

Reviewer's comment:

Thanks for the revision. It has addressed most of my concerns. Would authors also add some comments on the relationship between meteorology uncertainty and air pollutants uncertainty. A poor meteorology simulation, air quality simulations could achieve a good evaluation due to wrong reason, especially for evaluations based on monthly mean. And this could hidden the important sources of uncertainty in the model, may not be good for model improvements. I think after the revision, this work could be considered for publishing in ACP.

Response: Thanks for this comment. We have added some discussions with respect to this comment in the revised manuscript.

In revised manuscript (Page 11, Line 17-23):

“Meteorological information is an essential input to each air quality simulation (along with emissions, boundary concentrations, etc.) and uncertainties in the meteorology will inevitably influence the air quality simulation to some degree. Indeed, meteorological errors could be offset by errors in other model inputs thus resulting in good air quality performance evaluation results for the wrong reasons (Reynolds et al., 1996). For example, the effect of low-biased wind speed could be offset by low-biased emissions, or vice versa, producing simulated air quality in agreement with observations but incorrect response of air quality to emission changes. Therefore, evaluating the meteorological model performance is as important as air quality model performance evaluation.”

References:

Reynolds, S., Michaels, H., Roth, P., Tesche, T.W., McNally, D., Gardner, L. and Yarwood, G., 1996. Alternative base cases in photochemical modeling: their construction, role, and value. *Atmospheric Environment*, 30(12), pp.1977-1988.