Environmental monitoring data for the Black Sea

# MARLITER

June 2019

#### What is MARLITER?

MARLITER is a project for open public access to environmental monitoring data and data tools, which can be used to assist marine litter reduction in the Black Sea Basin. The project involves the development of an interactive Internet portal for geospatial data on the Black Sea region. The portal includes digital maps on marine environmental conditions, geophysical maps for the coastal areas, environmental and abiotic parameters for the broader region, maps of protected areas, current climate and projections of future climate. The ICT (Information Communication Technology) tool will also support maps of marine litter movement patterns. An important product of the project is the GIS (Geographic Information System) toolbox with a support toolkit, which includes a forum and communication platform for policy guidance and nonformal education.



## What is marine litter?

Marine litter is any persistent manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment. Marine litter is a complex trans-boundary and multi-dimensional issue with significant implications on marine and coastal environments and human activities. Marine litter originates from many different, often unspecified sources. It has a wide spectrum of negative impacts - environmental (endangered species and habitats, plastic pollution), economic (fisheries, tourism) and social (aesthetic, public health).

Basin and the reduction of marine litter

Marine litter is a global concern, which threatens all life in the oceans and seas. Reducing litter in the marine environment is recognised as a priority challenge to help preserve the ecosystem and human health. Marine litter, in particular marine plastics, and its reduction is at the core of political action through the Marine Strategy Framework Directive (MSFD), the European Union Strategy for Plastics in a Circular Economy and the EU Waste Legislation.



### The situation in the Black Sea

The Black Sea is particularly vulnerable to pollution, as it is comparatively small but also deep, almost fully enclosed and subject to many pressures from land and sea-based sources. Marine litter has been confirmed as a critical issue, which is intensified by territorial challenges, such as significant pressure from land-based sources. The situation is aggravated by the very large catchment area, comprising over two million square kilometres and more than 20 countries; extremely limited exchange with the world ocean; high riverine inputs; discharges from densely populated coasts; tourism; fisheries; shipping and various other inputs from coastal ports, industrial zones and urban areas. Data indicate that the Black Sea is affected seriously by plastic waste on beaches, surface and shelf litter. Cigarette butts are the main items found in great quantities on beaches, along with plastic bags and single-use plastic items.





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## Data on marine litter

Data and information on the abundance and distribution of marine litter have been actively collected recently in the Black Sea, with targeted support from the EU and international donors. Studies and monitoring activities using MSFD protocols, which aim to produce a baseline assessment, are prepared in the EU member countries. The other littoral states are working on improving the availability and sharing of marine environmental data from the national and joint regional monitoring programmes aligned with the MSFD and WFD (Water Framework Directive) principles and the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP). Common methodologies for data and management across basins will allow a better understanding of the links between pressures and impacts on marine ecosystems, the identification of marine litter accumulation zones (hot-spots) and practical application of knowledge in everyday life. Future monitoring efforts and data produced by monitoring help scientists, policy makers and managers to understand better the nature of marine litter pollution, to establish reduction targets and to design prevention and reduction measures.

## Available data - a chance for the future

What can we find out about marine litter? How big is the marine litter problem, and how is it changing over time? What types of litter is most common in the region? We need to compile a record of the amount and types of marine litter in the environment. With a large, standardized dataset, important research questions can be answered about types, abundance and sources of litter in the marine environment.

What can we do with marine litter data? Through regular monitoring we track the progress of existing marine litter prevention measures and identify targets for future measures. Standardized and reliable marine litter data can be used to guide policy development, education and outreach.

# Data and knowledge for the ICT tool

Status of marine litter & environment

- Synthesized available literature and country-specific information for marine litter status, i.e. national statistics, sources, distribution, sites, pressures, impacts and sources of pollution
  - Available information, data and knowledge about the state of the environment
  - Identified gaps of knowledge and information, data and expertise on marine litter issue and national level peculiarities

#### Legislation

- Review of national legislation and regulatory documents related to marine litter, waste, spatial planning (sea- and landscape) water, Blue Growth, Green infrastructure
- Summarized and synthesized historical evolution of legal framework on marine litter

#### Stakeholders

- Stakeholder analysis of groups involved in the process of waste management and marine litter reduction
- Strategies, practices, measures
  - Different action plans, implementation tools of policies, measures applied etc.

#### Monitoring status

- Review of key methodological tools, approaches, applied protocols for monitoring marine litter across spatial, temporal and administrative scales
- Monitoring efforts at national level and transnational efforts
- Suggestions and guidelines for optimization of design and organization of monitoring schemes

#### **Recommendations**

- Examples of good practices in marine litter reduction and prevention
- Best practices to suggest ways in which to transfer experience and solutions to policy level
- Recommendations based on best practices for policy and public awareness
- Groups of recommendations (long/short term, spatial scales, costs effort, application, etc.)
- Inputs from stakeholders



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