



Assessment of vulnerability to natural hazards and climate change in mountain environments – examples from the Alps

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This paper introduces a methodology for assessing vulnerability of mountain regions to climate change and selected natural hazards in a pragmatic and transferable way. It is based on the theoretical concept of the IPCC (2007) integrating the components exposure, sensitivity and adaptive capacity into such an assessment. Its focus is the holistic assessment of vulnerability of most relevant potential impacts of climate change on the populations and their activities in most important economic sectors in mountain regions. The results are aiming to support the regions of concern in their process of developing and deciding amongst adaptation strategies as response to changes induced by climate or other external stressors

The methodology introduced is based on a system of indicators. The focus is individually set by a selection of major sectors and potential impacts of concern. A number of working steps is proposed that guide through the main tasks of the overall vulnerability assessment. Particular emphasis is given to the determination of the adaptive capacity. The assessment of the individual indicators and the method to aggregate the various vulnerability components is carried out according to a pre-defined set of rules.

The newly developed approach has been tested in various Alpine regions, of which South Tyrol is chosen as example to demonstrate results. The methodology provides results of value for users at local level and also allows for comparisons. Aggregation steps are made transparent and the communication of all intermediate results is recommended