

**TIME SERIES ANALYSIS OF MEAN TEMPERATURE DATA IN TURKEY****A. Can<sup>1</sup>, A.T. Atımtay<sup>2</sup>**<sup>1</sup>*State Institute of Statistics, Ankara, Turkey*<sup>2</sup>*Middle East Technical University, Environmental Engineering Department, Ankara, Turkey*

In this study, the air temperature data obtained from “State Meteorological Service”, including 58 stations in Turkey for a period of 45 years between 1950-1994, was investigated. By using the yearly average temperatures, temperature time series were formed for mean temperatures for 58 stations. Gaussian smoothing, Mann-Kendall rank correlation and Wald-Wolfowitz serial correlation tests were applied to these temperature series in order to determine the trends and the abrupt changes in the temperatures. The results of this study showed that there is a statistically significant cooling trend in 21 stations, warming trend in one station and no trend in 36 stations in Turkey for the mean temperature series. The coldest year observed was 1992 and the warmest year was 1966. The largest negative temperature deviation from the median was observed in Erzurum province in eastern part of Turkey with a value of -5 0C in 1992. The regional changes of the mean temperatures in the country were also investigated. In the Black Sea region, 75% of the stations showed a statistically significant negative trend.