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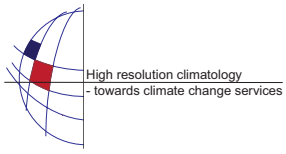

Evaluation of precipitation from ECMWF re-analyses over Iberian Peninsula

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The work described here evaluates precipitation from ERA-40 and ERA-INTERIM over the Iberian Peninsula. This evaluation focus on annual, monthly and 5-days timescales. A drought analysis is also performed using the standardized precipitation index. The quality of the re-analyses is assessed using a high resolution daily gridded dataset, which results from the merge of a Spanish and a Portuguese new dataset with a regular grid of 0.2°, using 2756 and 660 stations, respectively over Spain and Portugal. The development of the Portuguese dataset will be described.

The spatial distribution of annual mean precipitation is reasonably described by ECMWF re-analyses. Nevertheless, ERA-40 underestimates the precipitation amounts mainly in Northern region over mountains areas. This bias is reduced by ERA-INTERIM. Moreover, ERA-INTERIM reproduces correctly the average annual cycle over Iberian Peninsula. On the contrary, ERA-40 shows a dry bias except in summer months.

The performance of monthly and 5-day accumulated precipitations is verified computing simple scores, as mean error, mean absolute error, and linear correlation coefficient. The skill of 5-days precipitation is also evaluated with categorical statistics measured from contingency tables as function of different precipitation thresholds. In addition, we do a spatial comparison of observed and forecasted fields, computing the ratio of the re-analyses precipitation area to the observed area and the correspondence ratio. The correspondence ratio is defined as the area of all points where both fields show precipitation divided by the area of points where any of the fields indicate precipitation.