**Application of ANN for Projection of pan evaporation**

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**Abstract**

Pan evaporation, a critical component of the hydrological cycle, plays a significant role in water resource management, agriculture, and climate studies. However, accurate projection of pan evaporation remains a challenging task due to the complex interactions between various meteorological, hydrological, and environmental factors. In this research paper, we propose the application of ANN models for the projection of pan evaporation, leveraging their ability to capture nonlinear relationships and patterns in historical evaporation data. Through the integration of meteorological variables such as temperature, humidity, wind speed, and solar radiation, along with geographical parameters, ANN models offer a data-driven approach to pan evaporation projection with enhanced accuracy and reliability. This paper presents a comprehensive review of existing literature on pan evaporation modeling, discusses the theoretical framework of ANN-based approaches, and outlines a methodology for developing and validating ANN models for pan evaporation projection. Additionally, we provide a case study illustrating the application of ANN models in projecting pan evaporation for a selected study area, highlighting the potential benefits and limitations of this approach. Overall, this research contributes to the advancement of pan evaporation modelling techniques and offers insights into the utility of ANN-based methods for improving water resource management and climate change impact assessment***.***

**Keywords:** ANN; MATLAB,PAN evaporation.