



Historical flood data series of Eastern Spanish Coast (14th-20th centuries). Improving identification of climatic patterns and human factors of flood events from primary documentary sources

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Historical flood events in eastern spanish coast have been studied by different research groups and projects. Complexity of flood processes, involving atmospheric, surface and human factors, is not easily understandable when long time series are required.

Present analysis from PREDIFLOOD Project Consortium defines a new step of flood event databases: Improved access to primary (documentary) and secondary (bibliographical) sources, data collection for all possible locations where floods are detected, and improved system of classification (Barriendos et al., 2014).

A first analysis is applied to 8 selected flood series. Long chronologies from PREDIFLOOD Project for Catalonia region (Girona, Barcelona, Tarragona, Lleida, Tortosa). In addition, to cover all sector of spanish mediterranean coast, we introduce Valencia city in Turia River basin. South Eastern sector is cover with Murcia and Caravaca cities, Segura River basin.

Extension of area under study required contributions of research teams experienced in work of documentary primary sources (Alberola, 2006; Gil-Guirado, 2013).

Flood frequency analysis for long scale periods show natural climatic oscillations into so-called Little Ice Age. There are general patterns, affecting most of basins, but also some local anomalies or singularities. To explain these differences and analogies it is not enough to use purely climatic factors. In this way, we analyze human factors that have been able to influence the variability of floods along last 6 centuries (demography, hydraulic infrastructures, urban development...).

This approach improves strongly understanding of mechanisms producing major flood events on Eastern coast of Iberian Peninsula, with identification and evaluation of natural and human factors involved on that.

References:

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