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Atmos. Chem. Phys., 7, 435-441, 2007

[www.atmos-chem-phys.net/7/435/2007/](http://www.atmos-chem-phys.net/7/435/2007/)

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## Mid-winter lower stratosphere temperatures in the Antarctic vortex: comparison between observations and ECMWF and NCEP operational models

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**Abstract.** Radiosonde temperature profiles from Belgrano (78° S) and other Antarctic stations have been compared with European Centre for Medium-Range Weather Forecasting (ECMWF) and National Centers for Environmental Prediction (NCEP) operational analyses during the winter of 2003. Results show good agreement between radiosondes and NCEP and a bias in the ECMWF model which is height and temperature dependent, being up to 3°C too cold at 80 and 25–30 hPa, and hence resulting in an overestimation of the predicted potential PSC areas. Here we show the results of the comparison and discuss the potential implications that this bias might have on the ozone depletion computed by Chemical Transport Models based on ECMWF temperature fields, after rejecting the possibility of a bias in the sondes at extreme low temperatures.

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