



M. Sc. Topic

Identifying the main aspects affecting the occurrence, quantity and distribution of microplastics (MP) in reservoir sediments

Background

Recent data have shown that microplastic pollution should be considered as an emergent contaminant in the environment, especially in water resources. Microplastic particles (< 5 mm) were found in water and sediment phase in the Rhine, Elbe, Danube, Nile, Amazon and many others rivers worldwide. This project focus on the MP found in the sediment at the bottom of reservoirs, as it is one final pathway for the transport of plastic. To fully understand the scale of this threat, this research will aim to identify the main interacting aspects that shape the occurrence, quantity and distribution of MP in a study case. Aspects like hydro-morphological conditions, MP sources, MP mobility and site-specific factors will be considered, with emphasis on reservoir hydrodynamics. From the MP quantification and reservoir analysis, meaningful relationships will be derived. The MSc. project additionally involves the identification of uncertainties arising from the quantification task by evaluating different sampling and laboratory methods.

Microplastic in
reservoir sediments



Thesis Overview

1. Literature review on current research on microplastics in reservoirs and the advancement of methods to quantify them
2. Familiarize with the experimental procedures to extract MP from sediment samples
3. Obtain MP quantities from sediment samples of a reservoir, identify trends and relationships within the main influencing aspects
4. Estimate the reliability of MP quantification by identifying weakness in sampling techniques and testing different laboratory methodologies for MP extraction from sediments
5. Analysis and interpretation

Desirable Skills

- Interest in environmental issues and experimental science



Apply now!

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Please send your CV and a few lines why you would like to take this topic.

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