

Interactive comment on “Growth in mid-monsoon dry phases over Indian region: Prevailing influence of anthropogenic aerosols” by Rohit Chakraborty et al.

Anonymous Referee #1

Received and published: 4 March 2019

The manuscript discusses the influence of anthropogenic aerosols on mid-monsoon dry phases over Indian region.

Major comments -

Data - monthly averaged data of CER have several issues as has been studied by several researchers.

MERRA-2 simulations of aerosol properties over India have not been validated, and they have several issues. These simulations cannot be taken to represent the aerosol characteristics, which is a major input on which the paper relies upon.

C1

Also, as mentioned above while the current aerosol simulations are not validated, how these simulations can be taken to represent the past and future?

Monsoon breaks in Indian monsoon is an important phenomena that contributes to aerosol increase or decrease and contributes to dry days.

The changes in CER are almost nil and statistically insignificant, be it in region 3 or region 1. Also, a few changes are quite abrupt.

Datasets used have different resolution, this is another major issue, because the components exhibit large spatial variations within even 10 km.

Figure 4 - the number of dry days do not show any significant difference between the first and last 60 years except for region 1a.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-1>, 2019.

C2