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The impact of two damaging hydrogeological events in Calabria (southern Italy)

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Basing on the analysis of a detailed historical database concerning the impact of bad weather periods in Calabria (southern Italy), two cases, occurred in October 1951 and October 1953, have been selected. The choice of these events firstly depends on their high socio-economic impact: they caused severe economic damage and, during both the events, about 100 people were killed. Secondly it depends on the extremely high rainfall values recorded in both cases: during 1951 event, as example, in 13 rain gauges of the hit area, the daily rainfall reached the highest value ever recorded.
After the delimitation of the geographic areas hit, the events are described in terms of types of damaging phenomena occurred (floods, landslides, wind storms). Basing on the available historical data, the amount of direct, indirect and intangible damage is also assessed.
Then, the amount of rainfall recorded in the raingauges of the affected areas is analyzed. Rainfall values are compared to the whole historical rainfall series, in order to select similar rainfall events and to compare the different damaging effects reported in the historical database. This comparison is focused on the analysis of the actual role played by the rainfall in causing the huge damage occurred in the studied cases, which could even be related to the past anthropogenic configuration of the hit areas. Finally, an actualization of the scenario of these events -in the current territory configuration- is attempted, aiming to assess the possible impact of similar rainfall scenarios in the future.