

{rokbox title=|Spatial distribution of initial marine litter concentrations for the three simulations :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-3d-hotspots-marine-litter-mediterranean-modeling-study-soto-navarro-et-al-2020-thumb.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-3d-hotspots-marine-litter-mediterranean-modeling-study-soto-navarro-et-al-2020.jpg{/rokbox}

Javier Soto-Navarro, **Gabriel Jordá**, **Salud Deudero**, **Carme Alomar**, Ángel Amores, **Montserrat Compa**, 2020.

[3D hotspots of marine litter in the Mediterranean: A modeling study.](#)

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Abstract: The 3D dispersion of marine litter (ML) over the Mediterranean basin has been simulated using the velocity fields from a high resolution circulation model as base to run a 3D Lagrangian model. Three simulations have been performed to mimic the evolution of ML with density lower, similar, or higher than seawater. In all cases a realistic distribution of ML sources was used. Our results show that the accumulation/dispersion areas of the floating and buoyancy neutral particles are practically the same, although the latter are distributed in the water column, 80% of them found in the photic layer (average depth of 35m). Regarding to the densest particles, they rapidly sink and reach the seafloor close to their source. The regions of higher temporal variability mostly coincide with the ML accumulation regions. Weak seasonal variability occurs at a sub-basin scale as a result of the particles redistribution induced by the seasonal variability of the current field.

Keywords: Marine pollution, Marine litter, Mediterranean Sea, Plastic pollution, Lagrangian models, 3D circulation