How does the JERICO Research Infrastructure support marine science in the Bay of Biscay?

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Context

❖ **Pan-European coastal Research Infrastructure (RI)** with ferryboxes, gliders, cable observatories, moorings and HF radars.

H2020 JERICO-NEXT: 34 partners, in 15 countries, 2015-2019

❖ **Purposes of JERICO-RI**:

- Integrated study and monitoring of physical, chemical and biological *variables at HF*, in EU coastal waters.
- To serve *the* implementation of European marine policies *(WFD, MSFD)*.

❖ **More: www.jerico-ri.eu**

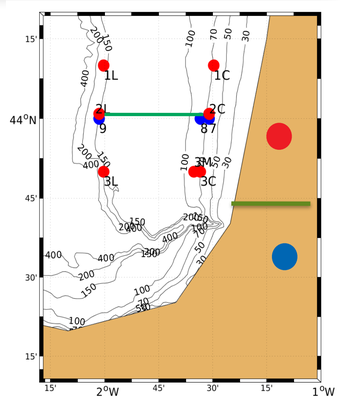
❖ **One of the objectives: Study of the coastal dynamics variability at high frequency *and* *(sub)*mesoscale and its impact on phytoplankton distribution & transports of microplastics.**

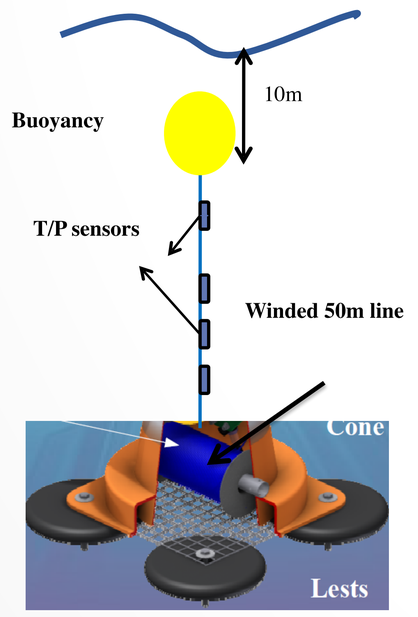
The "Etoile" Survey in the Bay of Biscay (Jul.-Aug. 2017)

At high frequency: Internal waves

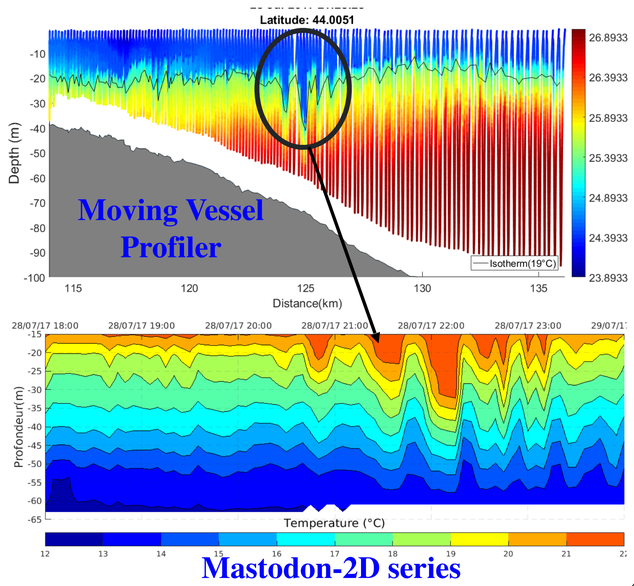
Obj: characterisation of internal waves & solitons, by in situ observation.

~15m amplitude
Trains on 30min





Mastodon 2D: T/P mooring

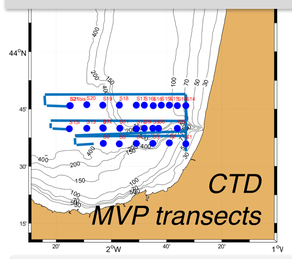


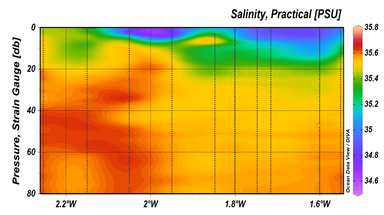
Mastodon-2D series

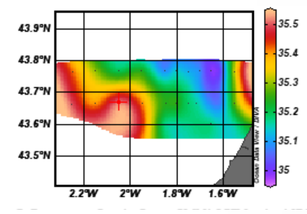
Solitons train

At *(sub) mesoscale*: Fronts and eddies

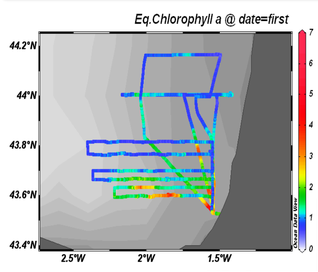
Obj: Characterisation of the mesoscale circulation and its impact on the distribution of advected particles: SPM, phytoplankton and microplastic (passive tracers).

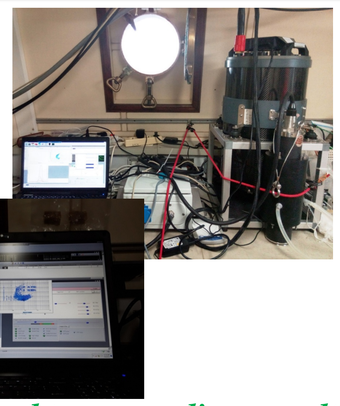




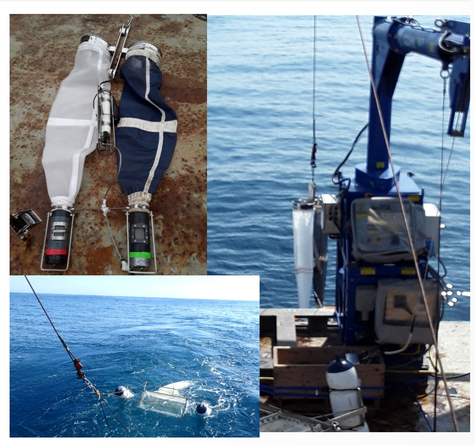


→ Surface & subsurface salinity fronts + meandering surface current





Automated phytoplankton recording : multi-spectral fluorometer (continuous and profiling) & automated flow cytometer + imaging in flow



Pairovet and Neuston nets for microplastic

Refer to V. Gauthier talk: High Frequency Hydrodynamics in the French South East of the Bay of Biscay from *in situ* measurements.

Refer to X. Davila poster: Relation between mesoscale dynamics and phytoplankton/floating marine litter distribution in the South-Eastern Bay of Biscay.

Next steps and other business

- **Further analysis** : to explore the subsurface distribution of phytoplancton and litter, and relate them to vertical velocities obtained from the analysis of the CTD and MVP TS fields.
- **A further JERICO-RI project** could draw attention to the operationnal monitoring of phytoplankton and of marine litter.
- **More to come** in Ocean Science journal (JERICO-RI special issue) and ICHA 2018 conference (Nantes, 22-26 Oct. 2018).
- **See results & deliverables** (not only on the Bay of Biscay): www.jerico-ri.eu

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