



Transport of regional pollutions to UTLS during Asian Summer Monsoon - A CTM study

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We use a 3-D global Chemical Transport Model (CTM) GEOS-Chem to simulate the observed Asian Summer Monsoon transport of biomass burning tracers HCN and CO from local emissions to UTLS. By analyzing the satellite observations, we focus on the distribution and spatial-temporal variation of HCN and CO concentration in UTLS. The model simulations capture well the main features of distribution of HCN and CO compared with satellite observations. Recent studies (Li et al., 2009; Randel et al., 2010) indicated that regional emissions may play an important role controlling the distribution and variation of HCN in tropical UTLS during Asian Summer Monsoon seasons, mainly due to the local dynamical uplift of Asian Summer Monsoon. By using GEOS-Chem simulations, we will analyze the UTLS distribution and variation of HCN and CO from emissions of different regions including S.E. Asia, Boreal Asia, Indonesia and Australia, Africa, Europe, Northern America and Southern America. According to the amount and seasonal variability of emissions, the contribution of biomass burning and biofuel burning emissions of different regions to the highly concentrated HCN and CO in UTLS during Asian Summer Monsoon seasons will be discussed, individually.