

Interactive comment on “Ozone pollution over the Arabian Gulf – role of meteorological conditions” by L. Smoydzin et al.

Anonymous Referee #3

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This paper employs the WRF-Chem model to study the meteorological and chemical (NO_x vs VOC limited) regimes contributing to simulated high-ozone pollution in summer over the Arabian Gulf. However, the results are purely based on model exercises, with no evaluation for simulated ozone at all. The current manuscript does not even have a paragraph describing how the model and the emission inventory (e.g. VOC vs. NO_x ratios) have been evaluated in prior publications.

I understand that there are perhaps not many in situ ozone observations available for this region. But the authors should at least compare simulated ozone with satellite-based data, such as mid-tropospheric ozone from TES (Liu et al., 2008JD0108993, JGR).

Specific comments:

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- 1) Abstract, Lines 8-9: It is not clear from that sentence that what time frequency of ozone mixing ratios you refer to?
- 2) Throughout the paper, please use ppbv as a common unit for ozone mixing ratios.
- 3) Table 1 and Figures: Please clearly label the two emission perturbation regions in one of the maps and stated in the caption. ACP is an international journal; Not every reader would know where those regions are.
- 4) Figure 2, can you plot the model results as a different color? It is hard to see as they are in the current plots.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 6331, 2012.