

Response to Short Comment #1

Very nice, meaningful and thoughtful work on weather modification by aerosols. I have two small suggestions.

1. It would be interesting to compare meteorology changes induced only by biomass burning with changes induced by aerosols from anthropogenic emissions, since the aerosol concentrations in Nanjing are still high without fire.

Response: Thanks a lot for the suggestions, which helps improve this work. Indeed, we agree that comparing the effect of biomass burning and anthropogenic pollutions would make it more clear. Thus, in the revision, we will add another experiment that only includes anthropogenic emissions to better understand the role of agricultural fires in the weather modification.

2. The changes in meteorology highly depend on concentrations of BC. The results would be more convincing if BC is verified using aerosol composition measurements or AAOD (aerosol absorption optical depth) data.

Response: Indeed, it would be better to evaluate the simulation using AAOD retrievals. However, there are too much invalid data during that period. That why we did not apply AAOD retrievals in the article.

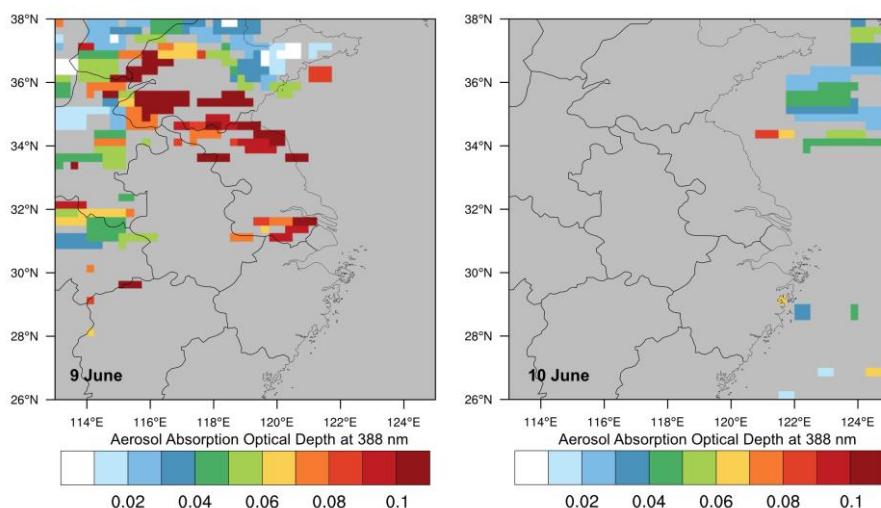


Fig. R1 OMI retrievals of aerosol absorption optical depth at 388 nm on 9 and 10 June 2012.