



A WebGIS service for managing, sharing and communicating information on mountain risks: a pilot study at the Barcelonnette Basin (South French Alps)

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Integrative analysis, assessment and management of mountain hazards and risks require (1) the intense cooperation among scientists, local practitioners and stakeholders, (2) the compilation of multi-source GIS database on both the sources of the dangers and their impacts, and (3) the communication of scientific results which is still a challenge.

Within the European project Mountain Risks and the French-research initiative OMIV (Multi-disciplinary Observatory on Slope Instabilities; <http://eost.u-strasbg.fr/omiv>), several approaches are under development aiming at a coherent communication of scientific results to the population in order to inform about hazards and risks and support practical risk management measures.

A simple and user-friendly approach with a visual-web-based interface is proposed, able (1) to incorporate geographical information on past events and on controlling factors, (2) to include administrative boundaries and official risk regulation maps, and (3) to integrate all modeling results obtained in the study area (already performed or in progress).

The possibility to share information by means of web services offers a double utility: firstly it is a way to decrease the gap between scientific community's results and stakeholders' practical needs (simple interface, easy-to-use buttons in a generally user-friendly approach). Secondly the wide collection of diverse information (records of historical events, conditioning and triggering factors, information on elements at risk and their vulnerability, modeling results) in combination with the possibility of comparison among the data offers a great support in the decision-making process.

As first case study, the Barcelonnette Basin (South French Alps) has been chosen for the pilot development of the interface. The objective is to organize, manage and share a wide range of information and calibrate a correct web-service solution. Several steps are planned to achieve this goal: the creation of a hierarchical GeoDB that includes all information available for the area (high resolution airborne and satellite imagery, various DEMs, geo-environmental factor maps, susceptibility and hazard maps, historical events and old photographs, maps of elements at risk, potential consequence maps, existing risk scenarios and risk maps) using different organizational folders (splitted in web-switches), the definition of an OpenSource Cartoweb web-platform (based on GeoDB structure) and finally the adjustment of a POSTGIS and POSTGRESQL environment to accomplish query actions, a metadata support system, and a WMS for external data connection and layer control.