



Convective and stratiform precipitation trends in the Spanish Mediterranean coast

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Eastern Iberian Peninsula is characterized by the large occurrence of convective precipitation events, which entail important economic and social damages. It is necessary to achieve a good knowledge and understanding of the meteorological processes involved. In this regard, an algorithm for classifying convective and stratiform precipitation components has been applied to a decadal precipitation record.

Dataset were provided by National Spanish Meteorological Agency (AEMET) for the period 1998-2008. Hourly precipitation records have been analyzed. The goals of this study are: a) classifying total precipitation into its stratiform and convective components in Levante region (located in the Eastern Spanish coast) and b) analyzing annual and seasonal trends of such components.

In order to determine both convective and stratiform precipitation components, a suitable exponential function has been used. After iterative computation process critical precipitation intensity (so-called R_c) is obtained for each year and season of the study period. Every precipitation episode in Levante region is classified into prevailing convective or stratiform regime according to the threshold value defined by R_c . First results show an annual and seasonal significant positive trend in total precipitation and stratiform component for 1998-2008 decade. Further analysis reveals that convective precipitation exhibits no significant trend. Therefore, preliminary conclusions state that the total precipitation amounts in Levante Region strongly depends on the stratiform component evolution. Current analyses are focused on evaluating the importance of convective precipitation component and assessing the main triggering factors involved in the severe weather episodes registered.