PREBIOSWOT cruise

SPASSO Images Analysis

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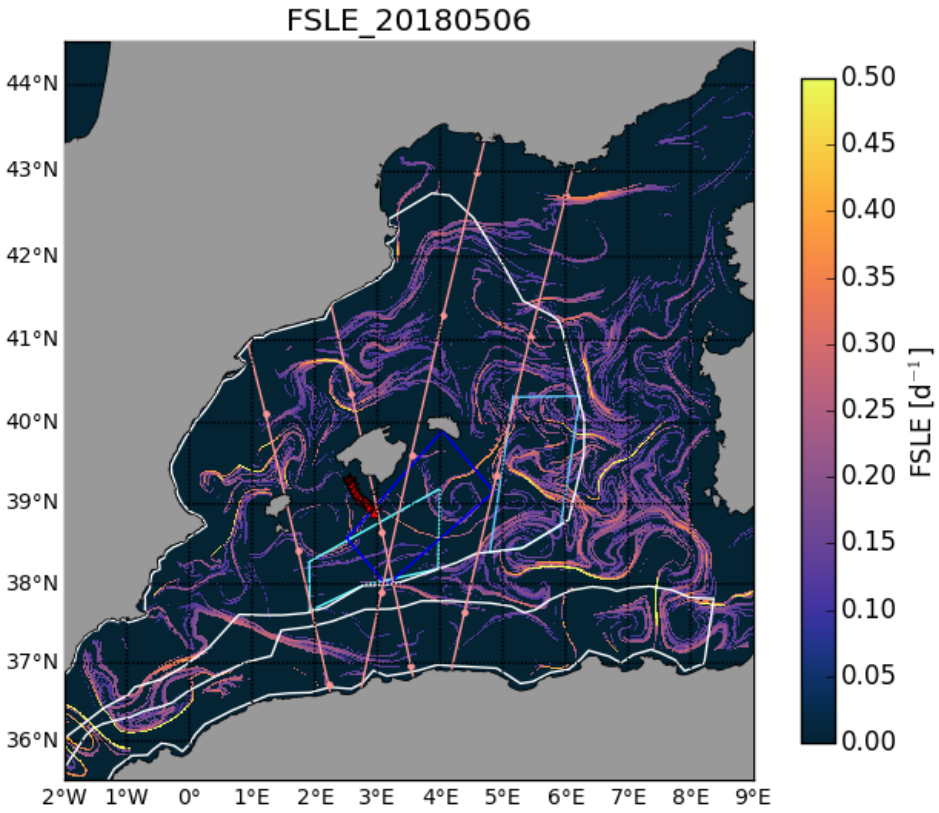
Author(s): A. Petrenko, L. Rousselet, S. Barrillon, A.Doglioli (on board)

Executive Summary

The 5-7 May box (pale blue box) contains a lot of interesting and complex FSLE structures, especially a very strong oblique FSLE NW - SE. The NW corner is around 5.1°E - 39.5°N and the SE corner is around 5.8°E - 39°N . This FSLE structure seems to separate waters originating from the southwest on its south-west side and waters originating either from the east or the north on its northeast side.
The anticyclonic eddy structure, located at the southern part of this 5-7 May box (about 5.5°E - 38.4°N), mentioned in the previous bulletins, is still there. It is clearly detected in all dynamic figures.
No Chl data due to cloud coverage.

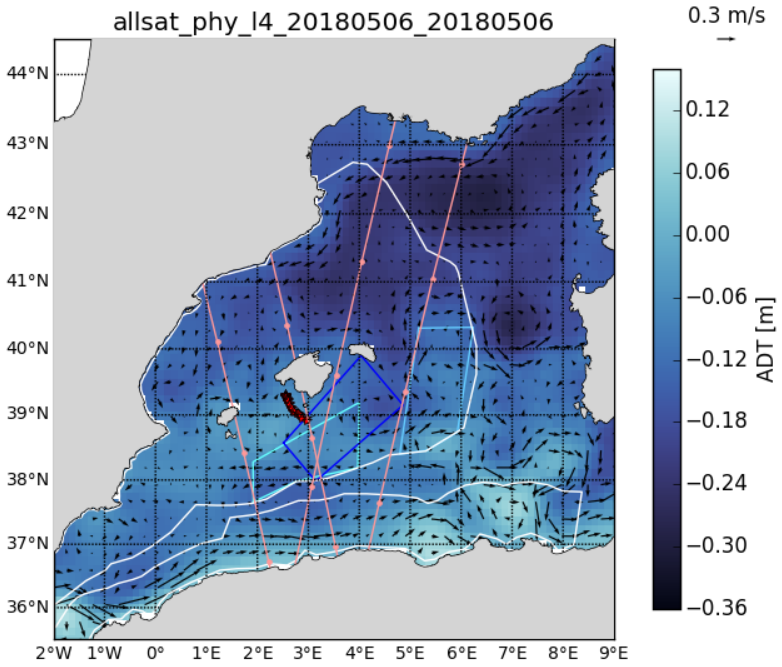


1 Ongoing operations and upcoming stations

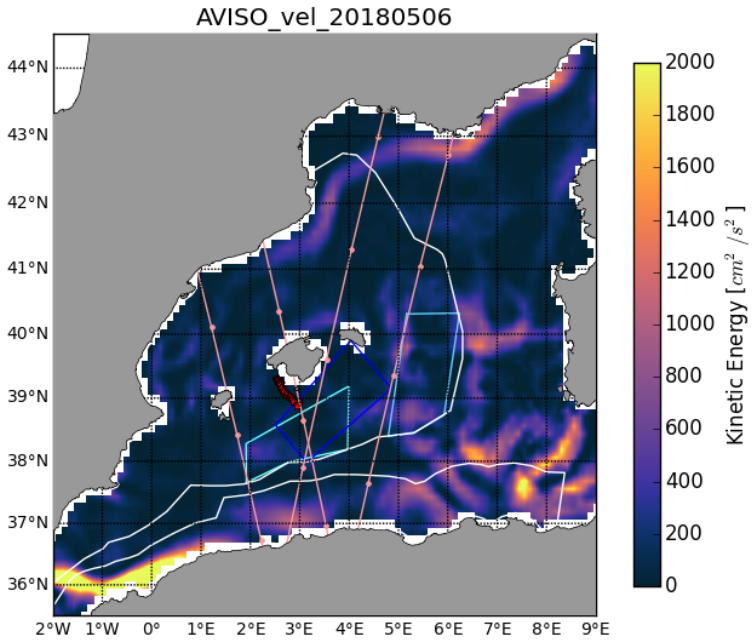
The 5-7 May region of study corresponds to the pale blue box.

2 Daily figures analysis

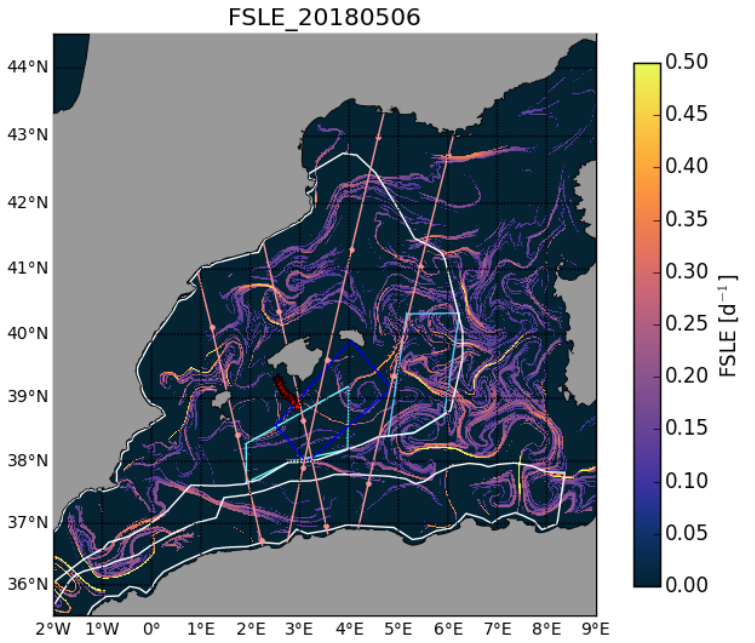
2.1 Altimetry, derived currents and Lagrangian analysis



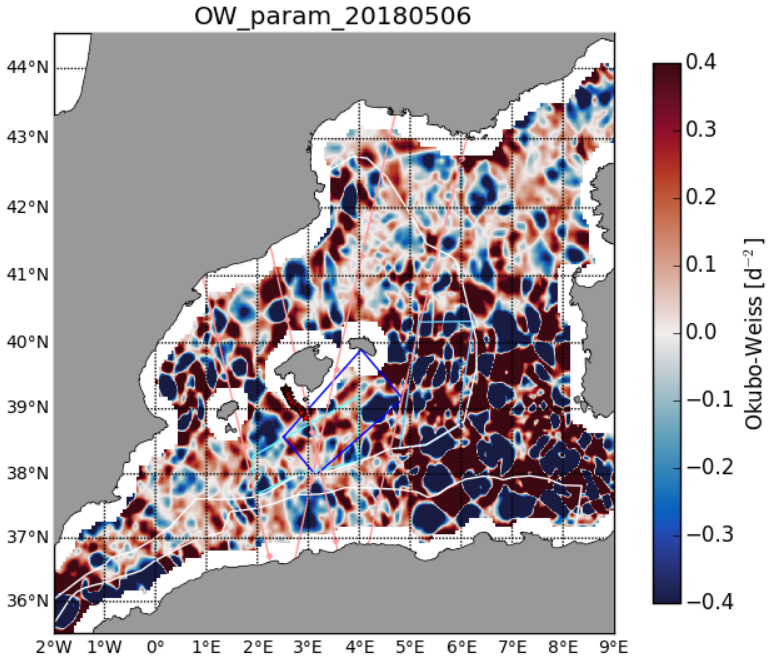
The currents are relatively weak, apart at the NW end of the oblique FSLE (around 5.1°E - 39.5°N) and around the anticyclonic structure located at the southern part of the 5-7 May box (about 5.5°E - 38.4°N).



The NW end of the oblique FSLE (around 5.1°E - 39.5°N) and the anticyclonic eddy correspond to regions with higher energy.

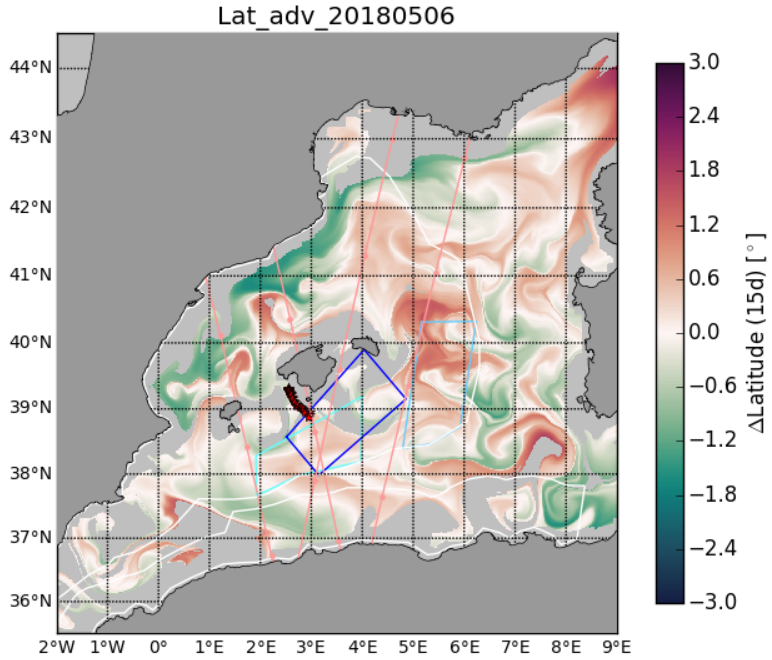


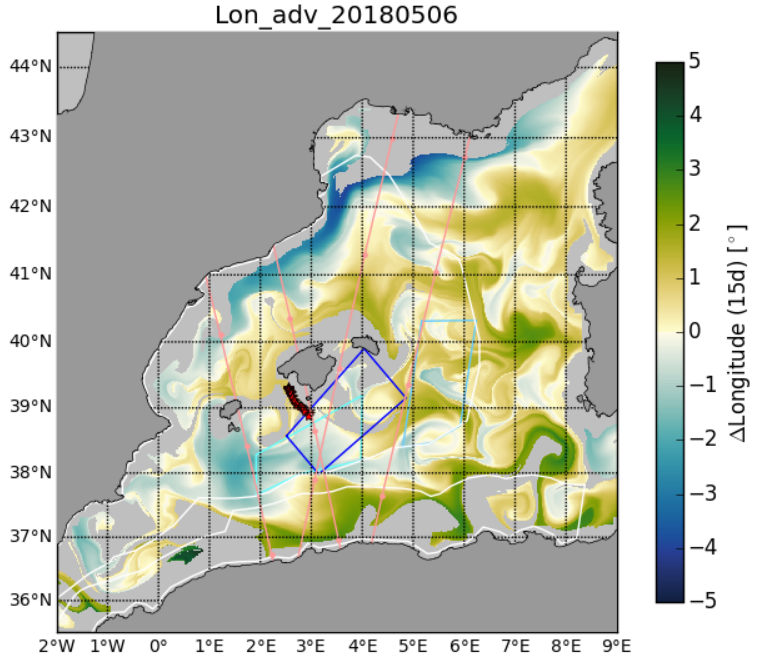
The 5-7 May box (pale blue box) contains a lot of interesting and complex FSLE structures, especially a very strong oblique FSLE NW - SE. The NW corner is around 5.1°E - 39.5°N and the SE corner is around 5.8°E - 39°N . There is still also the signature of the anticyclonic eddy structure at the southern part of the May 5-7 zone.



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

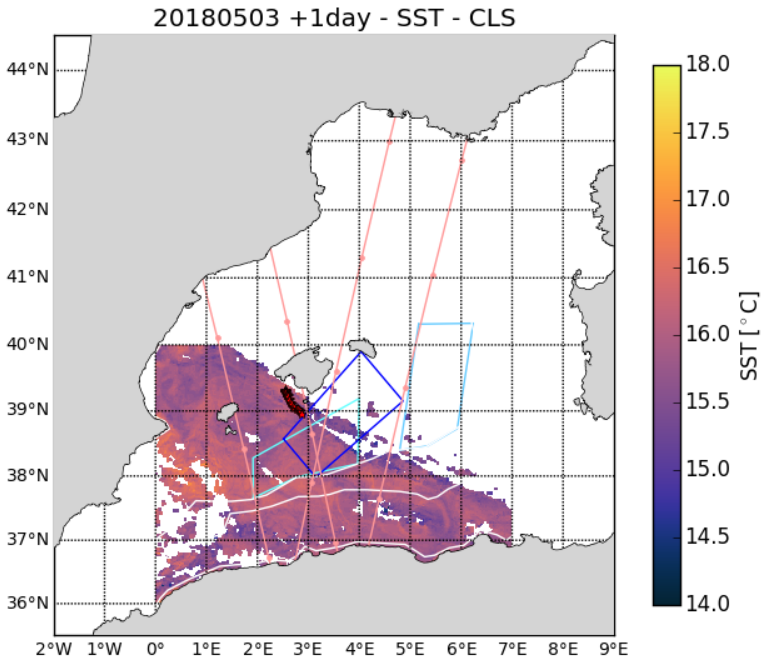
The distorted mesoscale structure mentioned in the last bulletins (located southeast of Ibiza and southwest of Majorqua) is still at the same spot.

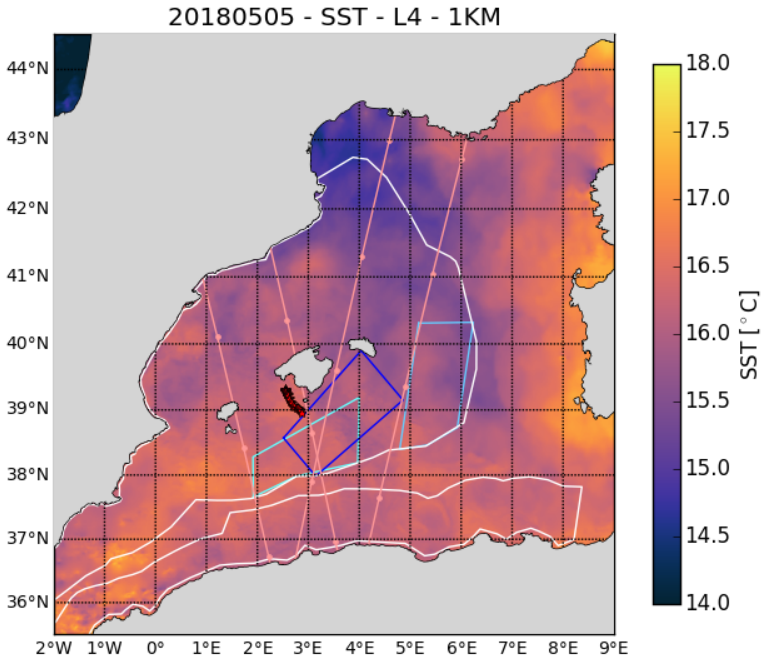




The Lat_adv and Lon_adv images agree with the FSLE structures.
The 5-7 May box (pale blue box) contains a lot of interesting and complex meanders, with most of the waters originating roughly from the south-west.
The very strong oblique FSLE NW - SE (NW corner around 5.1°E - 39.5°N and SE corner around 5.8°E - 39°N) seems to separate waters originating from the southwest on its south-west side and waters originating either from the east or the north on its northeast side.

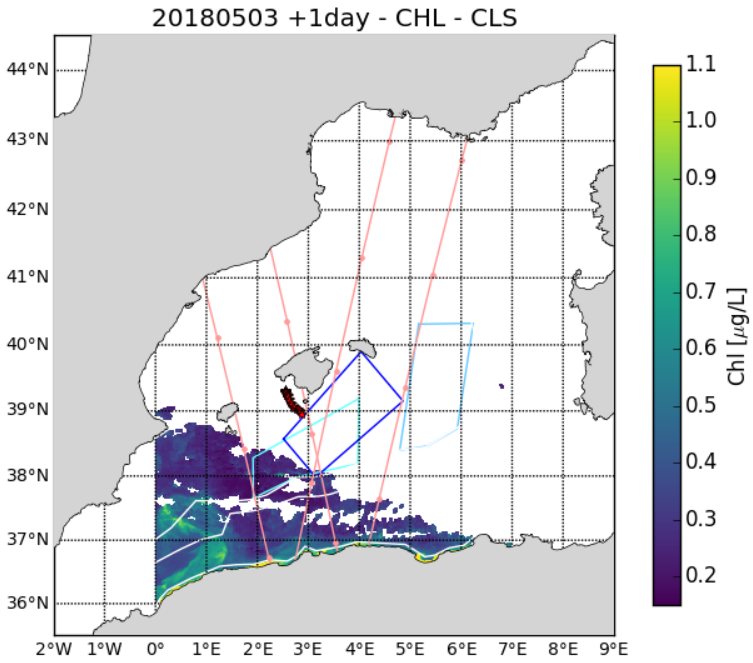
2.2 SST analysis

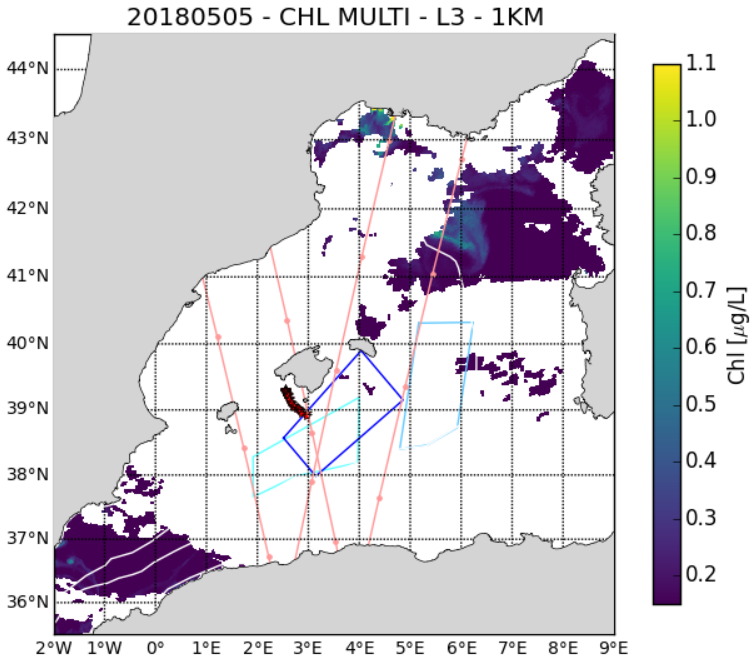


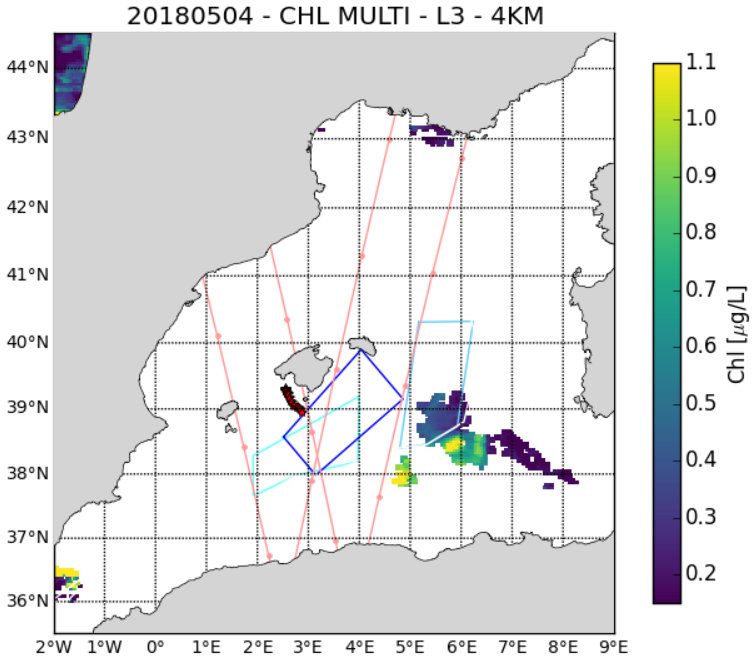


Globally the area has warmed up. The coldest area is the north-eastern part of the 5-7 May box.

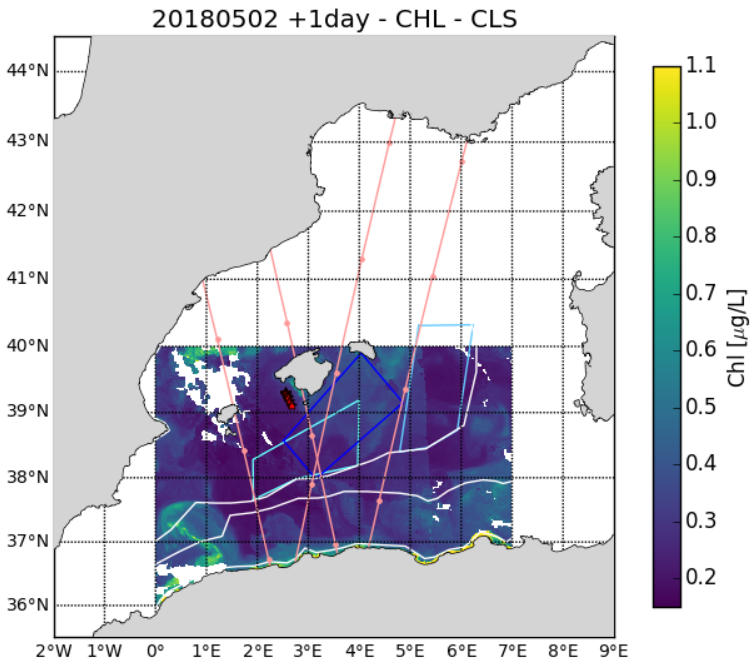
2.3 Chlorophyll analysis







No Chl data due to cloud coverage.
The last clear Chl figure is from the May 5 bulletin (shown below).



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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/