



Spatiotemporal analysis and trends of aridity of Iberian Peninsula (1960-2010)

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In this study the aridity of the Iberian Peninsula was analysed, taking into account 45 stations in Spain and Portugal from 1960 to 2010. The De Martonne Index was considered. The goal of this study was to explore the spatial distribution and to determine monotonic trends and shift changes in annual aridity by using the Mann-Kendall test and the Sen's estimator. The spatially interpolated maps of the aridity indice were generated using the ordinary kriging algorithm in a geographic information system (GIS) environment. A great variability for Martonne Index was found, gathering from semiarid climates to extremely humid, although the former being the dominant type. 41 temporal series showed decreasing tendencies, 15 of them significant, belonging to all climate types, which indicates a increase in aridity during the research period. A shift in the aridity tendency has been observed around 1979, and a period of greater aridity started since.