Mediterranean islands (Mallorca, Sicily, Rab, Malta, Crete, Mykonos, Rhodes and Cyprus). For each island three different beaches were selected for comparison: one very popular and touristic beach, one popular beach but mainly used by locals and one remote beach. For each beach, 4 sampling campaigns were conducted in 2017: 2 during the low season and 2 during the high season. For each campaign, 5 samples of sand were collected (3 in the middle of the beach and 2 in the high water mark): the top 2-3 cm within a quadrat of 20x20cm were removed and stored into clean glass jars for further analysis. The samples are now in the processing phase (extraction and characterization of the microplastics). The first results show that, during the low season (February – April 2017) all the islands and beaches tested are affected by microplastics pollution. Their concentrations range from 10.3 particles/kg of dry sand on the remote beach of Cyprus to 809.6 particles/kg of dry sand on the touristic beach of Malta. The concentrations found on the touristic beaches are always higher than those found on the remote beaches. Once obtained, the final results for the 4 campaigns will be compared to the accumulation of marine litter on the same sites and the number of tourists in order to assess the effect of tourism on the generation and the accumulation of microplastics.

Keywords: Microplastics, tourism, beaches, BLUEISLANDS

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Microplastic pollution on Gran Canaria island beaches

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In recent decades, plastic pollution in the ocean has increased exponentially. With an estimation of more 270 thousand tons of plastics floating in the marine environment where they tend to migrate to the oceanic margins, accumulating in convective zones. The Canary Islands, located on the eastern margin of the Atlantic Ocean, are an obstacle to the Canary Current. There, it is of great interest to study the amount and type of plastic that migrates around the archipelago, as well as the proportion of plastic that washes up on the coast. This study of microplastic pollution on Canary Island beaches is a starting point for seasonal monitoring of plastic waste and future research that will aim to explain the consequences that this marine litter can have on marine ecosystems. The majority of the items observed were fragments from bigger plastic objects, more of the 50% of the items sampled. Even, the transparent resin pellets or nurdles, the semispherical items used as raw material in the production of plastics, were found on most beaches and showing a 14% of the total microplastic pollution. The Canary Islands do not have a plastics industry, so the origin of this

marine debris is due to ocean circulation. On the other hand, microfibers were sampled too, showing a mean maximum concentration of 2000 items/ mˆ2. The distribution of microfibers is totally different from that of larger microplastics and mesoplastics, suggesting a possible endogenous origin of the contamination, probably by wastewater discharges, ravines and beach users.

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Quantity and type of plastics in the beaches of the region of Murcia (SE Spain): towards a monitoring of marine litter in the marine spatial planning

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During the last decades much attention has been paid to marine litter pollution, mainly due to plastics and microplastics. The Descriptor 10 of the Marine Strategy Framework Directive (2008/56/EC) is devoted to plastics in particular and marine litter in general. So there is a need to control the quantity and type of plastics present in the marine environments.

Among these environments, beaches are one of the most impacted areas due to plastic pollution but studies about content and type of plastics in Spanish beaches are scarce. There is a need to implement a monitoring programme both in beaches but also in coastal waters for these emerging contaminants.

In the present study, the amount and type of plastics present in several littoral sandy areas from the Region of Murcia (SE Spain) are presented. In addition, the amount of a regulated contaminant such as Hg in the plastics is also shown. The problem of these plastics is not only physical, but also associated to the pollutants contained in this material during its production or adsorbed once the plastics are released to the marine environment. Recent studies have demonstrated that once in the environment, plastics are able to adsorb metals and concentrate them (Ashton et al., 2010; Holmes et al., 2012). This fact can have several environmental and ecotoxicological implications as the adsorption-desorption kinetics of metals and plastics under different environmental conditions (i.e. pH, salinity or temperature) will release these metals from plastics to the water column or, in contrast, will act as metal carriers (Brennecke et al., 2016) to the trophic chain, entering through the filter-feeder animals for example.