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EVAPOTRANSPIRATION- FROM CHANGED PERSPECTIVE

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ABSTRACT

The prior knowledge of evapotranspiration (ET_0) is crucial for estimating crop-water demand, preparation of water distribution schedules and water diversion. The present study investigates the utility of artificial neural networks (ANN) and lines a regression model (LRs) for forecasting ET_0 based on hydro-meteorological data. Based on different inputs, eight ANN and LR models are developed. The results are compared with those of FAO-56 Penman-Monteith expression. The published daily climatic data from the Oakville Station (Canada) are used to verify the effectiveness of the developed models. Based on various performance indices, ANN models are found predicting ET_0 more accurately than LR models. The best performing ANN model has parameters like previous day's evapotranspiration, relative humidity, average temperature, solar radiation and wind speed as inputs.

KEYWORDS: *Evapotranspiration, Penman-Monteith Expression, Ann Models, Agriculture*