

# Ireland: Current Conditions

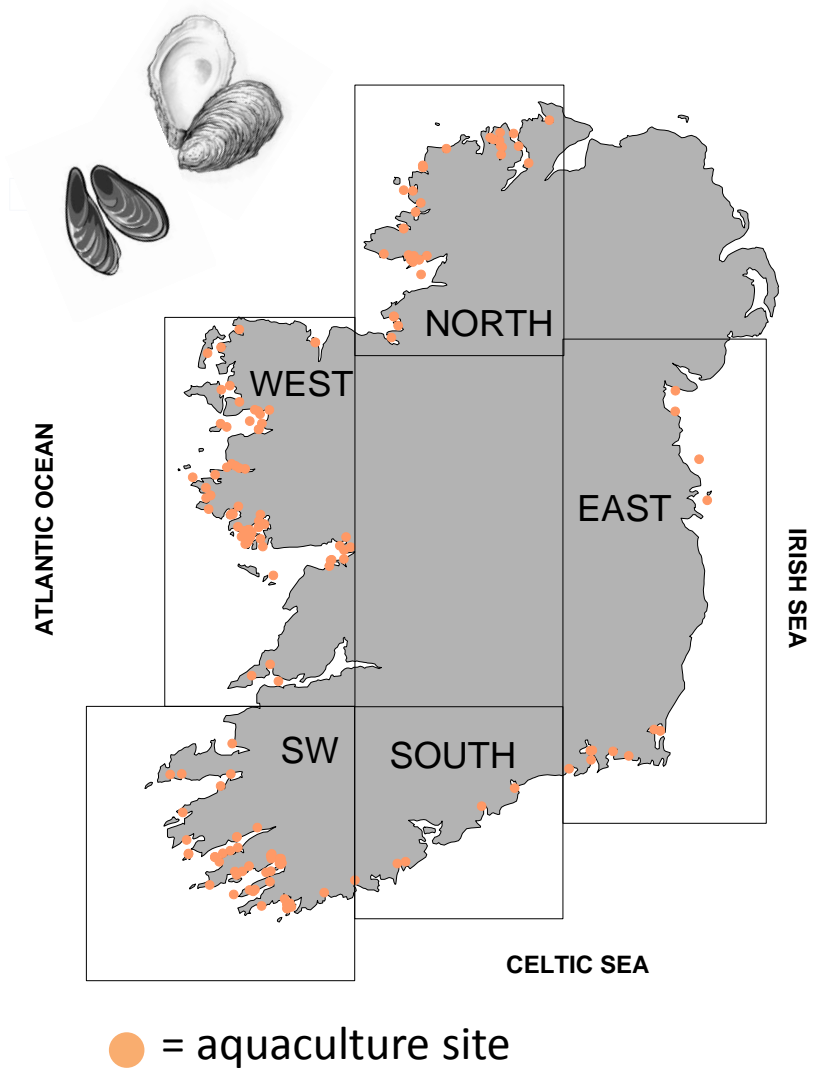
## Shellfish biotoxin report (last week)



**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**mnestic **S**hellfish **P**oisoning; AZP = **AZ**spiracid **P**oisoning;  
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning

### National Monitoring Programme Designated Sampling Sites



# Ireland: Predictions

## Prediction for this week:

ASP event: Moderate

AZP event: Low to Moderate

DSP event: Low to Moderate

PSP event: Low

## Why do we think this?

ASP: Biotoxin levels appear to have peaked just below closure levels and are currently decreasing in concentration. This is still a historical trend period and continued caution is strongly advised. Currently low levels of *Pseudo nitzschia australis* have been identified in the SW sites.

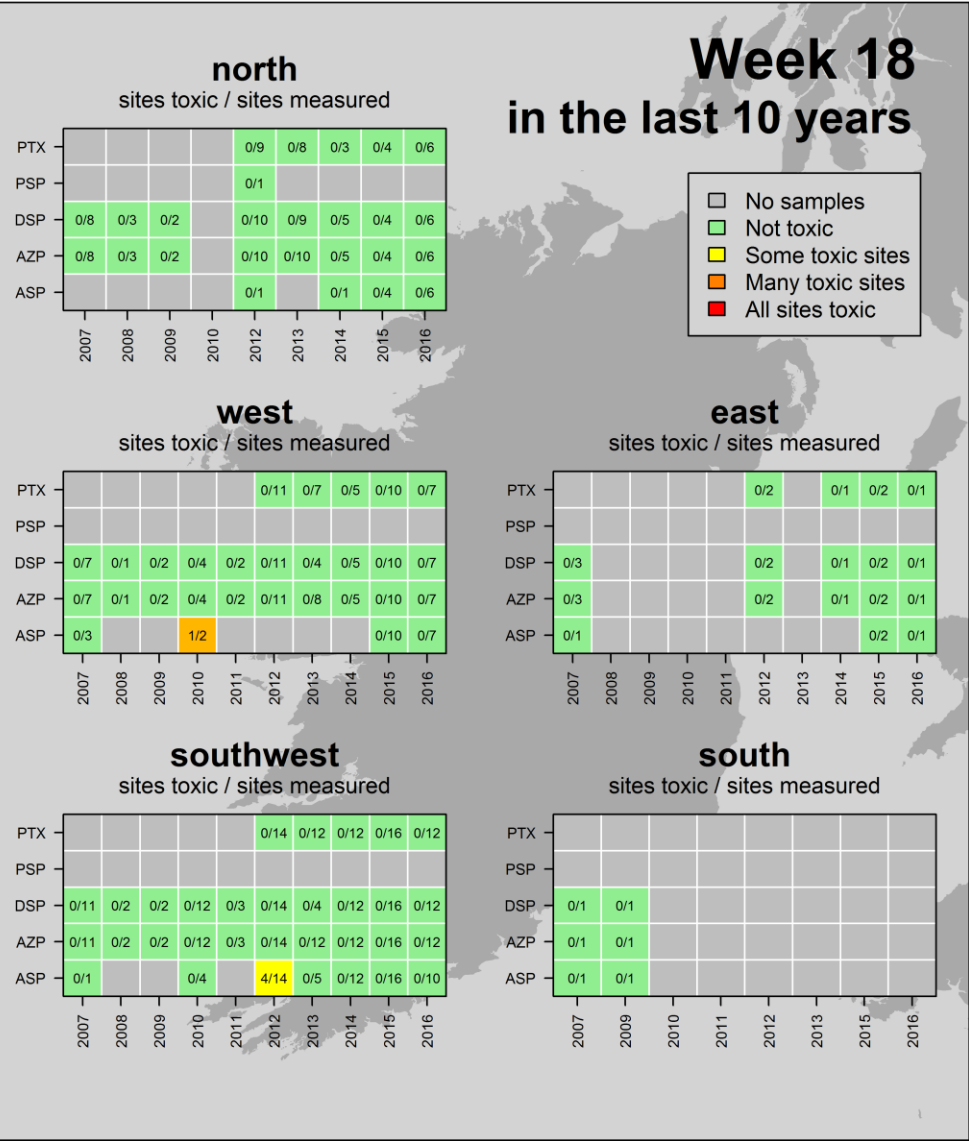
AZP: Biotoxin levels continue to remain below regulatory limits while fluctuating in presence and location. As the presence of potential species continues to be observed throughout the coastline continued caution is advised.

DSP: Dinophysis cells at very low levels are slowly appearing in some sites. No significant toxin levels have been recorded and it is still early based on historical trend records. Increasing levels of caution from low to moderate status is advised.

PSP: Based on historical trends and current environment conditions any event would be unlikely.

# Ireland: Historic Conditions

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



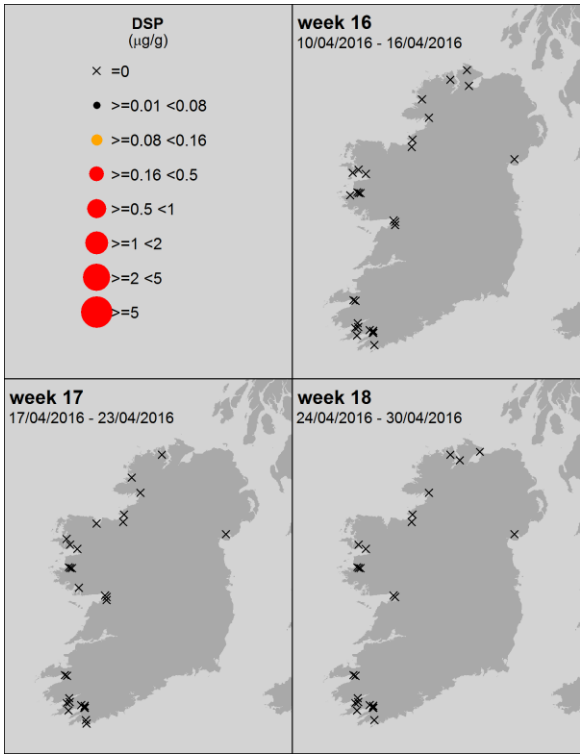
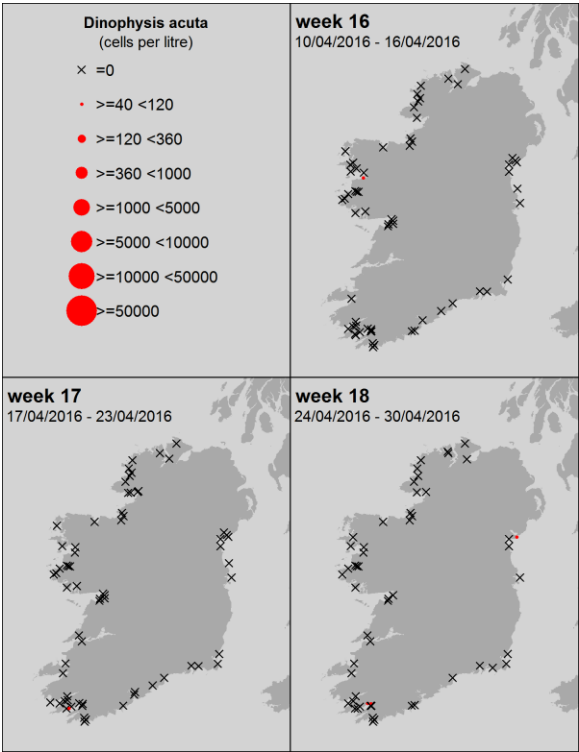
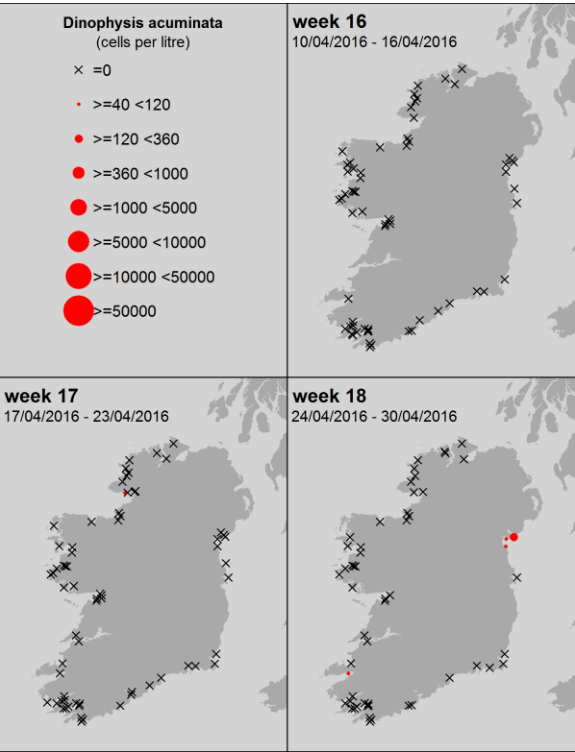
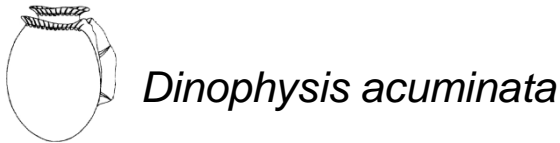
## Ireland HISTORIC TRENDS

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



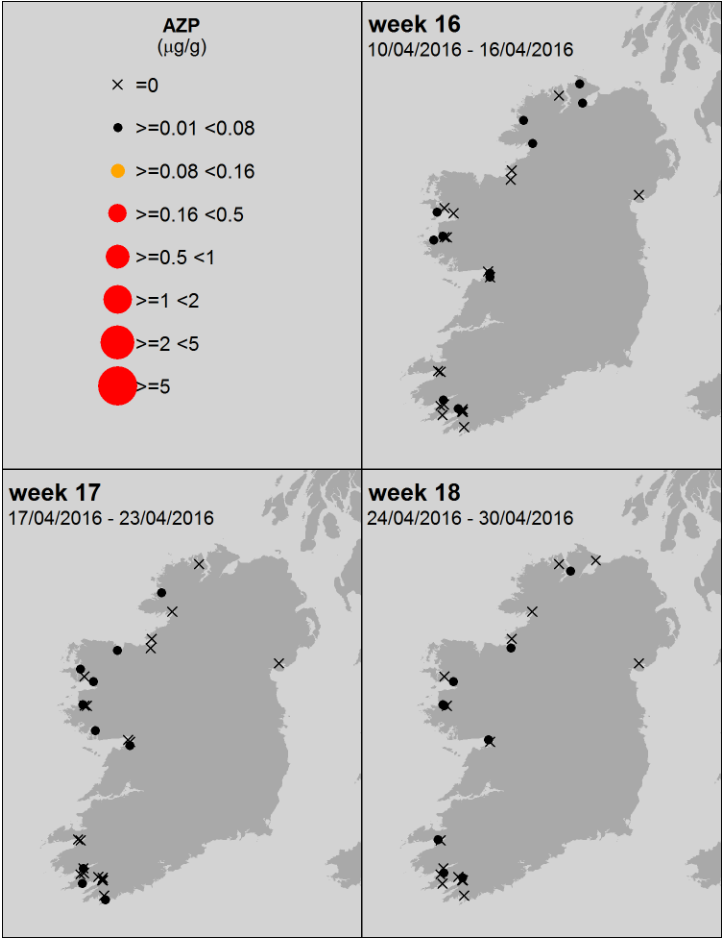
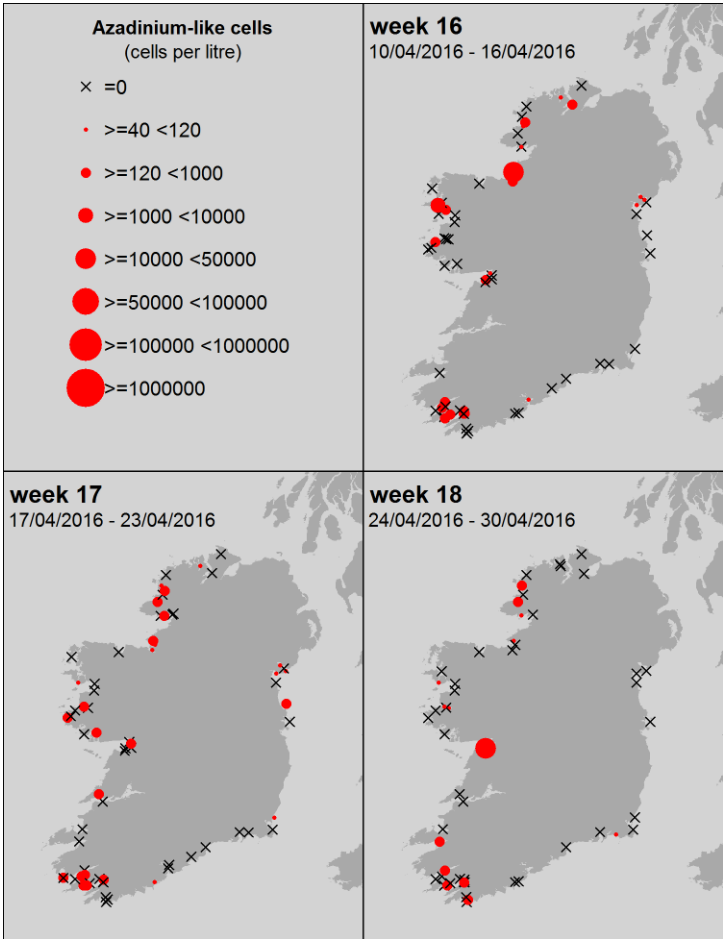
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

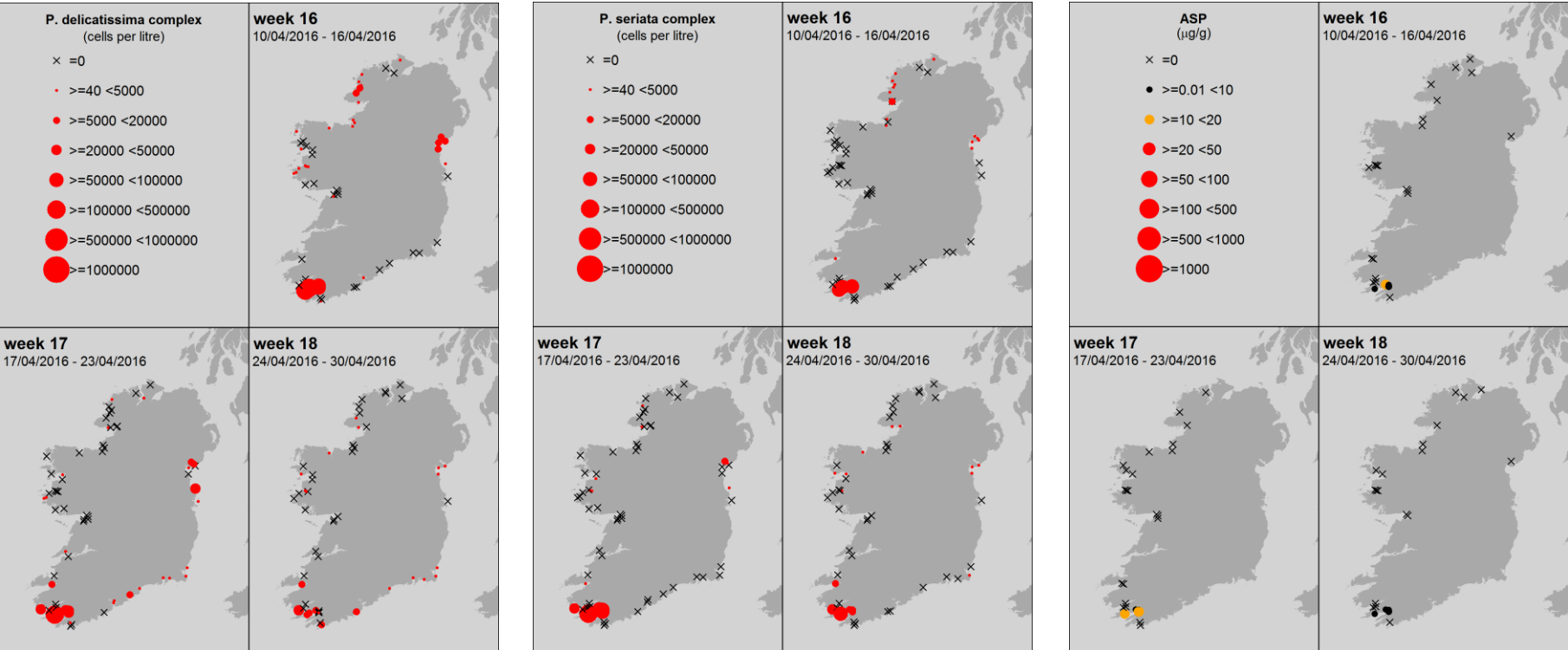
*Pseudo-nitzschia* spp.



ASP

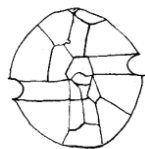
“*P. delicatissima*” complex = small cells  
Taken from the literature:  
3 species confirmed in Irish waters

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

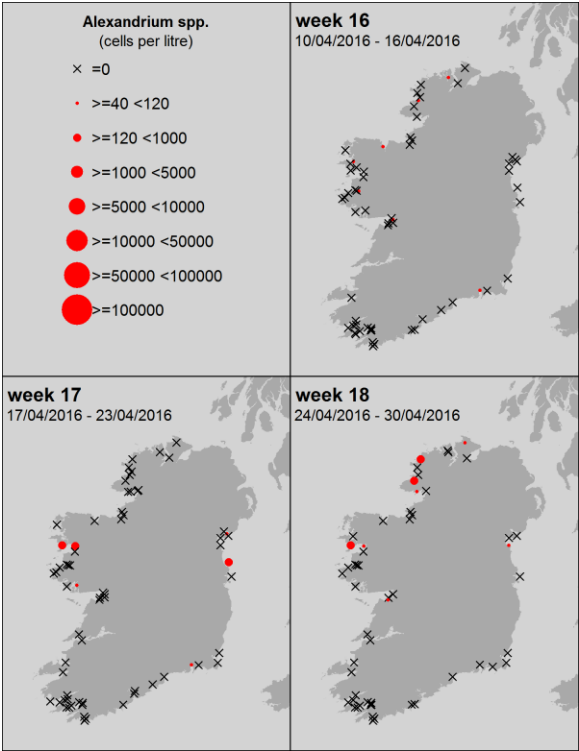


**Taken from the literature:** Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

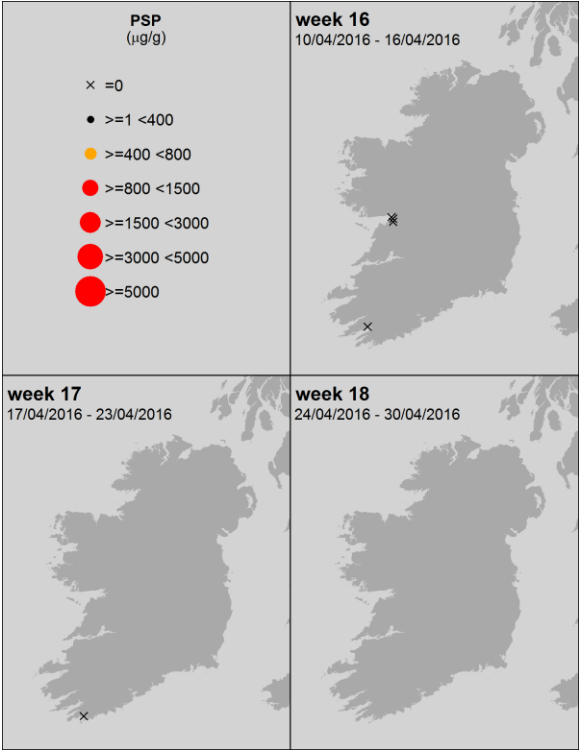
Ireland: Last 3 weeks of available National Monitoring Programme data



*Alexandrium* spp.



PSP



# Ireland HAB & Biotoxin temporal trends

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

## Ireland: Biotoxins



Toxin groups

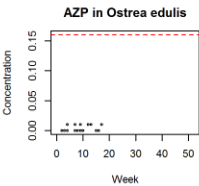
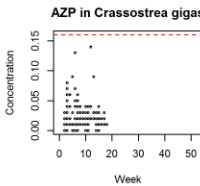
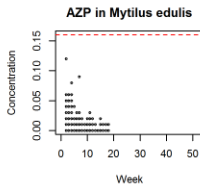
mussels

oysters

oysters

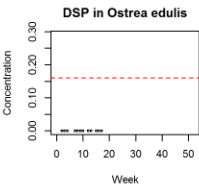
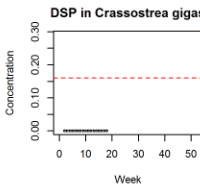
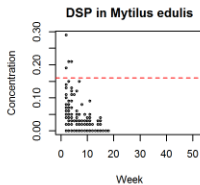
**AZP**

AZaspiracid  
Poisoning



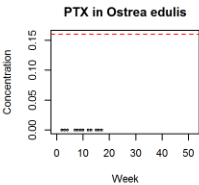
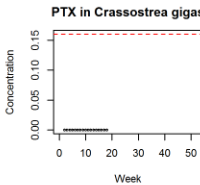
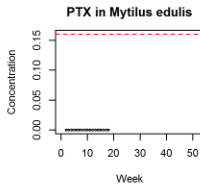
**DSP**

Diarrhetic  
Shellfish  
Poisoning



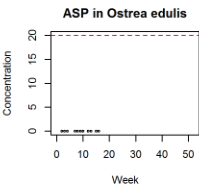
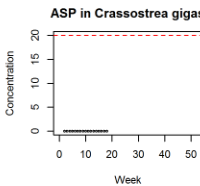
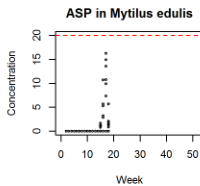
**PTX**

Pectenotoxin



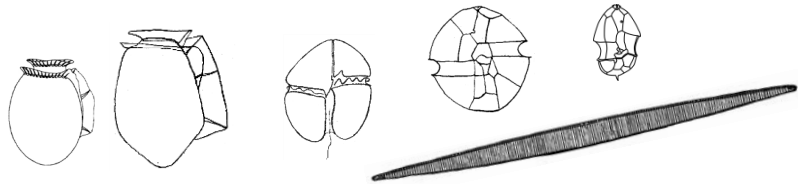
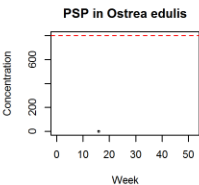
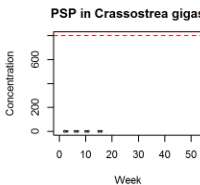
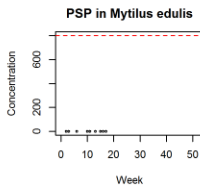
**ASP**

Amnesic  
Shellfish  
Poisoning

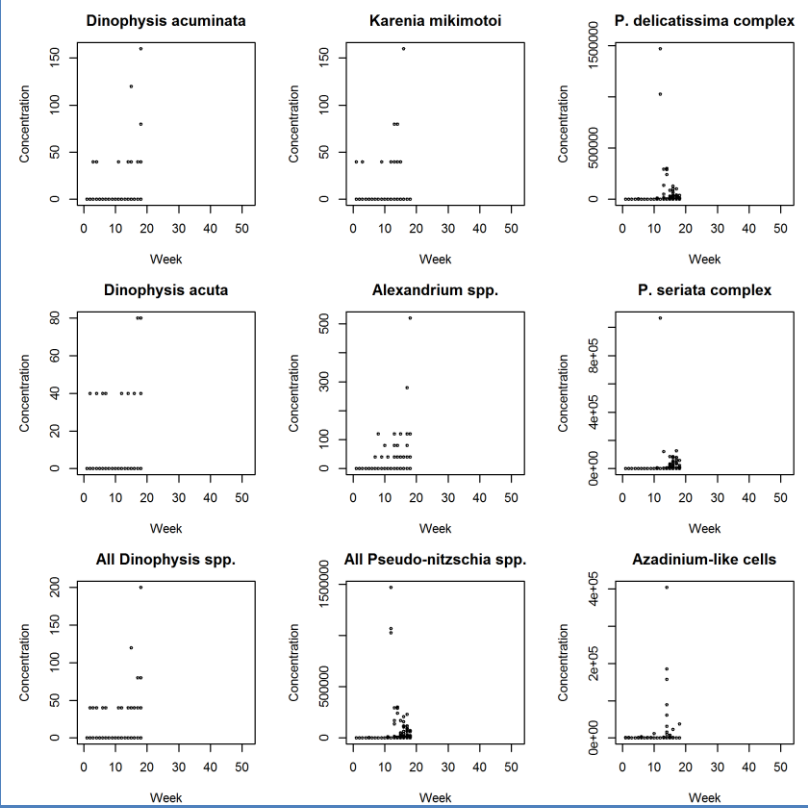


**PSP**

Paralytic  
Shellfish  
Poisoning



## Ireland: HABs

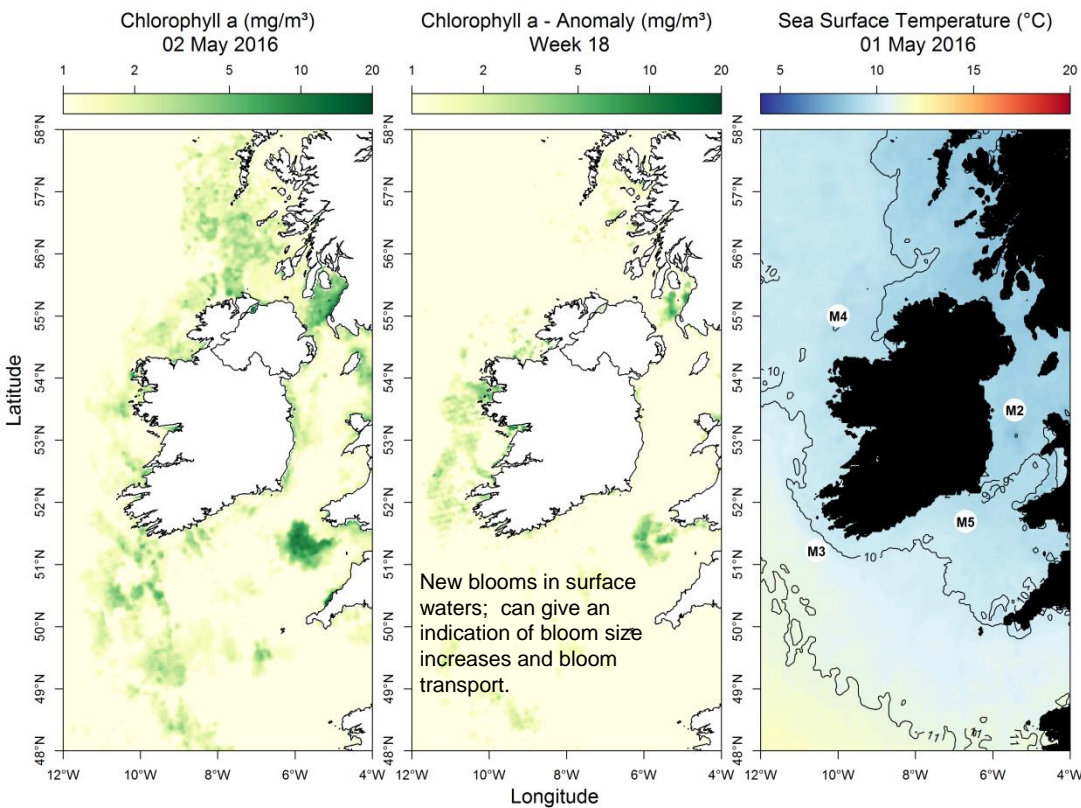


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■



Most up to date available satellite data

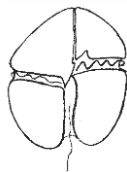


**SST (°C) anomaly for last week:**  
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) Offline
- SW coast (M3) Offline
- SE coast (M5) Below average by -1.11 °C

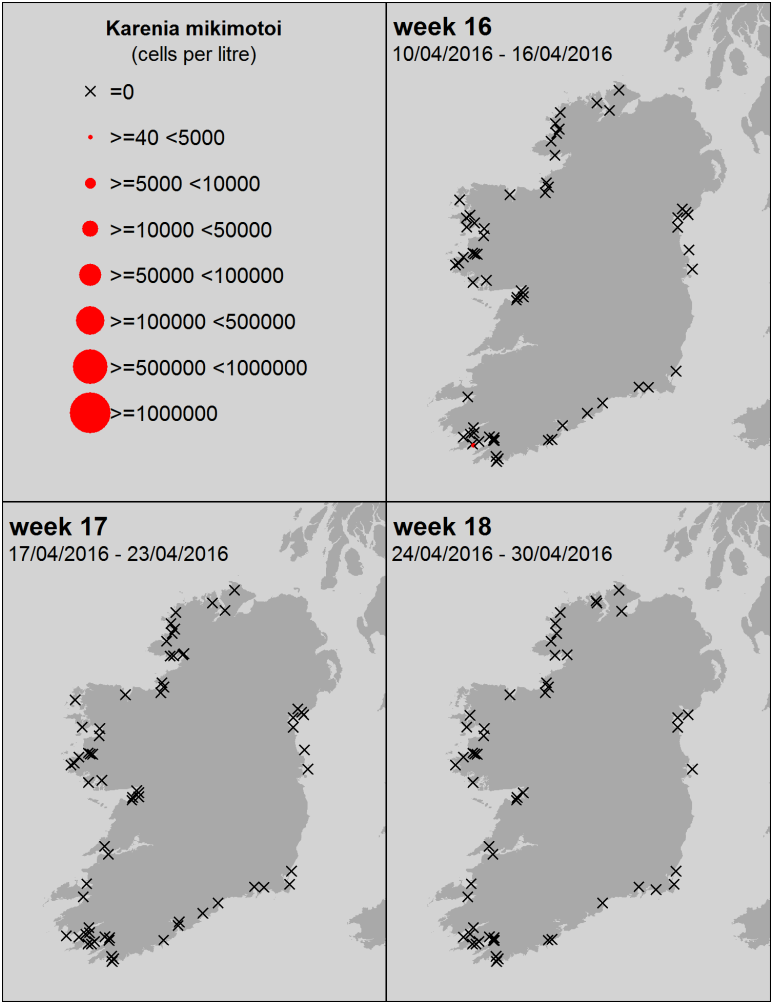
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
north:	<b>Diatoms:</b>	
	<i>Chaetoceros (Hyalochaete) spp.</i>	991,000
	<i>Skeletonema spp.</i>	175,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	160,000
	<b>Dinoflagellates:</b>	
	<i>Oxyrrhis sp</i>	84,000
	<i>Heterocapsa triquetra</i>	68,000
west:	<b>Others:</b>	
	Microflagellate sp.	252,000
	<b>Diatoms:</b>	
	<i>Chaetoceros (Hyalochaete) spp.</i>	1,409,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	1,292,000
	<i>Cerataulina spp.</i>	28,000
	<b>Dinoflagellates:</b>	
SW:	<i>Azadinium/heterocapsa spp.</i>	38,000
	<b>Others:</b>	
	Cryptophyte	414,000
	Microflagellate sp.	276,000
	<b>Diatoms:</b>	
	<i>Chaetoceros socialis</i>	639,000
	<i>Thalassiosira &lt;20um</i>	140,000
south:	<i>Lauderia / Detonula sp</i>	75,000
	<i>Pseudo-nitzschia seriata complex</i>	57,000
	<b>Others:</b>	
	<i>Phaeocystis spp. (cells)</i>	708,000
	Haptophytes	364,000
	<b>Diatoms:</b>	
	<i>Thalassiosira &lt;20um</i>	564,000
east:	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	39,000
	<i>Skeletonema spp.</i>	14,000
	<i>Pseudo-nitzschia delicatissima complex</i>	10,000
	<b>Others:</b>	
	<i>Mesodinium rubrum</i>	4,000
	Ciliates	3,000
	<b>Diatoms:</b>	
	<i>Asterionellopsis glacialis</i>	177,000
	<i>Thalassiosira 20-50um</i>	98,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	23,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	8,000
	<i>Skeletonema spp.</i>	4,000



*Karenia mikimotoi*  
(old name: *Gyrodinium aureolum*)

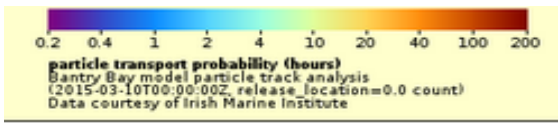
A *Karenia mikimotoi* bloom  
is NOT expected this week



## SOUTHWEST: Bantry Bay

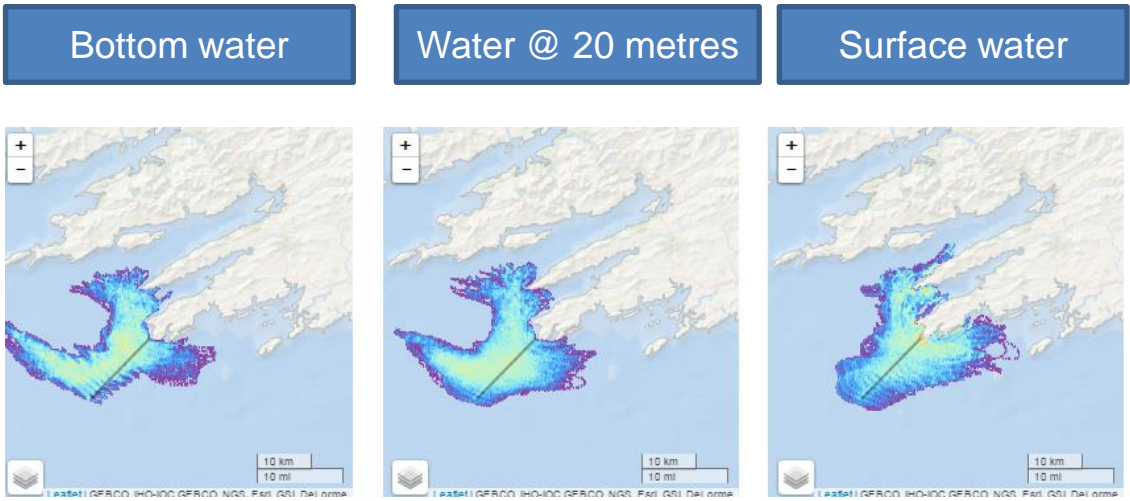
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

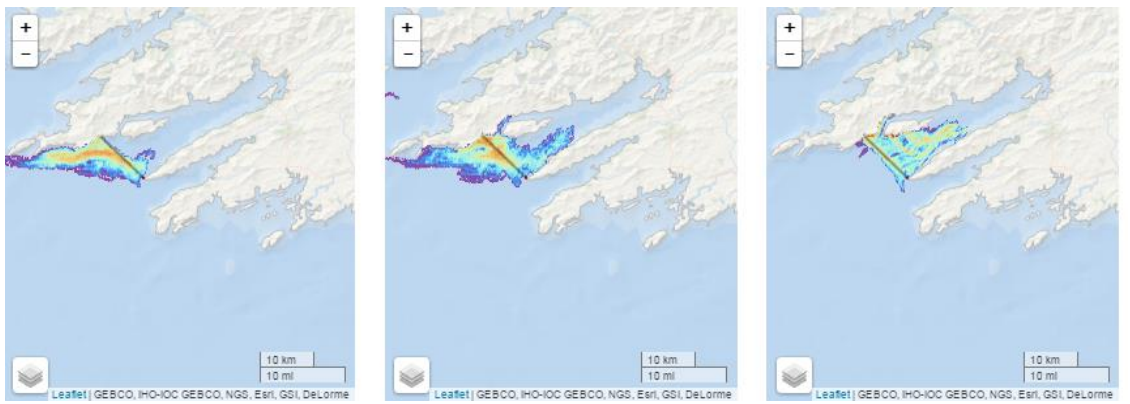


Go to <http://vis.marine.ie/particles/> to view daily forecasts

## Forecast for the next 3 days



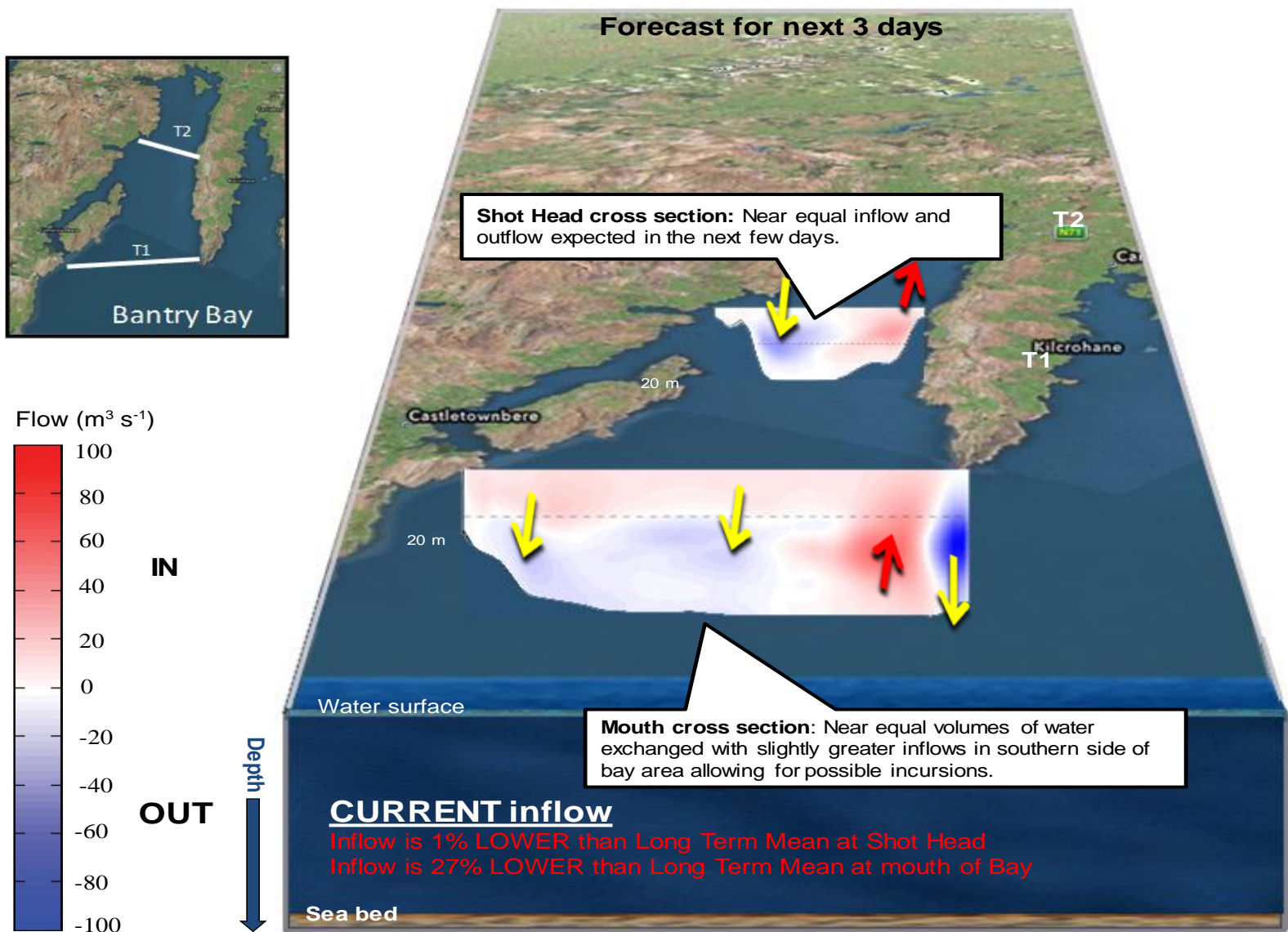
Weak water movements at all depths. North western movements dominating deeper water with south western water movements predominantly in surface waters.



Weak water movements at all depths. North western movements dominating deeper water with south western water movements predominantly in surface waters allowing for inner bay incursions of outer bay waters.

# Bantry Bay

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






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

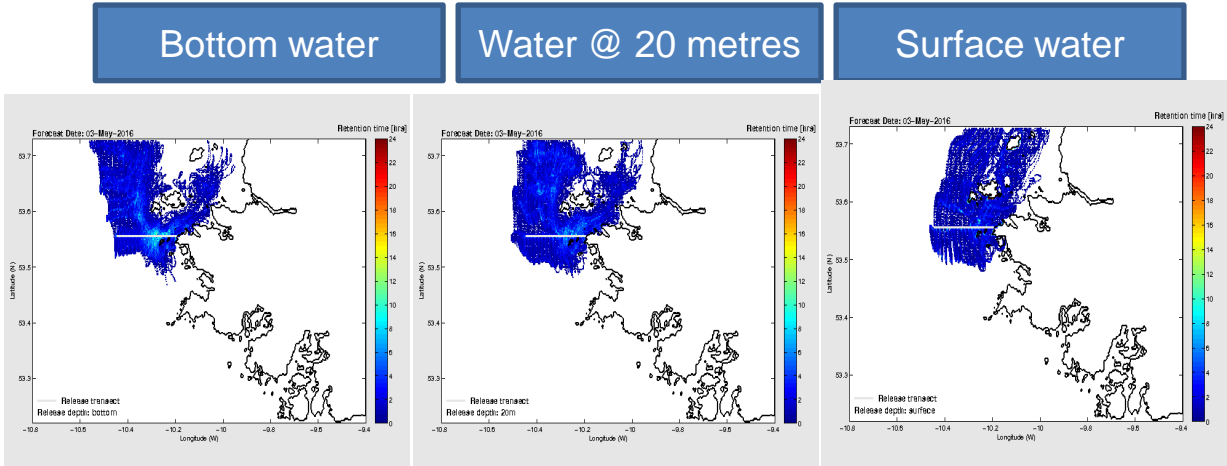
Cooler colours represent areas where phytoplankton remain for shorter periods



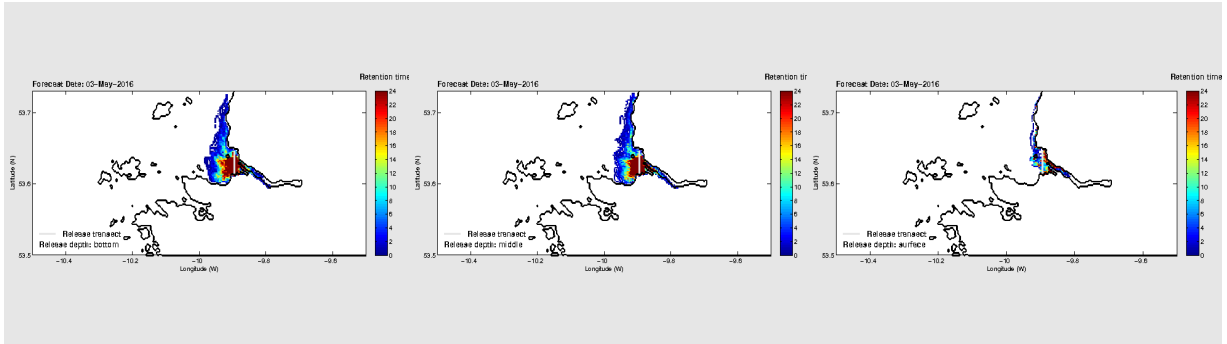
0.2 0.4 1 2 4 10 20 40 100 200

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



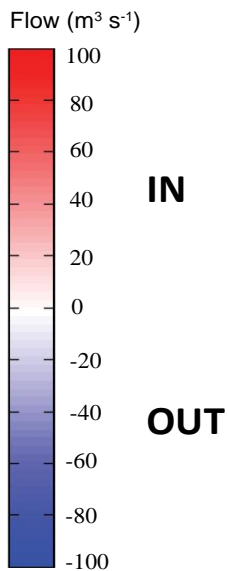
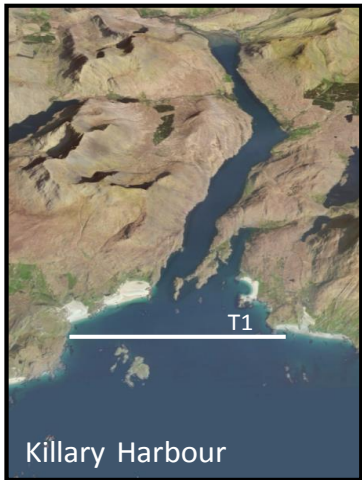
Predominantly northern water movement at all depths.



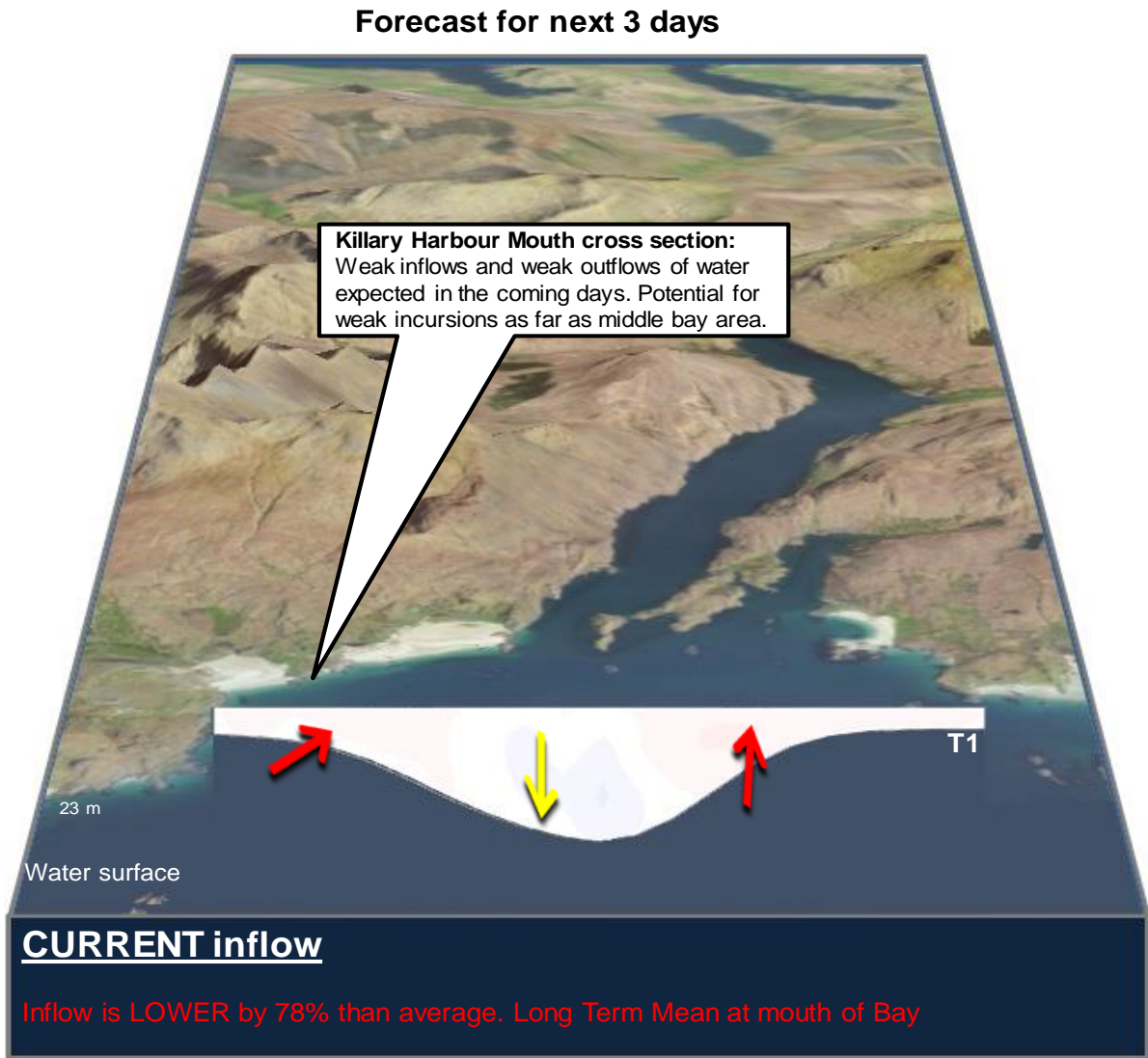
Potential for offshore water incursions into outer and middle bay areas, particularly at depths.

# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Depth



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

