

Interactive comment on “Recent trends in atmospheric methyl bromide: analysis of post-Montreal Protocol variability” by S. A. Yvon-Lewis and E. S. Saltzman

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Comments: We thank the reviewer for a thorough review and helpful comments. Please see specific responses below and in the attached PDF.

Spatial distribution of the missing source: Our results are consistent with a missing source that is located in the tropics as suggested by Warwick et al. [2006] and discussed in the paper. This model does not do a better job of constraining the spatial distribution of the missing source.

Seasonality of the missing source: Regarding the seasonality of the missing source, we did attempt to optimize the missing source seasonality for pre-phaseout conditions in C310

all model runs, except case 5 (in which there was no missing source). The seasonality of the missing source for cases 7 and 8 were added to Figure 3. In case 8, it is not possible to fully match the pre-phaseout seasonality - one must choose between the maximum, the mean or the minimum. The longer atmospheric lifetime makes it impossible to achieve the seasonal amplitude observed in the NH. This would require imposing a negative missing source at some times of the year. That would effectively shorten the atmospheric lifetime back to the original value.

Figures: The figures have been revised in accordance with the reviewer's suggestions. The revised figures are shown in the attached PDF. Bar graphs have been converted to line graphs for clarity. A new figure has been inserted between the current Figure 1 and Figure 2 (see Figure 1X below) to illustrate the changes in OH. An additional panel showing seasonality of the missing source has been added to Figure 3, as mentioned above. The caption of Figure 4 has been shortened.

Tables: The third column in Table 1 has been relabeled “2007 (60% Ag)”. The footnotes marked by asterisks are correct in the document as they are - which is exactly how the reviewer indicated that they should be labeled.

Other technical corrections:

Page 6516, line 26 will be corrected Page 6521, line 20 will be corrected Page 6525, line 22 will be corrected

Please also note the Supplement to this comment.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 6515, 2009.