Atmospheric
Chemistry
and Physics
Discussions

Interactive comment on "Sensitivity of WRF-Chem model resolution in simulating particulate matter in South-East Asia" *by* Adedayo Rasak Adedeji et al.

Anonymous Referee #6

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This study deals with the "Sensitivity of WRF-Chem Model resolution in simulation particulate matter in South-East Asia". In other words, the topics focus on resolution and its impact on the PM simulation. However, this study just using two quite coarse resolutions 100 km and 20 km to discuss and evaluate the performance at two typical measurement sites. I will say the discussion and scientific results are quite poor and nothing new. Furthermore, the authors list four purpose of this paper aims in first section (L69-75), however, they do not really touch the points and detail discuss in this paper. Overall, the presentation skills are quite poor. It is like a report and a paper. I just list some detail comments in the following.

1. L69-70 "To simulate the formation, deep convection and long-range transport of the biomass burning emissions that resulted in higher particulate matter levels over the South-East Asia region." Do you think the resolution 20 km is good enough to discuss " deep convection" ? Where you discuss "the formation, deep convection and long-range transport of the biomass burning emissions. . .." in this paper ?

2. L71-72 "To identify the meteorology that caused and intensified the transport. . . .." Where are the evidences you really discuss the linkages during the haze episode ?

3. L73 From Table 1 to Table 5, Actually, the performance between 100 km and 20 km are similar. How is the representative of this two stations in your study? Do you think these two different resolutions already approach your point list here " To analyze the response of meteorology and particulate matter simulation to horizontal grid resolutions "

4. L74-75, For me, it just a sensitivity test for the emission uncertainty in the simulation. How do you get the enhance factor "1.3" ?

5. The presentation skill for each figure is quite poor, you should give an order such as (a), (b), (c). . ., in each figure. Otherwise, it is difficult to follow up.

6. In Figure 3, you just put a Figure 20kmx, but does not discuss.

7. L287-289 "The high-resolution WRF-Chem simulations performed better in meteorology representation, though the low-resolution simulations results were also very good. " How do you think the results of the resolution 20 km and 100km "the simulation were also very good" ?

8. L 313-315 " After enhancement of biomass burning emissions, the simulation (WRF-Chem_20kmX) gave a very good representation of particulate matter distribution across the South East Asia region" For me, it seems just a tuning work for the emission in this case study.

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