

## ***Interactive comment on “Quantifying errors in surface ozone predictions associated with clouds over CONUS: A WRF-Chem modeling study using satellite cloud retrievals” by Young-Hee Ryu et al.***

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This is an interesting paper that suggests a possible explanation for typical model over-prediction of surface ozone over CONUS (Figure 7). It is not clear however if model simulations are improved both in terms of surface O<sub>3</sub> predictions, as well as O<sub>3</sub> vertical profiles (especially in the boundary layer and just above the boundary layer). While comparisons with measured vertical profiles of JNO<sub>2</sub> are shown in Figure 3, no corresponding comparisons of vertical profiles are shown for O<sub>3</sub>. It would be useful to show these comparisons (and provide histograms as is done for JNO<sub>2</sub>) with simultaneous aircraft O<sub>3</sub> measurements, especially given the overprediction of JNO<sub>2</sub> in the bound-

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ary layer in the GOES simulation compared to the CNTR simulation for the NOMADSS flights (Figure 3).

In terms of model evaluation, it would be also useful to show comparisons of the modeled Ox vs NO<sub>z</sub> relationship against observations (as is done in Travis et al., 2016) as a check on modeled ozone production efficiency.

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