

# **Modelling of actual evapotranspiration and soil water content in Hungary**

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Fields of actual evapotranspiration (AET) and soil water content (SWC) in Hungary are estimated using a Thornthwaite-based approach. The space/time resolution is about 30 km and 1 month, respectively. Thornthwaite method is chosen since on one hand it uses common data of air temperature and precipitation and on the other it is suitable for Hungarian climate and soil conditions. In the calculations of water budget a second order implicit backward scheme is used. Soil water hydraulic characteristics are determined after Nemes (2003).

First, the model used is verified by measured soil water content data at Agrometeorological Observatory of the University of Debrecen. This data set contains about 40 years long time series of air temperature, precipitation, soil water content in 1 m soil depth and soil hydraulic characteristics. The prevailing climate can be characterized as temperate rain climate with continental features. Second, as far as is concerned the spatial distribution of AET and SWC, a strong effect of soil texture and relief is noticed. Third, statistical relationships are established between AET and SWC on one hand and P and T on the other for soil textural classes as used in Hungary.