# ChangingRISKS: Research challenges for the assessment and communication on possible effects of global changes on landslide risks

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Landslides across the Alpine countries are recognised by practitioners, politicians and scientists as having a major socio-economic impact, and may represent a significant risk for the population and the properties in particular locations. Even if many scientific advances have been made in numerous fields of landslide research in the last 10 years, there is no consensus reached on an integrated concept and methodology for landslide risk assessment (1) adaptable to a large range of climatic, environmental and socio-economic conditions, (2) applicable to perform scenario analysis taking into account global changes (climate, landuse, socio-economic development), and (3) directly connected to the practical demands of the stakeholders.

The ChangingRISKS project intends to develop an advanced understanding of how global changes (related to both environmental and climate change as well as socio-economical developments) will affect the temporal and spatial patterns of landslide hazards and associated risks in two territories of the Alps, and how these changes can be assessed, modeled and communicated (through mapping procedures) to stakeholders.

The project work is focused on two mountain study areas located in France (Barcelonnette Basin, South East France) and in Austria (district Waidhoffen/Ybbs, Lower Austria).These research areas, characterized by a variety of environmental, economical and social settings, are severely affected by landslides, and have experienced significant landuse modifications and human interferences over the last century.

Preliminary results on the influence of changing landuse conditions and changing climate are presented through the application of a process-based modeling chain able to simulate transient groundwater hydrology and slope instability from observed and simulated climate data sets. Further development of the modeling platform to the calculation of intensity parameters (e.g. runout distances, sediment heights) are described.