

**Master's thesis or Project work
FS 2023**

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Transport and depositional processes of floating matter in an Alpine floodplain

The transport and deposition of floating matter in rivers, such as plant seeds, wood, and organic debris, are crucial components for the health of river ecosystems. Plant seed that are transported by water allow plants colonizing new areas and maintaining biodiversity in floodplains. Seeds are often transported on the water surface, and they are deposited when the water level recedes. Therefore, understanding the specific role of the flow regime and the river morphology is a fundamental step towards better river management.

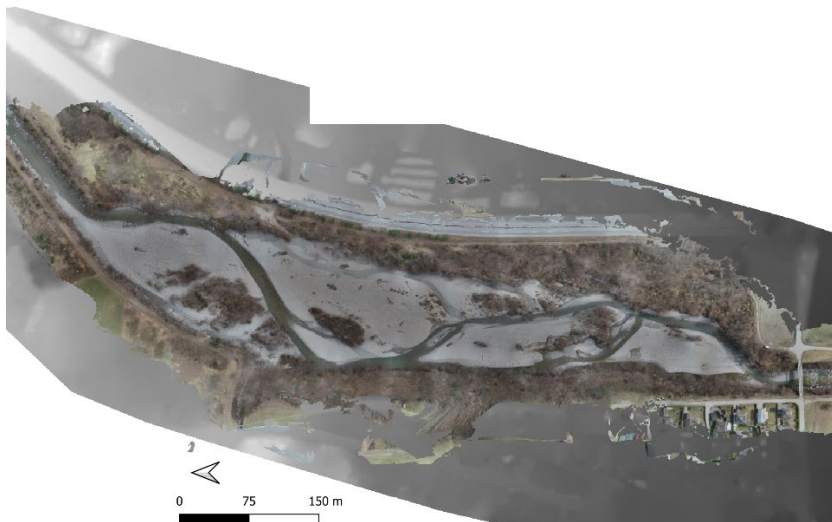


Fig. 1: Drone image of the Moesa river, GR, Switzerland (credit: Erik Van Rooijen)

In this project, we plan to study the dispersal and depositional processes of plant seeds in the Moesa river, a braided Alpine river that hosts several riparian plant species (Fig. 1). The flow regime is regulated by hydropower and the discharge fluctuates seasonally due to floods and daily because of hydropeaking. This setting is a natural laboratory to explore how multi-threat channels and discharge variations affect the transport and deposition processes of floating materials. The goal of the project is to collect data on vegetation and perform field experiments with floating objects, recording trajectories and deposition patterns for different times of the day. The project may require a few consecutive days of field work at the site. Numerical modelling can be used to aid the data analysis.

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Remarks:

Project work or Master's thesis with field work. Language: English