

# PREBIOSWOT cruise

## SPASSO Images Analysis

04/05/2018 10:16 UTC

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### Executive Summary

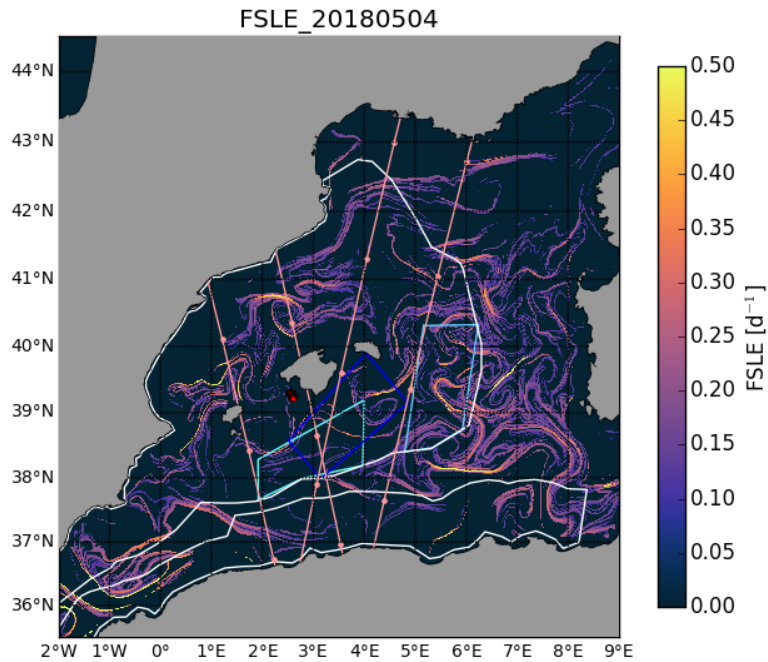
The BB is heading south-westward along the northern border of the 2-5 May box (cyan in Figure below), planning to do 12 CTD profiles, one approximately every hour. Samplings should be done at three depths (surface, DCM, deep) to obtain cytometry 3D data.

On this northeast-southwest transect, the BB should cross the two interesting FSLE zones described in the previous bulletin.

The BB will then head quickly eastward (without Seasoar) at constant latitude to join the 5-7 May box (pale blue box). A strong anticyclonic eddy structure is located at the southern part of the 5-7 May box (about 5.5°E - 38.4°N). It is clearly detected in all dynamic figures and could be crossed by the BB at the end of its zonal route. Then the 5-7 May zone contains a lot of interesting but complex FSLE structures.

Note the addition of the two boxes on all the figures as well as the stars indicating the position of the MIO glider.

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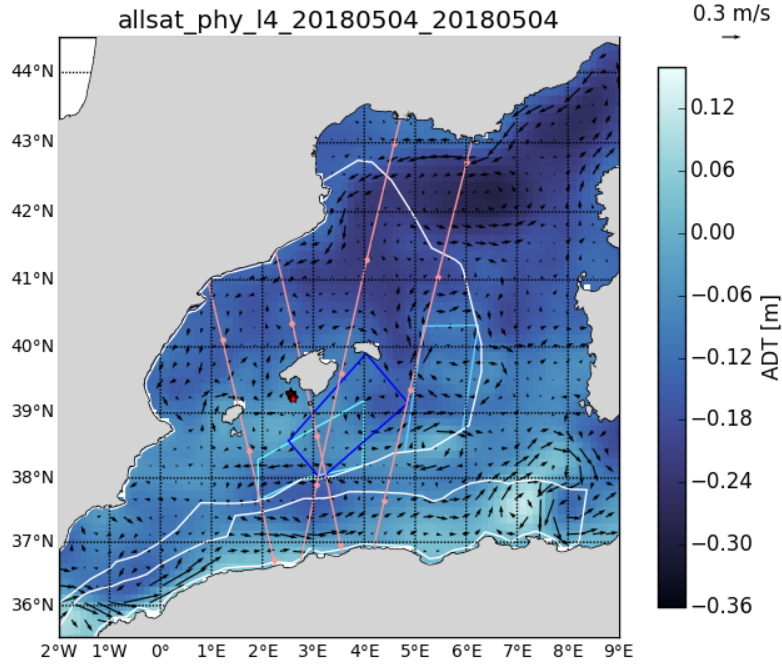
# 1 Ongoing operations and upcoming stations

The BB is heading south-westward along the northern border of the 2-5 May box (cyan in Figure below), planning to do 12 CTD profiles, one approximately every hour. Samplings should be done at three depths (surface, DCM, deep) to obtain cytometry 3D data. The BB will then head eastward at constant latitude to join the 5-7 May box (pale blue box).

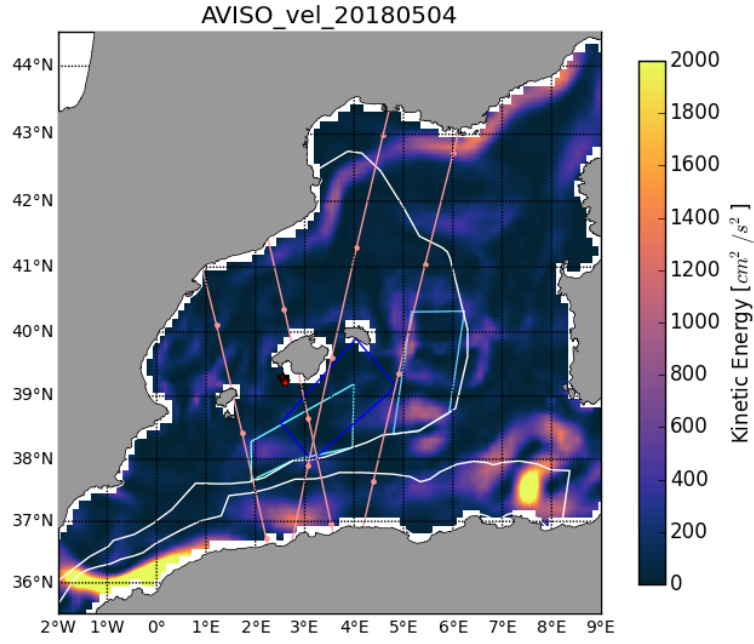
On May 5th, the Garcia del Cid (GC) should arrive in the fixed sampling area and should start a CTD sampling (with casts down to 800 m) on a 10 km regular grid (Eulerian sampling strategy). At the same time the BB would perform a Lagrangian sampling in the smaller area. Drifters deployment could be realized during this Lagrangian sampling.

## 2 Daily figures analysis

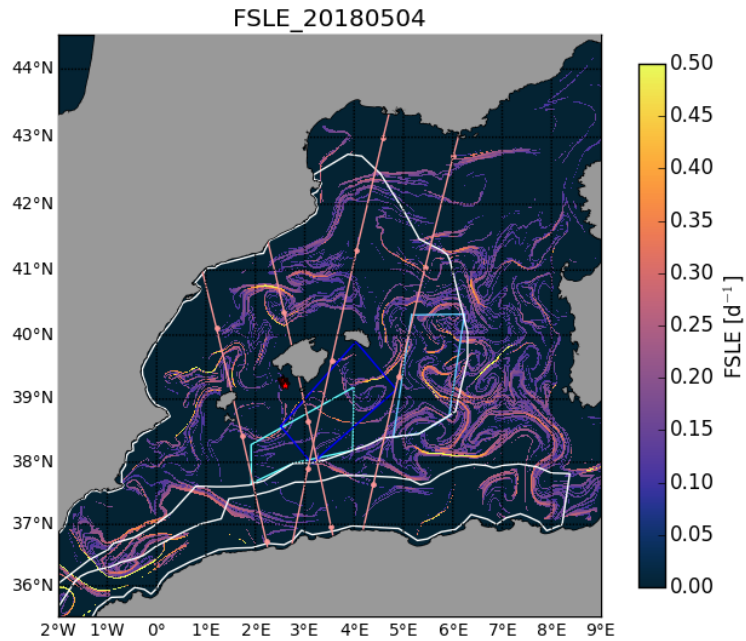
### 2.1 Altimetry, derived currents and Lagrangian analysis



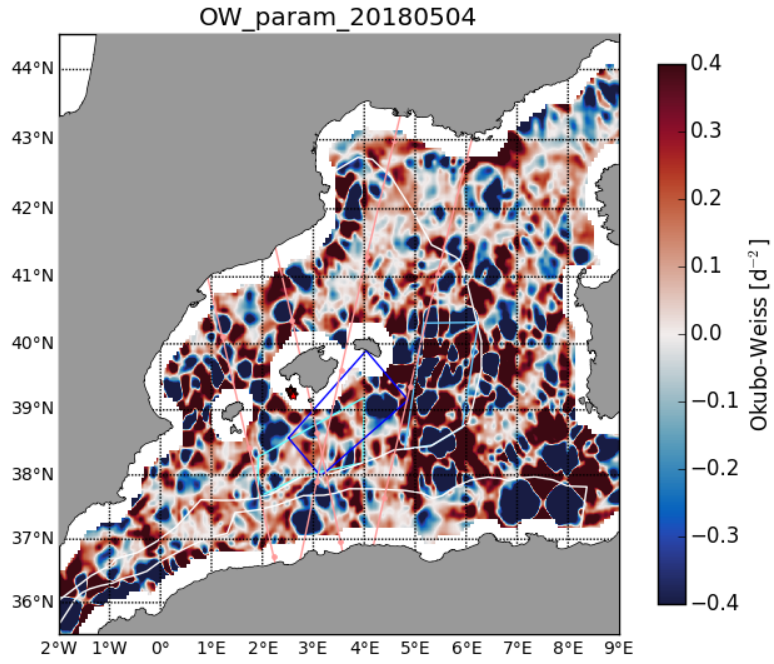
The currents are relatively weak, apart around the anticyclonic structure located at the southern part of the 5-7 May box (about 5.5°E - 38.4°N ).



The anticyclonic eddy corresponds to a region with higher energy.

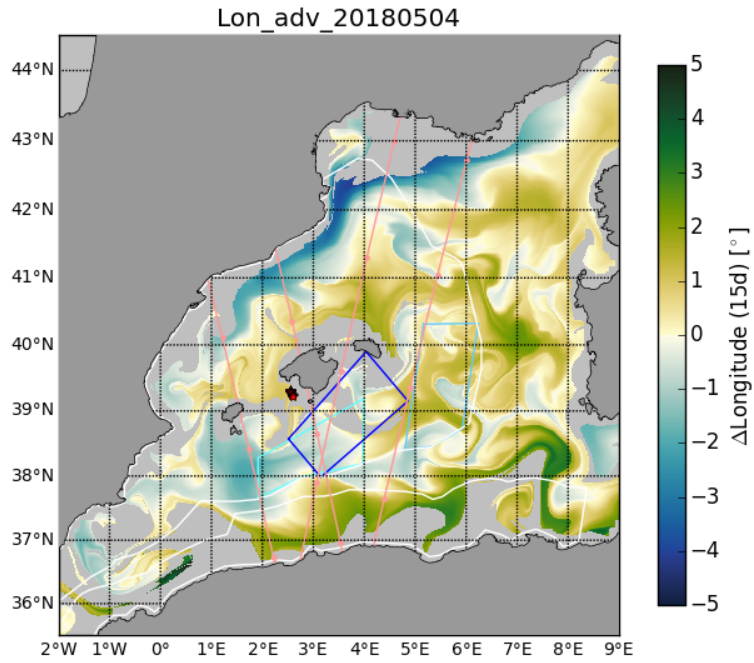
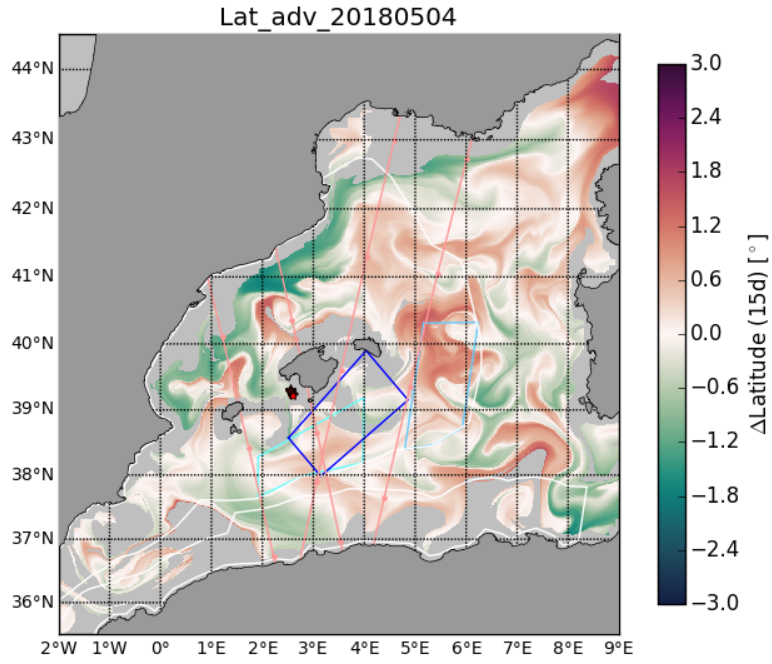


On the northeast-south-west transect, the BB should cross the two interesting FSLE zones described in the previous bulletin. Then the 5-7 May zone contains a lot of interesting but complex FSLE structures.



The mesoscale structure mentioned in the last bulletins (just north of the FSLE feature located between Ibiza and Majorqua) is still at the same spot. The BB may reach its southeastern part at the end of the current transect, hence maybe influencing the last CTD cast.

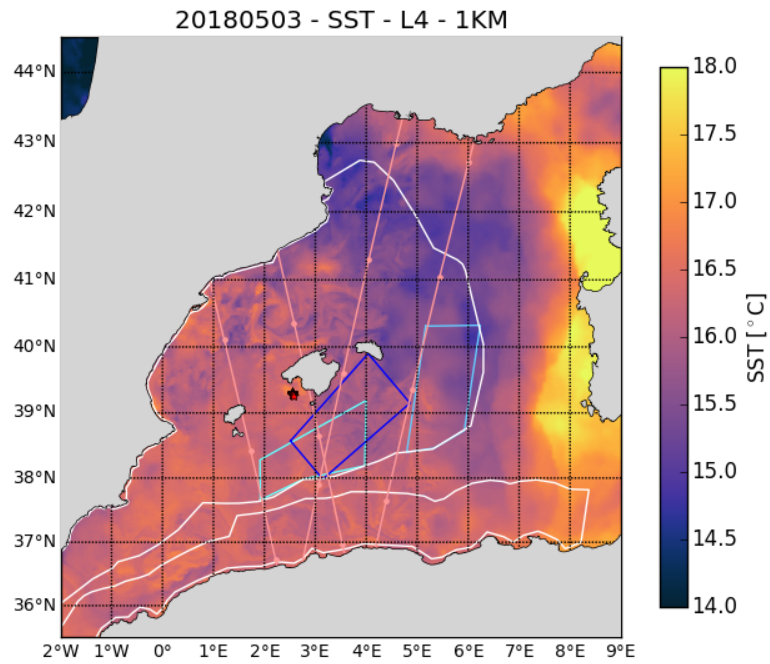
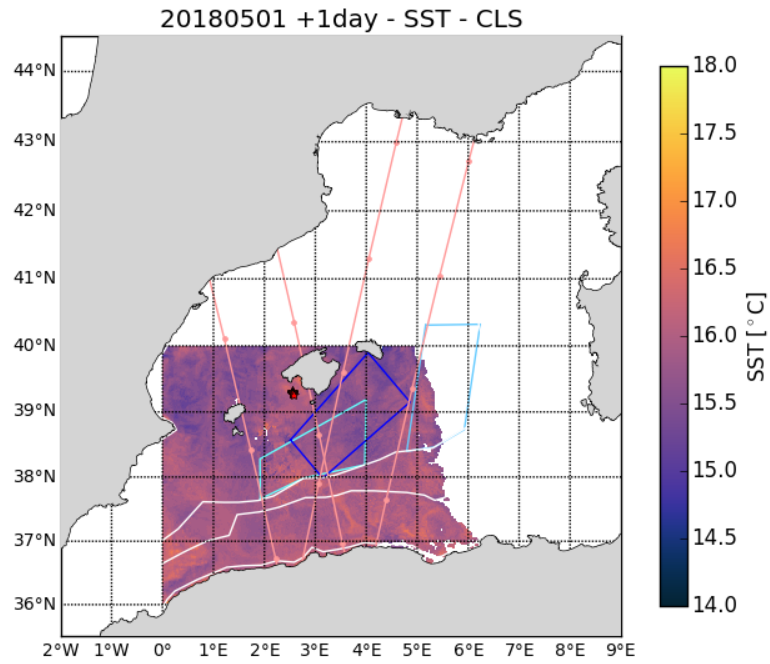
The anticyclonic eddy structure at the southern part of the 5-7 May box (about 5.5°E - 38.4°N ) is also clearly detected in the OW figure.



The Lat\_adv and Lon\_adv images agree with the FSLE structures. These images show that the BB is mainly going to sample coastal waters except at the middle of the transect (roughly between 2.6 - 3.3 °E ).

In the 5-7 May box, the waters originate roughly from the south-west, with a more complex pattern (and hence origins) in the anticyclonic eddy.

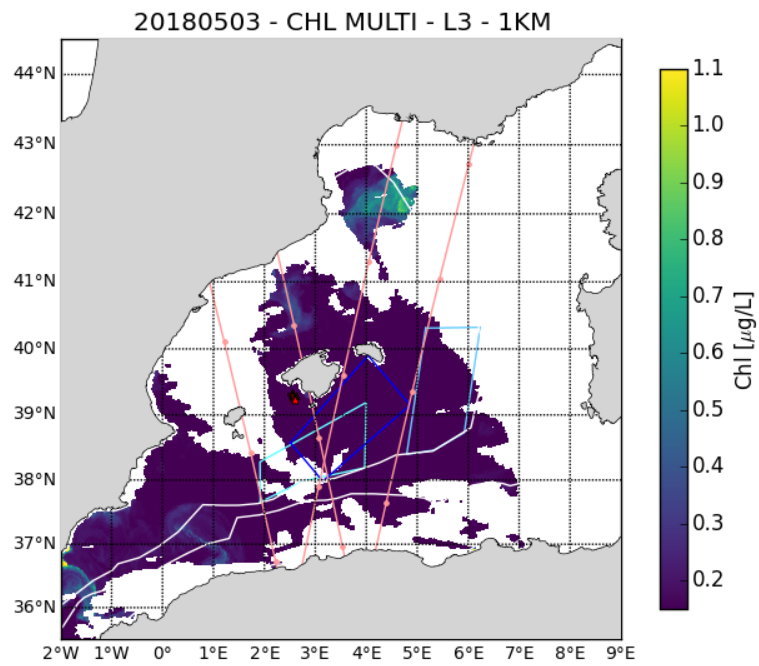
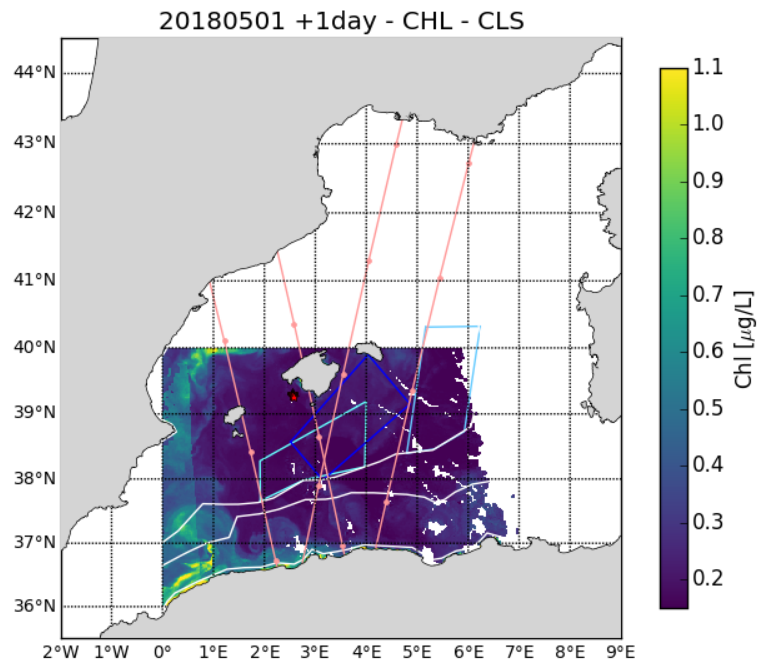
## 2.2 SST analysis

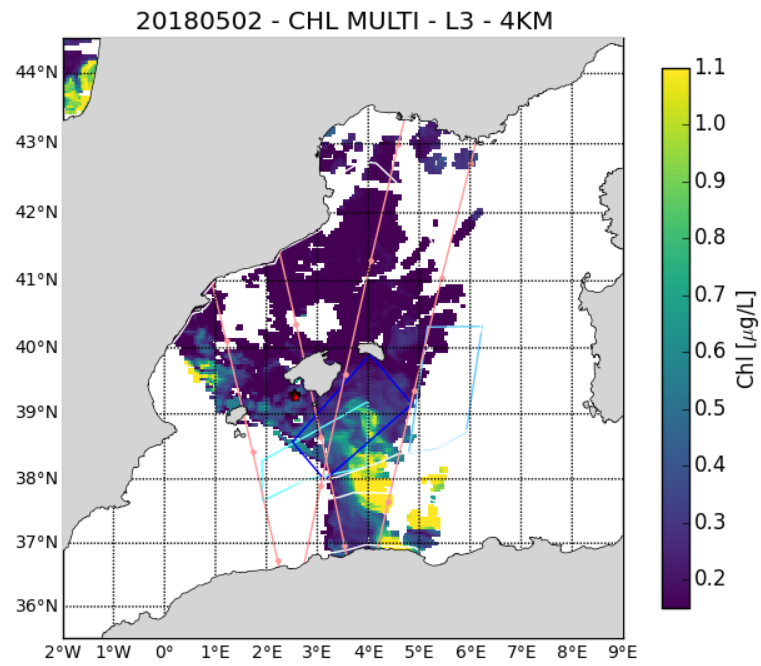


The cold zone has extended east. In the area planned to be covered by the BB, the coldest area could be the northern part of the 5-7 May box.



## 2.3 Chlorophyll analysis





The CLS Chl figure is cloud-free but shows a low Chl activity.



## 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/>