Geophysical Research Abstracts
Vol. 16, EGU2014-1457, 2014
EGU General Assembly 2014

How well can we model polar spring ozone variability in a CCM?

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Two mechanisms determine polar ozone amounts in spring: meridional transport and chemical loss. Accumulating over preceding months they determine ozone anomalies in spring. To test the chemical component of the UMUKCA model we use the nudged configuration utilising ERA-Interim meteorological fields. We benchmark the model using the newly compiled ESA Ozone Climate Change Initiative merged total ozone record for the period 1996 – 2011. Focusing on three extreme years (one high and two low ozone events), we show that the model system captures large spring ozone anomalies well. With reliable meteorology, the UMUKCA model can capture successfully extreme ozone events.