

A circulation classification based on a rotated Principal Components Analysis. Comparison with a subjective classification

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The climate of the Iberian Peninsula (IP) is characterized by a remarkable complexity mainly due to its orography and location in the Atlantic storm-track under the influence of air masses with different origins ranging from arctic to subtropical. This complex climate suggests the usefulness of a regionalization of the IP climate.

A general classification of daily winter 500-hPa geopotential height based on the European Centre for Medium-Range Weather Forecasts (ECMWF) Reanalyses dataset (ERA-40) is discussed. We apply Principal Component Analysis (PCA) followed by a rotation procedure to enhance interpretability. The main objective of this study is to compare the circulation types obtained with those revealed in a subjective classification made by Font-Tullos (2000) for the IP.