



The ‘Mountain Risks’ research project: challenges in risk prediction, management and governance.

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The ‘Mountain Risks’ Project intends to develop an advanced understanding of how mountain hydro-geomorphological processes behave and to apply this knowledge to long-term cohabitation with such hazards. The observed increase in disastrous events over the last decade, associated with a low perception of risk by the communities involved, along with the lack of efficient, socially accepted and environmentally sound remedial measures are amongst the motivations behind this research. Communities in mountainous regions are exposed to several hazardous processes, including snow avalanches, floods, landslides, rockfalls and debris flows. Hence, the adoption of a combined multi-risk-oriented analysis, in which investigations focus more on the interdependence of events rather than on single events, is absolutely necessary. In addition, the effects of land use changes have to be taken into account not only within the risk analysis, but also in the planning strategies. Considering such challenges, it is important to continue to develop methods for assessing quantitative risk, as well as to progress in innovative research, knowledge sharing and education, which in turn

provides support for practitioners to produce a comprehensive risk management and prevention policy.

'Mountain Risks' is a Marie Curie Research and Training Network supported by the European Commission. Several European teams in the fields of natural, social, economic, legal, engineering and information sciences are involved. The project is supporting the scientific work of 18 young researchers, at the doc and post-doc level, around a collaborative programme. This programme of work associates state-of-the-art experimental, methodological and computational advances, as well as risk management strategies, for quantitative hazard and risk analysis. The project is structured along four main themes: (1) Hazard Analysis, (2) Quantitative Risk Assessment, (3) Risk Management and (4) Risk Governance.

As an example of this multi-disciplinary research, this contribution aims at presenting the management policies used in the mountain territory of Barcelonnette in the South French Alps since almost 150 years. The main type of landslide events, their location and frequency, their impacts on the elements at risk and the options to mitigate the risk will be highlighted. These options consist in planning policies (risk zoning schemes, protection forest), active mitigation works (torrent check dams) and early warning systems.