

# PHYTOBS

French National Service of Observation program for Phytoplankton in coastal waters

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...and all contributors from marine stations

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PHYTOBS is part of the French national federative Research Infrastructure for coastal ocean and seashore observations ILICO. PHYTOBS is a French national network of microphytoplankton monitoring deployed around French coasts in many sites and supported by Ifremer, CNRS and Marine Universities.

Keywords: Observation infrastructure, Coastal observatory, phytoplankton, Environmental time series, FAIR data, ILICO

Data sets starting year  
Average duration = 27 years

Phytobs data sets

1985 1990 1995 2000 2005 2010 2015 2020  
Year of start

**Long term data sets**  
All over the French coasts  
Sharing the same sampling and analysing protocols

Shared protocols

PROTOCOLE - VERSION 2019

PRELEVEMENT, FIXATION ET STOCKAGE DES ÉCHANTILLONS DE MICROPHYTOPLANKTON

Protocols: from the sample to the analysis of marine microphytoplankton

Sampling location

Associated parameters: temperature, salinity, turbidity, oxygen, chlorophyll a, nutrients  
Essential variables to understand microphytoplankton development context  
Relying on REPHY ([www.ifremer.fr/envlit/](http://www.ifremer.fr/envlit/)) and SOMLIT ([www.somlit.fr](http://www.somlit.fr))

**Phytobs relies on 30 to 40 marine microphytoplankton analysts. There are as many analysts as expertise levels... How to guarantee identification at the national level and keep the best level of each analyst ?**

- Proceed to grouping taxa regarding the best shared level within the analysts community
- Database has both results : the analyst's result AND the grouping result
- The table of references is updated every year, involving the analysts community

Analysis

Analyst's result (same sample: identification and counts)	Phytobs grouping
Genera A species 1 - 600 cells/L Genera A species 2 - 200 cells/L Genera C species 1 - 17 600 cells/L	Genera A - 800 cells/L  Genera C species 1 - 17 600 cells/L
Genera A - 800 cells/L Genera C species 1 - 17500 cells/L	

Phytobs grouping table of reference (=dictionary)

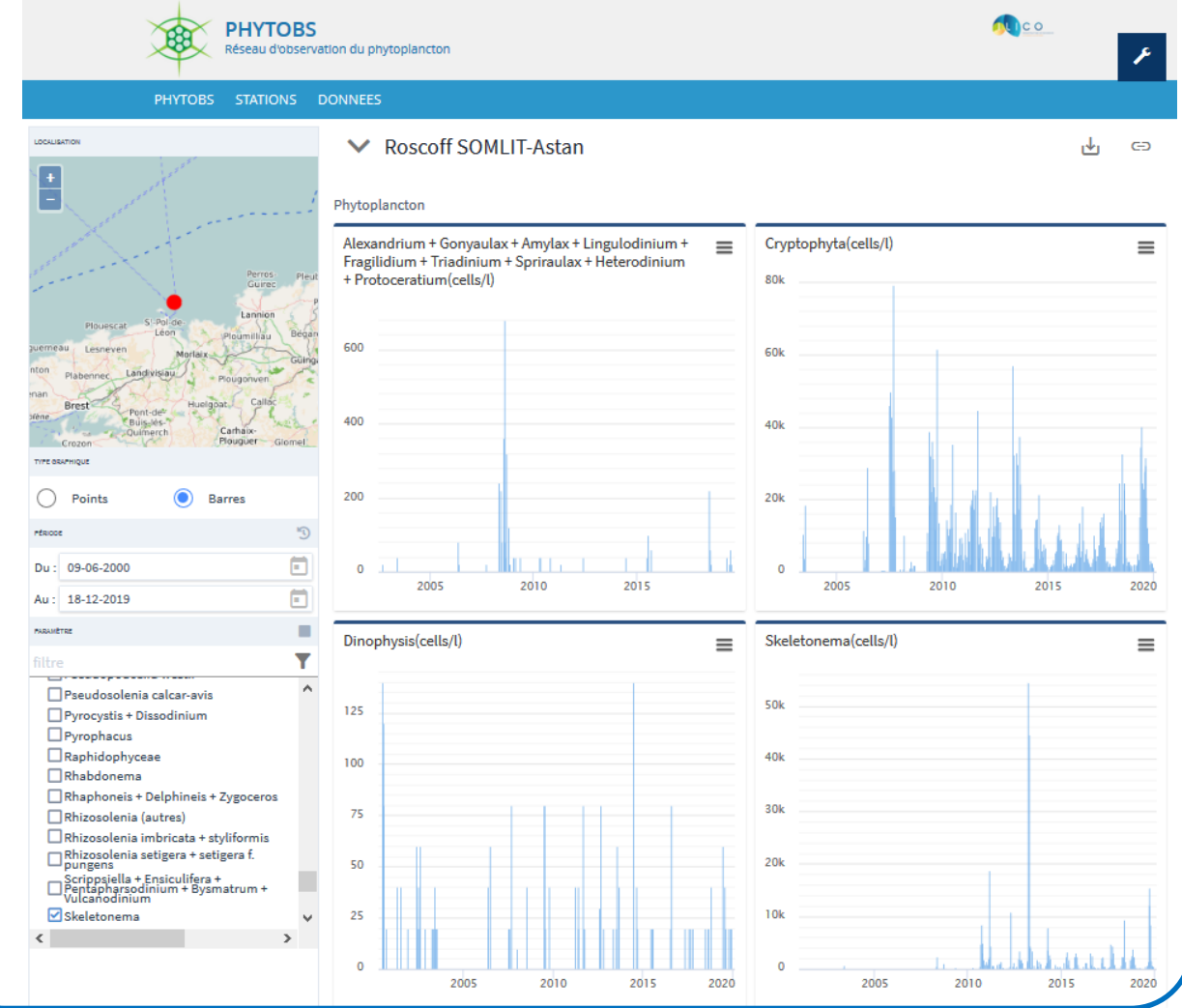
Taxon Labellisé GROUP	Rang	Taxon	APHAID raw
Metaphalacroma + Phalacroma + Palaeophalacroma	groupe GENUS	Metaphalacroma	231778
		Phalacroma	109466
		Palaeophalacroma	109512

*Exemple of grouping in Phytobs database*

*Exemple of grouping results from 2 analysis of the same sample*

**Web portal for data access: [www.phytobs.fr](http://www.phytobs.fr)**

- Phytobs dataset will be available on a web portal. It will include data from the 25 sites since the monitoring started.
- Results will be available and downloadable either with grouping and/or with analyst's result.
- Associated parameters will be available on the portal and downloadable on demand, according to the origin of these records (REPHY or SOMLIT)



**Ecosystems trajectories**

Climate  
Anthropisation  
Regulation  
Planning  
Socio-economics

Historical data

Time

Observation, experimentation, modelisation

Long term dataset

**PHYTOBS network would allow to**

- analyse the responses of phytoplankton communities to environmental changes,
- assess the quality of the coastal environment through indicators,
- define ecological niches,
- detect variations in bloom phenology,
- support any scientific question by providing data since 1987 for the longest dataset

**REFERENCE**

Cocquempot L., Delacourt C., Paillet J., Riou P., Aucan J., Castelle B., Charria G., Claudet J., Conan P., Coppola L., Hocdé R., Planes S., Raimbault P., Savoye N., Testut L., Vuillemin R. (2019). Coastal Ocean and Nearshore Observation: A French Case Study. 6, 324. <https://doi.org/10.3389/fmars.2019.00324>