# PREBIOSWOT cruise SPASSO Images Analysis

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### **Executive Summary**

This is the  $5^{th}$  bulletin test before the cruise starts.

Franck Dumas has boarded on the RV Beautemps Beaupre in Brest on April 18, heading to the study zone. The cruise preparation meeting is scheduled on board on April 27. The cruise is scheduled to start on April 30, 2018.

A meteorological anticyclone has settled in the area of study hence the Chlorophyll and Temperature maps in the CLS products should be really nice for the cruise.

Following the chlorophyll image, we would recommend staying in the area between 38 and  $39^{\circ}$ N and between 2.8 and  $3.6^{\circ}$ E; which should correspond to a nice filament.



## 1 Ongoing operations and upcoming stations

This is the fifth bulletin test before the cruise starts. The beginning of the cruise is scheduled for April 30, 2018.

### 2 Daily figures analysis

#### 2.1 Altimetry, derived currents and Lagrangian analysis



The SWOT area is very calm.



A high velocity structure is located East of the SWOT transect.



Southwest of Majorqua, an interesting FSLE structure stretches in an oblique direction SW-NE (38 and 39°N and between 2 and 3°E). The chlorophyll center mentioned above is located east of this FSLE structure with a filament stretching southwest.



The OW figure shows weak activity in the SWOT area.





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.

Hence all the figures are going in the same direction, leading to the recommended area: 38 and 39°N and between 2.8 and 3.6°E .

#### 2.2 SST analysis





The Southern part is warmer than the Northern one. The scale is going to be changed to adjust to the current warming of the area in order to improve contrast and better distinguish features.

#### 2.3 Chlorophyll analysis







#### 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/