

## Knowledge Co-Production on Future Climate-Change-Induced Mass-Movement Risks in Alpine Regions

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**Abstract :** The interdependence of climate change and natural hazard goes along with large uncertainties regarding future risks. Regional stakeholders, experts in natural hazards management and scientists have specific knowledge, resp. mental models on such risks. This diversity of views makes it difficult to find common and broadly accepted prevention measures. If the specific knowledge of these types of actors is shared in an interactive knowledge production process, this enables a broader and common understanding of complex risks and allows to agree on long-term solution strategies. Previous studies on mental models confirm that actors with specific vulnerabilities perceive different aspects of a topic and accordingly prefer different measures. In bringing these perspectives together, there is the potential to reduce uncertainty and to close blind spots in solution finding. However, studies that examine the mental models of regional actors on future concrete mass movement risks are lacking so far. The project tests and evaluates the feasibility of knowledge co-creation for the anticipatory prevention of climate change-induced mass movement risks in the Alps. As a key element, mental models of the three included groups of actors are compared. Being integrated into the research program Climate Change Impacts on Alpine Mass Movements (CCAMM2), this project is carried out in two Swiss mountain regions. The project is structured in four phases: 1) the preparatory phase, in which the participants are identified, 2) the baseline phase, in which qualitative interviews and a quantitative pre-survey are conducted with actors 3) the knowledge-co-creation phase, in which actors have a moderated exchange meeting, and a participatory modelling workshop on specific risks in the region, and 4) finally a public information event. Results show that participants' mental models are based on the place of origin, profession, beliefs, values, which results in narratives on climate change and hazard risks. Further, the more intensively participants interact with each other, the more likely is that they change their views. This provides empirical evidence on how changes in opinions and mindsets can be induced and fostered.

**Keywords :** climate change, knowledge-co-creation, participatory process, natural hazard risks

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