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comment

Interactive comment on "Enhanced representation of soil NO emissions in the Community Multi-scale Air Quality (CMAQ) model" *by* Quazi Z. Rasool et al.

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Better representation of soil NOx emissions in air quality models is important to have robust results of air quality modeling. This study by Rasool et al. is a good effort which builds upon a recently introduced parameterization to improve the timing and spatial distribution of soil NO emission estimates in the CMAQ model. I suggest the following revisions before this manuscript can be accepted for publication.

Comment 1. In Section 1 Introduction and Section 2 Methodology, the authors spend a lot of effort to describe the YL, BDSNP (Potter with old biome) and BDSNP (EPIC with new biome) schemes. To help readers better understand the differences between the three schemes, I would suggest the authors adding a table to summarize them.

Comment 2. Tables 2 & 3. For modeled daily average PM2.5 and MDA8 Ozone concentrations, the differences between the three schemes are very small. I would suggest the authors conducting a t-test to examine if the differences in the modeling results over the studying domain are statistically significant or not.

Comment 3. Pages 30-31. The quality of Figures 4 & 5 needs to be improved. The figures are stretched horizontally or vertically.

Comment 4. For Figure 10, the unit formats of x- and y- axis should be consistent. Currently, "PM2.5; μg m-3" is used for x-axis, but "PM2.5 (μg m-3)" is used for the y-axis.