



Determination of Relationship between Probability of Precipitation and Temperature Status and Provide their Zoning Map in Fars Province

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Abstract

The aim of this study is determination of probability of occurring precipitation status under the condition temperature status and. zoning map preparation. For this purpose, the daily temperature and precipitation data from 13 synoptic stations were used in Fars province which includes at least the period of 20 years. At first were determined different scenarios of temperature and precipitation. In the next step, daily common frequency of temperature and precipitation events were counted and presented in matrix. In the following, common probability matrix of temperature-precipitation events was calculated. Finally, probability of precipitation under the condition temperature status was calculated for each station. Then 9 probability characteristics of 13 stations were analyzed cluster based on partial Euclidean distance indicator by wards method and their dendrogram were plotted. In the final step, zoning and probability maps was prepared using GIS software. The results showed that based on conditional probability characteristics, study area is divided in to three zones. Also, average results of probability of precipitation under the condition temperature status indicate high chance of days without precipitation and warm than other modes. In all three study zones, the days with high precipitation and low temperature are in second degree of chance. The minimum chance of occurrence, related to days with heavy rain and warm.

Keywords: Conditional Probability, Fars Province, Zoning, Cluster Analysis.

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