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Water Balance Components under Climate Change in Croatia

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Abstract : Lack of precipitation combined with high temperatures causes great damage to the agriculture and economy in Croatia. Therefore, it is important to understand water circulation and balance. We decided to gain a better insight into the spatial distribution of water balance components (WBC) and their long-term changes in Croatia. WBC are precipitation (P), potential evapotranspiration (PET), actual evapotranspiration (ET), soil moisture content (S), runoff (RO), recharge (R), and soil moisture loss (L). Since measurements of the mentioned components in Croatia are very rare, the Palmer model has been applied to estimate them. We refined method by setting into the account the corrective factor to include influence effects of the wind as well as a maximum soil capacity for specific soil types. We will present one hundred years' time series of PET and ET showing the trends at few meteorological stations and a comparison of components of two climatological periods. The meteorological data from 109 stations have been used for the spatial distribution map of the WBC of Croatia.

Keywords : croatia, long-term trends, the palmer method, water balance components
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