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Forecasting plastic mobilization during extreme hydrological events

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Plastic pollution of aquatic ecosystems is an emerging environmental risk. Land-based plastics are considered the main source of plastic litter in the world's oceans. Quantifying the emission from rivers into the oceans is crucial to optimize prevention, mitigation and cleanup strategies. Although several studies have focused on estimating annual plastic emission based on average hydrology, the role of extreme events remains underexplored. Recent work has demonstrated that floods can mobilize additional plastics. For example, the 2015/2016 UK floods resulted in a 70% decrease of microplastic sediments in several catchments. In this project, the use of the Global Flood Awareness System (GloFAS) flood forecasting system to assess additional mobilization of plastic pollution will be explored.