

The Average and Absolute Maximum Temperature Zoning of Iran

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1. Introduction

Temperature leaves undeniable effects on human activities and natural processes. The analysis of average maximum temperature and the highest temperatures related to the heat wave phenomenon is of great importance. The most important goals of this study include the investigation of the geographical distribution of the maximum average temperatures and extreme temperatures based on the time series and the gathered trends, changes, and differences with regard to the ripples and geographical latitude. Average maximum temperatures and the highest temperatures are the temperature variables that their increase or decrease affects the related decisions and the short-term and long-term planning in agriculture, architecture and urban development, Industry, and Labor. This study investigates maximum temperatures of Iran between 2005-1966, then, it offers the time changes and geographical patterns in the form of zoning patterns.

2. Theoretical Framework

The average maximum temperature in the days of a month, aseason, or a year occurs usually after the time of maximum radiation (afternoon), which results in what we call monthly, seasonal or yearly maximum temperature. The absolute maximum temperature is the highest temperature achieved in a given interval (Zolfaghari, 2004) which is perhaps the heat waves representative of the area entering in the month in question.

3. Methodology

In the present study, to zone the average maximum and absolute maximum temperature for a period of 40 years (1966-2005), IDW maps with the same value of average absolute temperature, maximum and seasonal differences in decades were plotted and interpreted using the GIS software.

4. Results & Discussion

The analysis of absolute maximum temperature during four decades shows that absolute maximum temperature of the southern parts of the country has more absolute maximum temperature in contrast with the North in the first decade. In the

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second decade, the highest temperature happened in the South, South-West and South-East, and the lowest temperature has been observed in the North West. In the third period, the highest absolute maximum temperature in the Southwest and lowest absolute maximum temperature has been observed in the northwest. In the fourth period, similar to the last decades, the highest absolute maximum temperature is in the southwest, and the lowest absolute maximum temperature is in the north of the country. The average maximum temperature in the first, second, third, and fourth highest maximum temperature in the south and south west of the country, and the lowest maximum temperature has been observed in the northwest. After the analysis of the average peak seasons during -1966-2005, it became clear that the highest mean maximum temperature of the first and second spring occurred in the south east and south west and the lowest mean maximum temperature occurred in the northwest.

In addition, the summer maximum temperature dropped from south to north over the four decades. In the second decade, the south west of the country is faced with decreasing temperature. In the four decades of autumn the highest temperatures are in south, south east and south west of the country, whereas in the second decade they are in the south, and in the third and fourth decades they are in the south and south west of the country, and the lowest temperatures in the four decades have been observed in the north west of the country. Moreover, from the south to the north, the mean maximum temperature dropped. The highest mean maximum temperature in the winter of all four decades have been observed in the south, south east and south west, and the lowest mean maximum temperature occurred in the north west, and in the autumn from the south to the north the maximum temperature dropped. In the fourth decade the lowest mean maximum temperature have been increased over the past decades.

5. Conclusions & Suggestions

The Investigation during the study period showed that although the absolute maximum temperature of the country has decreased, the maximum average temperature has increased. In different seasons, regions in the north, north west and central, which have an industrial town in contrast with the mountains in this area, have higher rates of increase in mean maximum temperature. Also, the maximum temperature has no change in the low-lying areas in the south of the country. The increasing trend of the average maximum temperature in Iran with increasing rate of 2.69 in winter is more than the other three seasons. An increasing in the maximum temperatures in winter may be related to the arrival of heat the waves in the country.

Key Words: Mean maximum temperature, Zoning, Absolute maximum temperature, Iran.

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