## METEOROLOGICAL AND PHOTOCHEMICAL MODELING OF OZONE HIGH DAYS IN ISTANBUL

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The history of photochemical pollution problem in Istanbul (41$^{o}$N ;29$^{o}$E) is not old. Due to the continuous growth in the number of motor vehicles in the city, in recent ozone season, the city of Istanbul has experienced high ozone days in July 2001. The complex terrain of the Istanbul introduces a variety of mesoscale effects through circulation systems that are produced by differential heating of the southern parts of Istanbul. In order to better understand the impact of the wind circulations on surface ozone in Istanbul, which was found before, it is necessary to determine the region's circulations, such as sea/land breezes.

The MM5 model had never been used before in this area. It was the first time the model was used in connection with ozone studies. This model will provide inputs in subsequent air quality model applications and the understanding of the impact of the sea/land breezes on the high ozone in the region. In this study, 23 vertical layers were specified in the model from surface up to 100mb. The modeling domain, cover an area of 60 km by 60 km. In addition, 2.5$^{o}$ x 2.5$^{o}$ GDAS global data was also used.

Furthermore, the three-dimensional Eulerian model CAMx (Comprehensive Air Quality Model) was applied to simulate the photochemical pollution on days of reported high ozone concentrations. The days such as July 16-18, 2001were selected for applying a mesoscale model, in order to study the spatial and temporal variation of ozone over Istanbul.