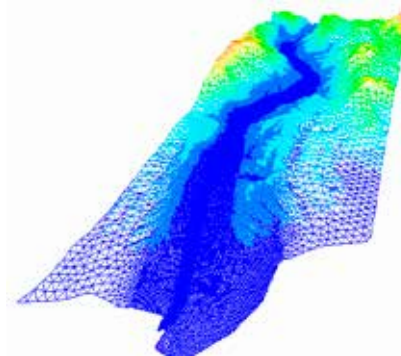


## Background

Due to climate change, floods in small and steep catchments are likely to increase with up to 60% in near future. In rivers with small catchment areas and high river gradients, short duration torrential rain leads to a rapid rising flood. Contrary to floods in larger river systems, where floods are characterized by a gradual increase of water depth due to rainfall of longer duration, increased discharge is followed by extensive erosion, deposition and channel avulsion. These processes leads to increased hazard due to high flow velocities inside and outside the natural river channel. After several dramatic flash floods in recent past affecting small, local communities, the attention to the problem is increasing.

This project will serve as a contribution to the development of methods for detecting and assessing hazard and risk of flash floods in torrential rivers using 2D numerical models. Simulating flood events in a test catchment, the project seeks to identify the limitations and critical input parameters associated with the use of 2D models, targeting general recommendations for simulating similar catchments.



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**2D hydraulic modelling  
of torrential rivers**

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