

Ireland: Predictions

ASP event: High

AZP event: Moderate

DSP event: Medium to high – site specific

PSP event: low

NMP Current closures

ASP	AZP	DSP	PSP
4% (SW)	0	0	0

Why do we think this?

ASP: The localised trend of increasing Pseudo nitzschia levels appears to be spreading through the SW and into the West coast. The high site specific warning from last week is now extended as a precaution to all areas currently experiencing high cell levels and adjacent geographical areas. Currently no indications we have reached the peak of this event.

AZP: Risk levels of moderate are 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.

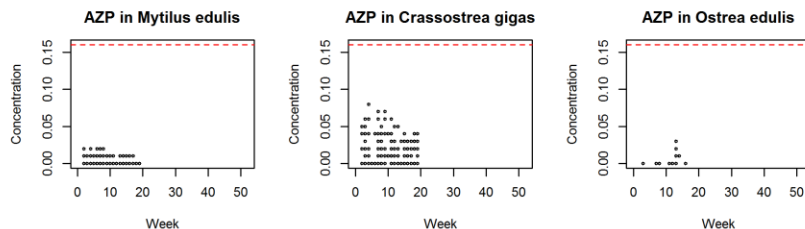
DSP: This is currently the beginning of the historical season of occurrence. Phalacroma and Dinophysis spp have been observed in a few specific sites are already, currently at low levels. This species now needs to be watched more closely as levels of 400cells/lit to 800cells/lit have in the past caused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

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

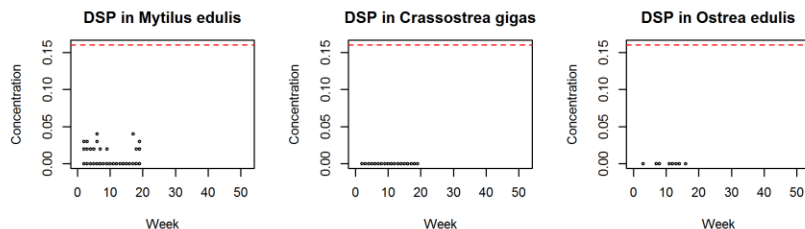
Please note: We will be updating the format of this bulletin throughout the year in an active effort to increase end user applicability and incorporate developing technologies. All feedback is welcome at Joe.Silke@Marine.ie .

National Monitoring Programme

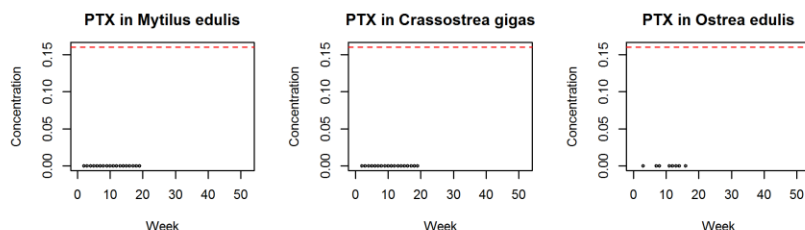
AZP



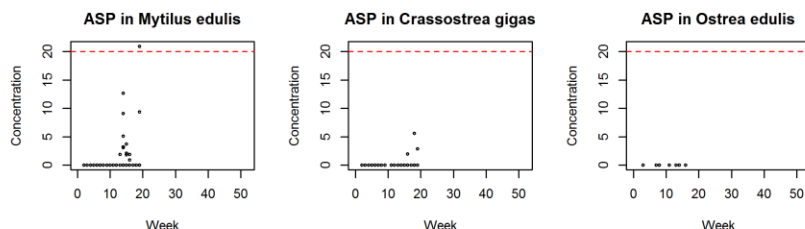
DSP



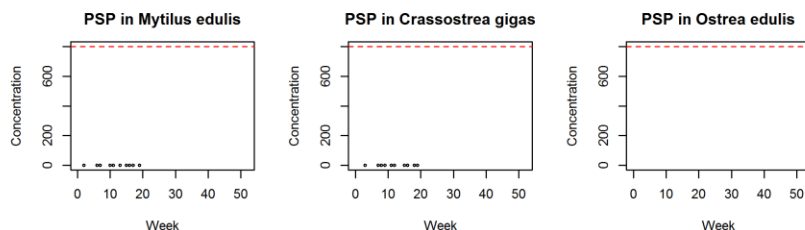
PTX



ASP



PSP



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



HISTORIC TRENDS



ASP events: mid-March to early May

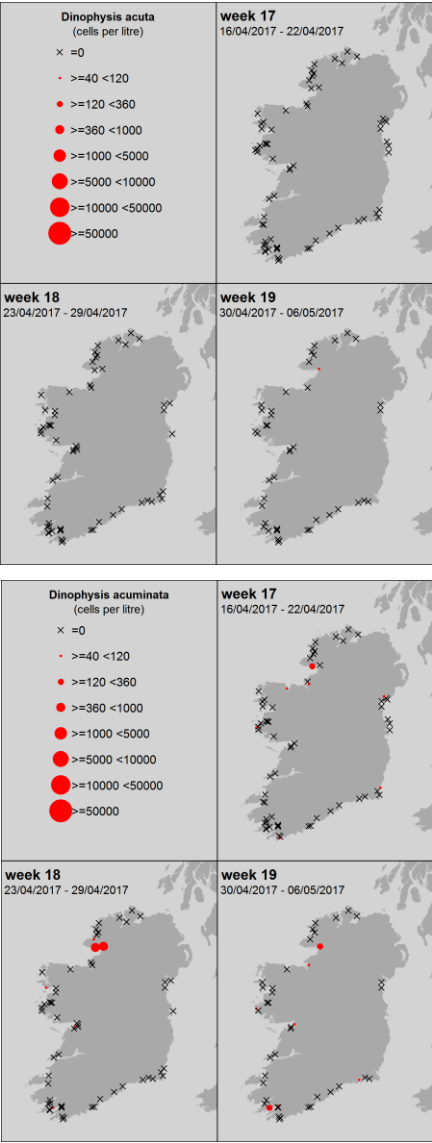
AZP events: April to December

DSP events: May to December

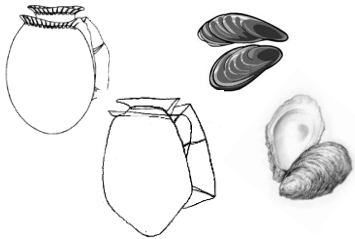
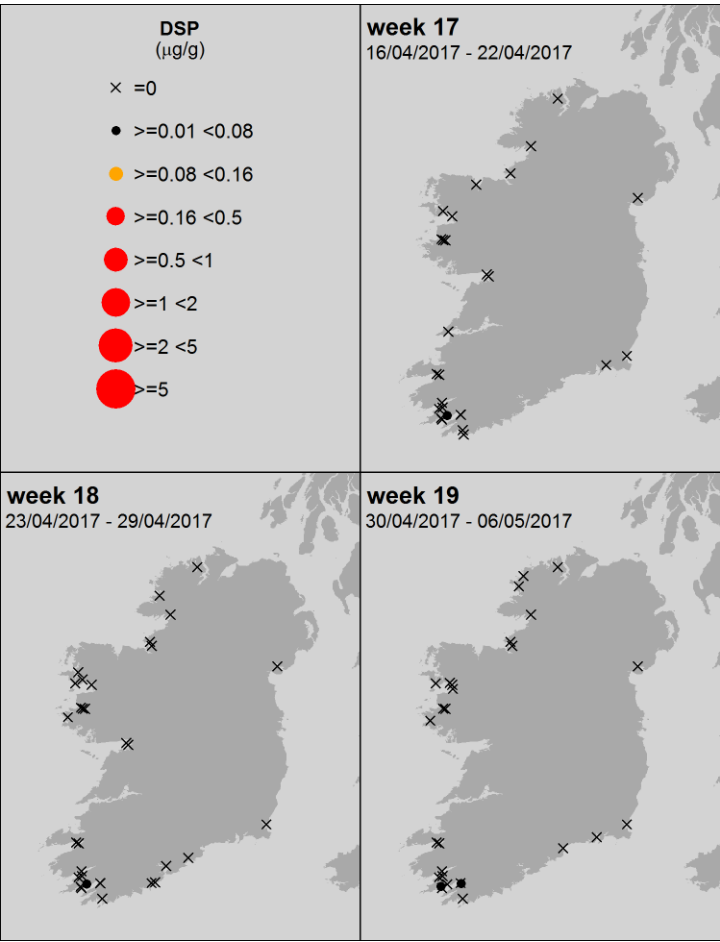
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

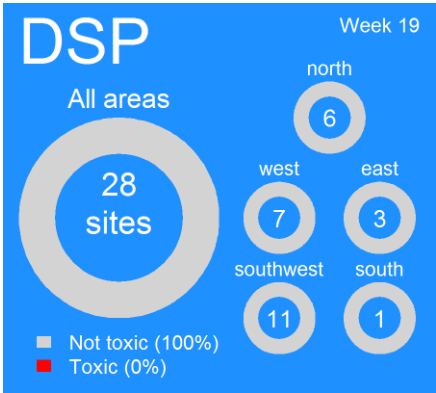
Phytoplankton species – 3 wks.



All levels of DSP biotoxin recorded- 3 wks.



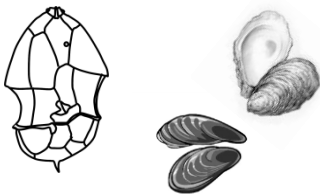
Current closures levels
≥ DSP 0.16 µg/g



Comments

Increased caution -DSP levels and Dinophysis group cells becoming established as would be normal for this time of year. Caution is advised as the causative species within this group do not have to reach 'high' levels to cause a potential issue.

AZP and Azadinium like species current trends

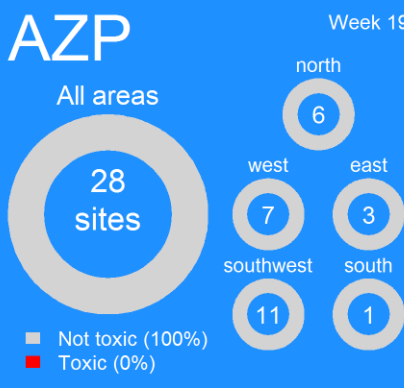


Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

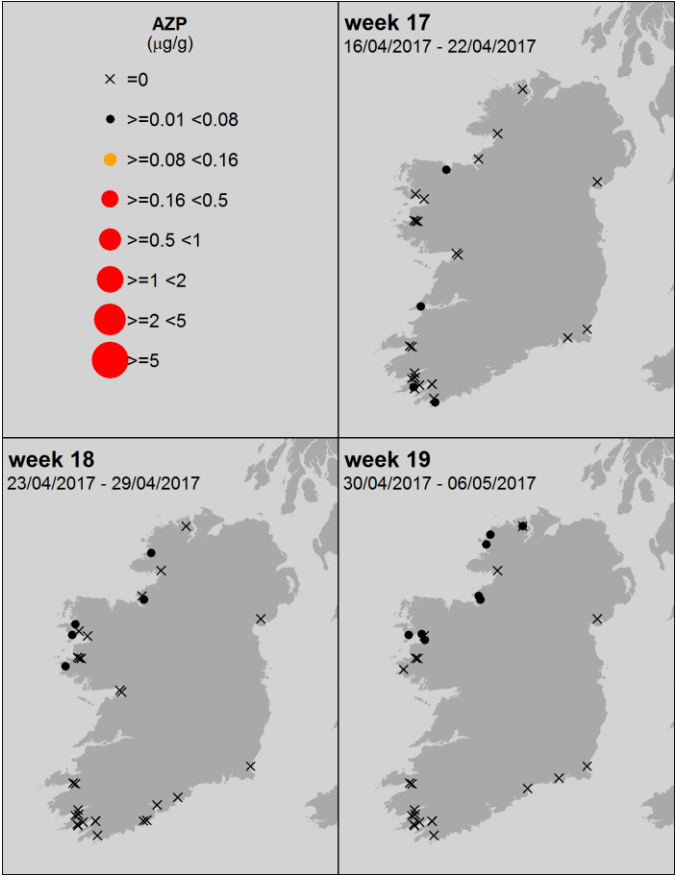
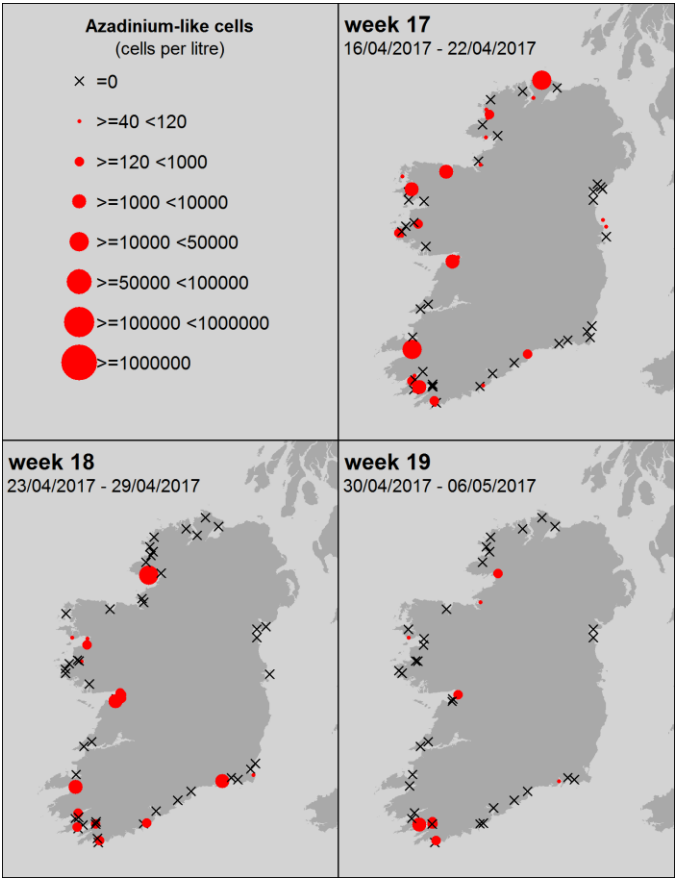
Current closures levels

≥ AZP 0.16 µg/g



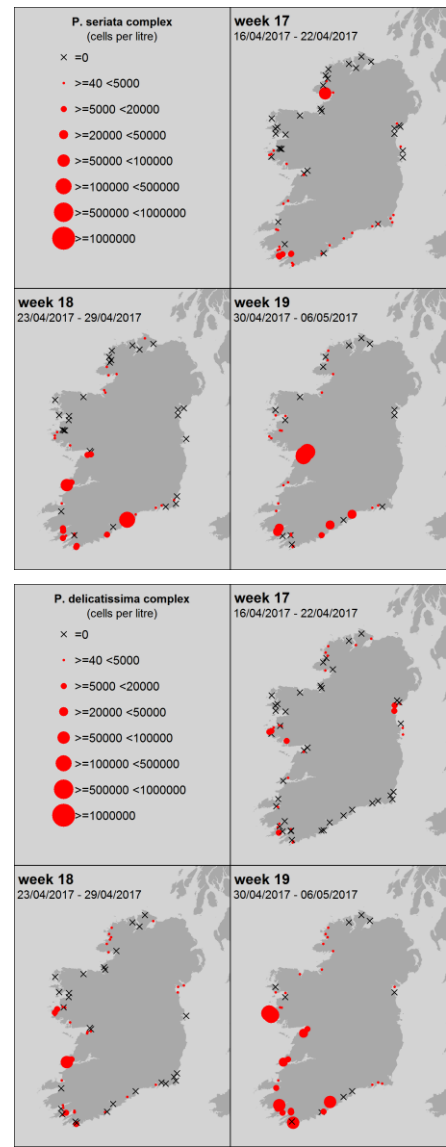
Comments

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

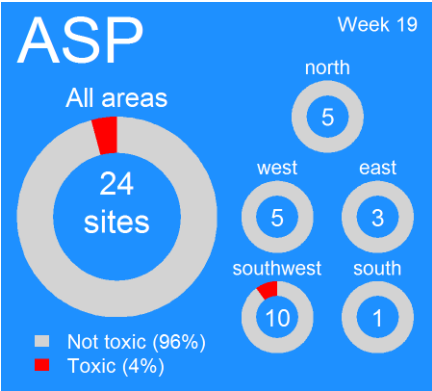
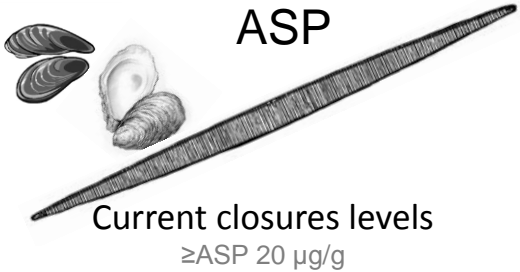
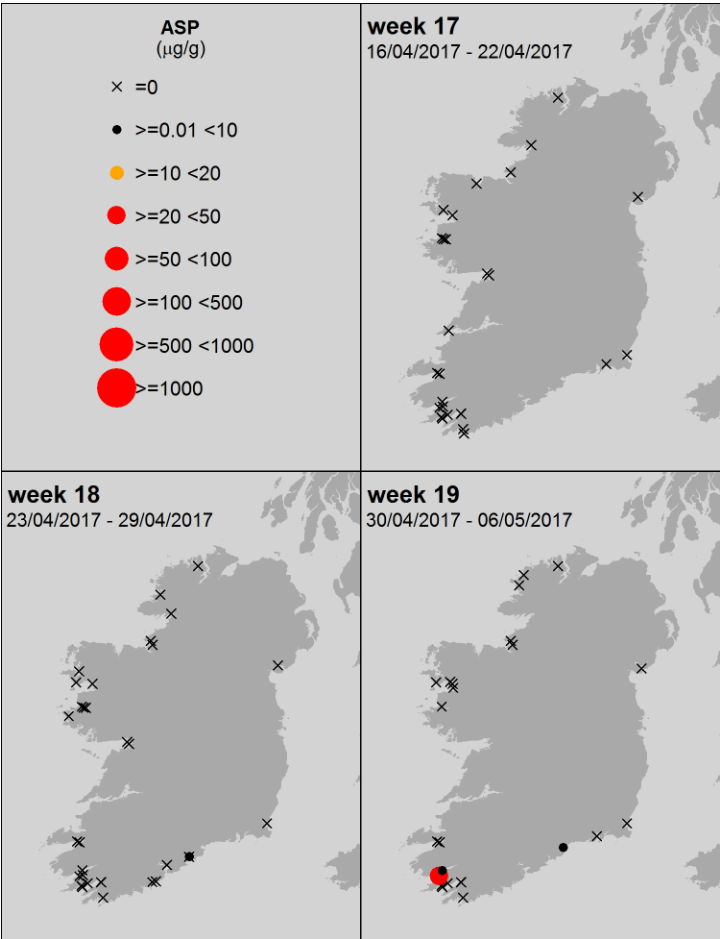


ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



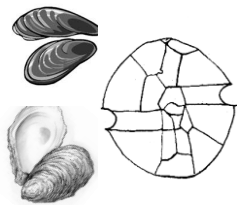
All levels of ASP biotoxin recorded - 3 wks.



Comments

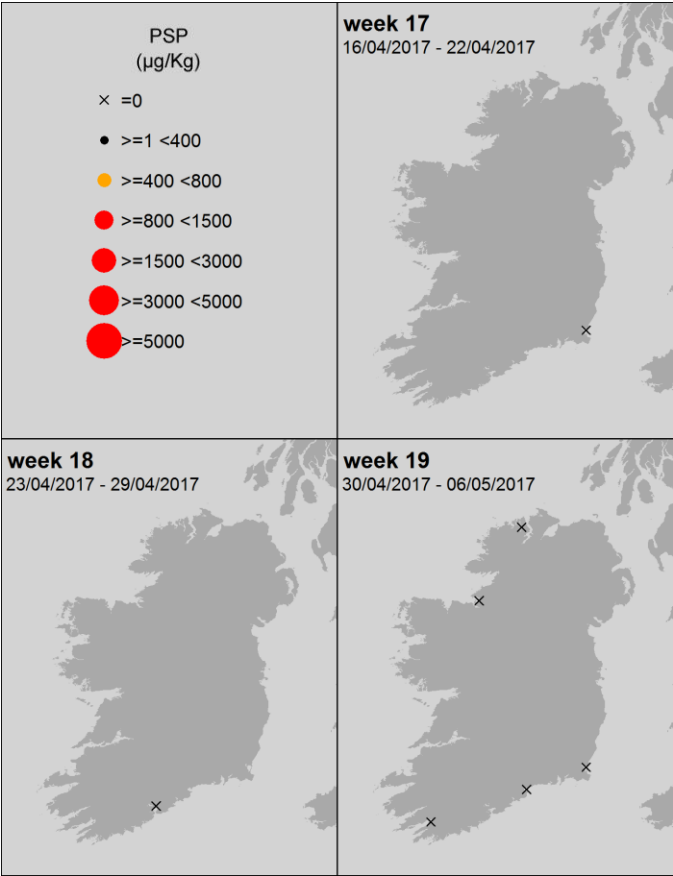
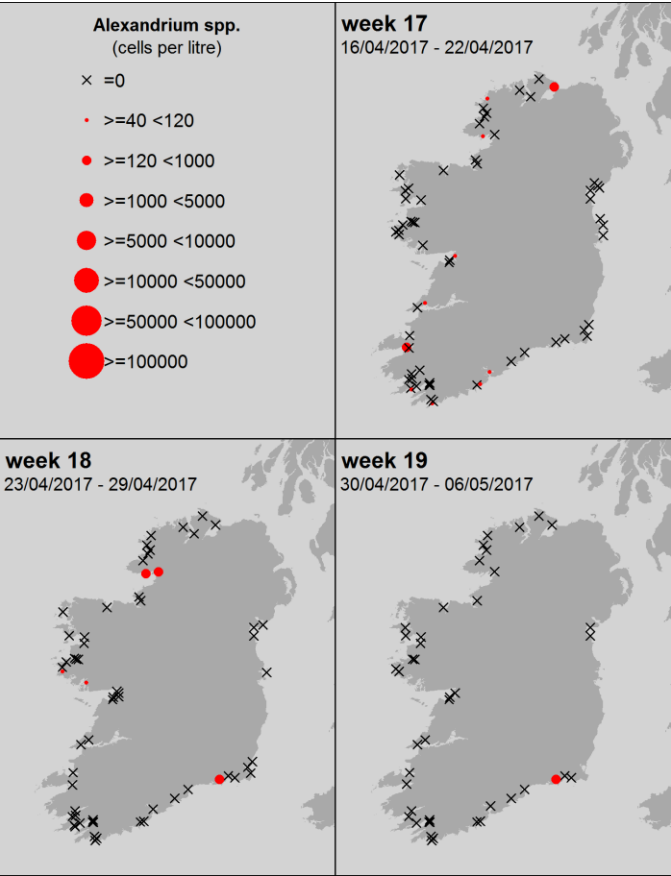
Pseudo nitzschia species in specific areas are currently increasing and have lead to closures. All areas with similar cell numbers (and adjacent regions) should remain on highest alert. This current trend may not have reached its peak yet.

PSP and Alexandrium sp. current trends



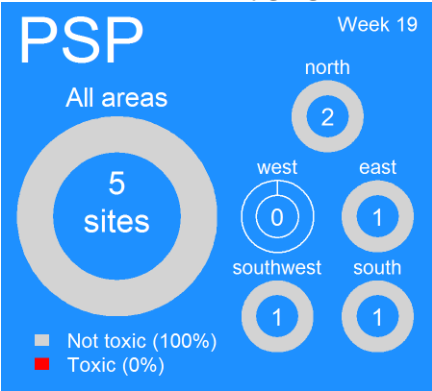
Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



Current closures levels

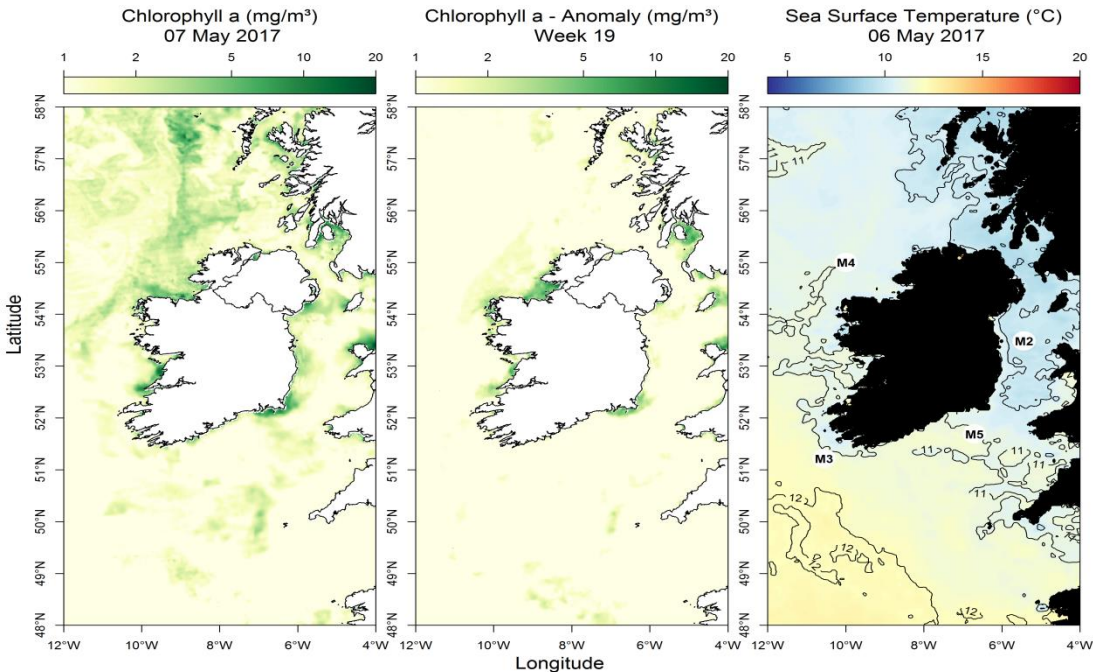
≥ PSP 800 µg/Kg



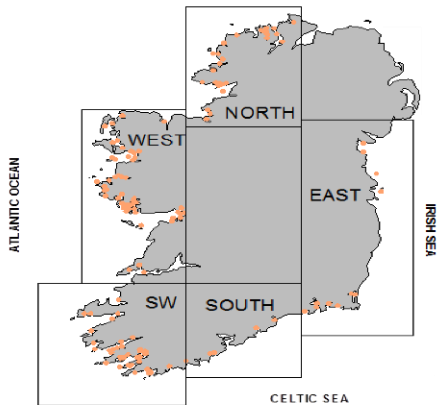
Comments

- No current changes although levels observed to be potentially fluctuating in specific sites - No closures and low likelihood of bloom at this time.

Most up to date available satellite data



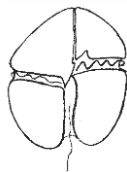
Patches of higher chlorophyll levels indicating potential phytoplankton blooms becoming move evident each week. Wind and current vectors could move these areas of growth towards shore areas.



NW coast (M4) Above average by 0.36°C wk18
SW coast (M3) Below average by 0.14°C wk 18
SE coast (M5) Above average by 0.26°C wk18

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Cylindrotheca closterium/ Nitzschia longissima	577000
2	east	Pennate diatom	11000
3	east	Heterocapsa triquetra	5000
4	east	Scrippsiella spp.	3000
5	east	Protoperidinium bipes	3000
1	north	Skeletonema spp.	3184000
2	north	Chaetoceros (Hyalochaete) spp.	146000
3	north	Thalassiosira spp.	17000
4	north	Leptocylindrus danicus	17000
5	north	Asterionellopsis spp.	16000
1	south	Navicula spp. <25um	103000
2	south	Cerataulina spp.	99000
3	south	Pseudo-nitzschia delicatissima complex	81000
4	south	Chaetoceros (Hyalochaete) spp.	77000
5	south	Dactyliosolen fragilissimus	46000
1	southwest	Cerataulina spp.	127000
2	southwest	Chaetoceros (Hyalochaete) spp.	99000
3	southwest	Lauderia / Detonula sp	95000
4	southwest	Thalassiosira <20um	82000
5	southwest	Pseudo-nitzschia delicatissima complex	63000
1	west	Pseudo-nitzschia seriata complex	243000
2	west	Pseudo-nitzschia delicatissima complex	163000
3	west	Skeletonema spp.	99000
4	west	Cryptophyte	59000
5	west	Chaetoceros (Hyalochaete) spp.	53000

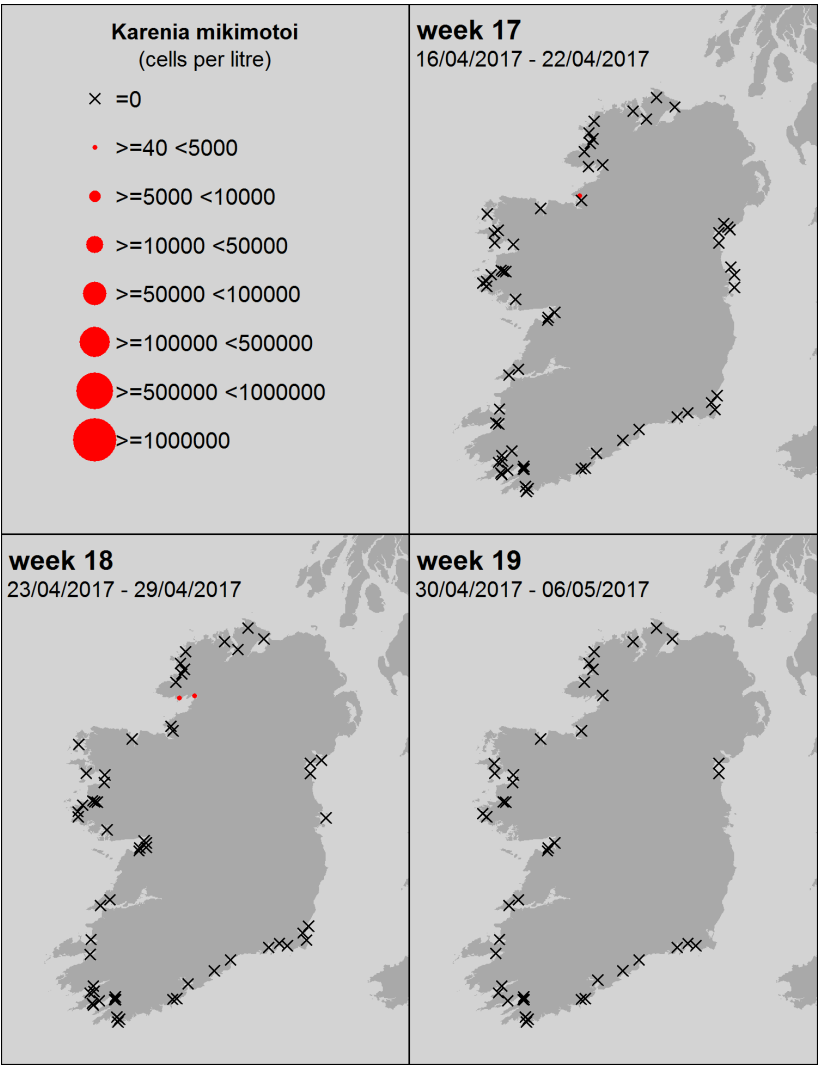


Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom
is NOT expected this week

Other bloom species news

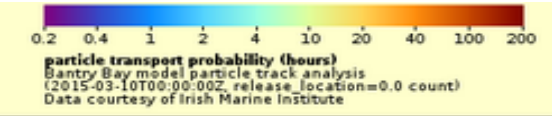
Dominant species in all
areas currently diatoms.
Each geographical sector
appears to be dominated
by its unique species or
group. Currently no major
treats evident but please
use the dominant species
table to see specific
localised areas of interest.



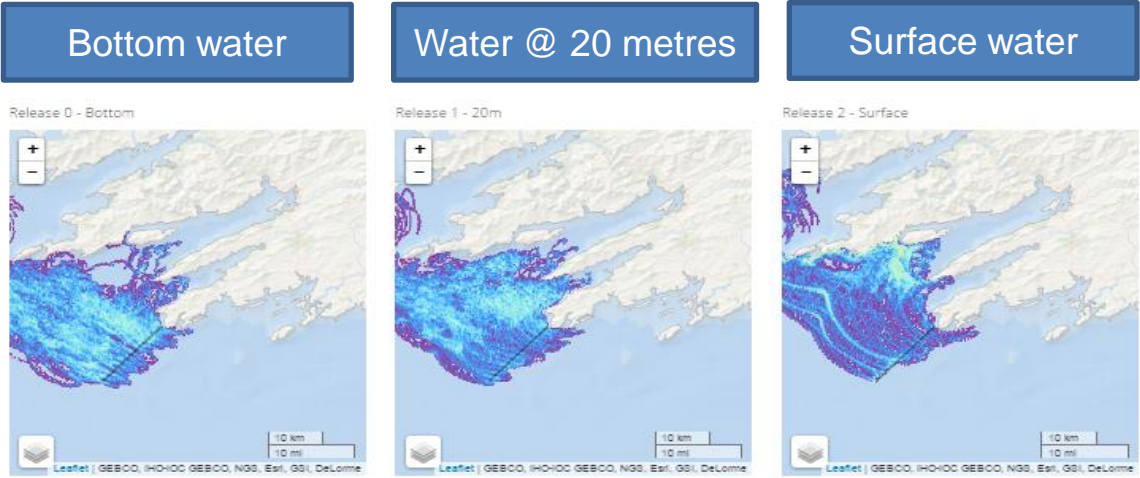
SOUTHWEST: Bantry Bay

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)

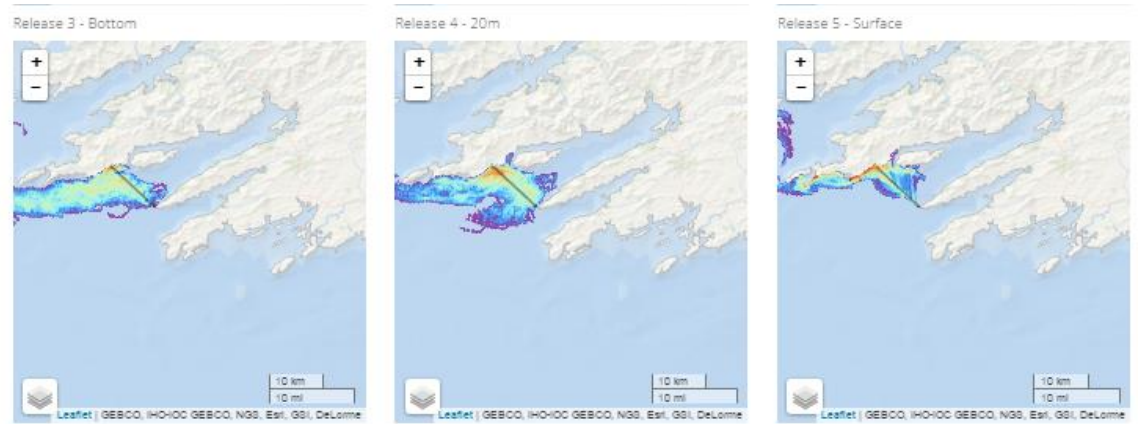
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



Forecast for the next 3 days



Northern and North-eastern water movements dominating the transport models at all depths. Inshore incursions from offshore waters possible.

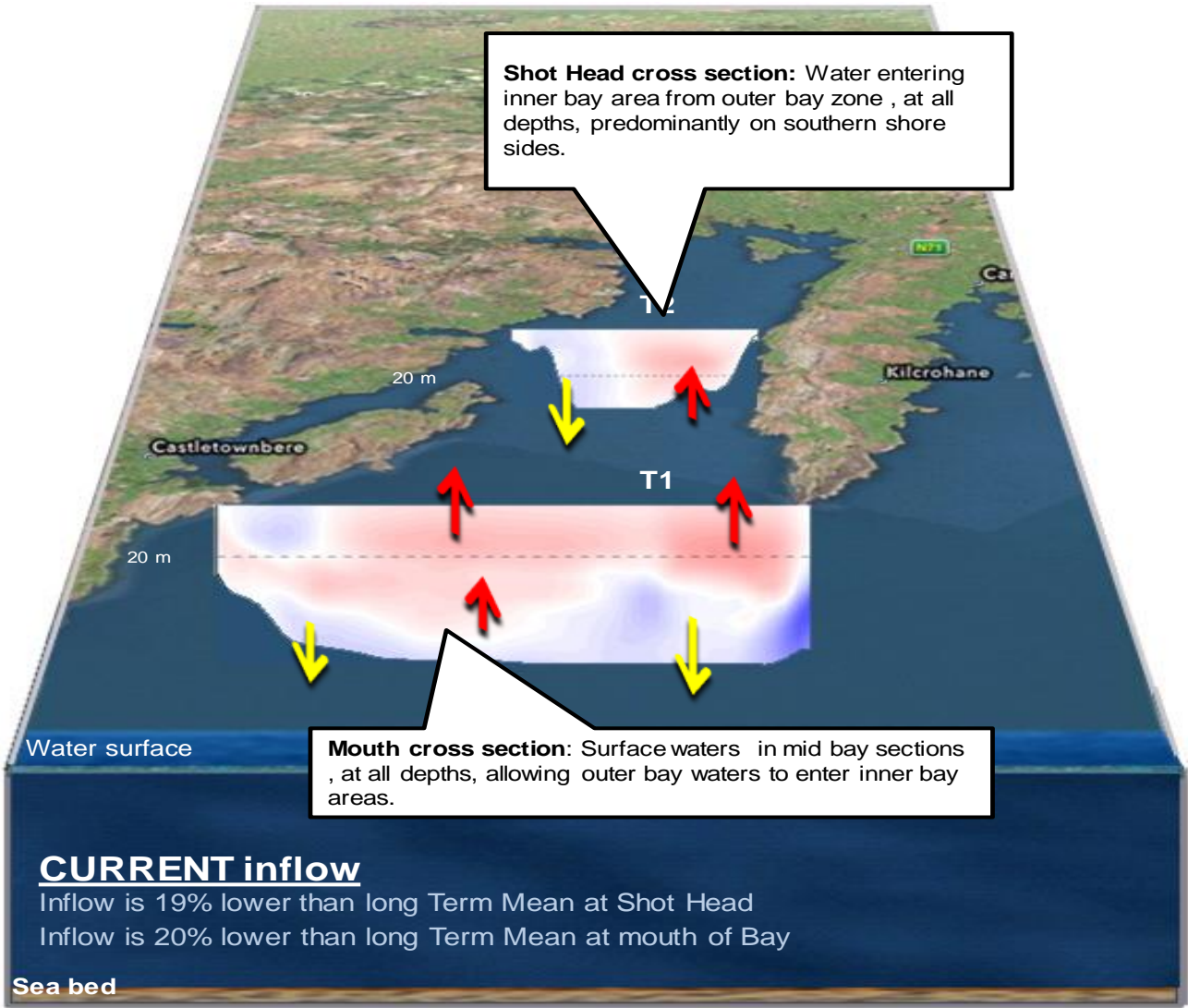
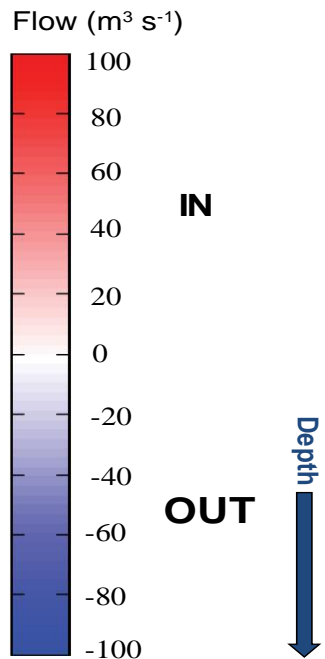


Very different model result for bay transect with low water movement rather than more dynamic mixing and movement being a feature. Slight indications of potential upwelling event occurring as deeper and bottom waters indicate more transport out of bay .

Bantry Bay

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

Forecast for next 3 days

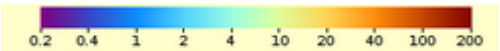


WEST: Killary Harbour

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

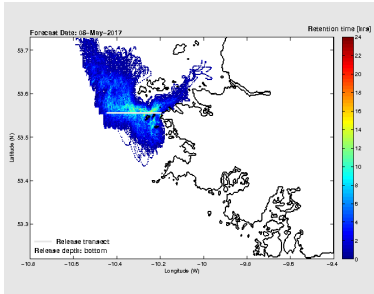
Cooler colours represent areas where phytoplankton remain for shorter periods



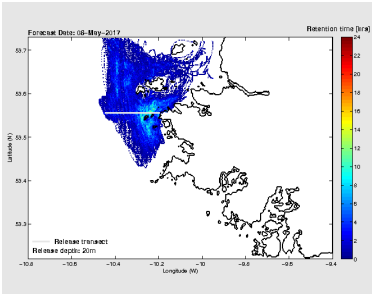
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

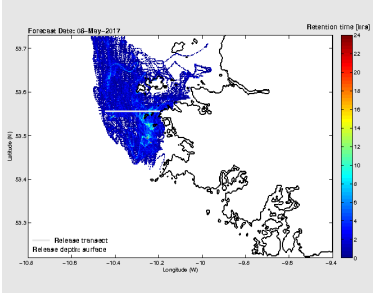
Bottom water



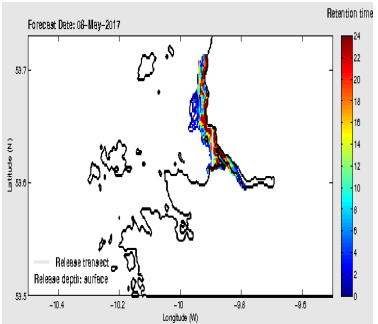
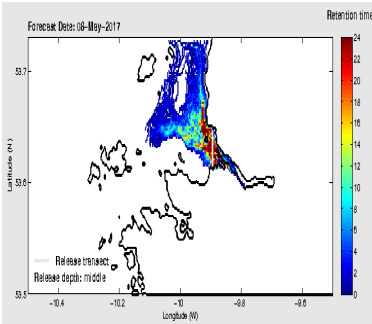
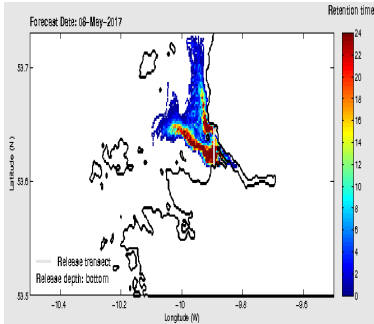
Water @ 20 metres



Surface water



Cleggan
Strong mixing and water movements in counter directions with north western movements possibly marginally more dominant. Offshore waters entering inshore areas and coastline possible.

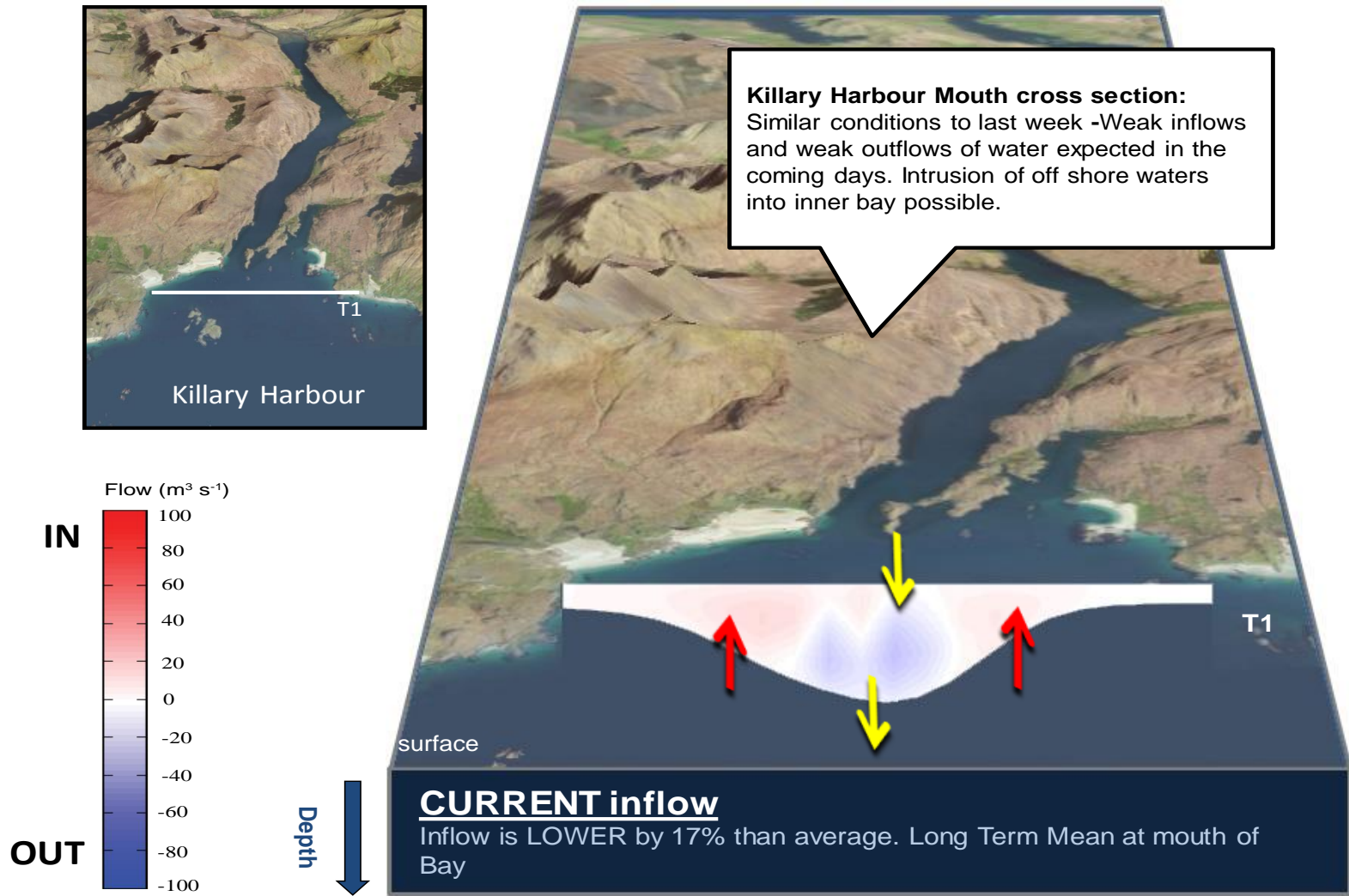


Killary
Exposed outer bay areas exhibiting strong water movements in a northern directions, particularly as depth increases. Inshore areas displaying low water movement and mixing, What ever offshore waters that may enter the inner bay area may reside there for a period of time.

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

