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The Effects of Meteorological Parameters on Air Pollution in a Megacity, Istanbul

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İstanbul has a strategic position due to connection of Europe and Middle East together. The city is transcontinental with the Bosphorus which is the one of the busiest waterways in the world. The population of the city increases with each passing day rapidly. Air pollution has become a major problem. Atmospheric particulate matter, especially PM10 is very harmful for human health. Vehicle traffic and industrialization are the most important sources for PM10. For this reason, PM10 level should be kept under control with measurements. According to European Union Air Quality Standards, the critical value of PM10 is 50 μg/m3 for 24 hour and 40 μg/m3 for a year. In this study, the PM10 data of the years between 2008- 2013 have been analyzed for ten different regions of İstanbul. Relationship between meteorological parameters and pollution levels has been defined. PM10 levels of the winter and summer season have determined, also the causes of min and max values have investigated. Three days moving average of PM10 concentrations are researched accordance with meteorological parameters. Reasons of higher levels than the critical value have been explained. Correlation between pollutions and wind speed, temperature, humidity has been determined.

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