

Preliminary results of the accumulation of marine debris on the shoreline of Fuerteventura and El Hierro islands (Canary Islands, Spain)

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About 80% of the marine litter found in the marine environment comes from land-based activities and constitutes an extremely complex and damaging pressure for the environment. The Canary Islands (Fig 1) have 1501 km of coastline but until late 2020, the impact generated by accumulation of marine debris on coastline had no specific monitoring plans that addressed this issue systematically. The Project OMARCOST had as first objective the characterization of the shorelines of the islands of Fuerteventura and El Hierro in the Canary Islands (as well as the location of the places where marine litter accumulates more).

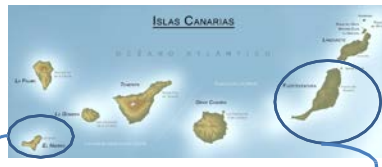
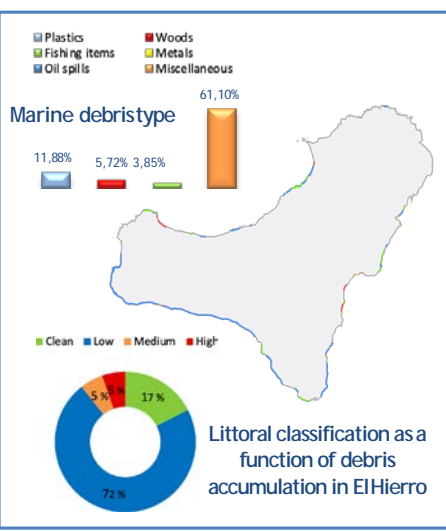
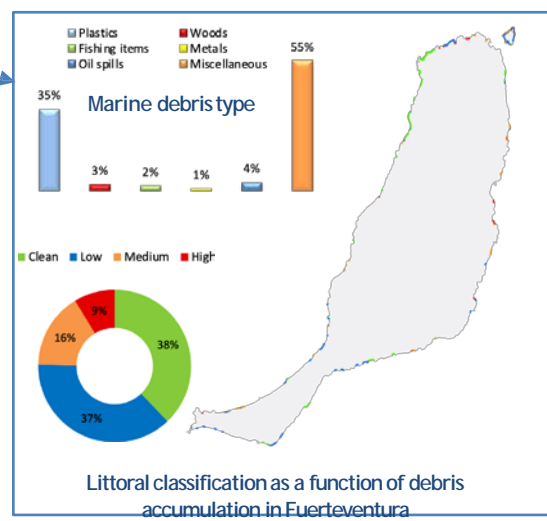


Fig 1- The Canary Islands showing El Hierro and Fuerteventura islands



Sampling in Las Valdivias beach (NE Fuerteventura)



Coastline were initially sampled and stations defined based on estimated ranges of the number of items per meter of coast analyzed and their distribution (no litter, low, medium and high litter presence). Each station was additionally characterized according to the type of substrate following EMODNET geology criteria (sand, rock and boulders, coarse sediments, mixed sediment and mud to sandy mud) as well as to the dominant type of waste (plastic, rope, wood, etc.).



Fig 2- Detail of a sampling grid



Debris accumulation in El Cantadal beach (El Hierro)

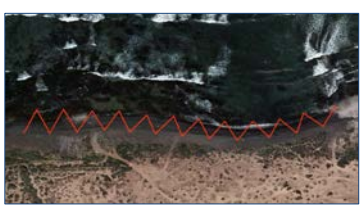


Fig 3- Oblique transects in Majanicho beach (North Fuerteventura)

Additionally, a new sampling method that does not require garbage picking was designed. It consists in a 1 x 1 meter grid sampling unit subdivided into 10 x 10 cm subgrids (Fig 2). The unit is placed in the sampling position by using a computer application that generates random numbers. These numbers are used as distance in meters between one grid and the next, following a "road" of oblique transects from the edge of the ocean line to the head and/or end of the beach (Fig. 3). Once located in place, the number of subgrids occupied by trash is counted and the debris type characterized following OSPAR and EMODNET criteria.