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About weather regimes involved in the Mediterranean precipitation decrease (1950-2000)

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Precipitation decrease in the whole Mediterranean Basin between 1950 and 2000. But a preliminary study has allowed to determine that only 4 regions present during this period significant decreases of rain at the monthly and seasonal timescale: Mediterranean Iberia in October, Atlantic Iberia in March, Greece in January and winter and the Near East in winter. The modifications of the weather regimes associated with these significant decreases were looked for these only cases.
Regimes associated with these 5 cases have been determined from the significantly decreasing scores of CCPs (Canonical Correlation patterns) obtained with CCAs (Canonical Correlation Analyses) used to establish relations between rainfall and circulation. They have been divided into two subsets according to the importance, high or low, of the daily rainfall they bring for the concerned area. They are very much influenced by the physical features of the Mediterranean Basin: the existence of that inland sea which is the Mediterranean, the latitude and the drawing of the coastlines making a difference between coast with or without peninsulas which partitioned the Basin. So a circulation pattern gives rise to several regional weather regimes according to the different areas of the Basin and conversely certain types of weather regimes are linked with different circulation types. In the 5 cases studied as mentioned earlier the number of days with regimes bringing high rain total decreases when the one with low rain total increases.