



## **Investigation of Arctic ozone anomalies by assimilation of satellite data**

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Understanding the mechanisms which control the variability of the Arctic ozone layer is important in order to predict how the ozone layer will evolve in a changing climate. Recently an unexpected correlation between high latitude total ozone in spring and high latitude ozone in the mid-stratosphere during the previous autumn and summer has been discovered, which raises the question of how the seasonal variation of ozone and meteorological conditions during winter are interrelated. In order to investigate the mechanisms of this correlation, we have performed a long-term assimilation of ozone data from SBUV satellite observations into a chemical transport model. Assimilation of global data constrains the model in spite of the lack of high-latitude satellite observations during polar winter, and thus a consistent dataset is generated. First results from a multi-year assimilation are shown, which agree well to independent sonde observations at high latitudes. We show typical patterns of ozone anomalies for several winters, which allow for a deeper analysis of high-latitude ozone variability.