



Estimation of Reference Evapotranspiration using Cropwat- 8 Model In Semi-Arid Region

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Abstract: Accurate estimation of crop reference evapotranspiration (ET_0) in semi arid region is essential for better irrigation management and irrigation scheduling of crops. The main objective of this study is to estimates the crop reference evapotranspiration (ET_0) using climatic parameters. The FAO Penman-Monteith method is regarded as a standard and reliable technique to estimate ET_0 and to evaluate other empirical methods. The ET_0 of Rangareddy district of Telangana state was estimated using the CROPWAT-8.0 model. CROPWAT-8 model indicated the total reference evapotranspiration estimated to be 1879.3 mm year⁻¹. The average annual ET_0 in Rangareddy region is 5.15 mm day⁻¹. The highest monthly ET_0 value of 8.09 mm day⁻¹ was observed in May due to a higher temperature and sunshine hour. The lowest monthly ET_0 value of 3.26 mm day⁻¹ was observed in December due to a lower temperature and sunshine hour.

Keywords: Reference evapotranspiration, CROPWAT, Penman–montieth method
