

Ireland: Predictions

ASP event: Moderate to High (site specific)

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: Increasing levels in the causative species have been tracked and noted for the last 7 weeks in specific areas (mainly in the South west at this time). Current levels of *Pseudo nitzschia* sp remain high in specific sites. While these levels remain in any area the following remains in place - Extreme caution is advised and daily reviewing of the most current chemistry results as this is an evolving situation.

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.

National Monitoring Programme



HISTORIC TRENDS



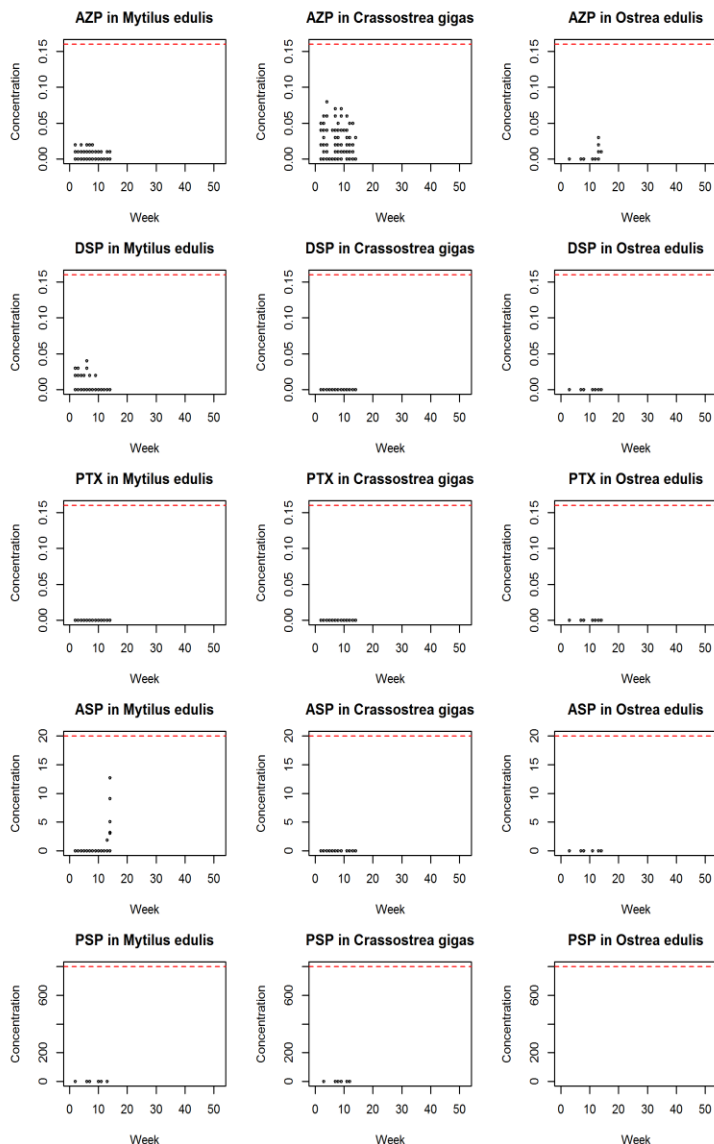
AZP

DSP

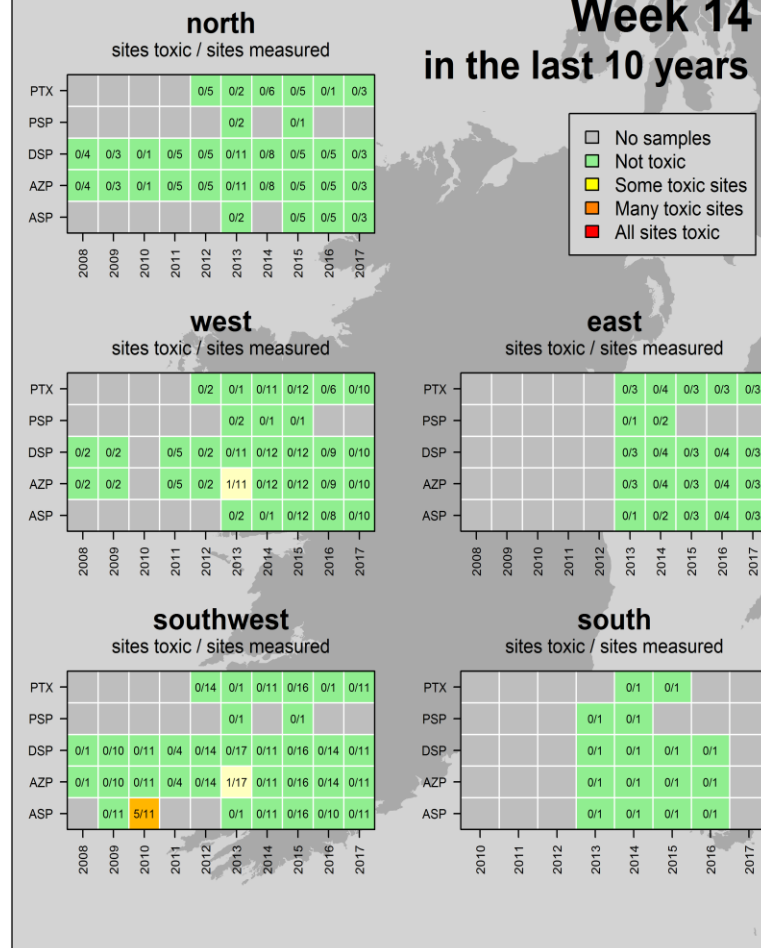
PTX

ASP

PSP



Week 14 in the last 10 years



ASP events: mid-March to early May

AZP events: April to December

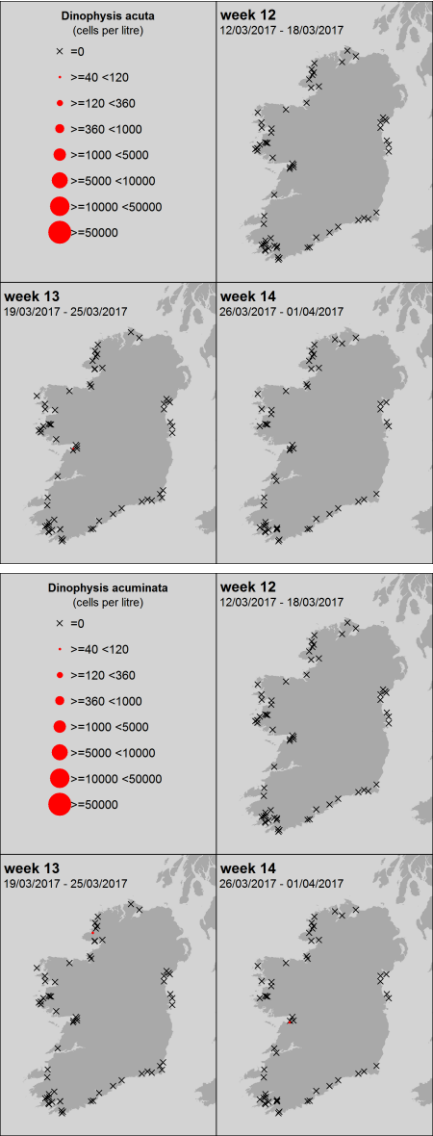
DSP events: May to December

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

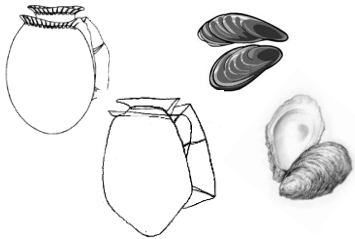
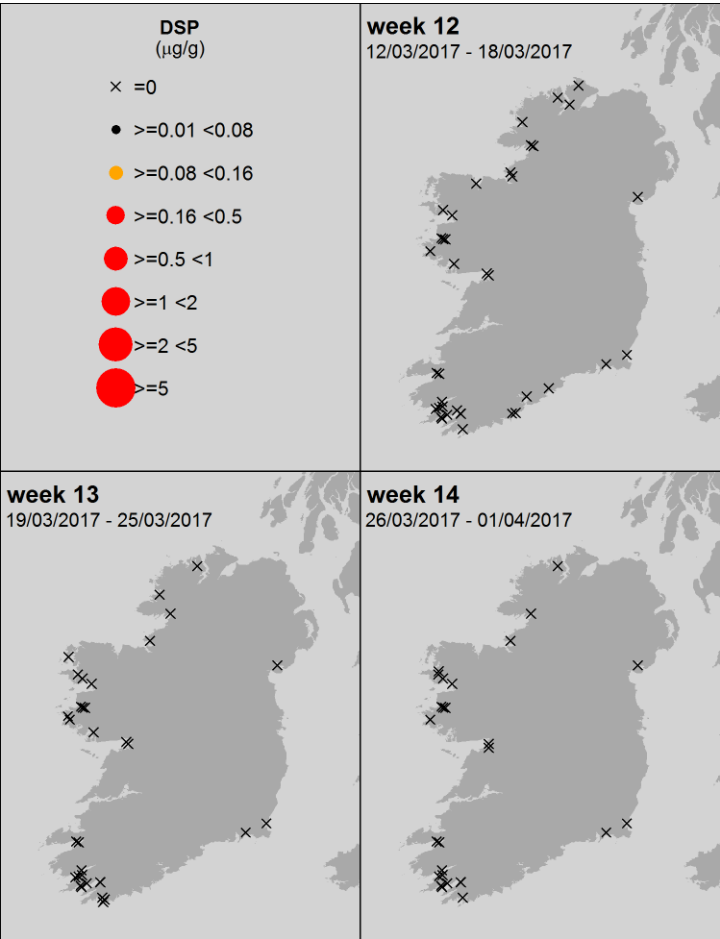
Levels from week 1 to present week. Regulatory limit - - - - -

DSP and Dinophysis sp. current trends

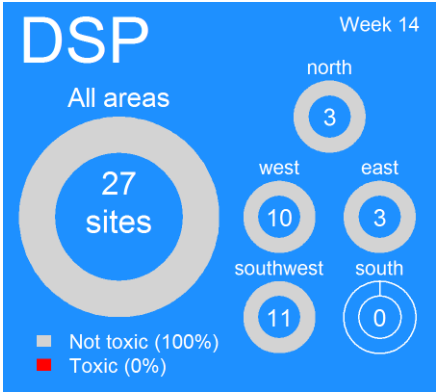
Phytoplankton species – 3 wks.



All levels of DSP biotoxin recorded- 3 wks.



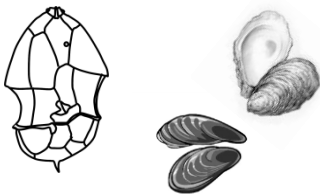
Current closures levels
≥ DSP 0.16 µg/g



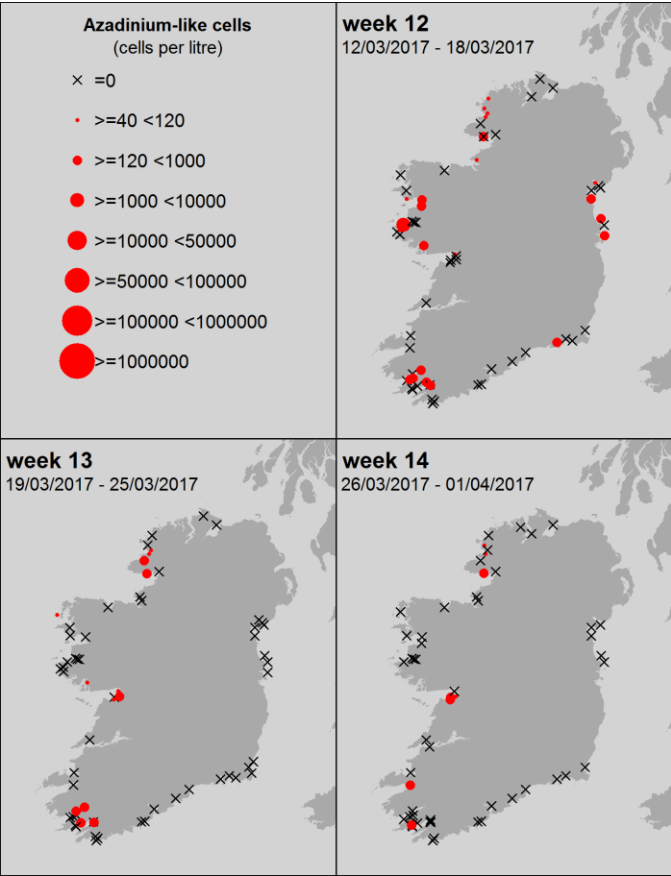
Comments

Currently very low cell levels and DSP well below closure limits in all sites. This would be normally expected to begin to rise towards the end of this month.

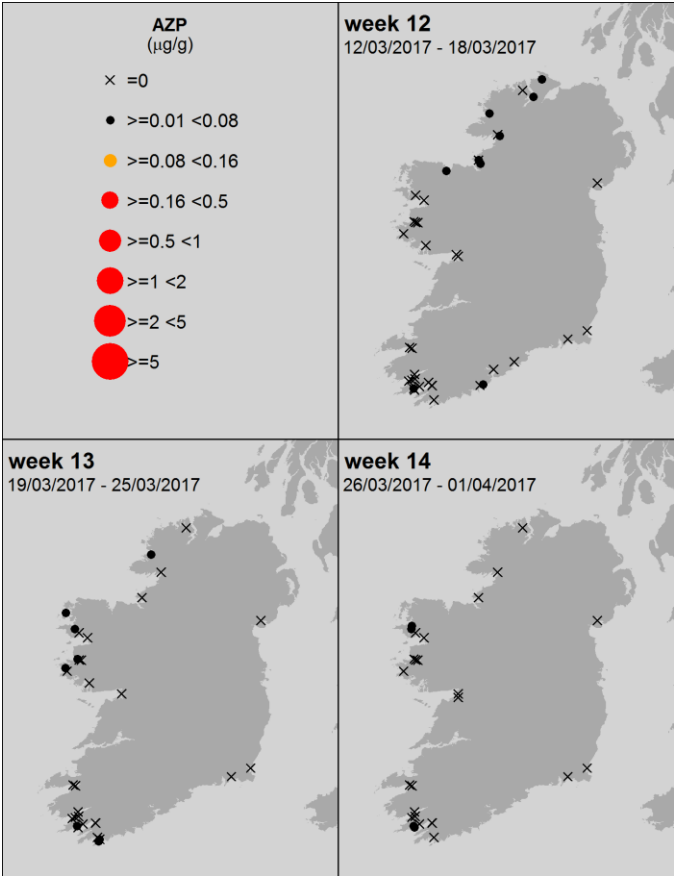
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

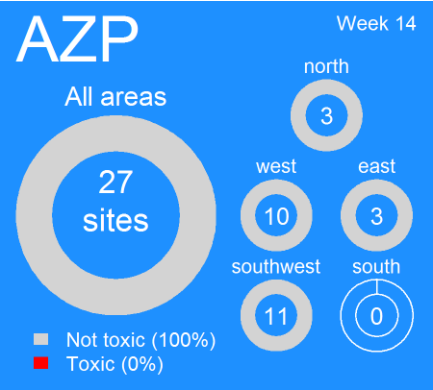


All levels of AZP biotoxin recorded - 3 wks.



Current closures levels

≥ AZP 0.16 µg/g

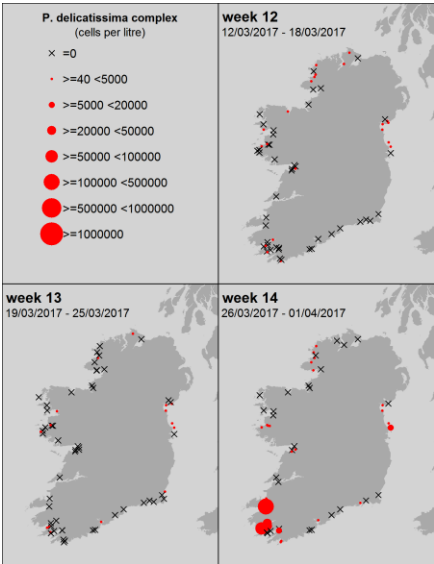
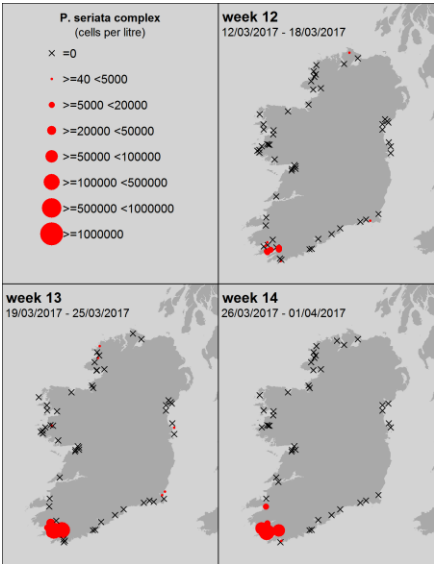


Comments

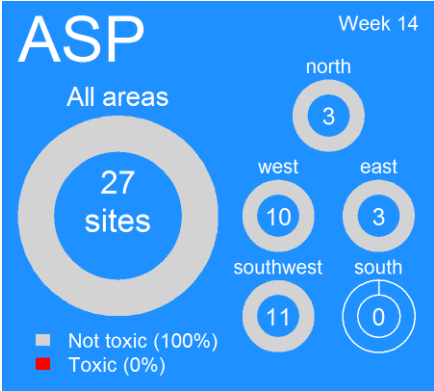
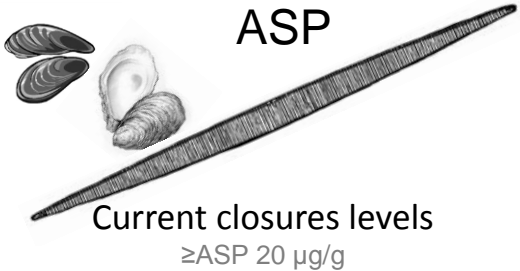
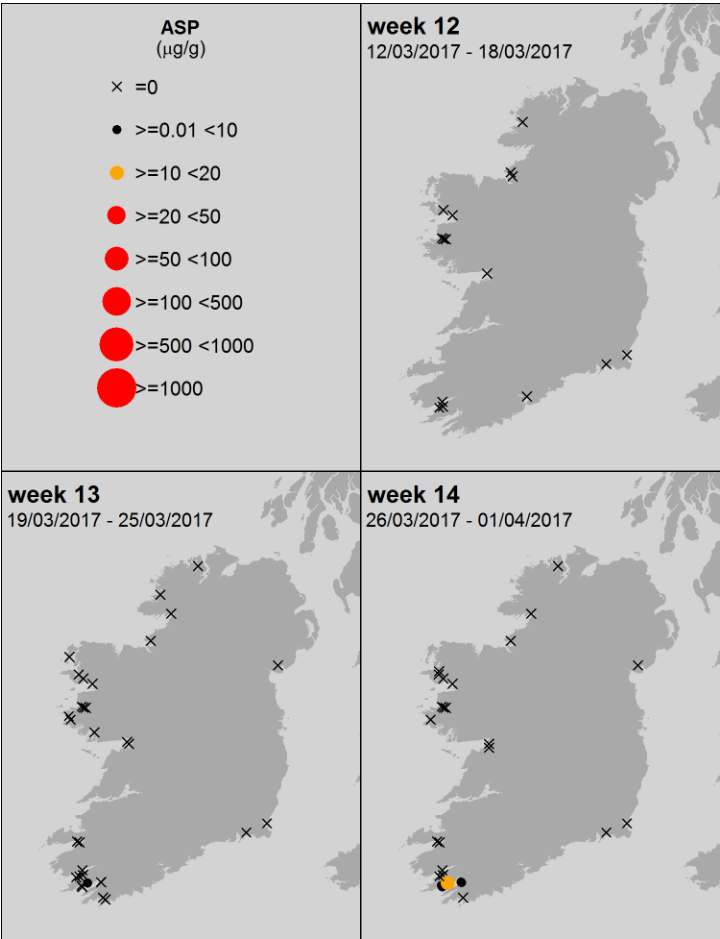
This is a difficult species to predict so additional caution is advised. There is a potential current trend of a decline in number of sites with potential cells observed.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



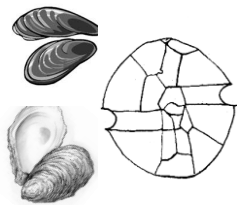
All levels of ASP biotoxin recorded - 3 wks.



Comments

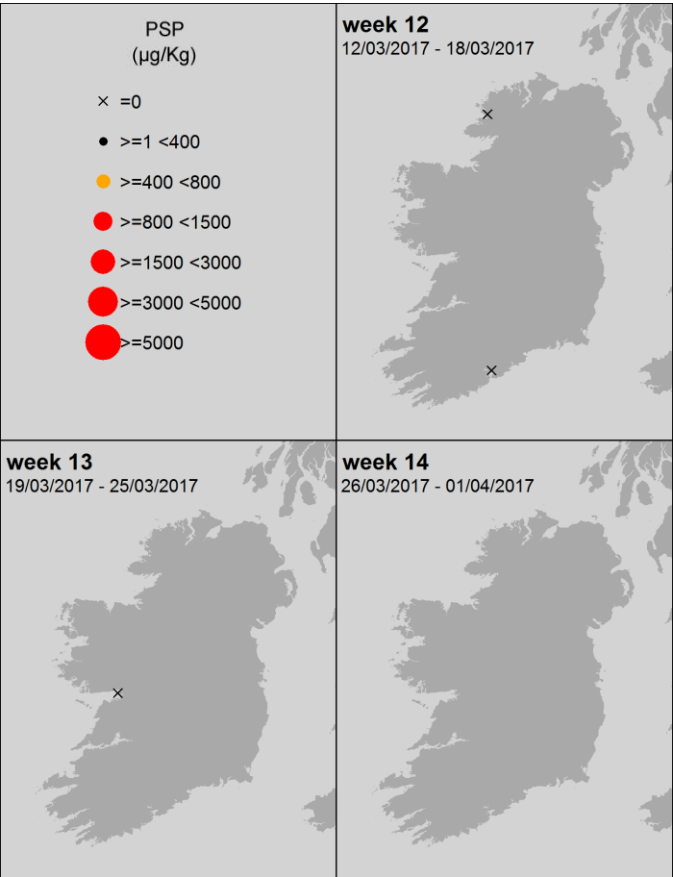
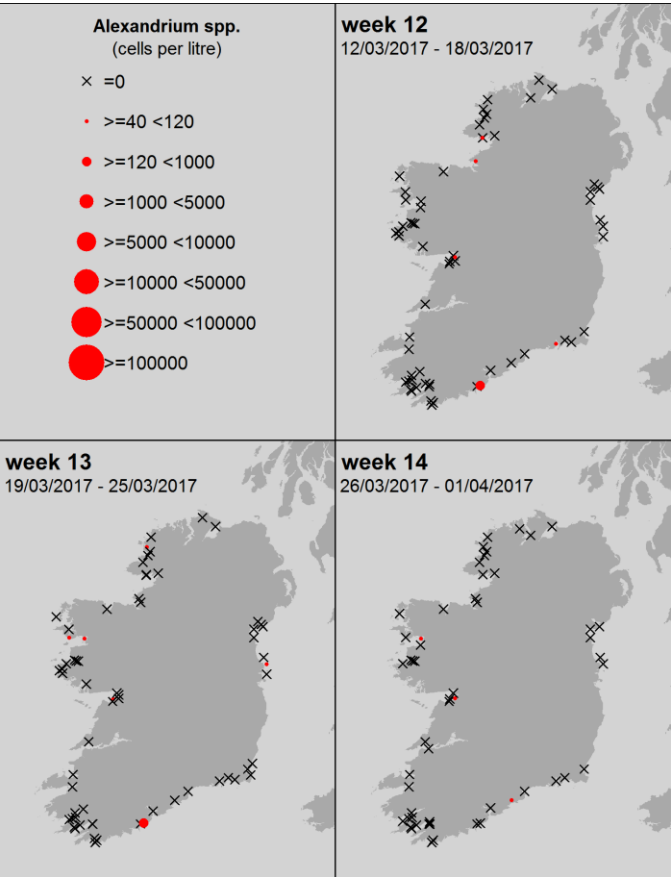
Pseudo nitzschia australis confirmed by qPRC in some SW sites. Significant increase in cell levels and toxins in limited specific sites. Tracked increasing growth trend predicted to continue in suitable environmental conditions.

PSP and Alexandrium sp. current trends

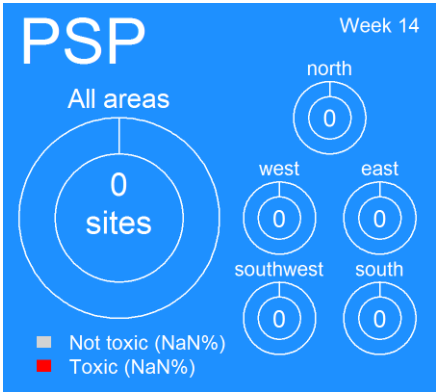


Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



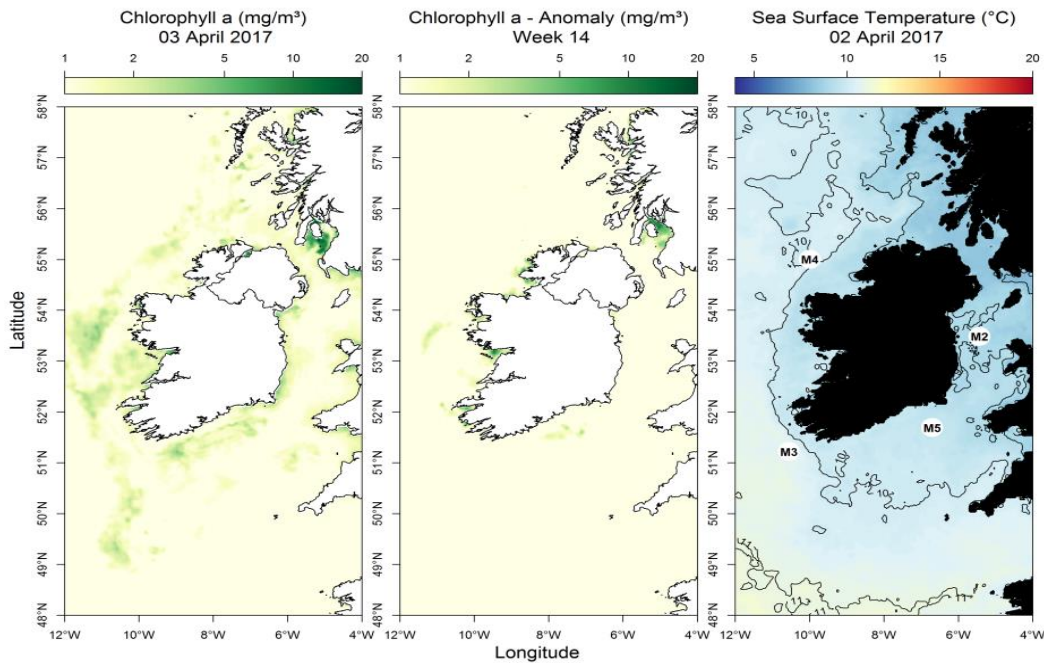
Current closures levels
≥ PSP 800 µg/Kg



Comments

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

Most up to date available satellite data

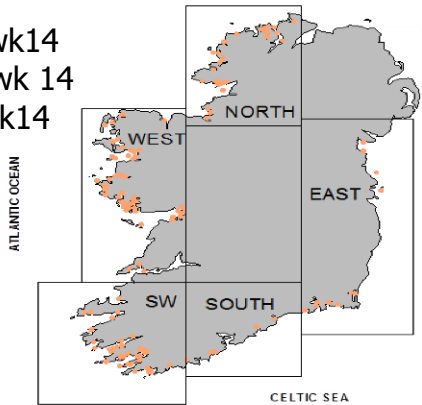


Continued increase in phytoplankton potential growth in some inner bay areas.

NW coast (M4) Above average by 0.59°C wk14

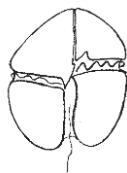
SW coast (M3) Above average by 0.05°C wk 14

SE coast (M5) Above average by 0.78°C wk14



What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Chaetoceros (Hyalochaete) spp.	36000
2	east	Thalassiosira spp.	19000
3	east	Cylindrotheca closterium/ Nitzschia longissima	13000
4	east	Skeletonema spp.	8000
5	east	Pseudo-nitzschia delicatissima complex	5000
1	north	Pennate diatom	334000
2	north	Cylindrotheca closterium/ Nitzschia longissima	65000
3	north	Skeletonema spp.	49000
4	north	Thalassiosira spp.	25000
5	north	Euglena/Eutreptiella spp.	9000
1	south	Thalassiosira <20um	247000
2	south	Bacteriastrum spp.	115000
3	south	Navicula spp. <25um	76000
4	south	Skeletonema spp.	40000
5	south	Odontella spp.	22000
1	southwest	Skeletonema costatum	1346000
2	southwest	Leptocylindrus minimus	660000
3	southwest	Skeletonema spp.	659000
4	southwest	Asterionellopsis glacialis	280000
5	southwest	Pseudo-nitzschia seriata complex	141000
1	west	Skeletonema spp.	330000
2	west	Thalassiosira spp.	61000
3	west	Cylindrotheca closterium/ Nitzschia longissima	16000
4	west	Pennate diatom	15000
5	west	Euglena/Eutreptiella spp.	12000

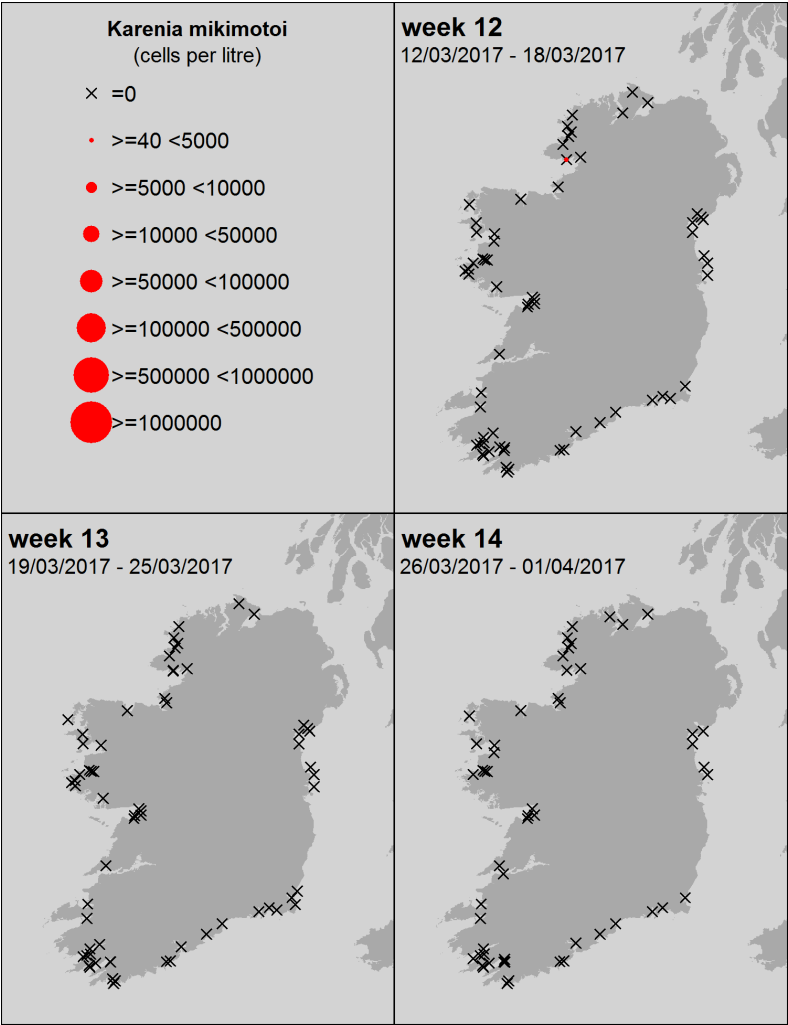


Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom
is NOT expected this week

Other bloom species news

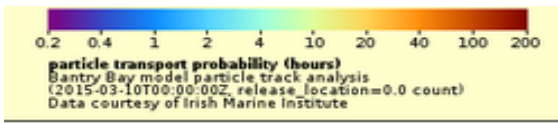
- *Phaeocystis* spp. cells , in
low numbers, have been
recorded in the SW. This
species at high levels can
cause gill irritation in
finfish.



SOUTHWEST: Bantry Bay

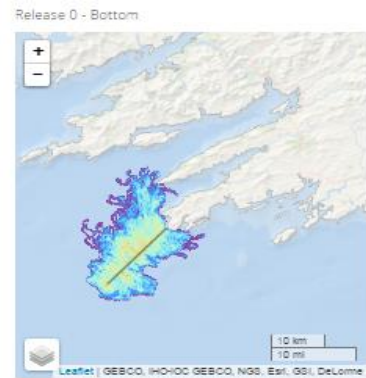
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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



Forecast for the next 3 days

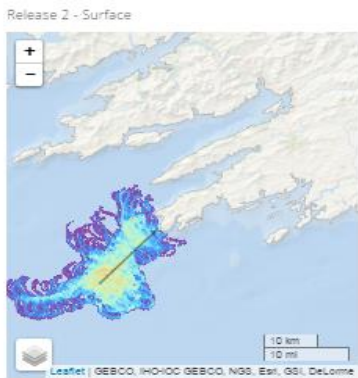
Bottom water



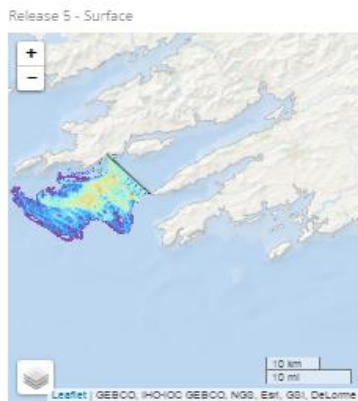
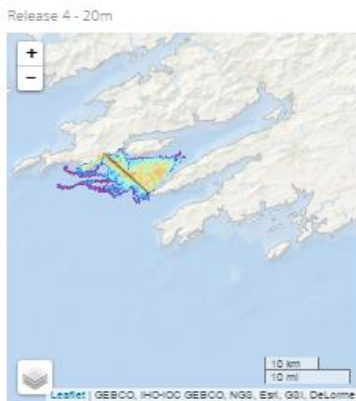
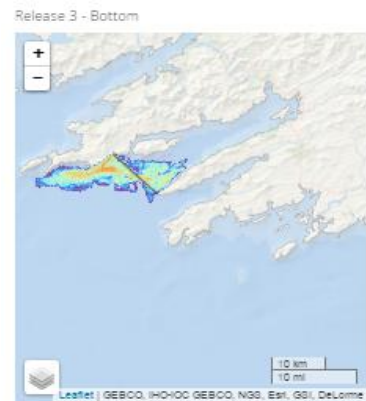
Water @ 20 metres



Surface water



Predominantly water movement in a northerly direction at bottom and deeper depths , with mixed directional movement in surface zones.



Strong potential for upwelling at bottom and deeper depths.in outer bay areas. Surface waters movement expected to be in a predominantly west north westerly direction.

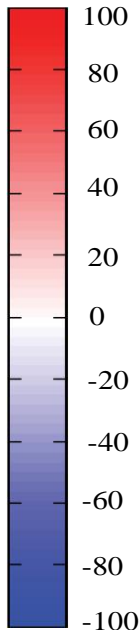
Bantry Bay

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

Forecast for next 3 days



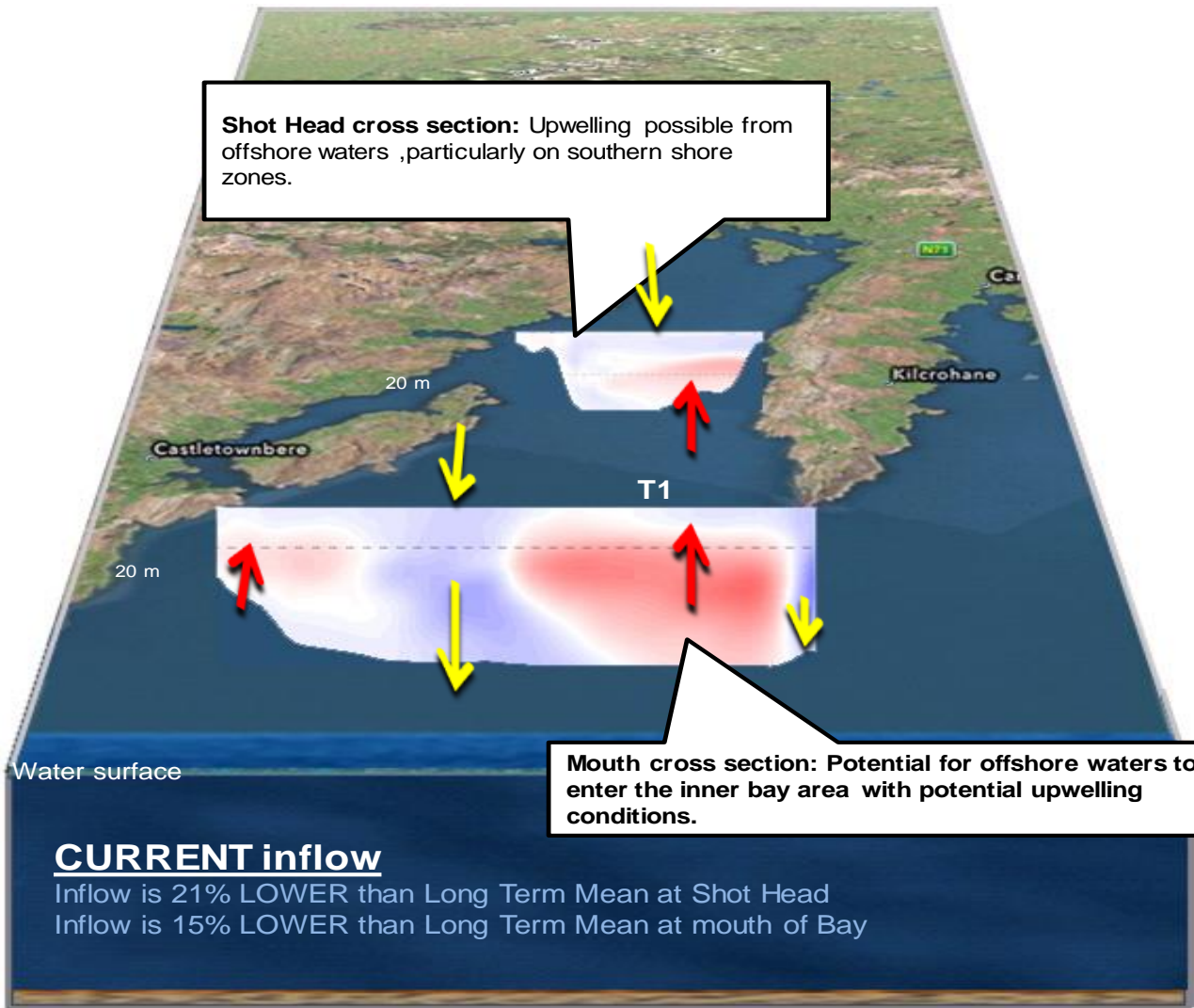
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth

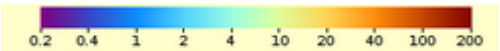


WEST: Killary Harbour

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

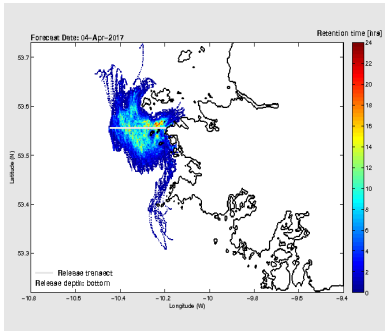
Cooler colours represent areas where phytoplankton remain for shorter periods



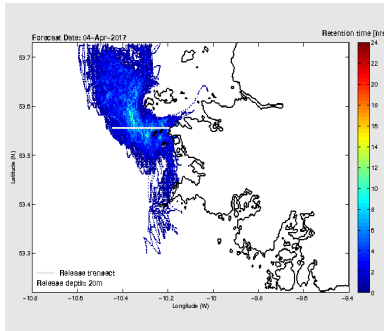
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

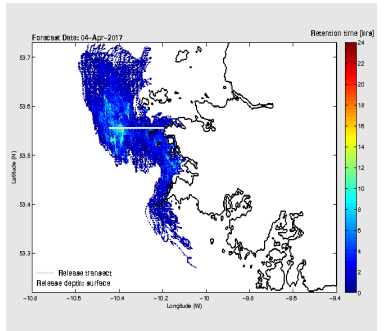
Bottom water



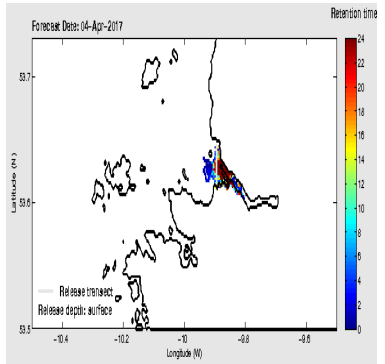
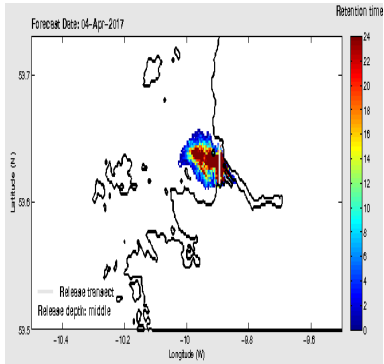
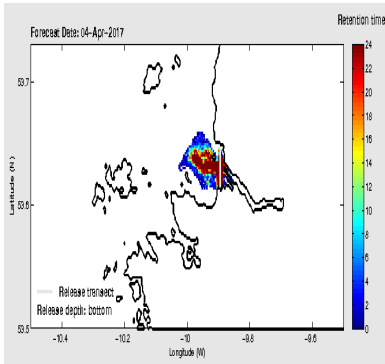
Water @ 20 metres



Surface water



Cleggan
Strong mixing and water movements in both southerly and northerly directions with potential for transport of offshore waters into inshore areas.



Killary
Sheltered inshore areas showing potential for inner bay incursions from outer bay areas.

Killary Harbour

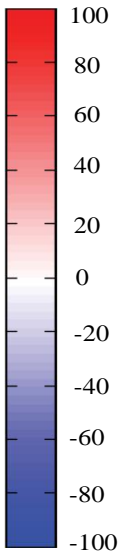
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

Killary Harbour Mouth cross section:
Outside waters transported into inner bay area in near equal volumes to outflow.

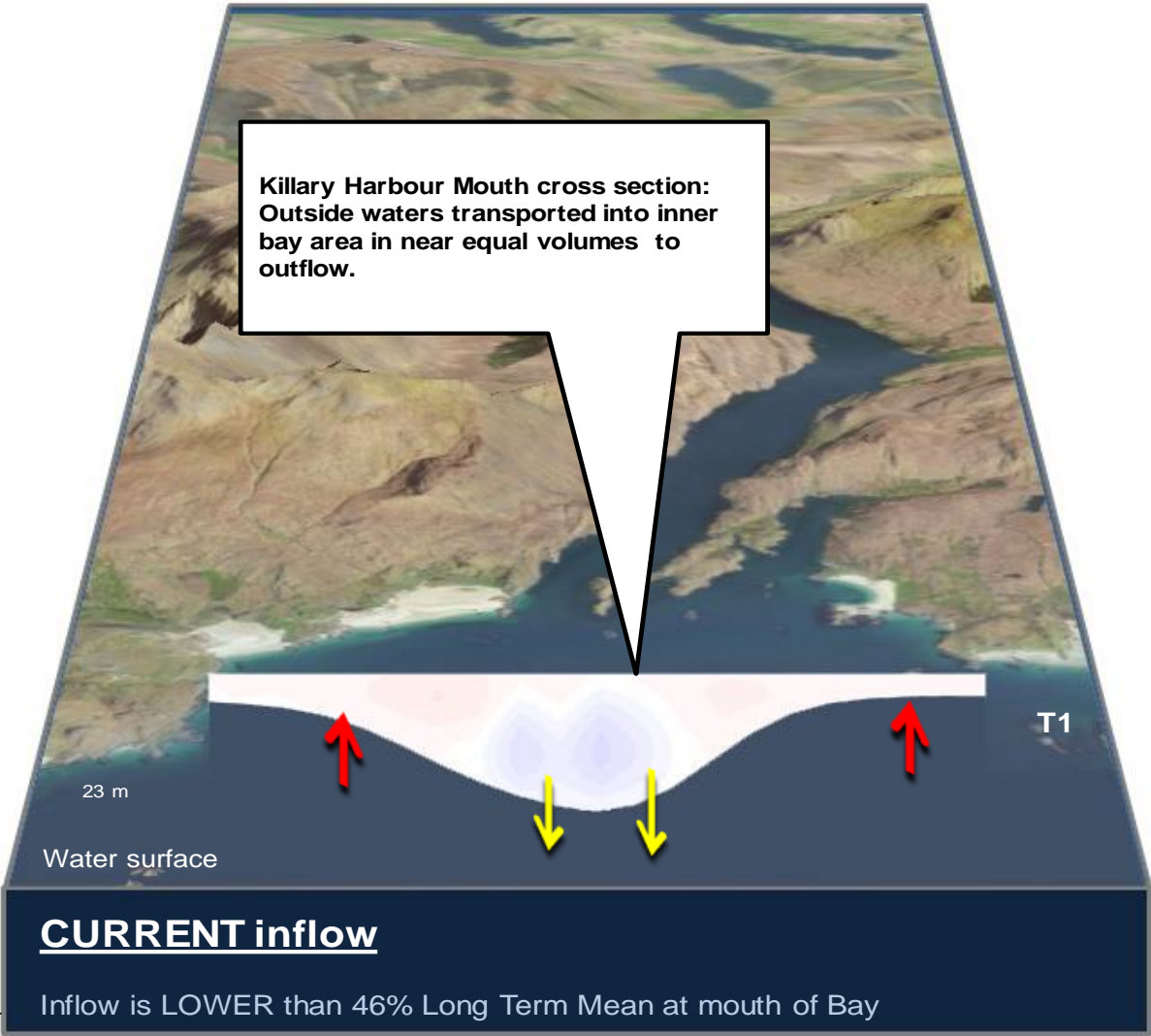
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth



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

Forecast for next 3 days

