IMPACT OF MACRO-WASTE POLLUTION ON THE BIODIVERSITY OF COASTAL AREAS OF ORANIA (WESTERN ALGERIA)

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Introduction

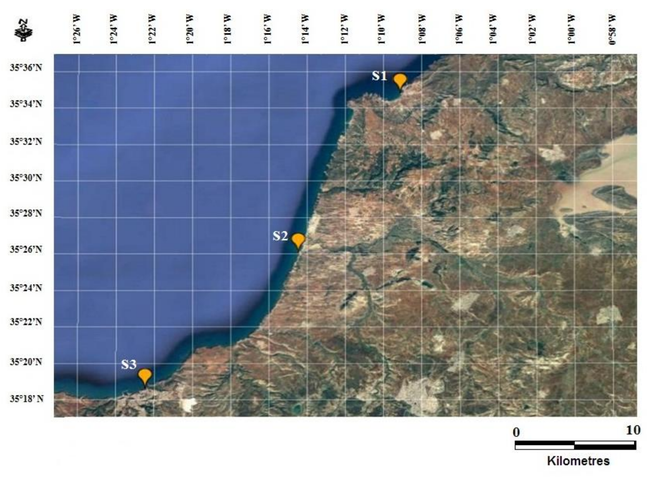
Pollution is a major public health and environmental issue. The problem of pollution is undoubtedly one of the most worrying aspects of the degradation of the natural environment and therefore of its balance. Coastal zones are the final receptacle for all contaminants released into the environment, regardless of the compartment (air, water, soil) and are therefore among the areas most exposed to the various types of recurrent pollution.

Objetives

The objective of the study is to contribute to knowledge on the existence and spatial distribution of macro-waste pollution from the west coast of Algeria. It is in this context that a qualitative and quantitative assessment was carried out on macro-waste at the main recreational sites on our coasts. Macro-waste accumulated on beaches is a nuisance and a danger for users, and for marine biodiversity.

The Study Area

3 sites are chosen for our study: the beaches of Sassel (S1), Chatt El Hillal (S2), and Beni Saf (S3)



Methodology

1) Sampling :

- Tracing three separate lines of deposits.
- Placement of 12 quadras (50 cm side).
- Inside each quadra, the first three centimetres of sediment are removed using a metal trowel and then transferred to small numbered bags before treatment in the laboratory.

Results

The results reveal a heterogeneous qualitative and quantitative distribution of waste in the 3 stations, and the existence of 32 types of macro-waste divided into four categories: 11 types of plastic, 6 types of metal, 4 types of glass, and 11 types of miscellaneous waste. The amount of miscellaneous waste dominates with a percentage of 32%, followed by glass (29%), plastic (22%) and metal with the lowest amount (17%). The beach Sassel is the most polluted with 7938.7 Kg of waste of all types combined followed by the Chatt El Hillal station with a weight of 2838.9 Kg.

Discussion

This pollution could, in the short term, significantly affect the coastal ecosystem and marine biodiversity and the health of users of these recreational areas. Awareness-raising campaigns should therefore be conducted to raise citizens' awareness and the application of the legislation in force is necessary to guarantee the conservation and good management of the coastline in the current context.

Conclusion

Nowadays, this plastic micro-waste pollution is a real problem for many sites with high recreational value. Whether plastic, glass, fabric or metal, waste is all the result of human activities. They come mainly from inland and are transported by winds, rains, as well as rivers to the sea. A tiny part of this waste washes up on beaches while most sinks before settling on the seabed. The impacts of this pollution on biodiversity are significant, and endanger all aquatic life. Multiple solutions are now proposed to collect this waste, but acting directly at the source of pollution is still the most effective solution.

Sassel beach

Chatt El Hillal beach

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