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Riverine Macroplastics and How to Find Them

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Macroplastic (>0.5 cm) pollution in aquatic environments is an emerging environmental risk, as it negatively impacts ecosystems, endangers aquatic species, and causes economic damage. Rivers are known to play a crucial role in transporting land-based plastic waste into the world's oceans. However, rivers and their ecosystems are also directly affected by plastic pollution. To better quantify global plastic pollution pathways and to effectively reduce sources and risks, a thorough understanding of riverine macroplastic sources, transport, fate and effects is crucial. In our presentation, we discuss the current scientific state on macroplastic in rivers and evaluate existing knowledge gaps. We discuss the origin and fate of riverine plastics, including processes and factors influencing macroplastic transport and its spatiotemporal variation. Moreover, we present an overview of monitoring and modeling efforts to characterize riverine plastic transport and give examples of typical values from around the world (van Emmerik & Schwarz, 2020). With our presentation, we aim to present a comprehensive overview of riverine macroplastic research to date and suggest multiple ways forward for future research.

References

van Emmerik, T, Schwarz, A. Plastic debris in rivers. *WIREs Water*. 2020; 7:e1398.
<https://doi.org/10.1002/wat2.1398>