

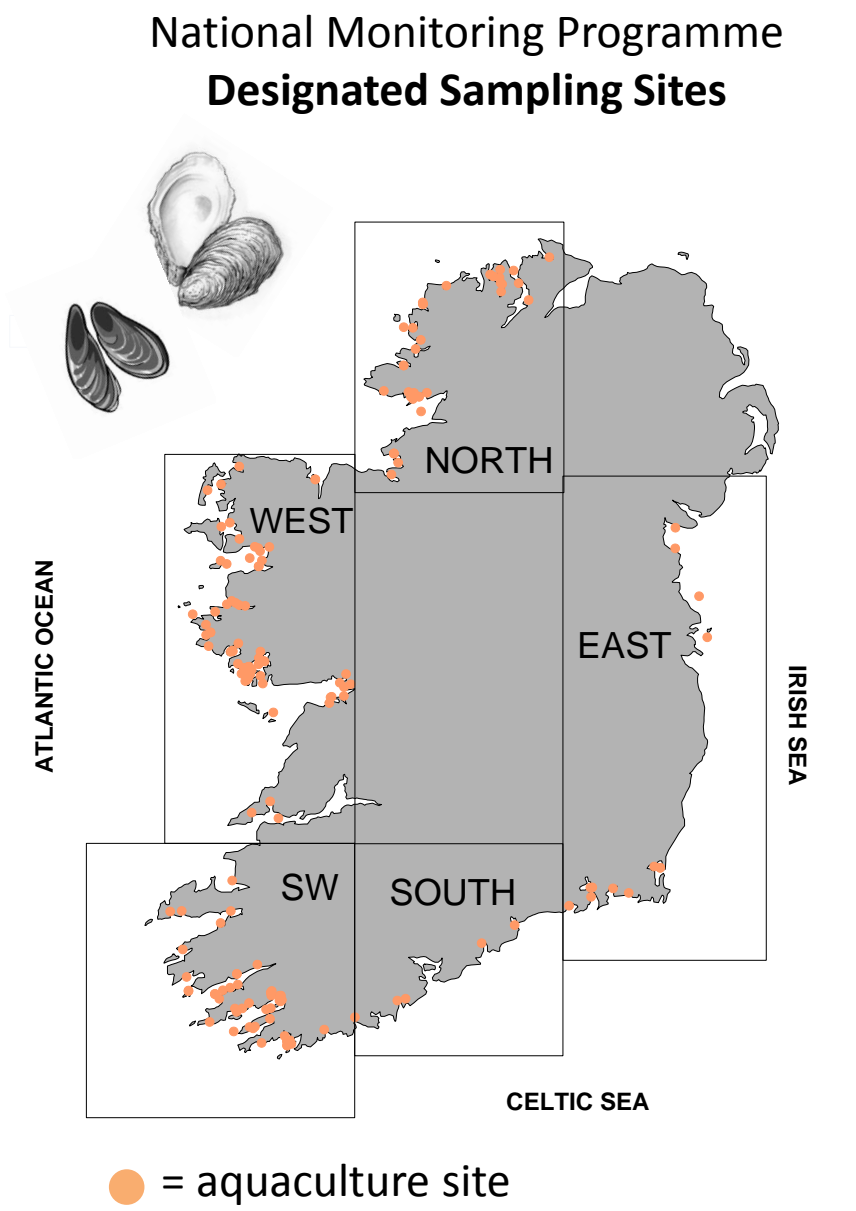
Ireland: Current Conditions

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**aspiracid **P**oisoning;
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning



Ireland: Predictions

Prediction for this week:

ASP event: Moderate to Low

AZP event: Moderate

DSP event: Low to medium

PSP event: Low

Why do we think this?

ASP: Currently this toxin and associated phytoplankton species appear to be decreasing in all related sites. This is historically near the end of the toxic event season. However, while some toxic species are still present caution is advised.

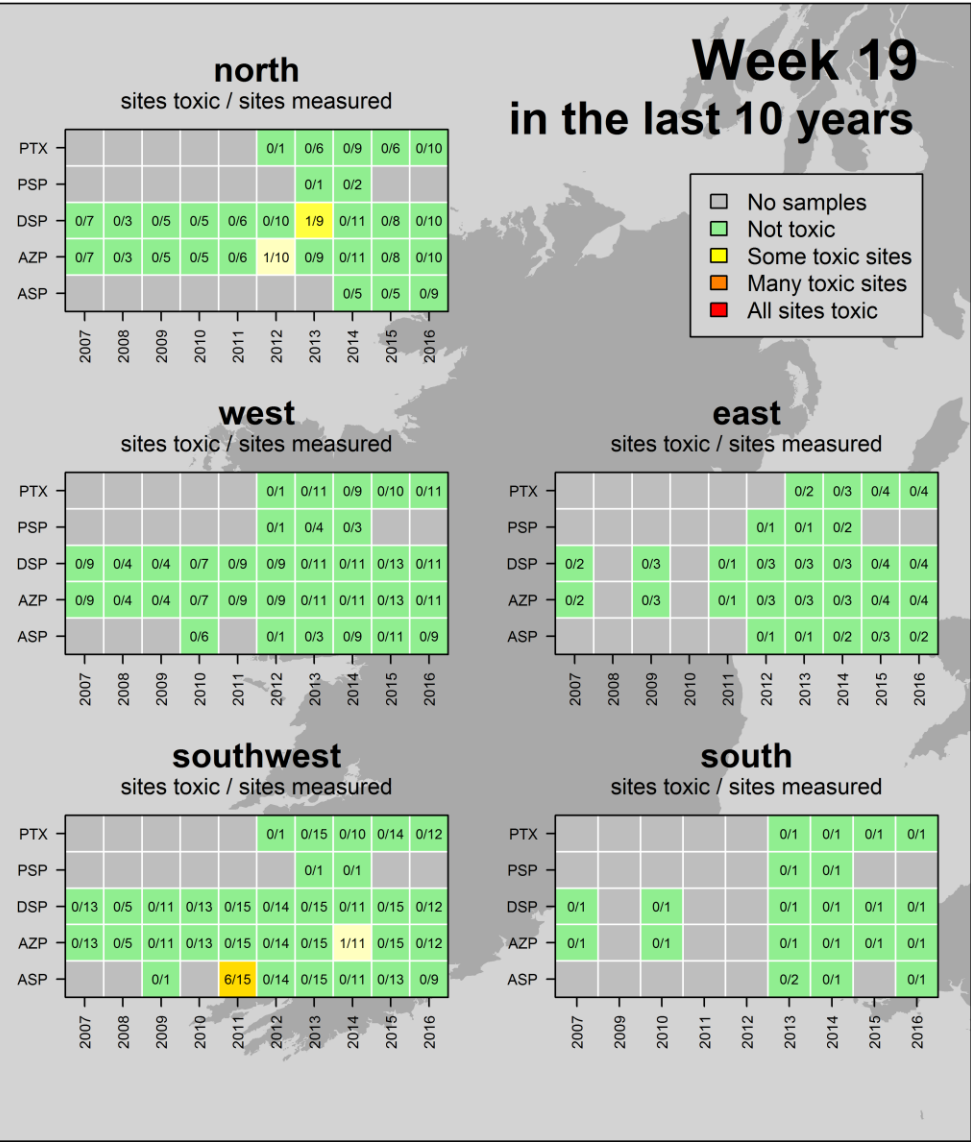
AZP: The presence of the biotoxin and coastal spread of potential related phytoplankton appears to be increasing, while remaining below regulatory closure limits. This type of fluctuation, both in terms of location and levels detected is common with this species. Continued moderate caution is advised until more sites become totally clear of biotoxin.

DSP: Beginning of season, low level cells appearing around the coast but as yet no toxins in flesh. In general this species has a pattern of slow rise but rapid increases are possible. So while the current risk is low it is the historical start of this risk activity period and time to increase vigilance.

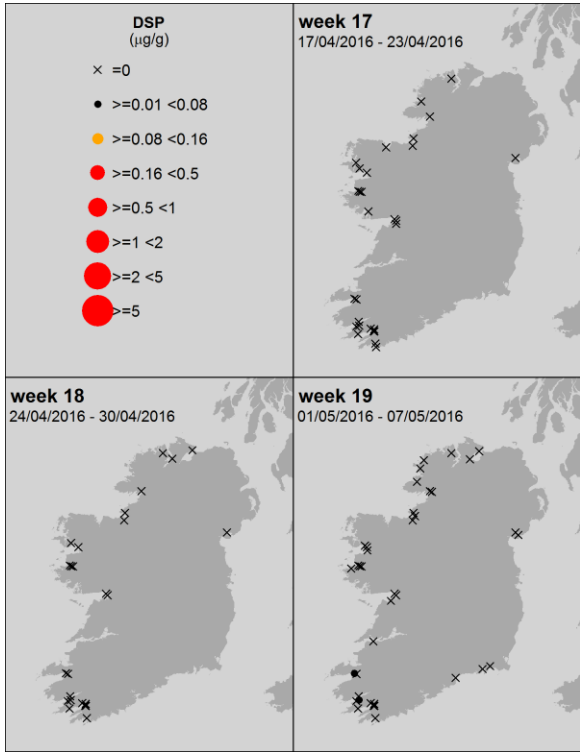
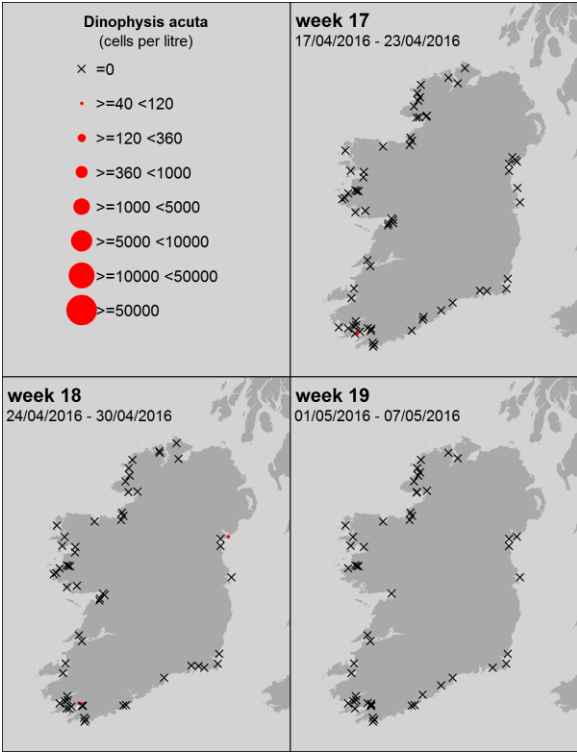
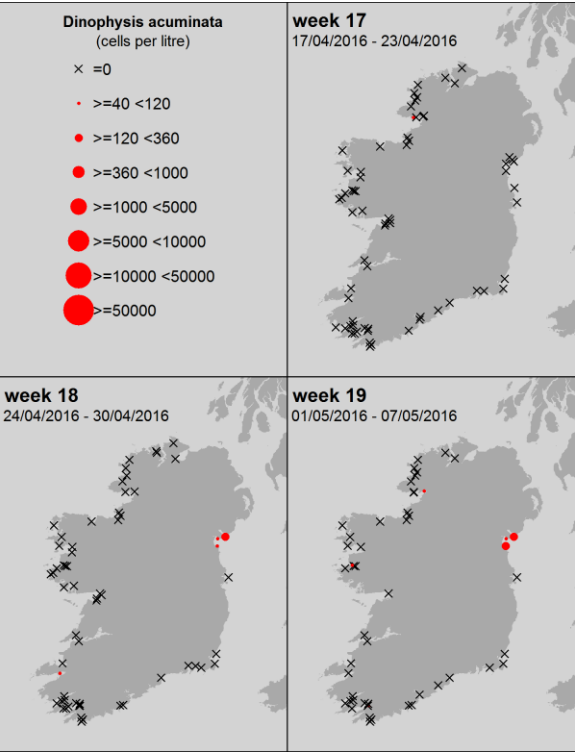
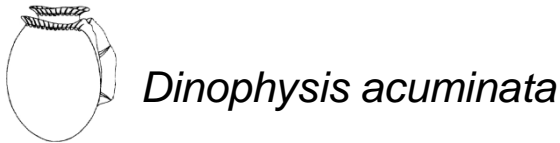
PSP: Based on historical trends and current environment conditions any event would be unlikely.

Ireland: Historic Conditions

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



Ireland: Last 3 weeks of available National Monitoring Programme data



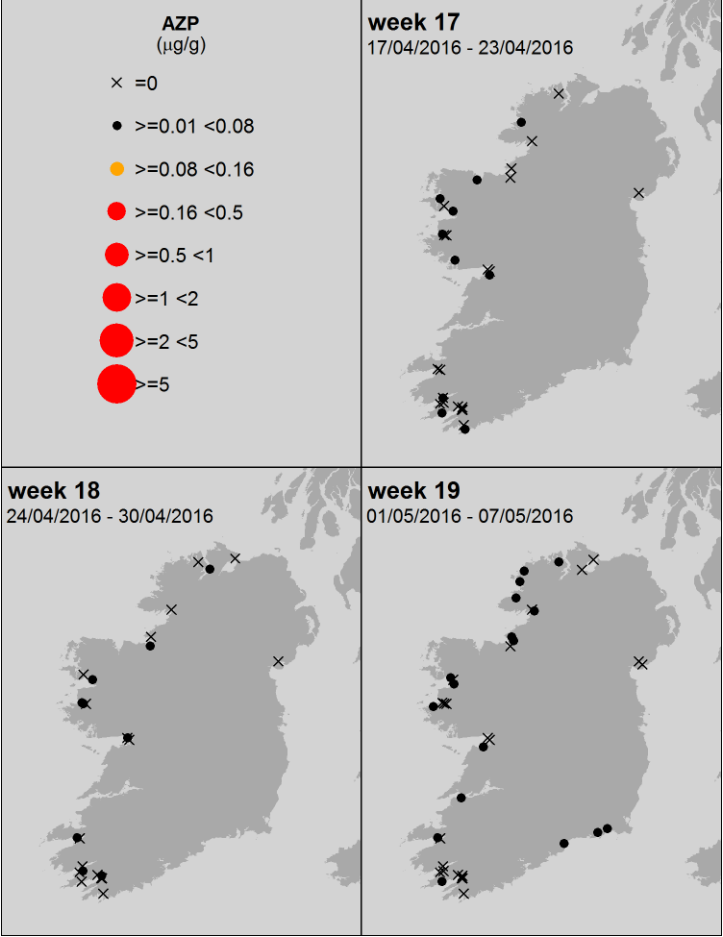
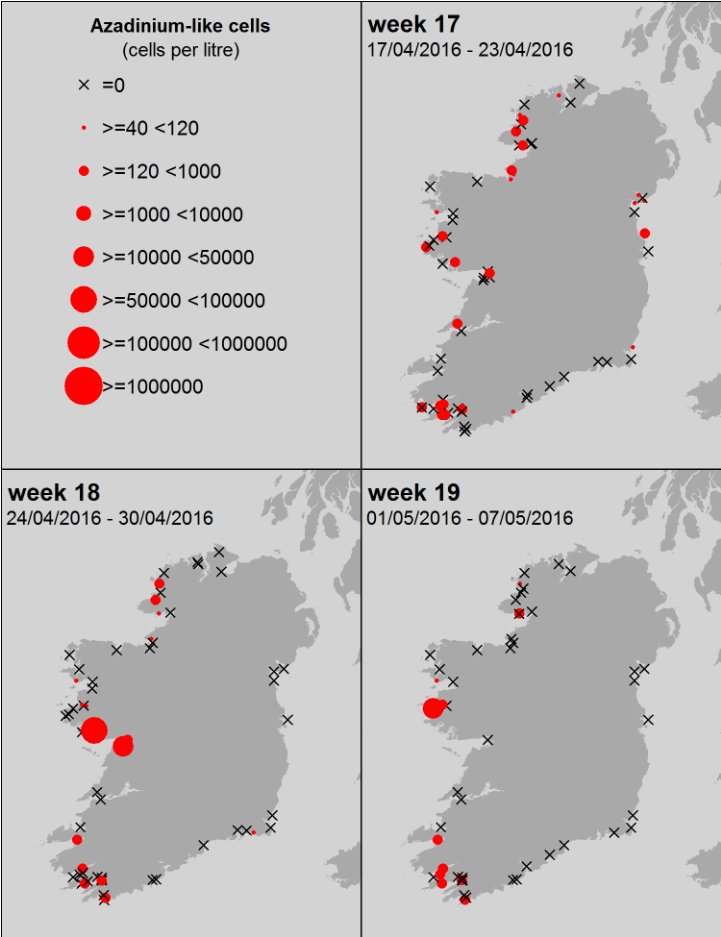
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

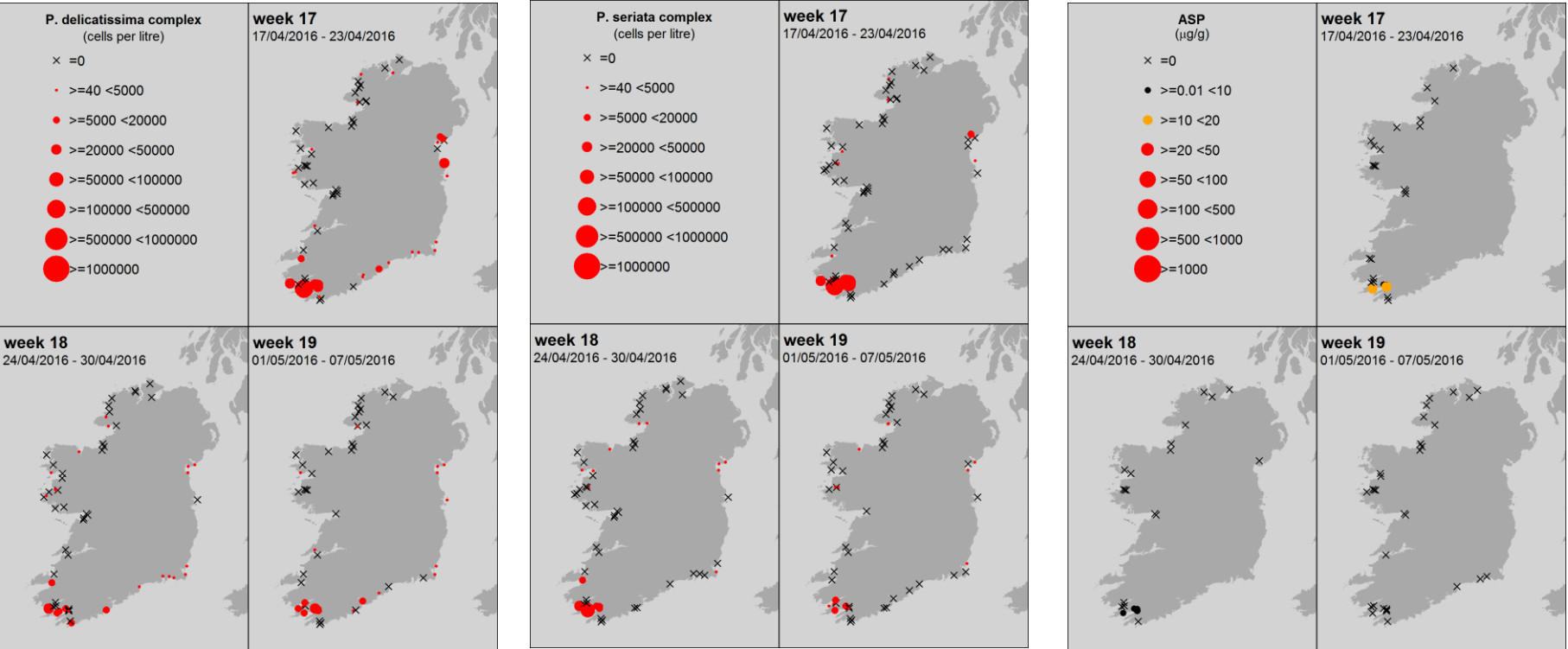
Pseudo-nitzschia spp.



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

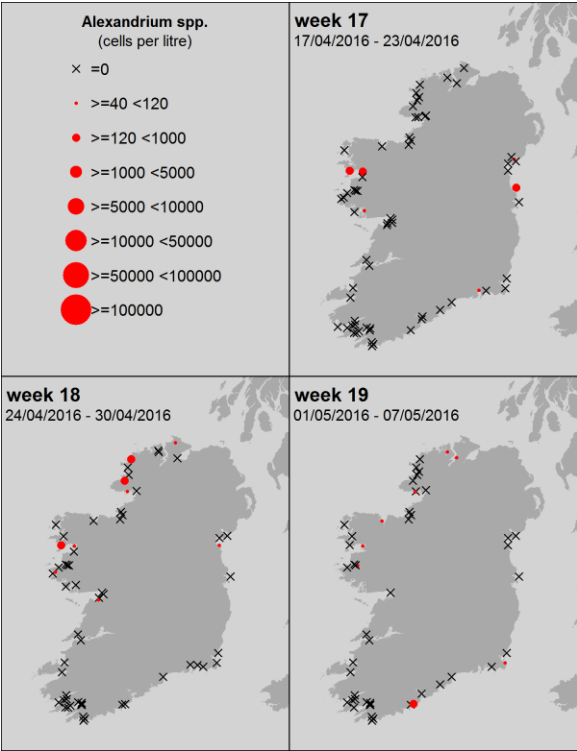


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

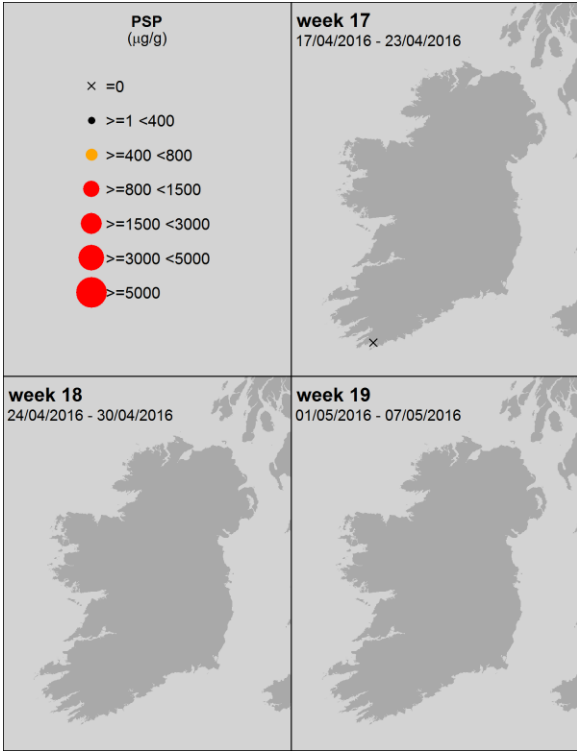
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



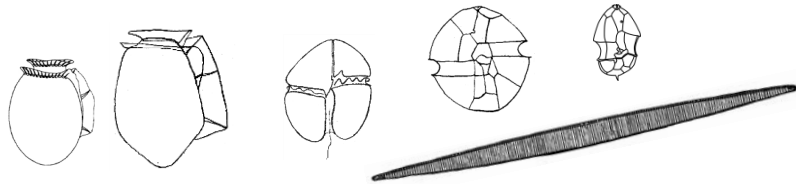
PSP



Ireland HAB & Biotoxin temporal trends

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

Ireland: Biotoxins



Toxin groups

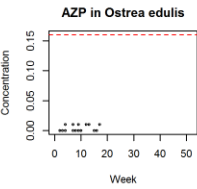
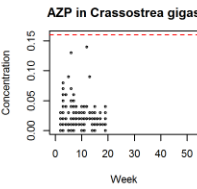
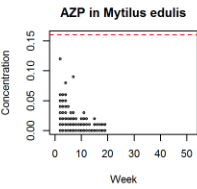
mussels

oysters

oysters

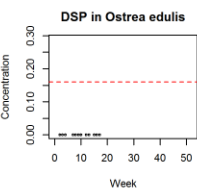
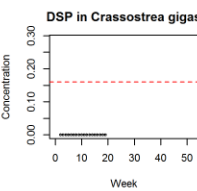
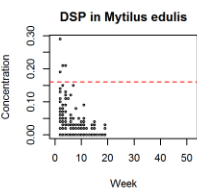
AZP

AZaspiracid
Poisoning



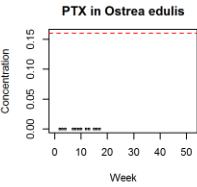
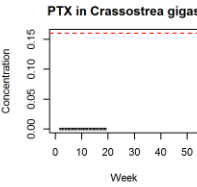
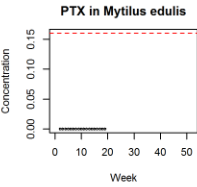
DSP

Diarrhetic
Shellfish
Poisoning



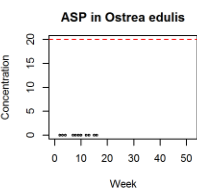
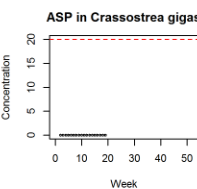
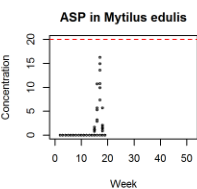
PTX

Pectenotoxin



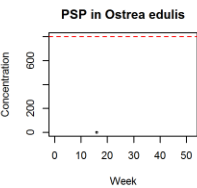
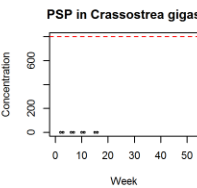
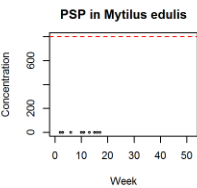
ASP

Amnesic
Shellfish
Poisoning

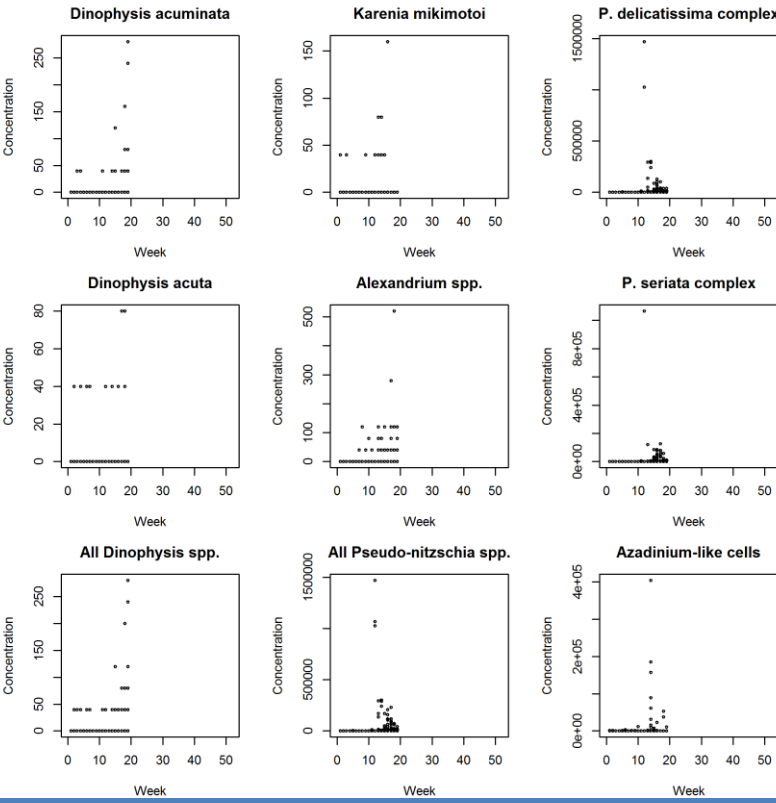


PSP

Paralytic
Shellfish
Poisoning



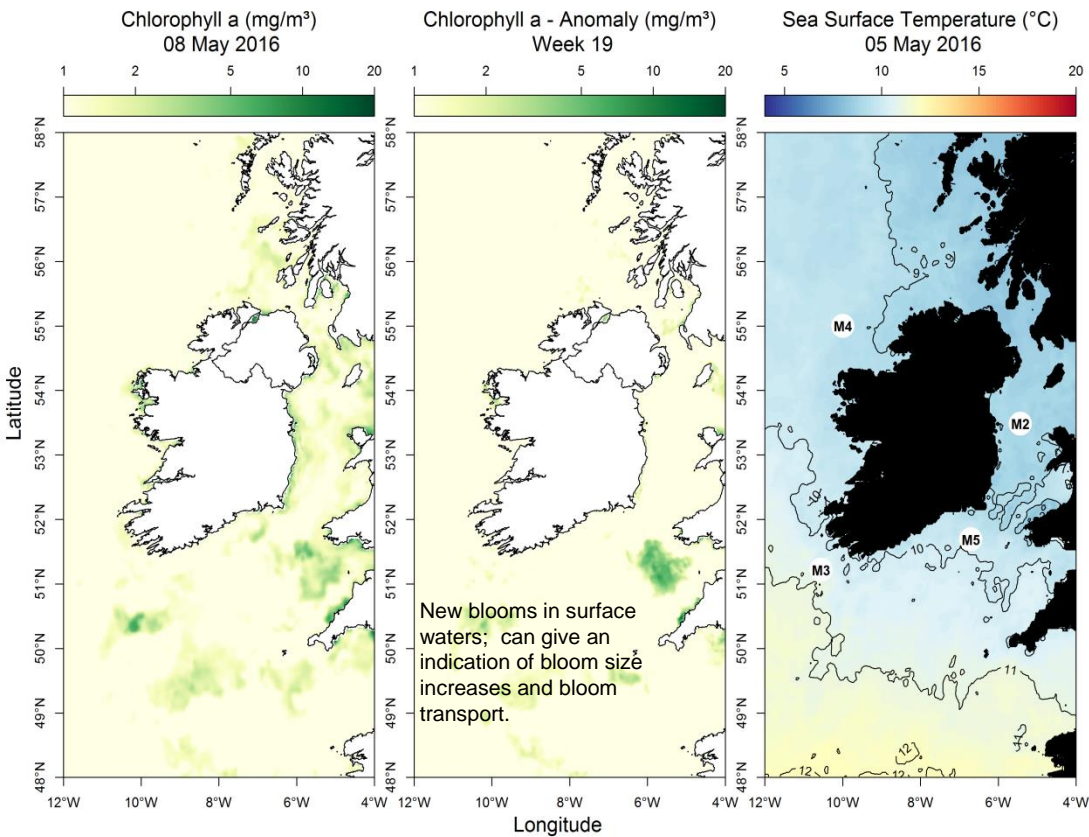
Ireland: HABs



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

Regulatory limit = ■■■■■

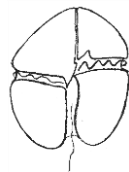
Most up to date available satellite data



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)

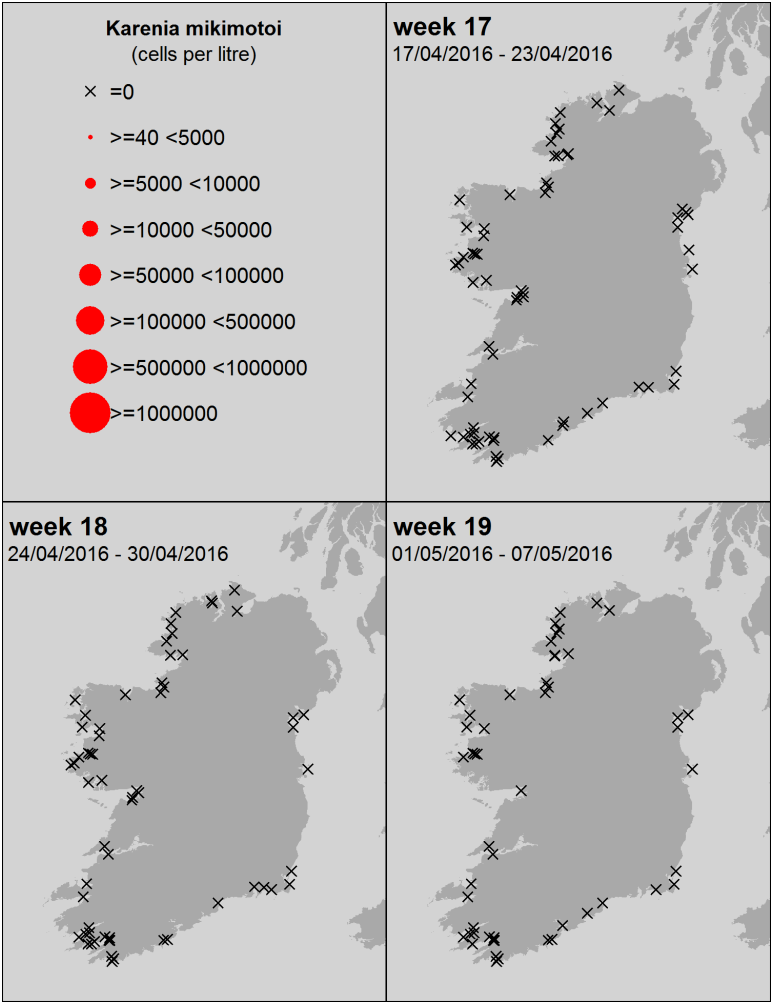
- NW coast (M4) Offline
- SW coast (M3) Offline
- SE coast (M5) Below average by -1.06 °C

What phytoplankton were blooming at inshore coastal		
Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
North:	Diatoms:	
	<i>Chaetoceros socialis</i>	2,875,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	120,000
	<i>Cerataulina pelagica</i>	37,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	10,000
	Dinoflagellates:	
	<i>Oxyrrhis sp</i>	3,000
	Others:	
	Microflagellate sp.	48,000
	Ciliates	11,000
West:	Diatoms:	
	<i>Chaetoceros socialis</i>	3,478,000
	Pennate diatom	244,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	220,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	182,000
	<i>Cerataulina pelagica</i>	43,000
	Dinoflagellates:	
	<i>Azadinium/heterocapsa spp.</i>	11,000
	Others:	
	Microflagellate spp. <10um	11,000
SW:	Diatoms:	
	<i>Chaetoceros socialis</i>	721,000
	<i>Asterionellopsis glacialis</i>	654,000
	<i>Leptocylindrus minimus</i>	498,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	74,000
	<i>Chaetoceros curvisetus/debilis</i>	61,000
	<i>Pseudo-nitzschia delicatissima complex</i>	38,000
	Others:	
	<i>Phaeocystis spp. (cells)</i>	28,000
	Prymnesiophytes	17,000
South:	Diatoms:	
	<i>Thalassiosira <20um</i>	715,000
	<i>Leptocylindrus minimus</i>	69,000
	<i>Bacteriastrum spp.</i>	69,000
	<i>Thalassiosira nordenskiöldii</i>	67,000
	<i>Skeletonema spp.</i>	41,000
	Others:	
	Haptophytes	52,000
	Prymnesiophytes	47,000
East:	Diatoms:	
	<i>Skeletonema spp.</i>	1,318,000
	<i>Asterionellopsis glacialis</i>	480,000
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	470,000
	<i>Chaetoceros (Hyalochaete) spp.</i>	42,000
	<i>Thalassiosira 20-50um</i>	3,000
	Dinoflagellates:	
	<i>Protoperidinium spp.</i>	3,000
	<i>Scrippsiella spp.</i>	1,000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

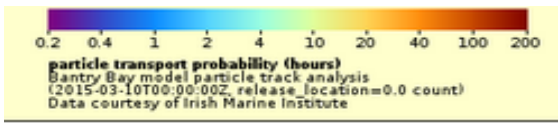
A *Karenia mikimotoi* bloom
is NOT expected this week



SOUTHWEST: Bantry Bay

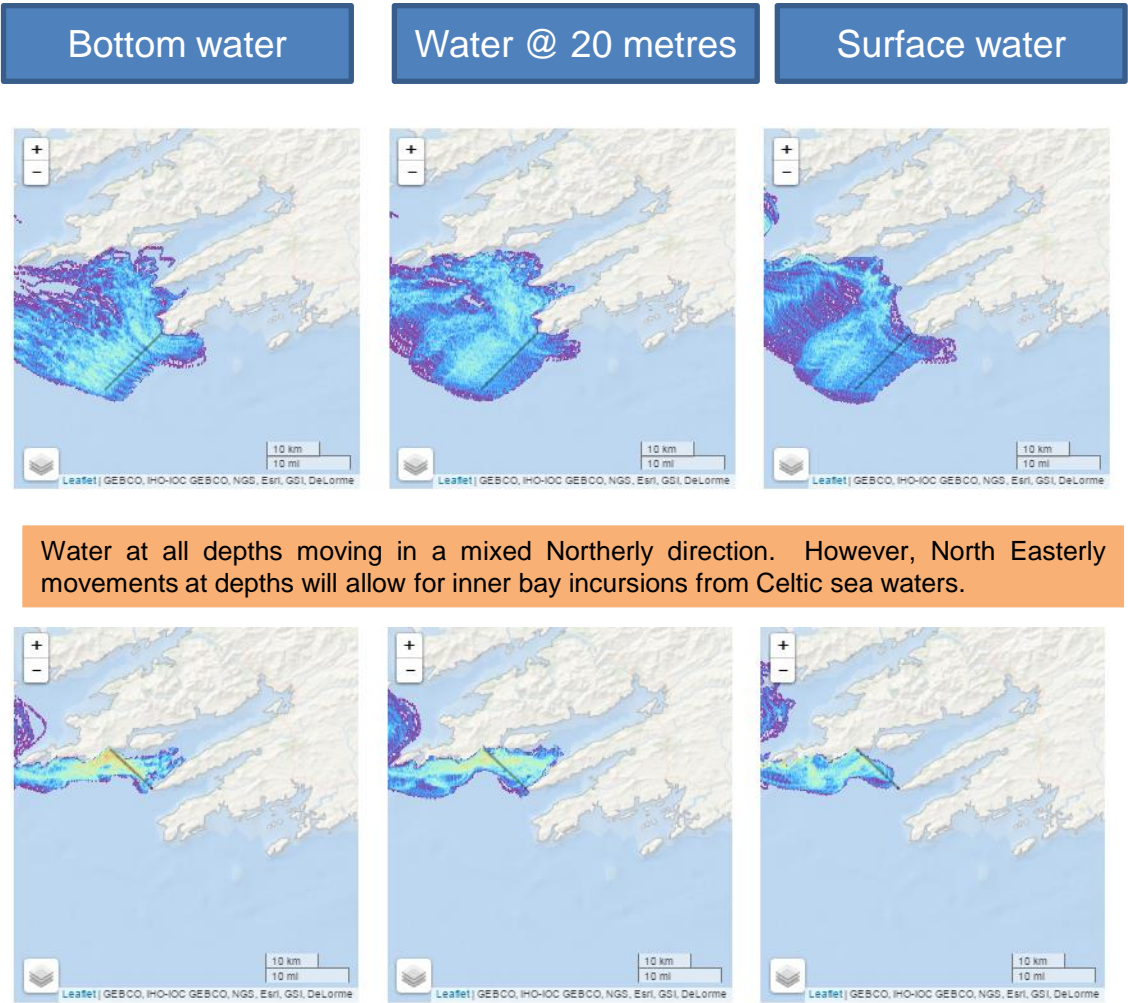
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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



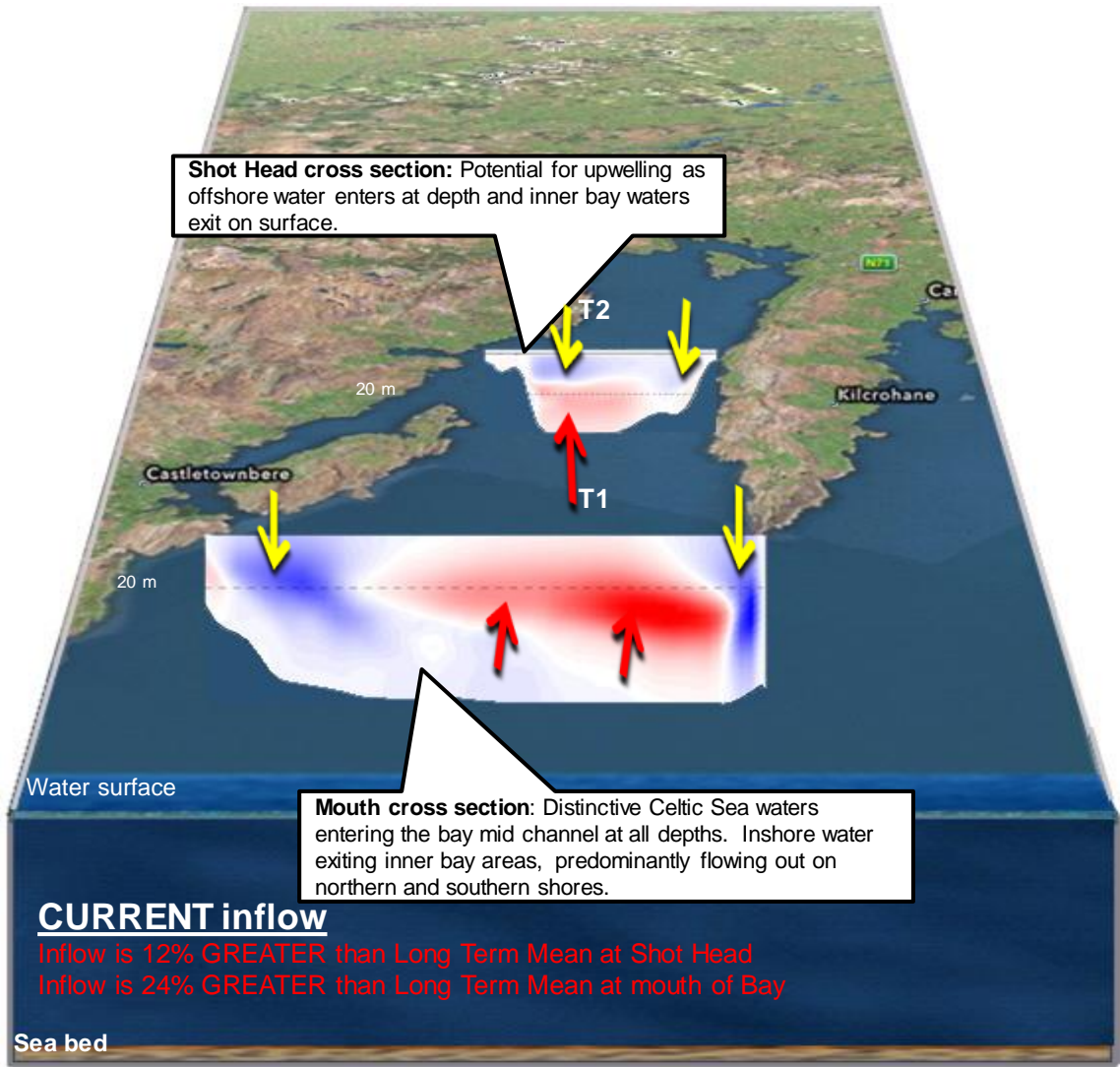
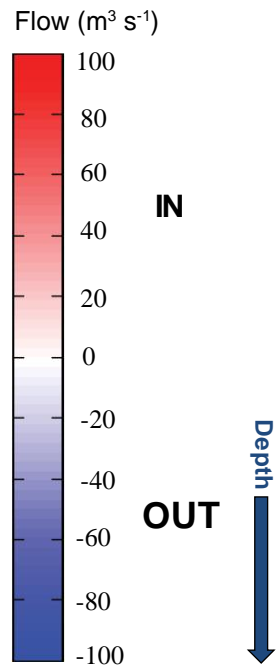
Water at all depths moving in a mixed Northerly direction. However, North Easterly movements at depths will allow for inner bay incursions from Celtic sea waters.

Water movement at deeper depths will allow outer bay water to enter inshore while surface waters will move offshore.

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

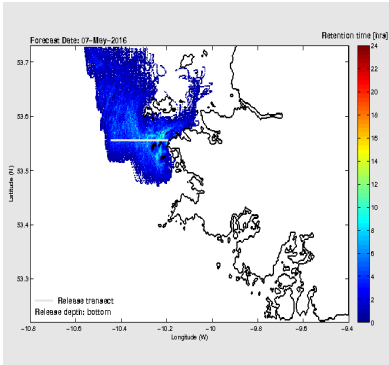
Cooler colours represent areas where phytoplankton remain for shorter periods



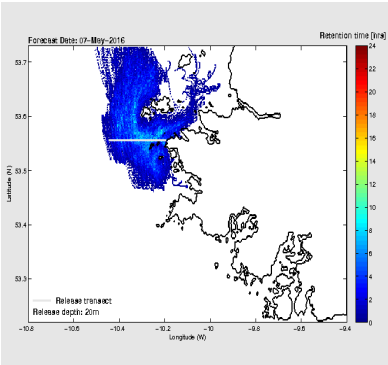
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

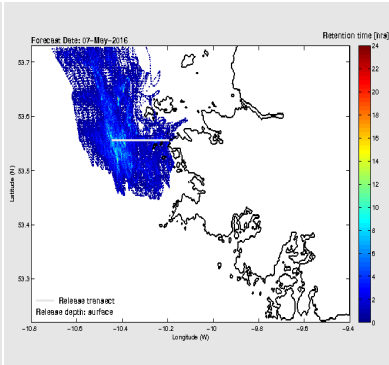
Bottom water



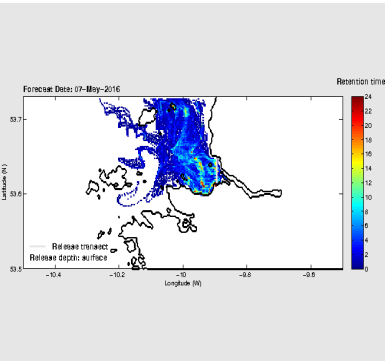
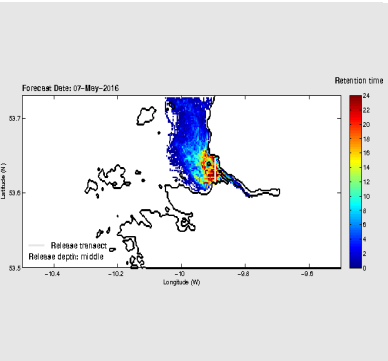
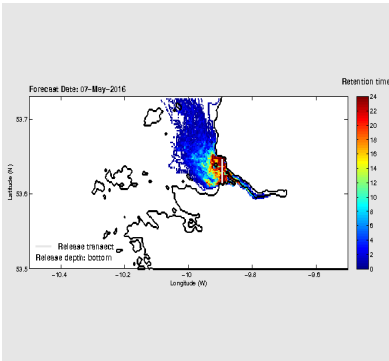
Water @ 20 metres



Surface water



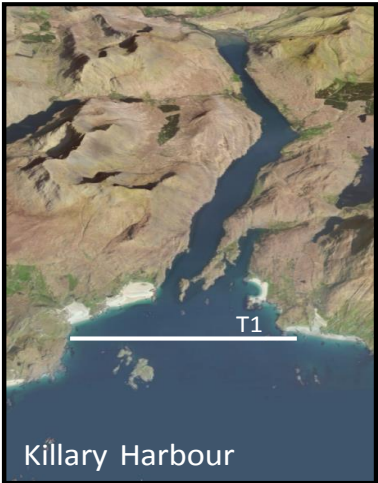
Predominantly mixed Northerly water movements with some inner bay incursions.



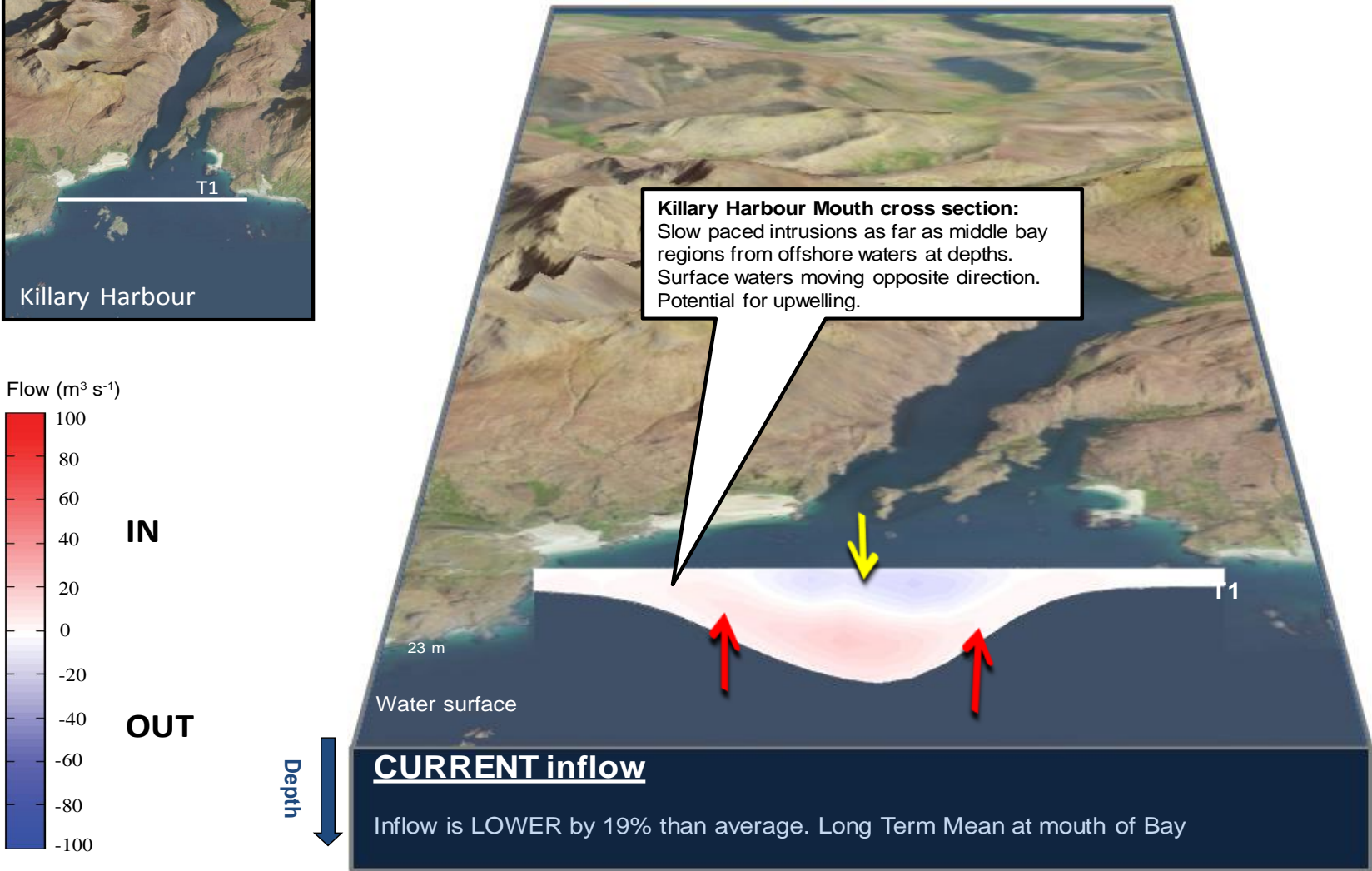
Predominantly mixed Northerly water movements with some inner bay incursions.

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

