



Post-disaster loss analysis as a basis for vulnerability assessment for multiple end-users

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Torrential hazards may not constitute major events in the European Alps in the sense of spatial extent and loss of life, but they may result in monetary damages that for local communities are difficult to bear. Event documentations often focus mainly on the natural process itself rather than the detailed description of loss and consequences. We use photographs and monetary loss information from past events in the European alps to create an inventory of damages on buildings as well as building characteristics (vulnerability indicators). The aim of the inventory is to assess the physical vulnerability of buildings but also to have a closer look at the interaction between structures and natural processes. Based on the monetary damage per building the relevance and importance of a number of indicators are investigated. Indicators include building characteristics such as wall thickness, material, maintenance state, height and quality of openings as well as building surroundings (e.g. walls and vegetation). The results act as a basis for the weighting of indicators in order to be aggregated in a single physical vulnerability index for each building. The final vulnerability pattern may guide decision makers in decisions regarding retrofitting, local adaptation measures, land use and emergency planning. Potential end-users include local authorities, engineers, insurance companies and emergency services.