

# ***Interactive comment on “Persistence and photochemical decay of springtime total ozone anomalies in the Canadian Middle Atmosphere Model” by S. Tegtmeier and T. G. Shepherd***

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Received and published: 8 December 2006

Answer to Referee 2

We understand the reviewer's concerns. We have eliminated the phrase “robust, process-oriented diagnostic”, which was perhaps too general, and tried to make it more clear what the diagnostic does and does not validate. Now the paper includes cases where the diagnostic helps to understand model deficiencies. Furthermore we linked the diagnostic to the estimation of long term changes in total ozone.

Specific issues:

1. The seasonal dependence of the chlorine component is considered since the fit is

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done for each month separately.

2. We have tried to be more specific about agreements and disagreements.

3. The regression seen in figure 7 is done for the entire extratropical region. The statement concerning the midlatitude region is now part of section 4, where the problems in the partitioning between polar and midlatitudes will be examined.

4. The anomaly decay is a test of certain things, but not others. In particular it is not a test of springtime chemistry. We have eliminated the statement “robust, process-oriented diagnostic”.

5. We agree with the referee and changed the concluding sentences of the paper.

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Interactive comment on Atmos. Chem. Phys. Discuss., 6, 3403, 2006.

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