



Trace gas variability within the Asian monsoon anticyclone on intraseasonal and interannual timescales

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The Asian monsoon and the associated monsoon anticyclone have the potential of substantially influencing the composition of the UTLS (upper troposphere/lower stratosphere) and hence global climate. Here we study the variability of the Asian summer monsoon anticyclone in the UTLS on intraseasonal and interannual timescales using results from long term simulations performed with the CCM EMAC (ECHAM5/MESy Atmospheric Chemistry). In particular, we focus on specified dynamics simulations (Newtonian relaxation to ERA-Interim data) covering the period 1980-2013, which have been performed within the ESCiMo (Earth System Chemistry integrated Modelling) project (Jöckel et al., GMDD, 2015). Our main focus lies on variability of the anticyclone's strength (in terms of potential vorticity, geopotential and circulation) and variability in trace gas signatures (O_3 , H_2O) within the anticyclone. To support our findings, we also include observations from satellites (MIPAS, MLS). Our work is linked to the EU StratoClim campaign in 2016.