

Ireland: Current Conditions

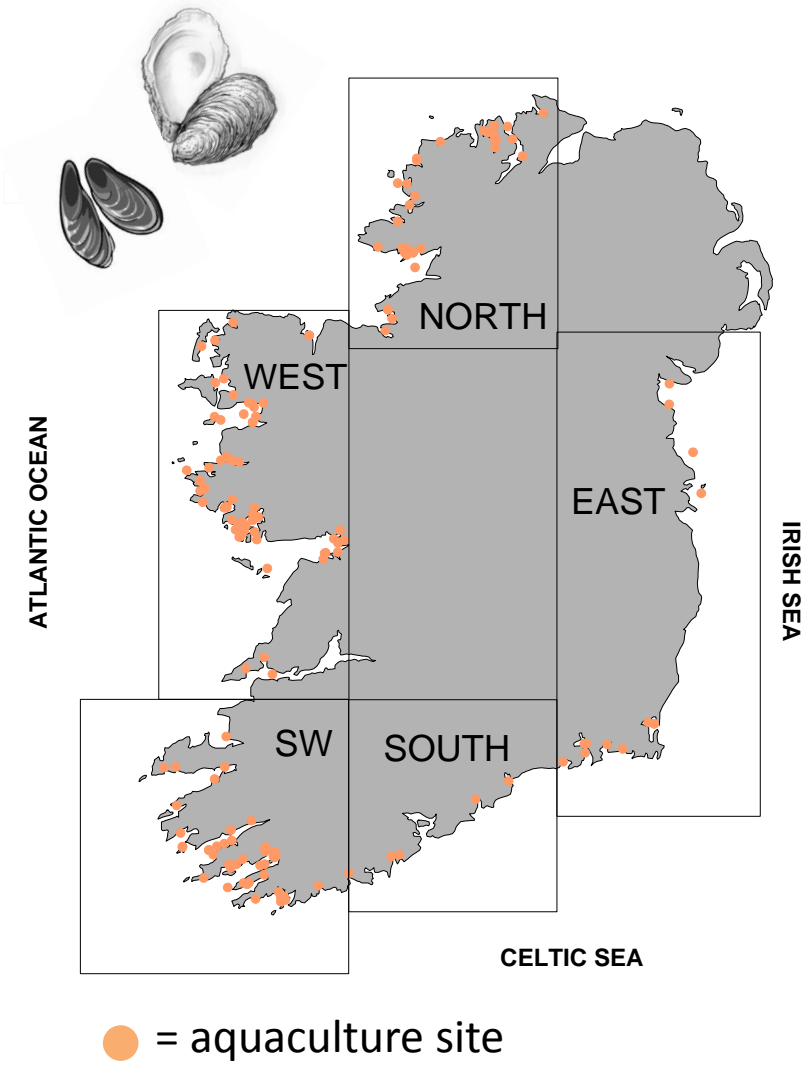
Shellfish biotoxin report (last week)



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

National Monitoring Programme Designated Sampling Sites



Ireland: Predictions

Prediction for this week:

ASP event: Low risk

AZP event: Low risk

DSP event: Low risk

PSP event: Low risk

Why do we think this?

ASP : No toxins recorded. *Pseudo-nitzschia* spp. found at 28 out of 53 sites nationwide. However, cell levels are low (max = ~ 2,000 cells/L) and populations only represent a maximum of 2 % of the total phytoplankton present.

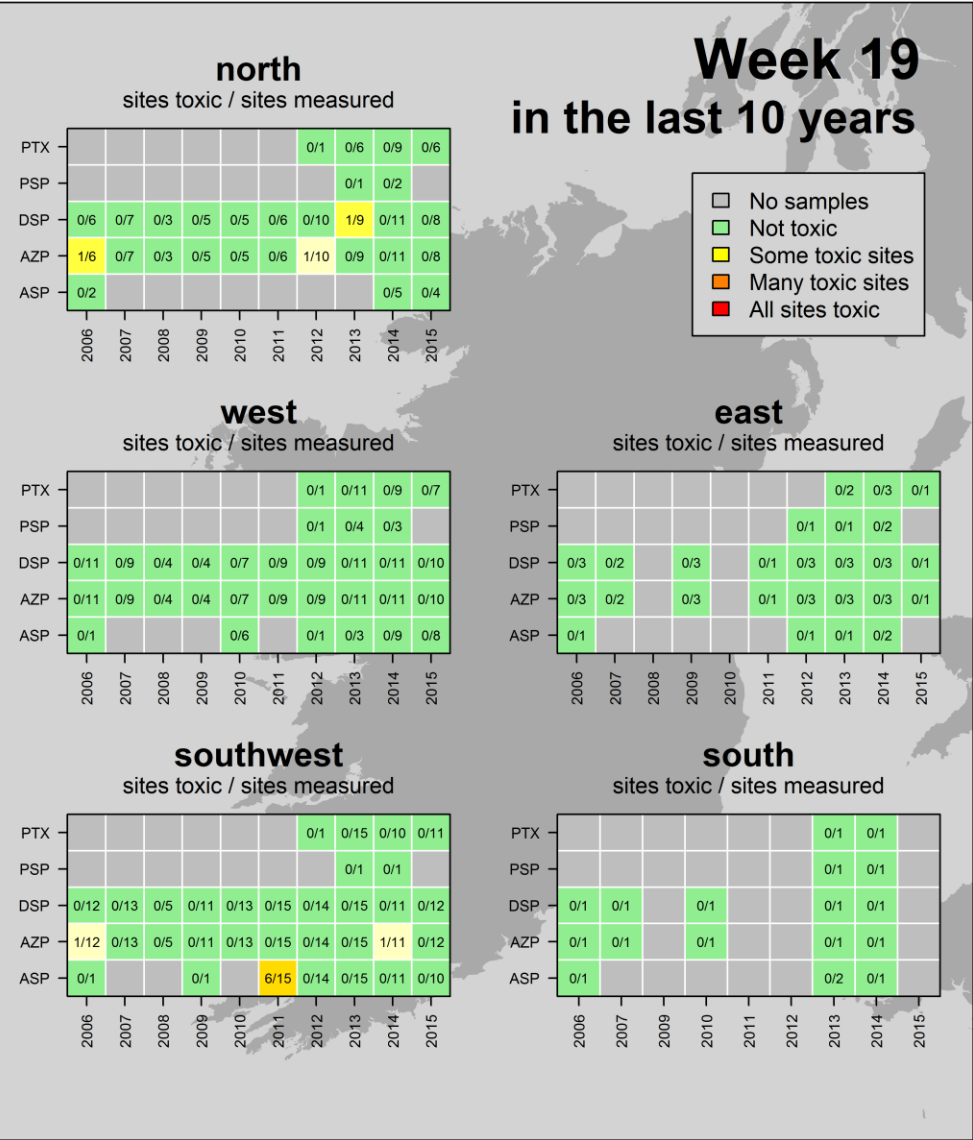
AZP: Very low levels of toxins (i.e. Background levels of 0.01 to 0.04 µg/g) picked up at 18 sites nationally. *Azadinium*-like species recorded at 20 sites - cell levels are relatively low with maximum recorded in the west (~ 6,000 cells/L). Since historic data shows events in the past have occurred at this time of the year, some caution is advised.

DSP: Background levels of toxins detected in SW last week (range = 0.02 to 0.06 µg/g). *Dinophysis acuta* present at limit of detection (40 cells/L) at 1 site in the southwest. *Dinophysis acuminata* found at low cell levels (40 cells/L) at one site in the west. Over the last week, outputs from the SW physical model show continued weak “downwelling”. While we do not know what phytoplankton species are/have been present in offshore waters, *Dinophysis* spp., if present, could be carried into the bay with this weak “downwelling” event. SST in the SW is nearly 2 °C above normal.

PSP: Historically this a low risk period of the year for all sites. *Alexandrium* species present at 2 sites nationally; maximum cell levels in the west @ ~ 80 cells/L. No biotoxins recorded.

Ireland: Historic Conditions

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



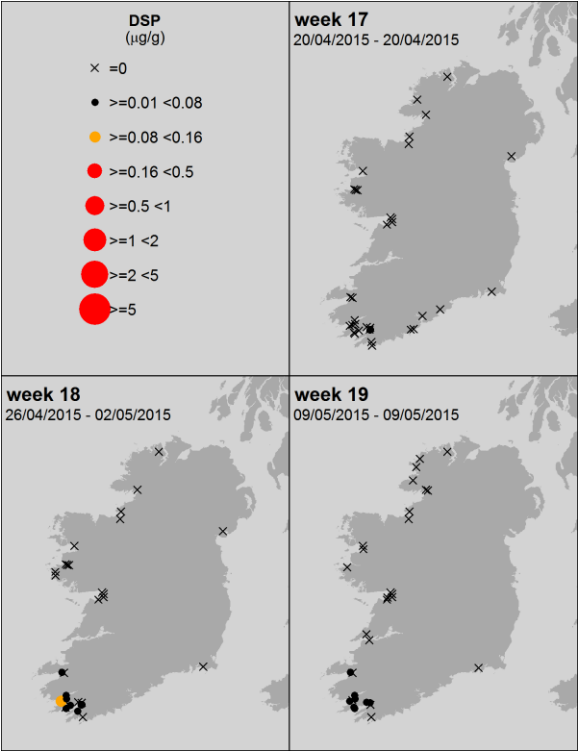
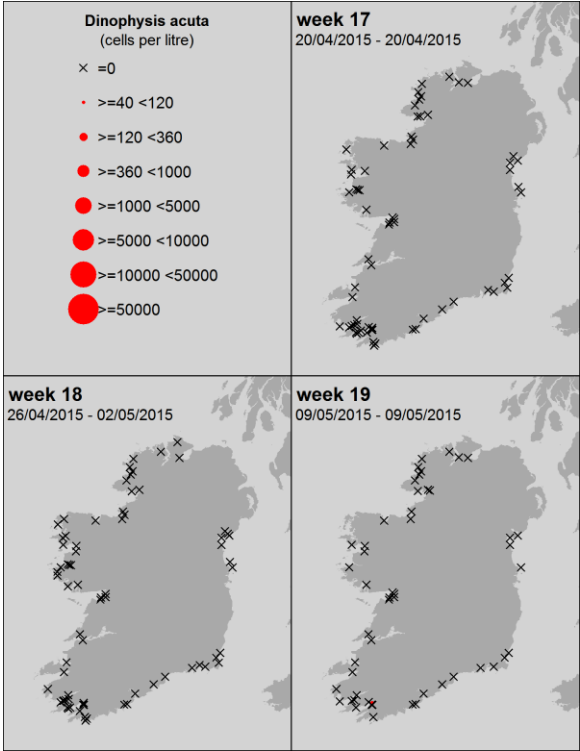
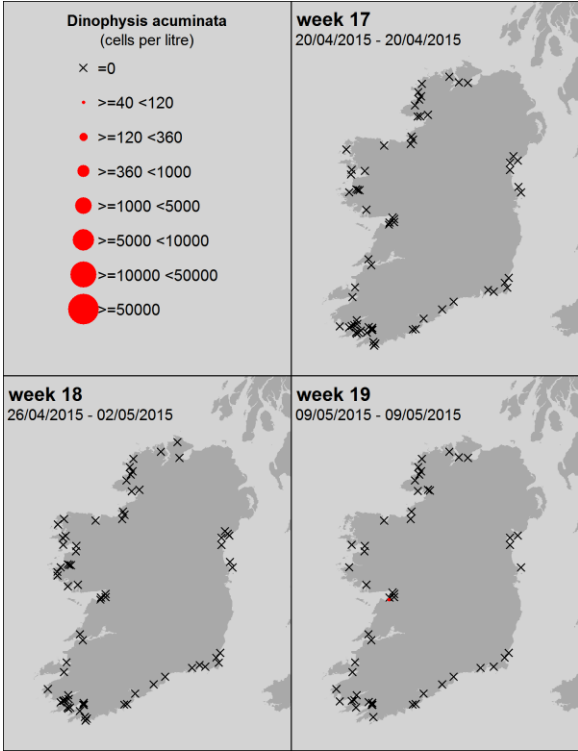
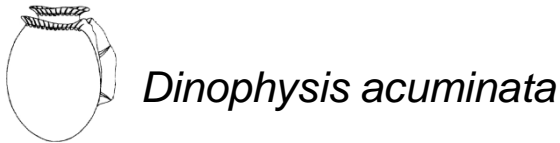
Ireland HISTORIC TRENDS

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



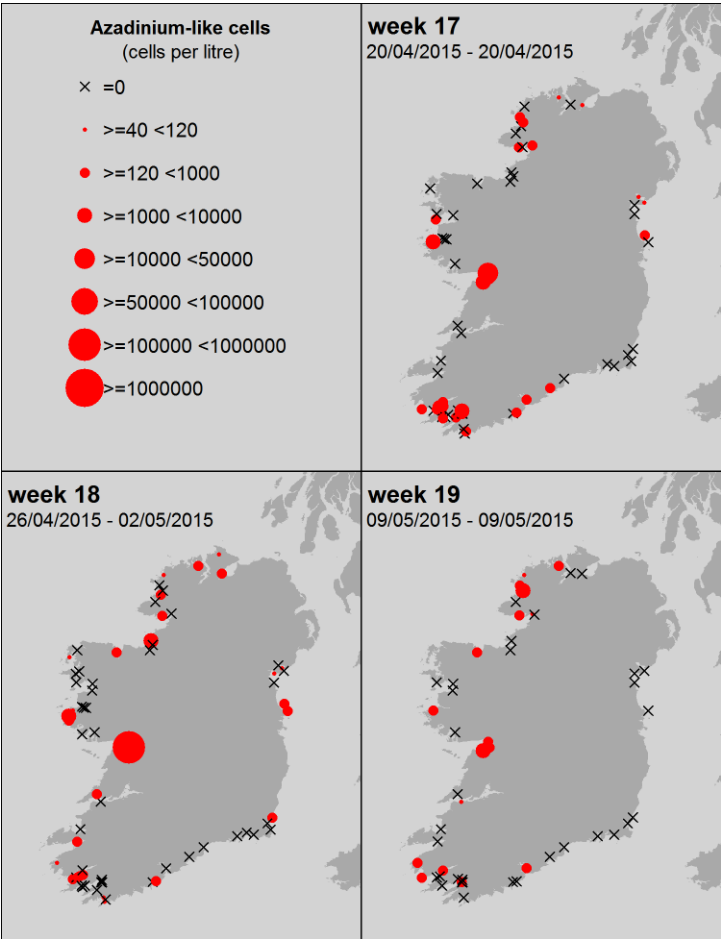
Ireland: Last 3 weeks of available National Monitoring Programme data



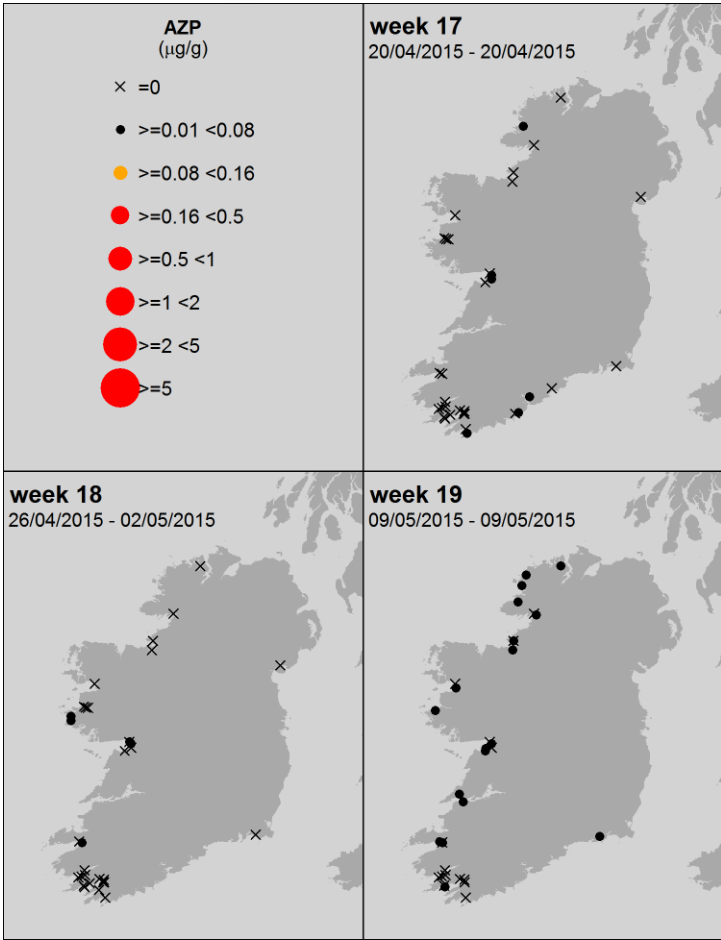
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

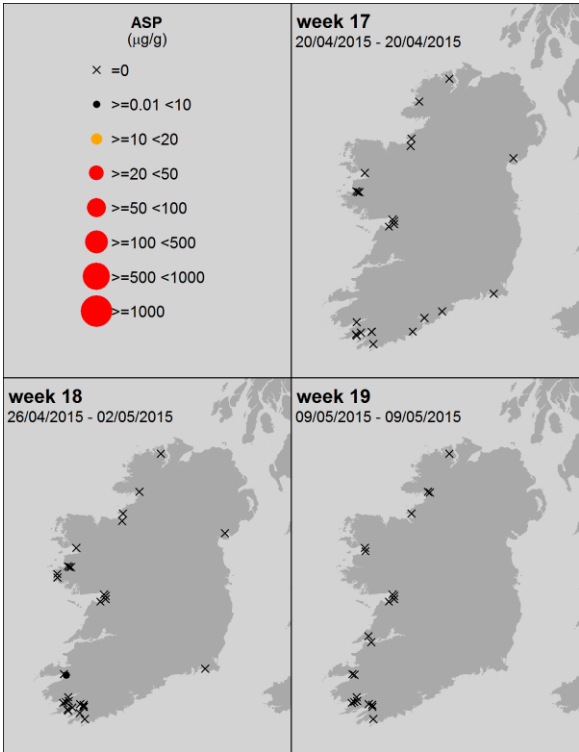
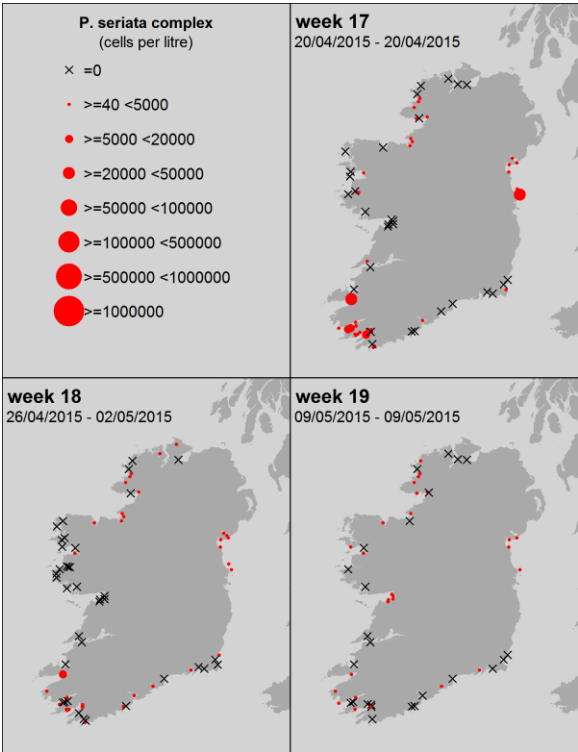
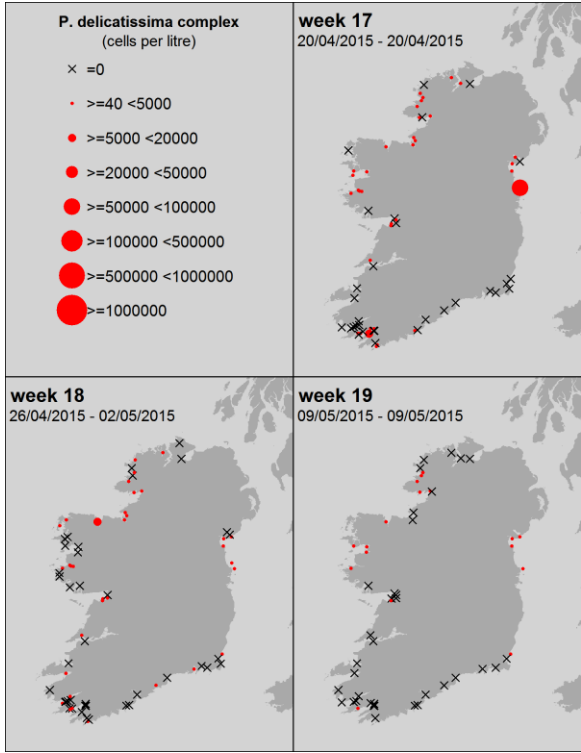
Pseudo-nitzschia spp.



ASP

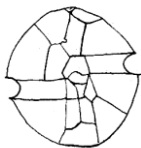
“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

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

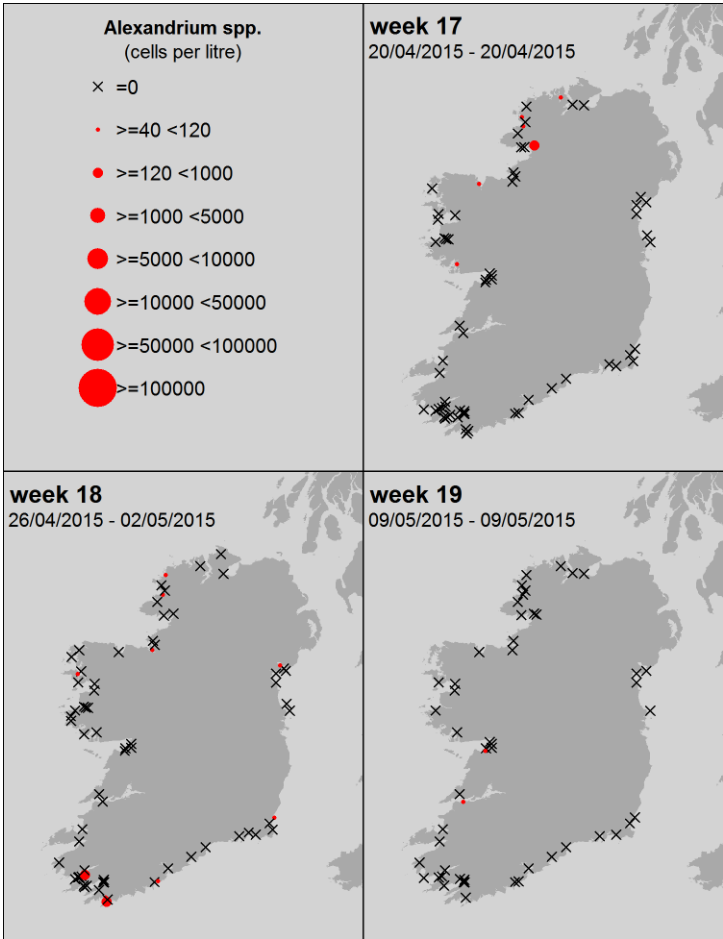


Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

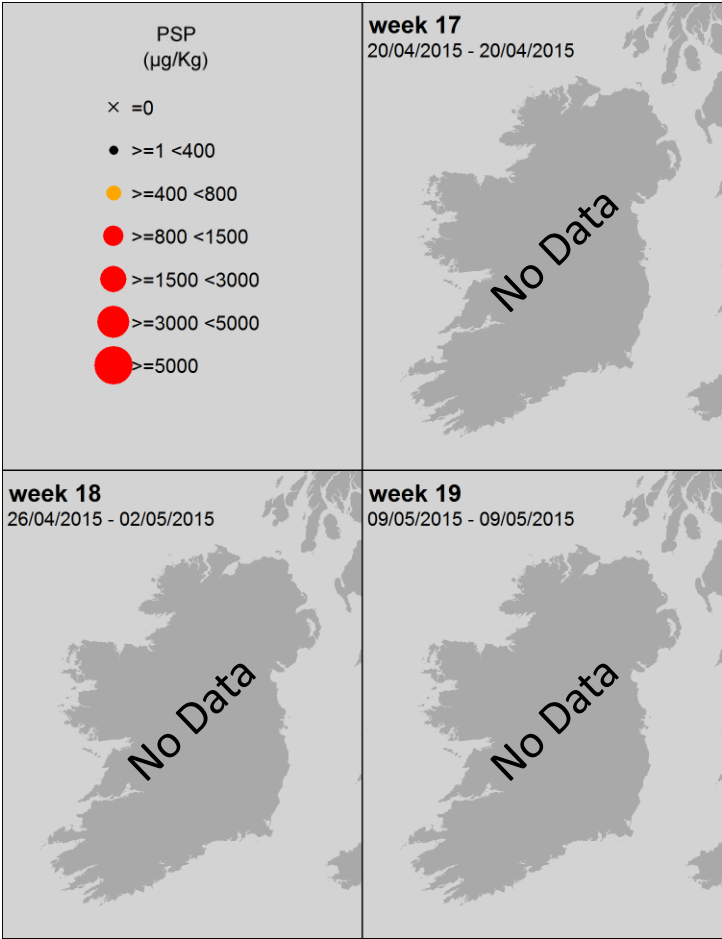
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.

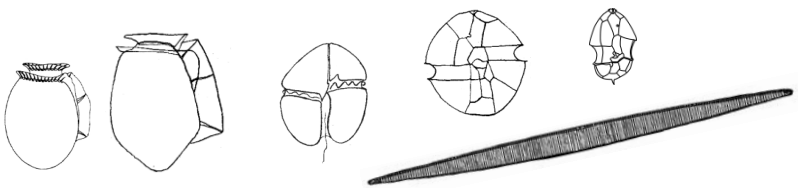


PSP



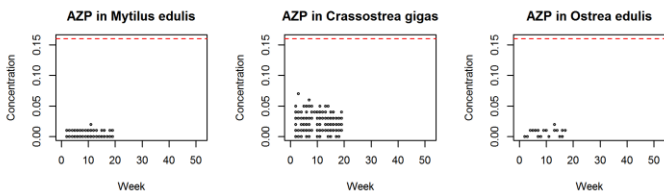
Ireland: HABs and biotoxins Levels from week 1 to present

Ireland: Biotoxins

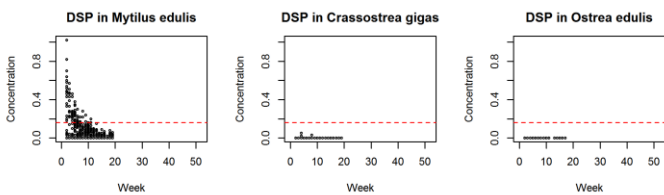


Toxin groups mussels oysters oysters

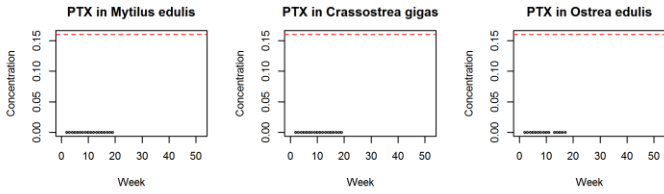
AZP
AZaspiracid
Poisoning



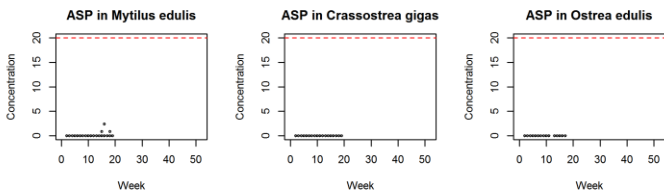
DSP
Diarrhetic
Shellfish
Poisoning



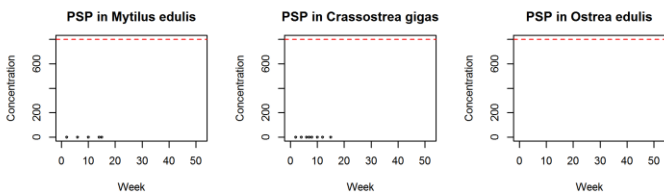
PTX
Pectenotoxin



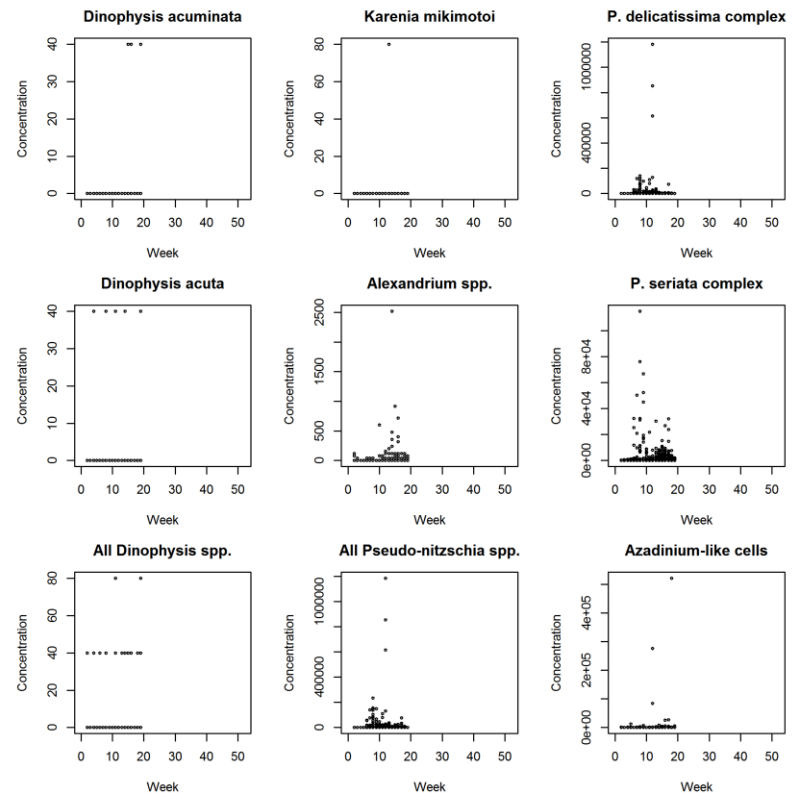
ASP
Amnesic
Shellfish
Poisoning



PSP
Paralytic
Shellfish
Poisoning



Ireland: HABs



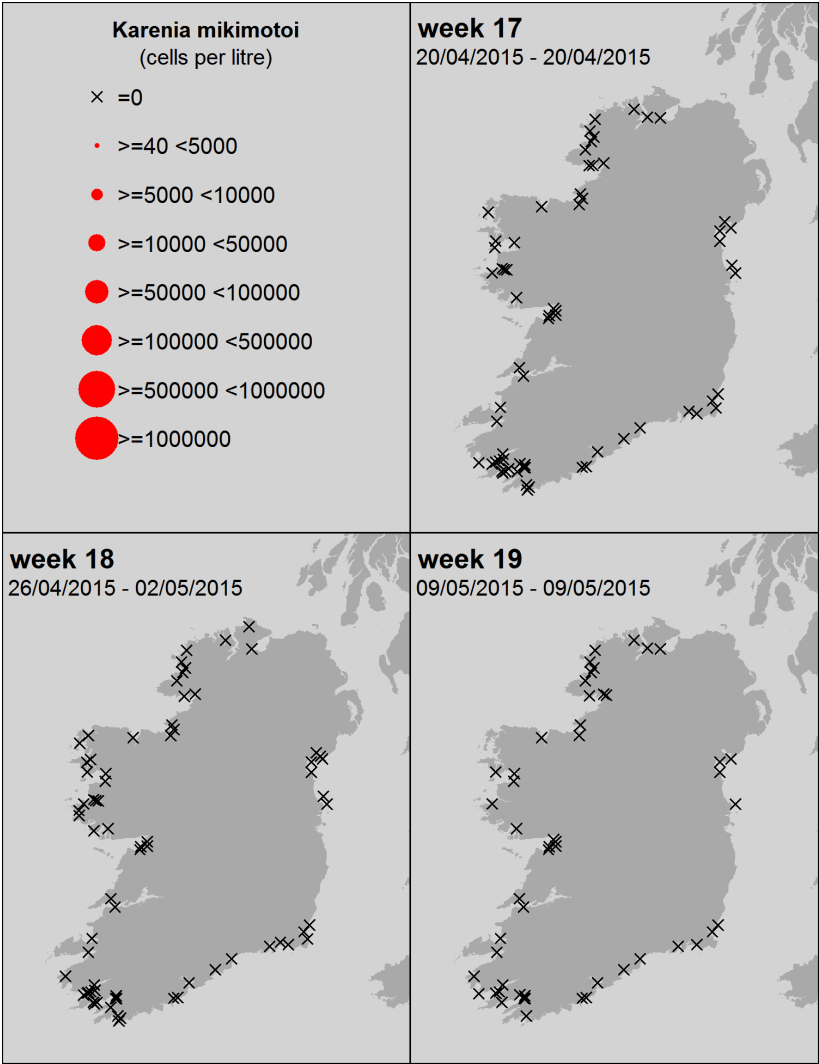
Week number: 1 to 19

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

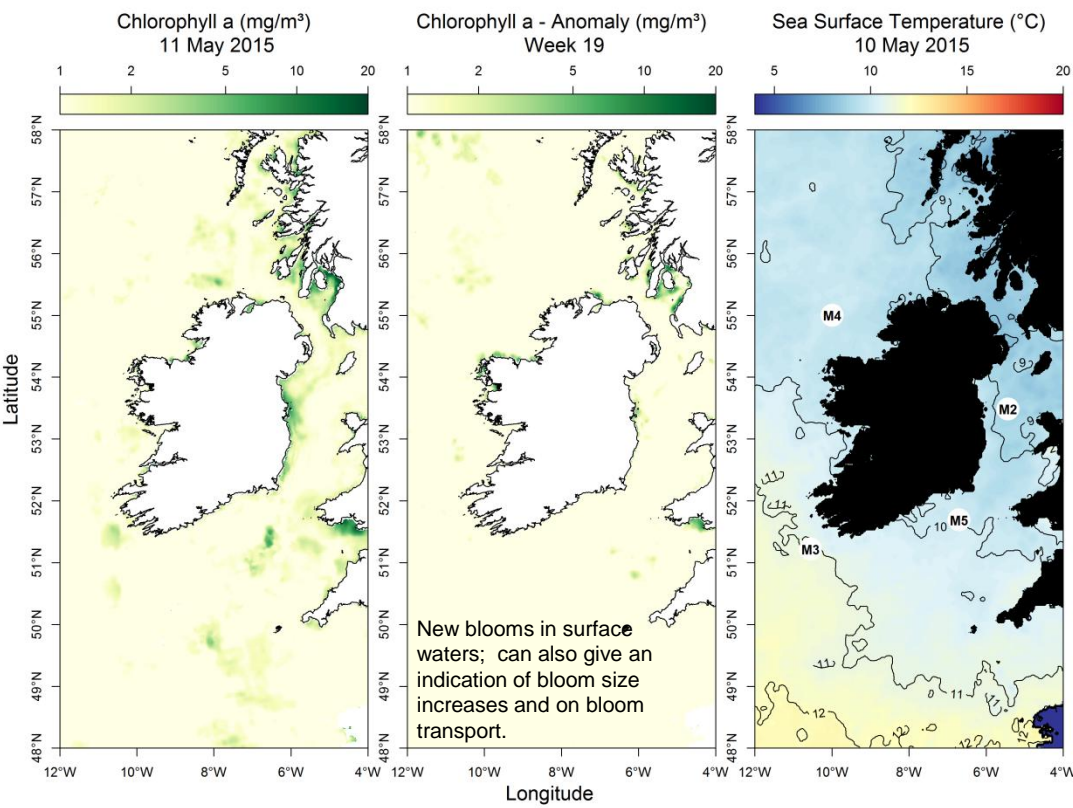
Regulatory limit = ■■■■■



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



Most up to date available satellite data



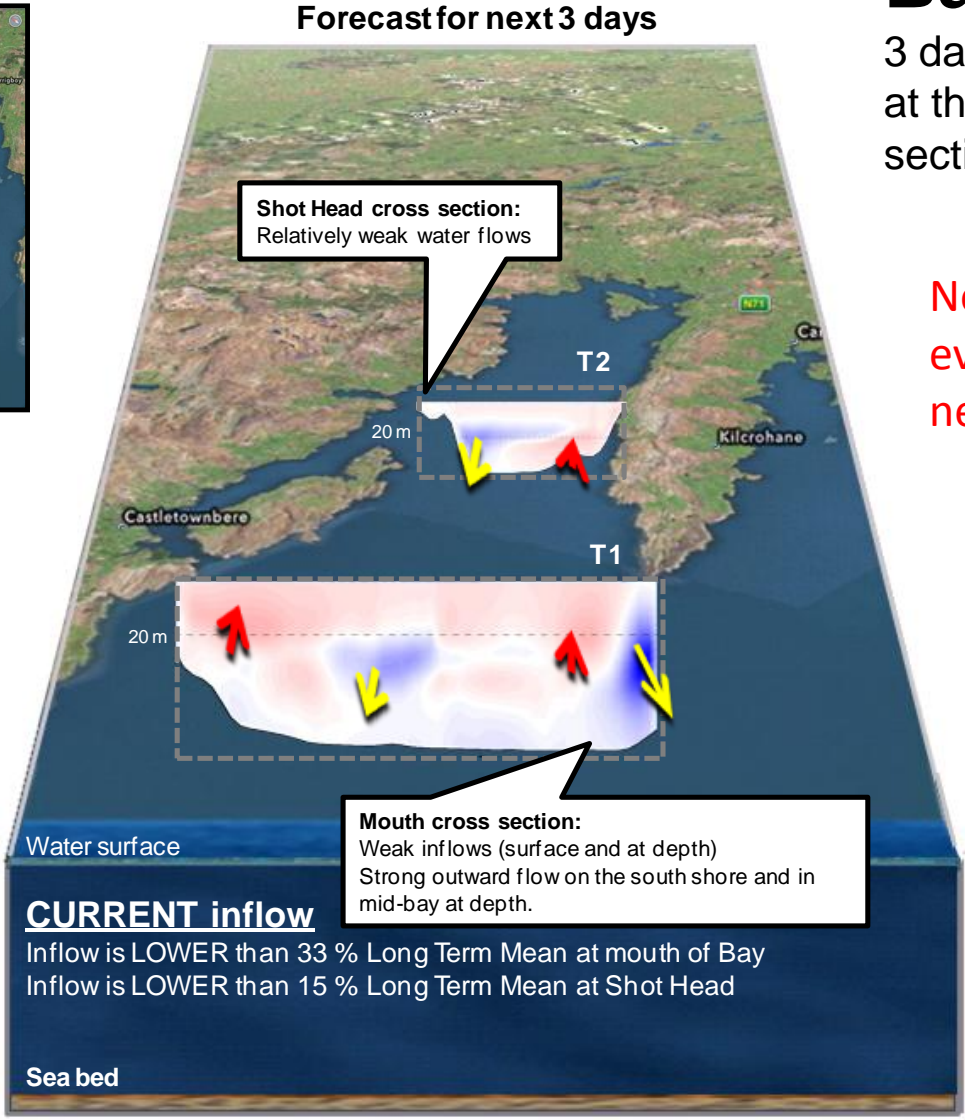
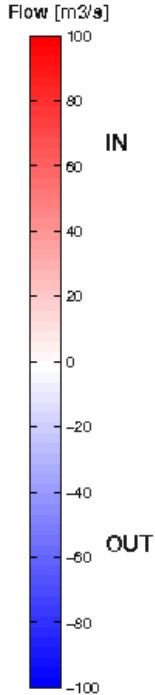
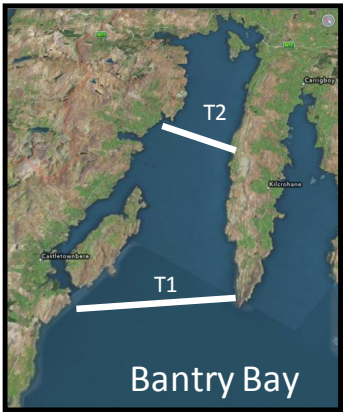
SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) [below average by 0.64 °C](#)
- SW coast (M3) [above average by 1.70 °C](#)
- SE coast (M5) [below average by 0.95 °C](#)

What phytoplankton were blooming around the coast last week?

Region	Predominant Phytoplankton	Cells/L (rounded)
north:	Diatoms: <i>Asterionellopsis</i> spp. <i>Chaetoceros</i> (Hyalochaete) spp. Other: Microflagellate spp.	1,680,000 81,000 150,000
west:	Diatoms: <i>Chaetoceros</i> (Hyalochaete) spp. <i>Leptocylindrus danicus</i> <i>Guinardia delicatula</i> <i>C. closterium</i> / <i>N. longissima</i> <i>Licmophora</i> spp.	370,000 250,000 175,000 130,000 95,000
SW:	Diatoms: <i>Thalassiosira</i> spp. (20-50 µm) <i>Leptocylindrus danicus</i>	580,000 280,000
south:	Diatoms: <i>Asterionellopsis</i> spp. <i>Thalassiosira nordenskiöldii</i> <i>Skeletonema</i> spp. <i>Chaetoceros socialis</i>	105,000 35,000 35,000 30,000
east:	Diatoms: <i>Skeletonema</i> spp. Bacteriastrum spp. <i>Guinardia delicatula</i> <i>Asterionellopsis glacialis</i>	1,325,000 425,000 420,000 245,000

Source EPA:
Phaeocystis colonies in Wexford Harbour, Monday 11 May 2013. The presence of *Phaeocystis* marks a transition period between phytoplankton floral assemblages found in spring and summer.



Bantry Bay

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

No big water exchange event predicted in the next few days

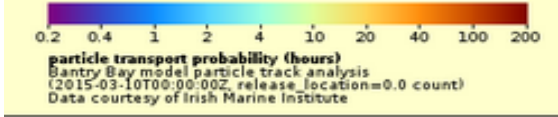
= water enters bay

= water leaves bay

Please go to <http://vis.marine.ie/particles/> to view daily forecasts in more detail

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



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

