Atmos. Chem. Phys. Discuss., 13, C11823–C11825, 2014
www.atmos-chem-phys-discuss.net/13/C11823/2014/
© Author(s) 2014. This work is distributed under
the Creative Commons Attribute 3.0 License.

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Impact of biomass burning on haze pollution in the Yangtze River Delta, China: a case study in summer 2011" *by* Z. Cheng et al.

Anonymous Referee #1

Received and published: 3 February 2014

I believe this is a useful paper and the authors indeed made a number of improvements compared to the original submissions. However, it still needs language improvements, specifically the introduction and conclusion section that include some unclear statements. See several specific comments and notes that I made below referring to particular parts of the manuscript.

Beyond that I think the authors are not discussing enough and highlight potential contribution of this work for improved understanding of the open biomass burning emissions in China as well as stressing the remaining issues and gaps.

Finally, I think the paper would benefit from a bit more prominent discussion of the role better control of open burning or its efficient ban could have on successful reduction of exposure to air pollution in this densely populated region.

Abstract: Line15: I'd suggest saying biomass is rather than biomasses are Line17: Suggest to replace would improve with could improve

Introduction: There are several statements, which require improvements of the language, e.g., Page4, line11-14: . . .decent meteorological conditions. . .? Page4, line16-17: The sentence that starts with Furthermore is not clear, I suggest to simply say In US and Australia. . . Page4, line27 to Page5, line6: I think the part starting with Although the biomass. . . until the end of the paragraph should be rewritten or deleted. I honestly do not understand it, or can only guess what the authors wanted to say.

Methods and discussion: Several paragraphs in this part of the paper are very long and should be split; for example section 3.1 starting on page8. The discussion of Figure 2 is divided into two parts interrupted with text about Figure 3 (see page 9-10). I'd suggest to move the text about Fig 2 (see page10, from line 8) before discussion of Figure 3 as I think it would be more logical. I also believe that it might be useful to add the 75ug/m3 (the standard) line in Figure 2 and stress that the episode is widespread and observed at the same time at several stations (phase II).

Page 5, line 18: The authors use here and in several other places past tense when referring to the data presented in some tables or supplementary materials . . . details were. . . I think it should be rewritten in present tense.

Page 6, line 3: little error, it says TOEM rather than TEOM

Page 9, line 24: organic matters. . . should be organic matter. . .

Page15, line27: . . .weakened light efficiently. . . I think I know what the authors mean but this is an unfortunate formulation and this sentence should be rewritten/reformulated.

Page16, line3: it says . . .social-economics. . . but it should be rather socio-economic and it would be desirable to be more specific giving examples and add some references

Page 16, line4: the sentence with . . .further verified . . . what does it mean. Again, I might be guessing what is meant, possibly using . . .confirmed.. might be more appropriate, but please revise the sentence.

Conclusions: An important message is missing, i.e., implications for policy making. This is mentioned in the discussion but I feel it should be stressed here. In this respect, also the scale of these episodes can be highlighted form the perspective of how many people are affected.

Some of the statements shall be rewritten, e.g., Page16, line12: increase in PM2.5 and K+ does not confirm environmental impacts but rather contribution/importance of biomass burning to elevated concentrations Page16, line24: again the biomasses should be rather biomass is. . .

I find the last paragraph in conclusions does not really add anything important the way it is formulated now. The statements are rather general and could have been formulated without the results of this work. If the authors want to highlight the contribution of this work to improved understanding of open burning PM2.5 profiles in China then this paragraph should be reformulated.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 30687, 2013.