

A comparison of methods for estimating potential evapotranspiration in South Backa region

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Abstract

The investigation in this paper deals with the comparison of nine well-known equations for estimating potential evapotranspiration using climatic data from Rimski Sancevi, South Backa region in Vojvodina Province. The various equations used can be separated into different methods of estimating E_{To} , depending upon the type of climatological data utilized to determine E_{To} . These methods are solar radiation, temperature, atmospheric relative humidity and combination of these three variables. The different equations used were Radiation, Turc, Blaney-Criddle (original), Blaney-Criddle (modified), Thornthwait, Ivanov, Eagleman, Penman modified and Penman-Monteith method. The computed E_{To} for each equation was compared to the Pan method as a standard for evaluating the consistency and reliability of the particular equation. Those estimates, which most closely approximated the open pan values, were considered most reliable and consistent. The results for the South Backa region in Vojvodina Province showed that there was considerable variability among the different equations for predicting potential evapotranspiration.