



Observed changes and future trends in vulnerability to natural hazards for mountain communities

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Since 50 years, mountain areas are affected by important landcover and landuse changes characterized by the decrease of pastoral activities, reforestation or urbanization with the development of tourism activities and infrastructures. These natural and anthropogenic transformations have an impact on the socio-economic activities but also on the exposure of the communities to natural hazards.

In the context of the ANR Project SAMCO which aims at enhancing the overall resilience of societies on the impacts of mountain risks, the objective of this research was to analyse landcover/use changes and to model future changes to assess the impacts of such change and to analyse trajectory of the vulnerability of mountain communities.

For this research, an experiment is performed for two mountain areas of the French Alps (Barcelonnette Basin, Vars Basin). Changes in landcover and landuse are characterized over the period 1956-2010 for the two communities at two spatial scales (catchment, municipality). Four scenarios of landcover and landuse development (based on the Prelude European Project) are proposed for the period 2050 and 2100. Based on these scenarios, the evolution of vulnerability is estimated by using the Potential Damage Index method proposed by Puissant et al. (2013).