

Ireland: Predictions

ASP event: Low
AZP event: **High**
DSP event: **High**
PSP event: High (site specific , moderate in general)

NMP Current closures			
ASP	AZP	DSP	PSP
0	1	1	0

ASP: Continued decrease in cell levels. It would be unusual to have an issue at this time of year and the species present do not appear to be causing any toxin issues . A slight level of caution is advised due to presence of cell levels in some sites.

AZP: Similar to last week- **Highest caution** is still advised with this difficult species. Current low seasonal impact (1 site positive) would be expected to rise. This is the main historical occurrence period, suitable environmental conditions continue to prevail and the toxin is currently present in moderate levels. Issues with this toxin can occur suddenly and acutely . Highest caution is advised .

DSP: Same conditions and advise - **Highest caution** - Continued toxicity issues in some sites (SW) but cell levels increasing slowly in other areas throughout the coastline. All sites should insure best sampling practices and obtaining the most recent results available. Continued rise and impact of this species is occurring and is expected to continue for a period based on current trends, historic patterns and predictive marine models.

PSP: Ideal weather conditions could definitely have an impact on the possibility of a brief bloom in historically affected sites – **high caution** still advised particularly in historically affected sites (S) and any site with significant species levels during any good weather period.

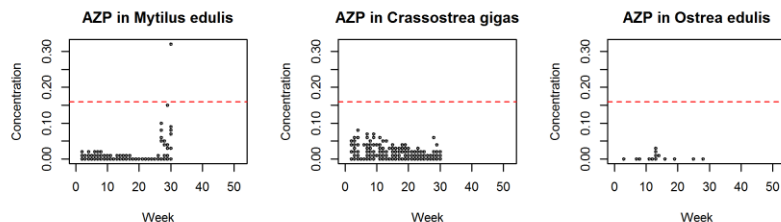
Blooms: There is a **high risk of bloom conditions spreading** due to current environmental conditions. Any unusual water discoloration should be noted and regional labs contacted if concerned /regarding possible need for additional sampling. All feedback is welcome at Joe.Silke@Marine.ie .

National Monitoring Programme

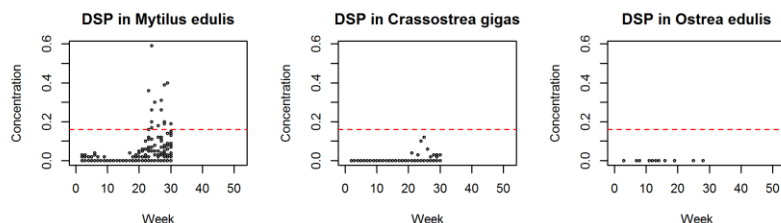


HISTORIC TRENDS

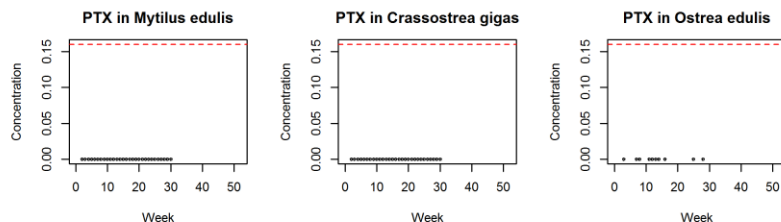
AZP



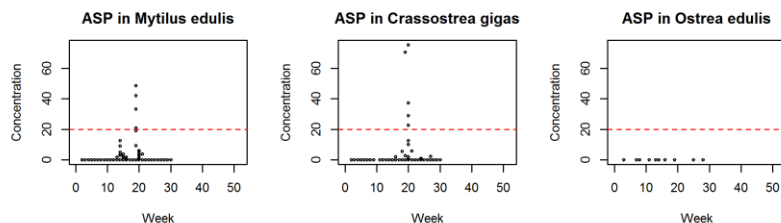
DSP



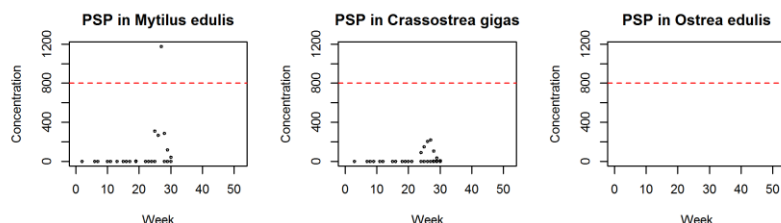
PTX



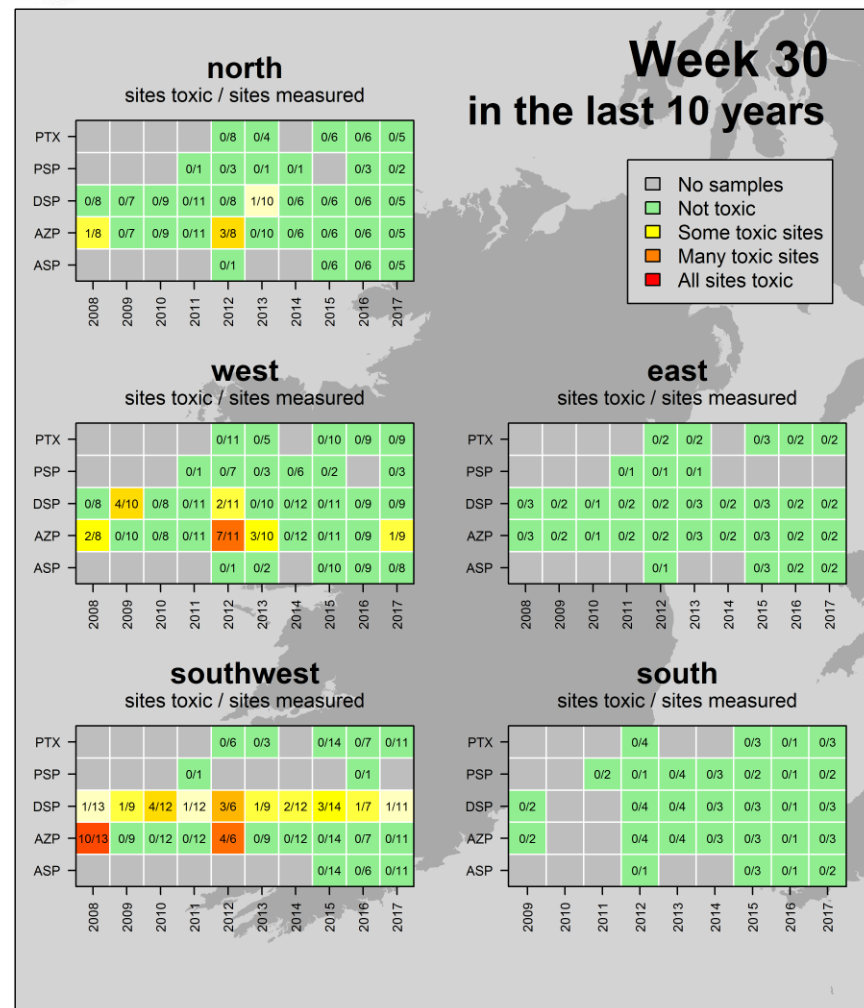
ASP



PSP



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



ASP events: mid-March to early May

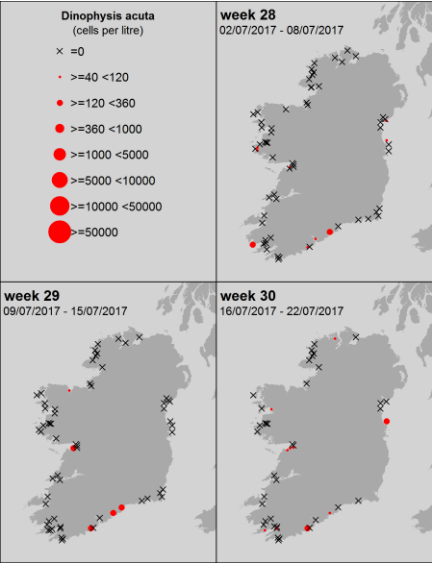
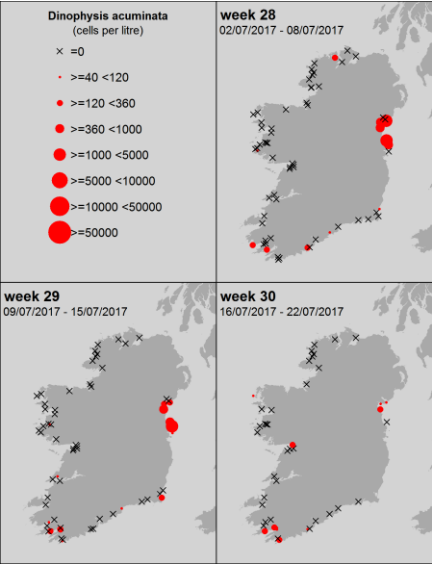
AZP events: April to December

DSP events: May to December

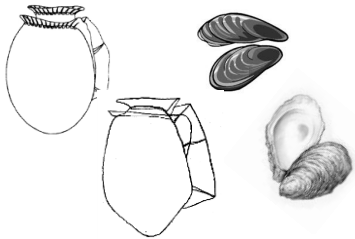
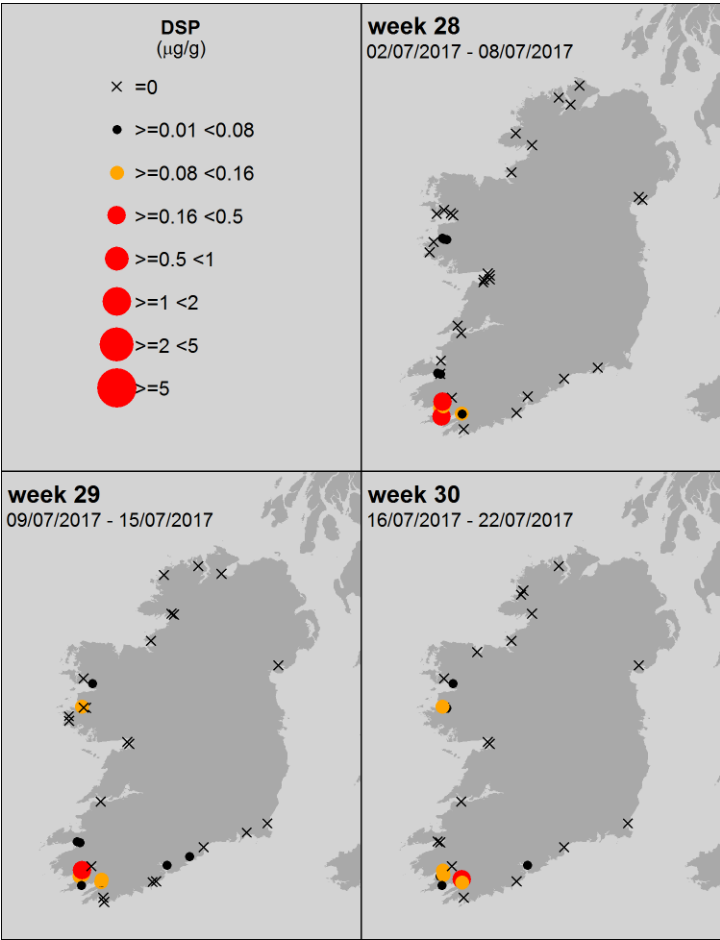
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks.

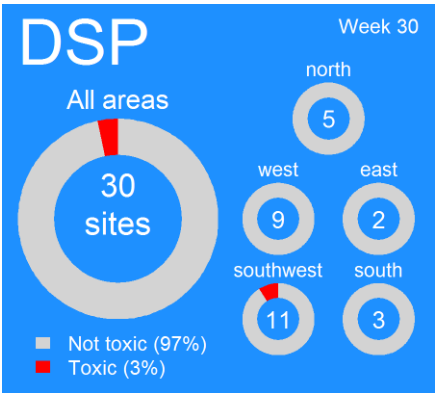


All levels of DSP biotoxin recorded- 3 wks.



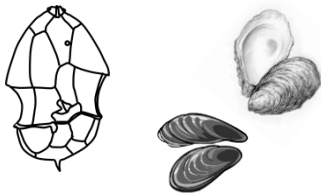
Current closures levels

≥ DSP 0.16 µg/g



Comment – Again similar to the last few weeks - Dinophysis species continue to cause a toxicity issue in some sites in SW and now appear to be spreading in coverage as predicted/seasonal pattern. Cell levels will probably go higher and increase coastal area coverage before the end of the traditional risk period .Continued high caution advised.

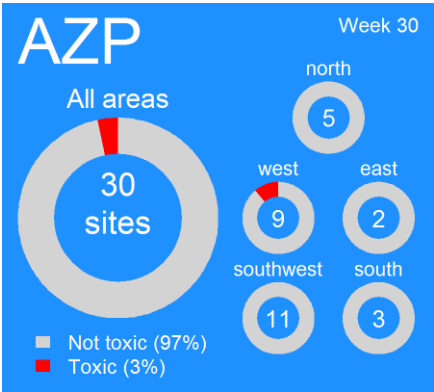
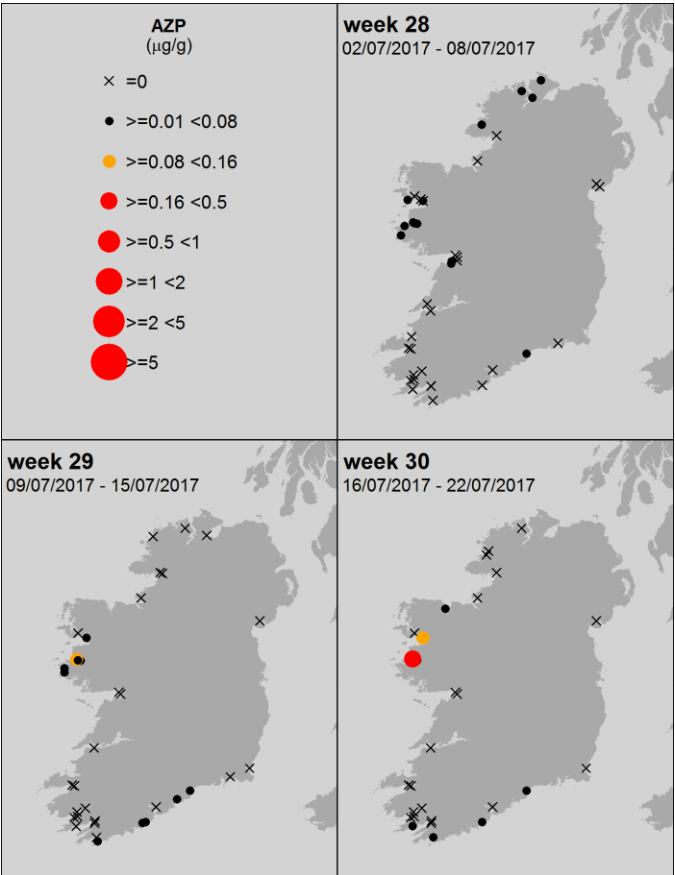
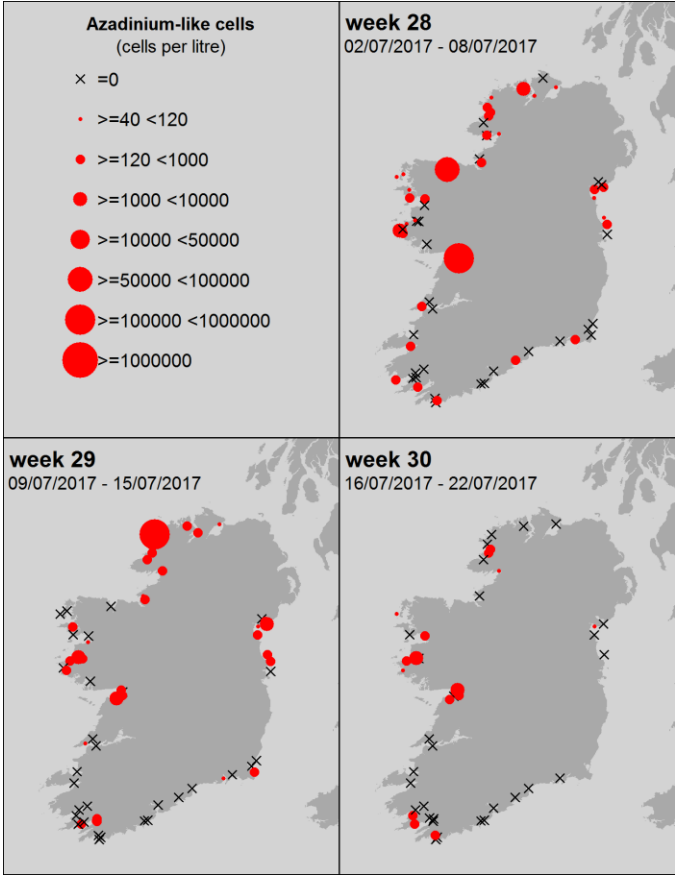
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

Current closures levels
≥ AZP 0.16 µg/g

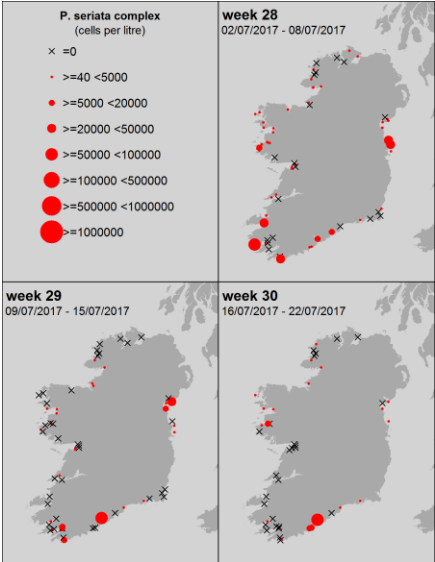
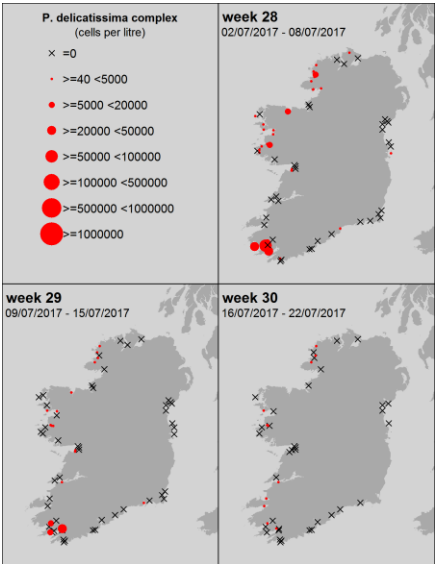


Comments

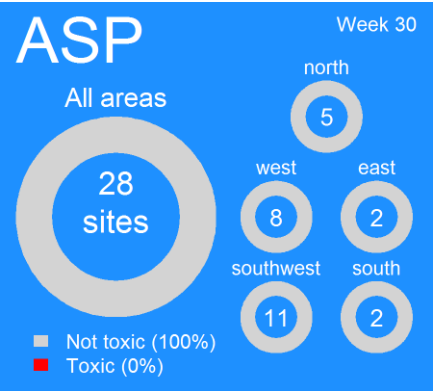
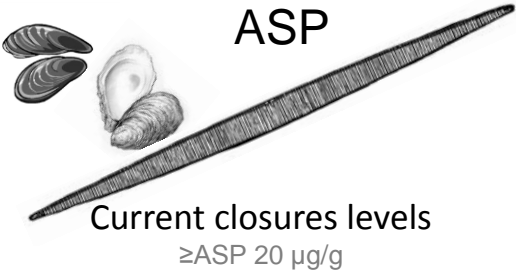
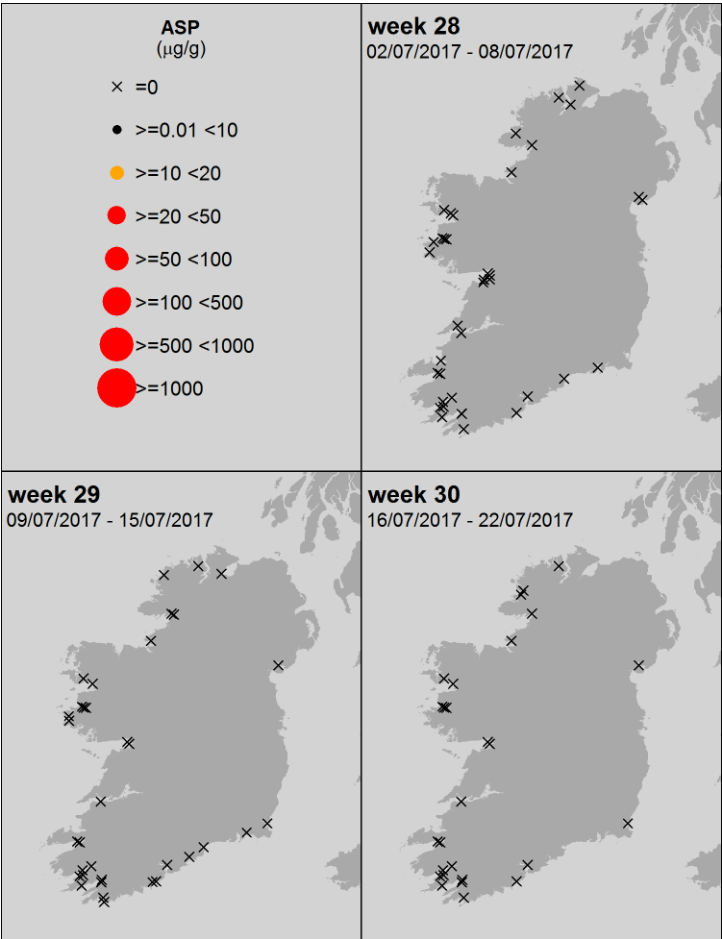
Conditions and trends are all pointing towards further seasonal issues with this toxin group - highest level of caution and observance and testing in affected areas recommended. This species has been can rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year- sudden acute issues possible.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



All levels of ASP biotoxin recorded - 3 wks.



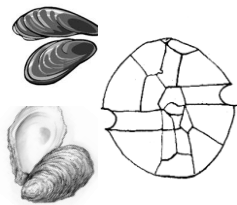
Comments

Low cell levels only. Cell levels appear to be returning to normal background levels and a toxin event would be unlikely at this time of year.

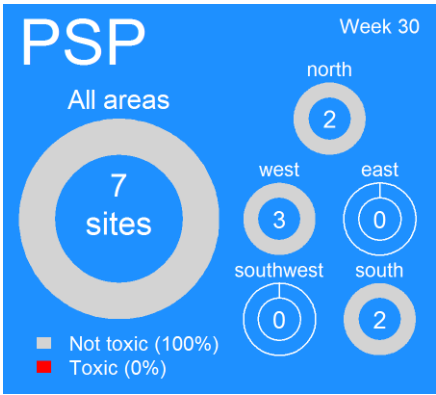
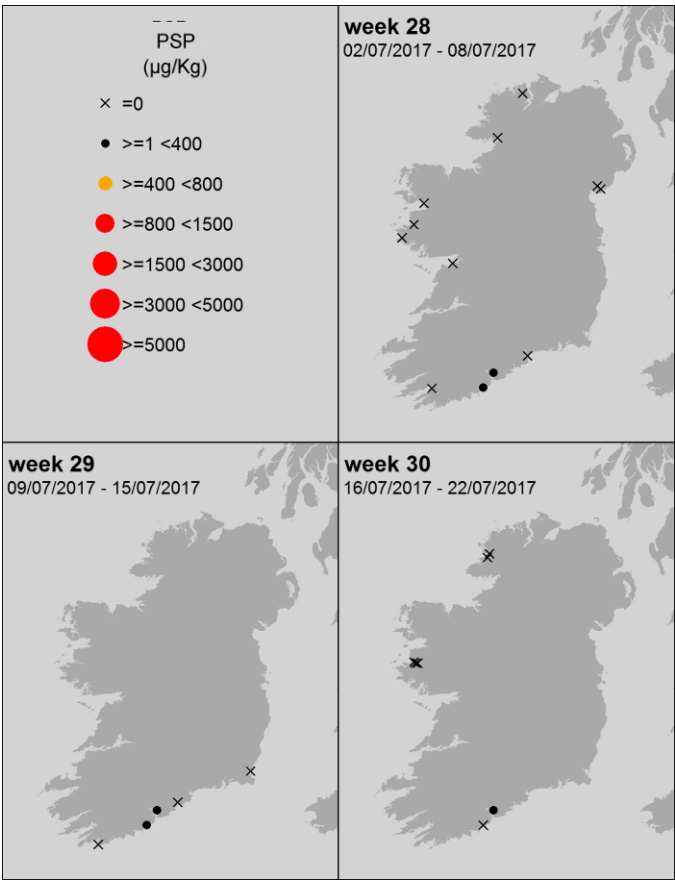
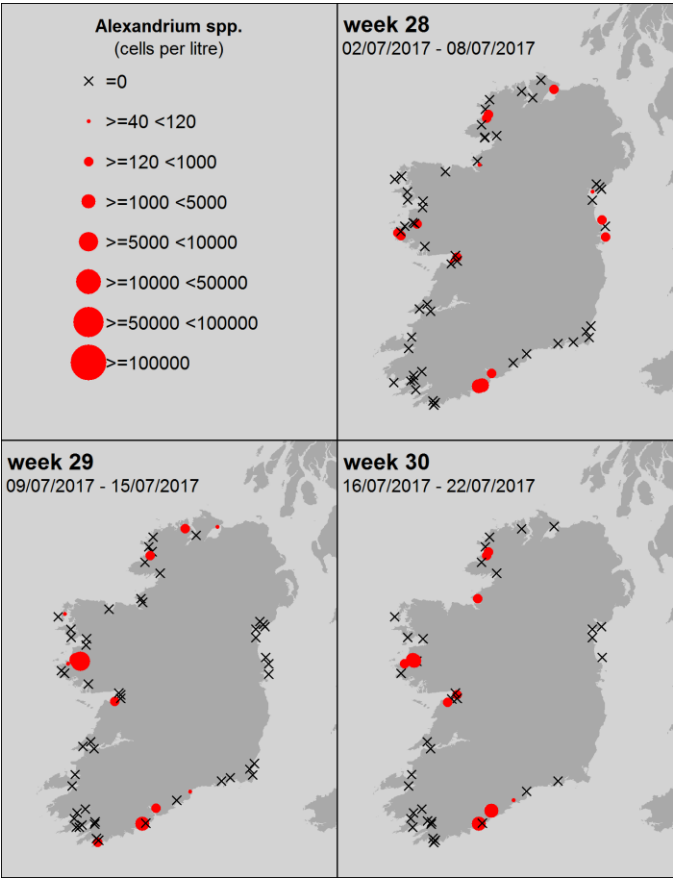
PSP and Alexandrium sp. current trends

Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



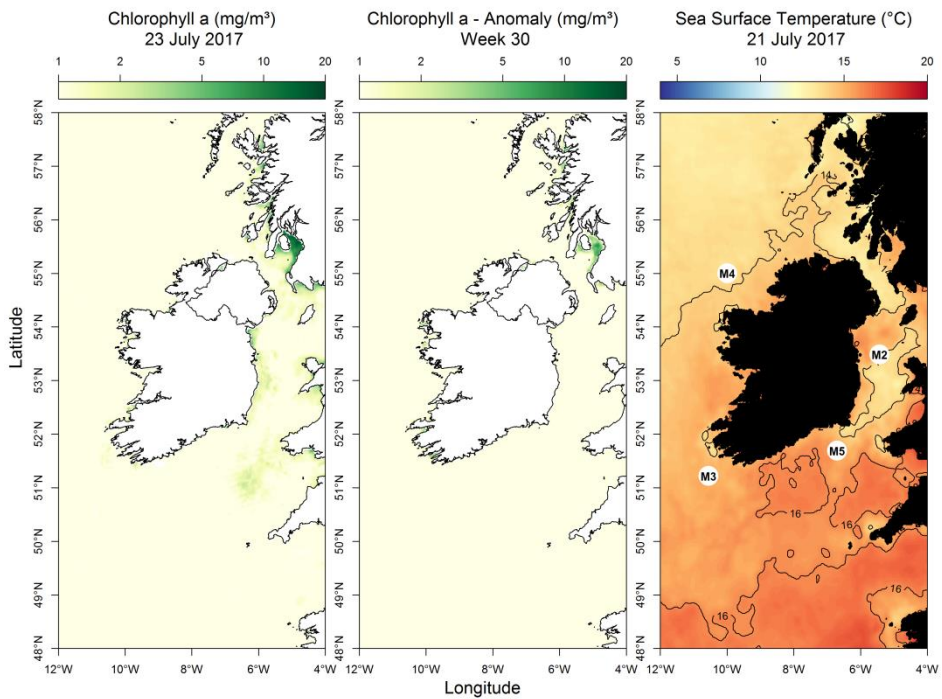
Current closures levels
≥ PSP 800 µg/Kg



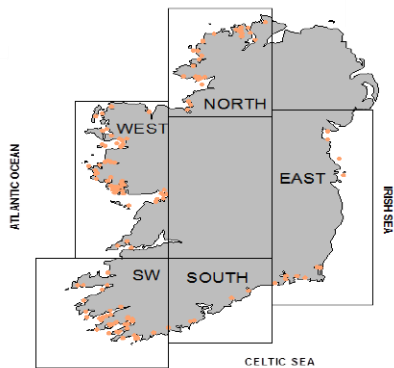
Comments

This is the peak time of historical likely occurrence and currently environmental conditions remain relatively favourable so full caution advised.

Most up to date available satellite data



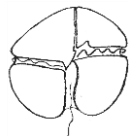
Changes in typical dominance of species type between Dinoflagellates and diatoms at this time of year occurring. Eastern and SW coast areas indicating increased chlorophyll/growth levels.



NW coast (M4) Below average by 0.68°C wk29
SW coast (M3) Unavailable
SE coast (M5) Above average by 0.42°C wk29

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Microflagellate spp. <10um	705000
2	east	Rhizosolenia sp	85000
3	east	Leptocylindrus danicus	36000
4	east	Chaetoceros (Hyalochaete) spp.	26000
5	east	Microflagellate sp.	14000
1	north	Chaetoceros (Hyalochaete) spp.	145000
2	north	Skeletonema spp.	44000
3	north	Cryptophyte	42000
4	north	Leptocylindrus minimus	24000
5	north	Pennate diatom	18000
1	south	Scrippsiella spp.	45000
2	south	Chaetoceros (Hyalochaete) spp.	35000
3	south	Peridinium quinquecorne	21000
4	south	Prorocentrum micans	8000
5	south	Paralia sp.	1000
1	southwest	Lauderia / Detonula sp	163000
2	southwest	Skeletonema costatum	134000
3	southwest	Leptocylindrus minimus	132000
4	southwest	Skeletonema spp.	84000
5	southwest	Navicula spp. 20-50 um	82000
1	west	Leptocylindrus danicus	841000
2	west	Chaetoceros (Hyalochaete) spp.	76000
3	west	Leptocylindrus minimus	51000
4	west	Cylindrotheca closterium/ Nitzschia longissima	50000
5	west	Skeletonema spp.	36000



Karenia mikimotoi bloom warning level
- High -

Potential bloom in south/south east areas still likely – related to current favourable weather conditions and wind/transportation on shore. This is now the peak season for the potential occurrence of *Karenia* blooms . If blooms reach shore areas for sustained periods of time high likelihood of potential issues for stock/habitats ranging from mild stress to mortalities.

Other bloom species news

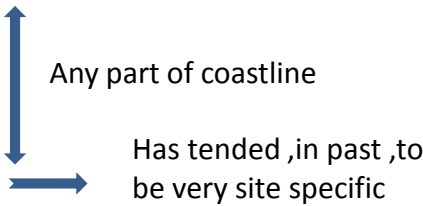
Most species have the potential to reach high numbers and be considered a bloom. The majority of such blooms are short lived and not a problem. At this time of year the typical species to watch out for , that can cause problems, are:

Karenia mikimotoi

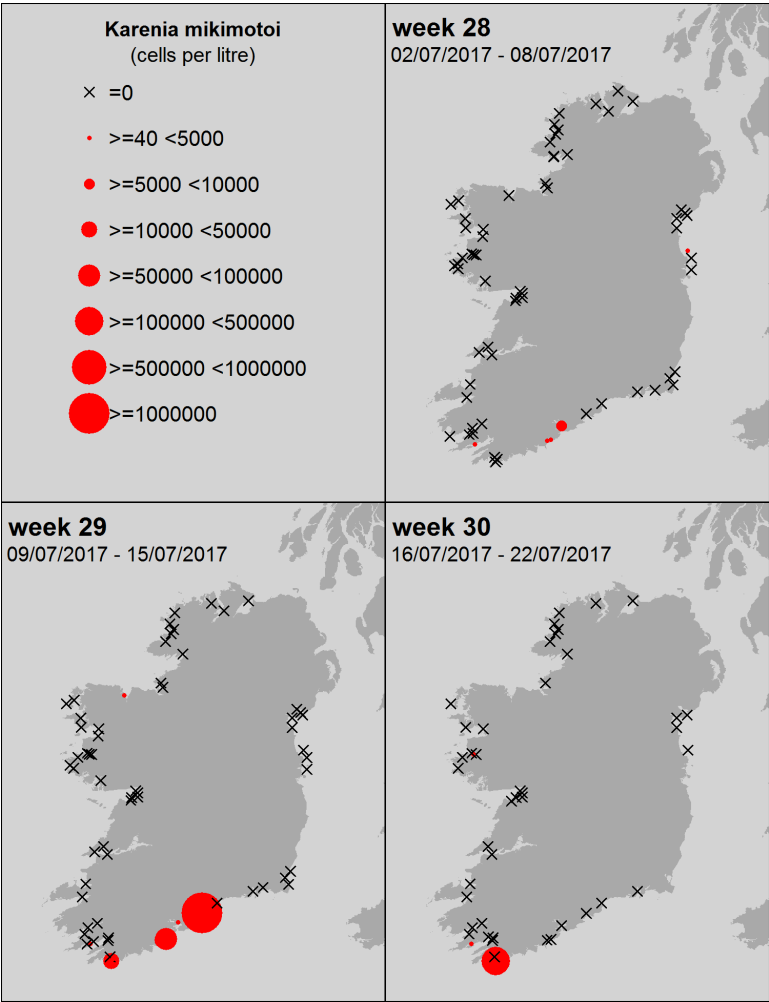
Heterocapsa spp.

Noctiluca scintillans

Alexandrium spp.



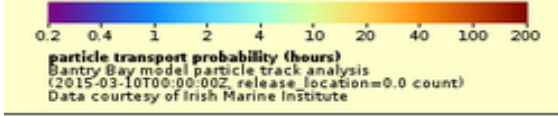
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



SOUTHWEST: Bantry Bay

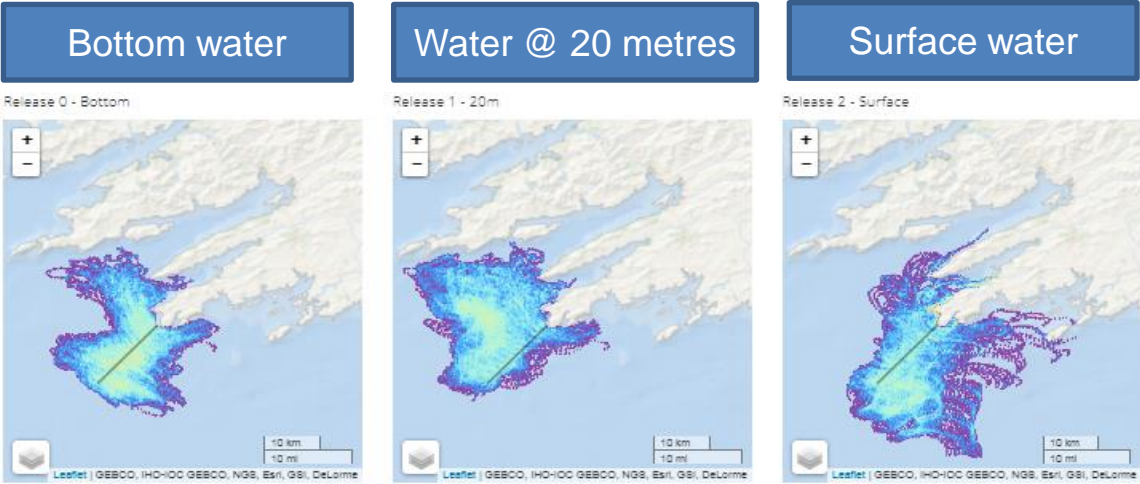
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

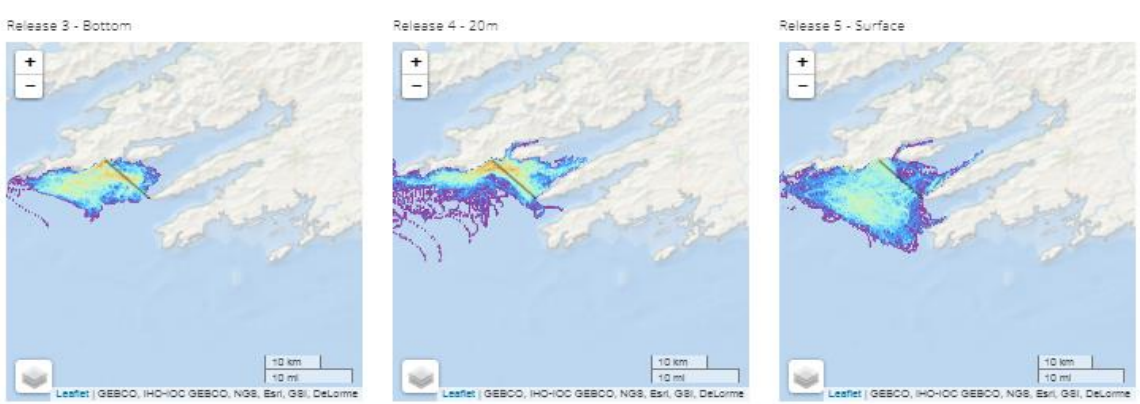


particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days



Water movement indicating varying directions related to depth with bottom waters indicating more northerly directional movement while more southerly directions dominate surface areas.



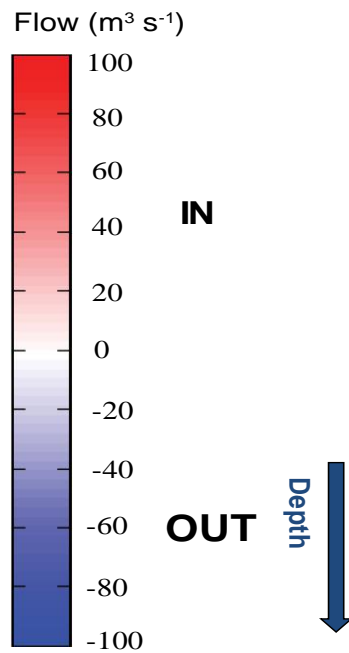
Mirroring the mixed directions of movement in offshore waters but also allowing for upwelling events to occur.

Bantry Bay

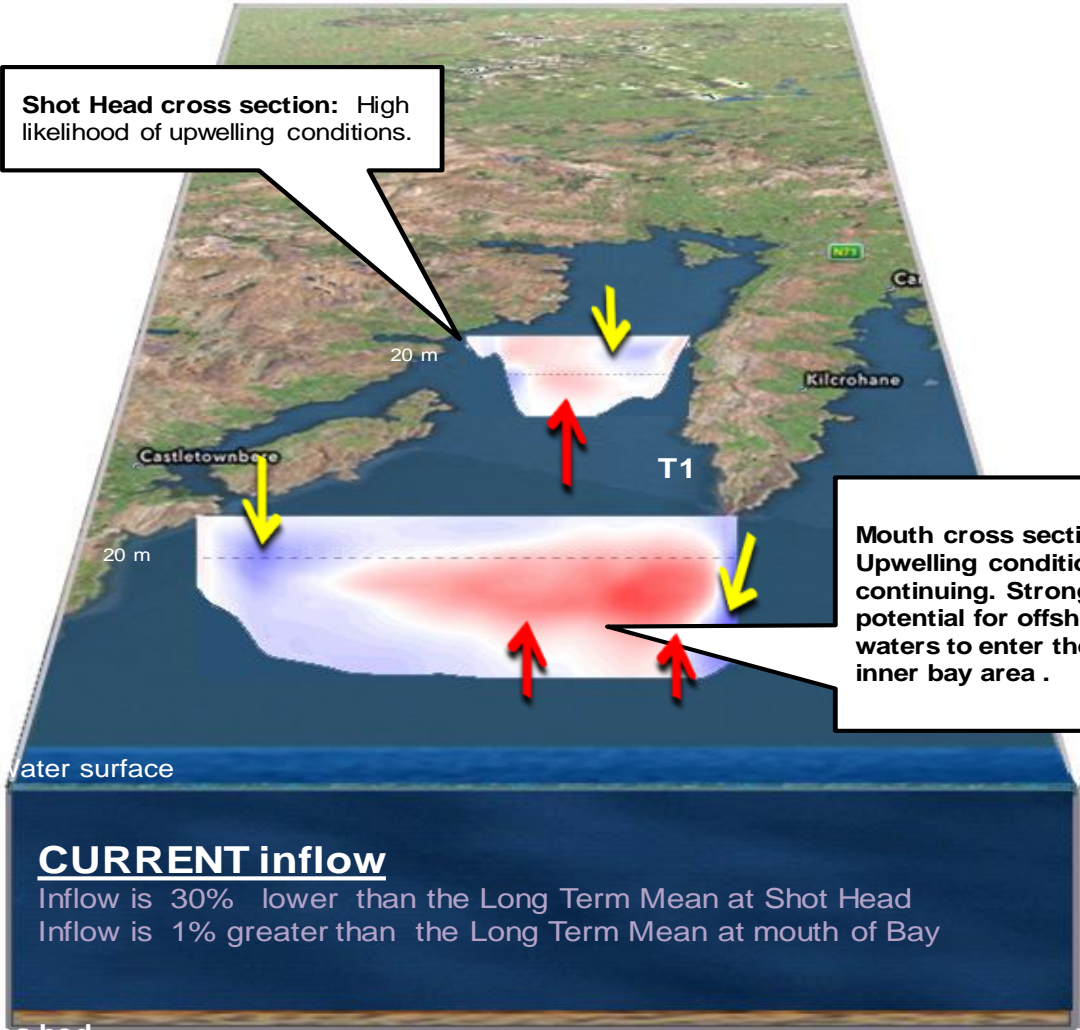
3 day estimated water flows at the mouth and mid-bay sections of Bantry Bay



Forecast for next 3 days



Shot Head cross section: High likelihood of upwelling conditions.



Mouth cross section: Upwelling conditions continuing. Strong potential for offshore waters to enter the inner bay area .

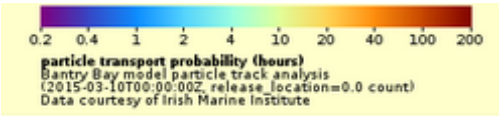
CURRENT inflow
Inflow is 30% lower than the Long Term Mean at Shot Head
Inflow is 1% greater than the Long Term Mean at mouth of Bay

WEST: Killary Harbour

Forecast for the next 3 days

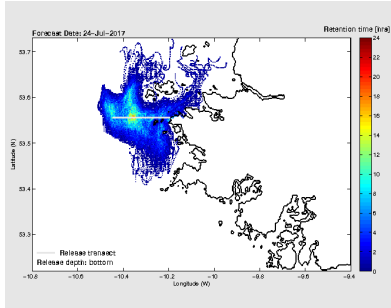
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

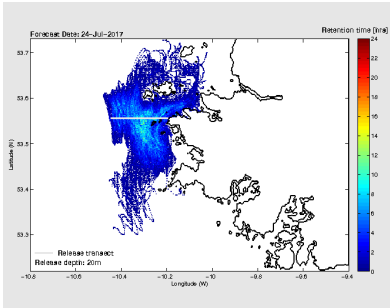


0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

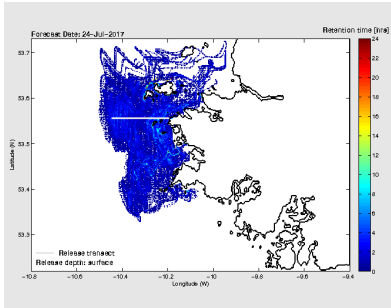
Bottom water



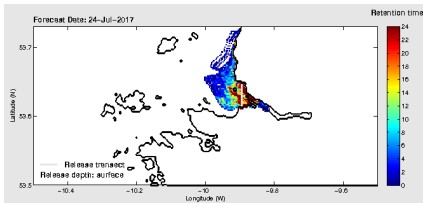
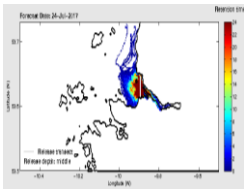
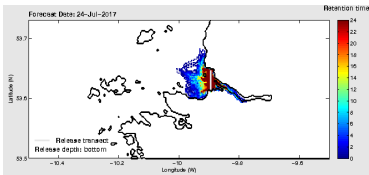
Water @ 20 metres



Surface water



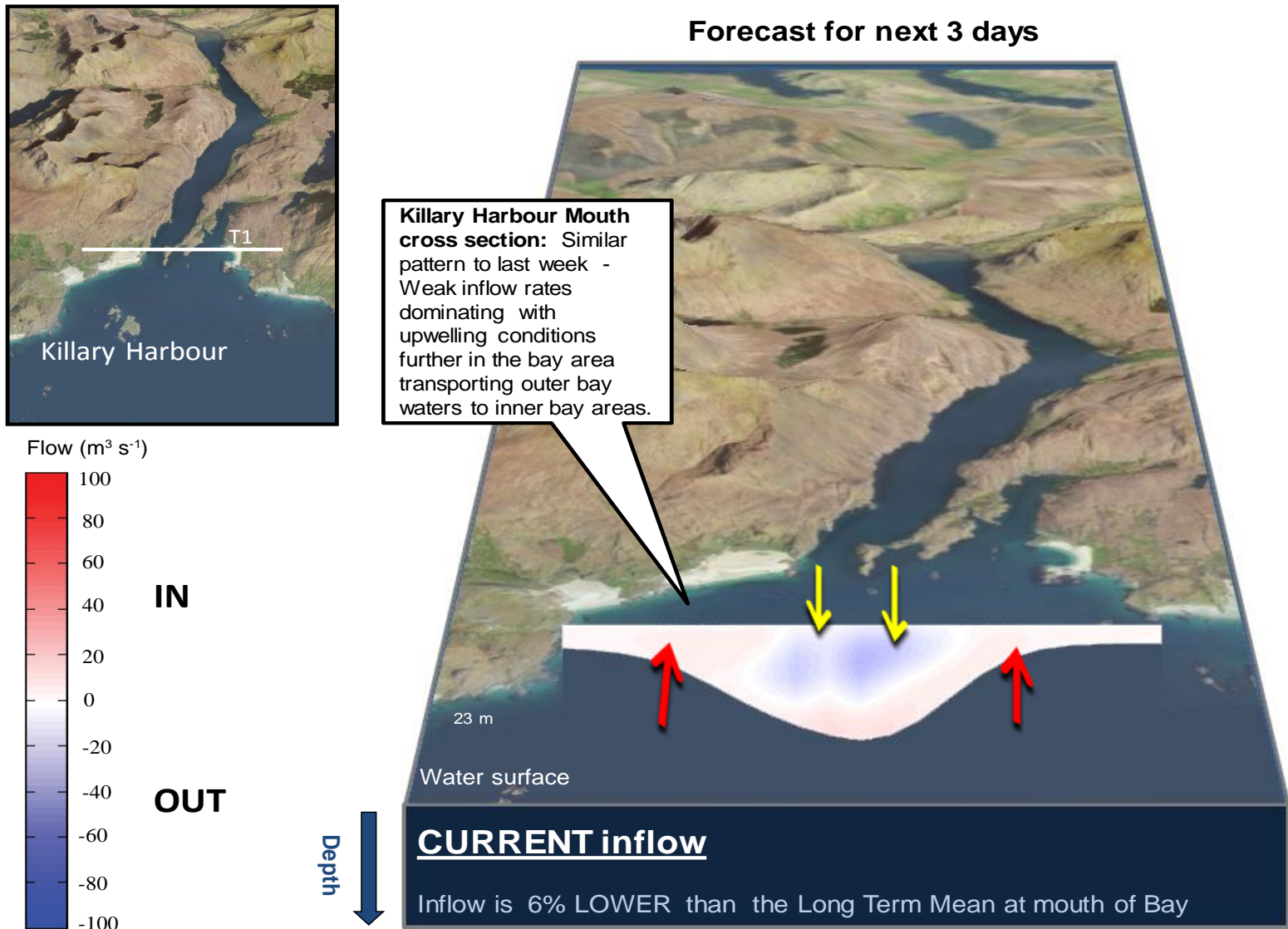
Cleggan
Similar to last week - strong predominantly northerly water movements at all depths. Offshore waters reaching near shores areas likely.



Killary
Outer bay waters reaching inner bay areas , at all depths, likely. Waters at all depths moving northward outside bay mouth area .

Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



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

