

FUMSECK cruise

SPASSO Images Analysis

04/05/2019 12:42 UTC

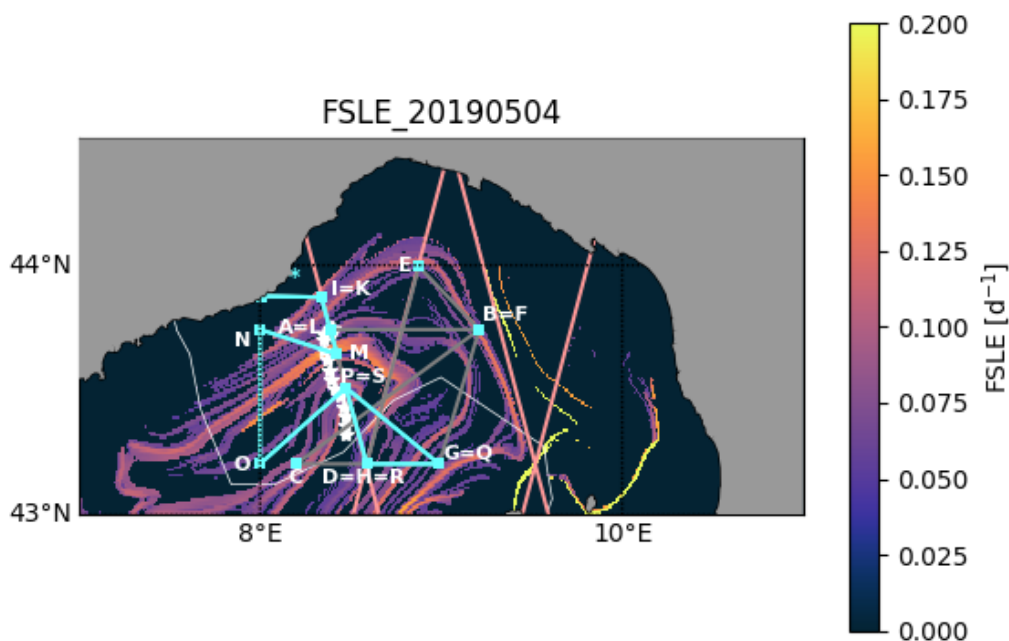
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S. Barrillon A.Doglioli (on board)

Executive Summary

Meteorological conditions are windy, the original plan (see Ongoing section) may be modified, taking refuge close to Capo Melo 43°57.32' N - 8°10.335'E (43.9553 °N - 8,17225°E).

The bead experiment, originally scheduled for tomorrow, is now scheduled for Monday May 6, at P=S.

Email communication was already down at 6:30 this morning... so we have not got the most recent emails from you (if any) and who knows when you will get this bulletin.



1 Ongoing operations and upcoming stations

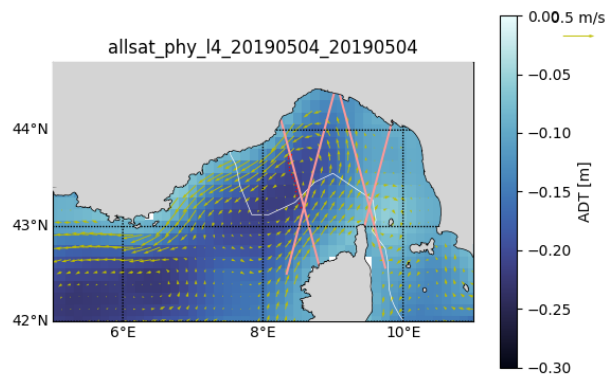
Today, May 4th, the plan is to leave the harbor around 10h30 am local time, go back to I=K, then to M through A=L, then northwest to N, then straight south to O, and then northeast to P. Tomorrow, the plan is to go from P to G=Q, then to D=H=R, and back to P=S.

Since the wind has been blowing, the above plan may be modified, taking refuge close to Capo Melo 43°57.32' N - 8°10.335'E (43.9553 °N - 8,17225°E).

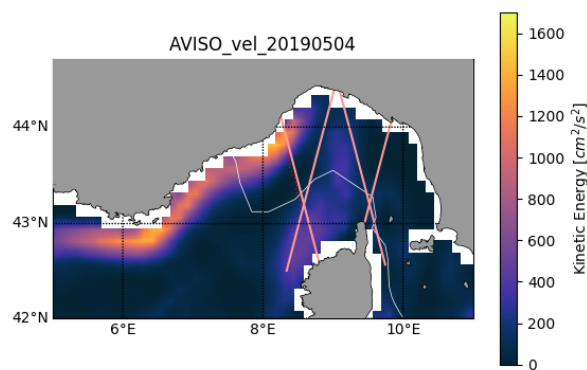
The bead experiment, originally scheduled for tomorrow, is now scheduled for Monday May 6, at P=S.

2 Daily figures analysis

2.1 Altimetry, derived currents and Lagrangian analysis

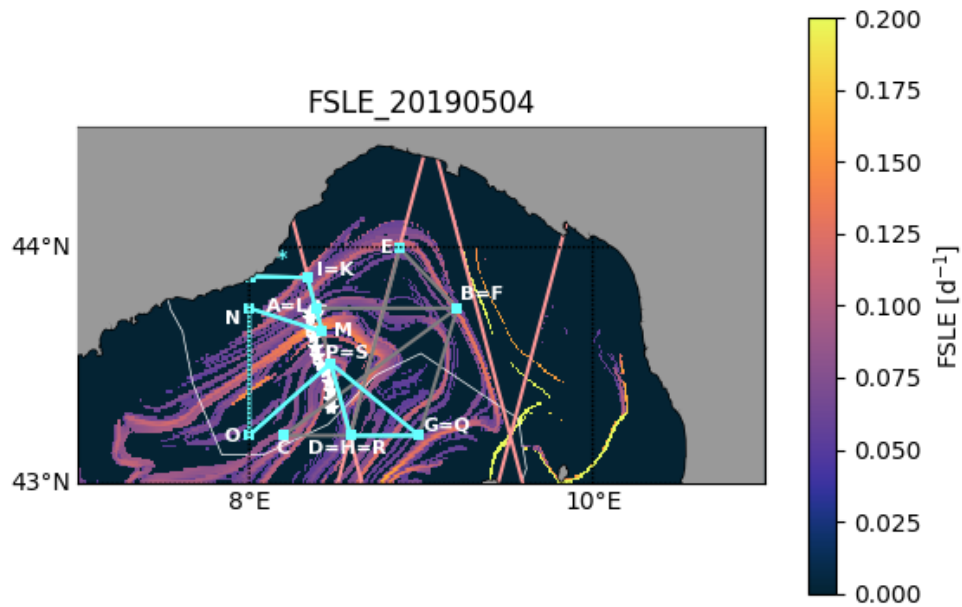


We observe a general cyclonic circulation in the region of interest.

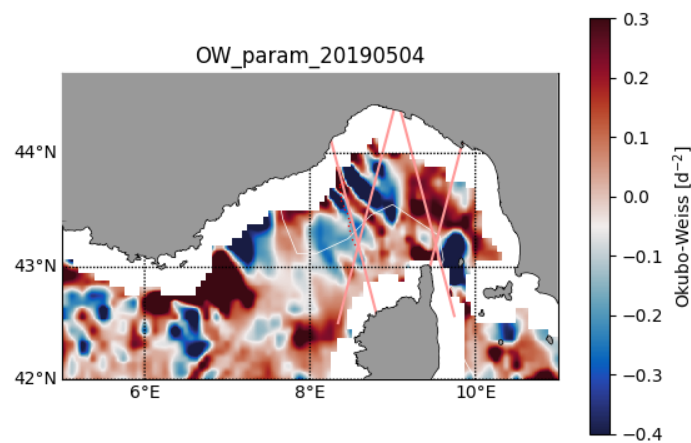


The area has low energy, apart in the cyclonic loop and, especially, along the Northern Current trajectory.

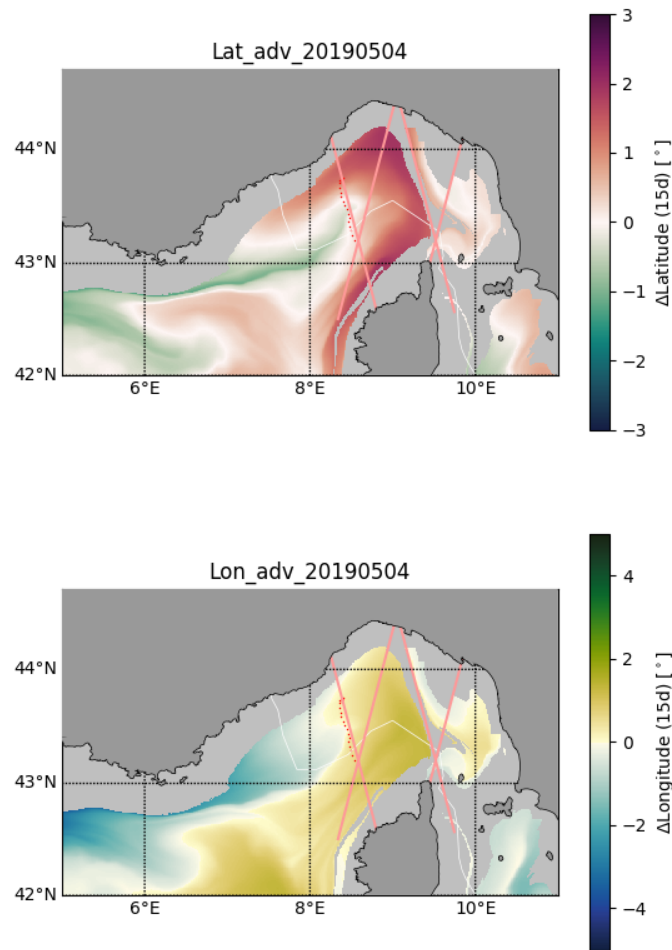
Reminder: by convention, we will hereafter call FSLE1 the highest FSLE structure looping cyclonically between 8°E and 9°E, and FSLE2 the structure East of the cyclonic loop, between 9°E and 10°E, 43°N and 44°N, nearly in a South-North direction but slightly tilted, and parallel to the altimetry track.



You are right now probably going to cross orthogonally FSLE1, on your way back to M. Then cross it again northwest to N and again southward to O. Great to check the phytoplankton community.



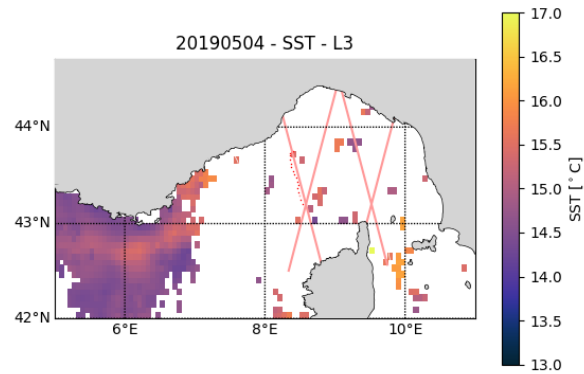
The OW Near Real Time (NRT) data may have some trouble but it is less striated than On Thursday and also a little less than yesterday.



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).

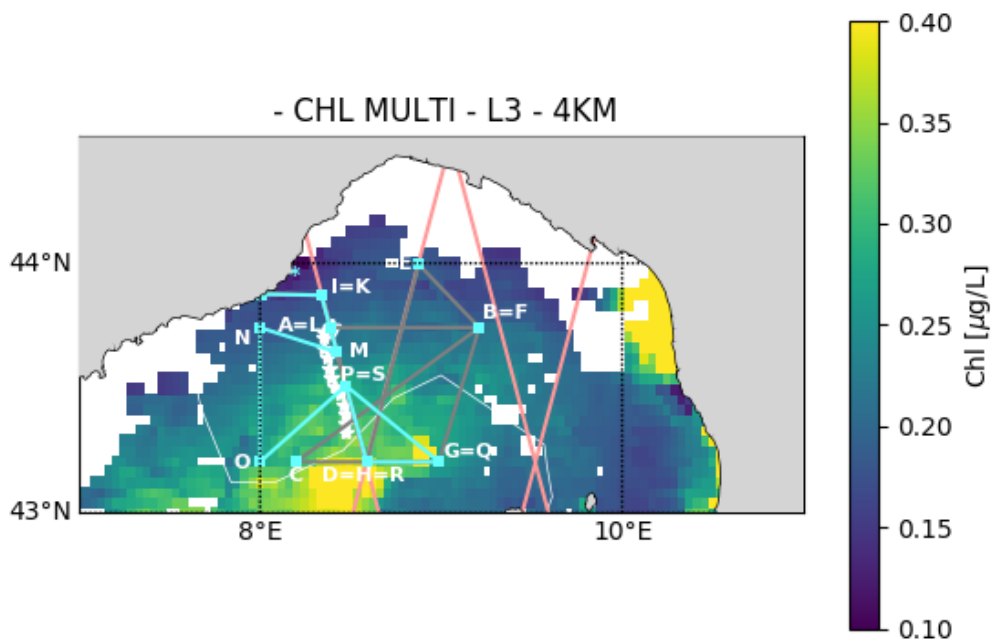
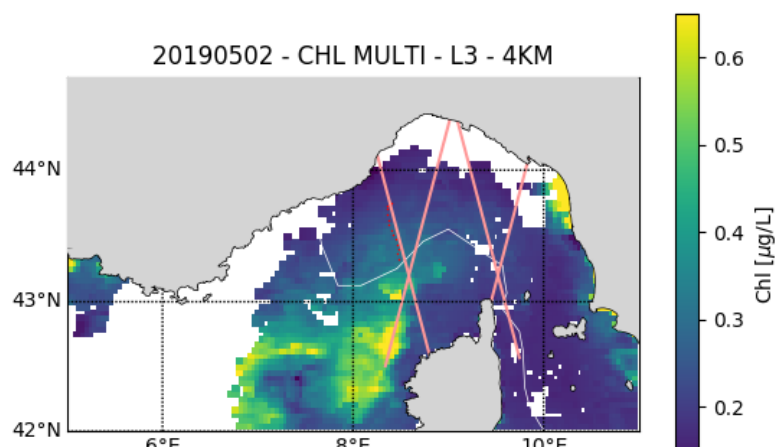
Note: In the Lat_adv, the red goes North while the green goes south; in the Long_adv, the green goes east, the blue goes west).

2.2 SST analysis



Visibly some cloud cover !

2.3 Chlor



The highest Chl concentrations are southwest. In our area of interest, there is still a bulb of medium Chl concentrations with patchiness and nice transitions in phytoplankton community detected by cytometry.

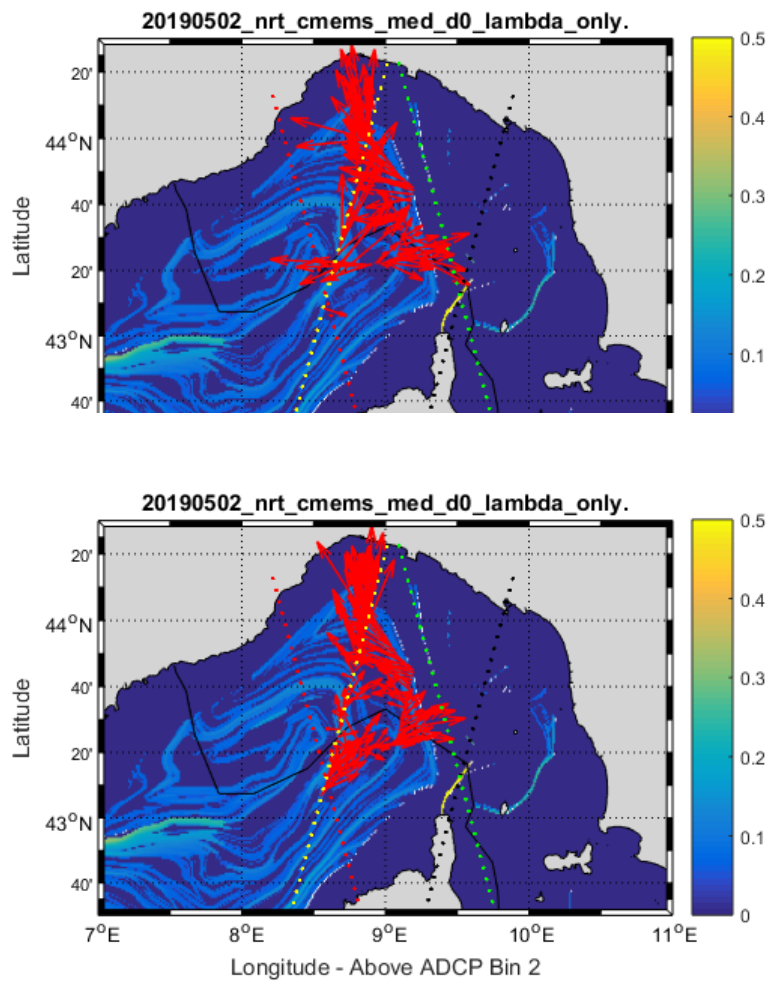
2.4 Glider

Glider communication is going fine (see the stars on the zoom figures of FSLE and Chl).

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

2.5 Hull-mounted ADCP

Here are two pictures of ADCP horizontal currents along the track of the Téthys II during May 2nd, the first one at 19m depth and the second one 8m below, at 27m depth.



Acknowledgements

The FUMSECK cruise is part of the BIOSWOT program.

The calculated hull-mounted ADCP currents are processed by Celine Heyndrickx, La Seyne sur Mer.

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