



Return period of landslides and triggering rainfall: the experience of a southern Italian region

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Landslides occurred during or shortly after rainy events are considered. In the present work, we proposed a methodological approach, based on the comparative analysis of two databases: the landslide database and the climatic database. The aim of the analysis is to underline repetitively and return periods of selected landslide phenomena and to investigate if triggering rainfall conditions are invariant or change from activation to activation. As an application of the proposed methodology, in the database of landslides occurred in Calabria since the beginning of 1800, a series of landslides, characterised by several activation phases have been selected.

The case studies concern landslides located in different sectors of the region and characterised by different geological, geomorphological and anthropogenic context, in order to take into account every possible factor which can induce modifications of the rainfall threshold able to trigger the analysed landslides.

The main purpose is the individuation of districts showing homogeneous geological, geomorphological, climatic and anthropogenic context, to which the relationships rainfall-landslide can be extrapolated. The resulting zonation can have applications in planning and prioritising of landslide remedial works and in the definition of civil defence plans.