



Reconstruction of mixed-layer currents in the NW Mediterranean by the variational analysis of Lagrangian data and model outputs

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In this work, the reconstruction of currents at 50 m depth is drawn for the along-slope circulation in the NW Mediterranean. The variational method developed by Taillandier et al. (Ocean Modelling, 2006) is applied to the analysis of Lagrangian data in combination with MARS3D model outputs.

As part of the experiment ECOLOPHY, position data were acquired by 28 mixed-layer satellite-tracked drifters deployed inside Northern Current (NC) upstream the gulf, during the period June 2005 - June 2006. The trajectories in the core of the NC provide corrections on the intensity and the width of the model simulated NC. The trajectories which sample the mesoscale activity (showing pathways trapped over the shelf and some others exported offshore) are used to reorganise the model simulated eddy activity by refining the location and shape of NC meanders along the shelf slope.

In perspective, the results of this analysis would be compared to independent current data obtained by a vessel-mounted ADCP and four ADCP moorings at the entrance of the Gulf of Lions. They would also participate to the validation of the MARS3D operational modelling tool, with physically based information of its different parameterisations.