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Weather Types effects on Autumn and Spring monthly precipitation of Iberian Peninsula

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The objectives of this session are to identify the spatial relationships between Circulation Weather Types (WTs) and precipitation, and to analyze the trends of the main WTs responsible of such precipitation, focusing the attention on the Spring and Autumn seasons. Spatial distribution of rainfall regime of the Iberian Peninsula changed during the last decades of the 20th century, and areas under spring rainfall regime were substituted by autumn regime.

The nature of these changes were explored by using 26 WTs of Lamb's classificacion in the modified version of Jenkinson and Collison and derived from the daily sea level pressure EMULATE database during the study period 1948-2003, paired with a high density monthly precipitation database of 3030 monthly precipitation series, 2644 from MOPREDAS dataset (Monthly Precipitacion database for Spain), and 386 Portuguese series provided by INAG (Instituto da Agua).

Results show that significant changes of monthly precipitation can be related with contemporaneous changes on the monthly frequency of relevant WTs. Negative trend of March seems to be linked to the decrease of the frequency of the SW, W and C, WTs; and vice versa for positive trend of October.