



Damaging Hydrogeological Events in Calabria (Italy): new results of an ongoing historical research

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Damaging Hydrogeological Events (DHEs) are episodes of severe weather conditions characterised by strong winds, heavy rainfall, landslides, flooding, and sea storms. DHEs habitually cause economic and human-related damage in both rural and urbanised sectors. Each type of phenomenon developing during DHEs is characterized by a proper dynamic and, according to the social and economical framework in which develops, it can cause different impacts.

Despite during storms all these phenomena occur at the same time (or in a short while), often strongly amplifying damage and hinting emergency management, studies available in literature tend to analyze each type of phenomenon separately, supplying a fragmentary framework of either causes (rainfall) and effects (damage).

A database concerning DHEs occurred in Calabria (southern Italy) since 1800 has been recently updated and improved by continuing a historical research which has been started since 2000. Basing on this huge amount of data (more than 10,000 records), an analysis of the series of DHEs occurred in Calabria in a 200-year wide period is carried out.

The methodological framework for DHEs analysis, based on damage classification, is presented, and a classification of different DHEs types is shown. Finally, some results concerning the trend of the events are compared to either climatic trend of the region and urban growth in different regional sectors.