

Composition of Surface Ozone for Regional Air Quality in East Asia

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In this study, GEOS-Chem global chemical transport model coupled with the WRF-CMAQ air quality modelling system was used to study the effects of long-range transport on regional air quality in East Asia. The use of a multi-emission scenarios approach provides a unique method to study the impact of long-range transport from each of the individual continents (i.e. North America, Europe and East Asia). In addition, the Policy Relevant Background (PRB) ozone produced from one of the scenarios were used to assist future ozone policymaking, determining the best achievable ozone air quality. To increase our understanding of the composition of ground level ozone, an attempt using a regional air quality model for studying the Stratospheric Tropospheric Exchange (STE) was performed. The use of chemical downscaling with the Tropopause Determining Algorithm (TDA) makes it feasible to study the influence of STE on ground level ozone using CMAQ.