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Analysis of Monthly, Seasonal and Annual Air Temperature Variability and Trends in Taiz City - Republic of Yemen

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ABSTRACT

Climate change is one of the most important issues of today' s World. Climate scientists have concluded that the earth' s surface air temperature warmed by $0.6 \pm 0.2^{\circ}\text{C}$ during the 20th century, accompanied by changes in the hydrologic cycle. Of all the climate elements, temperature plays a major role in detecting climate change brought about by urbanization and industrialization. This study focuses on the variability and trends of the mean annual, seasonal and monthly surface air temperature in Taiz city, Republic of Yemen, during the period 1979-2006. The results of the analysis of the whole period reveal a statistically significant increasing trend in practically all the months and seasons. A tendency has also been observed towards warmer years, with significantly warmer summer and spring periods and slightly warmer autumn and winter, an increase of 1.79°C and 1.18°C has been observed in the mean summer and mean winter temperature, respectively. Positive trends of about 1.5°C in the annual mean temperature were found for the whole period. The air temperature time series are analyzed, so that the variability and trends can be described.

KEYWORDS

Air Temperature, Climate Change, Republic of Yemen, Taiz City, Mann– Kendall Test, Trends

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