Project title: Pulling plastic apart: force needed to break riverine plastics
Level: Bachelor or Master
Start: Anytime
Project duration: 12 weeks to 6 months
Project form: Laboratory work, Field surveys, Literature review, Data analysis
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Description of the project:
Rivers are major transport corridors for plastics into the marine systems. Though, there is increasing evidence that shows that rivers can also act as (temporary) sinks of plastics. Rivers are also intensively used by inland navigation for the transport of goods. Potentially inland navigation can facilitate the degradation of larger plastic items (macroplastics) into smaller plastic items (mesoplastics and smaller) through mechanical degradation by the ship's propeller.

However, there is no knowledge on the force required to break plastics objects that are present in the river and more specifically how this force reduced with prolonged presence of plastic in the river. Fortunately, the last couple of years numerous plastic items have been collected from the rivers Rhine and Meuse allowing for quantifying breaking forces.

The goal of this project is to 1) measure the force required to break macro- and mesoplastics collected from the water column of the river Rhine, 2) participate during actual macro- and mesoplastic monitoring (if internship is started before April 2023) and 3) compare the breaking forces to known forces exert by inland navigation.