Geophysical Research Abstracts, Vol. 8, 03476, 2006
SRef-ID: 1607-7962/gra/EGU06-A-03476


# An Idealised Climate Sensitivity Study Assessing the Impact of Changing $CO_2$ and Ozone on Arctic Ozone Loss

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To disentangle the combined effect of recent trends in $CO_2$ and $O_3$ in changing the large-scale circulation and ozone distribution, we have conducted four idealised climate change experiments using a stratospheric version of the Met Office Unified Model with parameterised stratospheric ozone chemistry and imposing $CO_2$ and ozone changes. We compare model results of process-oriented quantities involving ozone, in particular the slope and compactness of the ozone loss-PSC volume relationship in the northern hemisphere with observations of this quantity as described by Rex et al. (2004). Also, we address the problem of predicting the future development of the ozone layer by using empirical relationships under climate change.