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Comparison between Precipitation Components Trends in two zones of Spain.

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Iberian Peninsula is compound of several sectors determined by different geographical and climatic characteristics, which enclose distinct social influences and specific ways to tackle the problems and damages that they entail. Such climatic characteristics proceed from typical synoptic situations associated to different weather patterns. Such patterns have different probability related to a seasonal behavior in each zone. In this regard, one of the variables which worry the most to the population is precipitation which leads us on to study one of its aspects: stratiform and convective components and their evolution comparing the two areas. On the other hand, the convective component of precipitation can be found more frequently under synoptic related with a high warm of the Mediterranean Sea or strong radiations over central Iberian Peninsula, typically at the end of summer. However, the Northern of Iberian Peninsula is influenced by presence of low pressures and fronts that go through the North Atlantic Ocean and British Islands. Also, because of the unlike climatology of the two treated zones, the behavior along seasons can be some dissimilar. These differences want to be detected in this work. In order to achieve our aim a decadal period from 1998 to 2008 has been selected in two sectors, specifically the Northern and Eastern of Iberian Peninsula. Dataset is provided by AEMET (Spanish Meteorological Agency).
Methodology used has been by calculating the amount of the two components of total precipitation separately. The stratiform precipitation presents a more regular distribution that the convective component which is represented by positive anomalies from the stratiform precipitation. So, a frequency distribution depending on precipitations intensity has been achieved and, according to previous studies, low rate of precipitation is identified mainly as stratiform and high rate as convective.
The study has been made both annual and seasonally, through obtaining the critical intensity rate (Rc) which divides the total precipitation in two terms, stratiform and convective components, regarding its frequency distribution. Using a same criterion in order to determine the components for two regions, namely 60% of convective precipitation in the intensity rate, it is compared such a distribution between the two areas. An improvement algorithm has been introduced for this purpose.
First results show that although every area is defined by different climatic characteristic the prevailing annual regime is stratiform in both of them. Clear differences are observed when seasonal analysis is carried out. In addition, trend of the precipitation components in both, Eastern and Northern, areas has been analyzed for annual and seasonal analysis.