

Extense historical droughts in Spain derived from documentary sources

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Documentary records, specially those from rogation ceremonies have been extensively used to build proxy series of droughts and floods in Spain. Most of the work done previously has focused in the abstraction of the documents and building of the individual series, but less attention has been paid to the joint analysis of this type of records. This is problematic because, due to the diversity of Spanish climates, the climatological meaning of the rogation ceremonies changes depending on the considered region. This paper aims to analyse the spatial extension of drought events from the rogation records from Barcelona, Bilbao, Gerona, Murcia, Seville, Tarragona, Toledo, Tortosa and Zamora, which cover the 16th to 19th centuries. The representativeness of each of them is analysed taking into account the local climate and the series variability. Then the spatial scale of the recorded droughts is examined at seasonal scale. The results show high multidecadal variability, with the driest periods at national scale recorded during the 1680s, 1730s and 1780s. Finally, the dry years of 1680, 1683 and 1817 are analysed in detail.