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North and North-West Iran's Climate Classification by Using Factor and Cluster Analyses

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Abstract

Understanding the physical characteristics of any particular regional climate features can play major role in land use planning. Climatic zoning of each region to identify possible environment and to exploit them, and to know the limitations and hazards in order to anticipate, is essential. According to the environmental and religious diversity, of climate on the northern and north-west of Iran, in this study the climatic zoning of the area was carried out. For this purpose, the data from annual average of 18 elements in 34 synoptic stations in the climate region with a common 21-year period (1985-2005) were used. The methods of factor and cluster analyses were used for this study. The factor analysis with principal components method, 18 elements in 5 regional climatic

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factors were summarized. These factors, in order of importance the factors humidity-precipitation, temperature, wind, thunder and dust. A total of 93.35% of these factors explain the behavior of the local climate. After determining factor, using cluster analysis method based on the integration, and the measure of distance, as well as regional stations were grouped according to the operating characteristics. The station had parallels in a climate group and thus 10 different climatic areas in the North and North-west of Iran were identified.

Keywords: Climatic Zoning, Factor Analysis, Cluster Analysis, the North and North-West of Iran.