

THE IMPORTANCE OF CYCLONE AND BLOCKING EVENTS IN AIR POLLUTION IN TURKEY

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Air pollution has been the major problem of the 20th century involving every region of the world from equator to poles. The main sources of air pollution are: automobiles, industry, and central heating systems in winter months. Apart from these, there are a number of meteorological elements or atmospheric events with great significance in the development of air pollution. Some of them are cyclone trajectories, their numbers and blocking events. In the formation of air pollution the degree of its intensity depends upon atmospheric conditions. The episodes of air pollution show itself on certain days in all seasons. On these days the concentrations of air pollutants (such as SO₂ and TSPM) are above the established standart limitations. In this study we have tried to find a connection among air pollutant (SO₂) with cyclone paths, frequencies, and blocking events among 59 stations in Turkey with a population over 100000. Regarding cyclone trajectories which effect Turkey, the five stations (Trabzon, İstanbul, Balıkesir, Ankara and Gaziantep) selected for their different cyclone paths, the analysis showed that in these five stations mean values of SO₂ had increasing trends. This study made within a period 1985-93 showed that air pollutants values in all these 59 stations were above the limitations set by the World Health Organization. Finally, the relationship between blocking event, cyclone frequencies and precipitation with the maximum active El-Nino years are determined and some air pollution applications are investigated for the period of 1980-1993. Keywords: Cyclone, Blocking Events, Air Pollutants.