



CO concentration in the upper troposphere: a comparison between satellite measurements and GEM-AQ simulations

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The moist convection plays a crucial role in regulating the structure and the composition of the upper troposphere. The chemical composition of this layer is directly coupled to the location and the intensity of deep convection. Data acquired by satellite instruments such as MOPITT, MLS, and TES provide valuable new information on this coupling. Recent measurements of CO from MLS, for example, reveal the presence of large plumes of CO in the upper troposphere associated with synoptic frontal lifting and deep convection. We present a comparison between the satellite data and the simulation of CO by the GEM-AQ model. GEM-AQ is based on the Global Environmental Multiscale (GEM) model, which is the Canadian operational weather prediction model, and includes a comprehensive treatment of tropospheric chemistry. We examine the impact of the adopted convection parameterization in the model on the simulation of the observations in the UTLS region.