
Trends and extremes of microplastic pollution on North Atlantic coasts: key points of 14 years of observations 2007-2020.

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Abstract

The supervision of a Master’s thesis in 2007 made it possible to link observations from beaches in Brittany-France and the Spanish-Basque coast, launching ”formally” the microplastic sampling process presented in this paper. In 2008, a first series of observations from Lanzarote and New York beaches highlighted (i) the impact of microplastic pollution at the North Atlantic scale and its asymmetry; (ii) the importance of having a first diagnosis as a baseline; and (iii) the need for a long-term time series. Thousands of observations have accumulated over the past 14 years confirming the working hypothesis of seasonal variability of plastic pollution (REF 2016) and the role of local shore conditions. The regular sampling launched on 3 beaches since 2014: Lostmarc’h (Finistère, France), Famara (Lanzarote, Spain) and Popham (Maine, USA), along with the collection of more data on all latitudes of North Atlantic shores ground-truths the trends and extremes of plastic pollution, key points in microplastic sampling methodologies and highlights the related participatory action research processes.

Keywords: microplastic, plastic pollution, trends, extremes, North Atlantic, beaching

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