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Intercomparison of temperature and precipitation datasets based on observations in the Mediterranean and the Middle-East

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An intercomparison and evaluation of gridded temperature and precipitation datasets, based on observations in the Mediterranean and the Middle East region is presented. Using available global and regional data, we investigate the spatial distributions of these two parameters for this region as well as a seasonal and regional evaluation of uncertainties and trends for eight subregions that have been selected based on their distinct climate regimes. All datasets represent the overall spatial features well though partly with biases. Using the seasonal means, standard deviations and cumulative density functions for the eight subregions, we identify outliers among the datasets. The correlations between datasets are high except for some regional data products. Desert areas such as Saudi Arabia and Libya-Egypt appear problematic due to their sparse station network. Similar upward trends of temperature and downward trends in precipitation are found for most of the region in all datasets, while differences are found in their magnitude and level of significance.