

## ***Interactive comment on “Impact of topography on black carbon transport to the southern Tibetan Plateau during pre-monsoon season and its climatic implication” by Meixin Zhang et al.***

**Anonymous Referee #3**

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Major issues, 1. This study only emphasizes the importance of topography, but didn't compare with different land use data. The manuscript attempts to provide some interpretations, but many of them do not seem appropriate. In particular, under the two resolutions, wind vectors show different patterns. A detailed examination on the interactions of modeling resolution, wind speed, and topography is required. 2. The study compare with only one station data and conclude that surface BC concentrations correlates highly with that of biomass burning emissions near the southern Himalayas, indicating the significant impacts of biomass burning on the pollutants over the TP. The authors need more station data comparisons with model simulation. 3. The study didn't compare with meteorological variables like PBLH, wind etc. which play importance rule

C1

of BC transport. 4. The distribution of resolution-induced differences in BC forcing in snow do not follow that for snow water equivalent. More information about SNICAR and how it represents snow processes are needed. The influences of fresh snow cover, BC caused snow melt runoff should all be investigated to understand BC forcing in snow.

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C2