

Interactive comment on “Interannual Variability and Trends of Combustion Aerosol and Dust in Major Continental Outflows Revealed by MODIS Retrievals and CAM5 Simulations During 2003–2017” by Hongbin Yu et al.

Anonymous Referee #3

Received and published: 27 September 2019

The authors present an evaluation of model and satellite observations of mineral dust/combustion aerosols over a fifteen -year period. They discuss the strengths/weaknesses of the MODIS products and various versions of the CAM simulations. In this manuscript further highlight the need to consistently use MODIS data to avoid errors, and the MODIS/Terra data are not to be used for AOD trends. Further, the conclusions regarding dust model simulations needing significant improvement are encouraging.

Overall, the manuscript is a challenging read due to the flamboyant reference of statis-

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tics. It is understood that the authors are putting the current evaluation in context of previous work, but it significantly impacts the readability of the manuscript. Other than the manuscript's readability, my comments on the paper are minor and I believe it should be published after minor revisions.

– Page 6, line 202: Can the authors clarify whether these differences are statistically significant or not?

– After reading the manuscript I could not conclude which (MODIS or CAM5) is more reliable. Page 12, lines 393-398 and section 3.3.3 left me somewhat confused. Can the authors clarify which is a "better" product according to their research?

– Page 17, line 561: I am confused regarding the use of "monotonous" here. Please consider changing.

– Page 18: line 583: "...processes, such the broad..." should be "...processes, such a broad..."?

– Figure 6 caption: Capitalize first word in sentence.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-621>, 2019.

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