



## **Comparative assessment of different drought indices across the Mediterranean**

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Droughts have become one of the most challenging issues in hydrological sciences due to their major socio-economic impacts all over the world. In the context of the everyday water resources management practice, the identification and evaluation of droughts are mainly based on simplified indices, which are estimated through easily accessible information. In this work, we employ several meteorological indices, i.e. Standardized Precipitation Index (SPI), Standardized Precipitation and Evapotranspiration Index (SPEI), Reconnaissance Drought Index (RDI), Palmer Drought Z Index, and Palmer Drought Severity Index (PDSI), in order to evaluate the severity and duration of the observed drought events. The main purpose of this study is to underline the difference in the onset time of drought, the distance between events, and the discrepancies in the magnitude assessment for the same event. Various temporal aggregation scales, from one month to one year, have been considered in order to investigate the impacts of the adopted time scale on the drought characteristics. Our analysis focuses to the Mediterranean region, using data from Southern Italy and Greece.