O 103. THE EFFECT OF SOUTHERN OSCILLATION ON ANNUAL PRECIPITATION TRENDS IN CENTRAL ANATOLIA

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ABSTRACT: The changes occurring in the world's climate year by year are seen randomly; however, it has been proved that one of the many reasons of these changes was ocean-atmosphere interaction repeating in every few years in the Tropical Pacific during the studies carried on the historical data. Even though these severe ocean-atmosphere events take place in the Tropical Pacific, their influences can be seen many kilometers away from the Pacific. In this study, the influences of Southern Oscillation which is an ocean-atmosphere event have been searched on the annual total precipitation trends of Central Anatolia Region. The stations in the Central Anatolia Region used in this study have at least 30 years data length; the stations are Eskişehir (17126), Ankara (17130), Aksaray (17193), Çankırı (17080), Kayseri (17196), Kırıkkale (17135), Kırşehir (17160), Konya (17244), Karaman (17246), Niğde (17250), Akşehir (17239), Nevşehir (17193), Sivas (17090) and Yozgat (17140). Out of homogeneity methods, Pettitt, Buishand and Run have been used in the analyses. Mann-Kendall and Spearman Rho trend methods were used to determine the trends of the precipitation data of the aforementioned stations. Moreover, the years of the beginning of the trends have been found by using Mann–Kendall Rank Statistic tests for the stations. To detect the relation between the trend values and the extreme phases of Southern Oscillation, Mann Kendall trend analysis method was applied again by reducing one year. When the outcomes of the study obtained for %95 confidence interval are examined, the data were observed as homogeneous. Furthermore, the precipitation tendencies in the northern and eastern parts of the region increased and the precipitation tendencies in the western and southern parts decreased. As a result of the study, the effects of the Southern Oscillation on the precipitation data of the Central Anatolia were obtained.

Keywords: El Nino Southern Oscillation, Homogeneity, Central Anatolia Region, Trend, Precipitation