Ireland: **Current Conditions**

Shellfish biotoxin report (last week)

DSP — Week 45

All areas: 42 sites

north	west	east	southwest	south
6	11	4	16	5

Not toxic (100%)
Toxic (0%)

AZP — Week 45

All areas: 42 sites

north	west	east	southwest	south
6	11	4	16	5

Not toxic (100%)
Toxic (0%)

ASP — Week 45

All areas: 41 sites

north	west	east	southwest	south
6	11	4	15	5

Not toxic (100%)
Toxic (0%)

PSP — Week 45

All areas: 7 sites

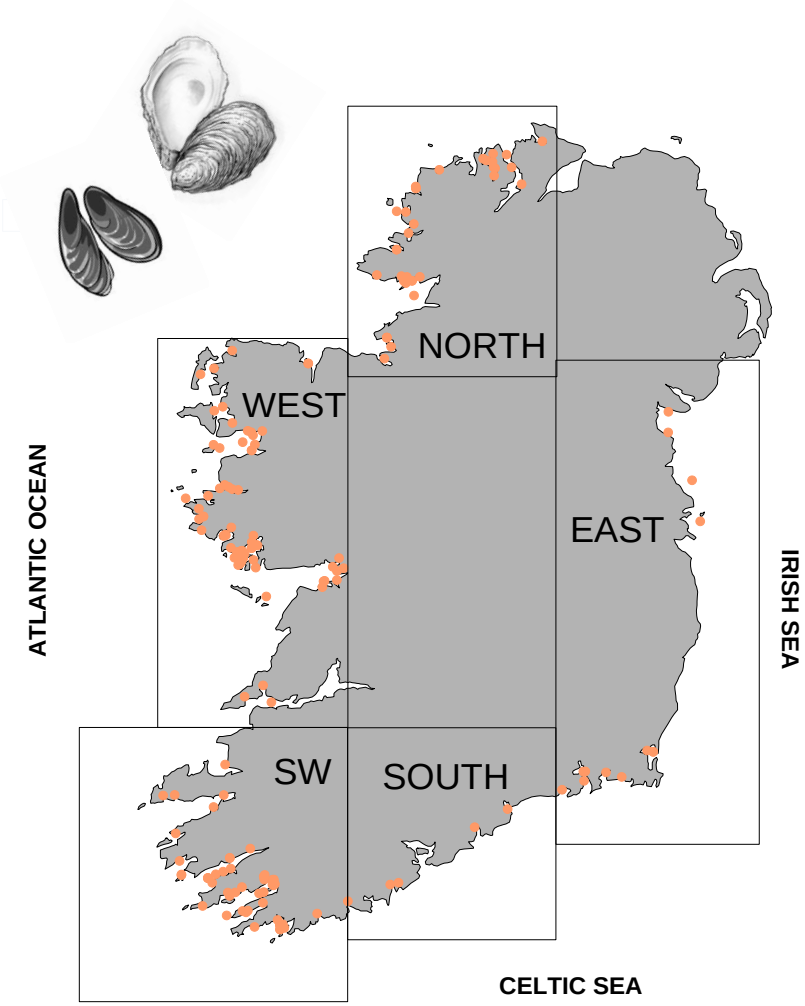
north	west	east	southwest	south
1	1	2	1	2

Not toxic (100%)
Toxic (0%)

EU Regulatory Limit:
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Toxin groups
ASP = **A**mnesic **S**hellfish **P**oisoning; AZP = **AZ**aspiracid **P**oisoning;
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning

National Monitoring Programme
Designated Sampling Sites



● = aquaculture site

Ireland: **Predictions**

Prediction for this week:

ASP event: Low

AZP event: Medium

DSP event: Low

PSP event: Low

Why do we think this?

ASP: Toxin issues from this species are not expected at this time of year.

Declining cell levels of *Pseudo-nitzschia seriata* group continue to be observed around the coast. In recent weeks, low *Pseudo-nitzschia* cell levels continue to be reported and ASP biotoxins were not detected at any site countrywide.

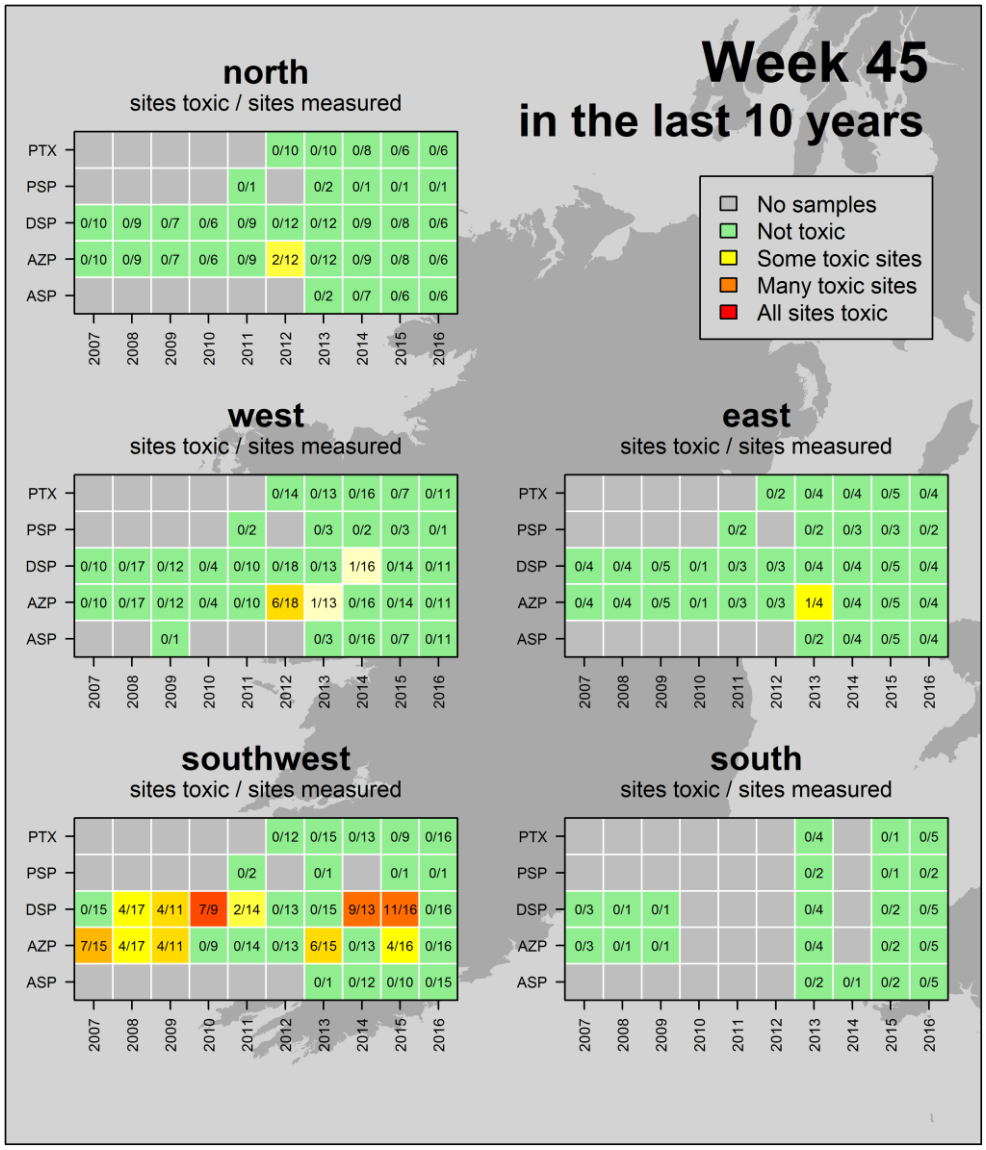
AZP: This is considered a high risk period for AZP. Fluctuating levels of *Azadinium* spp. continue to be observed around the coast, there was a spike in *Azadinium*-like cell levels in the west in last weeks bulletin, but molecular results have shown this is not considered a toxic *Azadinium* spp. Cell levels have since declined in western sites. Biotoxin levels are currently below regulatory limits.

DSP: This is historically a risk period . However, DSP is below regulatory limits in the SW there are no *Dinophysis* cells.

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

Ireland: **Historic Conditions**

A look back at how last weeks biotoxin results compares to other years



Ireland HISTORIC TRENDS

Likely times for Shellfish Toxicity: does not include winter carry over of biotoxins

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

Ireland HAB & Biotoxin Distribution maps

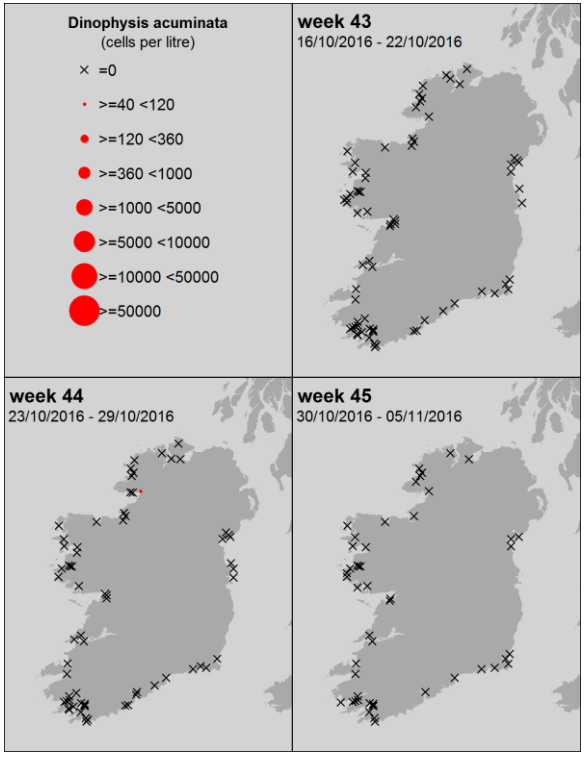
[current status of harmful and toxic algae]

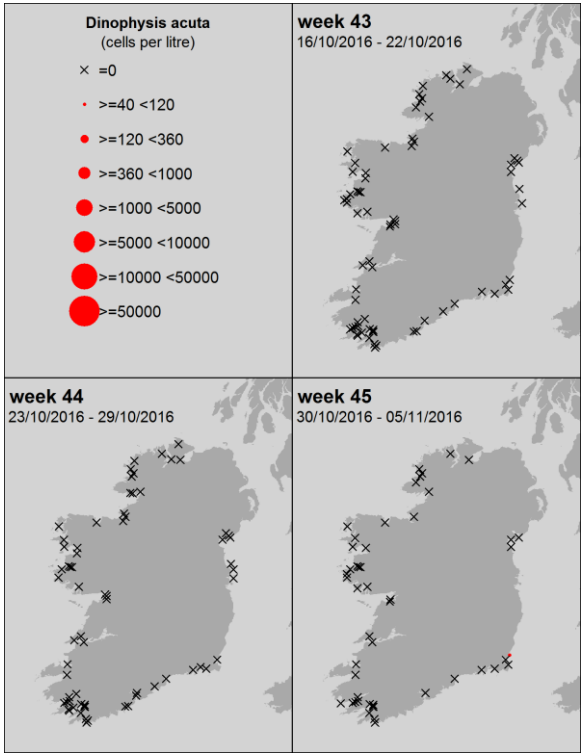
Ireland: **Last 3 weeks of available National Monitoring Programme data**

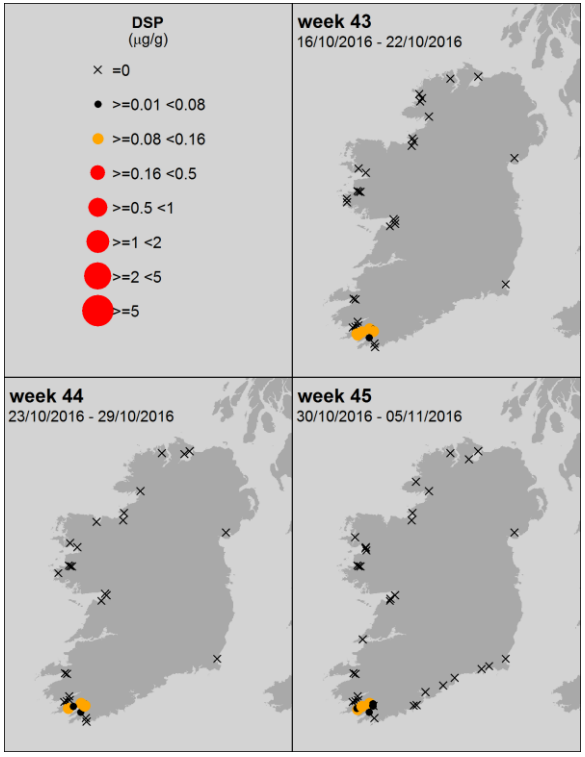
Dinophysis acuminata

Dinophysis acuta

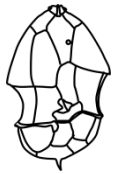
DSP





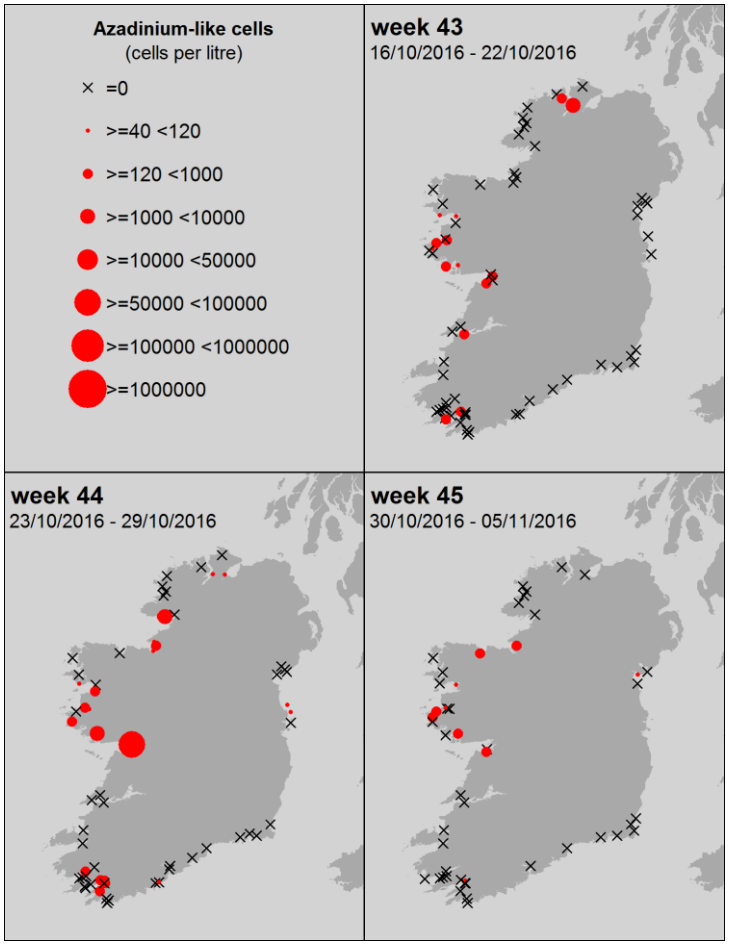


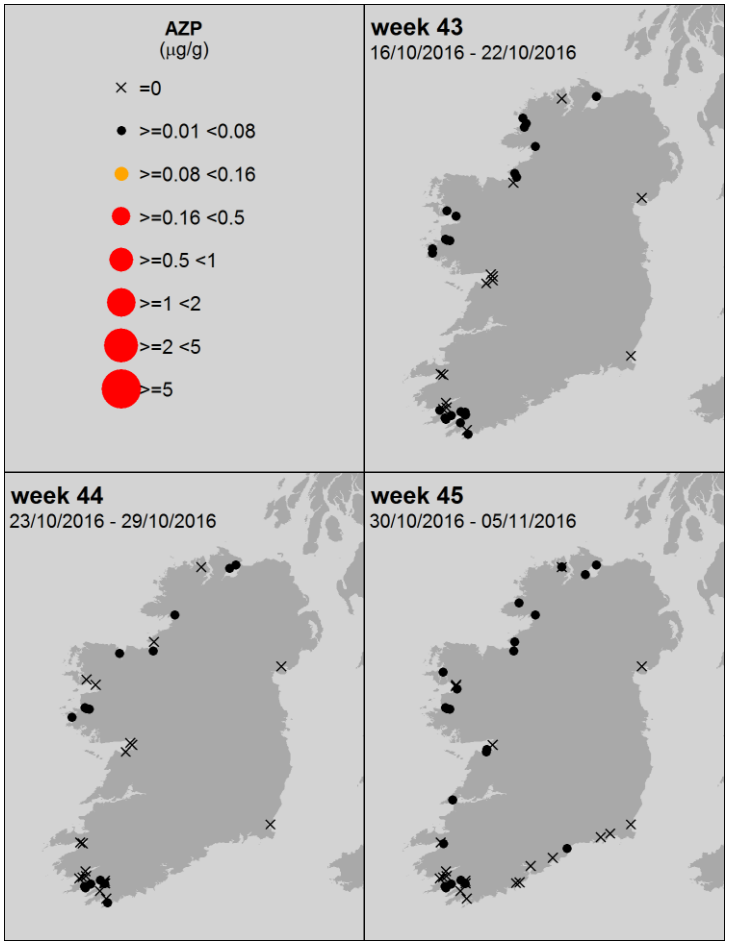
Ireland: **Last 3 weeks of available National Monitoring Programme data**



Azadinium – like spp.

AZP



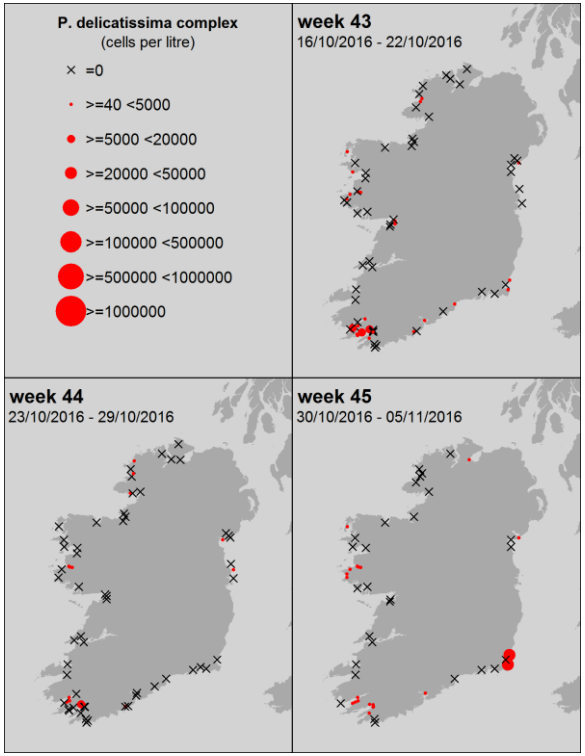


Ireland: **Last 3 weeks of available National Monitoring Programme data**

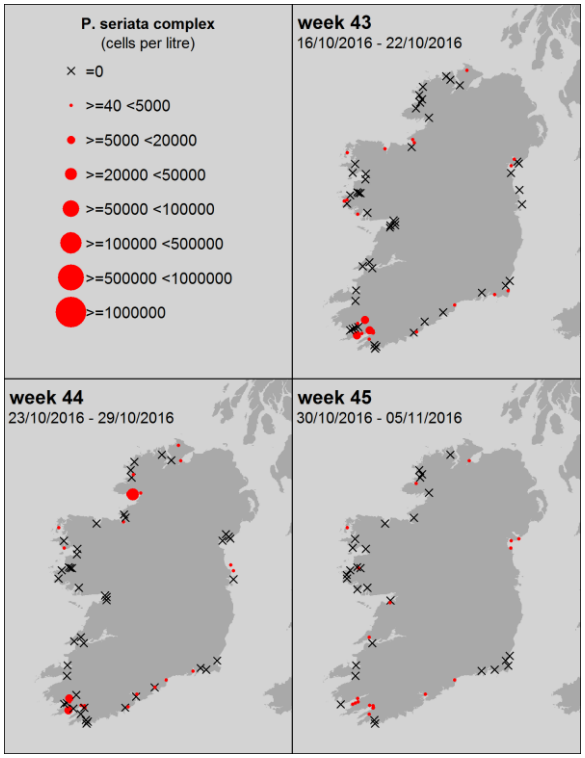
Pseudo-nitzschia spp.

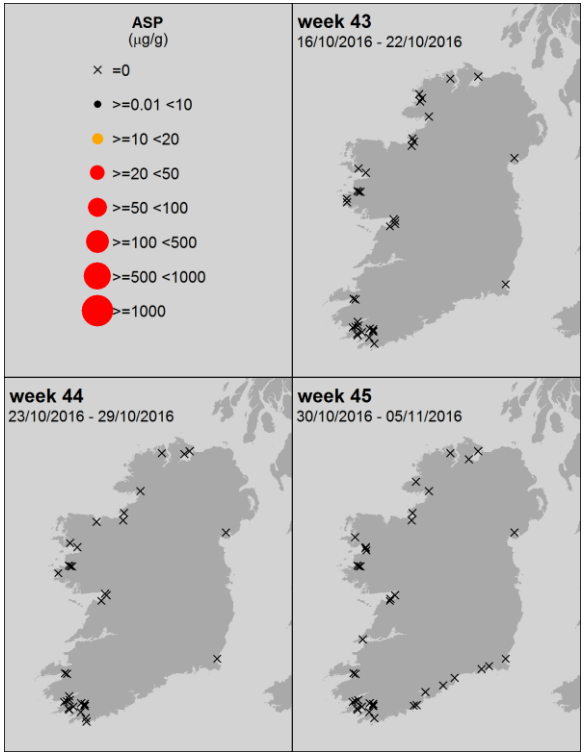
ASP

"*P. delicatissima*" complex = small cells
Taken from the literature:
3 species confirmed in Irish waters



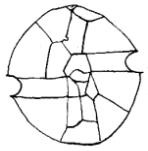
"P. *seriata*" complex = large cells
Taken from the literature:
7 species confirmed in Irish waters



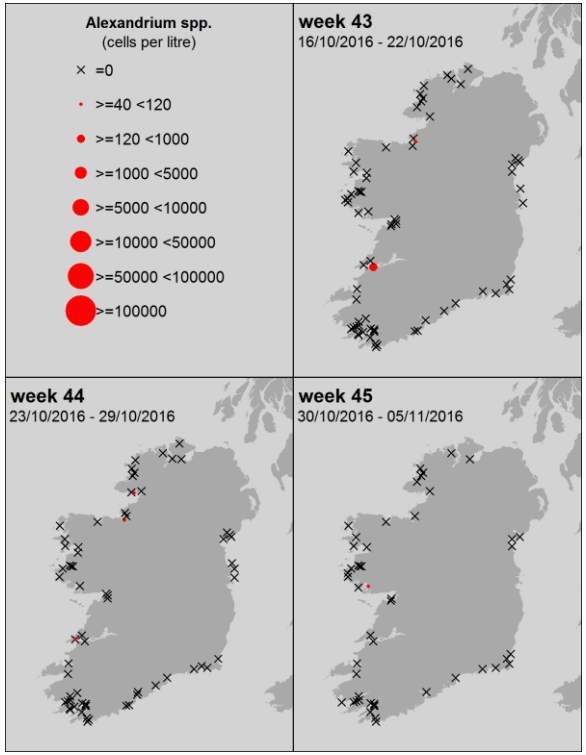


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the "*P. seriata*" group) was toxic.

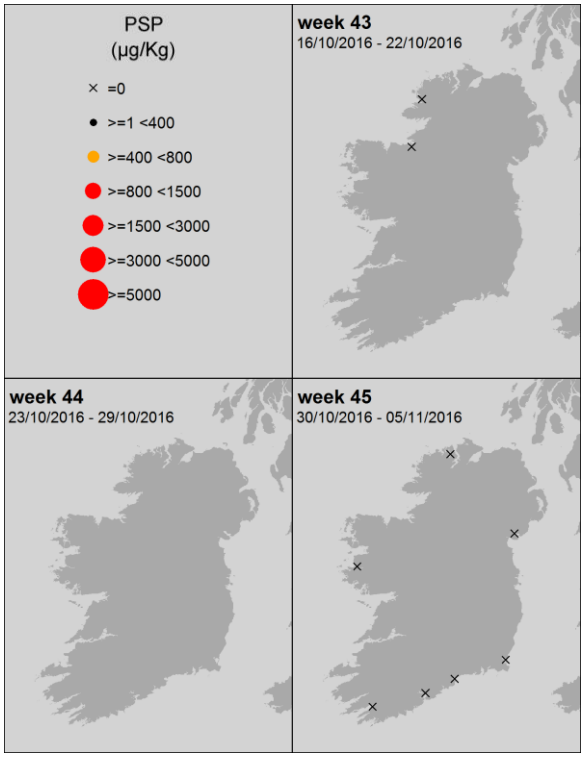
Ireland: **Last 3 weeks of available National Monitoring Programme data**



Alexandrium spp.



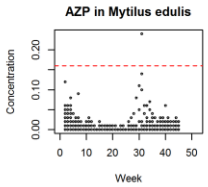
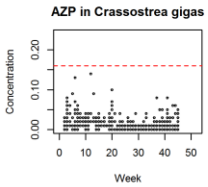
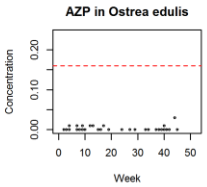
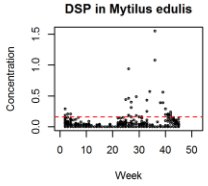
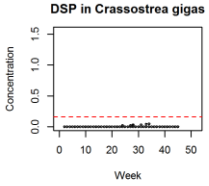
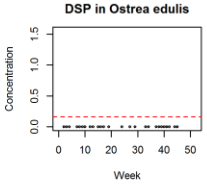
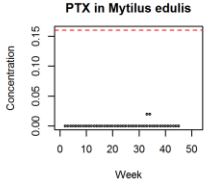
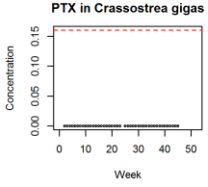
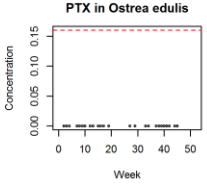
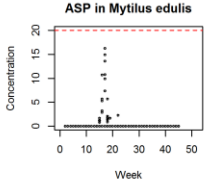
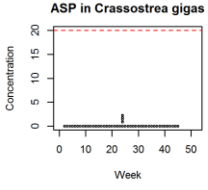
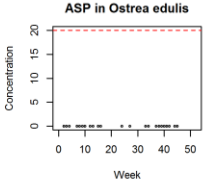
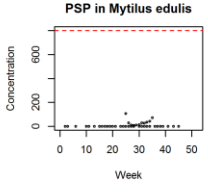
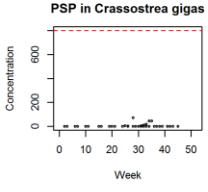
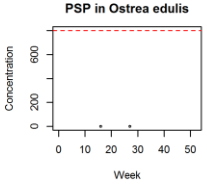
PSP

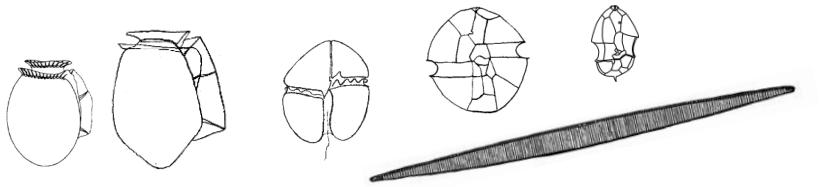


Ireland HAB & Biotoxin temporal trends

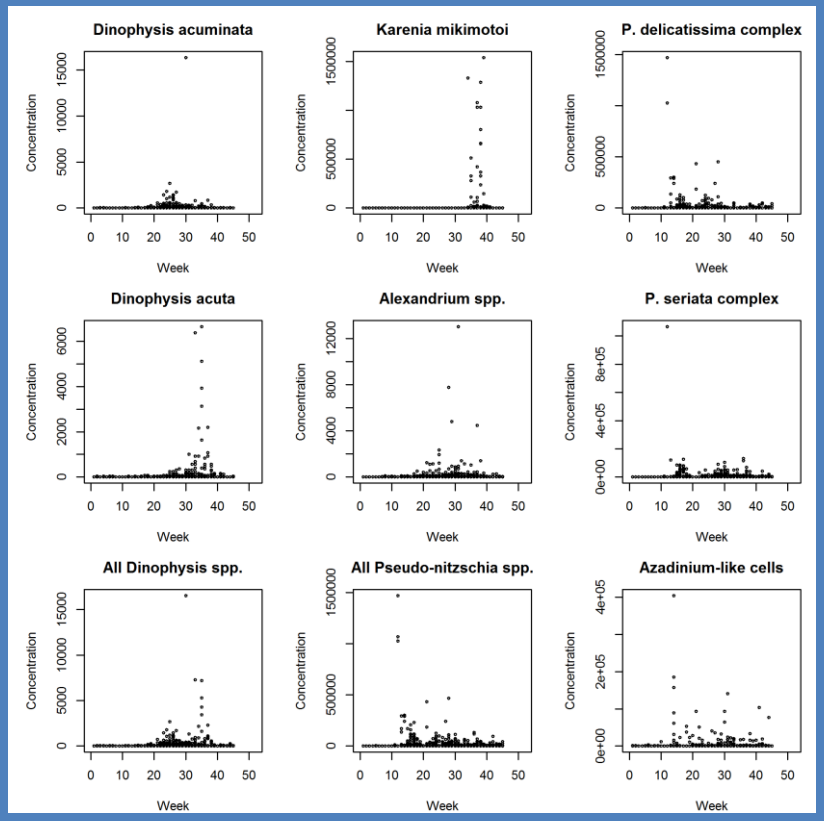
Ireland: **HABs and biotoxins** Levels from week 1 to present

Ireland: **Biotoxins**

Toxin groups	mussels	oysters	oysters
AZP AZaspiracid Poisoning			
DSP Diarrhetic Shellfish Poisoning			
PTX Pectenotoxin			
ASP Amnesic Shellfish Poisoning			
PSP Paralytic Shellfish Poisoning			



Ireland: **HABs**

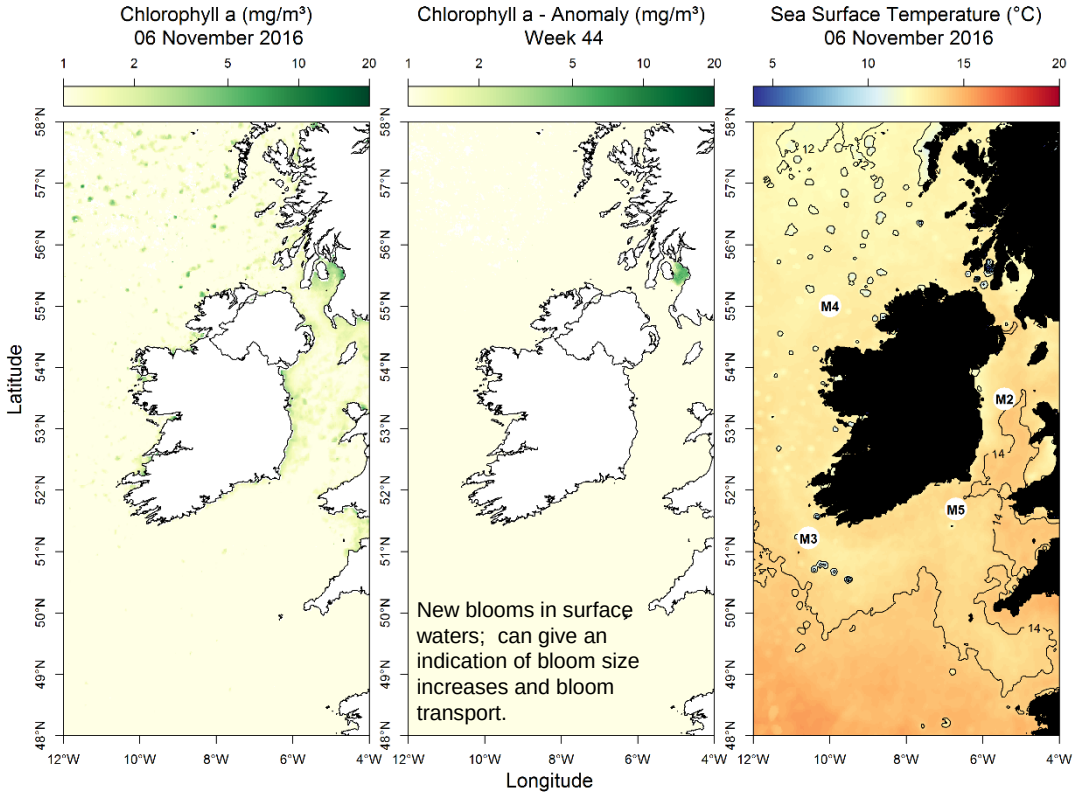


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit =

Ireland Satellite data: surface chlorophyll and temperature maps

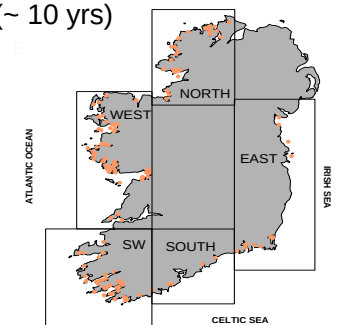
Most up to date available satellite data



SST (ºC) anomaly for last week:

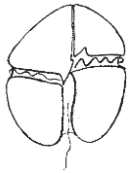
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

NW coast (M4) above average by 0.52 ºC
SW coast (M3) above average by 0.53 ºC
SE coast (M5) above average by 0.85 ºC



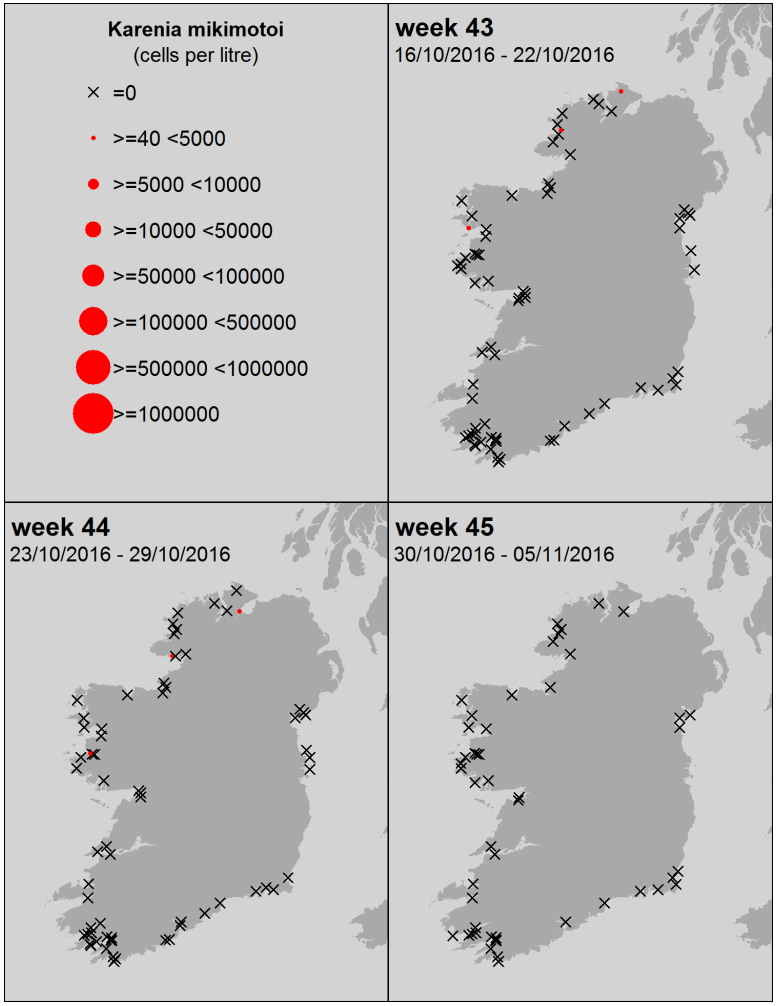
What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	*Pseudo-nitzschia delicatissima complex*	42000
2	east	*Heterocapsa triquetra*	5000
3	east	*Paralia* sp.	4000
4	east	Pennate diatom	3000
5	east	*Cylindrotheca closterium/ Nitzschia longissima*	3000
1	north	*Asterionellopsis glacialis*	3985000
2	north	*Chaetoceros* (Hyalochaete) spp.	161000
3	north	*Pseudo-nitzschia seriata complex*	21000
4	north	Cilliates	15000
5	north	*Ceratium* spp.	12000
1	south	*Odontella* spp.	6000
2	south	*Skeletonema* spp.	1000
3	south	Pennate diatom	1000
4	south	*Fragilaria* spp.	1000
5	south	*Thalassionema* spp.	0
1	southwest	*Asterionellopsis glacialis*	34000
2	southwest	Cryptophyte	16000
3	southwest	*Guinardia delicatula*	14000
4	southwest	*Thalassiosira* 20-50µm	7000
5	southwest	*Cylindrotheca closterium/ Nitzschia longissima*	6000
1	west	Pennate diatom	24000
2	west	*Cylindrotheca closterium/ Nitzschia longissima*	8000
3	west	*Skeletonema* spp.	6000
4	west	*Guinardia delicatula*	6000
5	west	*Thalassionema* spp.	2000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

A *Karenia mikimotoi* bloom is NOT expected this week

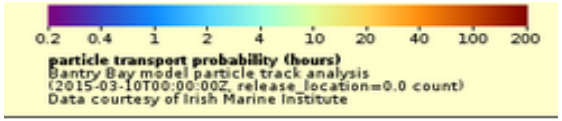


SOUTHWEST: Bantry Bay

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

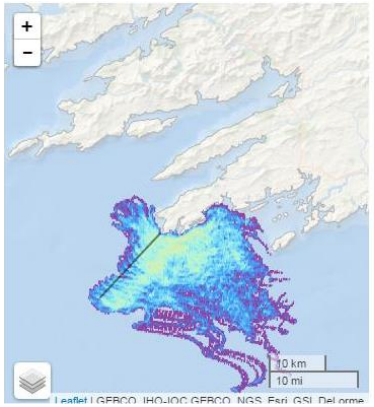
Cooler colours represent areas where phytoplankton remain for shorter periods

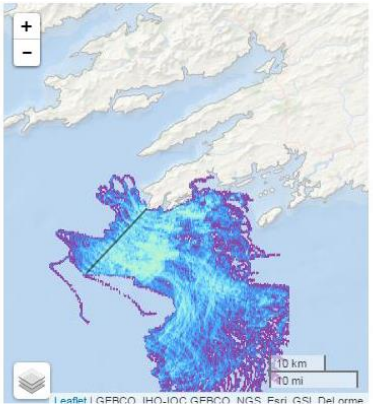


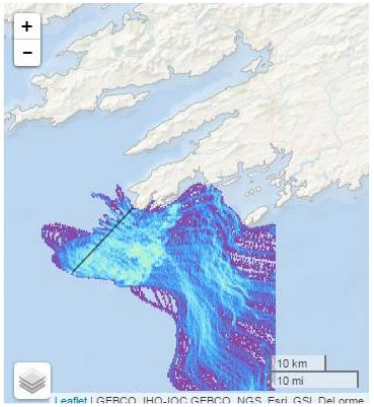
Go to http://vis.marine.ie/particles/ to view daily forecasts

Forecast for the next 3 days

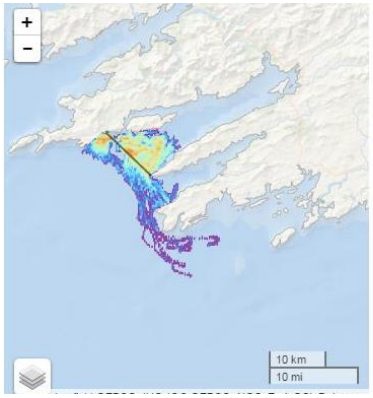
Bottom water	Water @ 20 metres	Surface water

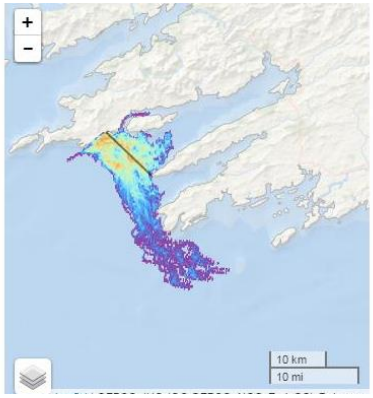


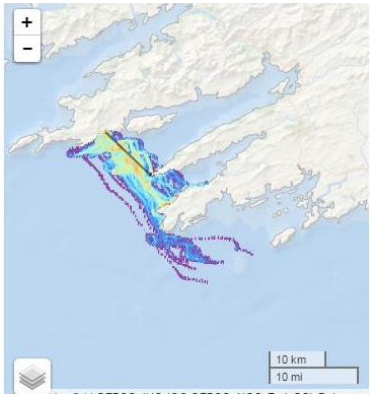




Water flows off the south coast are unlikely to reach Bantry Bay.





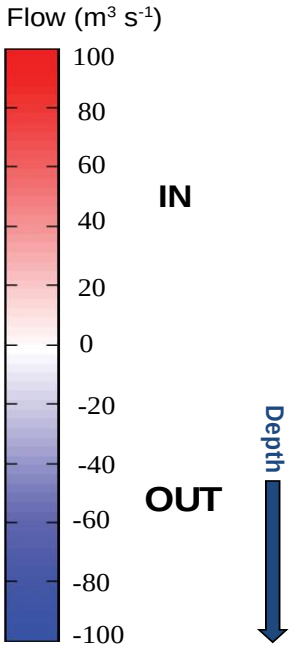


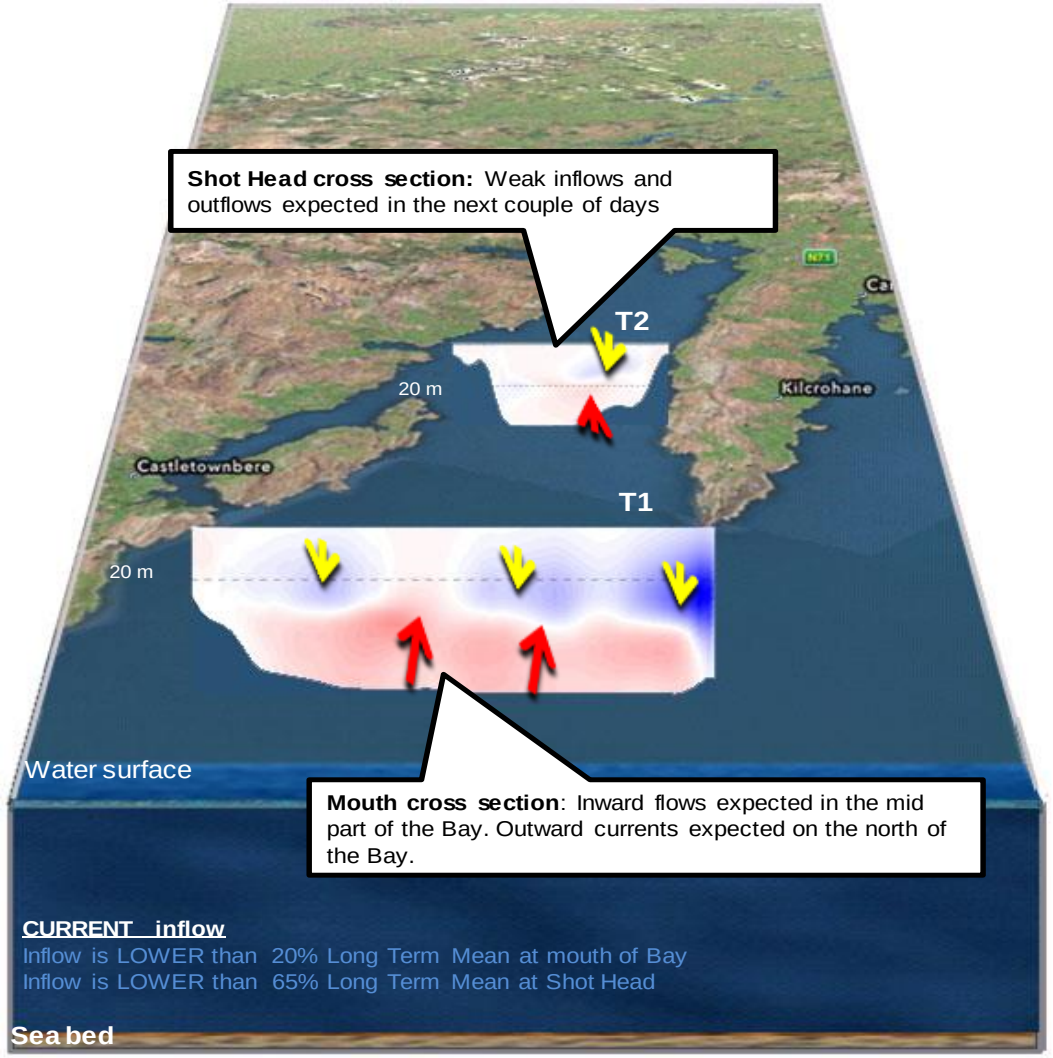
Water flows off the south coast are expected to enter the mouth Bantry Bay in the next few days. No big event expected.

Bantry Bay

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

Forecast for next 3 days





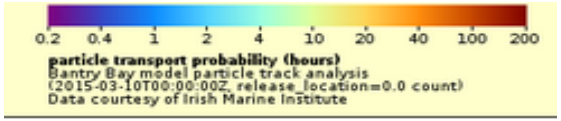
WEST: Killary Harbour

Forecast for the next 3 days

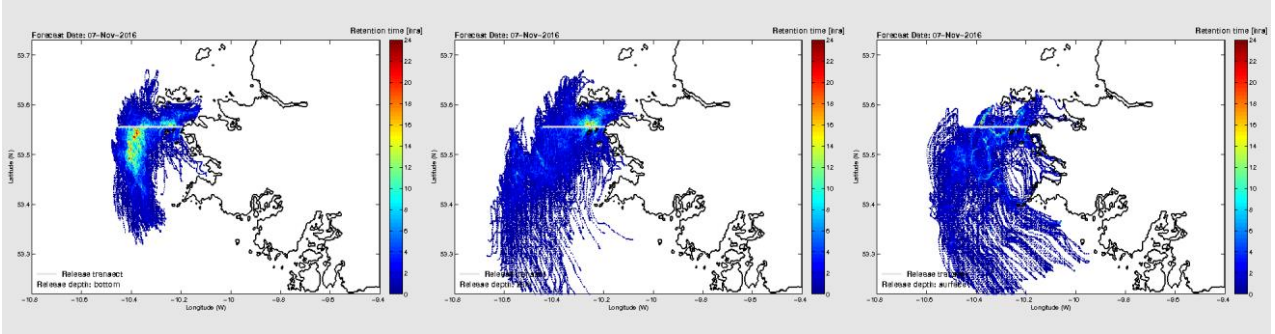
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

Reddish colours represent areas where phytoplankton remain longest

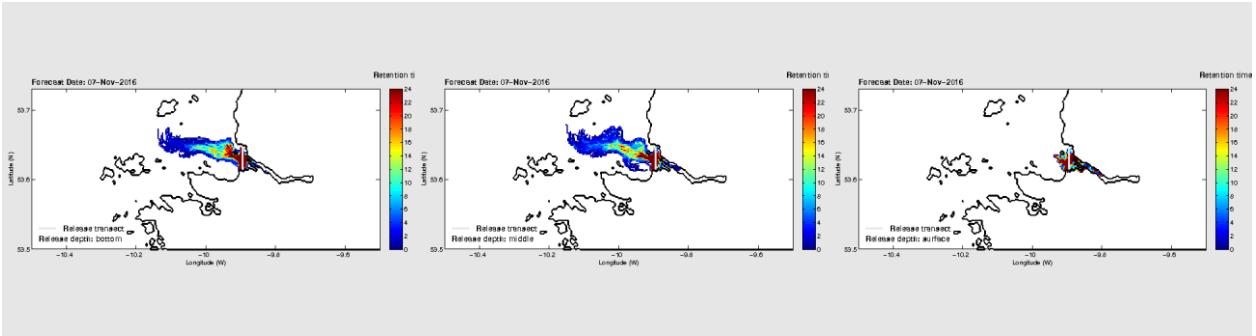
Cooler colours represent areas where phytoplankton remain for shorter periods



Bottom water	Water @ 20 metres	Surface water



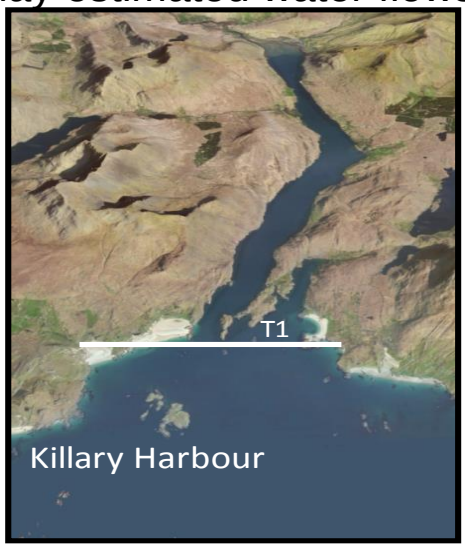
Water flows of the west coast will mostly be southerly directed shelf water unlikely to reach Killary Harbour.



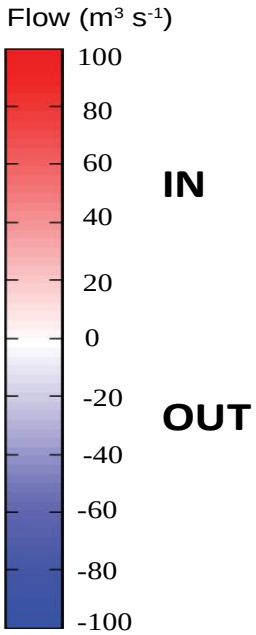
Estimated water circulation at the mouth of Killary shows that some water will be retained at the mouth with water at depth likely to flow out of Killary Harbour. However some surface water is likely to reach the mid-Bay.

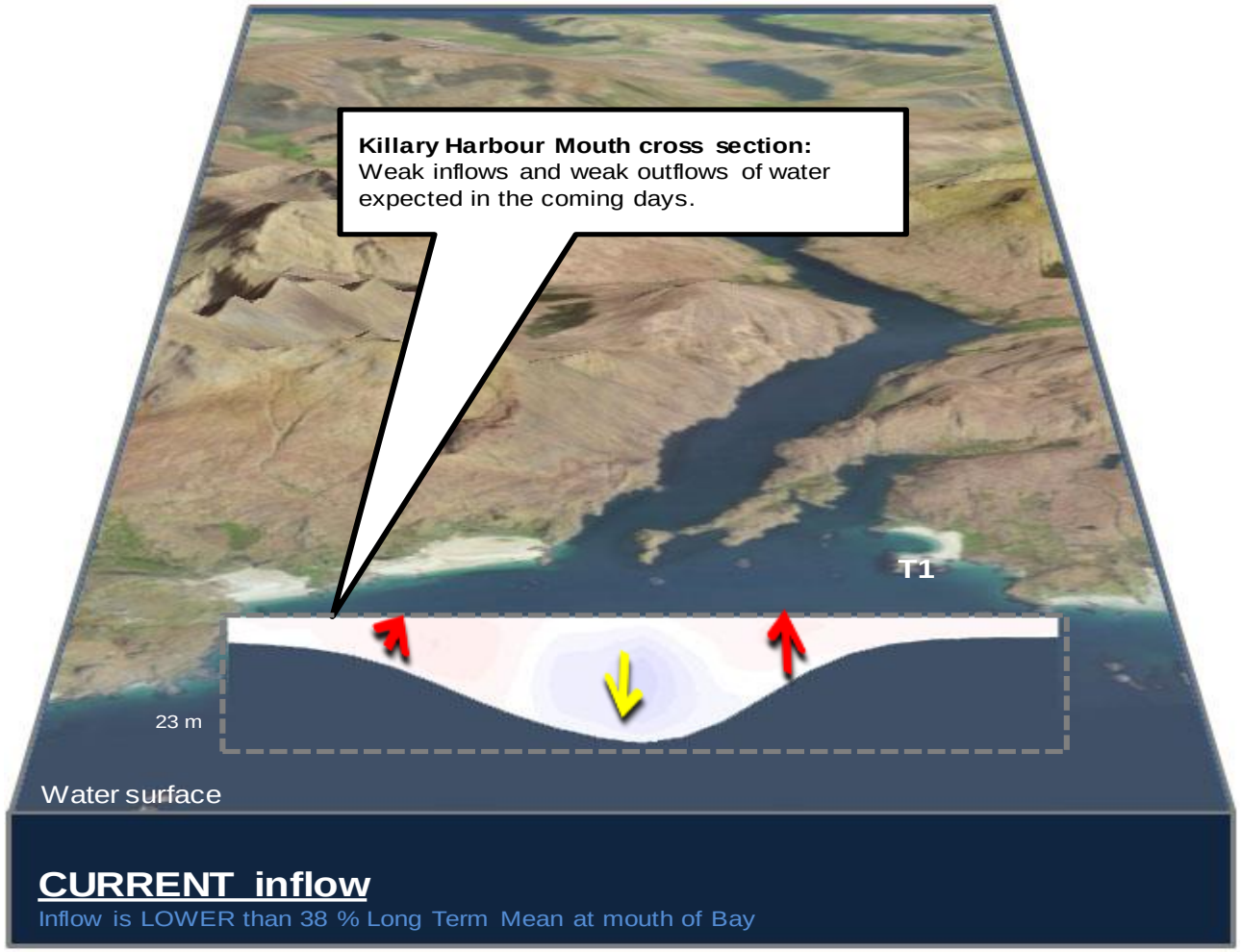
Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



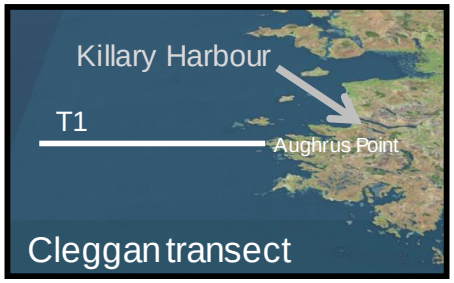
Forecast for next 3 days

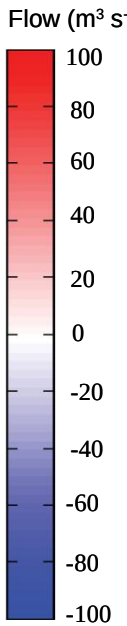




West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days





northward flow

southward flow