Modeling the physical processes that underlie Harmful Algal Bloom in North-Western Iberian shelf and Rias Baixas

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Objectives:
1. Use CROCO 3D regional model to simulate the main circulation features in the North Western Iberian Shelf and Rias Baixas (Nwisrb), associated with the development of Harmful Algal Blooms (HAB).

2. Validation of the model results by comparing with the available physical data: ADCP, buoys and CTD.

Methods and Results

- A 3D ocean model, CROCO-AGRIF [1,2], with embedded online two-way nesting domains has been used to study the circulation features. Different resolution has been applied to each of the domains.
- Output model data was validated at an outershelf and innershelf locations, at surface and bottom. Since different processes can take place near the coast and at the platform and depending on the column water depth.

Conclusions

- Velocity components, temperature and salinity data agree with measured data from CTD, ADCP and buoys.
- Once the model has been validated with can continue our study. The next step will be the implementation of a lagrangian model, the Connectivity Modeling System (CMS) [2] to represent the transport of HAB along the Nwisrb.

References