

The Sentinel-3 products for detecting Eutrophication and Harmful Algal Bloom (HAB) events in the French-English Channel (S-3 EUROHAB).

An Overview.

Gavin Tilstone, PML-UK.

Identification of *Pseudo-nitzschia australis* and *P. multiseries* in the Bay of Seine. Was there a relation to presence of domoic acid in king scallops in autumn 2004?

In late 2004, the French phytoplankton monitoring network (REPHE of Ifremer) detected domoic acid (DA) above the EU-regulatory limit of 20 µg DA/g tissue in king scallops (*Pecten maximus*) from the Bay of Seine in the Channel (Fig. 1). Shellfish harvesting sites were closed for several months due to slow depuration of the scallops.

Accumulation of DA in French shellfish was previously correlated (as in June 1999) with blooms of the pennate diatom *Pseudo-nitzschia*, dominated most often by species of the «*pseudodelicatissima/cuspidata* complex» [1] or exceptionally by species of the «*seriata* complex». Scanning electron microscopy (SEM) analyses were performed and *P.*

(Cont'd on p. 2)

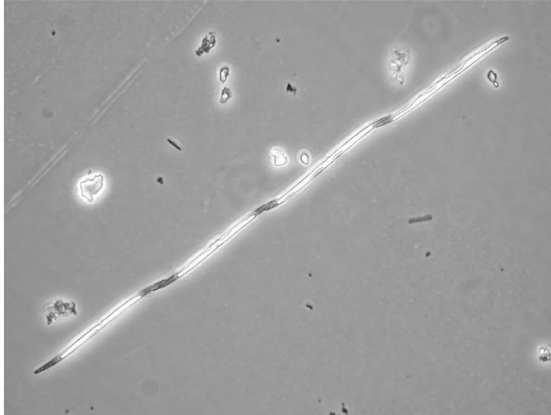


Fig. 2. Light micrograph of a chain of *Pseudo-nitzschia* cf. *multistriata*.



Pseudo-nitzschia spp. occurs along the French coast every year and was toxic in

S-3 EUROHAB will develop a web-based detection system for HABs and water quality (WQ) that will be used by end-users to monitor, protect and better manage fisheries & aquaculture in the France-Channel-England (FCE) area.

[News](#) | [Sport](#) | [Weather](#) | [iPlayer](#) | [TV](#) | [Radio](#) | [More](#)

NEWS

Page last updated at 18:53 GMT, Friday, 14 August 2009 19:53 UK

Fishing stops after algae deaths

SEE ALSO

- ▶ [Dead fish discovered on beach](#)
14 Aug 09 | Cornwall
- ▶ [Thousands of dead fish washed up](#)
13 Aug 09 | Cornwall

RELATED INTERNET LINKS

- ▶ [Cornwall Council](#)
- ▶ [Environment Agency](#)
- ▶ [National Marine Aquarium](#)
- ▶ [Red Tide Algae](#)
- ▶ [Plymouth Marine Laboratory](#)
- ▶ [Shellfish Association](#)

Four shellfishing areas are being closed after the deaths of thousands of fish along the coast of Cornwall.

The Food Standards Agency (FSA) said the temporary closure was a sensible precaution after an algal bloom caused fish deaths in St Austell Bay.

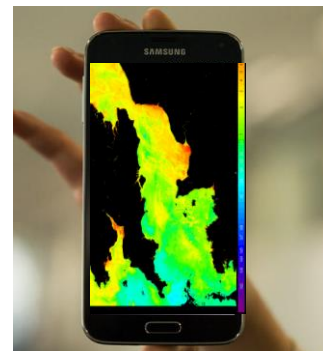
Shellfishing is being stopped in the St Austell bay, Fal, Fowey, and Helford waterway areas, the FSA said.

An algal bloom, known as Red Tide, is believed to be behind the first discovery of dead fish in St Austell Bay on Thursday after water samples were analysed by scientists from the Plymouth Marine



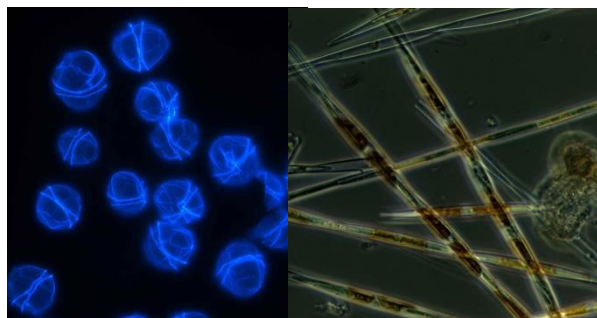
End Users: CRPN, D&S-IFCA.

WP4. Web-based detection system

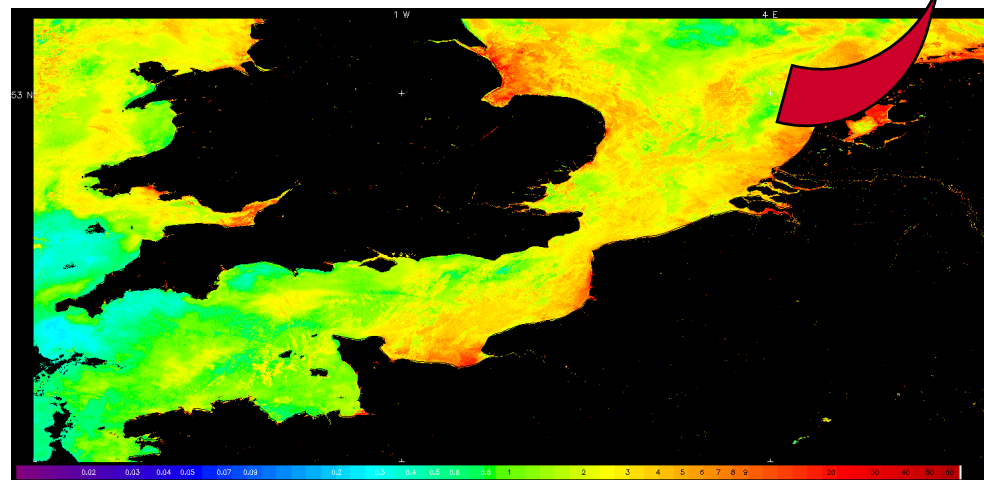


PML

€ WP5. Economic impacts: PML, UBO



**WP3. Cross border
Monitoring network
PML, UoS, EA,
IFREMER Boulogne,
Port-en-Bessin, Brest,**



**Satellite Detection: PML, IFREMER-
Brest,
Prediction: IFREMER-Boul, UoS**

WP 2: Communication, outreach, promotion

WP 3: Cross border monitoring data portal for assessing Good Ecological Status & developing HAB algorithms. Lead PML; Partners IFREMER-Brest, -PenB, -Boul, EA, UoS



WP 4: Web based alert system for the detection of water quality and harmful algal blooms. Lead IFREMER-Brest; Partners PML, -PenB, EA, UoS, CRPN, D&S IFCA



WP 5: Socio-economic analysis of impact of Harmful Algal Blooms in the FCE. Lead PML; Partners UBO, EA, CRPN, D&S IFCA

WP 1: Management

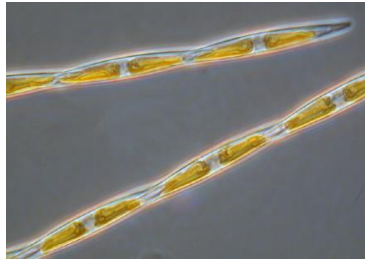
S-3 EUROHAB Stakeholders:

- Marine managers: FSA, DEFRA, CEFAS, AEAP, AESN, AELB, Marine Scotland, SPHA, ABP, AFBI.
- Fishery and Shellfishery end users: Southern-IFCA, CRCBN, OS-UK;
- Marine policy makers such as DG-ENV, DG-MARE, OSPAR, ICES, OSPAR ICG COBAM Pelagic Habitats Expert Group;
- Wildlife conservation groups: DWT, CWT.

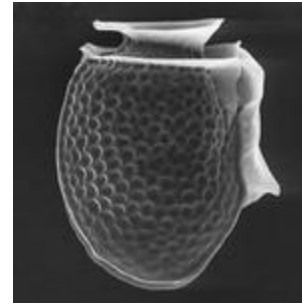
Each WP has 4-5 inter-linked Activities.

An Assessment of environmental drivers of HABs. Lead Partner - UoS.

Five Target Species:



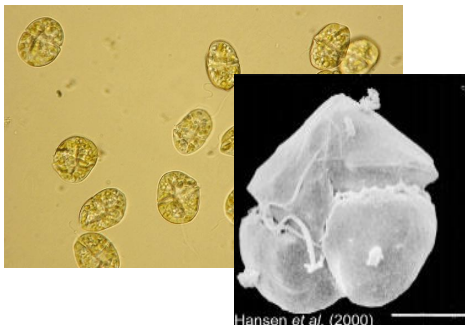
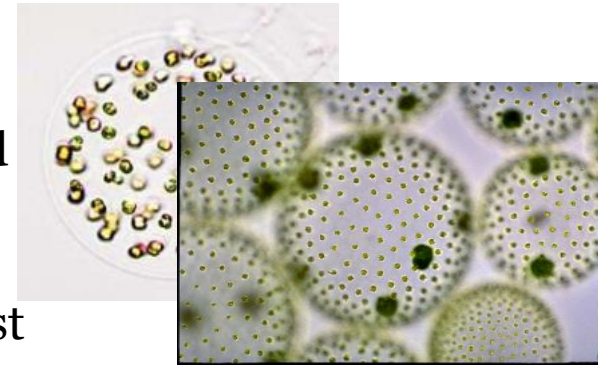
Pseudo-nitzschia sp. release domoic acid that can cause Amnesic Shellfish Poisoning.



Dinophysis spp., produce toxins that result in diarrhetic shellfish poisoning causing severe human gastrointestinal problems.

Karenia mikimotoi and *Lepidodinium chlorophorum* can lead to oxygen deficiency in the water column causing fish and shellfish mortality.

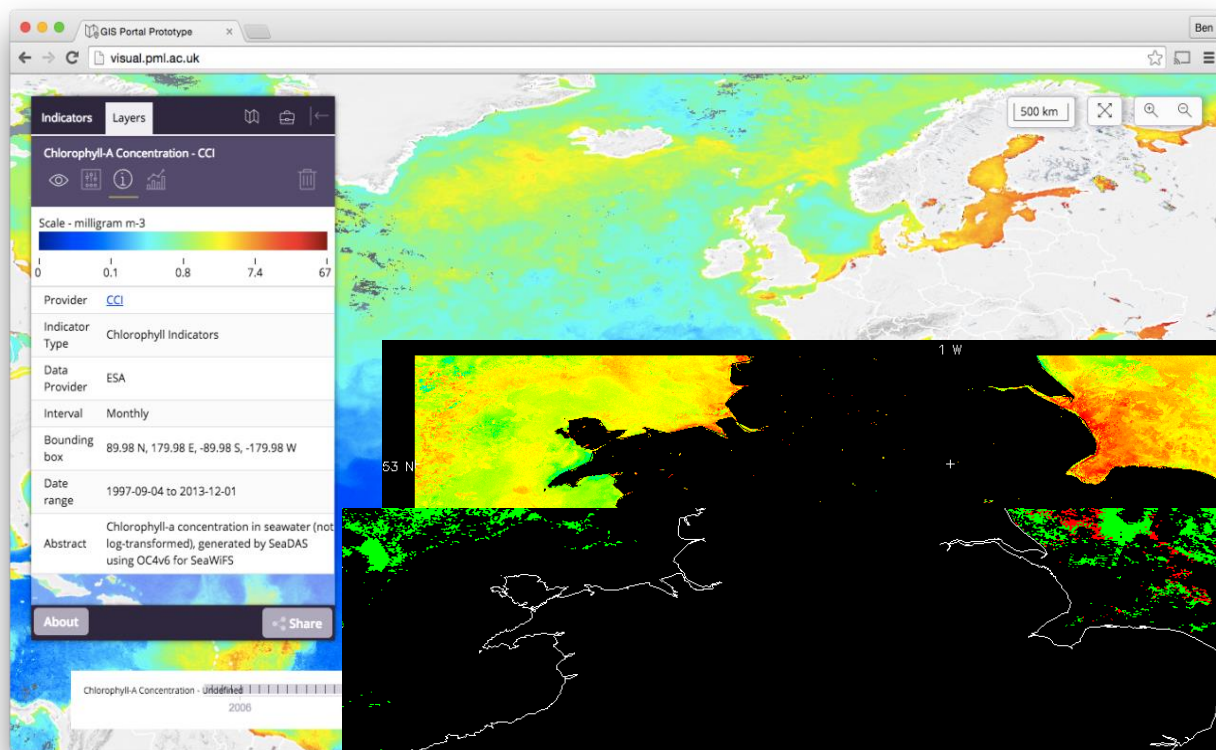
Phaeocystis globosa produces foam that can clog the gills of fish and shellfish, lead to anoxic conditions and has a negative impact on tourist beaches.



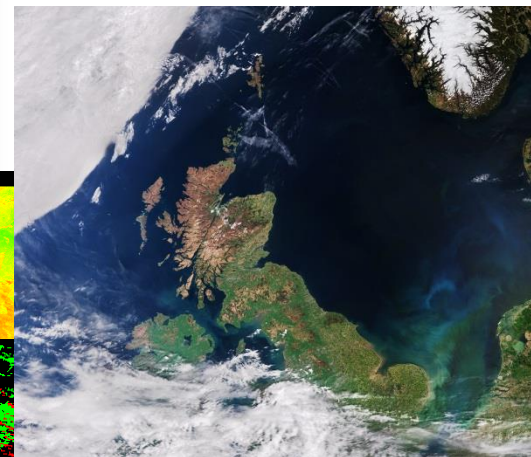
Deliverable 3.2.1. Oct 2019.

A report and one publication on the environmental drivers of HABs and poor WQ.

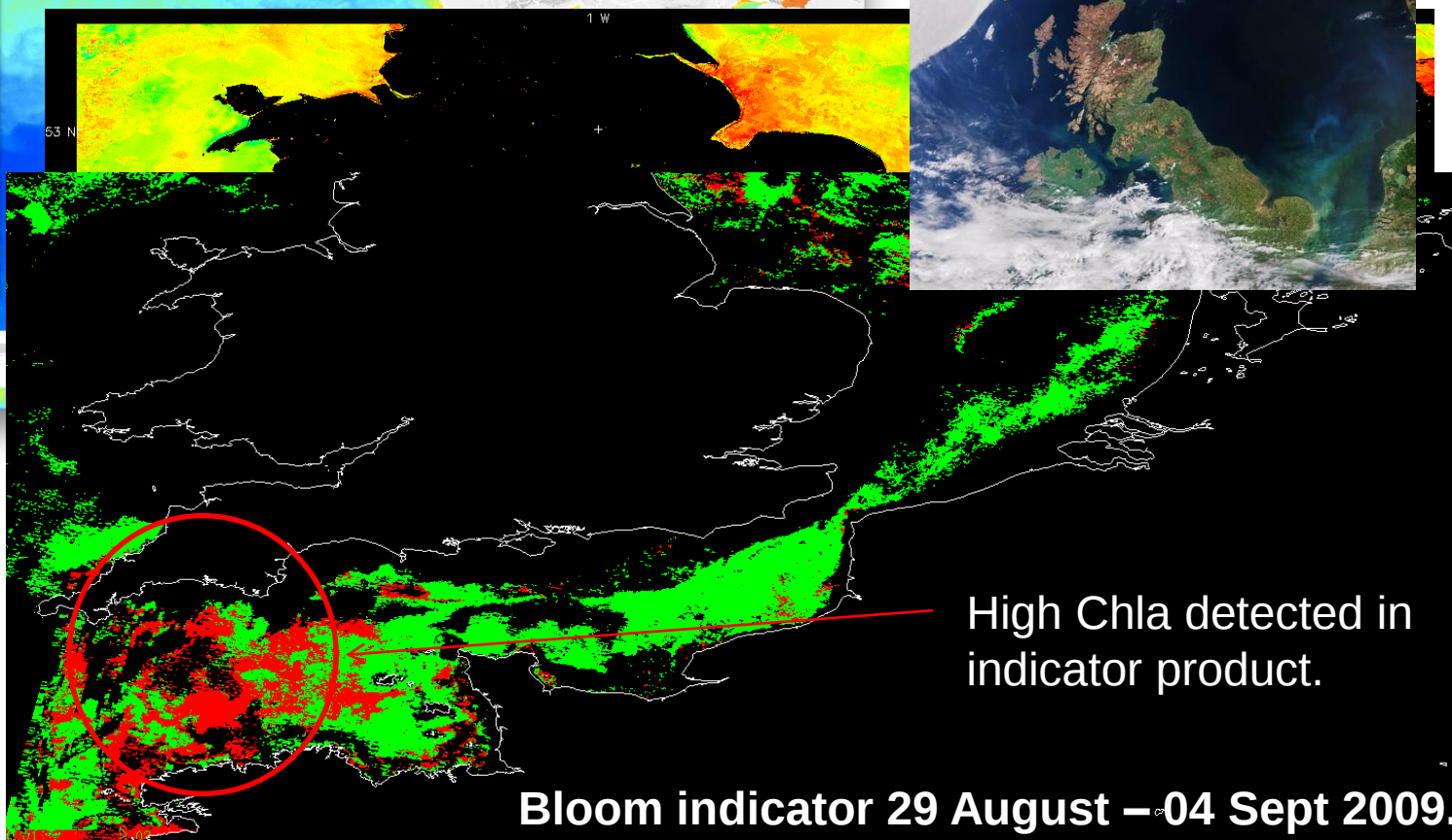
Design of the Web alert system. Lead Partner – PML.



Sentinel-3A false colour image, courtesy of ESA.



PML GISPortal;



S-3 EUROHAB will:

- WP3. Create a cross-border network of monitoring observatories to produce in situ & satellite database of parameters for use in WFD & MSFD
- WP4. Develop technology to detect HABs using Sentinel-3 data. Use this technology to improve management toxin monitoring in fish and shellfisheries in the French-English Channel.
- WP5. Socio-economic impact of harmful algal blooms and water quality.