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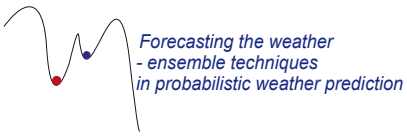

Ozone transport simulations between troposphere and stratosphere with EMAC-FUB

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Ozone changes exert their strongest influence on climate in the upper troposphere/lower stratosphere region due to the strong coupling between chemistry, dynamics and radiation. Stratospheric intrusion episodes represent an important transport pathway of ozone from the stratosphere to the troposphere while tropical deep convection brings near surface species to the upper troposphere and into the lowermost stratosphere, comprising ozone and ozone precursors stemming from biomass burning or sources of anthropogenic pollution.
The chemistry climate model EMAC-FUB has been used to simulate past, present and proposed future climate. Correlations between Ozone and tropopause heights at mid-latitudes next to correlations with stratospheric parameters give an indication on ozone mass transfer from the stratosphere to the troposphere. Also, potential vorticity fields can be used to determine the tropopause foldings and as an indicator for stratospheric intrusion. Furthermore, EMAC-FUB has been extended to include an ozone origin diagnostic tool which will be used to determine the net transport of ozone from the troposphere to the stratosphere and vice-versa. First results will be presented.