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Atmospheric Chemistry and Physics Discussions

Interactive comment on "BVOCs emission in a semi-arid grassland under climate warming and nitrogen deposition" *by* H. J. Wang et al.

Anonymous Referee #2

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Summary The paper describes monoterpene emission rates from a disturbed grassland in Inner Mongolia. The goal of the study was to see if diurnal warming and nitrogen deposition have any measureable effect on emissions. The major monoterpene emitter in this ecosystem is Artemisia frigida, and predictably, emissions varied according to how well this species did under the various plot treatments. The experiment seemed to be dominated by a rather large difference in precipitation between the two study years.

Comments Really this study was more about changes in the biomass of Artemisia frigida and how that translates to changes in area monoterpene emissions. The study did not address how the plot treatments affect the leaf level monoterpene emissions from individual species of plants, which would make the study much more useful to those who would like to predict how environmental factors may change VOC emissions

in other ecosystems. Could the emissions from each plot (accounting for changing biomass density and species distribution) be modeled using the Guenther 95 algorithm? Any divergence between the model and the measurements may point to an effect from warming, nitrogen, or water availability.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 787, 2012.