ASSESSMENT M5P MODEL FOR ESTIMATES THE EVAPOTRANSPIRATION POTENTIAL OF ONE, TWO AND THREE MONTHS LATER

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Introduction: This is a technique that can be used to investigate the relationships in the context of meteorological data is measured, to establish a relationship, to be able to estimate accurately the evapotranspiration potential, if possible, as well as the estimation of fewer parameters to be used.

Material and method:M5P model dependent on Vka data mining software that can predict dependent data from independent data sets. M5P a binary regression tree models in their final nodes (leaves) are linear regression functions that can produce continuous numerical attributes.
For this purpose, the six Qazvin synoptic weather station weather data for evaluation data mining software M5P model for estimating potential evapotranspiration one, two and three months later have used Qazvin synoptic weather station.
The data used in this article, is the average monthly weather data of Qazvin station. Including air temperature, sunshine hours, temperature, dew point, relative humidity, wind speed and vapor pressure deficit during the period of thirty-six years from 1970 to 2005. output variables consisting Potential evapotranspiration of one, two and three months after the month is done.
firstly by introduced meteorological data into the algorithm as input variables and evapotranspiration potential the monthly months, as output variables, then M5P algorithm using indices correlation coefficient, mean absolute error and root mean square error was evaluated.

Result and discussion: According it was found that the model M5P tree with maximum correlation coefficient (R) and the lowest root mean error (RMSE) and mean absolute error (MAE) for the estimation of potential evapotranspiration estimates than a month after potential evapotranspiration for two months and three months later with better performance.

Keywords : M5P model , Qazvin , data, weather station