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Extreme rainfall events inducing damage in Calabria (south Italy) during the 1981-1990 decade

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Prolonged and/or intense rainfalls, developing in few hours or in a few days, can trigger landslides, floods, and, if bad weather periods are characterised by strong winds, in coastal zones also sea-storms can occur. The whole of these phenomena can cause victims and serious economic damage; they can be defined as *Damaging Hydro-geological Events*.

A historical research has been carried out on *Damaging Hydro-geological Events* occurred in Calabria between 1981 and 1990, in order to characterise spatial and temporal distribution of both triggered phenomena and induced damages.

Data have been obtained from press archives reviewing about 3600 newspapers. In the study period, 48 events have been recorded. In 5 of those events the area of damaged municipalities extends on more than 10% of regional surface and they are defined *High Impact Events*.

In order to quantify the severity of the events and to compare to other similar events for which analogous data exist, two damage indexes are introduced to calculate a numerical value representing damage in a single municipality and all over the region. Damage is described using the effects on nine types of element at risk.

The event discussion is completed assessing the exceptionality and the recurrence of the climatic and of the whether conditions of each main event on the basis of a comparison between the climatic characteristics of the region and the specific climatic trend observed in the selected decade.