

Development of the On-Line MM5 Tracer Model and its Applications to Air Pollution Episodes in Istanbul Turkey and Sahara Dust Transport

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Abstract

Based on the fifth-generation Penn State/NCAR Mesoscale model (MM5), an on-line tracer model (MM5T) was developed. In MM5T, the advection, boundary layer mixing, sub-grid cumulus convective mixing, and sedimentation of tracers were taken into account. The tracer model was applied to two studies to document the potential utility of MM5T. One is pollution transport to Istanbul, Turkey and the other is dust transport to Atlantic Ocean from Sarah Desert. The development of the MM5T and both study results will be presented.