FUMSECK cruise

SPASSO Images Analysis

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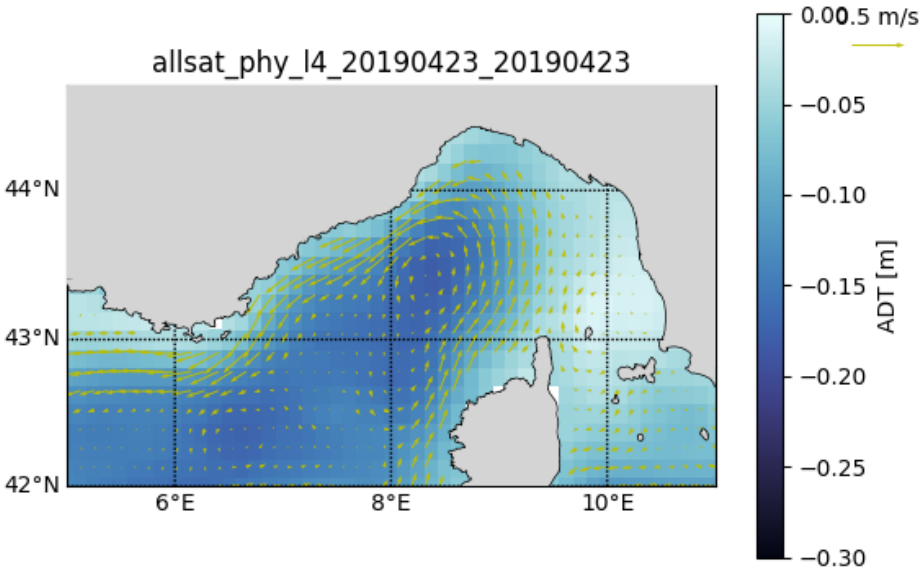
Executive Summary

The cruise is scheduled to start on April, 30, 2019, on board the Téthys II.

The weather is not fine over the Gulf of Genoa so that we do not have any Chlorophyll data.

We are all doing our best for the last preparations before the cruise !

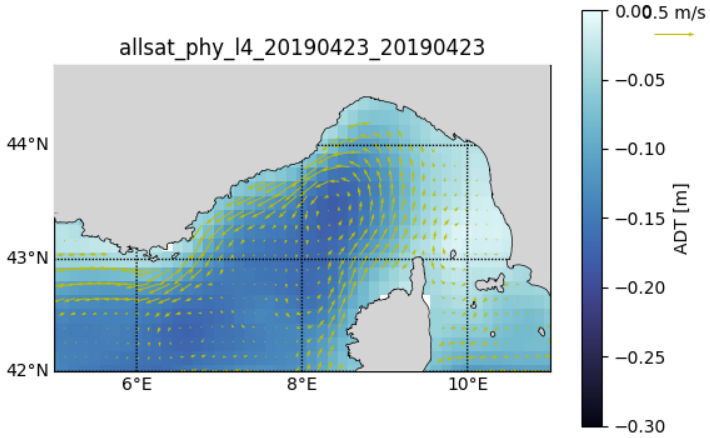


1 Ongoing operations and upcoming stations

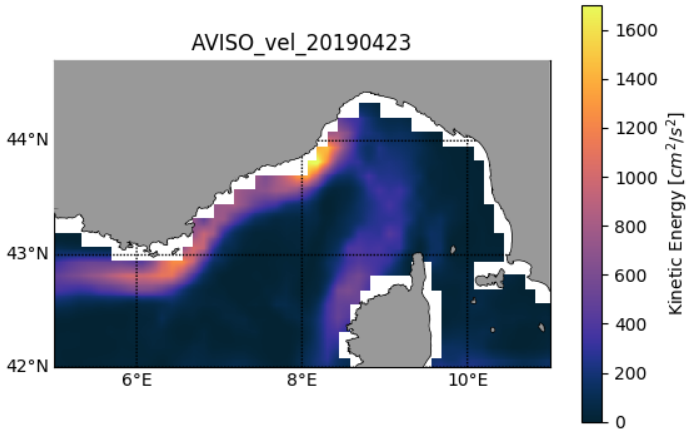
The last preparations are being done on some instruments and the beads.

2 Daily figures analysis

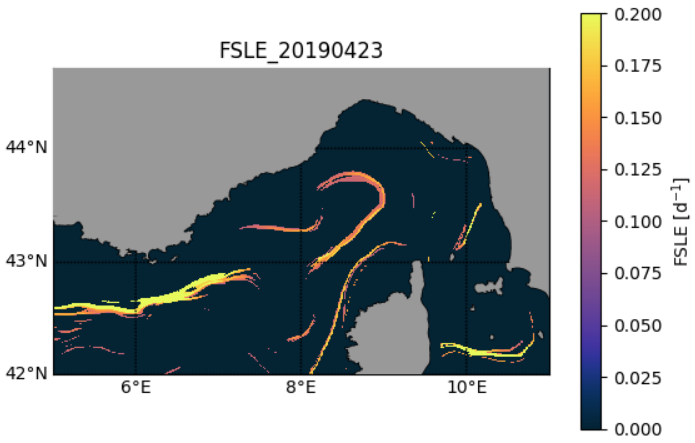
2.1 Altimetry, derived currents and Lagrangian analysis



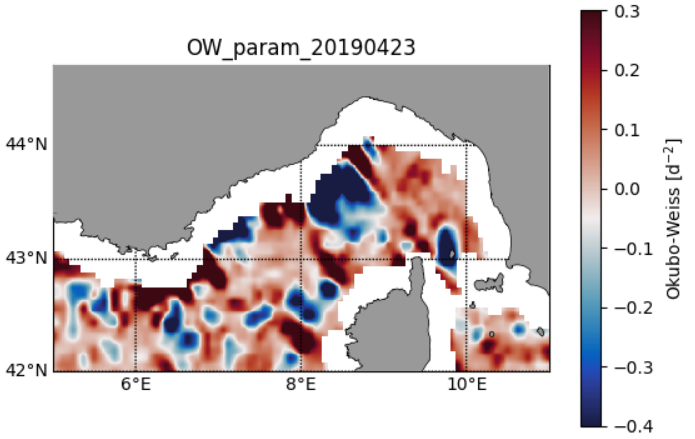
We observe a general cyclonic circulation in the region of interest.



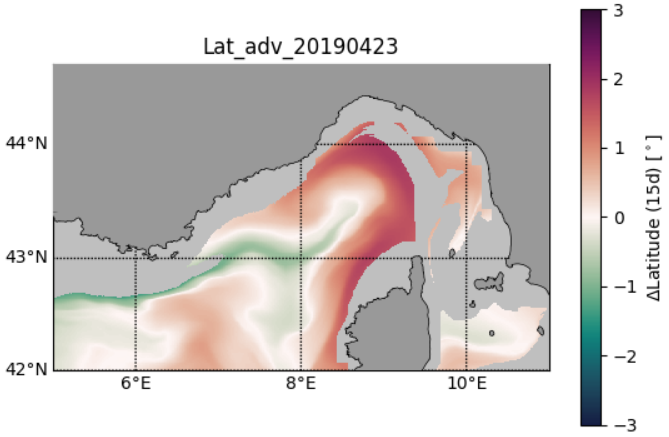
The area has low energy, apart in the cyclonic loop.

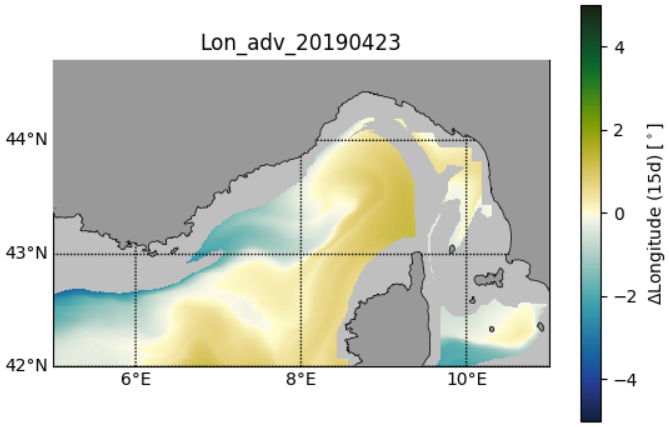


The FSLE structure also corresponds to the cyclonic loop. We are going to test a smaller integration period to check the sensitivity of the FSLE ananlysis (for the moment the integration period is 30 days).



In the OW figure, we can notice the blue (high vorticity, hence eddy-like behavior) bulky feature in the middle of the cyclonic loop, in agreement with the velocity and the FSLE figures.

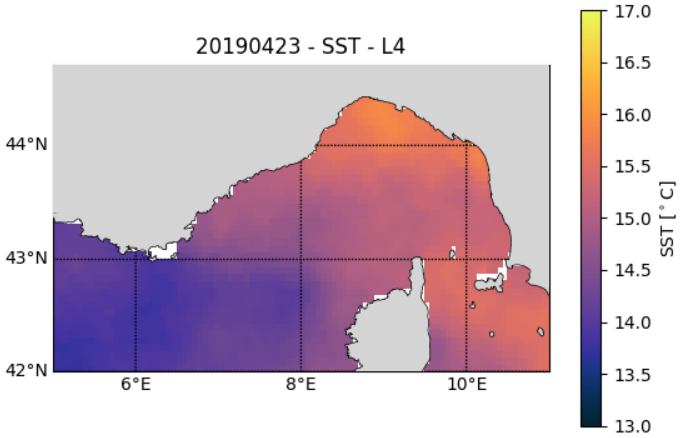




The Lat_adv and Lon_adv images agree with the cyclonic circulation and FSLE structure.

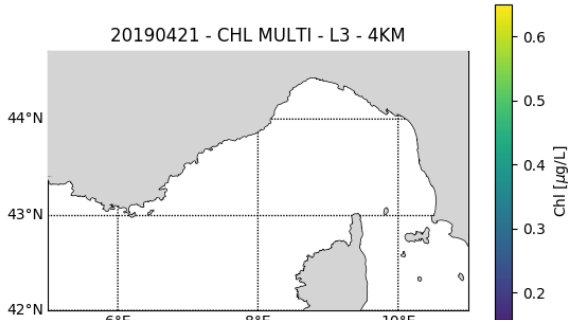
Note: In the Lat_adv, the red goes North while the green goes south; in the Long_adv, the green goes east, the blue goes west).

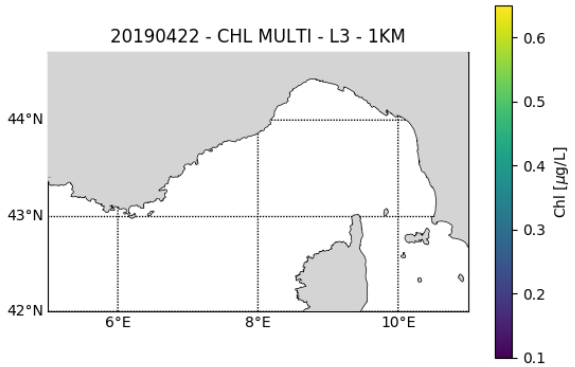
2.2 SST analysis



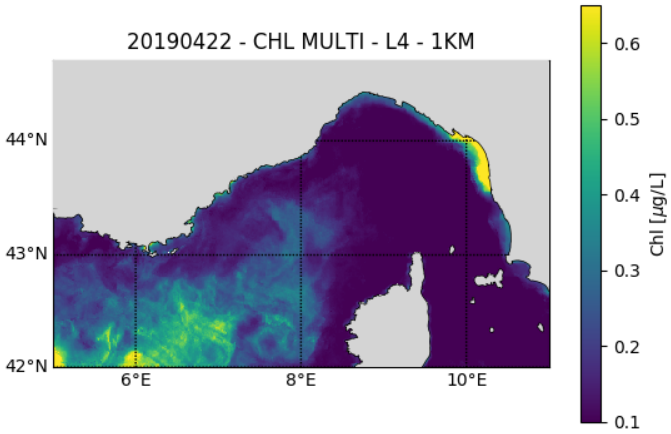
Today, we present the L4 figure since the SST L3 figure is white because it is cloudy. We can notice that the zone is slightly warmer north-east.

2.3 Chlorophyll analysis





Let's hope the weather will clear up between now and the start of the cruise because, for the moment, the Chl figures are all cloudy in the area of interest ! Below the climatological figure for memory:



2.4 Gliders

The gliders are going to be launched at the beginning of the cruise from onboard the Téthys II.

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Acknowledgements

The FUMSECK cruise is part of the BIOSWOT program.
The altimetry data are the AVISO Mediterranean regional product:
http://www.aviso.altimetry.fr/index.php?id=1275.
The derived currents are processed by SPASSO to derive Eulerian and Lagrangian diagnostics of ocean circulation: OkuboWeiss parameter, particle retention time and advection, Lagrangian Coherent Structures. Sea surface temperature (level 3 and 4, 1 km resolution) and chlorophyll concentration (level 3, 1km resolution, MODISAqua and NPPVIIRS sensors combined (after May 27, 2017) into a new product called MULTI) have been provided by CMEMS Copernicus Marine Environment Monitoring Service (http://marine.copernicus.eu). Another SST product (level 4, composite, 1 km resolution) is provided by the Jet Propulsion Laboratory (JPL), Pasadena, CA.

Useful links:

FUMSECK is a cruise from the BIOSWOT project

SPASSO FUMSECK webpages