

Ireland: Predictions

ASP event: Low

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: Currently there appears to be a steady weekly pattern of *Psuedo nitzschia* species slowly increasing (3 consecutive weeks) in distribution and cell concentrations around the coastline. All sites remain clear of toxins. Low risk at the moment but this risk factor would typically be expected to rise within the next few weeks with favourable environmental factors.

AZP: Risk levels has been risen primarily as there appears to be a stable pattern (3 consecutive weeks) of slow increase in levels of sites with low levels of toxins present (all currently below closure levels). Issues with this toxin can occur suddenly and acutely .Caution is advised.

DSP: This is currently a low risk period for early DSP events. 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

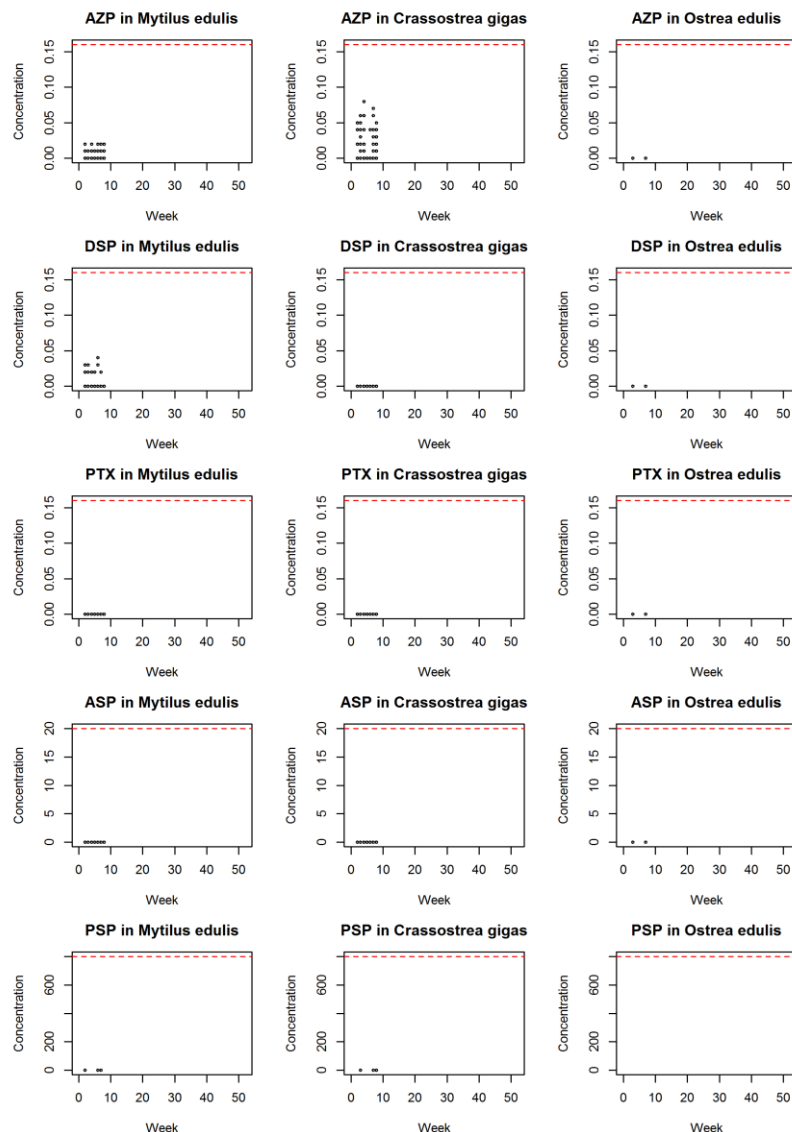
AZP

DSP

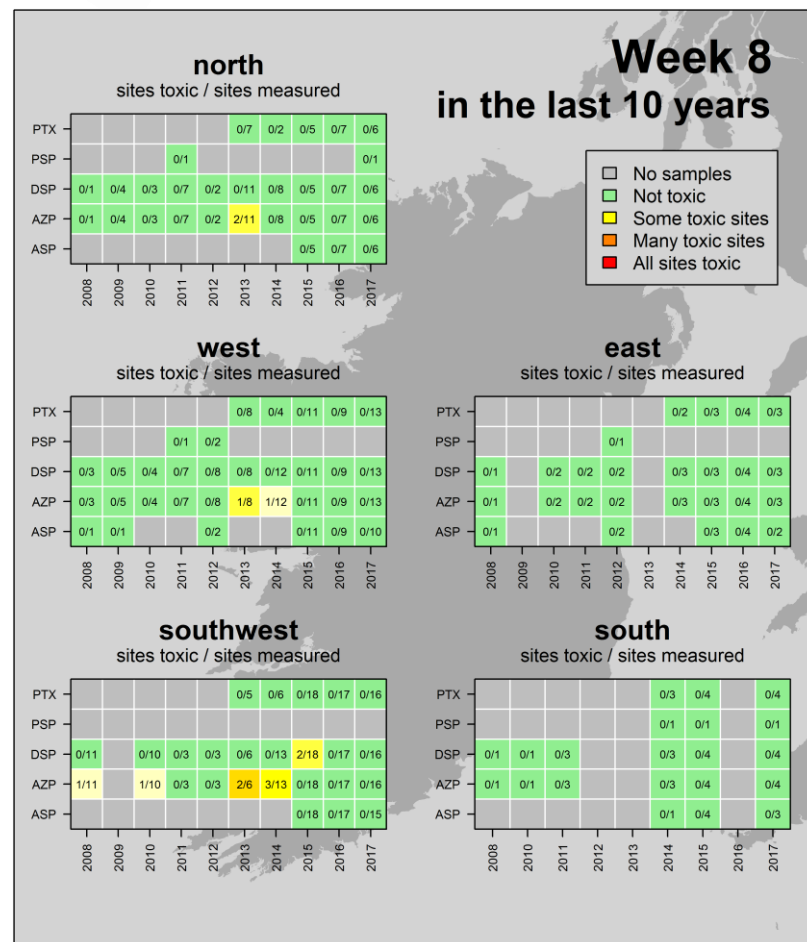
PTX

ASP

PSP



HISTORIC TRENDS



ASP events: mid-March to early May

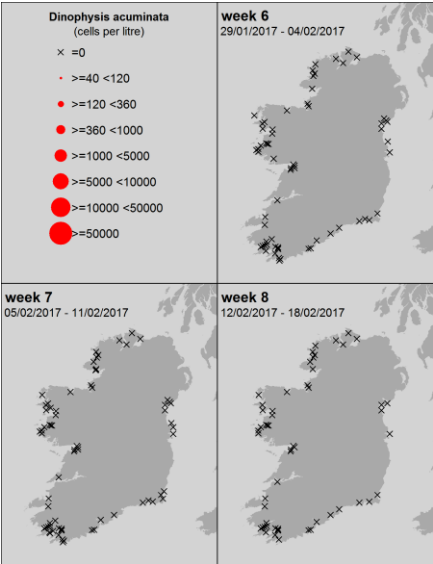
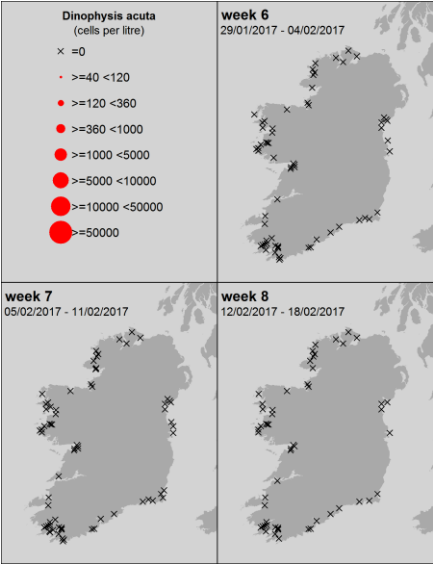
AZP events: April to December

DSP events: May to December

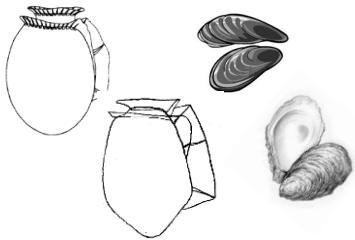
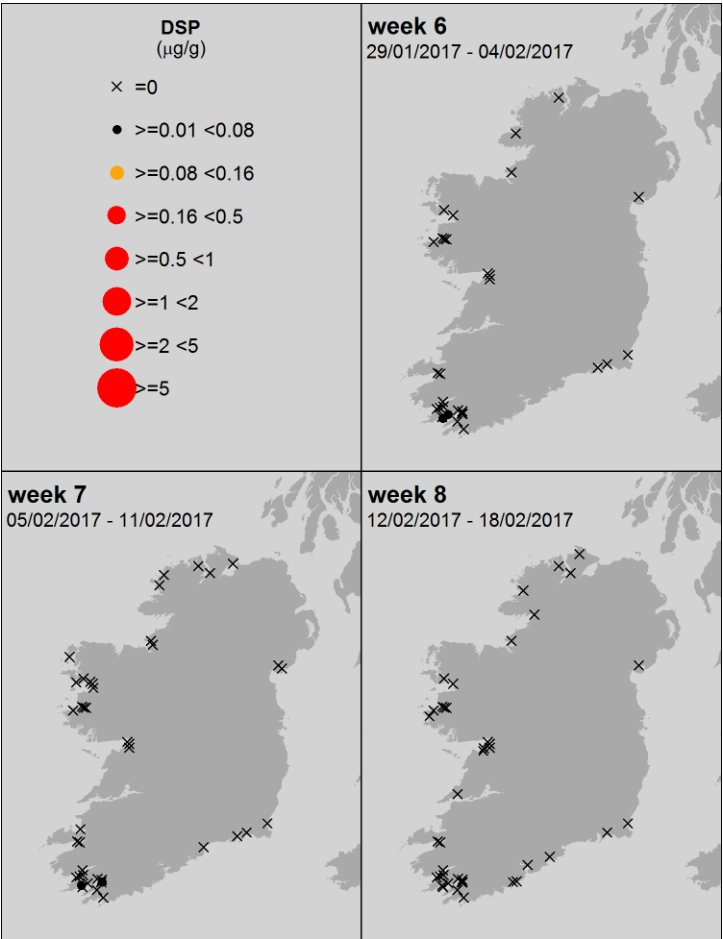
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks

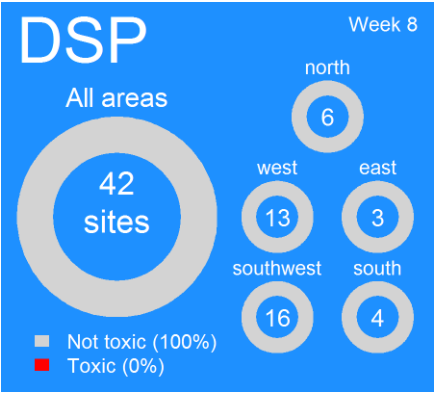


All levels of DSP biotoxin recorded- 3 wks



Current closures levels

≥ DSP 0.16 µg/g



Comments

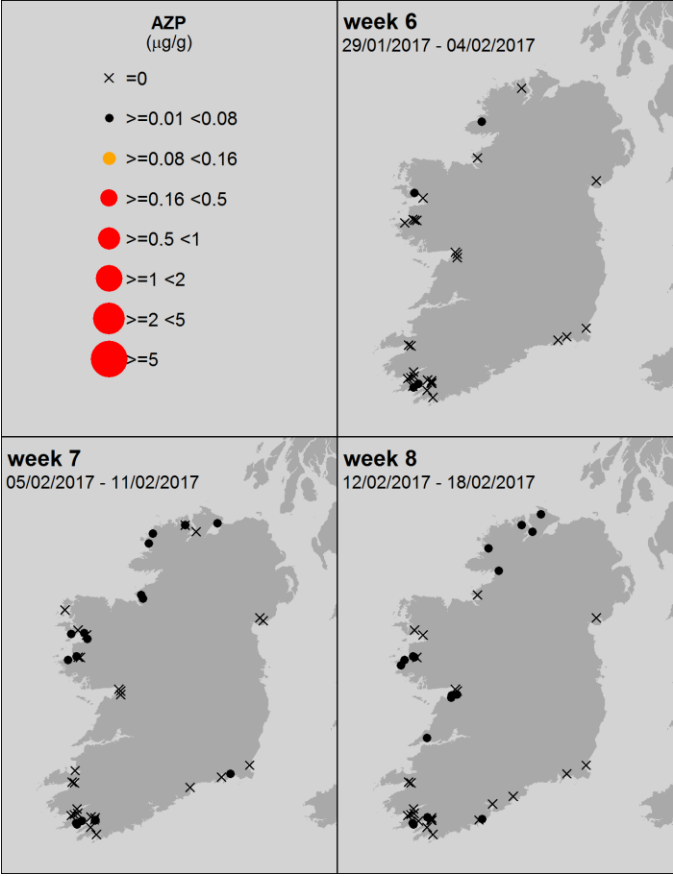
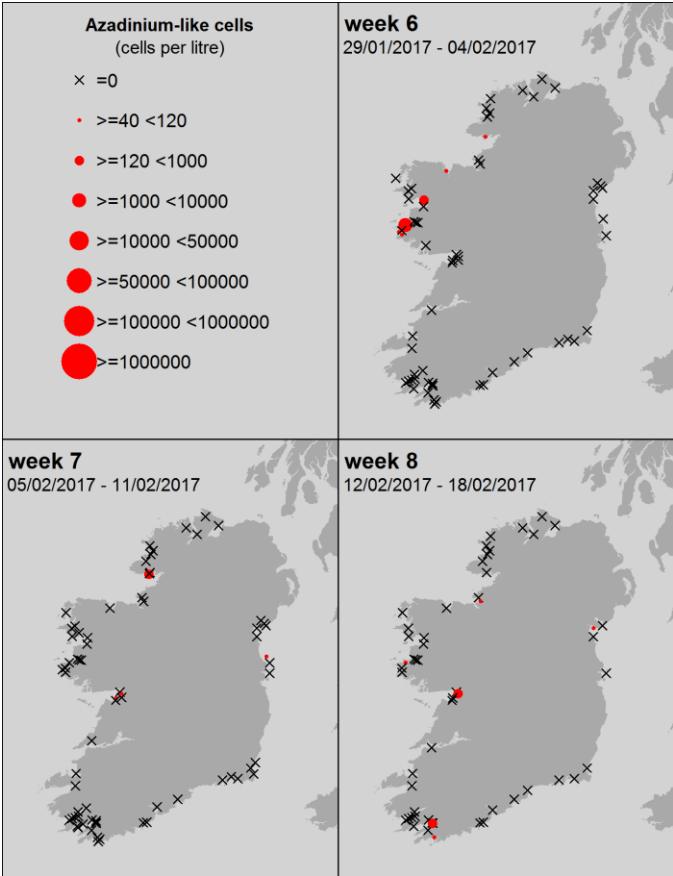
Same as last week -
Very low cell levels
and DSP detected in 1
or 2 sites only. No
closures currently
expected.

AZP and Azadinium like species current trends

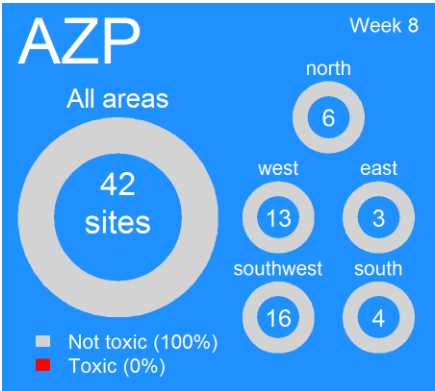


Phytoplankton species – 3 wks

All levels of AZP biotoxin recorded - 3 wks



Current closures levels
 $\geq \text{AZP } 0.16 \mu\text{g/g}$

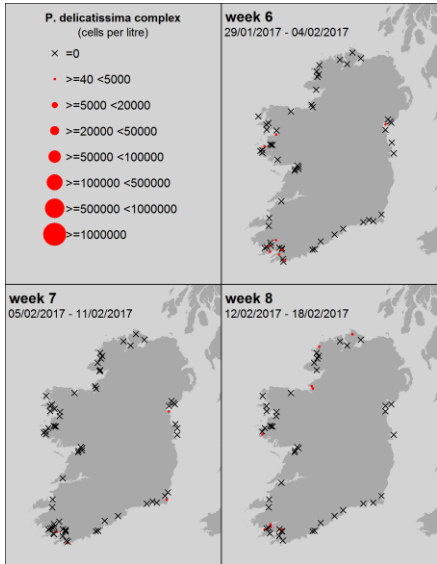
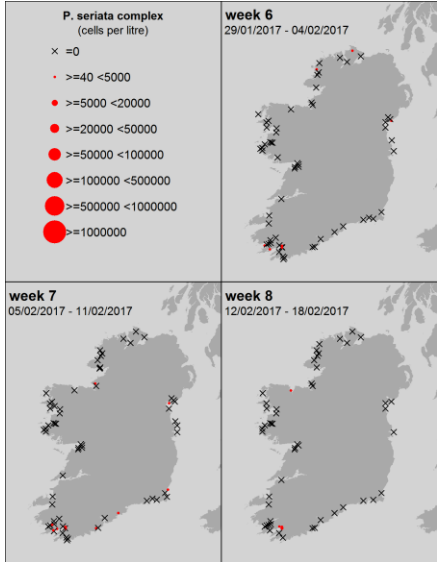


Comments

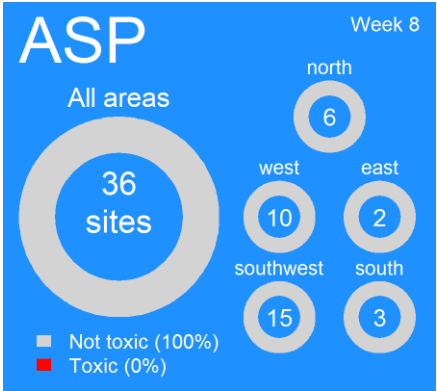
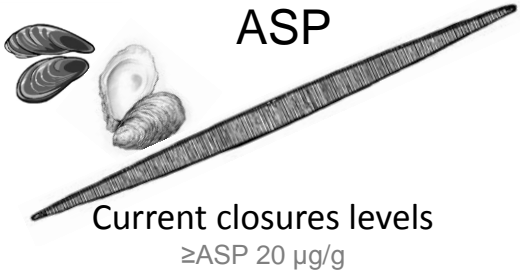
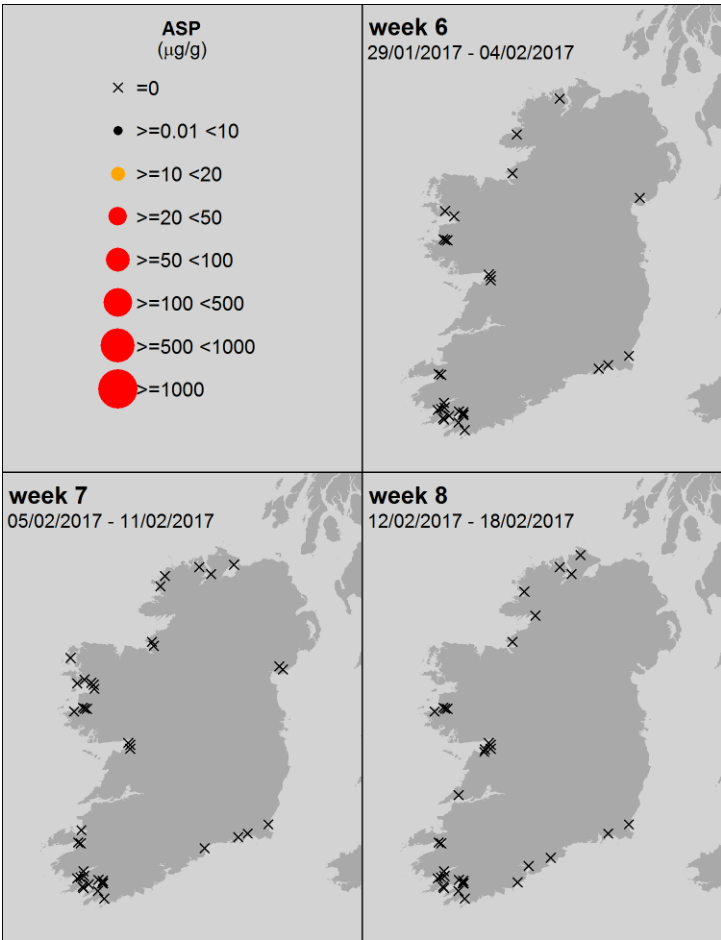
Again a slight increase in presence of low level toxins . Slight increase also in phytoplankton potential spread but all sites still well below biotoxin limits.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks



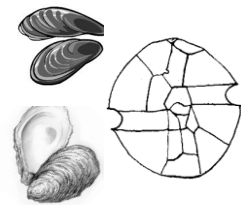
All levels of ASP biotoxin recorded - 3 wks



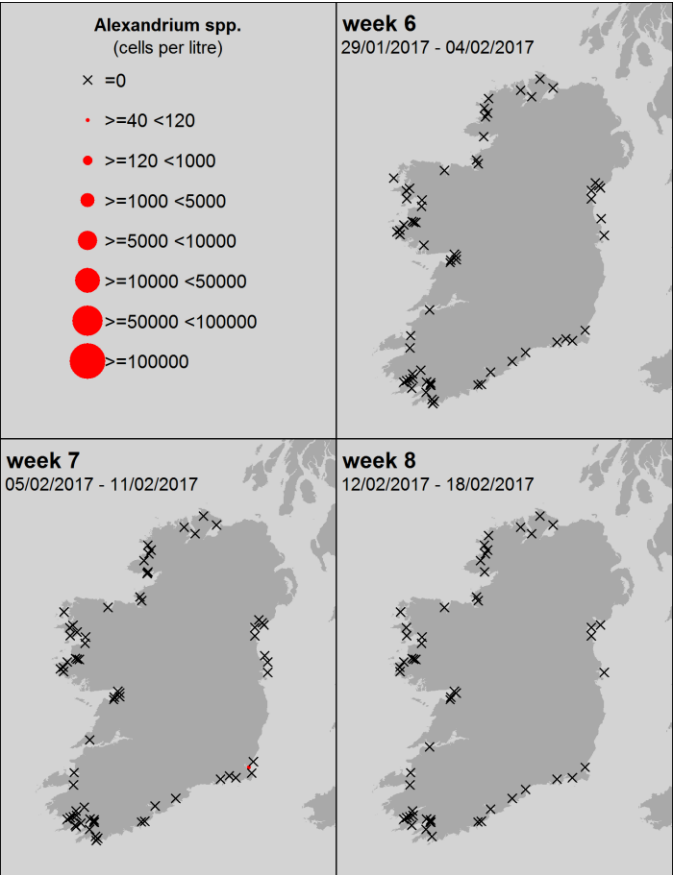
Comments

Slow steady spread and increase in phytoplankton cells continues but all sites tested still well below biotoxin limits.

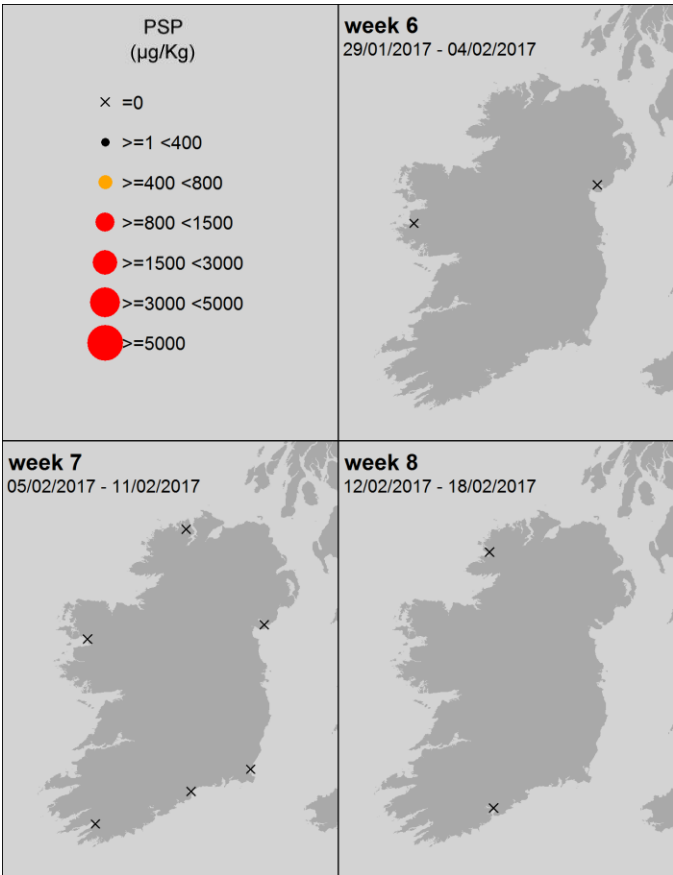
PSP and Alexandrium sp. current trends



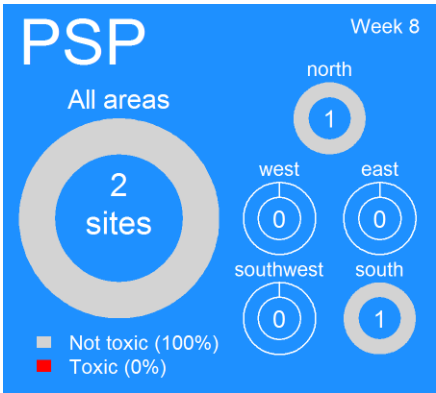
Phytoplankton species – 3 wks



All levels of PSP biotoxin recorded - 3 wks



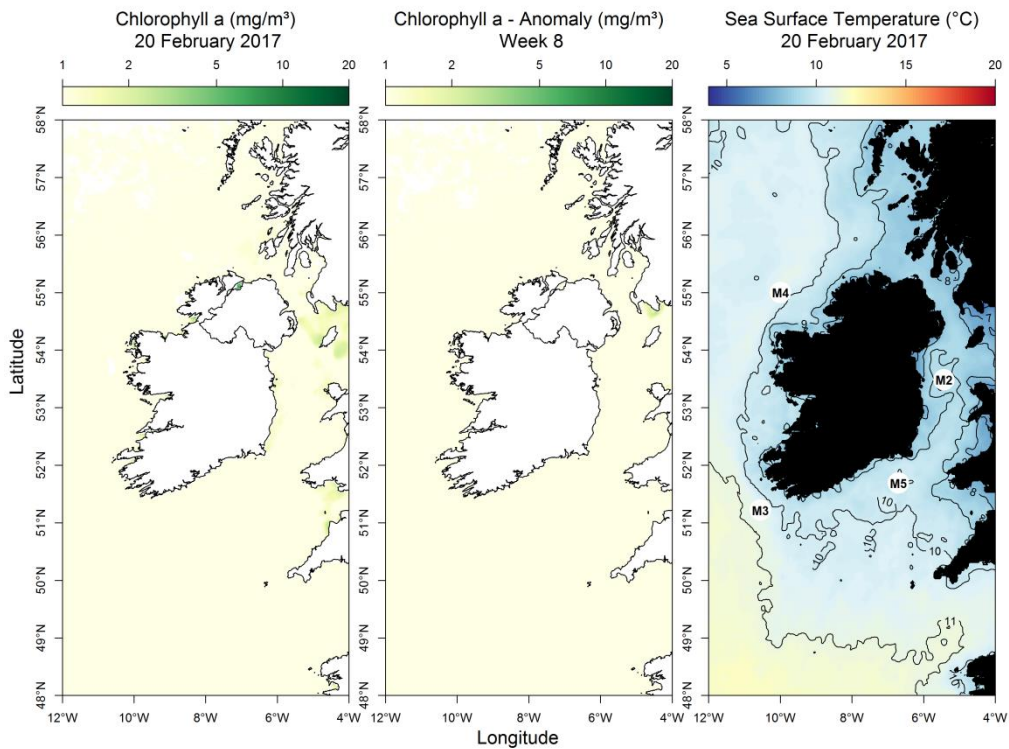
Current closures levels
≥ PSP 800 µg/Kg



Comments

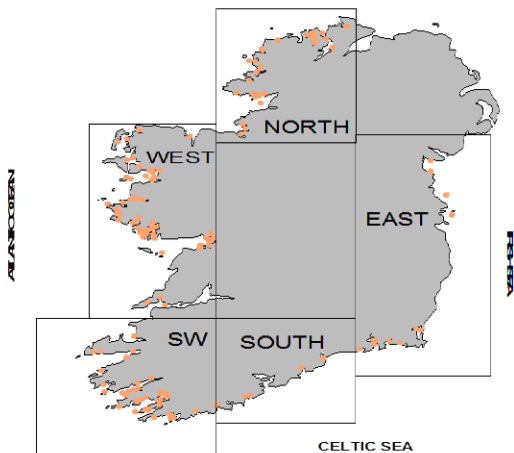
- No current changes -
No closures and
negligible likelihood
of bloom at this time.

Most up to date available satellite data



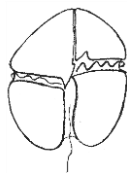
NW coast (M4)
SW coast (M3)
SE coast (M5)

Data unavailable
Data unavailable
Data unavailable



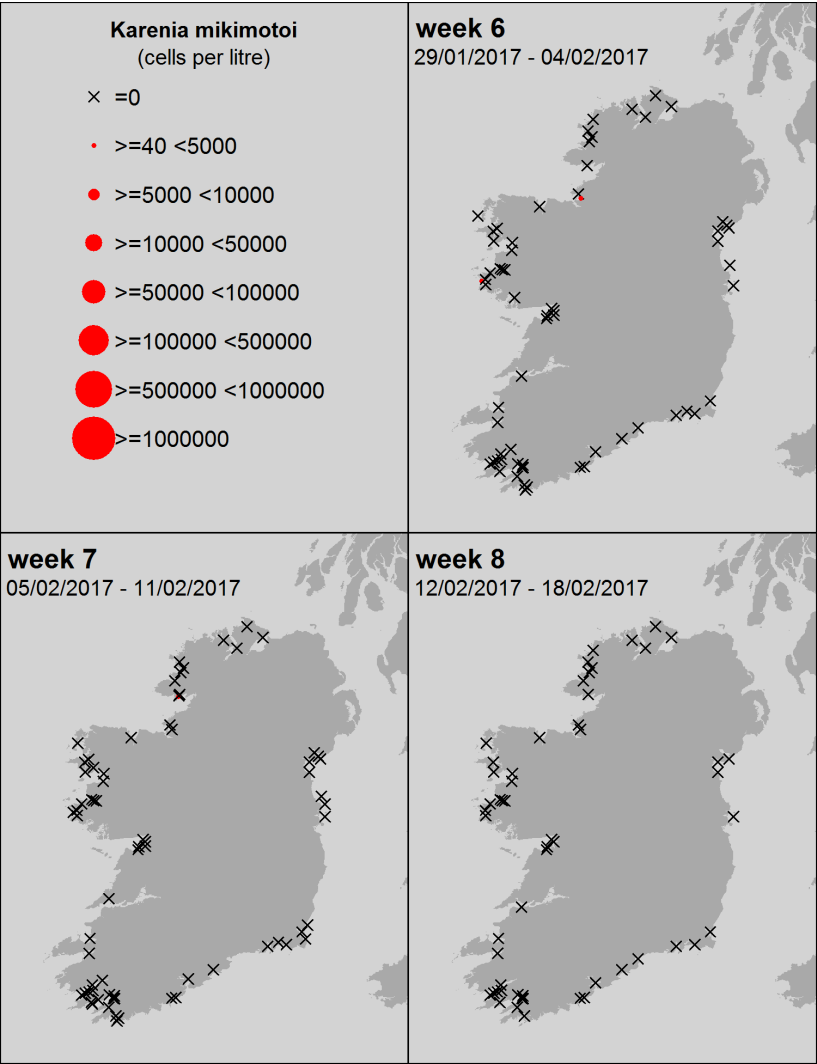
What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Pennate diatom	5000
2	east	Paralia sp.	4000
3	east	Fragilaria spp.	1000
4	east	Thalassiosira spp.	1000
5	east	Paralia sulcata	1000
1	north	Asterionellopsis spp.	58000
2	north	Cylindrotheca closterium/ Nitzschia longissima	45000
3	north	Skeletonema spp.	30000
4	north	Pennate diatom	18000
5	north	Thalassiosira spp.	16000
1	south	Odontella spp.	25000
2	south	Paralia sp.	10000
3	south	Paralia sulcata	10000
4	south	Skeletonema spp.	6000
4	south	Lauderia / Detonula sp	6000
1	southwest	Nitzschia spp. (small)	81000
2	southwest	Skeletonema spp.	38000
3	southwest	Centric diatoms <20um	26000
4	southwest	Skeletonema costatum	10000
5	southwest	Paralia sp.	8000
1	west	Pennate diatom	41000
2	west	Cylindrotheca closterium/ Nitzschia longissima	22000
3	west	Skeletonema costatum	11000
4	west	Microflagellate spp. <10um	8000
5	west	Euglena/Eutreptiella spp.	3000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

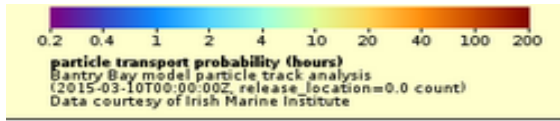
A *Karenia mikimotoi* bloom
is NOT expected this week



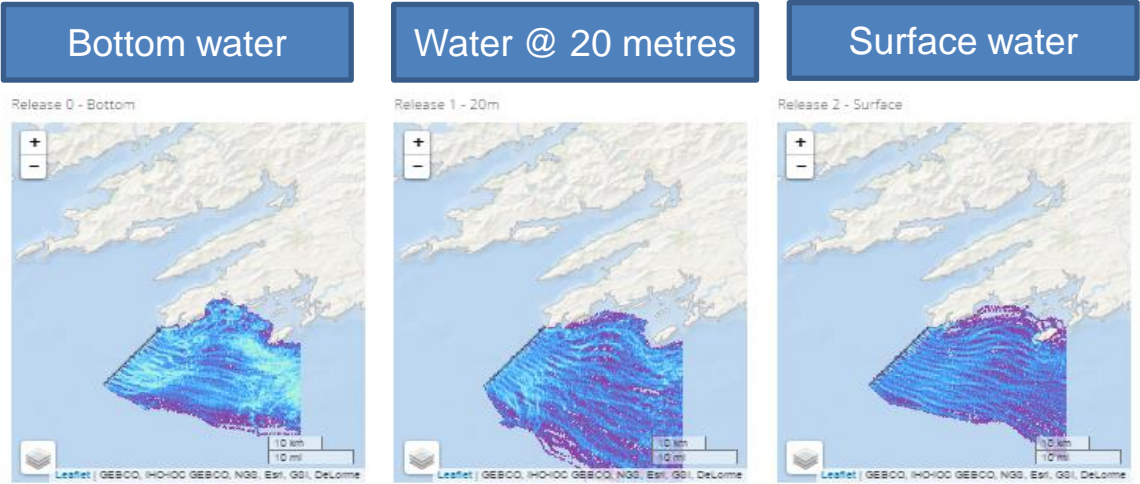
SOUTHWEST: Bantry Bay

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)

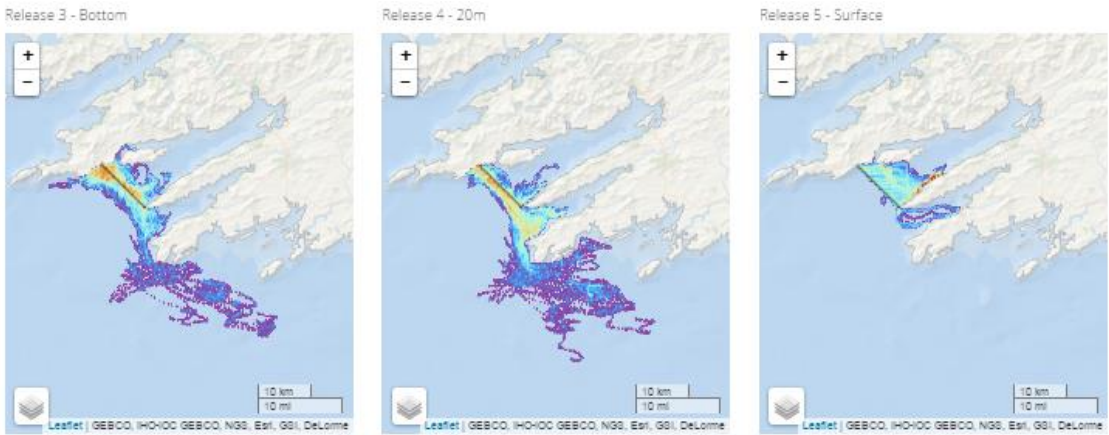
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



Forecast for the next 3 days



Change in direction from last week- current water movements predicted to be predominantly in a west south west direction at all depths.



West south west water movement at all depths .This will allow for outer bay incursions into inner bay areas particularly at surface water levels.

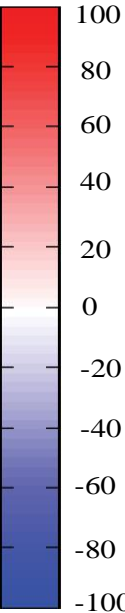
Bantry Bay

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

Forecast for next 3 days



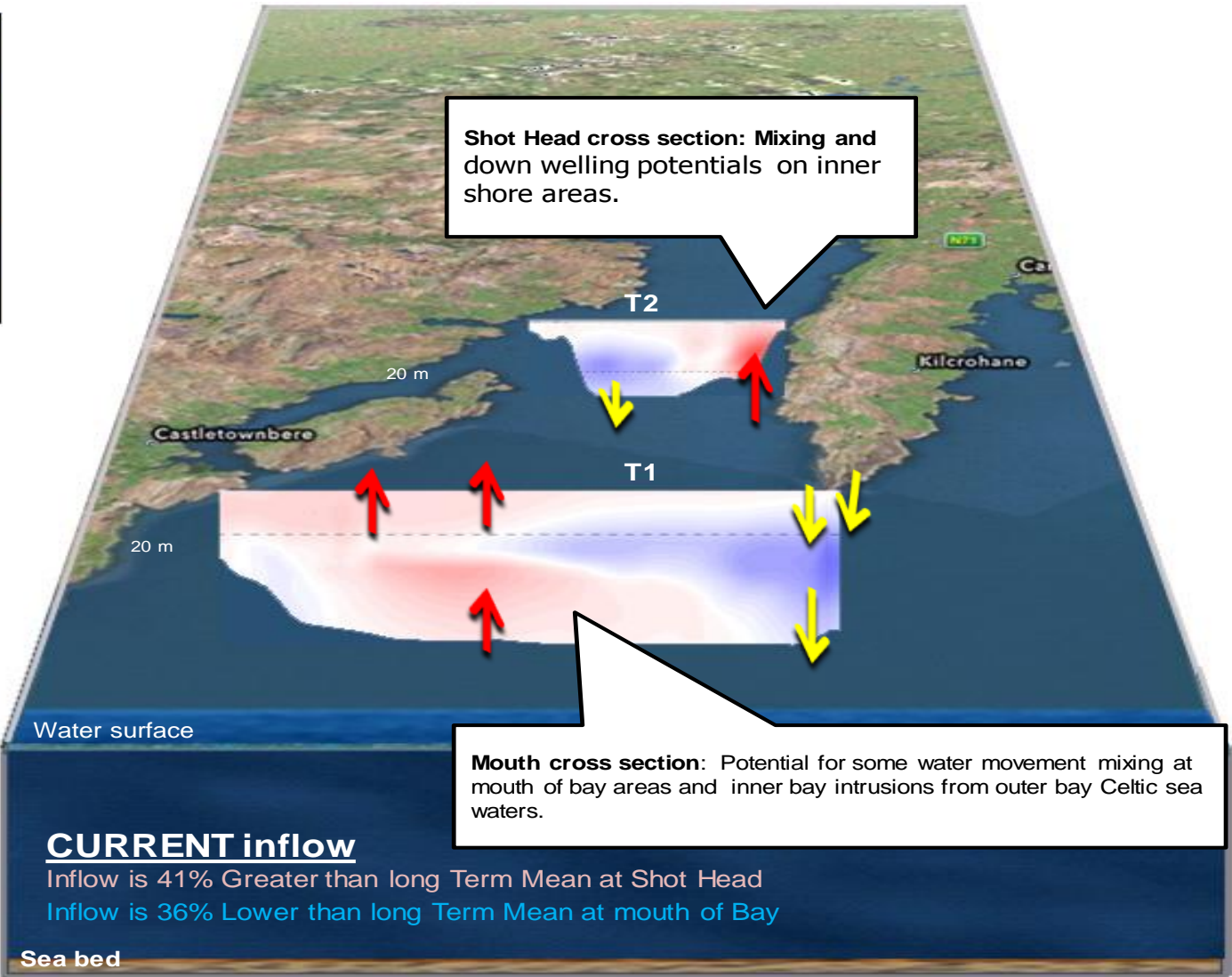
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth
↓




WEST: Killary Harbour

Forecast for the next 3 days

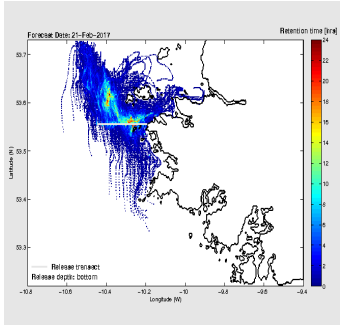
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

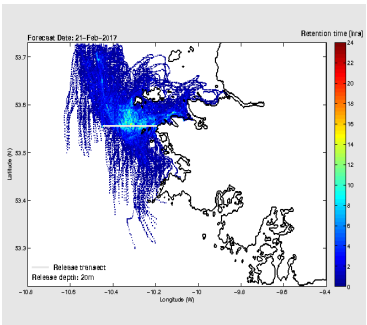


0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

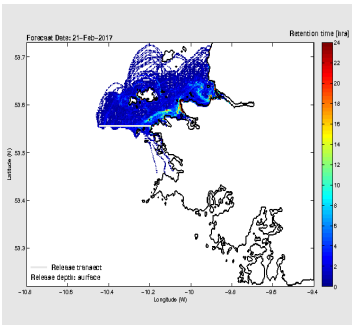
Bottom water



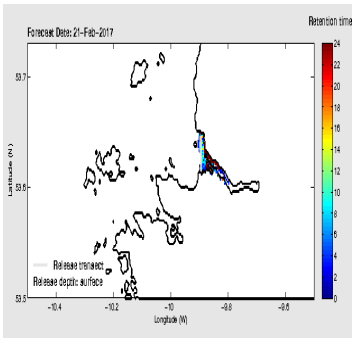
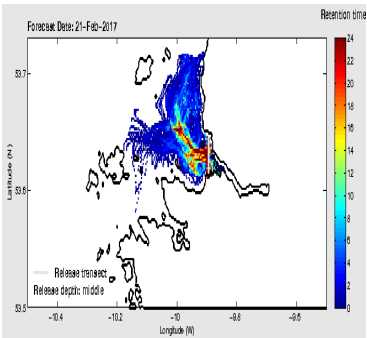
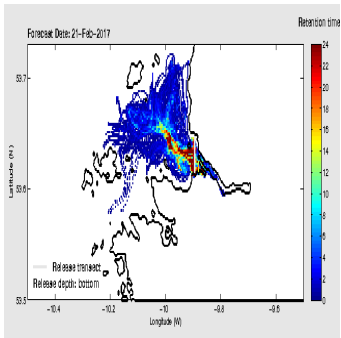
Water @ 20 metres



Surface water



Water movement direction and strength mixed at bottom and midwater levels but indicating predominantly north-western direction at surface levels.



Potential at surface levels for inner bay incursions from outer bay waters and mixing of inner bay waters if down welling occurs.

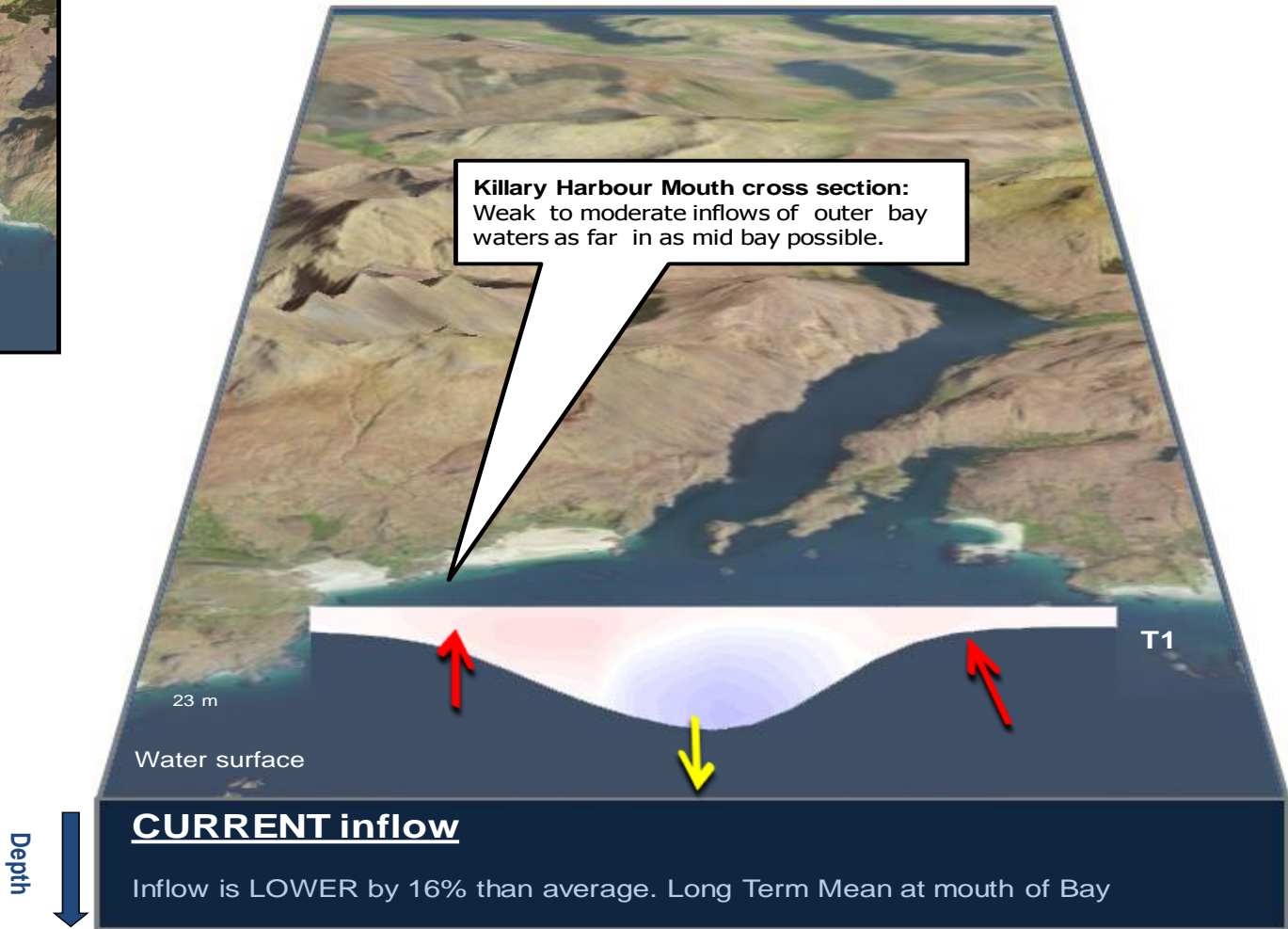
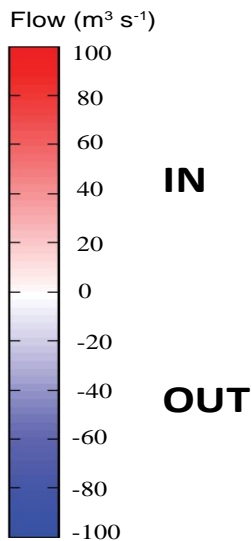
Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



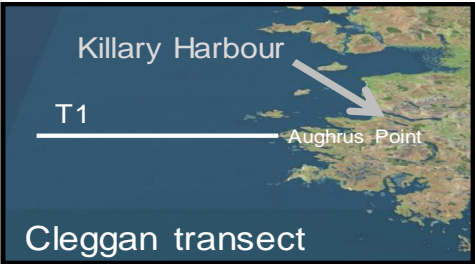
Forecast for next 3 days

Killary Harbour Mouth cross section:
Weak to moderate inflows of outer bay waters as far in as mid bay possible.

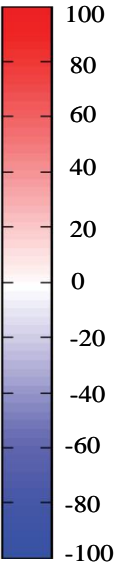


West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



**northward
flow**

**southward
flow**

Depth

