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Interactive comment on "Uncertainties and assessments of chemistry-climate models of the stratosphere" *by* J. Austin et al.

J. Austin et al.

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We are grateful for this comment, which has given us the opportunity of looking further at the results. Clearly trends will be slightly different according to the period chosen and the latitude range. Even a few degrees of latitude or one or two years can make a difference. Following this comment, we have chosen to look at TOMS data in 30 degree latitude bands, so that the globe can be more easily divided into regions. For March and the latitude range 60-90N, we get -35 +/- 19 DU/decade for the trend 1979-1998 and -46 +/- 19 DU/decade for the trend 1979-1997. The trend in the March/April minimum is -28 +/- 19 and -28 +/- 22 for the same periods. Thus, indeed the area-averaged statistic may be a better indicator of overall ozone trends. A similar analysis in mid-latitudes also confirms Dr. Knudsen's point. For 30-60N and 1979-1998 we get a trend of -17 +/- 13 during March. For the minimum mid-latitude ozone the trend reduces to -7 +/- 11 DU/decade, which is not statistically significant. To summarise,

therefore, in both the Arctic and in mid-latitudes, the March area averages are indeed better indicators of ozone loss and hence, in due course, recovery.

Nonetheless, minimum mid-latitude ozone is a useful diagnostic for understanding UV dose. Hence, regarding the paper, we propose to add further results showing the area-averaged ozone from the models in comparison with TOMS.

Interactive comment on Atmos. Chem. Phys. Discuss., 2, 1035, 2002.