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Precipitation climatology for the North African and Middle East areas of the Mediterranean Region using a collection of in situ observation

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A data set of long-term in situ observation of precipitation at monthly scale was compiled covering five country of the North Africa and middle East : Tunisia, Egypt, Libya, Jordan and Syria. Data have been statistically tested with respect the homogeneity using a combination of statistical methods. The intercomparison with EOBs and CRU data set has been carried out and shows an acceptable agreement among different datasets. The data show different trends depending on the considered country. For instance, at the northern coast of Egypt precipitation from 1973 to 1997 increases about 10 mm, whereas, on the contrary, in Jordan it decreases about 50 mm from 1961 to 1990. The data set has been compared to the climatology produced by the Regional Climate Models. Results show that the model producing the most accurate climatology varies across the region. Further, it is shown that the RCM model ensemble does not necessarily produce the most accurate results and that it is often outperformed in a specific area by an individual model.