



Trends in rainfall erosivity (1955-2006) over the Ebro basin (NE Spain)

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As a major soil erosion factor, changes in rainfall erosivity have large economical interest in many regions, especially for agriculture. This study analyses the temporal evolution of rainfall erosivity over the Ebro basin, NE Iberian Peninsula, for the period 1955-2006. The study is based on daily precipitation data available from 156 observatories. Daily precipitation records were transformed into daily rainfall erosivity data by means of a seasonally-adjusted exponential relationship. Results showed a generalized decrease of the annual rainfall erosivity over the region, with important spatial differences. This trend was most intense towards the East, whereas some areas in the central valley and in the North (Pyrenees range) experienced an increase. Results at the seasonal level revealed different patterns that have important implications for agriculture. Positive trends in rainfall erosivity were found in the centre and the South-East of the region (Mediterranean coast land) in spring and in the central area, the Pyrenees range and the North-West in autumn. During winter and summer negative trends were predominant in the whole region. These results are relevant for promoting soil conservation measures in the study area, since during spring and autumn the soils are more exposed while the crops are growing or under tillage.