

## ***Interactive comment on “Pre-monsoon air quality over Lumbini, a world heritage site along the Himalayan foothills” by D. Rupakheti et al.***

**Anonymous Referee #3**

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The authors made a good attempt to conduct the monitoring and modeling studies for the selected air pollutants over the study area. However, the current MS should be further improved before it can be reconsidered for the publication in ACP. Major comments: 1) It is not clear what hypothesis the authors want to test in this study hence the content is quite diluted and is difficult to follow the MS. 2) The linkage between the modeling and monitoring parts appear to be quite weak. How the results of both parts supported each other to reach the study objectives (and what are these?)?. If both monitoring and modeling results are to be incorporated then the purpose/research question should be clearly defined from the beginning. 3) In my opinion, it would be more interesting if the authors make better attempt to analyze the monitoring data (including also PM<sub>1</sub>, O<sub>3</sub> etc.) in relation to the sources and meteorology, etc. rather than to loosely cover all the activities/results as presented in this version. 4) The method-

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ology for the modeling part should be described in detail, especially the emission input data. The authors claimed in Line 436 that both modeling and monitoring results showed CO peaks during the biomass burning events but not indicated if and how the emissions from these 2 events were also included in the emission input data. Minor comments: 1) The description of monitoring instrument (2.2) is lengthy and could be moved to SI. 2) Too many qualitative statements in the MS.

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