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Modeling of Climatic Parameters and Determination of Climatic Differences in the City of Elazig-Turkey and its Close Regions

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ABSTRACT

This study deals with the climatic parameters and the climatic differences in Elazig and its close regions (cities of Malatya, Tunceli, Bingöl, Erzincan). Data on mean monthly temperature, daily maximum-minimum temperature, relative humidity, pressure, wind speed, rainfall, solar radiation and sunshine duration were analyzed and modeled for 10-year period, from 1994 to 2003. Malatya city was the hottest area whole period, while the Erzincan city was the coldest area. Maximum temperatures were at highest values in Tunceli. Minimum temperatures reached the warmest values in the Malatya. Erzincan city was the most humid area almost throughout the period while Malatya was the least humid area. Wind speed reached the highest values in the Elazig and the lowest values in the Tunceli. Pressure reached the highest values in the Malatya and the lowest values in the Erzincan. Direct solar radiation reached the highest values in the Tunceli and the lowest values in the Erzincan. Sunshine duration reached the highest values in the Malatya and the lowest values in the Erzincan. A regression analysis was carried out by using the linear regression technique to model the climatic parameters. The models developed can be used in any study related to climatic and its effect on the environment and energy. The models developed in this study can be used for future predictions of the climatic parameters and analysing the environmental and energy related issues in Elazig and its close regions (cities of Malatya, Tunceli, Bingöl, Erzincan).

KEYWORDS

Energy, Environment, Elazig, Erzincan, Malatya, Tunceli, Bingöl-Turkey, Relative Humidity, Solar Radiation, Sunshine Duration, Temperature, Weather Parameters, Wind Speed

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