

Project title: Field data driven model of macro- and mesoplastic dynamics on river bank.

Level: Bachelor or Master

Start: Anytime

Project duration: 12 weeks to 6 months

Project form: Field surveys, Laboratory work, Data analysis

Supervision: Stephanie Oswald and Frank Collas

Mail addresses: f.collas@science.ru.nl

Description of the project:

Rivers serve as major transport corridors for plastics into the marine systems but can simultaneously act as (temporary) sinks of plastics. The most visible plastic items are present along the river bank of rivers. It is unclear how the items end up on the river bank. Moreover, part of the items are remobilized into the water but the underlying processes facilitating this remobilization remain unknown. Such fundamental knowledge is vital for developing models of macro- and mesoplastic presence in rivers that take into account remobilization among other factors. The remobilization also depends on the type of plastic item, its size and weight which all in turn also interact with the local remobilization processes.

Therefore the goal of this project is to 1) monitor plastic objects along the river bank of the rivers Rhine and Meuse with a high temporal and spatial intensity, 2) measure the weight and surface area of collected macro- and mesoplastics from the river bank and 3) subsequently develop a field data driven model of macro- and mesoplastic dynamics on the monitored river banks.