



Are flash floods increasing in Catalonia? The role of vulnerability versus hazard

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A recent work (Turco and Llasat, 2011) has been performed to analyse the trends of the ETCCDI (Expert Team on Climate Change Detection and Indices) precipitation indices in Catalonia (NE Iberian Peninsula) from 1951 to 2003, calculated from a interpolated dataset of daily precipitation, namely SPAIN02, regular at 0.2° horizontal resolution. This work has showed that no general trends at a regional scale have been observed, considering the annual and the seasonal regional values, and only the consecutive dry days index (CDD) at annual scale shows a locally coherent spatial trend pattern. Simultaneously, Llasat et al (2009, 2010) have showed an important increase of flash-flood events in the same region. Although aspects related with vulnerability, exposure and changes in uses of soil have been found as the main responsible of this increase, a major knowledge on the evolution of high rainfall events is mandatory. Heavy precipitation is usually associated to convective precipitation and therefore the analysis of the latter is a good indicator of it. The present contribution analyses the evolution of floods in Catalonia with special incidence in the period 1981-2010 (although reference to longest periods will be done), as well as the evolution of the β parameter, related with the greater or lesser convective character of the precipitation (Llasat, 2001). Other factors like changes in population density or in land uses are also considered.