

[BIOSWOT-Med]: SPASSO Images Analysis

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Executive Summary

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1 Ongoing operations and upcoming stations

SWOT passing time (UTC) over:

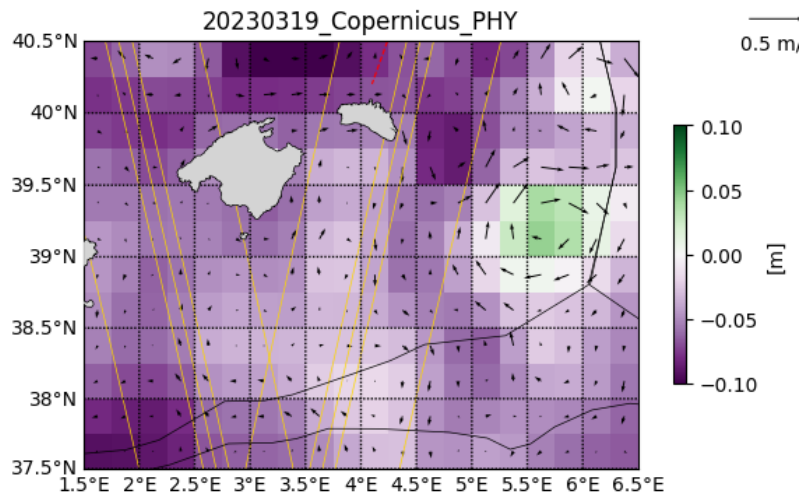
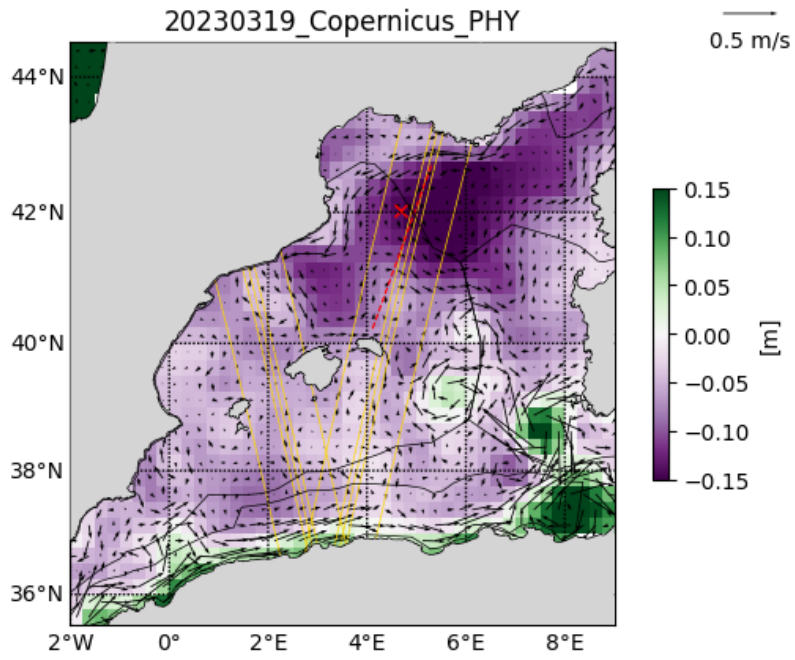
43°N - 5°E Asc 42.7°N - 4.8°E Asc
:----- :-----
2023-03-19 01:55:52 2023-03-19 01:55:52
2023-03-20 01:46:30 2023-03-20 01:46:30
2023-03-21 01:37:07 2023-03-21 01:37:07
2023-03-22 01:27:45 2023-03-22 01:27:45
2023-03-23 01:18:22 2023-03-23 01:18:22

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2 Daily figures analysis

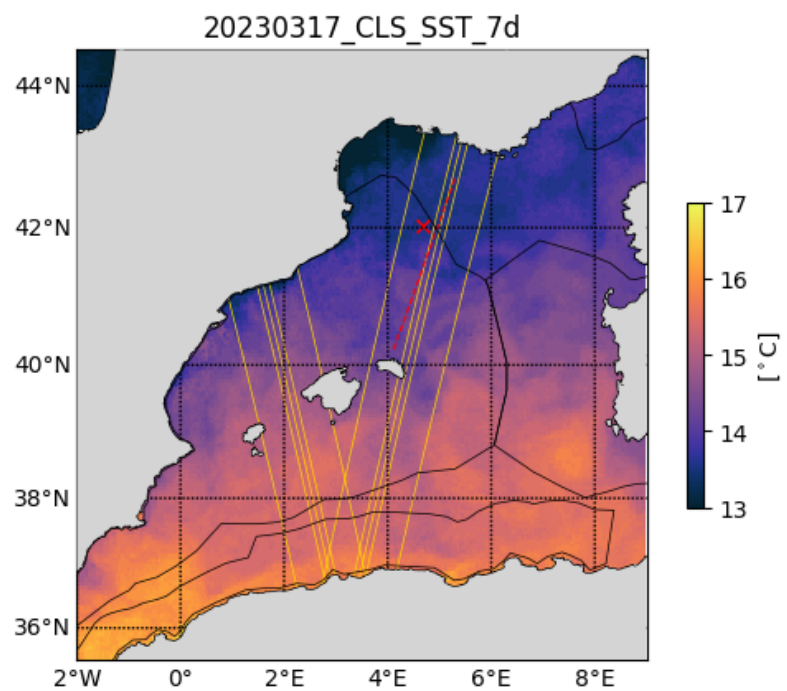
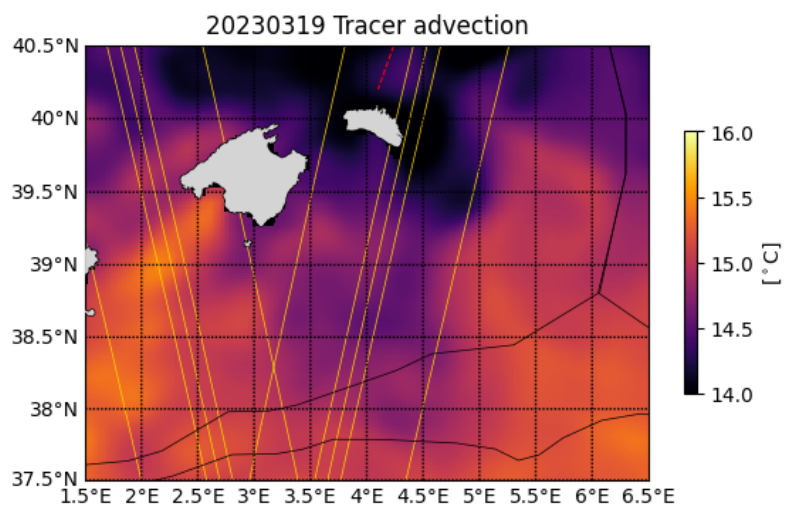
2.1 Altimetry, derived currents

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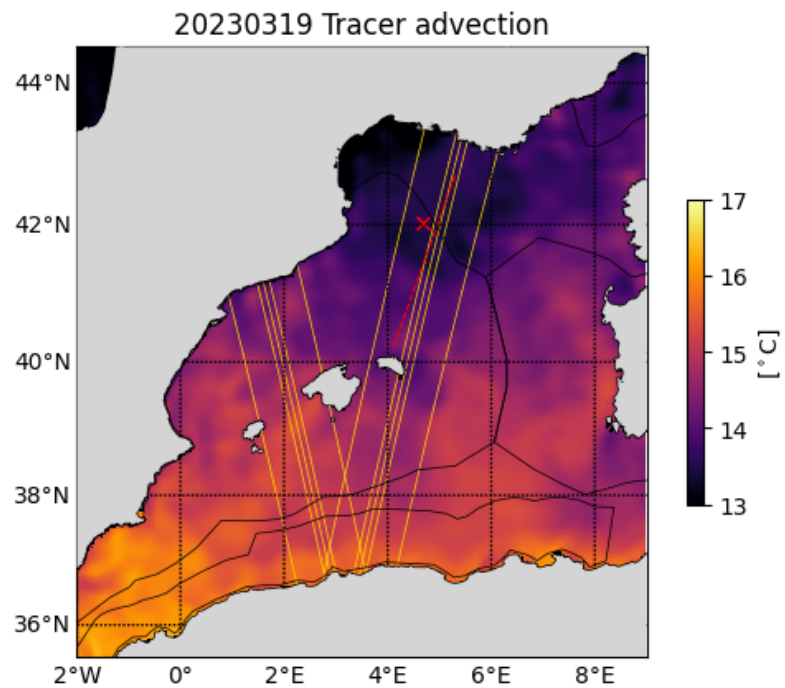
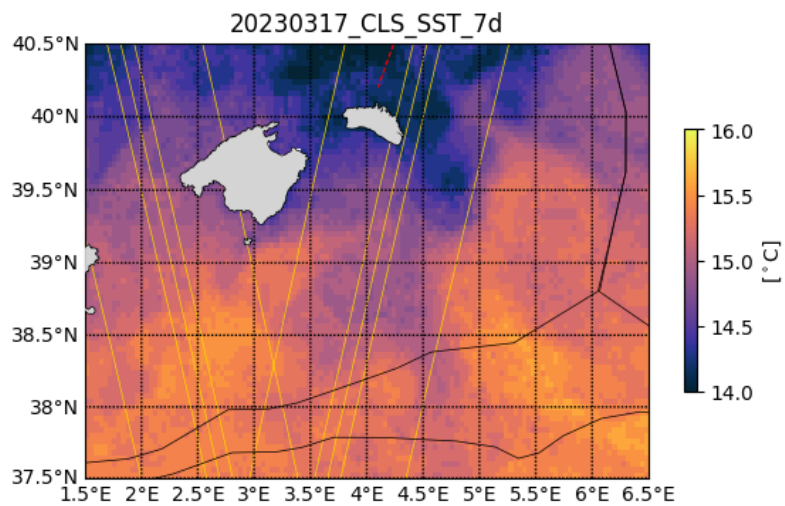
2.2 SST analysis

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2.3 Chlorophyll analysis

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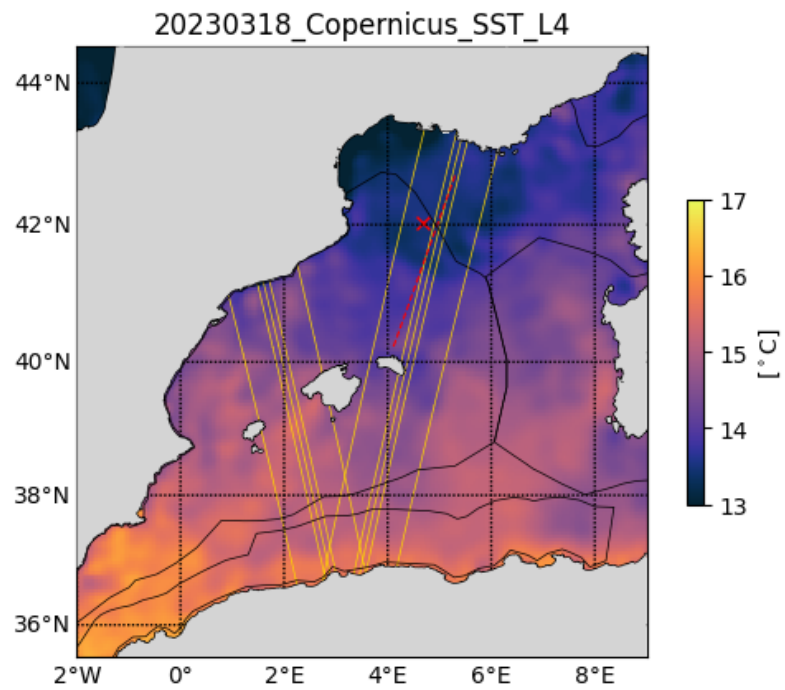
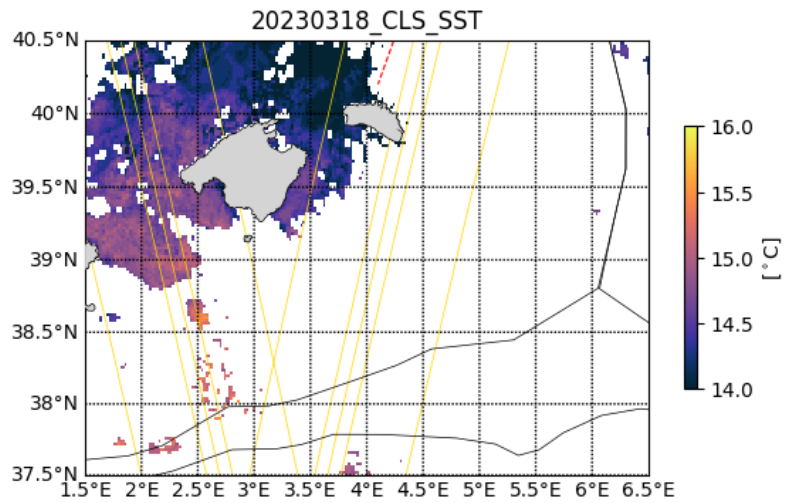


2.4 Eulerian/Lagrangian analysis

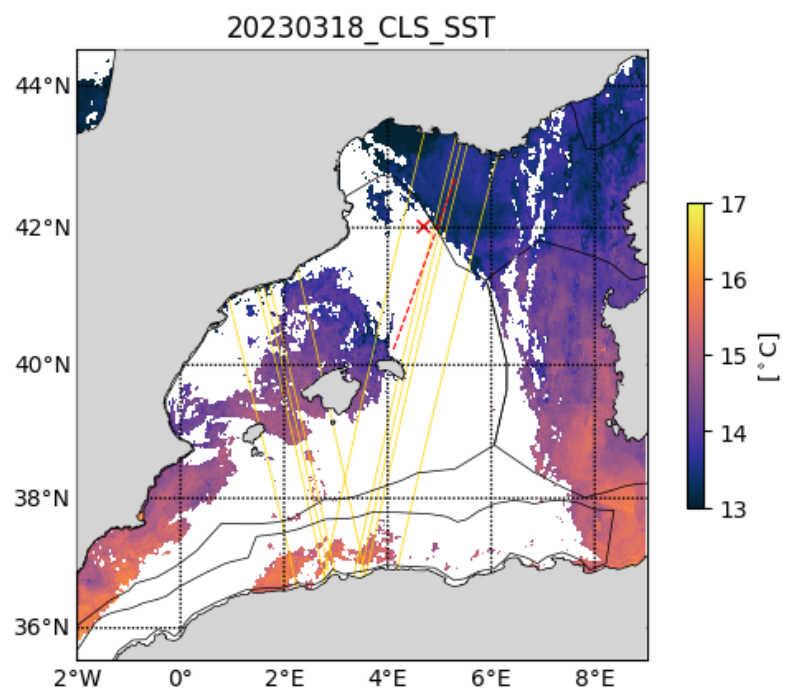
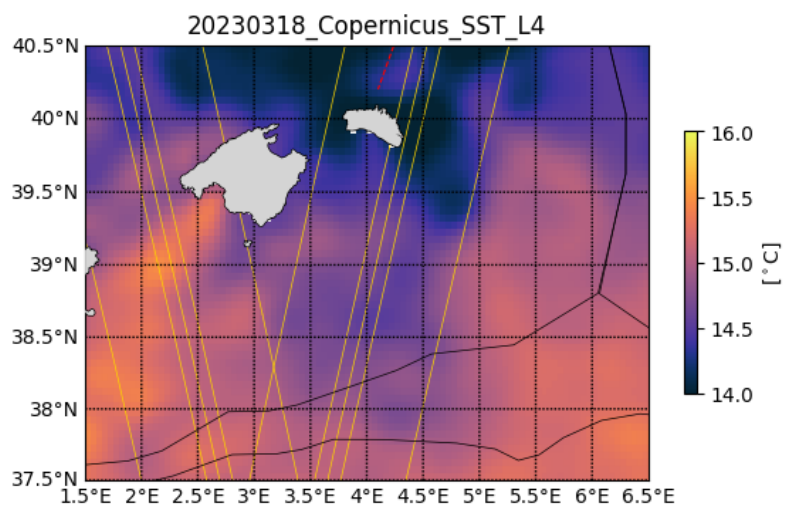
Eulerian diagnostics computed with Copernicus_PHY velocities:

KE: kinetic energy

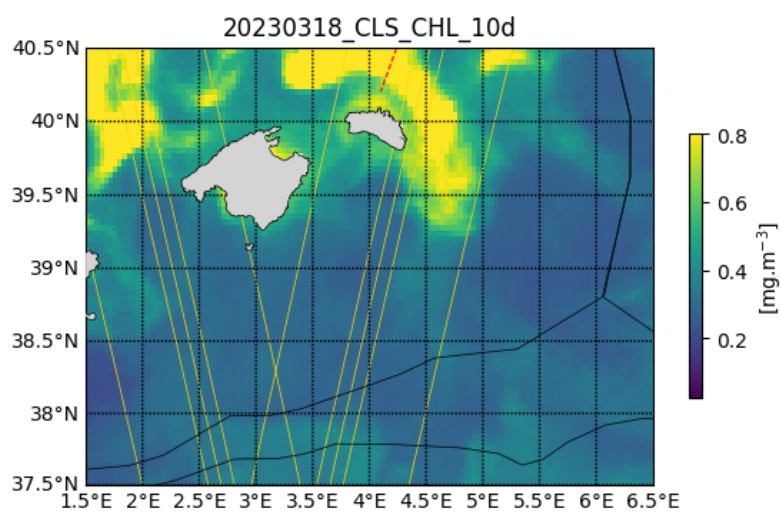
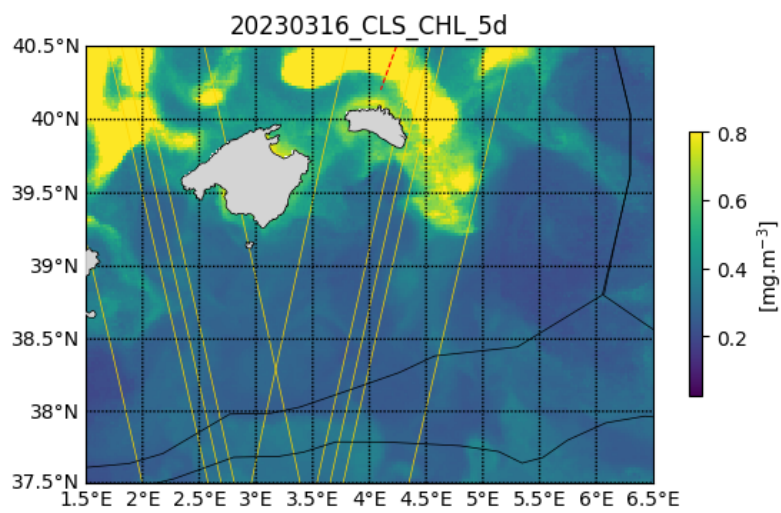
OW: Okubo-Weiss parameter

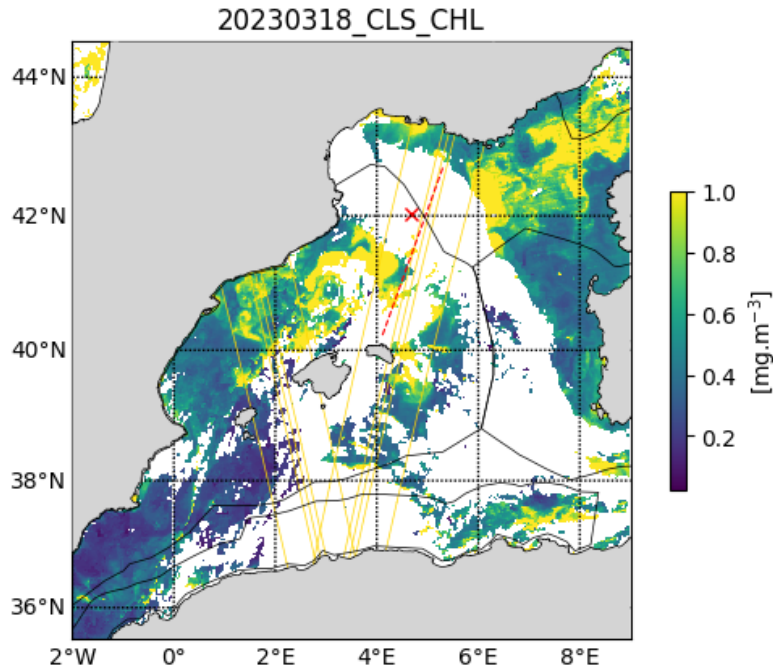


Lagrangian diagnostics computed by seeding Lagrangian particles every 0.02deg and advected for 30 days backward in time with Copernicus_PHY velocities:
 FTLE: finite time Lyapunov exponents (convergent fronts detection)



LLADV: longitude and latitude advection
 Retention parameter (based on computing the okubo Weiss parameter along a particle trajectory): Detect trapping structures (colorbar = days water parcels have a positive vorticity)





2.5 Other analysis

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Acknowledgments

Example:

The altimetry data are the AVISO Mediterranean regional product: <http://www.aviso.altimetry.fr/index.php?id=1>
 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.

