

Interactive comment on “The January 2006 low ozone event over the UK” by M. Keil et al.

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The McKenna et al. (1989) reference shows the importance of the advection of low ozone air into minihole regions, as well as of the lifting of the tropopause over anti-cyclones. It is very clear for the northern hemisphere in Reid et al., On the changing abundance of ozone minima at northern midlatitudes, J. Geophys. Res., 105, 12,169–12,180 (2000). Finally, just lifting the tropopause underneath an ozone column will not lower the total number of ozone molecules in the column - there must be more divergence of ozone out of the column than there is into it: there is insufficient ozone in the upper stratosphere and lower mesosphere, where the ozone can respond quickly to a changed photochemical environment, so the net divergence must be in the mid to lower stratosphere.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 8457, 2006.

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