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The 'Mountain Risks' research project: challenges in risk management.

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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 objective of this poster is to present the issues addressed by the project on mountain risk management.

Data resources, analysis techniques and general experience in hazard assessment are extremely extensive but, this knowledge is rarely transferred to the relevant operational institutions and the general public. The long term monitoring of hazardous sites has the potential to provide a thorough understanding of related processes and mechanisms in order to forecast events and set up alert systems. This, in turn, may be combined with disaster preparedness, adaptation and mitigation. Methodologies and models have already been constructed for determining the changes in spatial and temporal patterns of hazard and risk. As a consequence, risk management measures may be planned to minimise future damage and loss of lives for specific event magnitudes. Risk management includes the definition of protection objectives, their cost/effectiveness, the type of land-use regulations and preventive actions, as well as the available sustainable protective measures, type of warning systems and formulation of emergency plans.

On the basis of this, the 'risk management' theme of the project will address the following actions:

- Propose guidelines for sustainable development planning (land use options, protective and risk mitigation measures) at both local and regional mapping scales, and for different end-users requirements;
- Evaluate feasibility, effectiveness and performance of remedial (protective and

preventive) measures to reduce the risk level, assess their environmental and socio-economical constraints and assess the residual risks associated with the protective works;

- Formulate criteria for establishing warning systems and evacuation plans;
- Provide a framework for cost/benefit analyses.

These actions will be applied on highly documented case studies, located in five European countries (France, Italy, Swiss, Germany and Spain) where mountain hazards are currently evident.