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STATISTICAL ANALYSES OF THE WET AND BULK DEPOSITION ON DIFFERENT REGIONS OF ISTANBUL, TURKEY

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This study presents the results of the analyses of chemical composition of wet and bulk deposition that is collected in different regions of Istanbul during the two periods (January 2001 - May 2001 and November 2001 – May 2002). In the period of January 2001 - May 2001, wet deposition samples were collected in Topkapi and Bagcılar, which are located on the European side of Istanbul, and in Maltepe and Goztepe which can be found on the Asian side. During the November 2001 – May 2002 period, samples were collected in Zeytinburnu and Bakırkoy which are located on the European side, Maltepe, Goztepe, and Sarigazi, which are located on the Asian side. Bulk deposition was collected together with wet deposition at only one station (Goztepe) during the period of January 2001 – May 2001. Altogether 138 wet deposition samples and 30 bulk samples were collected during the study period. In this study, spatial distribution and statistical interrelationships are examined by T test and factor analysis in terms of the chemical components of deposition for the two consecutive sampling periods. Results indicate that the concentration of chemical species of rain water, SO42-, Ca2+, Mg2+, Cl-, Na+, NO3-, K+, NH4+, sampled on the European side having higher population density and industrial activity than the Asian side, to be higher than those on the Asian side. It is found that the sulfate concentration is different among the regions with 95% confidence level.