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IMPLAMAC PROJECT: RESULTS OF THE MONITORING OF MICROPLASTIC ARRIVAL OVER THREE YEARS ON FORTY-SIX BEACHES OF THE MACARONESIAN REGION

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The increasing production and use of plastic materials have revolutionized modern society, providing numerous benefits across various sectors. However, inadequate collection and management of plastic waste have led to significant environmental impacts, particularly the high presence of microplastics in all environmental compartment. The sources, distribution, and ecological consequences of microplastics present complex challenges that require urgent attention and actions to mitigate the detrimental effects of plastic pollution on our planet.

The Interreg-MAC project with the acronym IMPLAMAC (Assessment of the impact of microplastics and emerging pollutants on the coasts of the Macaronesian region), developed between 2019 and 2023, aimed to create an observatory to generate quantitative and qualitative data on the impact of microplastics and various pollutants on the beaches of the Canary Islands, Cape Verde, Madeira, and the Azores. With that aim, a monitoring study was developed over a period of three years on 46 beaches of the 4 Macaronesian archipelagos, which represents the largest and most complete temporal series of microplastics monitoring of the region. The results obtained reveal that white and transparent fragments are the type of plastic mostly found, generally followed by pellets and foam. Regarding the composition, polyethylene and polypropylene were the type of polymers mostly found. Average concentrations of microplastics clearly varied over time and archipelago, being the Canary Islands the one with the highest concentrations and the highest number of hotspots of microplastic arrival.

Key words: microplastic, marine litter, monitoring, Macaronesia.

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