Understanding Toxic Floods - Develop monitoring strategies for affected areas

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Floods are natural inundations affecting rivers, lakes, coasts and the open sea. Due to anthropogenic impacts those floods can be modified with pollutants. The pollutants are then transported or dislocated during flood events and can then harm humans and life, society and other. The main objective of the project is to understand the complex and non linear processes, effects and long term impacts of "Toxic Floods" including the various influences of changing natural and anthropogenic boundary conditions from past to future.

As water/environmental engineers we aim to understand flood-related dispersion of contaminants and contaminated sediment. Therefore, we have a deep look at processes concerning sediment transport, fate and load during flood events. In a further step, it is aimed to describe and quantify the anthropogenic impact in floodplains and medium size river catchments. This knowledge will help to simulate toxic floods and define different scenarios and their effect on the environment.

In collaboration with an interdisciplinary team we can synthesize all outcomes and will be able to develop e.g. smart flood monitoring plans.[CB1]