



Influence of teleconnection patterns on extreme precipitation indices over Europe: consecutive wet days (CWD) and highest one day precipitation (RX1DAY)

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Trends of extreme precipitation indices would affect socio-economic systems and, therefore, studying the causes of such variations has a great interest to mitigate their impacts. Extreme precipitation indices were computed from daily gridded dataset derived through interpolation of station data (E-OBS) version 3.0 for the period 1950-2009. In this study, we will show results for consecutive wet days index (CWD) and highest one day precipitation amount per time period (RX1DAY). The differences between the trends in the north, center and south of Europe in winter, spring, summer and autumn are analyzed. The variability of the indices is characterized by means of Empirical Orthogonal Function to regionalize the extreme indices. We used statistical regression to obtain the influence of teleconnections on precipitation extremes. These results will be compared against to mean precipitation (RR). It was found greater influence of the North Atlantic Oscillation (NAO) and Scandinavian teleconnection pattern (SCA) on extreme precipitation than on mean precipitation. We also present composite maps of geopotential and wind anomalies to show favourable conditions in atmospheric circulation for the occurrence of extreme events. These findings could be applied to achieve forecast of local extremes.