

Ireland: Predictions

ASP event: Low to moderate - decreasing

AZP event: Moderate – potentially increasing

DSP event: Moderate - increasing

PSP event: Low

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	0	0

Why do we think this?

ASP: Pseudo nitzschia species appear to be decreasing slowly in cell numbers throughout the coastline. This would be the traditional pattern at this time of year. If environmental conditions sustain this pattern it would be expected that the risk factor from these species would continue to decrease slowly.

AZP: Risk levels of 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) . Environmental conditions may be fluctuating widely . Issues with this toxin can occur suddenly and acutely and upwelling events in specific bay areas should be monitored closely during this season .Caution is advised.

DSP: There is currently an increase to moderate risk for DSP. This increase in risk factor is based on the presence of Phalacroma rotundatum and the start of the high risk historical period of occurrence. While marine environmental conditions cannot be predicted an increase in this species group , either slowly or rapidly, would be expected at this time of year.

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



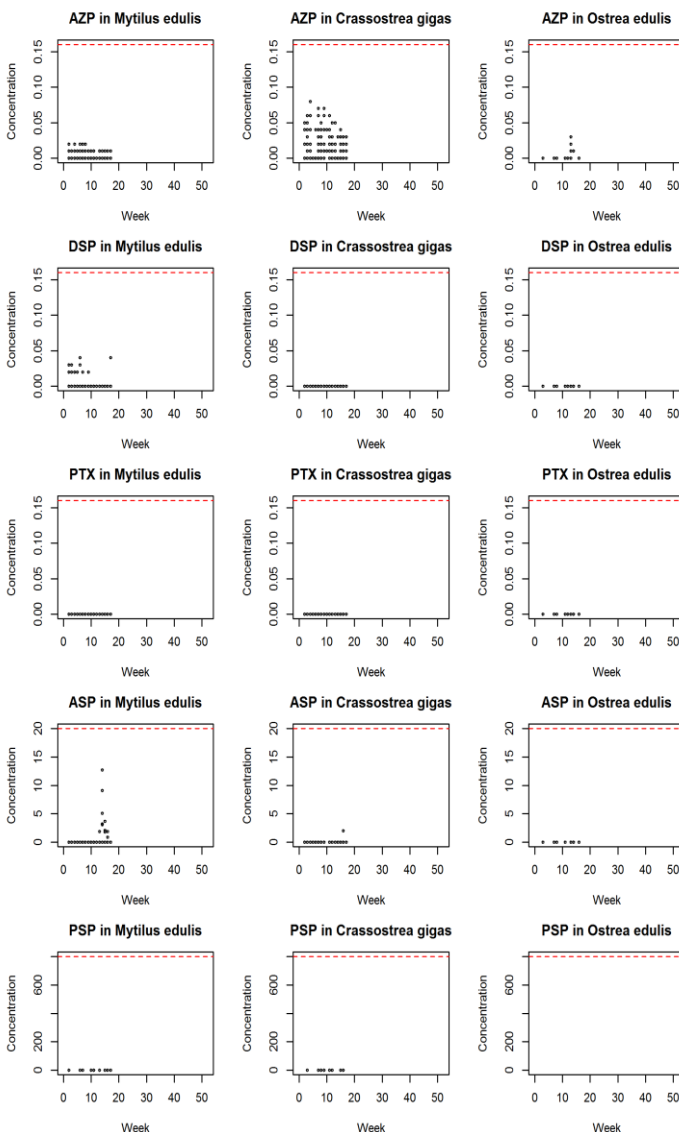
AZP

DSP

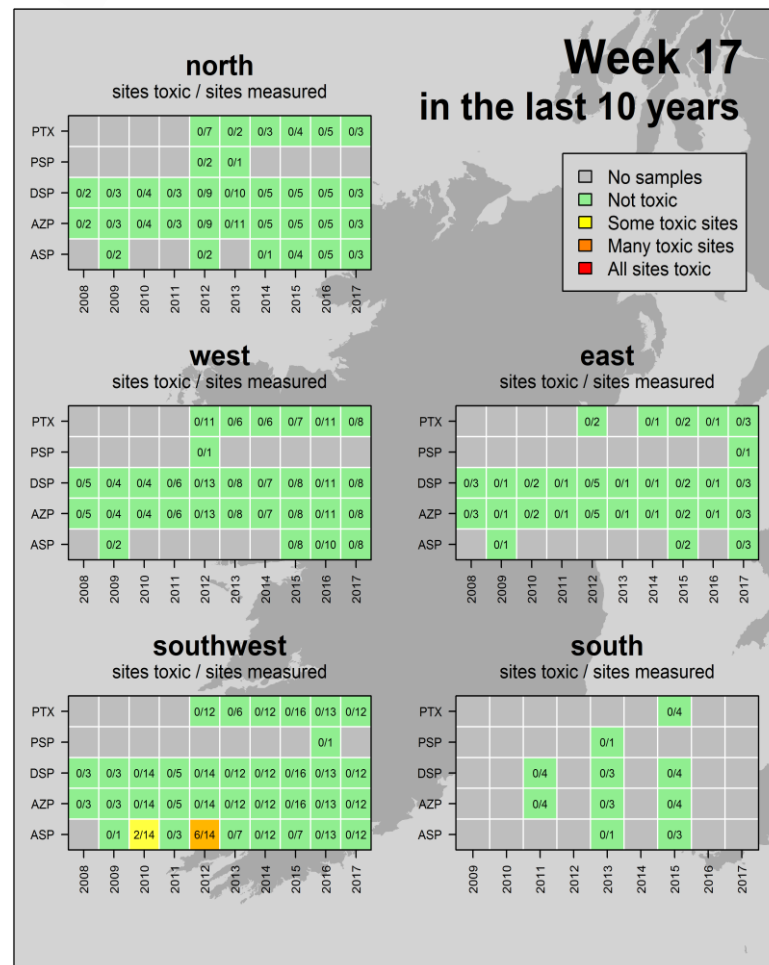
PTX

ASP

PSP



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



ASP events: mid-March to early May

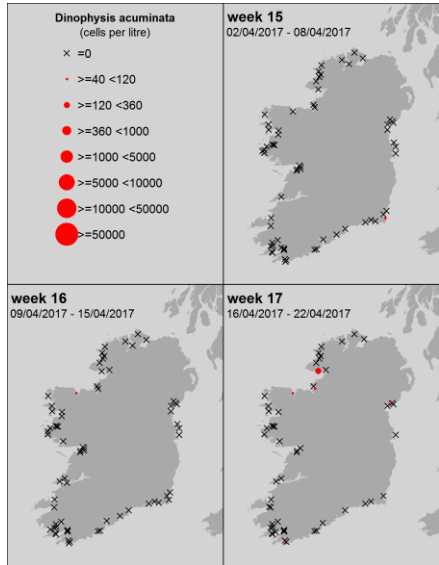
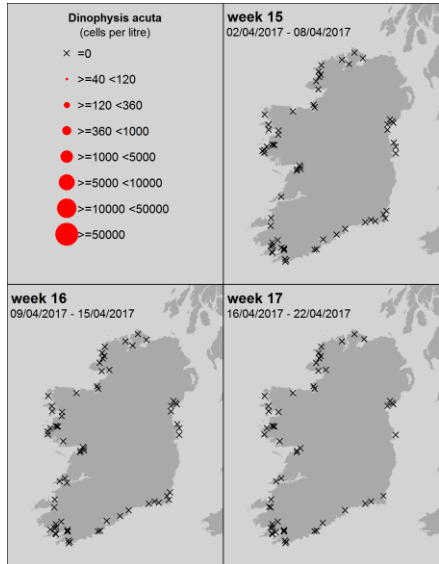
AZP events: April to December

DSP events: May to December

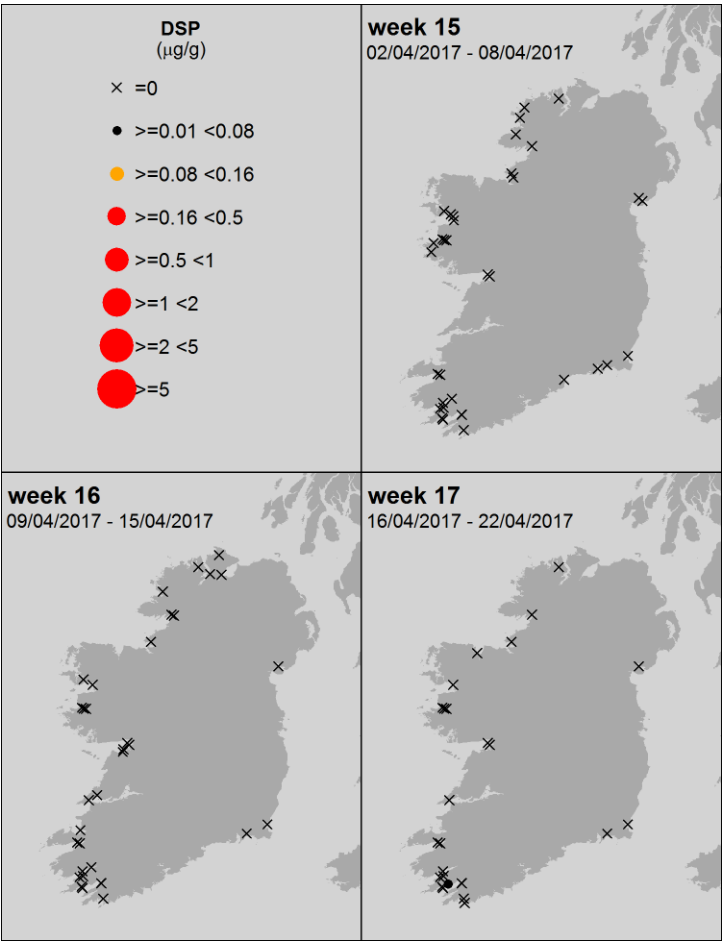
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

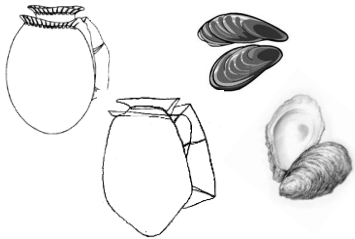
Phytoplankton species – 3 wks.



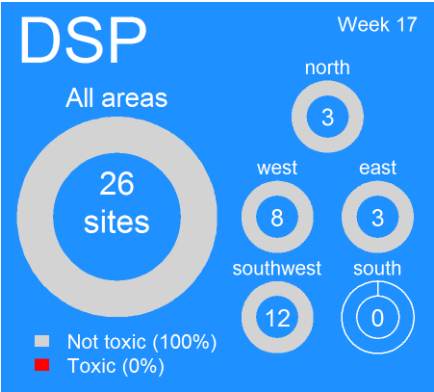
All levels of DSP biotoxin recorded- 3 wks.



Note: *Phalacrocoma rotundatum* (previous name *Dinophysis rotundata*) is currently present in some southern sites.



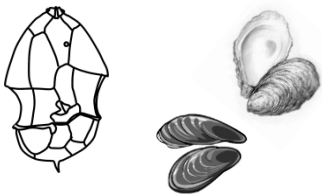
Current closures levels
≥ DSP 0.16 µg/g



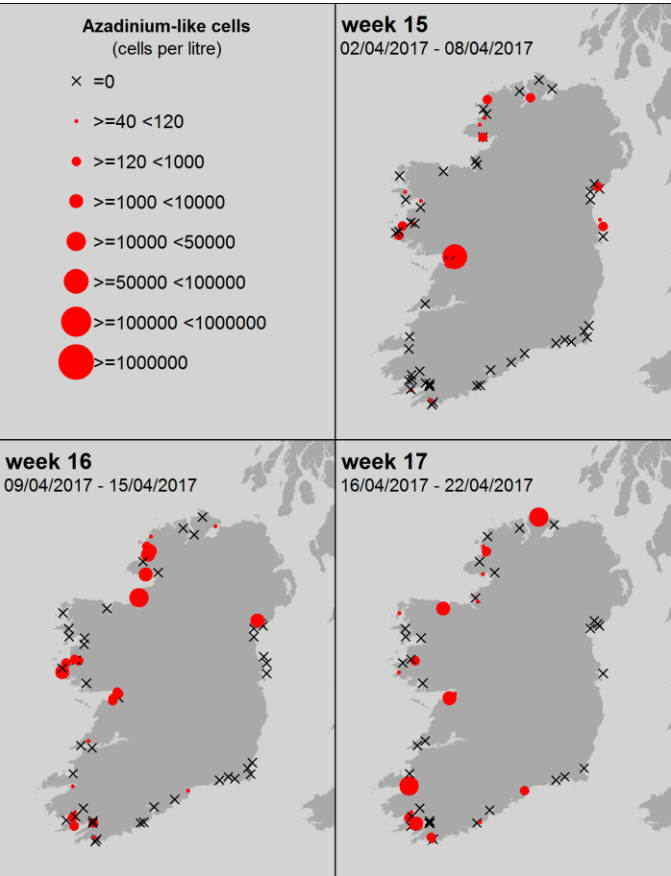
Comments

Dinophysis spp. levels are beginning to rise, as would be expected at this time of year. Higher levels of caution are advised.

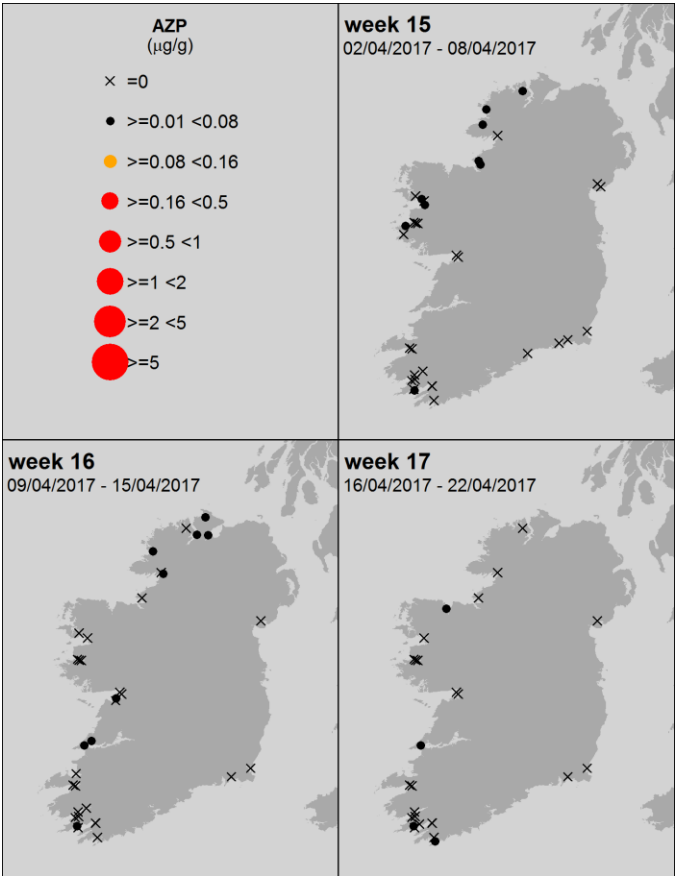
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

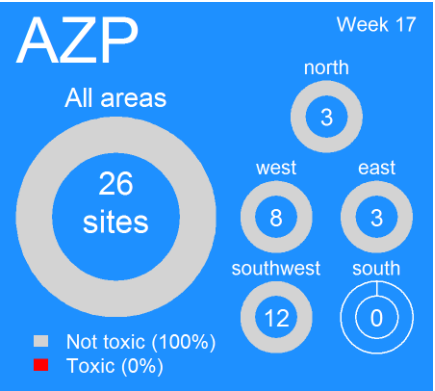


All levels of AZP biotoxin recorded - 3 wks.



Current closures levels

≥ AZP 0.16 µg/g

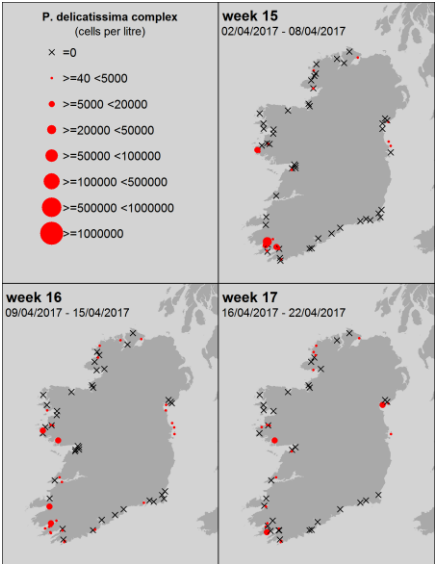
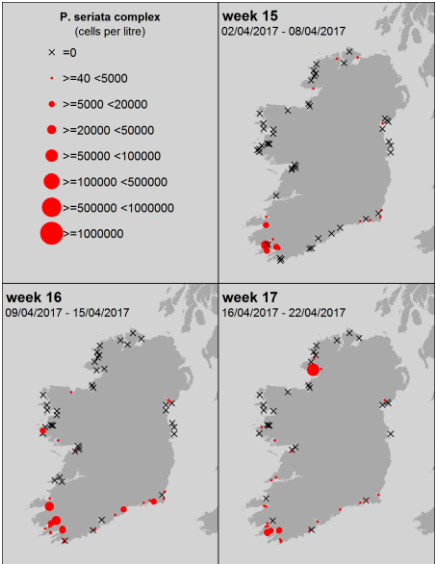


Comments

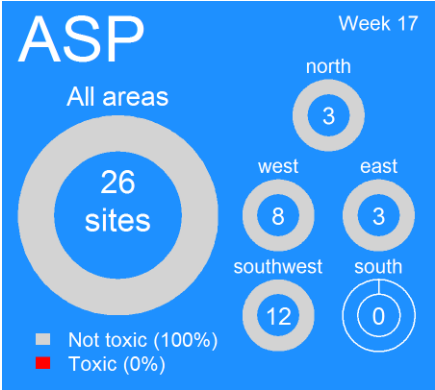
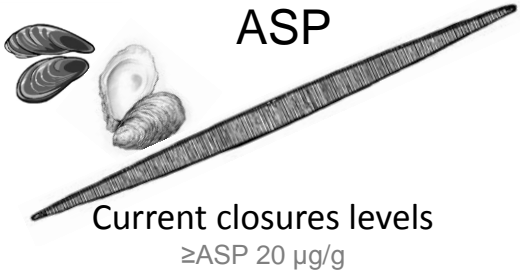
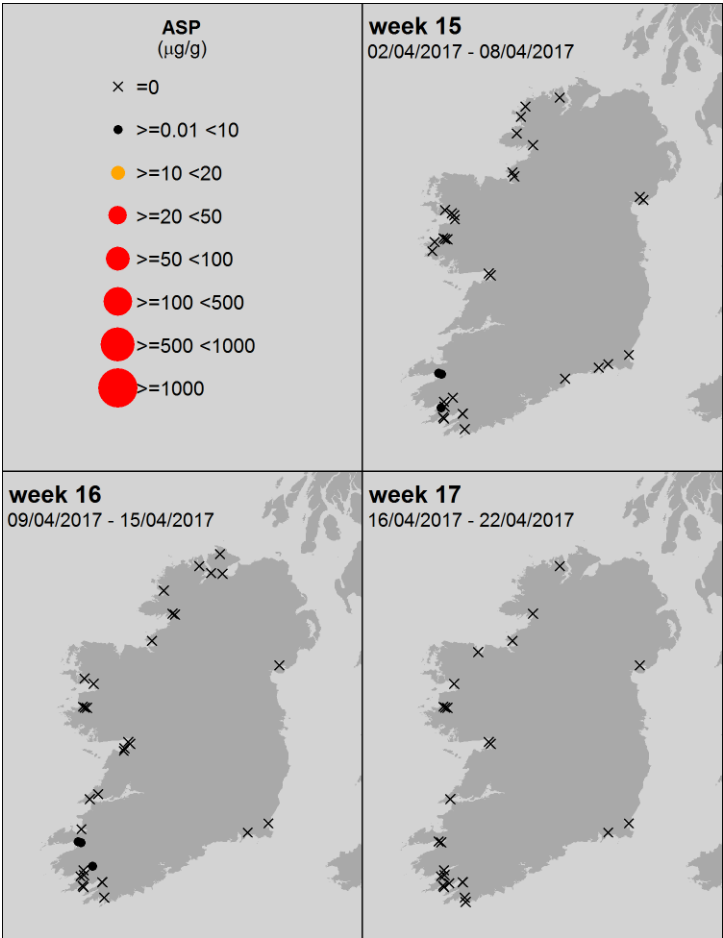
Potential cells' levels have on average been increasing ,in spread and magnitude. Additional caution is advised with this difficult species.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



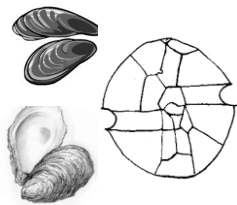
All levels of ASP biotoxin recorded - 3 wks.



Comments

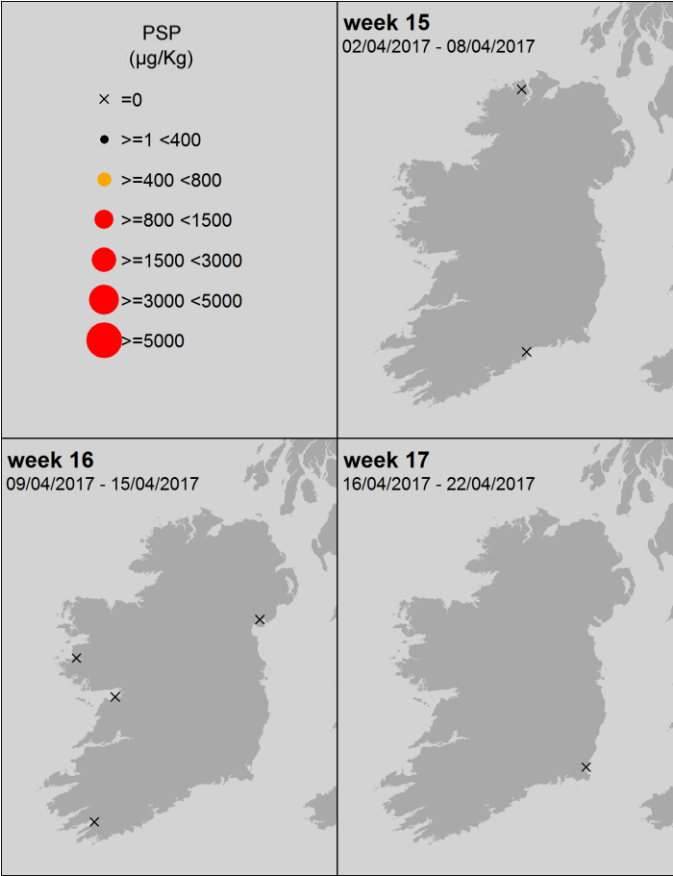
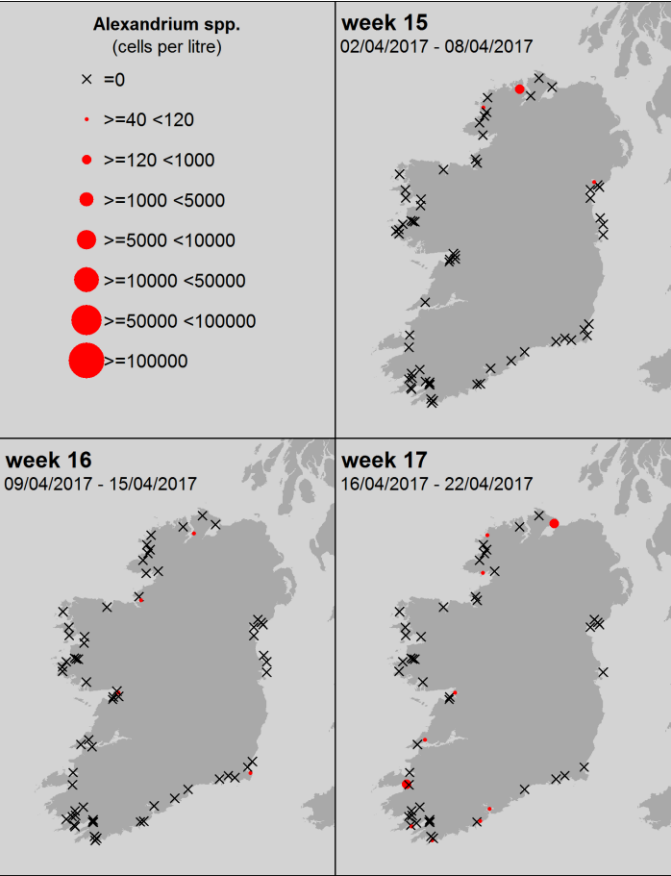
Pseudo nitzschia species continue to be observed around the coast but with a current trend of decreasing numbers. This is reflected also in the very low toxin levels observed .

PSP and Alexandrium sp. current trends

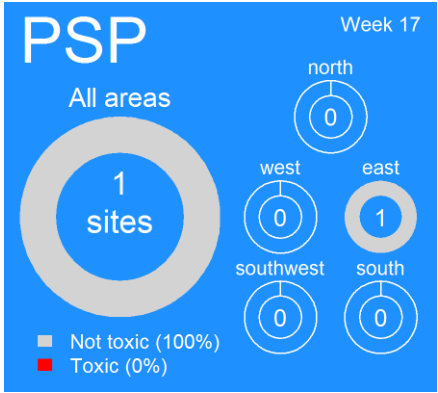


Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



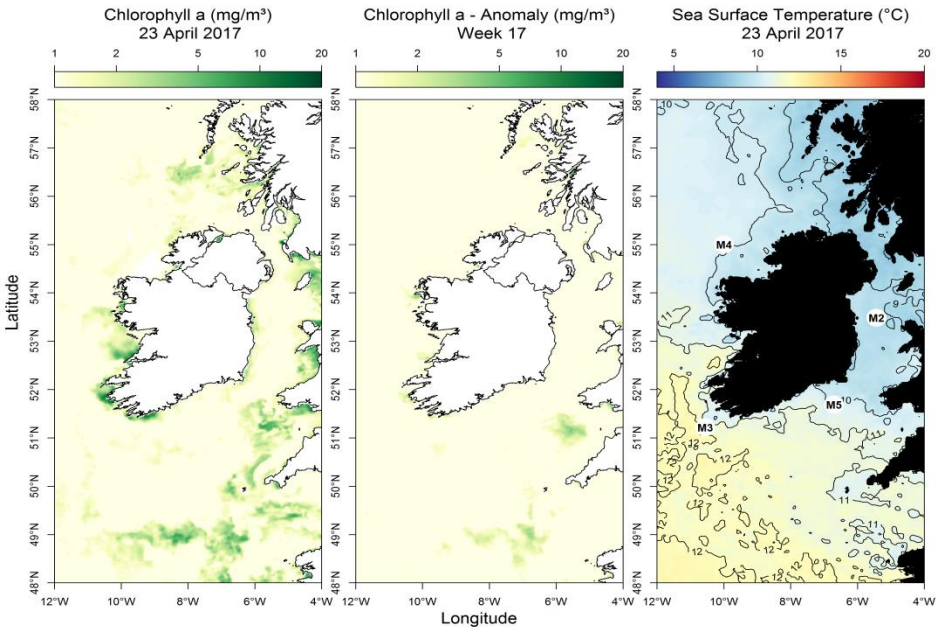
Current closures levels
≥ PSP 800 µg/Kg



Comments

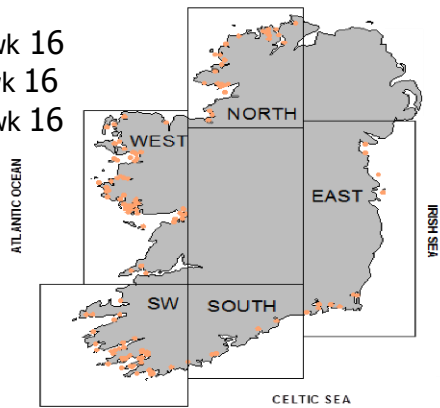
Cell observations increasing but still very low and not near potential impact levels. Environmental conditions not currently suitable for site specific threat.

Most up to date available satellite data



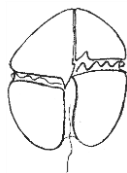
Continued increase in phytoplankton potential growth specifically in sheltered inner bay areas.

- NW coast (M4) Above average by 0.20°C wk 16
- SW coast (M3) Above average by 0.52°C wk 16
- SE coast (M5) Above average by 0.44°C wk 16



What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Skeletonema spp.	439000
2	east	Cylindrotheca closterium/ Nitzschia longissima	218000
3	east	Euglena/Eutreptiella spp.	45000
4	east	Heterocapsa triquetra	14000
5	east	Thalassiosira spp.	12000
1	north	Skeletonema spp.	771000
2	north	Euglena/Eutreptiella spp.	159000
3	north	Thalassiosira spp.	99000
4	north	Pennate diatom	85000
5	north	Chaetoceros (Hyalochaete) spp.	36000
5	north	Azadinium/heterocapsa spp.	36000
1	south	Thalassiosira 20-50um	13000
2	south	Thalassiosira spp.	8000
3	south	Centric Diatom	2000
4	south	Skeletonema spp.	2000
5	south	Pseudo-nitzschia seriata complex	2000
1	southwest	Chaetoceros (Hyalochaete) spp.	4700000
2	southwest	Asterionellopsis glacialis	4653000
3	southwest	Microflagellate sp.	56000
4	southwest	Chaetoceros socialis	39000
5	southwest	Guinardia delicatula	33000
1	west	Skeletonema spp.	222000
2	west	Cylindrotheca closterium/ Nitzschia longissima	86000
3	west	Grammatophora marina	36000
4	west	Euglena/Eutreptiella spp.	32000
5	west	Chaetoceros (Hyalochaete) spp.	15000

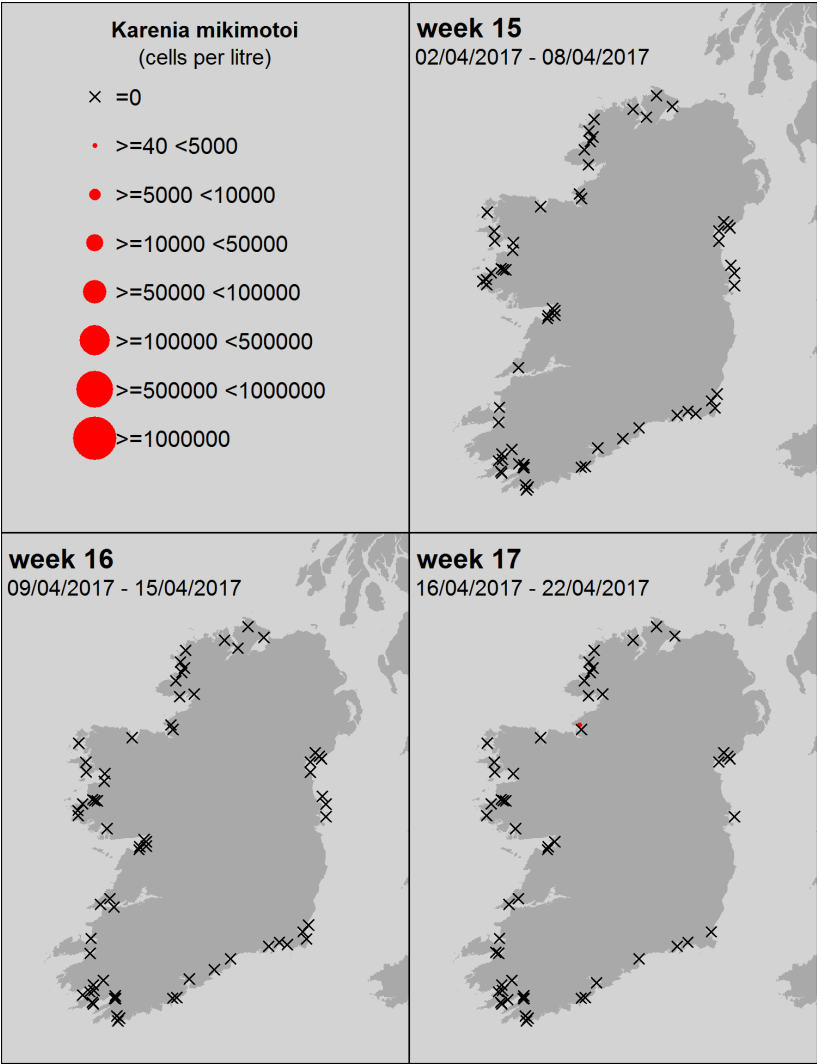


Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom
is NOT expected this week

General bloom /phytoplankton
species news

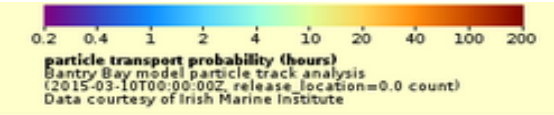
Mixed non toxic /problematic
species of phytoplankton
species increasing in all areas.
While this should increase
growth yields in bivalves, finfish
sites may need to watch for
related fish health issues in sites
with localised blooms of any
species at high levels.



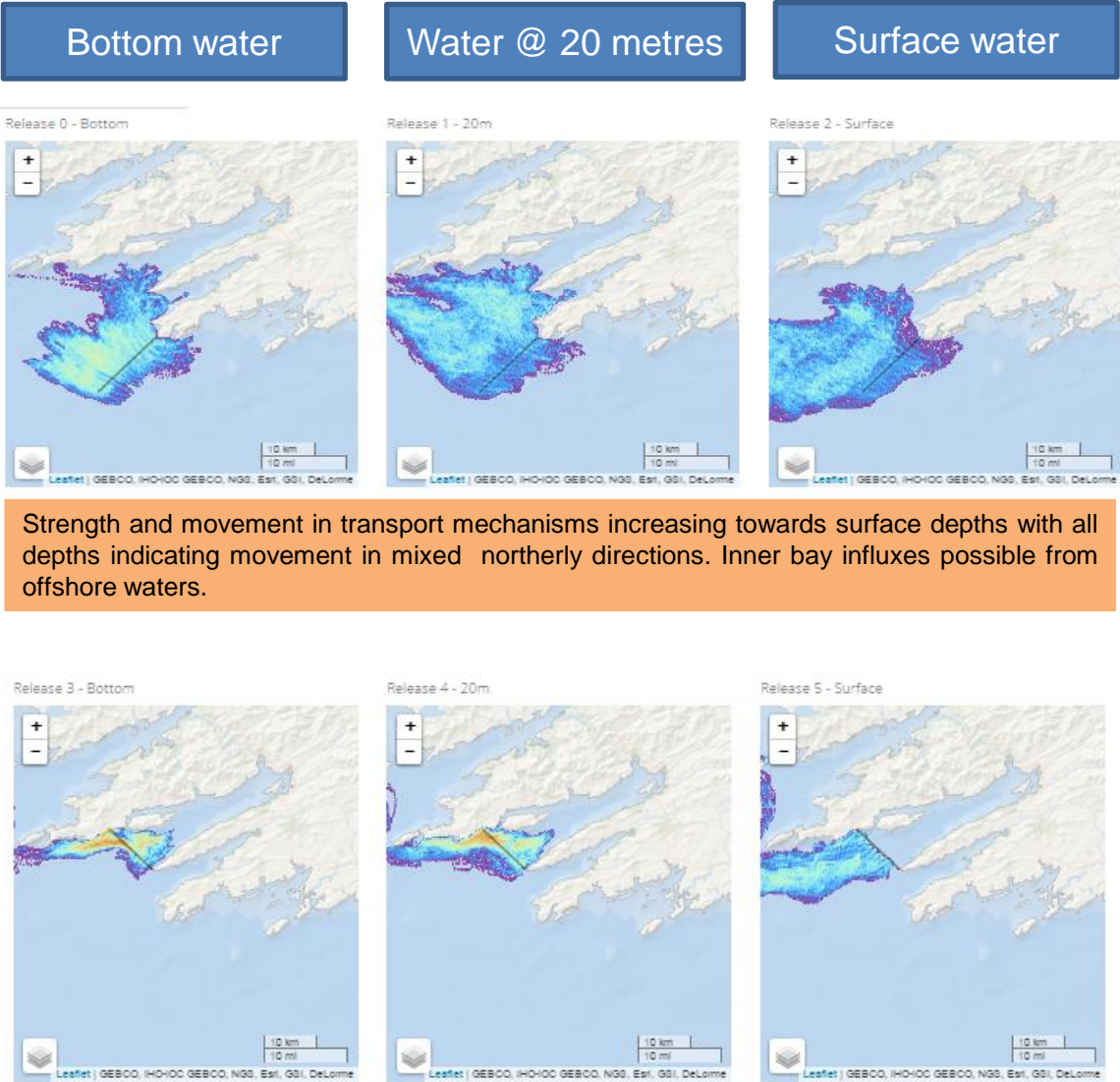
SOUTHWEST: Bantry Bay

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



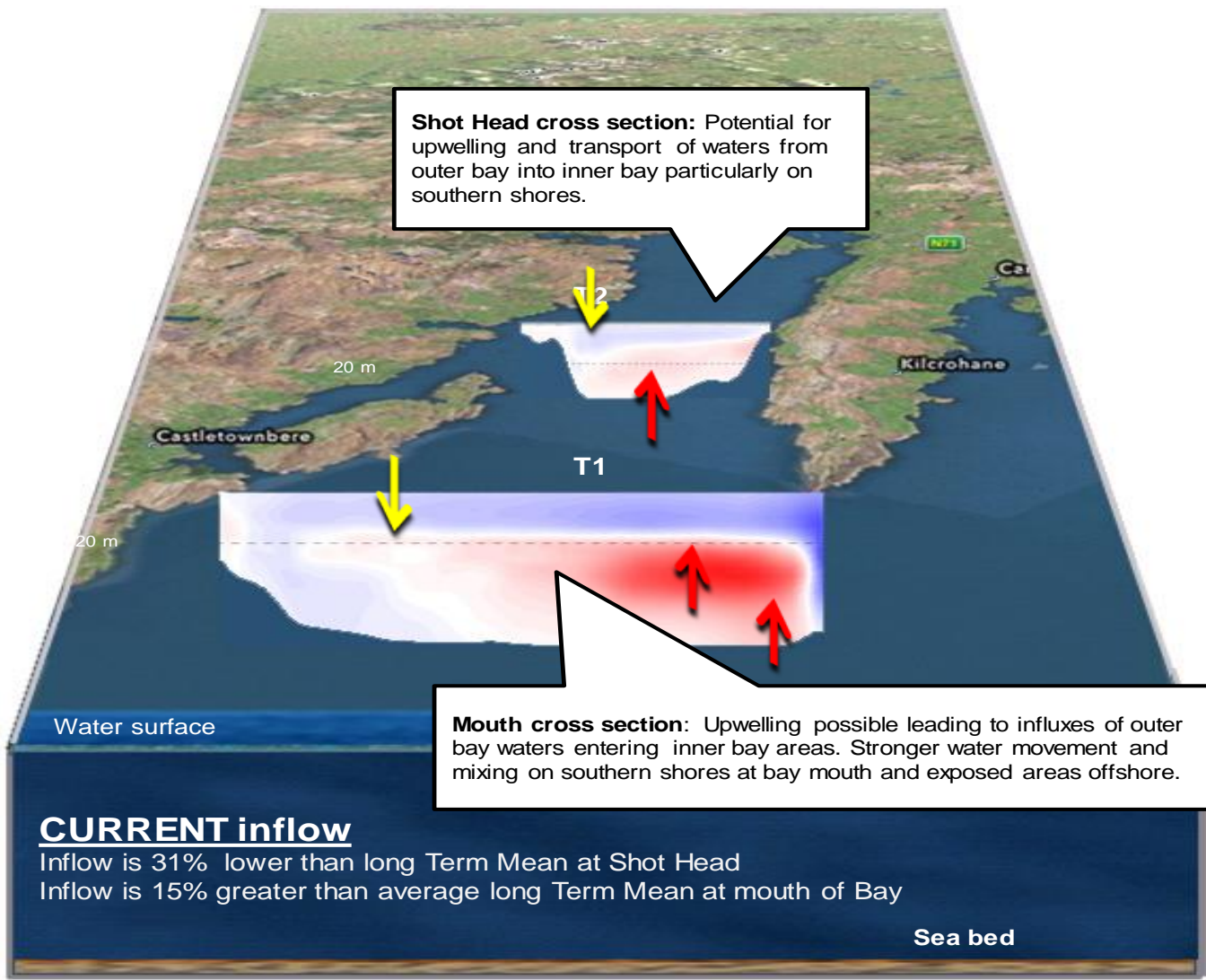
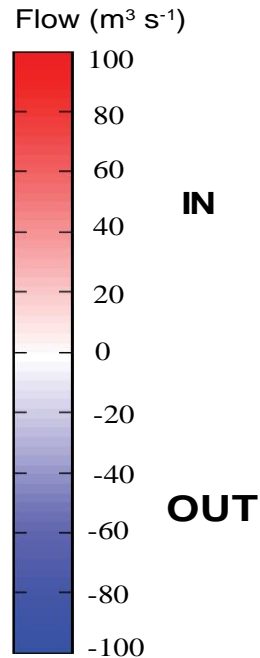
Strength and movement in transport mechanisms increasing towards surface depths with all depths indicating movement in mixed northerly directions. Inner bay influxes possible from offshore waters.

Bottom and mid water depths indicating inner bay transport from outer bay areas leading to potential upwelling situations.

Bantry Bay

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

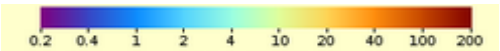
Forecast for next 3 days



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)

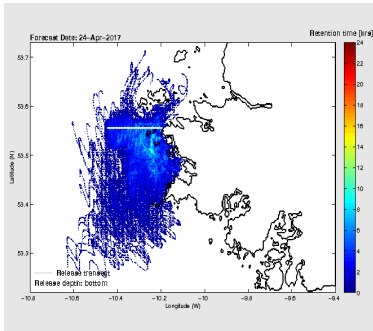
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



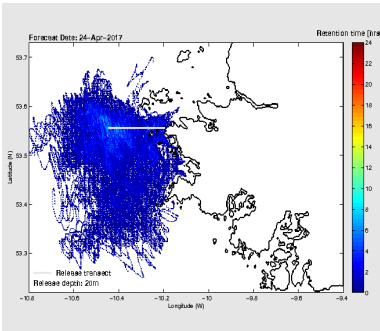
0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

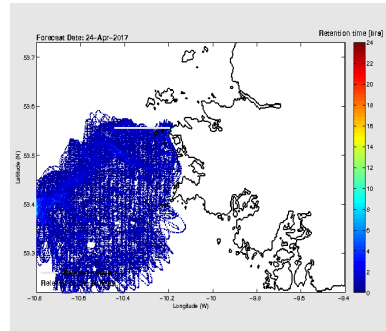
Bottom water



Water @ 20 metres

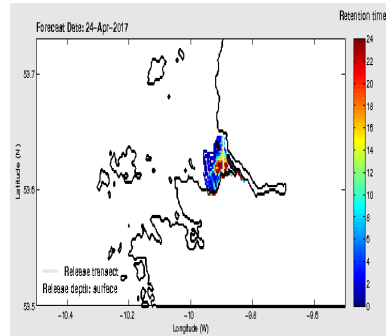
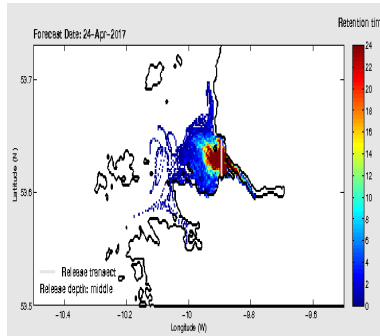
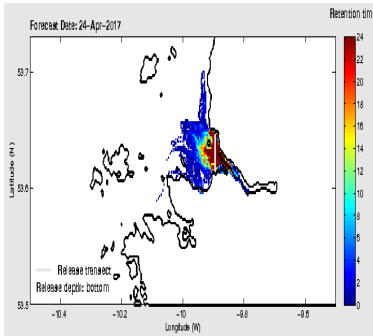


Surface water



Cleggan

Strong mixing and water movements in predominantly mixed southerly directions in offshore areas at all depths.



Killary

Upwelling conditions possible and inner bay transport, due to water movement at bottom and deeper depths into inner bay areas from well mixed offshore outer bay zones.

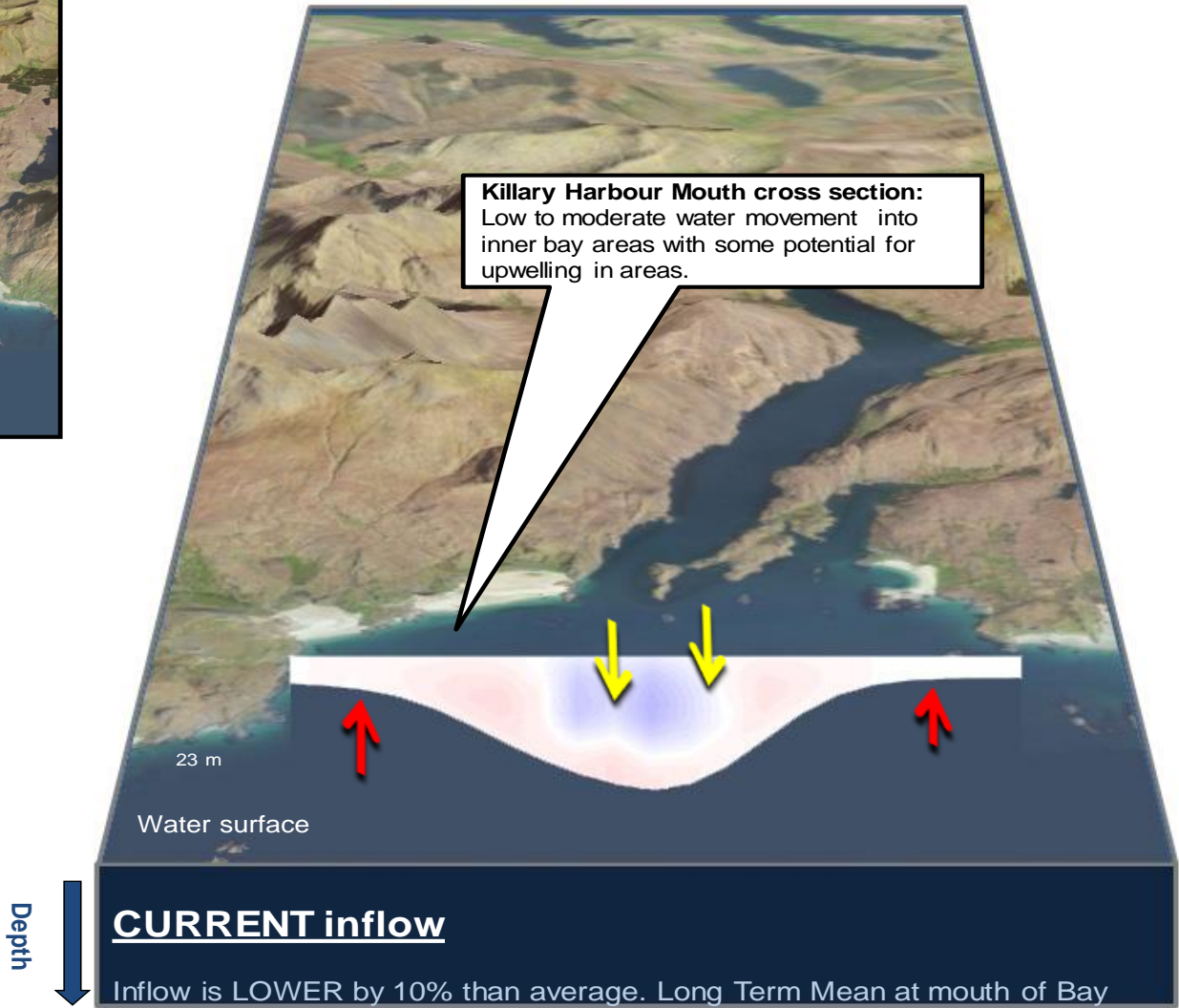
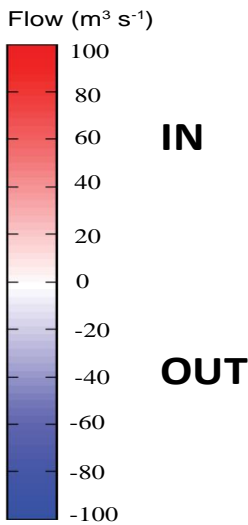
Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



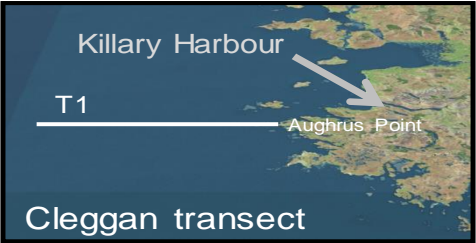
Forecast for next 3 days

Killary Harbour Mouth cross section:
Low to moderate water movement into inner bay areas with some potential for upwelling in areas.

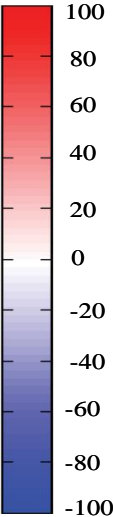


West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward
flow

southward
flow

