PREBIOSWOT cruise

SPASSO Images Analysis

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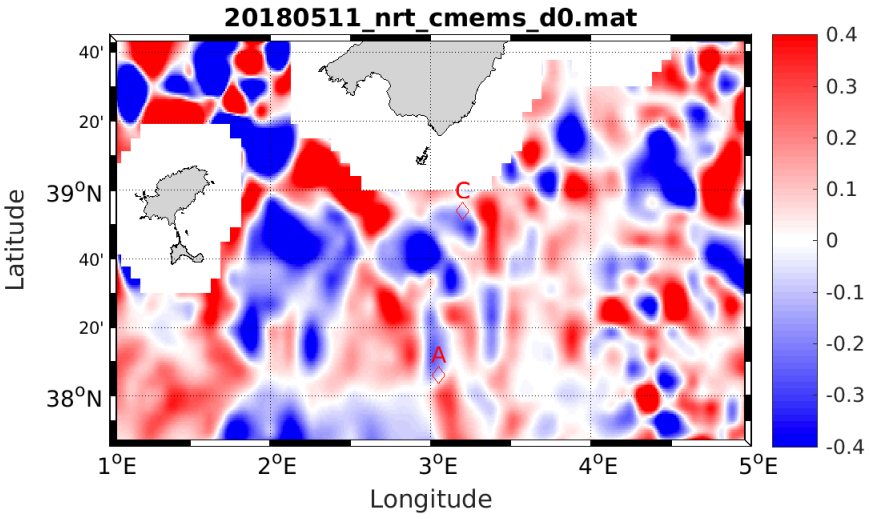
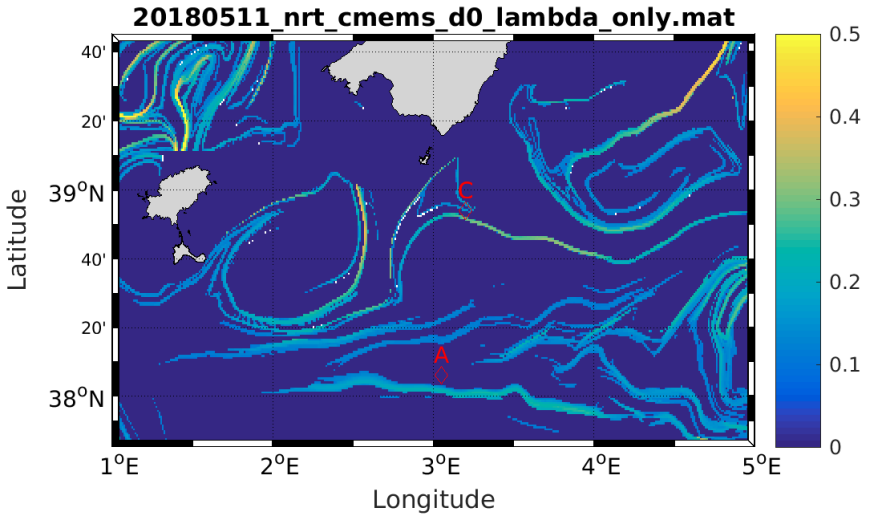
Executive Summary

The lagrangian survey moved to the second phase of the hippodrome strategy, now between A (which moved southwest) and C, planned until sunday. The BB will maybe sample the distorted mesoscale structure which is there since April, 27, now centered around 2.15°E - 38.6°N . The cytometer results show interesting changes in the species distributions on each side of the FSLE front.

The Lagrangian adaptive strategy is focusing on an oblique NW-SE FSLE that is now crossed by the transects between (new) A (about 3.05°E - 38.1°N) and C (about 3.2°E - 38.9°N). This FSLE is still moving slightly northward. We would recommend if possible to move C northeast.





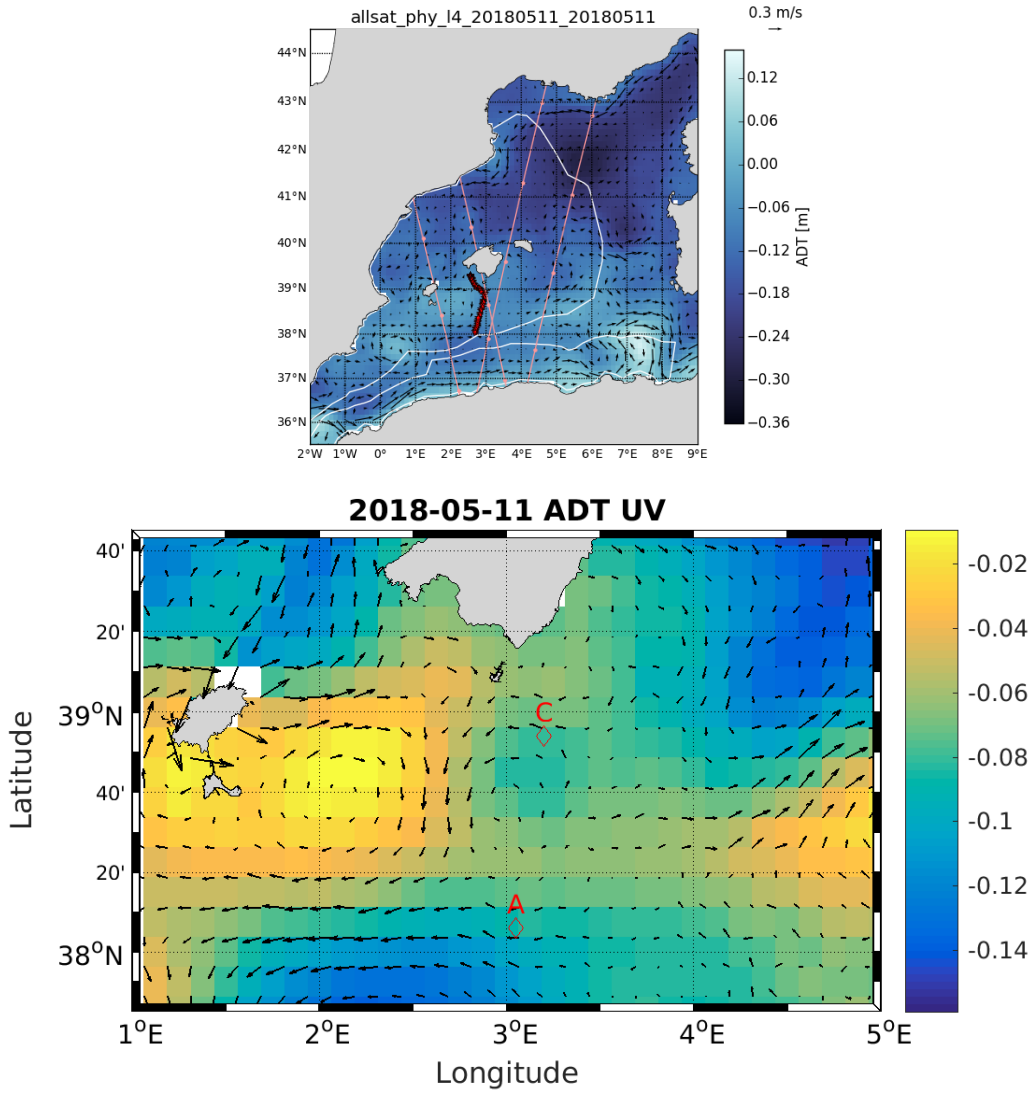
1 Ongoing operations and upcoming stations

The lagrangian survey moved to the second phase of the hippodrome strategy, now between A (which moved southwest) and C, planned until sunday. The BB will sample the distorted mesoscale structure which is there since April, 27, now centered around 2.15°E - 38.6°N .

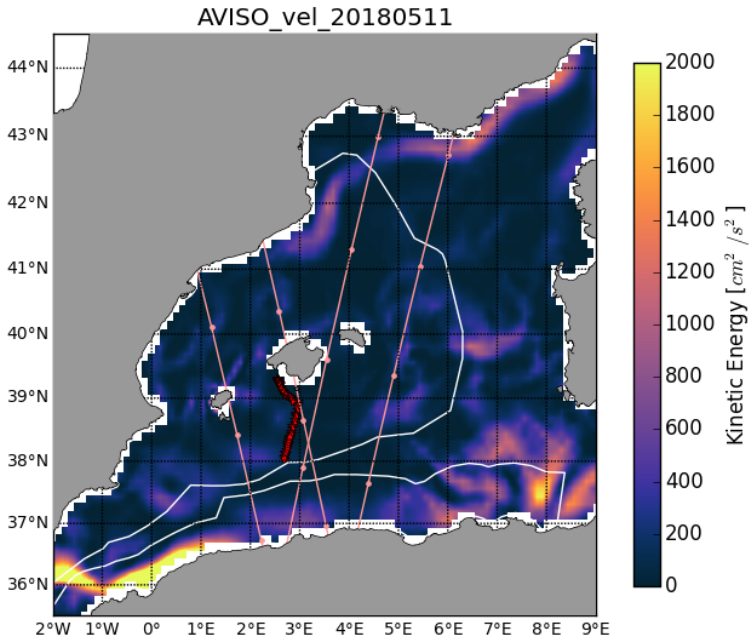
The cytometer results show interesting changes in the species distributions on each side of the FSLE front.

2 Daily figures analysis

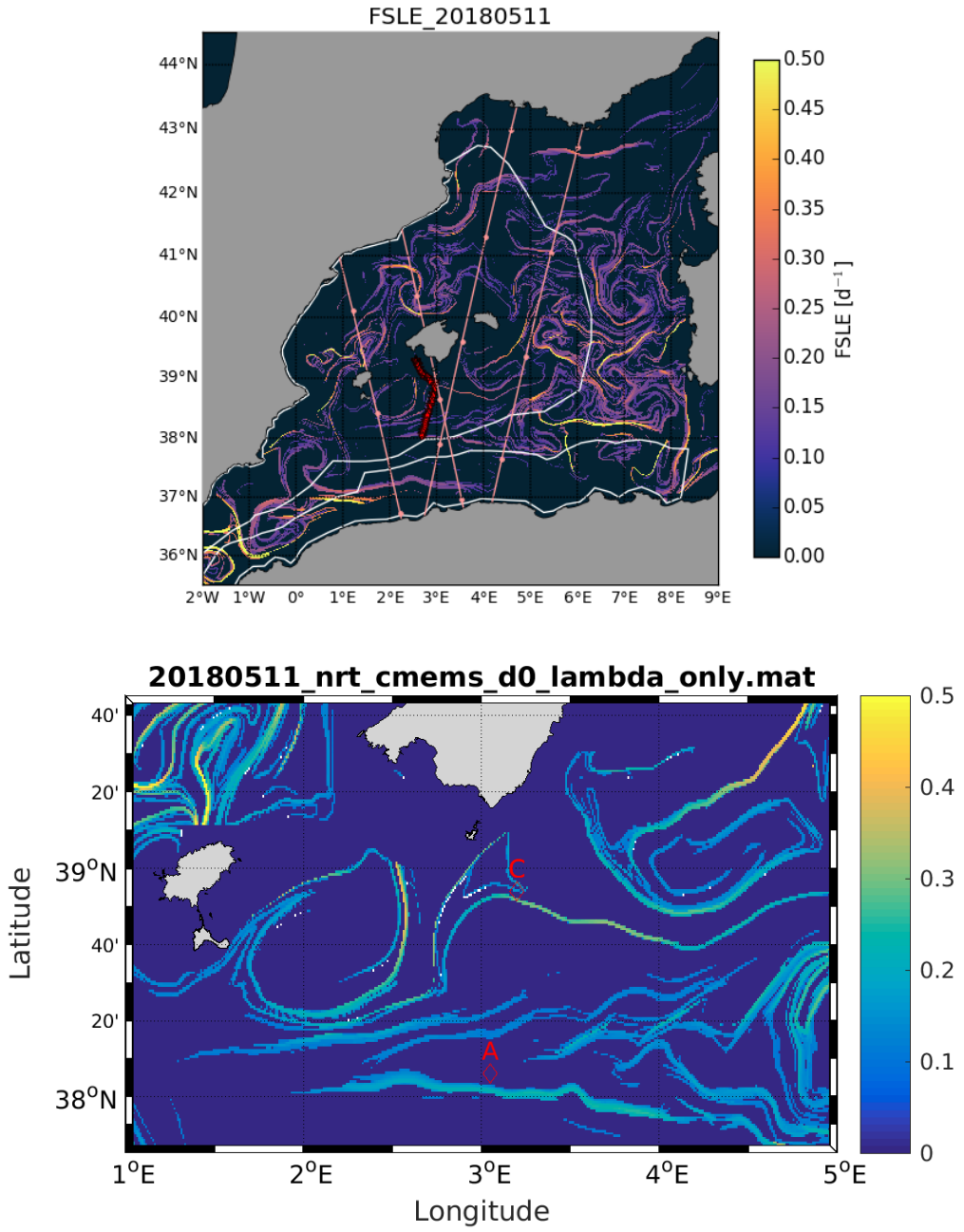
2.1 Altimetry, derived currents and Lagrangian analysis



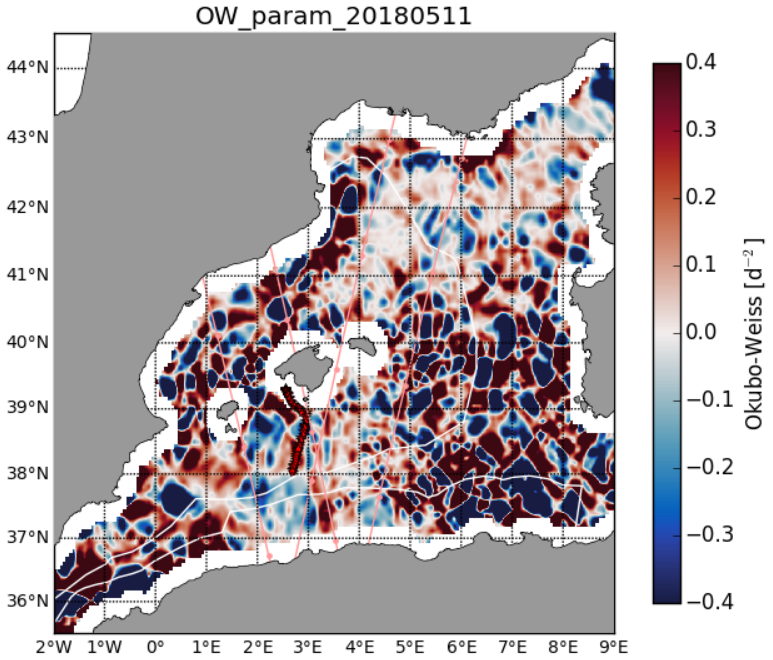
The currents are relatively weak in the AC section, mainly northward. The mesoscale structure centered around 2.15°E - 38.6°N seems to be a nice anticyclonic eddy. It will be nice to sample it.

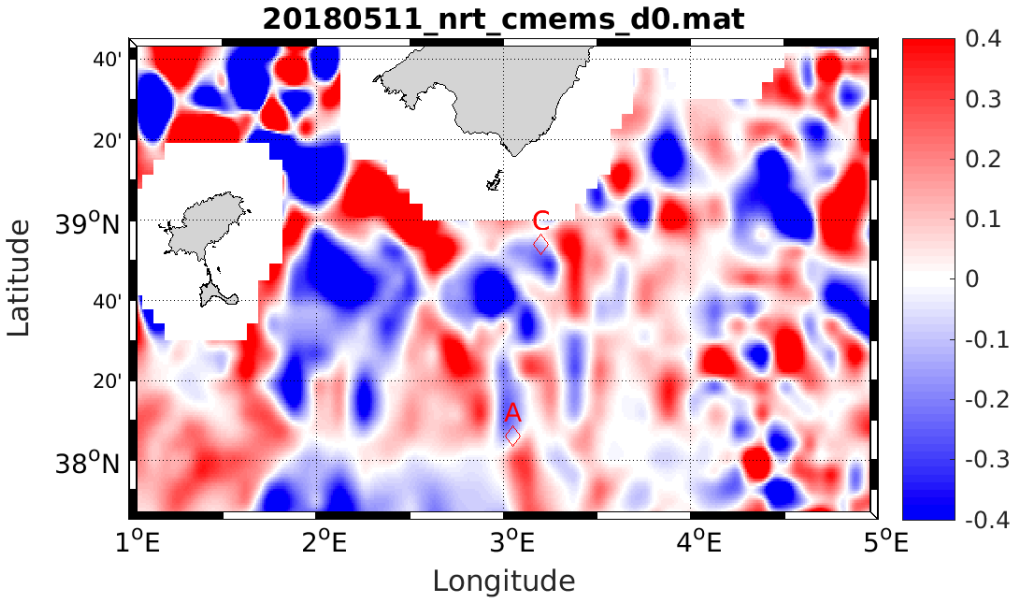


The area has low energy.



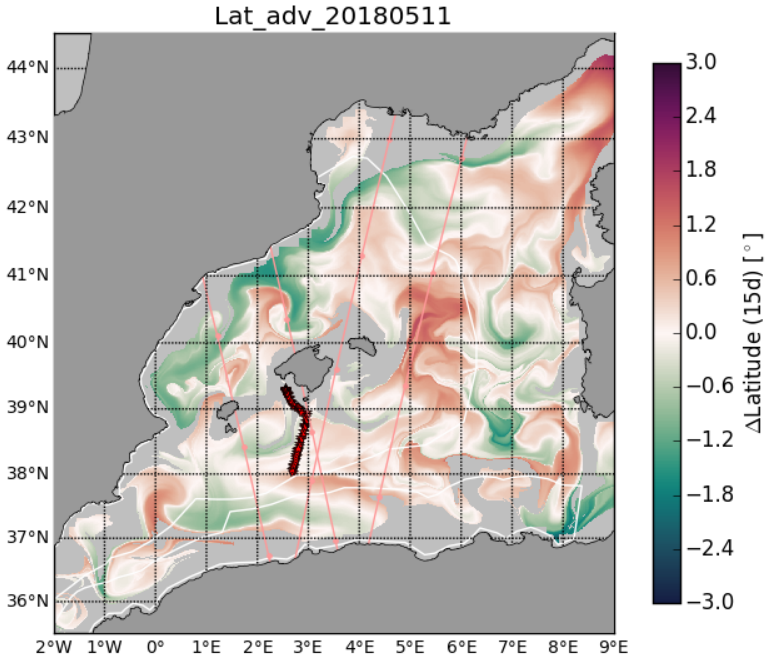
The Lagrangian adaptive strategy is focusing on an oblique NW-SE FSLE that has been crossed by the first transects between point A (about 3.4°E - 38.5°N) and B (about 3.9°E - 38.7°N) and is crossed again by the present transects between (new) A (moved southwest to 3.05°E - 38.1°N) and C (about 3.2°E - 38.9°N). This FSLE is still moving slightly northward. We would recommend if possible to move C northeast.

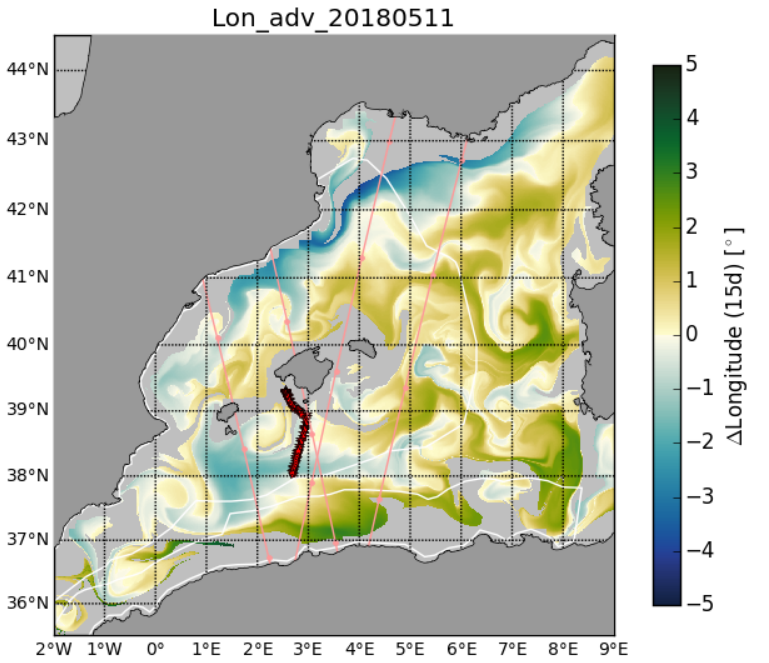




The BB will sample the distorted mesoscale structure centered at 2.15°E - 38.6°N , well visible in the OW plot. From Franck's information, according to the blue box, it is not possible to cross this structure entirely. Indeed, it is important to cross it at least until its center, which seems to be the case.

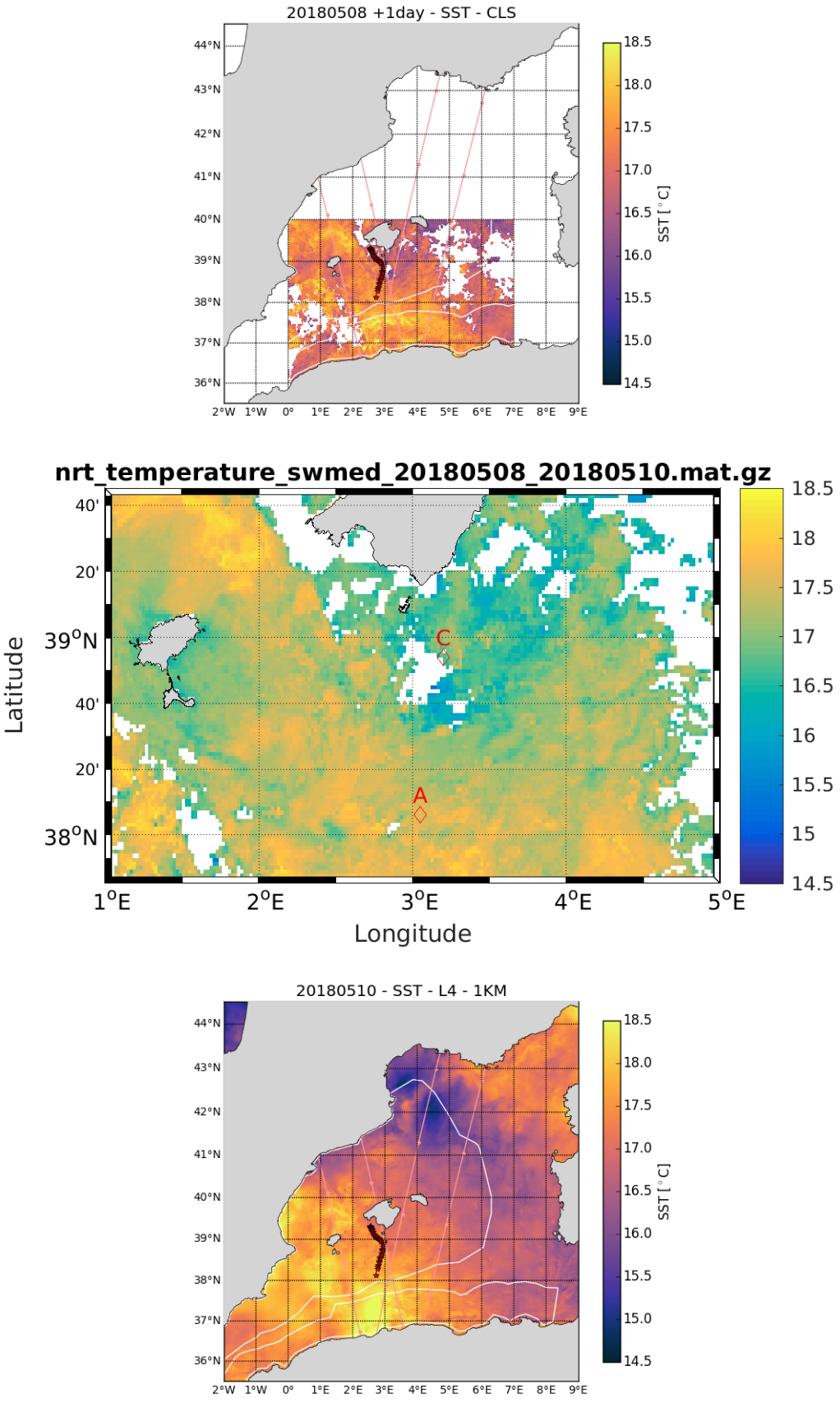
The BB may cross a smaller feature betweeen Ibiza and Majorqua on Sunday.





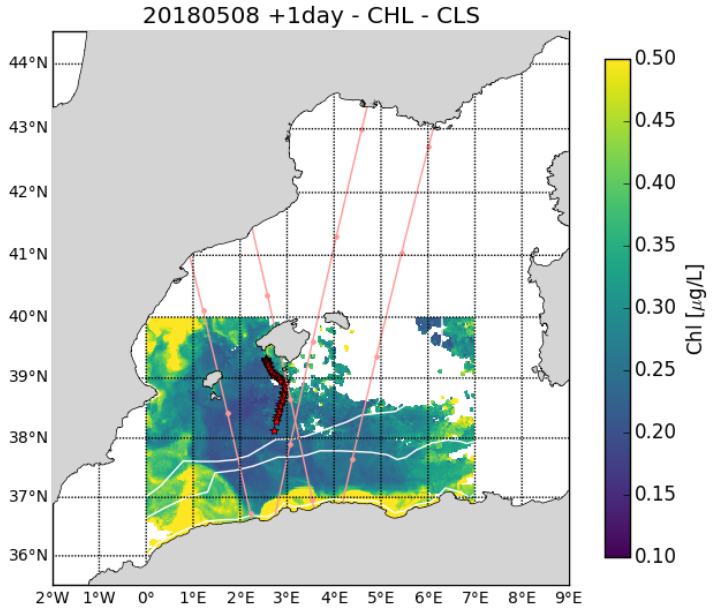
The Lat_adv and Lon_adv images agree with the FSLE structures.
The FSLE structure crossed by the BB transects seems to separate local waters or waters originating slightly from the south-west on its south-west side (around A) and coastal waters on its north-east side (around C).

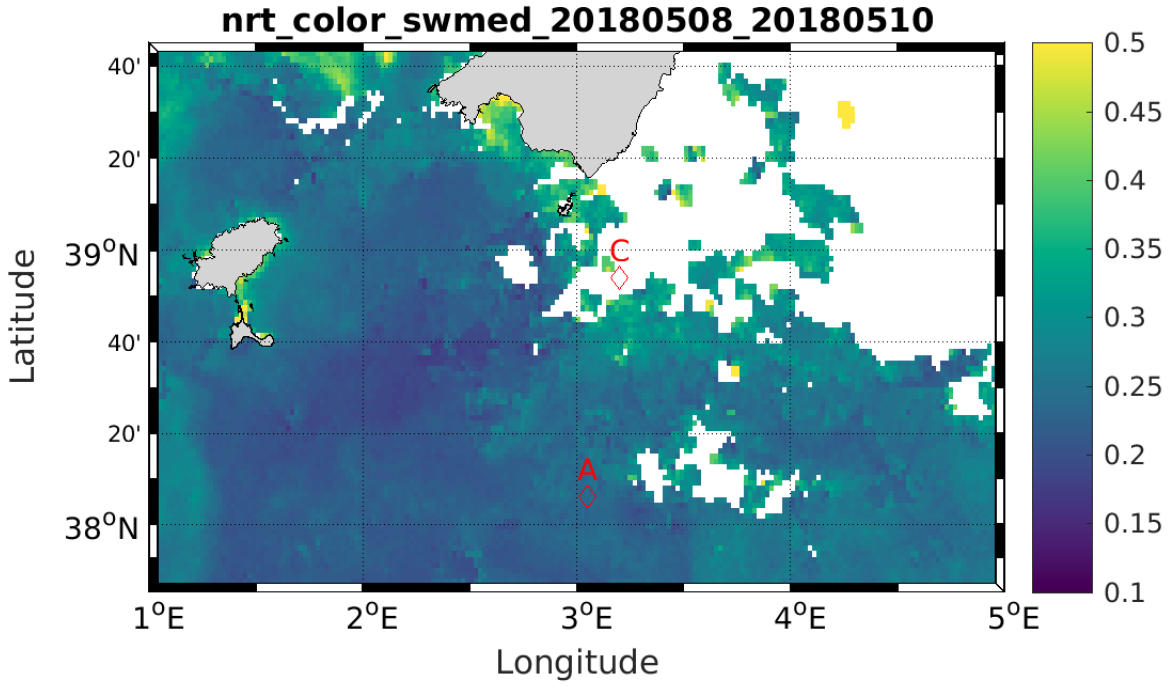
2.2 SST analysis



The CLS SST image is a bit cloudy, but it seems that the AC transect is warner in the South.

2.3 Chlorophyll analysis





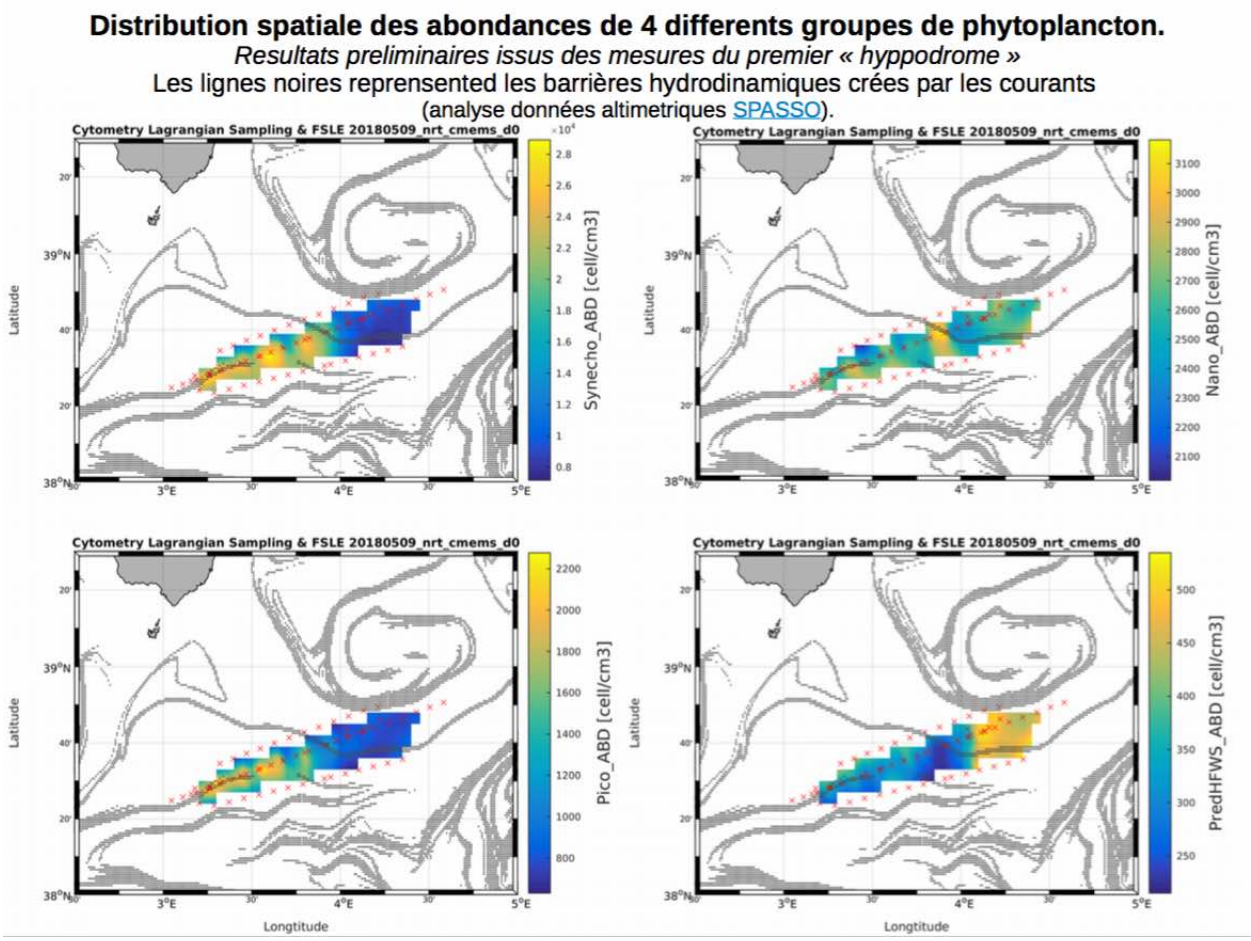
The CLS Chl figure is a bit cloudy but the Chl seems higher around C. The other Chl figures are cloudy.

2.4 Gliders

The gliders have turned around. The MIO glider is coming back on the same track and should be retrieved on May 15.
The MIO glider sent positions and website are back.

2.5 Online analysis

See below nice updated plots from Andrea and Gerald showing the changes of species distributions on each part of the FSLE.



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Acknowledgements

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. CLS provided the SST and surface CHL concentration composite products. 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.

PREBIOSWOT project webpages

(à définir)

SPASSO PREBIOSWOT webpages

http://www.mio.univ-amu.fr/SPASSO/PREBIOSWOT/