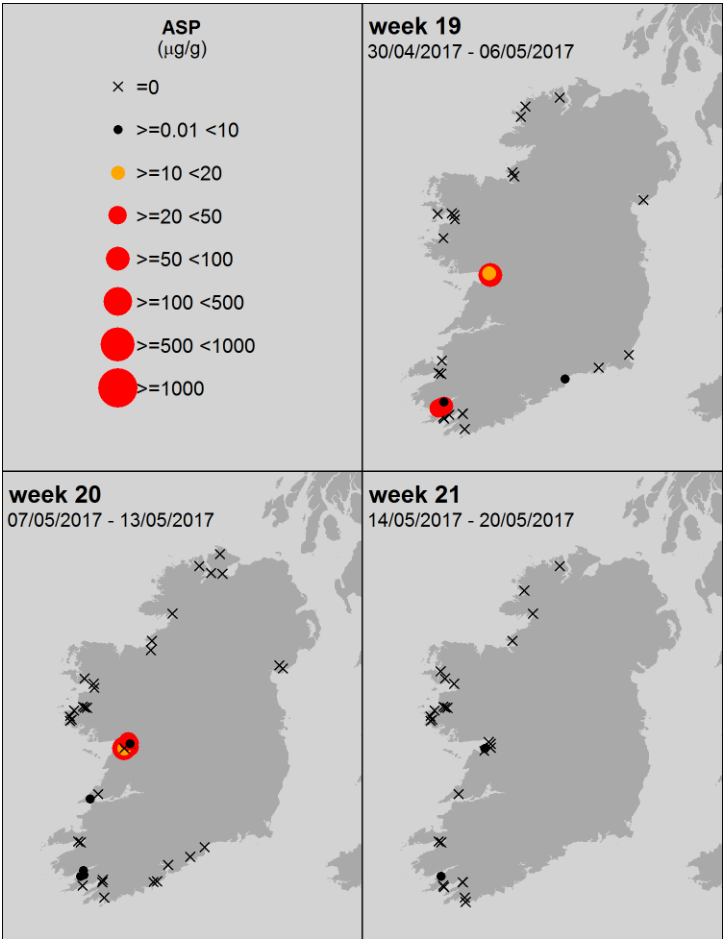
Continuing fluctuation in cell levels – currently (2wks) indicating a potential increase in cells levels and occurrences. Transportation of offshore waters into inner bay areas is predicted as possible on southern and western coastal areas this week. Caution advised.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



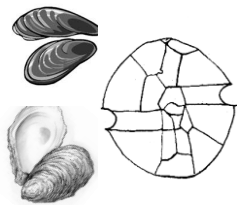
All levels of ASP biotoxin recorded - 3 wks.



Comments

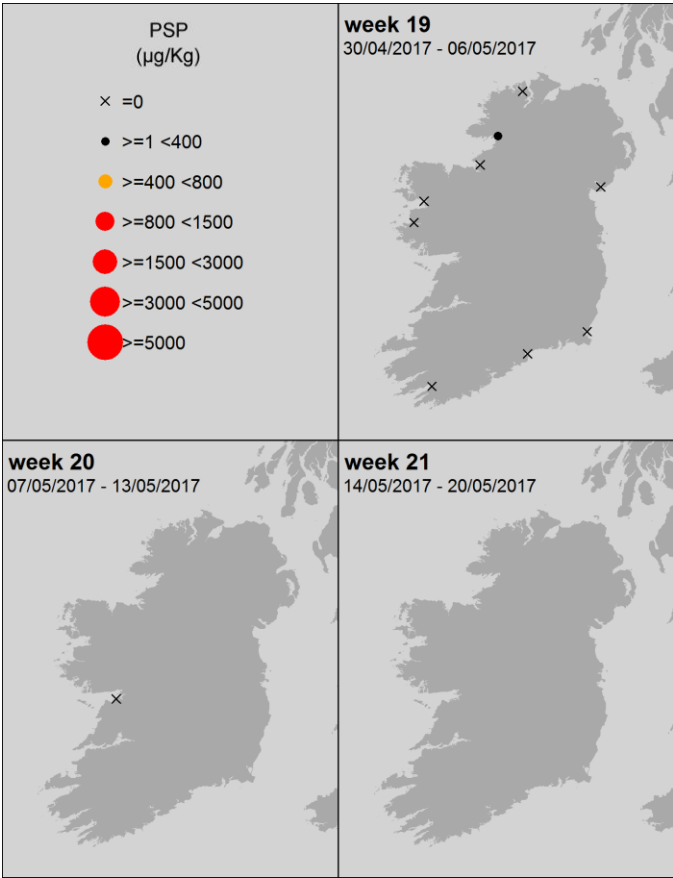
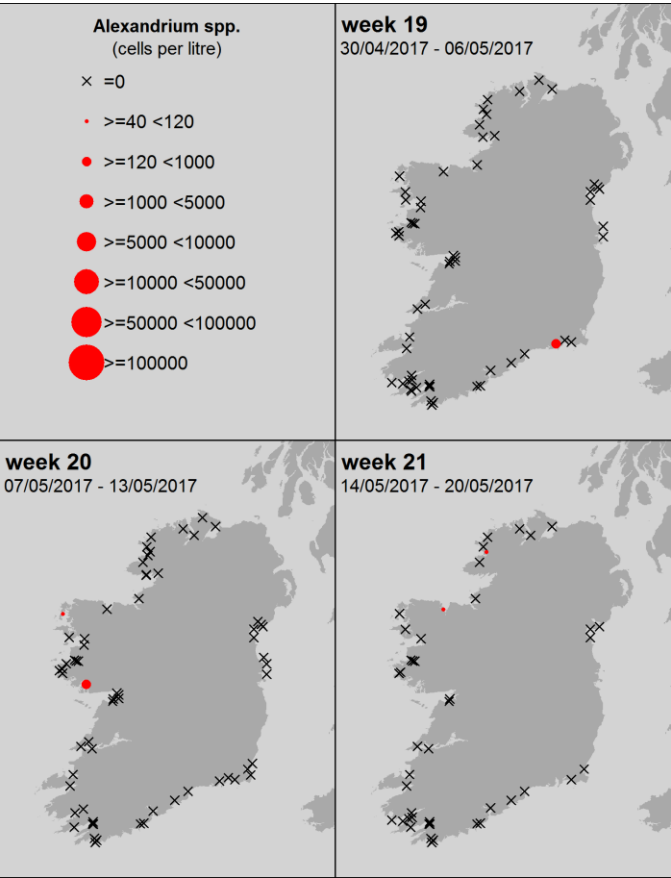
Potential decreasing trend in levels of toxicity predicted last week appears to be establishing in affected areas. It is possible this trend will continue but potential good weather and inshore water transportation predictions for this week may cause localised reoccurrence issues. Caution still advised until cell levels drop further.

PSP and Alexandrium sp. current trends



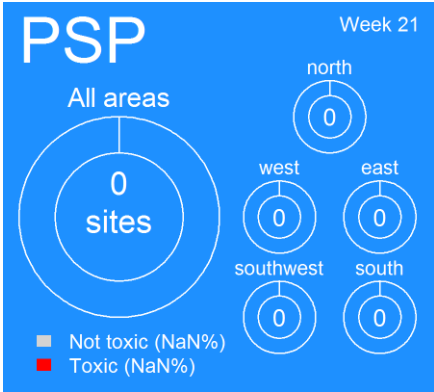
Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



Current closures levels

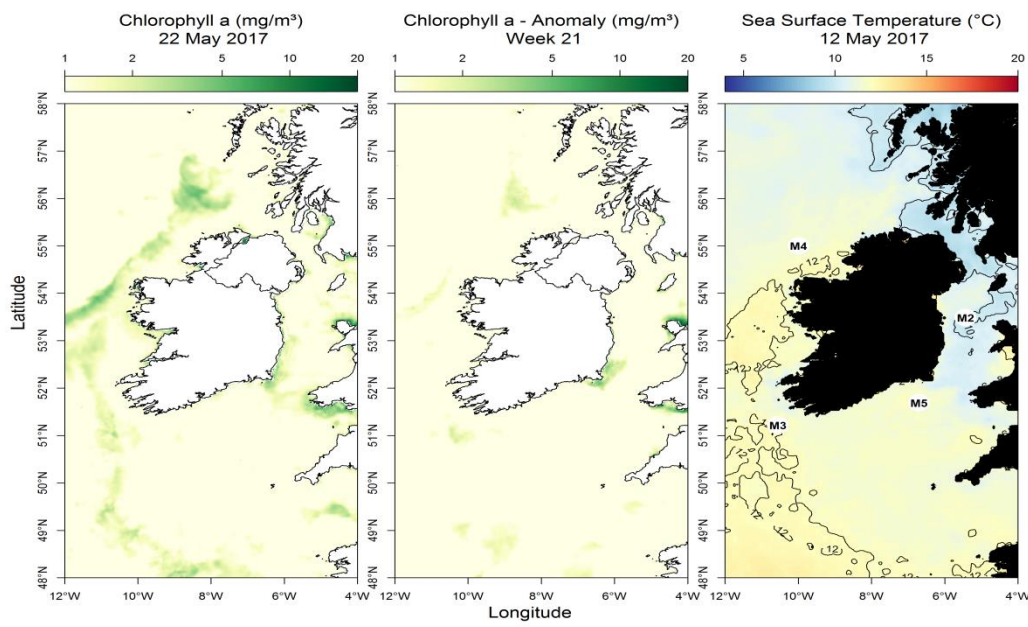
$\geq \text{PSP } 800 \mu\text{g/Kg}$



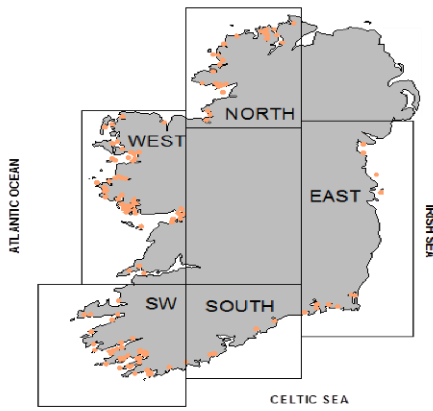
Comments

Currently no closures or issues with this group but as the likelihood of ideal environmental conditions increase so the possibility of potential impact will increase.

Most up to date available satellite data



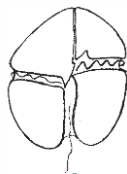
Chlorophyll levels indicate potential bloom patches off the Northern and western coasts. High levels of beneficial diatoms (see table) continue to be observed in most inshore areas.



NW coast (M4) Above average by 0.60°C wk20
SW coast (M3) Below average by 0.21°C wk 20
SE coast (M5) Above average by 0.80°C wk20

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Skeletonema spp.	720000
2	east	Mesodinium rubrum	413000
3	east	Microflagellate sp.	103000
4	east	Chaetoceros (Hyalochaete) spp.	88000
5	east	Coccolithophorids	66000
1	north	Leptocylindrus danicus	975000
2	north	Dactyliosolen fragilissimus	102000
3	north	Pennate diatom	77000
4	north	Chaetoceros (Hyalochaete) spp.	75000
5	north	Dinobryon spp.	6000
1	south	Microflagellate sp.	20842000
2	south	Cerataulina spp.	506000
3	south	Leptocylindrus minimus	247000
4	south	Lauderia / Detonula sp	184000
5	south	Pseudo-nitzschia delicatissima complex	131000
1	southwest	Lauderia / Detonula sp	569000
2	southwest	Prymnesiophytes	412000
3	southwest	Pseudo-nitzschia delicatissima complex	361000
4	southwest	Cerataulina spp.	146000
5	southwest	Guinardia striata	35000
1	west	Leptocylindrus danicus	1787000
2	west	Pseudo-nitzschia delicatissima complex	103000
3	west	Skeletonema spp.	89000
4	west	Chaetoceros (Hyalochaete) spp.	76000
5	west	Cerataulina spp.	73000
5	west	Centric diatoms <20um	73000



A *Karenia mikimotoi* bloom is NOT expected this week.

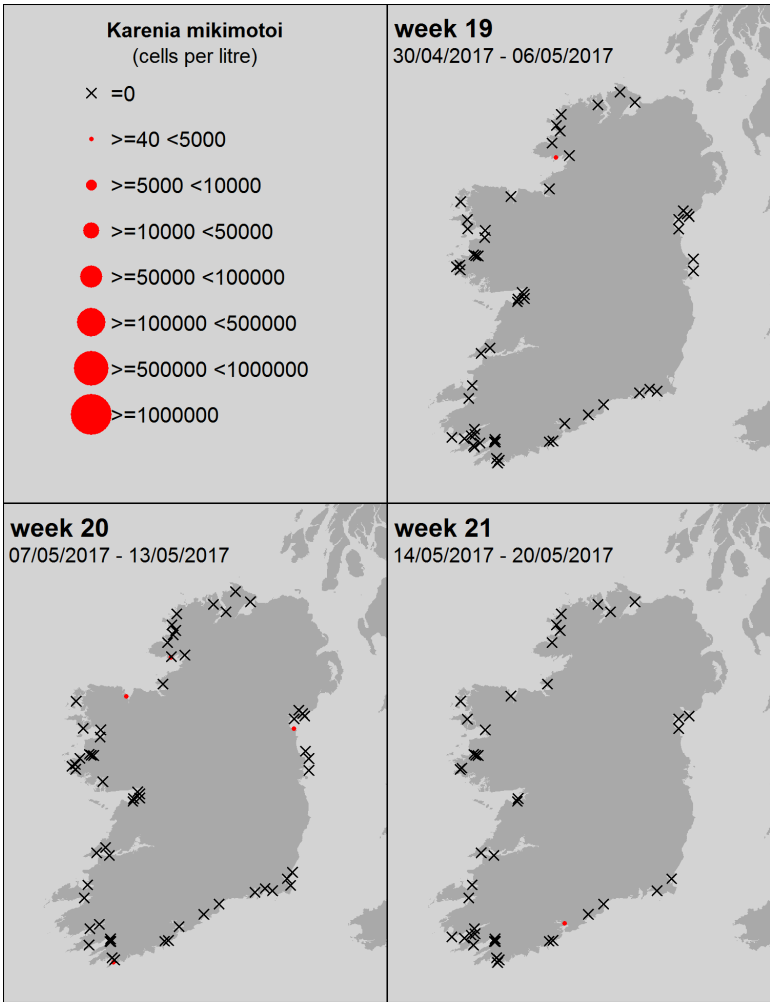
Currently very low levels of cells have been observed in isolated sites only. This species can rapidly come inshore at bloom levels during suitable environmental growing and transport conditions. Caution levels will be increasing slowly as cell levels and conditions change.

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.

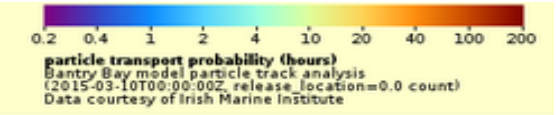
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



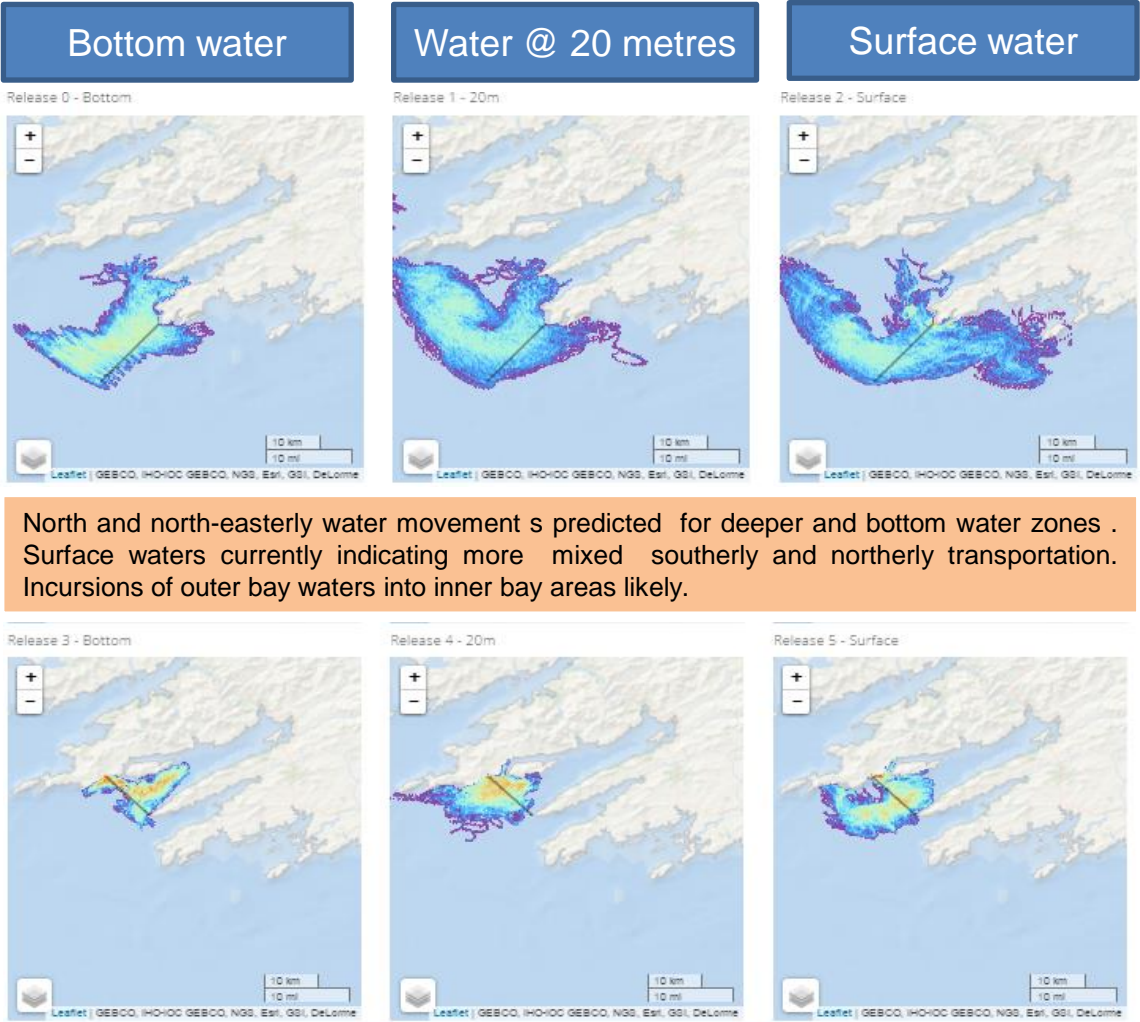
SOUTHWEST: Bantry Bay

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



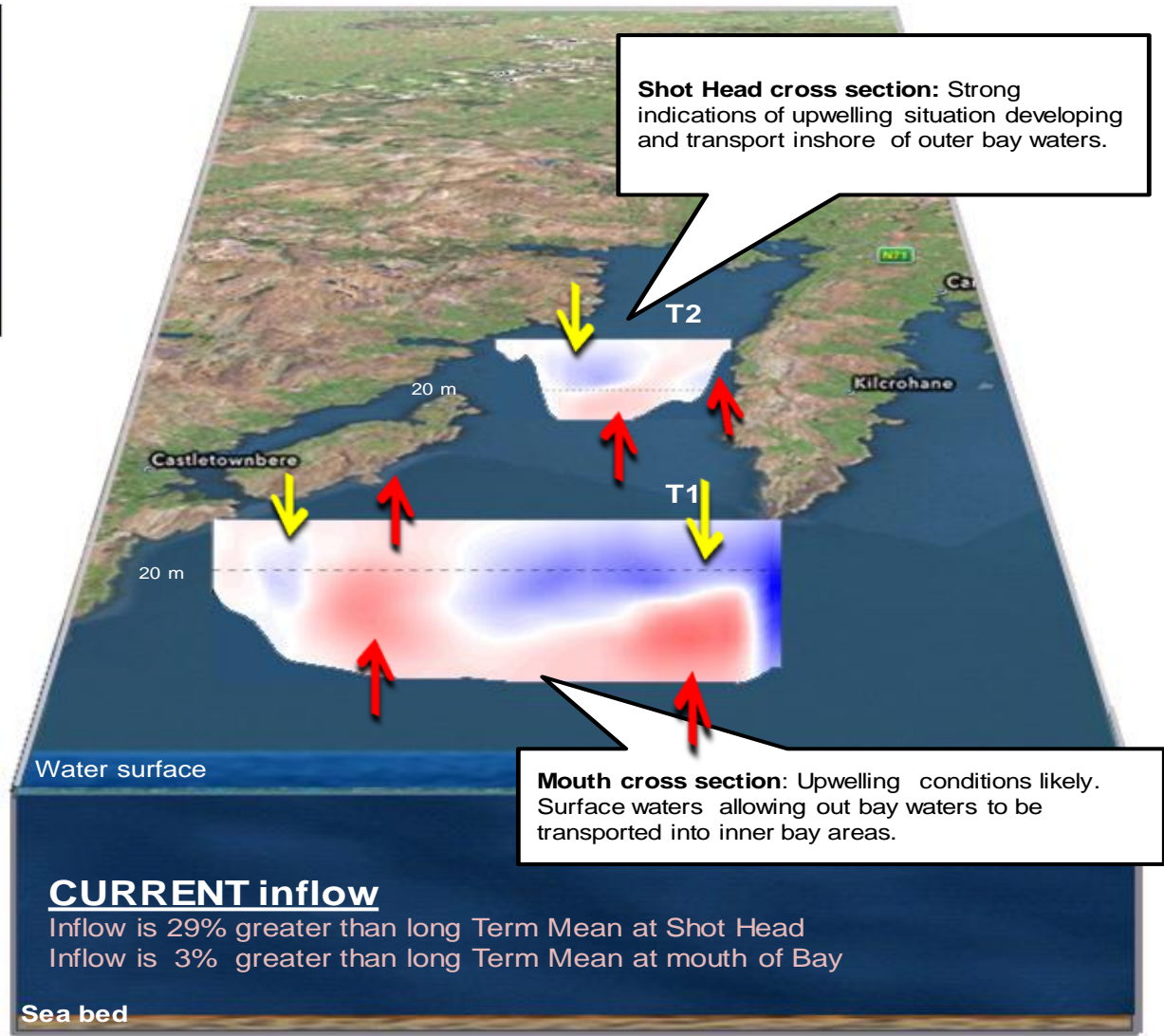
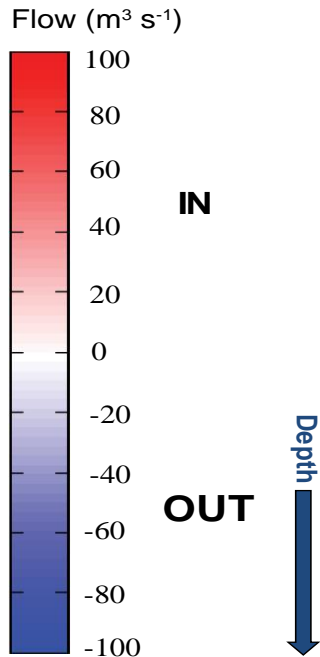
North and north-easterly water movement s predicted for deeper and bottom water zones . Surface waters currently indicating more mixed southerly and northerly transportation. Incursions of outer bay waters into inner bay areas likely.

Strong probabilities of outer bay water incursions into inner bay areas , particularly in depth. Upwelling conditions likely.

Bantry Bay

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

Forecast for next 3 days

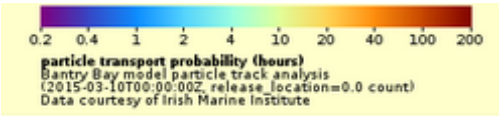


WEST: Killary Harbour

Forecast for the next 3 days

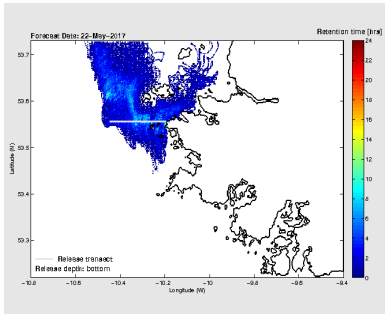
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

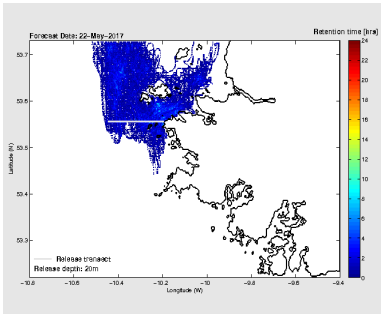


0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

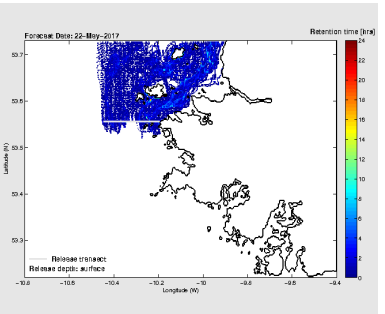
Bottom water



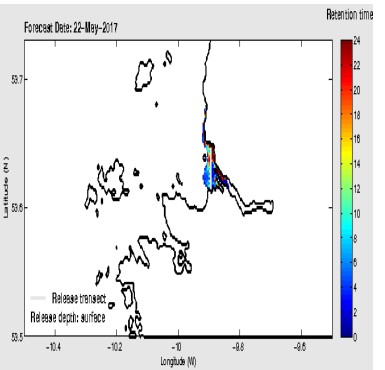
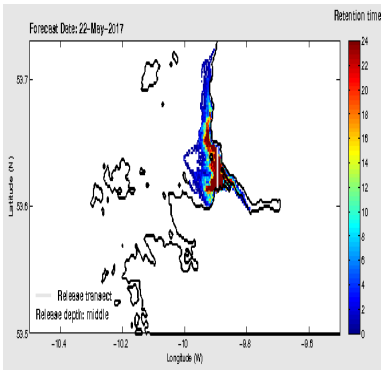
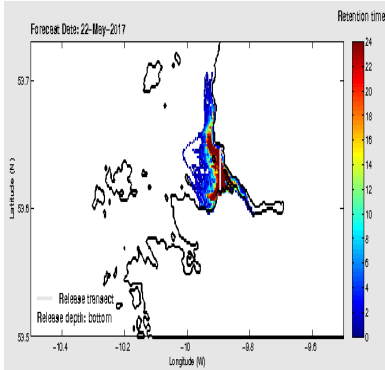
Water @ 20 metres



Surface water



Cleggan
Similar to last week with strong mixing and predominantly mixed northerly water movements at all depths.

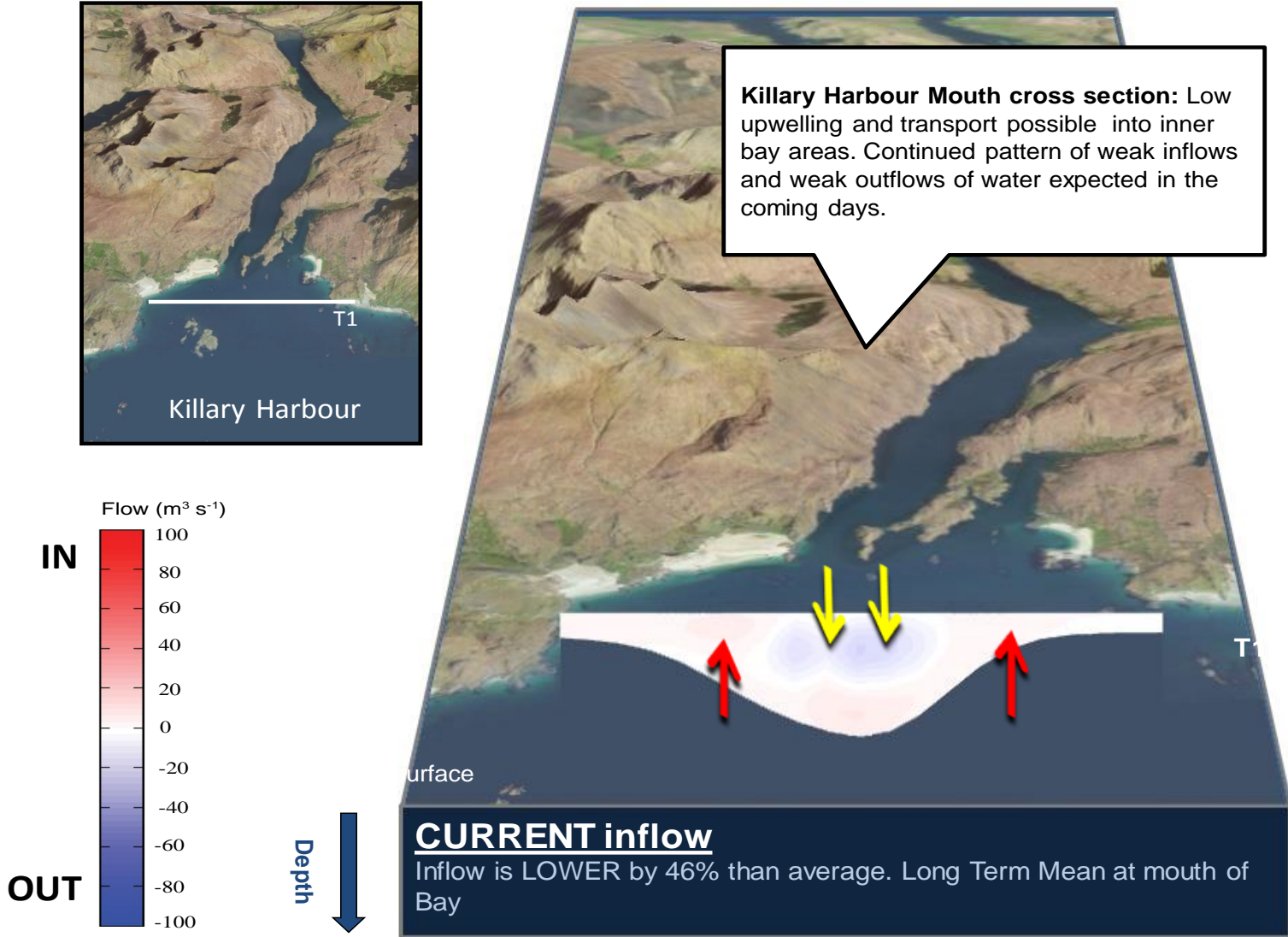


Killary
Surface waters indication possibilities of transportation of outer bay waters into inner bay areas while exposed outer bay areas exhibiting strong water movements in a northern directions, particularly as depth increases.

Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour

Forecast for next 3 days

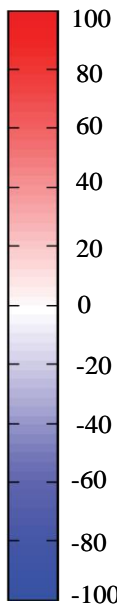


West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward
flow

southward
flow

Depth

