

PREBIOSWOT cruise

SPASSO Images Analysis

28/04/2018 09:13 UTC

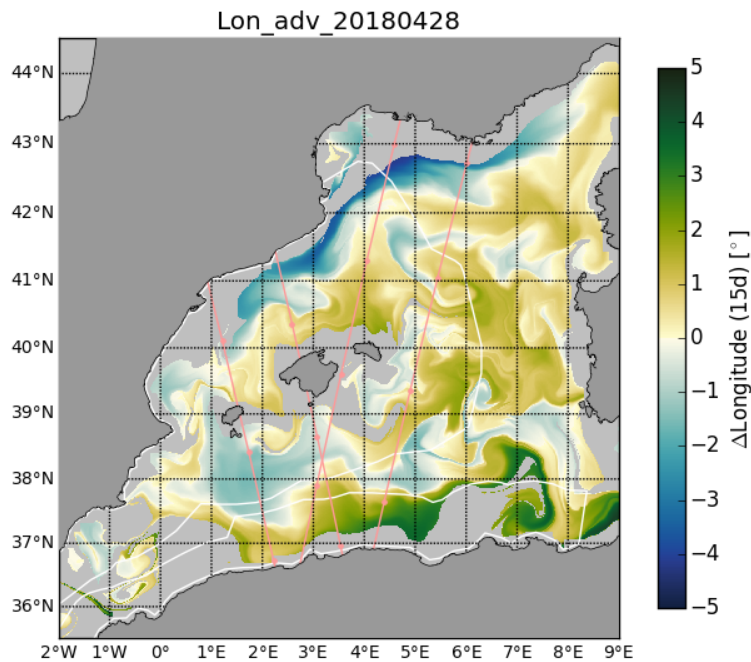
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Executive Summary

The general strategy determined on yesterday's bulletin is confirmed. The cruise is scheduled to start on April 30, 2018. The sampling should be performed in the area between 2°E -4°E and 38.2°N -39.2°N (exact location still to be determined after a large survey with Seasoar and BB). The BeautempsBeaupre (BB) could perform a Lagrangian sampling whereas at the same time the Garcia del Cid could achieved an Eulerian CTD sampling on a regular grid. The Chl images are still cloudy today but should be clear tomorrow.

We would recommend two interesting sampling areas:

- the east-west zonal shear with the OW structure located south between Ibiza and Majorqua (38-39°N and 1.9-3°E).
 - The FSLE structure inside the eastern SWOT track between (3°E -4°E ,39°N -38.5°N).
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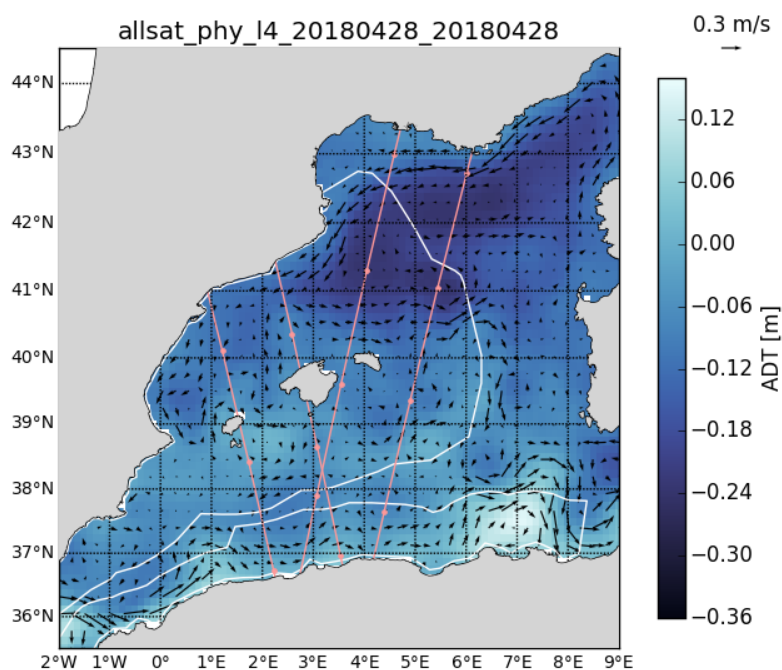


1 Ongoing operations and upcoming stations

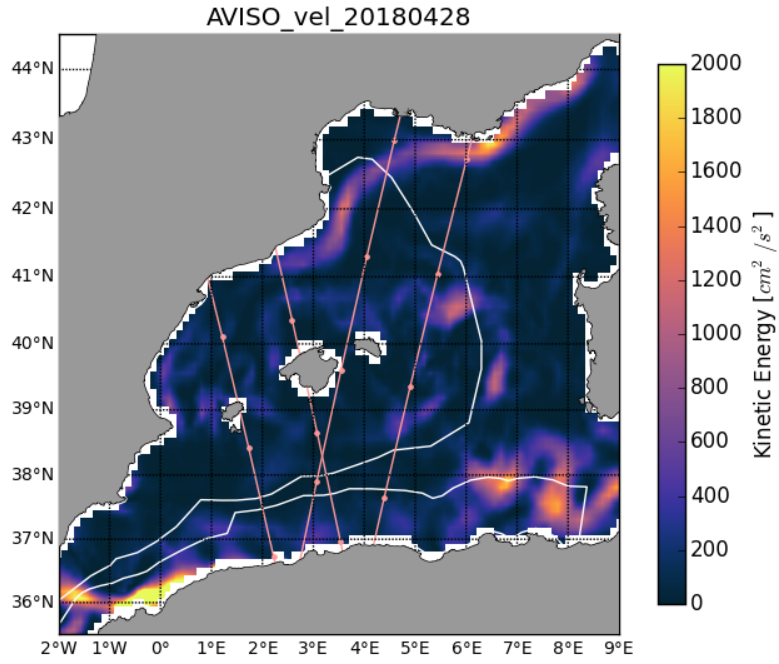
The beginning of the cruise is scheduled for April 30, 2018. A first survey should be performed in the area between 2°E -4°E and 38.2°N -39.2°N with the Seasor in order to determine the exact location of the cruise sampling. On May 5th, the Garcia del Cid (GC) should arrive in the fixed sampling area and should start CTD sampling (casts down to 800 m) on a 10 km regular grid (Eulerian sampling strategy). At the same time the BB could perform a Lagrangian sampling in a smaller area. Drifters deployment could be realized during this Lagrangian sampling.

2 Daily figures analysis

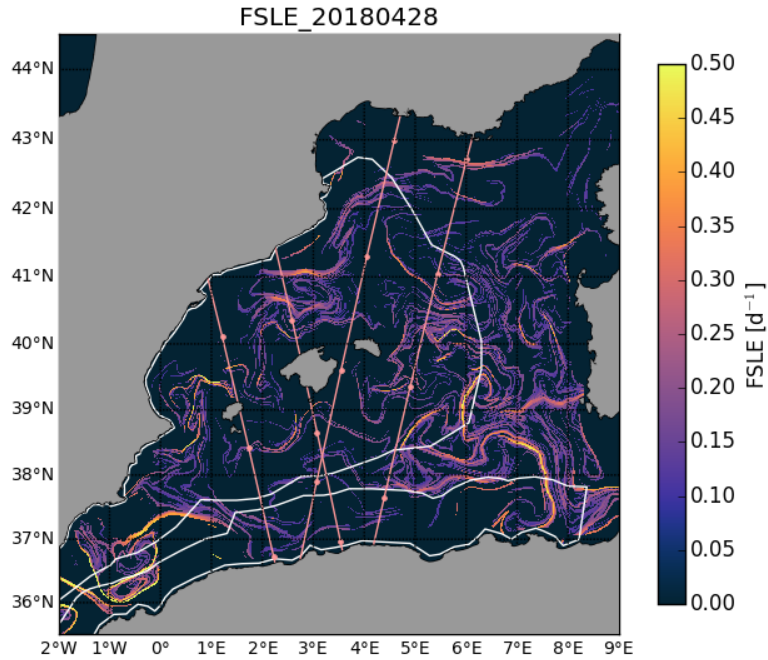
2.1 Altimetry, derived currents and Lagrangian analysis



The SWOT area is very calm.

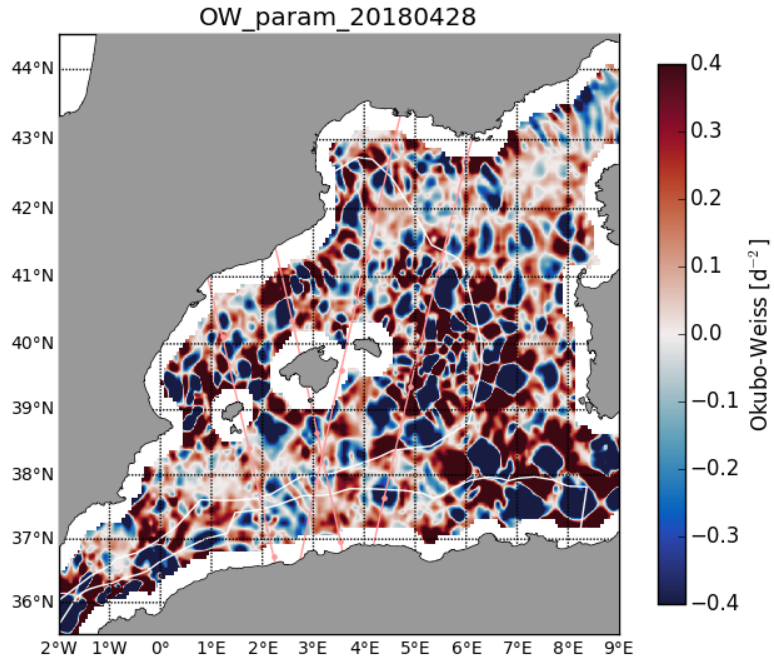


The area between 2-4°E and 38.2-39.2°N has very low kinetic energy.

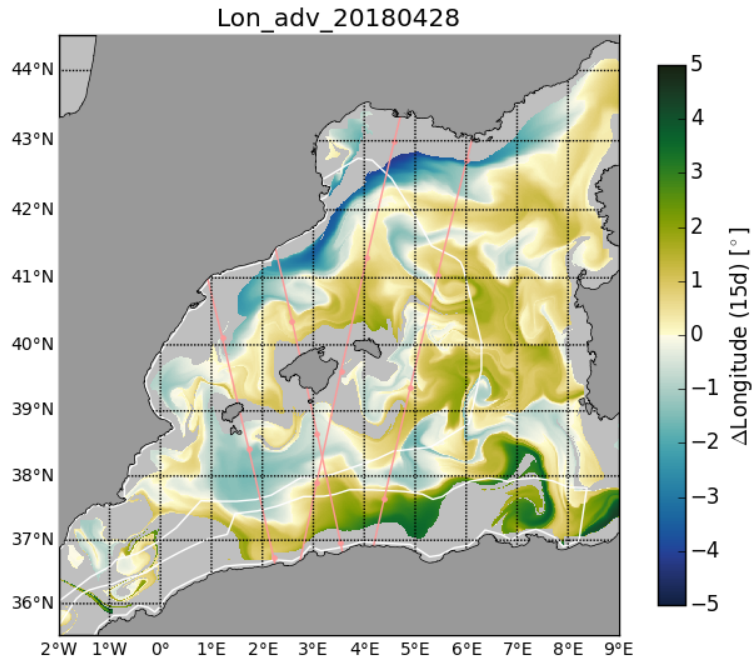
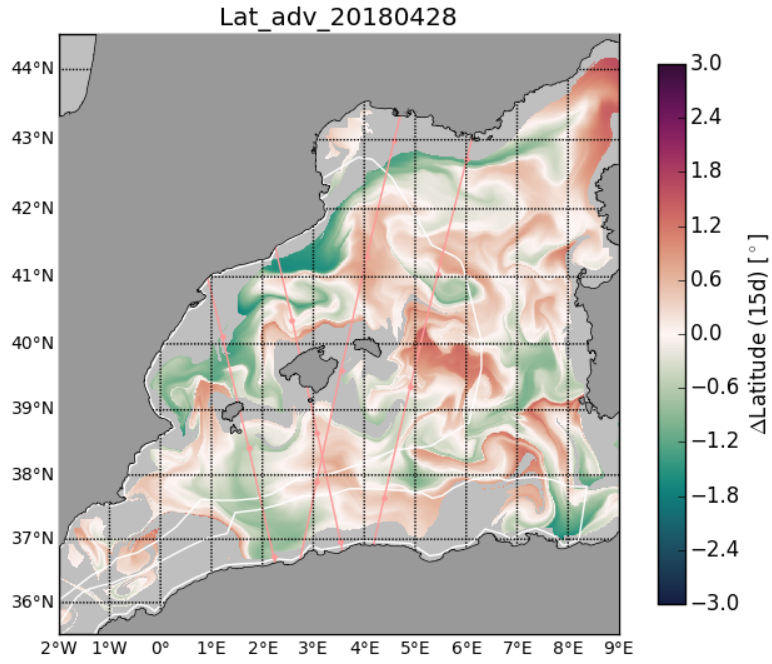


Both interesting FSLE are still there:

- Southwest of Majorqua in an oblique direction SW-NE (38 and 39°N and between 2 and 3°E)
- Inside the eastern SWOT track (3°E -4°E ,39°N -38.5°N)



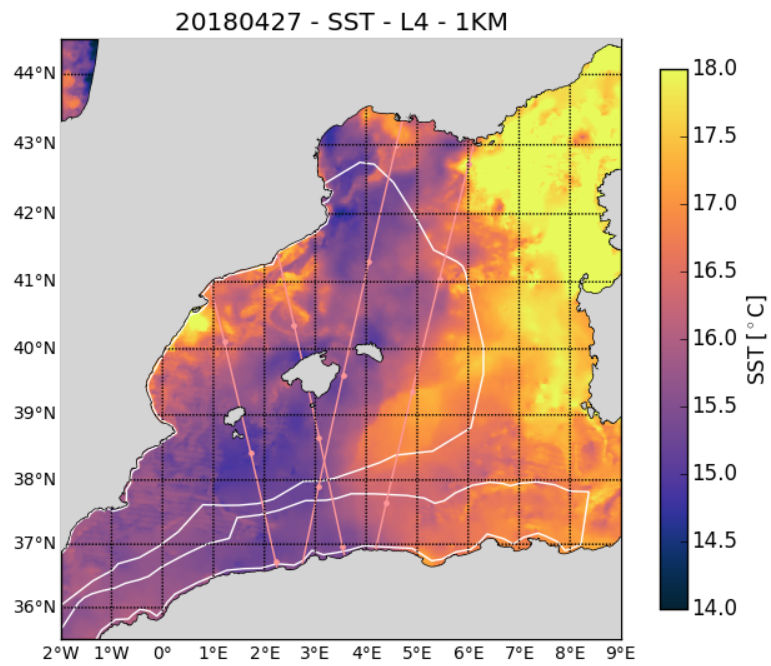
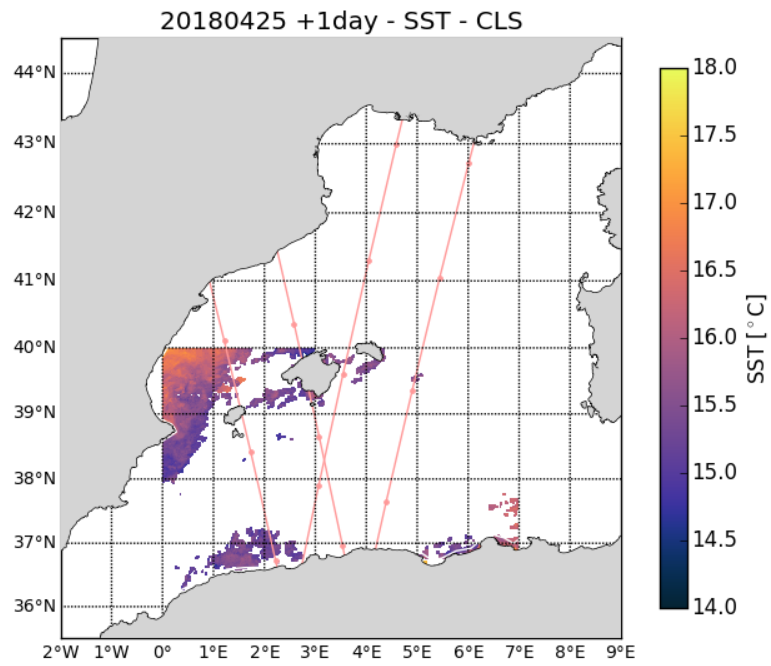
A mesoscale structure seems to form just north of the FSLE feature (between Ibiza and Majorca).



The Lat_adv and Lon_adv images agree with the FSLE structure. These images show that the waters north of the FSLE structure seem to have coastal origins, originating either from Majorqua or Ibiza, potentially leading to interesting enrichment with maybe biogeochemical and biological implications. The waters south of the FSLE structure are coming from East.

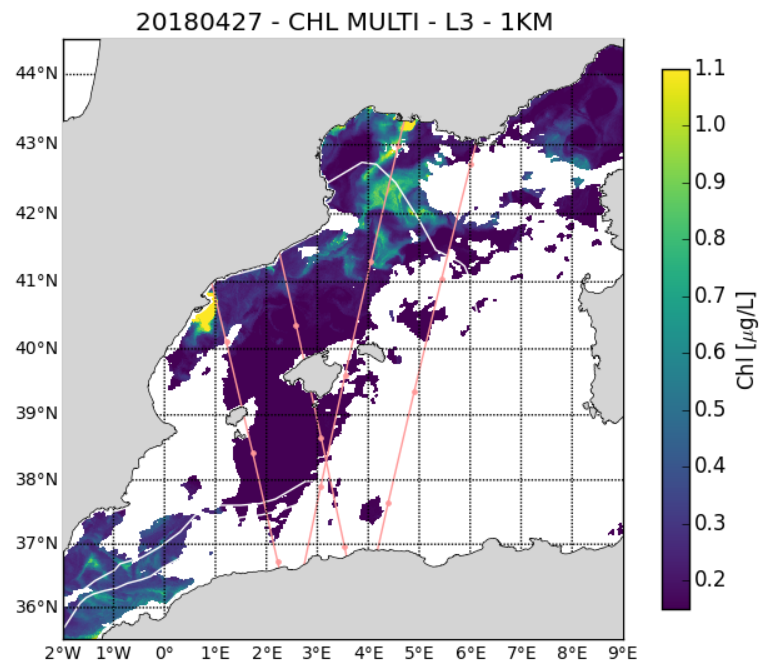
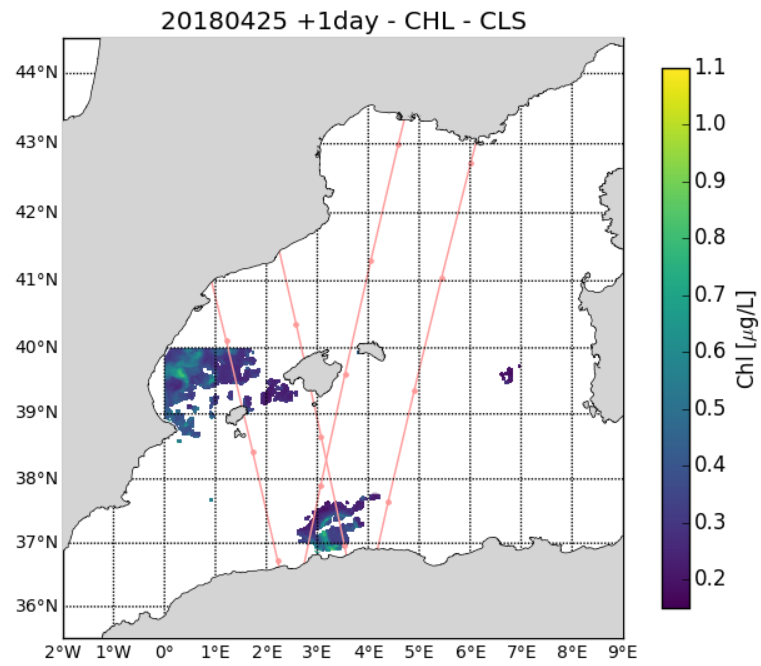
The second area showing an interesting FSLE feature is quite stable.

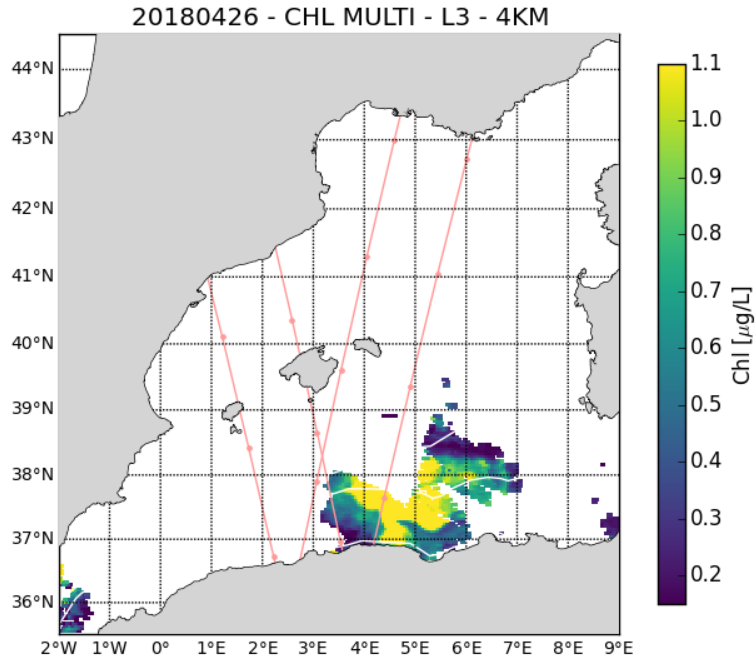
2.2 SST analysis



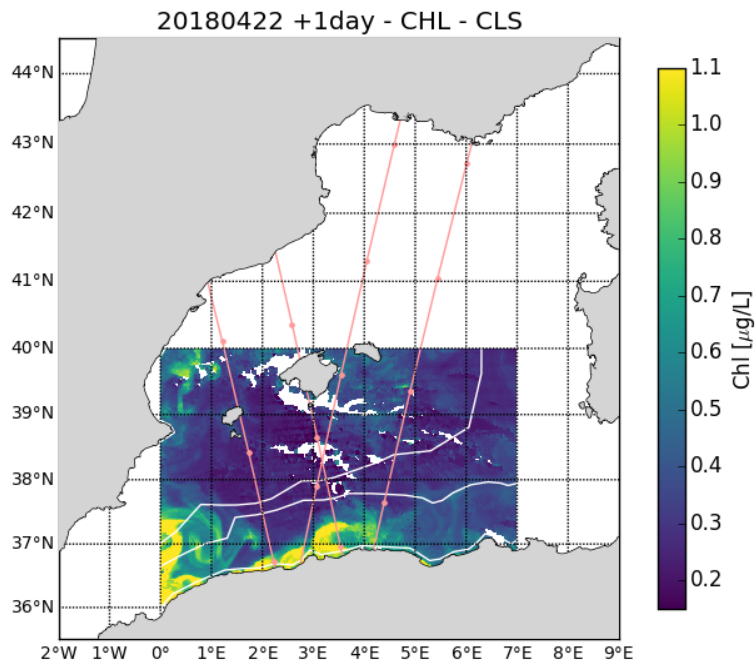
The SWOT sampling area is relatively cold.

2.3 Chlorophyll analysis





Most of the Chl figures are still cloudy in the region of interest. One of the figures show very low concentration of Chl in the SWOT sampling area. The last clear Chl figure is from the 23rd of April (shown below) and show some Chl diffuse activity in the area 38.5 and 39°N and between 3 and 4.5°E .



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/>