

THE RIMMEL OBSERVATION NETWORK: HARMONIZING THE APPROACH FOR MONITORING OF FLOATING MACRO LITTER ENTERING THE SEAS

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Abstract

The RIMMEL project aims to quantify loads of riverine floating macro litter entering the European seas. The project establishes an observation network that will collect new data using a harmonized approach for monitoring. The monitoring protocol is based on visual observations using a tablet computer application to register data. Eventually, the monitoring data will be used to build a model of litter loading based on the upstream catchments characteristics.

Keywords: Riverine litter, Marine litter, Monitoring, Mediterranean Sea, European Seas

Introduction

Marine litter, an increasing issue at global level, is taken into account under the Marine Strategy Framework Directive (MSFD) [1] by Descriptor 10: 'Properties and quantities of marine litter do not cause harm to the coastal and marine environment'. A great percentage of the litter found in the marine environment is assumed to come from land-based sources. However, little scientific work has been done about quantities of litter transported by rivers. The lack of knowledge and data in the field call for initiatives that can lead to harmonization of approaches for monitoring and assessment of litter inputs from rivers to the seas. The RIMMEL project (Riverine and Marine floating macro litter Monitoring and Modelling of Environmental Loading) is the first initiative at European-scale that aims to quantify riverine fluxes of floating macro litter to the European seas [2].

The RIMMEL Observation Network

The project launches a monitoring activity called the RIMMEL Observation Network, where researchers, MS authorities, River Commissions, NGOs and other interested institutions are invited to participate in the gathering of new data. The key elements of the monitoring network include the following:

- Visual observations of floating macro litter (>2.5 cm) on river water surface
- Monitoring at river/sea boundary (estuaries) from elevated position (e.g. a bridge)
- Harmonized approach using the JRC Floating Litter Monitoring Application
- Starting summer 2016 and finishing autumn 2017 (no mandatory frequency monitoring)

Eventually, the monitoring data will be collected into the RIMMEL database in order to build a statistical inverse model of litter loading based on the upstream catchments characteristics. The project will bring a better understanding on litter quantities and dynamics from rivers to the seas, providing relevant information for the implementation of both freshwater and marine environmental policies.

Protocol for riverine floating macro litter monitoring

In order to harmonize the approach, the project develops a protocol for visual observation of floating macro litter that uses a tablet computer application to register the monitoring data. The application allows the observer to select litter items and size, based on MSFD Category Master List and agreed size ranges, as described by the MSFD Task Group on Marine Litter [3]. The harmonization of the approach for monitoring and collection of data on riverine inputs will facilitate a consistent and comparable database, supporting the RIMMEL modelling activities and further developments at international scale.

References

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