



## **Tendencies of extreme values on rainfall and temperature and its relationship with teleconnection patterns**

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It is now very well established that yearly averaged temperatures are increasing due to anthropogenic climate change. In the area of Galicia (NW Spain) this trend has also been determined. Rainfall does not show a clear tendency in its yearly accumulated values. The aim of this work is to study different extreme indices of rainfall and temperatures analysing variability and possible trends associated to climate change.

Station data for the study was provided by the CLIMA database of the regional government of Galicia (NW Spain). The definition of the extreme indices was taken from the joint CCI/CLIVAR/JCOMM Expert Team (ET) on Climate Change Detection and Indices (ETCCDI). This group has defined a set of standard extreme values to simplify intercomparison of data from different regions of the world.

For the temperatures in the period 1960-2006, results show a significant increase of the number of days with maximum temperatures above the 90th percentile. Furthermore, a significant decrease of the days with maximum temperatures below the 10th percentile has been found. The tendencies of minimum temperatures are reverse: fewer nights with minimum temperatures below 10th percentile, and more with minimum temperatures above 90th percentile. Those tendencies can be observed all over the year, but are more pronounced in summer. This trend is expected to continue in the next decades because of anthropogenic climate change. We have also calculated the relationship between the above mentioned extreme values and different teleconnection patterns appearing in the North Atlantic area. Results show that local tendencies are associated with trends of EA (Eastern Atlantic) and SCA (Scandinavian) patterns. NAO (North Atlantic Oscillation) has also some relationship with these tendencies, but only related with cold days and nights in winter.

Rainfall index do not show any clear tendency on the annual scale. Nevertheless, the count of days when precipitation is greater than 20mm (R20mm) and the total precipitation when rainfall is greater than 95th percentile (R95pTOT) diminishes in winter and spring, but increases in autumn. This trend is related with NAO in winter and spring and with SCA in autumn.