

Interactive comment on “VOC reactivity in central California: comparing an air quality model to ground-based measurements” by A. L. Steiner et al.

Anonymous Referee #2

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This article describes a comparison of volatile organic compound (VOC) reactivity between an established modeling method and available measurements of VOC and nitrogen oxides (NO_x). The idea being that VOC reactivity is the crucial element in modeling ambient ozone concentrations. The paper focuses on four points spanning a gradient from urban to rural environments from the central valley of California to the Sierra foothills. The authors do an excellent job describing model inputs, the measurements utilized and the results of the comparison. I would recommend publication of the manuscript without revision. Following are a few minor comments that might help improve some parts of the manuscript:

Interactive
Comment

Page 13081, line 15: Explain why the model results are averaged over 250m of altitude while the measurements are generally ground based.

Page 13081, line 18 (second paragraph): Is there any chance that the generally good agreement between the model and measurements is due to the fact that measurement data from the sites studied in this paper was used to derive the modeled VOC emission data? I would suspect that this is especially true for the Blodgett Forest site.

Page 13090, line 5 (and throughout): The author repeatedly uses phrases such as, 'accurately reproduces' and 'fairly well represented'. I am not sure what this means quantitatively except by looking at the plots. At what threshold do we consider the model to be doing a 'good' versus a 'bad' job and how is that threshold chosen? Are there other studies that have used similar procedures that this study could be compared to?

Page 13092, line 23: 'discussed in greater detail in section below' there should be a section number or 'the' between 'section' and 'below'

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 13077, 2007.

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