

# FUMSECK cruise

## SPASSO Images Analysis

01/05/2019 10:51 UTC

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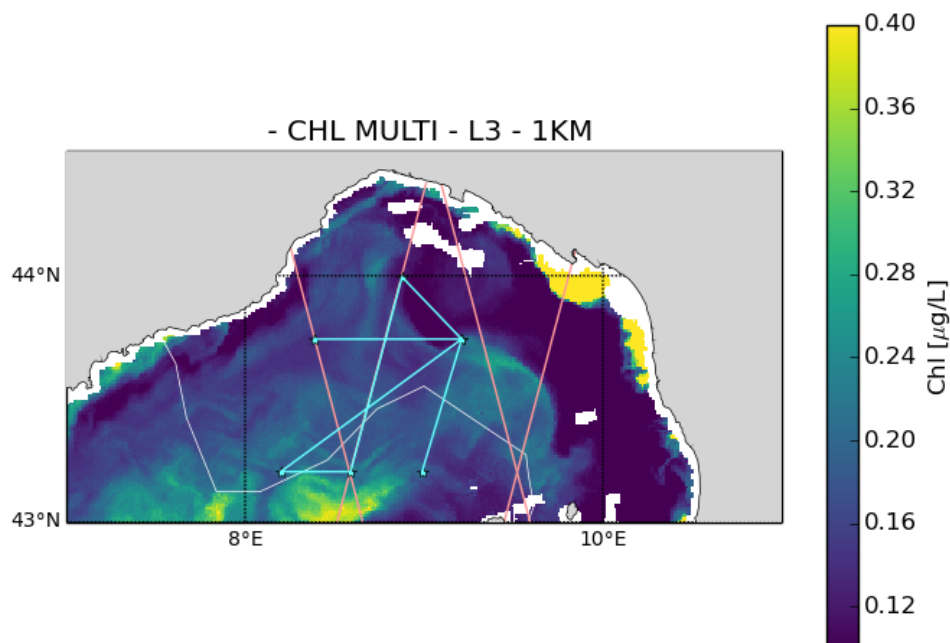
### Executive Summary

The cruise started as scheduled yesterday afternoon (4:30 - 5:00 pm) on board the Téthys II. The waypoints fit amazingly well with the present images. Waypoint B is right on (Chl)/just East (FSLE) of the Lagrangian feature. Transect AB will probably directly cross this nice front; TSG will confirm (stay alert :).

Crossover waypoint D is right on the strongest FSLE feature; Chl-wise, it is at the northern edge of the stronger Chl patch. Waypoints of May 2nd also look good. Station E should also be interesting for the vertical speed station (see FSLE in bulletin, with the caution of the FSLE incertitude 10/20 km). On the plot below, the green dots correspond to, from top left to bottom right, A, E, F, C, D, G.

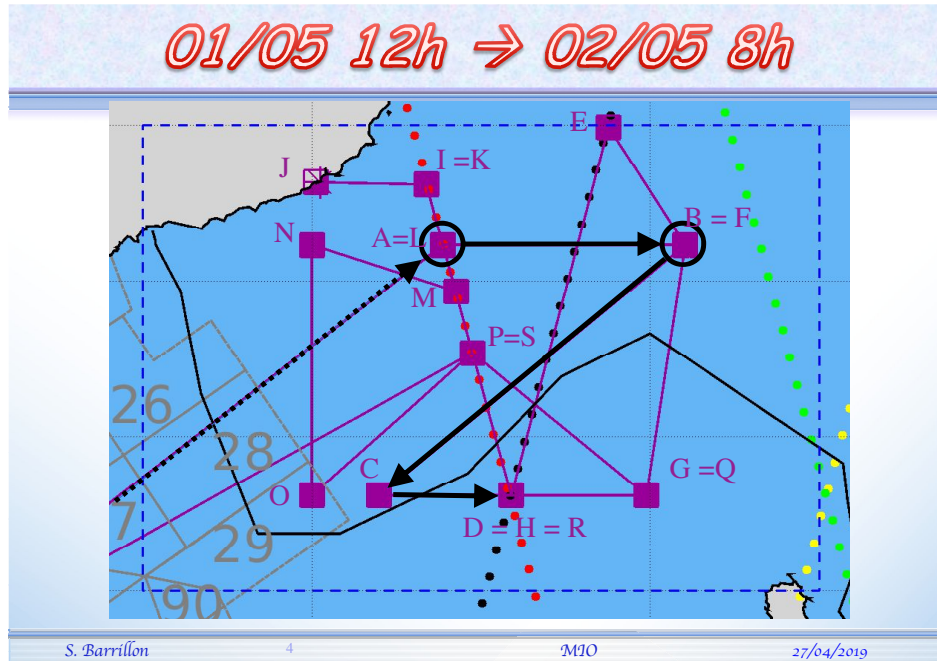
It is ironical to be working today... have a great May 1st ! Fingers crossed for the vertical speed stations of today.

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# 1 Ongoing operations and upcoming stations

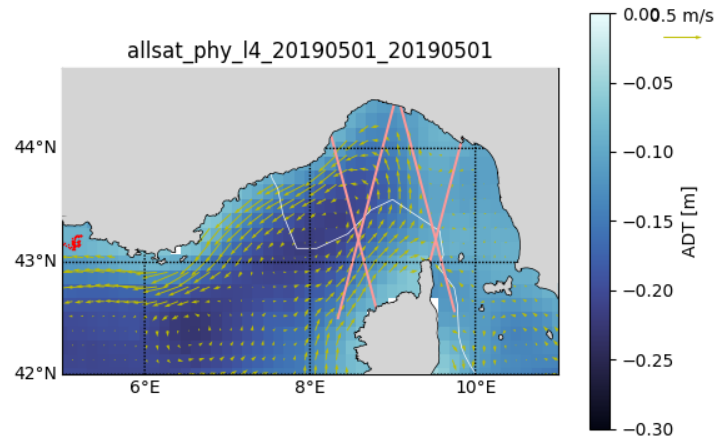
Today, May 1st, the plan is to go to station A, then East to station B, southwest to station C, and East again to station D; scheduled to be reached around 8am on May 2nd.



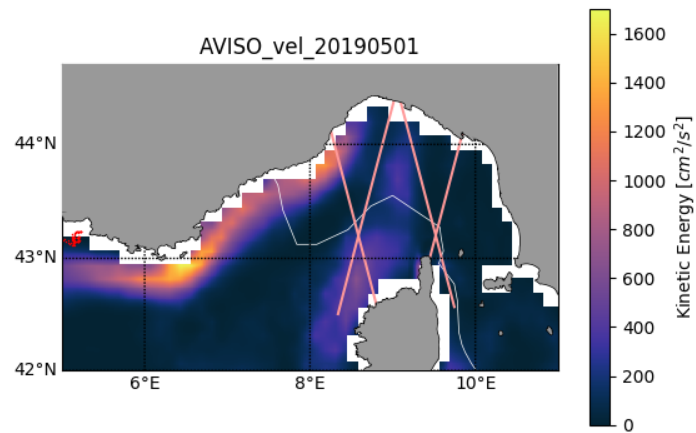
Then, on May 12nd, the plan is to go from D to E on the altimetry track, then to B/F, then G, and back to D/H.

## 2 Daily figures analysis

### 2.1 Altimetry, derived currents and Lagrangian analysis

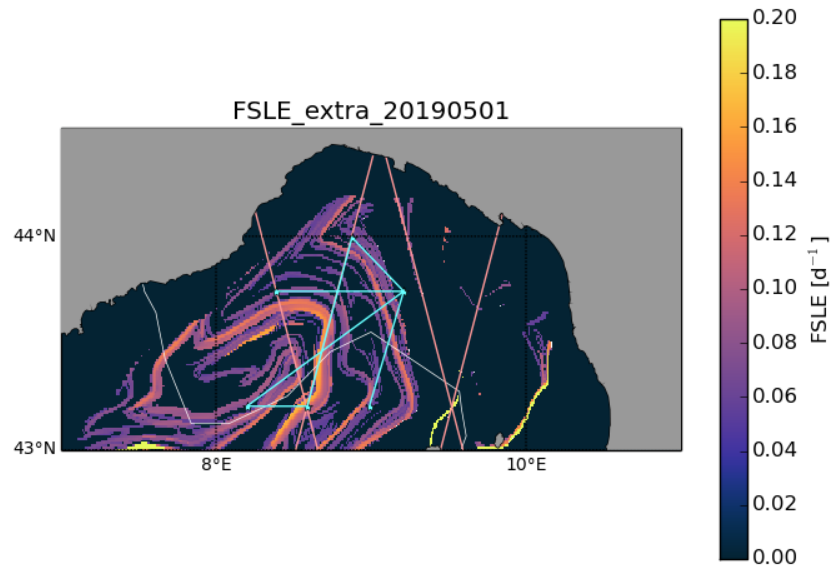


We observe a general cyclonic circulation in the region of interest.



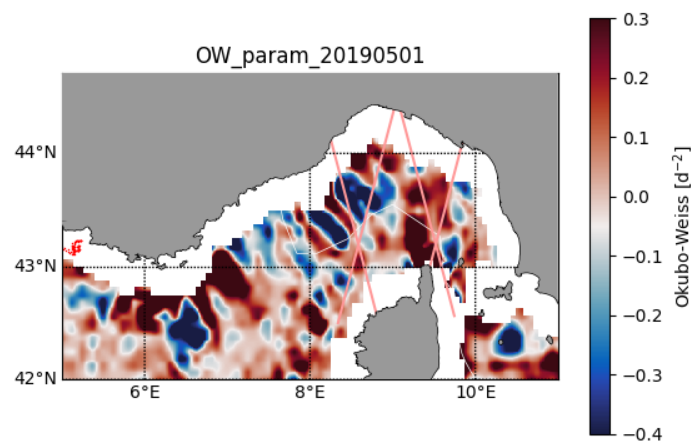
The area has low energy, apart in the cyclonic loop and, especially, along the Northern Current trajectory.

The FSLE structure also corresponds to the cyclonic loop. Notice the structure East of the cyclonic loop, between 43°N and 44°N, nearly in a South-North direction but slightly tilted, parallel to the altimetry track.

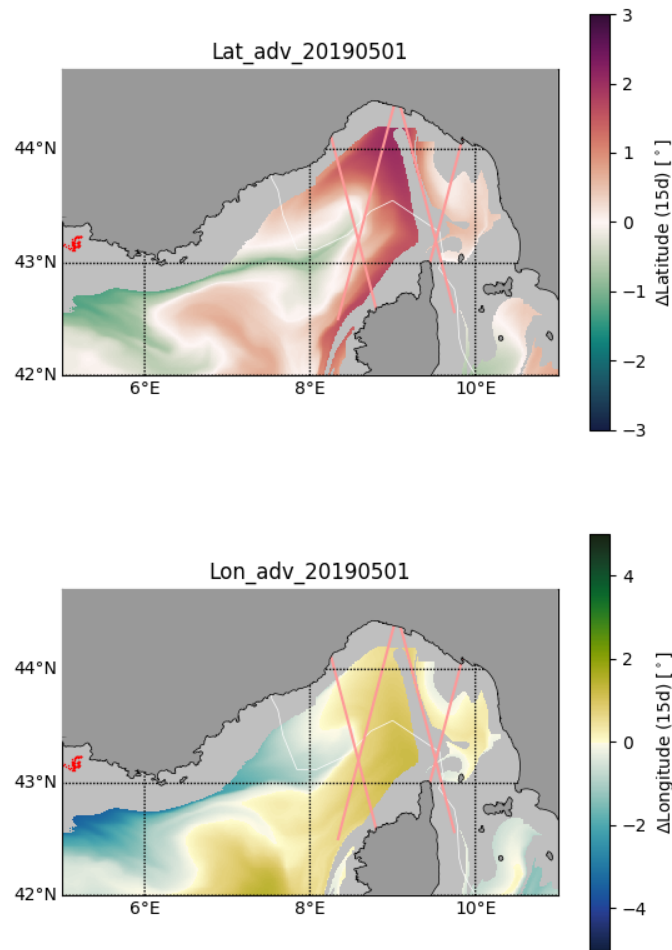


A nice front should be crossed today between A and B through it. Pay attention to TSG to confirm it or not.

All the stations are at nice spots compared to the FSLE (with caution of the FSLE incertitude of 10/20 km). Station E should also be interesting for the vertical speed station of tomorrow since it is also right in a strong FSLE area.



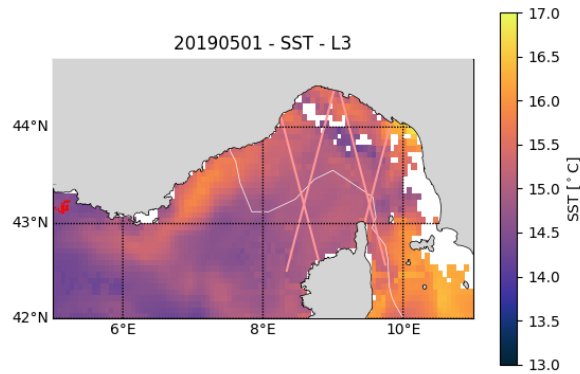
In the OW figure, we can notice the blue (high vorticity, hence eddy-like behavior) bulky feature in the middle of the cyclonic loop, in agreement with the velocity and the FSLE figures.



The Lat\_adv and Lon\_adv images agree with the cyclonic circulation and FSLE structure. We can indeed clearly see the structure East of the cyclonic loop, between 43°N and 44°N, nearly in a South-North direction but slightly tilted, parallel to the altimetry track. It corresponds to the West Corsican current coming straight from along the Corsican coast (hence in grey).

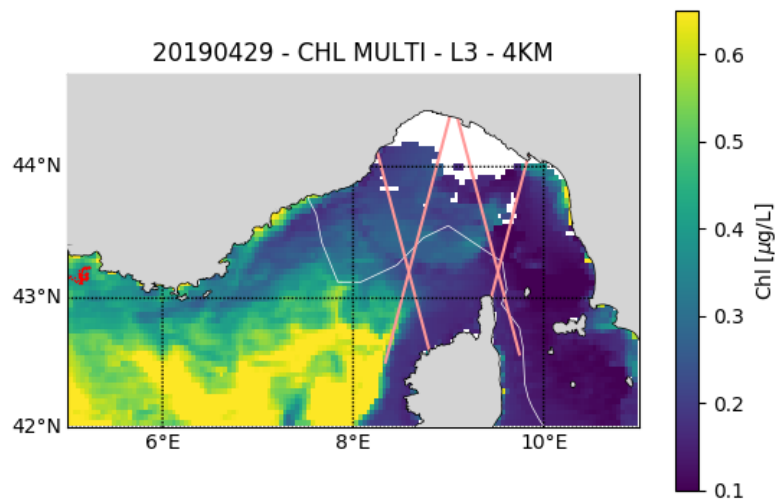
Note: In the Lat\_adv, the red goes North while the green goes south; in the Long\_adv, the green goes east, the blue goes west).

## 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, especially around the cyclonic gyre.

## 2.3 Chlorophyll analysis



The highest Chl concentrations are southwest. There is still a bulb of medium Chl concentrations in our area of interest.

## 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.

There is concern about Saturday May 4; because server maintenance work may prevent mail communication, and hence glider detection.

## 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