Atmos. Chem. Phys. Discuss., 12, C11390–C11391, 2013
www.atmos-chem-phys-discuss.net/12/C11390/2013/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Quantifying the uncertainty in simulating global tropospheric composition due to the variability in global emission estimates of Biogenic Volatile Organic Compounds" *by* J. E. Williams et al.

Anonymous Referee #2

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General Comments: The authors of this manuscript present a valuable study on the range of the numerous BVOC databases used by the scientific community. Moreover, through the investigation of the different BVOC emission datasets, the authors are trying to evaluate a modified chemical mechanism via available observations on a global scale. I strongly support the publications of this study to ACP, although there are some minor comments the authors may notice.

Specific Comments:

p.28767 l.10-13 : specify ocean and soil voc emissions

p.28767 l.22: rather low. . . : you may give a range

p.28768 l.20-25 : rephrase – not clear

p28772 l.16 : more robust. . . : please quantify

p.28773 l.1 : report also terpenes chemistry

p.28774 l12 : specify which natural emissions you use

p.28776 l12-13 : repetition – please remove it

p.28779 l16. The biggest difference. . .. : Please quantify

p28781 l18-19: discribe/explain the vertical distribution of BVOC emissions in TM5

p.28782 l18-21: repetition – remove it

figure 8 caption: please give in parenthesis the abbreviations of the stations presented in the figure above

In figure captions you may give also the shape besides the color of the marks (e.g. figure 10)

Table A1 : you may distinguish the modified/additional reaction of the modified chemical scheme from the previous studies with TM5 or other models (e.g with italics/bold etc – if possible)

Table A1 reaction ALD2 + NO3 -> there is a '+' in the products

The authors may rearrange the text by gathering all the paragraphs of model evaluation in one section, in order to avoid repetitions.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 28765, 2012.