

FUMSECK cruise

SPASSO Images Analysis

29/04/2019 09:39 UTC

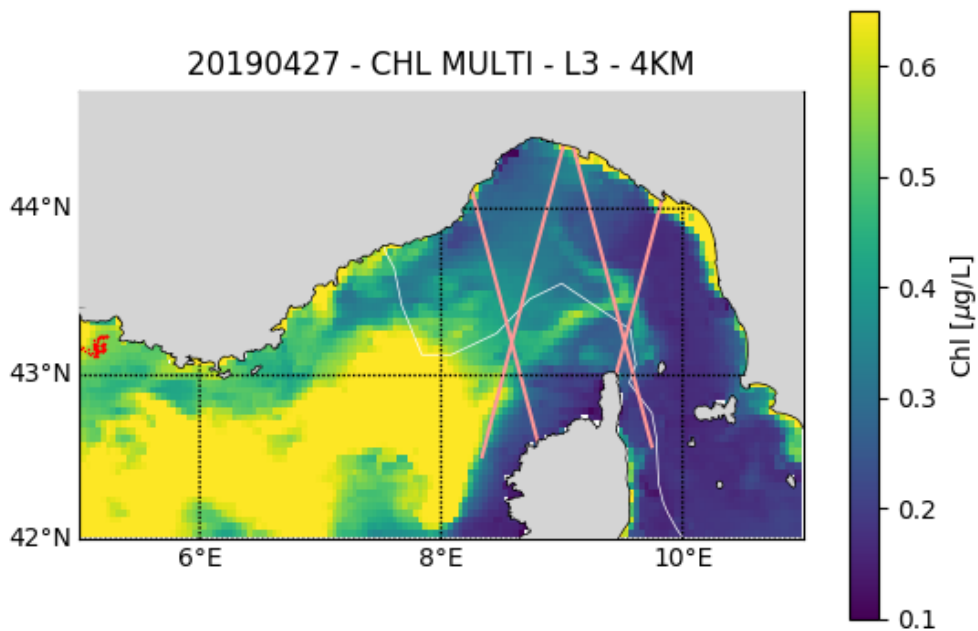
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Executive Summary

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

The weather has cleared up over the Gulf of Genoa so that we finally have nice Chlorophyll data.

The last FUMSECK preparation meeting took place last Friday (April 26) and Stéphanie has sent us all the files related to the planning of the cruise over the weekend.

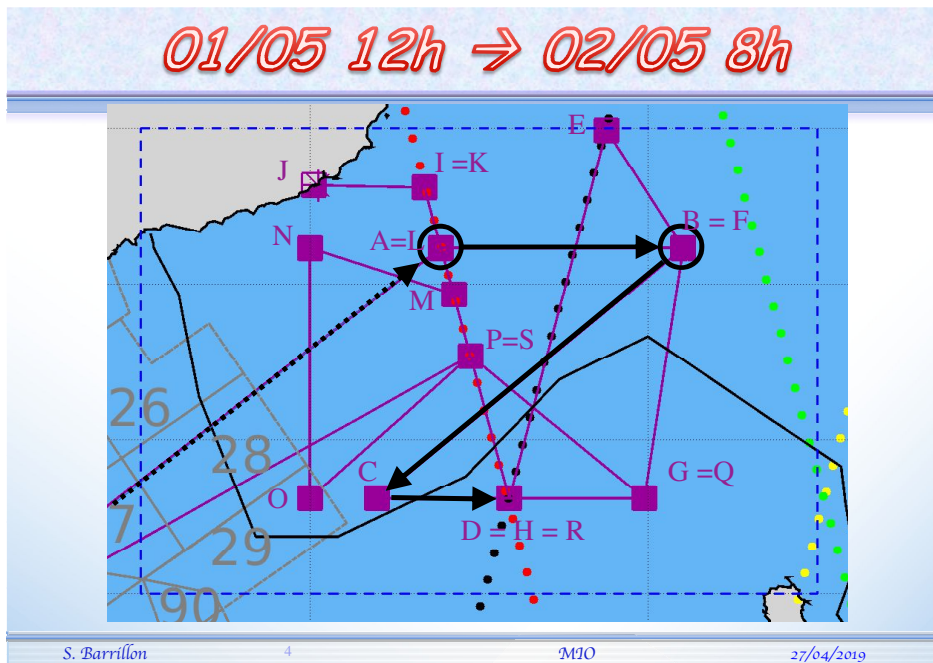


1 Ongoing operations and upcoming stations

The last preparations are being done today and consulting with our computer service is going on right now to arrange the glider data transmission.

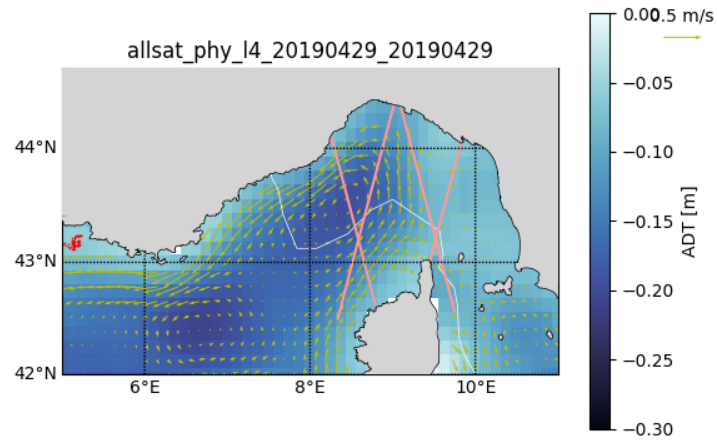
Plan B should be discussed since the weather forecast is not very favorable for the second leg of the cruise.

On May 1st, the plan is to go to station A, then East to station B, southwest to station C, and East again to station D; scheduled to be reached around 8am on May 2nd.

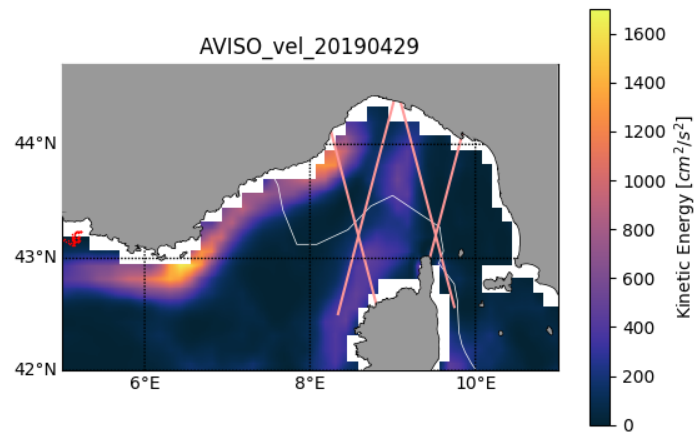


2 Daily figures analysis

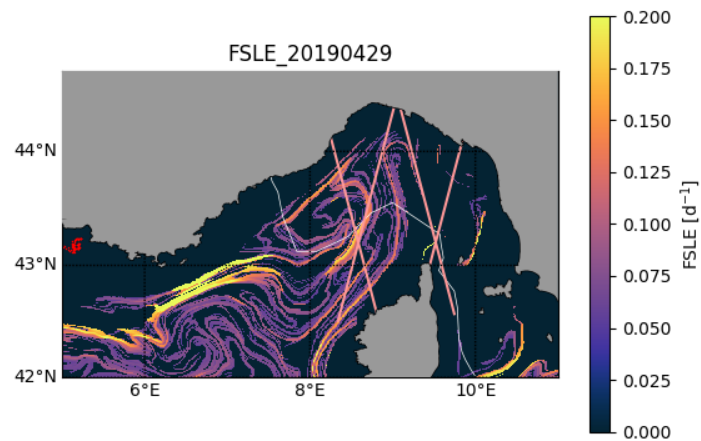
2.1 Altimetry, derived currents and Lagrangian analysis



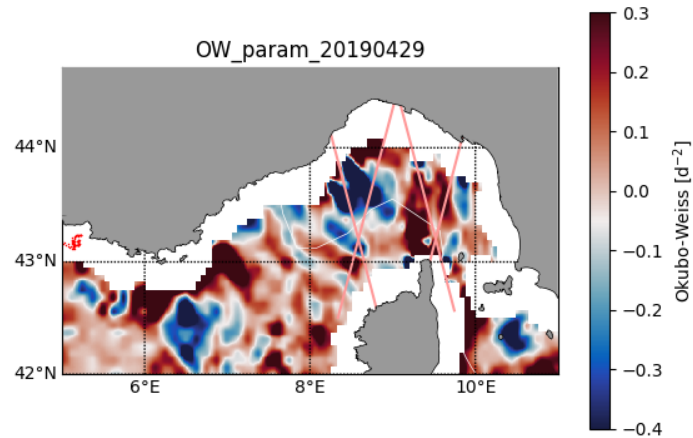
We observe a general cyclonic circulation in the region of interest.



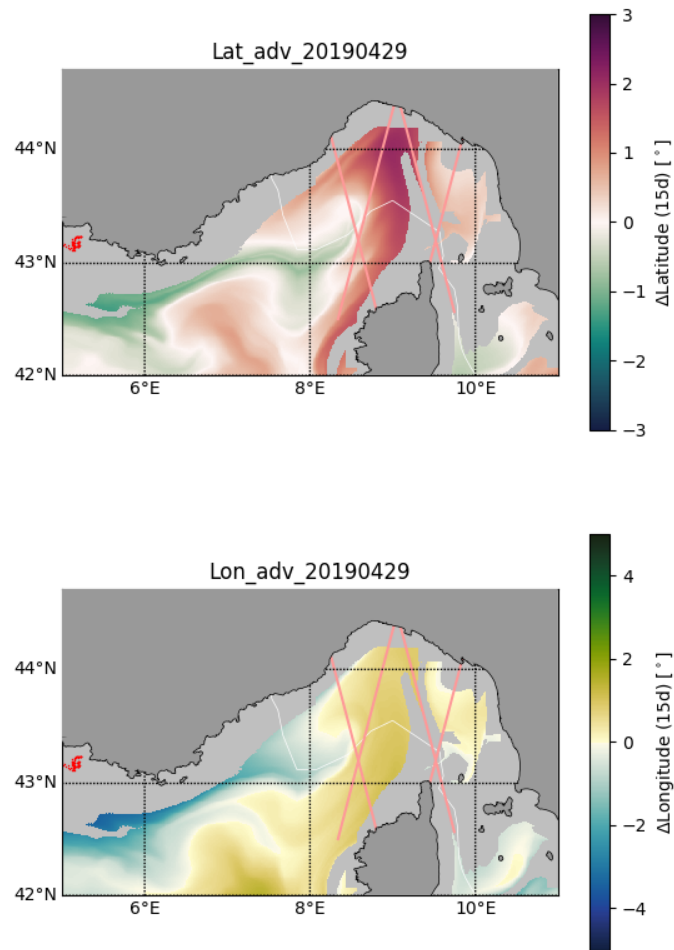
The area has low energy, apart in the cyclonic loop and, especially, along the Northern Current trajectory.



The FSLE structure also corresponds to the cyclonic loop. Notice the little structure on the right pointing to the North around 44°N. It can also be seen on the Chlorophyll data and seems to correspond to the western side of the northward west Corsican current. A nice front should be crossed between A and B through it.



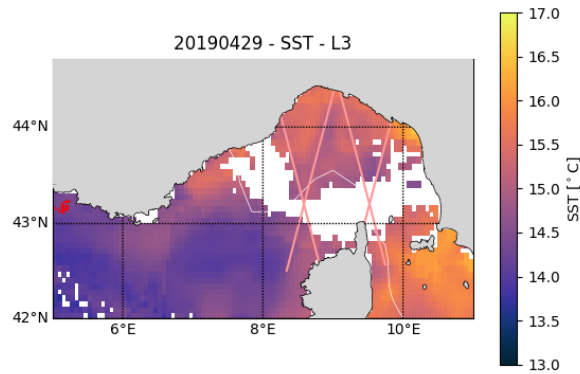
In the OW figure, we can notice the blue (high vorticity, hence eddy-like behavior) bulky feature in the middle of the cyclonic loop, in agreement with the velocity and the FSLE figures.



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

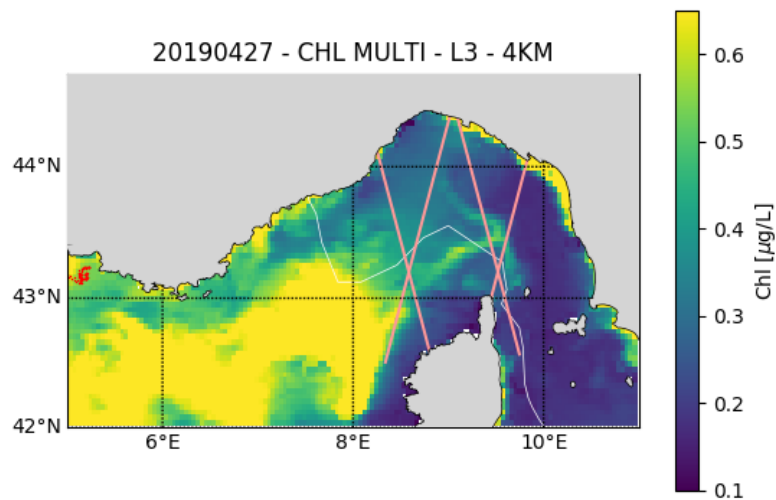
Note: In the Lat_adv, the red goes North while the green goes south; in the Long_adv, the green goes east, the blue goes west).

2.2 SST analysis



We can notice that we now have a L3 updated and non cloudy picture; and that the zone has slightly warmed up.

2.3 Chlorophyll analysis



Notice the Chlorophyll structure zigzagging from the tip of Corsica towards the North. It can also be seen on the FSLE data. A nice front should be crossed through it between A and B.

2.4 Glider

The glider is going to be launched at the beginning of the cruise from onboard the Téthys II, if the weather forecast indicates that the conditions are good enough for ensuring the recovery of the glider at the end of the mission.

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