



Zoo & Phytoplankton EOV products

Patricia Cabrera, Flanders Marine Institute (VLIZ)



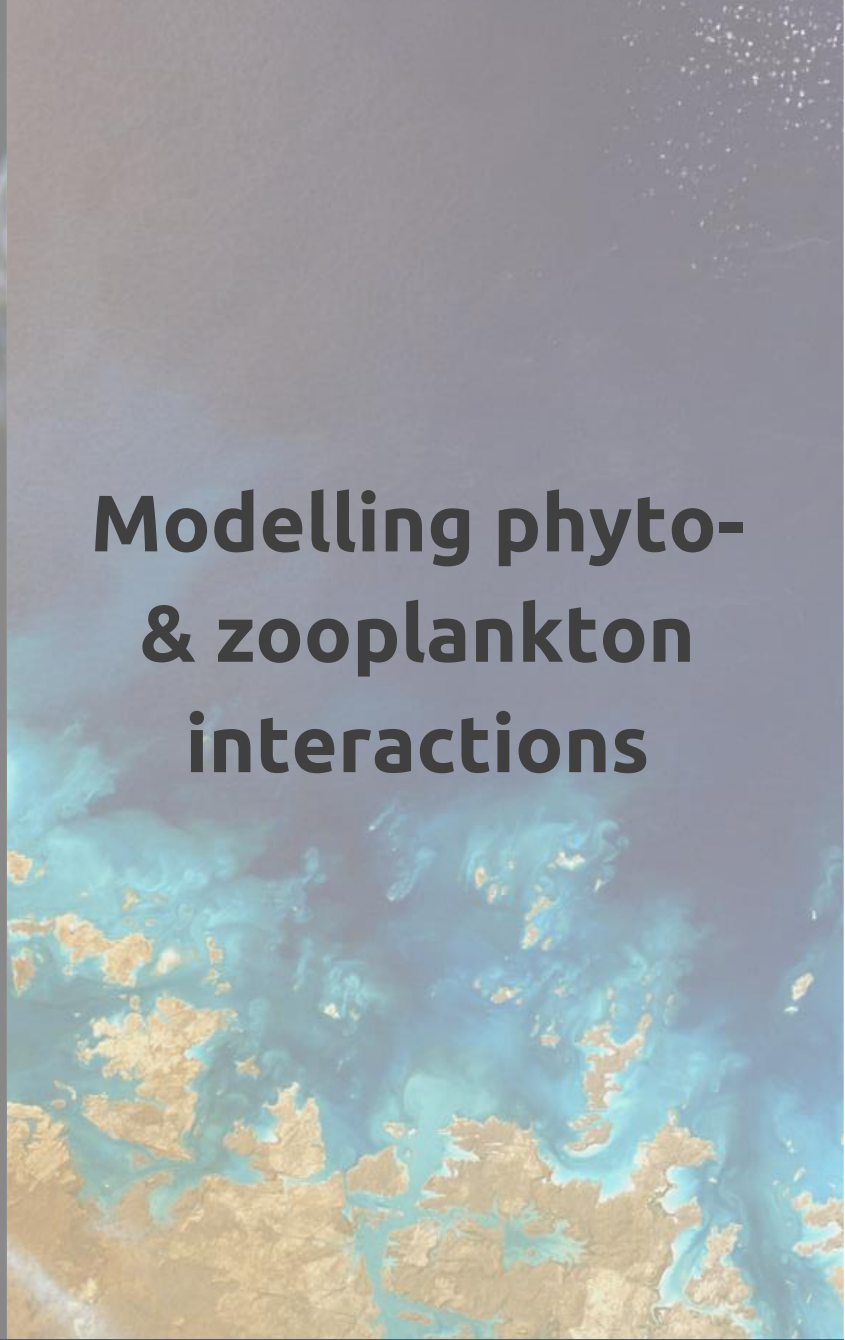
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**Phytoplankton
EOV products**



**Zooplankton
EOV products**



**Modelling phyto-
& zooplankton
interactions**

Phytoplankton EOV products

Global ocean 3D Chlorophyll-a concentrations

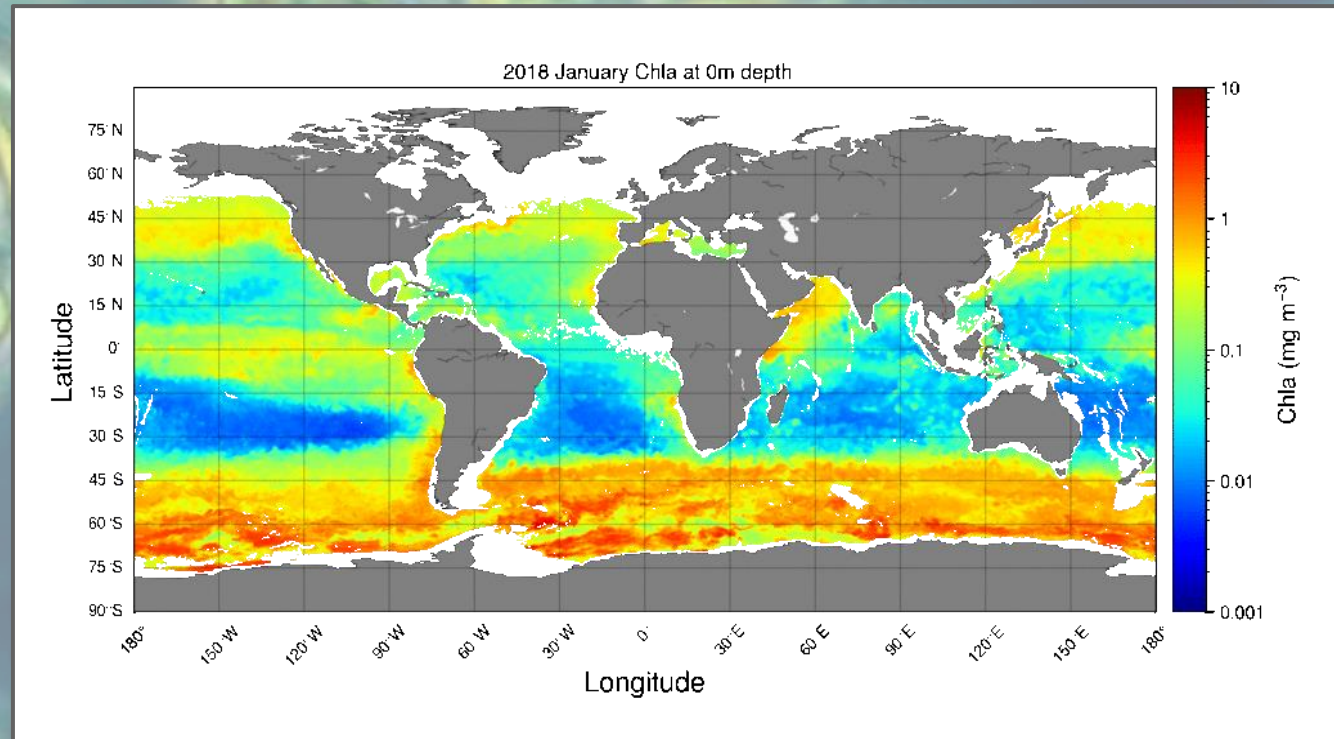


INPUT DATA

- BGC-Argo floats (Chla) 
- Satellite-derived reflectance's
- Satellite-derived Photosynthetically Available Radiation (PAR)
- Sea Level Anomaly
- T/S profiles 

Chla model

NN model
Sauzède, et al. 2016



Phytoplankton EOV products

Global ocean Phytoplankton functional types (PFT) product



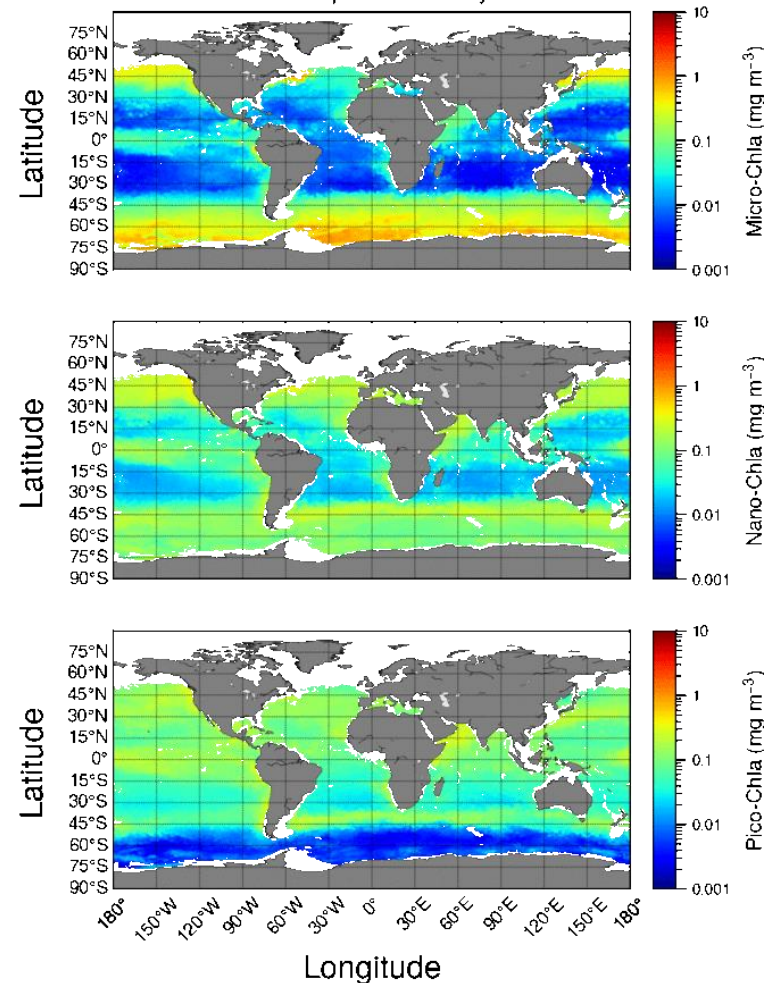
INPUT DATA

- BGC-Argo floats (Chla) 
- Satellite-derived reflectance's
- Satellite-derived Photosynthetically Available Radiation (PAR)
- Sea Level Anomaly
- T/S profiles 

PFT model

NN model
Sauzède, et al. 2016

PFT's at 0m depth for January 2018



Zooplankton EOV products

Zooplankton distribution gridded data products



INPUT DATA

- Zooplankton abundances
- T/S climatologies
- Nutrients (World Ocean Atlas)
- Distance from coast
- Bathymetry

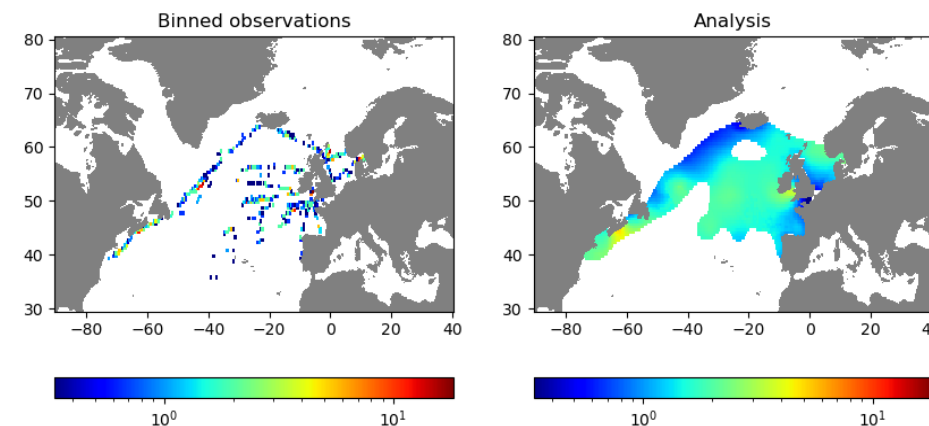


DIVAnd + NN model

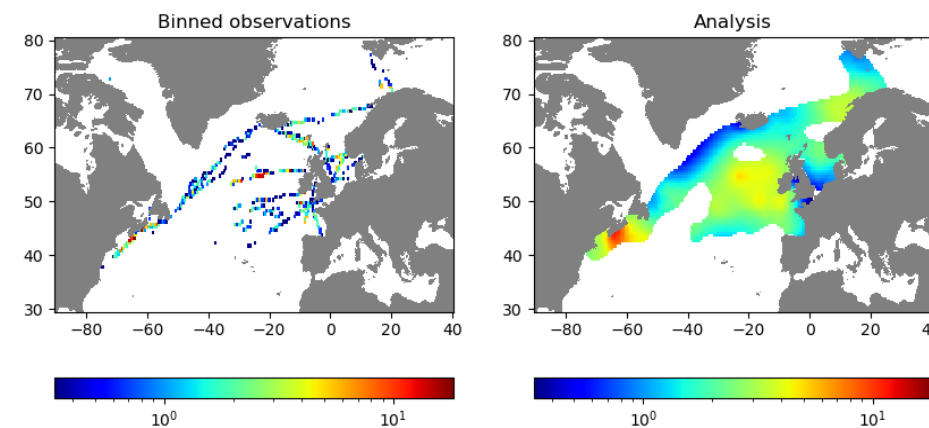


<https://github.com/gher-ulq/DIVAnd.jl>

Metridia lucens 2004



Metridia lucens 2013



Modelling phyto- and zooplankton interactions

Drivers that limit phytoplankton abundance



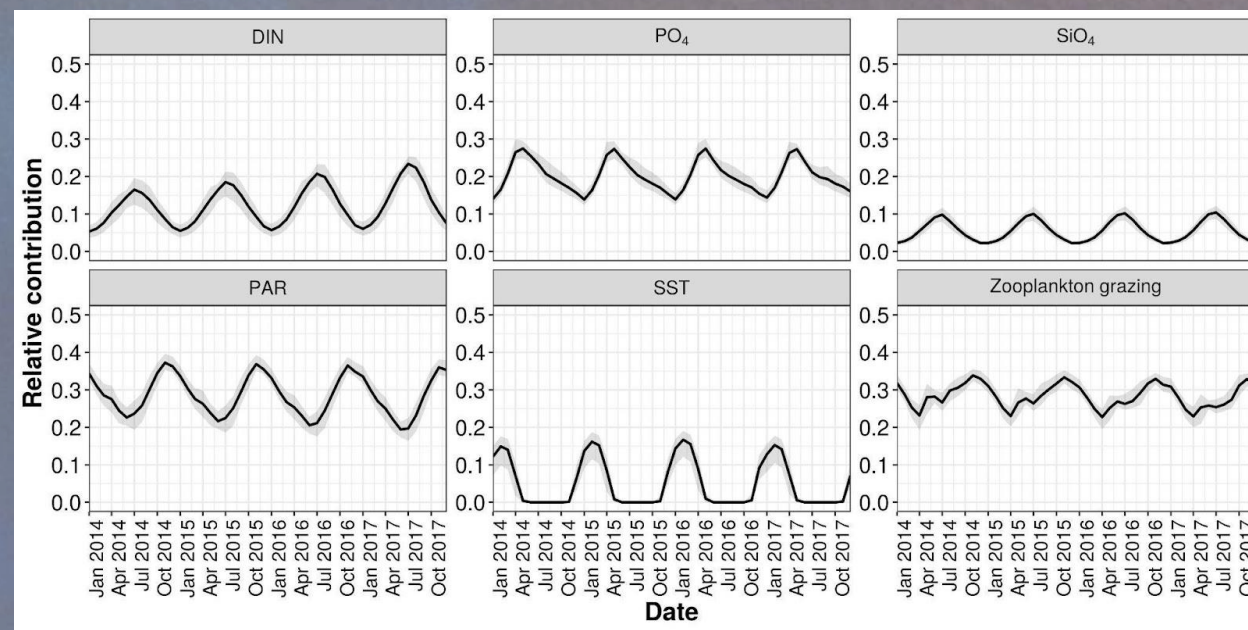
INPUT DATA

- Zooplankton abundances
- Phytoplankton abundances
- Nutrient, temperature and light data



NPZ model

Everaert, et al. 2015
Soetaert & Herman, 2009



How to use the Demonstrator?

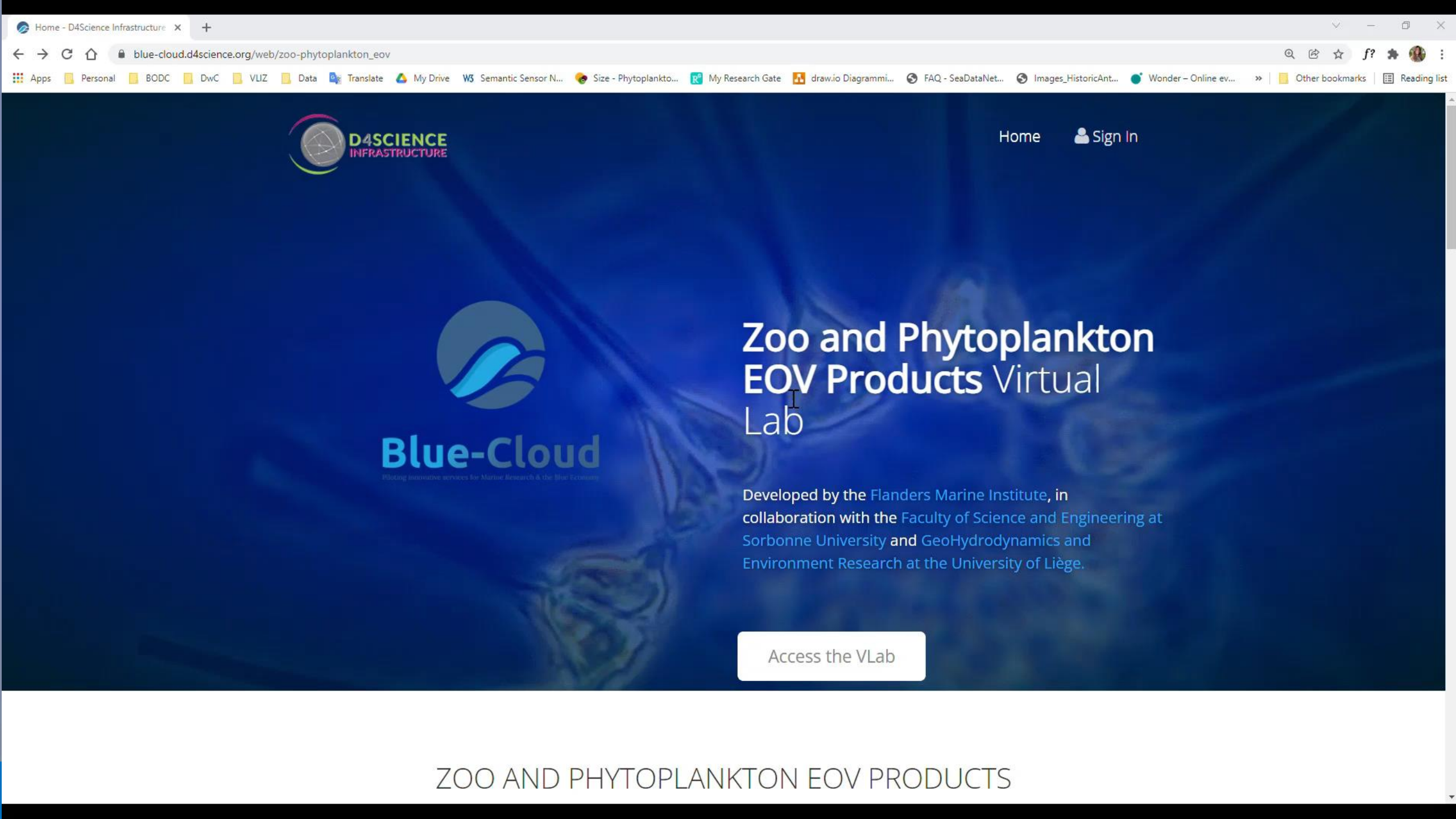
https://blue-cloud.d4science.org/web/zoo-phytoplankton_eov



Zoo and Phytoplankton EOV Products Virtual Lab

Developed by the [Flanders Marine Institute](#), in collaboration with the [Faculty of Science and Engineering at Sorbonne University](#) and [GeoHydrodynamics and Environment Research at the University of Liège](#).

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ZOO AND PHYTOPLANKTON EOVS PRODUCTS

Conclusions

- **Plankton EOV products** are available for users to explore the data, methodologies and technologies available in the **Blue-Cloud VRE**.
- The integration of different **data sources and technologies**, allows to see data-driven trends & to understand interactions between different **EOVs**.
- The products are useful for researchers, fisheries advisory organizations and marine policy officers to better understand plankton communities and address threats such as **food insecurity** .
- **Collaborative VRE** have a large potential to boost scientific productivity. We invite everyone to have a look, review and build further on these products.



Thank you



Viviana Otero, viviana.otero@vliz.be
Gert Everaert, gert.everaert@vliz.be
Patricia Cabrera, patricia.cabrera@vliz.be
Lennert Schepers, lennert.schepers@vliz.be



Renosh P. Remanan, renosh.pr@obs-vlfr.fr
Raphaëlle Sauzède, raphaelle.sauzede@imev-mer.fr
Julia Uitz, julia.uitz@imev-mer.fr
Hervé Claustre, claustre@obs-vlfr.fr



Alexander Barth, a.barth@uliege.be
Charles Troupin, ctroupin@uliege.be

To learn more about the demonstrator visit:
<https://www.blue-cloud.org/demonstrators/zoo-and-phytoplankton-eov-products>

*Pictures source: <https://www.blue-cloud.org/>