ASSESSING MARINE DEBRIS TRANSPORT AT OPEN OCEAN IN THEIR WAY TO THE CANARY ISLANDS

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Abstract:

Canary Islands is a region identified as a hot spot of marine plastic debris, with the arrival of significant amount of macro-, meso- and microplastics to the coast (Hernández-Sánchez et al., 2021; Villanova-solano et al., 2022). An important variability on marine debris concentration has been observed along the eight islands (specially microplastic) and the main factors that might explain this variability are still under study. On the one hand, beaches with high debris concentration are usually oriented to north or north-east, although some other beaches with the same orientation present a low marine debris concentration. On the other hand, microplastic temporal distribution do not present any seasonal pattern (Reinold et al., 2020), though it seems that storms might help to explain a higher arrival of microplastic to the coast. Additionally, the orography and bathymetry of the sampled beaches are still factors to analyse in detail.

This work focuses on two of the main hot spots of marine plastic debris at the Canary Islands to address their relationship with the transport of these particles, modelling their trajectories in their way from the open ocean to the coast.

Key words: marine debris, microplastic, transport, drift, ocean dynamic, modeling.

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