

POSTER

COSTA - COOPERATING FOR A COMMON GOAL: THE HEALTH OF THE MEDITERRANEAN SEA

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The Mediterranean Sea, being a semi-enclosed basin, is severely affected by persistent pollution and the current climate change. Particularly vulnerable areas are those cross-border, characterized by strong human pressure that undermines the balance between the biota and its ecosystem, resulting in worrying repercussions on biodiversity. Therefore, in line with the European Union directives, the aim of the project COSTA "Cartography and solutions for the restoration of pollution effects in cross-border zones: a transversal approach" (INTERREG VI-A NEXT Italia-Tunisia 2021-2027; CUP J43C25000430003) is to restore the deteriorated state of the Mediterranean Sea by promoting shared, multidisciplinary actions between Italy and Tunisia. The five partners will collaborate to achieve common cross-border objectives: (i) to perform biomonitoring assessments of four pilot sites in both countries through chemical analyses of water, sediments and biota, besides a multi-biomarker approach including proton nuclear magnetic resonance (¹H NMR)

metabolomics (GT1); (ii) to collect macroalgae from field to obtain biocarbons through carbonization, to produce novel green biofilters able to remove pollutants from the environment (GT2); (iii) to develop innovative biosensors for monitoring aquatic pollution, besides to create a Living Lab as a collaborative platform for technological experimentation and knowledge sharing. Overall, these multidisciplinary activities, performed in synergy between the two countries, are intended to transfer expertise and effective green tools to alert and draw the attention of authorities and stakeholders in transfrontier countries, enabling them to implement active and shared actions to protect biodiversity and human health on both coasts of the Mediterranean Sea.

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