



## **Monthly contribution of largest daily events of precipitation (1956-2005) across mediterranean basin**

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Temporal distribution of precipitation plays a critical role in natural and socioeconomic processes (i.e. soil erosion, floods, ground water recharge, etc). In Mediterranean climate areas the temporal distribution of precipitation usually is linked to a very few daily rainy events, but no clear information is available at present because of paucity of daily dataset.

In this research we have analysed the mean monthly contribution of maximum rainy day across Mediterranean basin to know how precipitation in Mediterranean climate area depends on a few. Thus we have used the ECA daily dataset (Klein tank et al 2002, IJC) and calculate at monthly scale the percentage contribution of maximum daily event to total monthly precipitation during 50 years (between 1956-2005).

The results suggest that across Mediterranean basin the largest (the maximum) daily rainy event contributes to total monthly precipitation, as a mean value, at least with 25% of monthly precipitation and increase during summer, eventually to 100%. The added contribution of each monthly largest daily event have produced during the period 1956-2005 at least 30% of total annual precipitation: i.e. more than 30% of annual precipitation is produced in 3% of total time (12/365 days). Spatial variations across Mediterranean basin is shown. At monthly scale percentage of highest rainy event contribution increase from West to East, particularly in summer.