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## ***Interactive comment on “Impacts of seasonal and regional variability in biogenic VOC emissions on surface ozone in the Pearl River Delta region, China” by S. Situ et al.***

### **Anonymous Referee #2**

Received and published: 6 May 2013

General comments: This paper presents evaluation of a biogenic emission model, MEGAN, using flux measurements in the Pearl River Delta region. Impact of biogenic emission on ozone formation is investigated using WRF-Chem model. Sensitivity analysis of MEGAN input (e.g. landcover and emission factors) is also performed. The paper is of great interest and clearly written. I would like to recommend its publication on ACP after addressing the following minor comments.

Specific comments: Page 6741, line 12. As pointed out by the authors, isoprene emissions are significantly overestimated by the MEGAN model. Meanwhile, the manuscript is focused on evaluating of impact of biogenic emissions on regional ozone formation,

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in which isoprene plays a major role. There should be some discussion on how the overestimation of isoprene might affect the results and conclusions.

Page 6735-6737, Section 2.2 and Section 2.3. Anthropogenic and biogenic emissions are described. However, the amount of these emissions is unclear. A table showing the summary of these emissions would be helpful in terms of model inputs.

Page 6742, Line 10. Measured isoprene concentration is at the lower end of model predicted values. However, it is concluded by the author that model agrees well with measured concentrations. This is confusing. It would be more clear if details could be provided for the measurements and model predictions (e.g. 90, 50, 10 percentile values).

Technical corrections: Page 6730, Line 13. Missing period at the end of sentence "Surface ozone mixing ratios. . .".

Page 6742, Line 9. What is the applied OH concentration?

Page 6748, Line 19. Figure 4a doesn't seem to be the right one to refer to.

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