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Title: Numeric simulation of surface tropospheric ozone seasonal cycles over east Asia, especially focus on Qinghai-Tibet Plateau

Abstract: The seasonal variation of surface tropospheric ozone over east Asia is researched by a regional scale transportation-chemistry model, which initial and boundary condition of species (O3, CO, and some long life VOCs) are obtained from a global chemistry model output. The comparison of model results with several sites' observations shows that the model reproduces the main hourly and seasonal observed features over eastern Asia. Seasonal variation of ozone shows a summer maximum and winter minimum over Qinghai-Tibet Plateau in contrast to field observations made in eastern part of Asia (east of 110E), Europe and North America, which have a spring maximum and a summer minimum. The results of global chemistry model (GCM) and our regional chemistry model (RCM) all shows that there is a high concentration ozone belt between 35N~45N from western boundary (70E) to 130E in summertime. It is concluded that the seasonal movement and conversion of Asia monsoon system and transportation from western boundary and eastern/central China are mainly responsible for the distinct ozone seasonal cycles over Qinghai-Tibet Plateau.

Presentation Mode:

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