



Disastrous floods and landslides in Portugal in the 20th century

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The record and analysis of statistical information on disaster occurrence, impacts and losses have been made worldwide in recent years. The development of natural disasters databases is crucial for risk management purposes, because it allows improving systems of indicators on disaster risk and vulnerability at national and sub-national scales. During the last century, Portugal was affected by several destructive natural disasters, namely of hydrologic (floods) and geomorphologic (landslides) origin. However, only recently risk prevention and management was assumed to be a national priority by the Portuguese Government. The basic information on past floods and landslides that occurred in Portugal is disperse and incomplete, and this is a shortcoming for the implementation of effective disaster mitigation measures, particularly when it is expectable an increase of frequency, magnitude, dimension and complexity of the hydro-geomorphologic phenomena resulting from climate change.

In this work we present a preliminary assessment of hydro-geomorphologic disasters occurred in Portugal during the 20th century, based on the systematic survey of daily national newspapers. We included into a database those floods and landslides that produced, alternatively, dead people, injured people, missing people, evacuated and homeless. A total of 937 hydro-geomorphologic events were registered. In addition to physical and material damages, these events produced economic losses amounting to millions Euros.

Our attention will focus on the geographic distribution and the temporal dimension of disastrous floods and landslides occurred in Portugal, and the temporal trends of hydro-geomorphologic disasters will be presented.

The preliminary results shown that disastrous floods and landslides have been more frequent on the most populated regions of Portugal: the metropolitan areas of Lisbon and Oporto. In addition, data shows that disastrous hydrologic and geomorphologic phenomena were more frequent from 1940 to 1970, and there is no evidence of a clear increment in time both in the number of disastrous events and the number of associated death people.

Finally, we assess the societal risk regarding landslides and floods in Portugal through the construction of F-N curves.