

Interactive comment on “Incoming data quality control in high-resolution urban climate simulation: Hong Kong-Shenzhen area urban climate simulation as a case study using WRF/Noah LSM/SLUCM model (Version 3.7.1)” by Zhiqiang Li et al.

Anonymous Referee #1

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The paper addresses the importance of incoming data quality control and presents a robust method for evaluating its impact on climate simulation results. The authors find that the high-quality land surface input data would provide more distinct spatial details in the modeling results, but would not bring significant improvement to weather prediction. This finding is a very interesting point, and is critical to the model development. The study is valuable to be published in a high impact journal.

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Major comments and questions:

(1) Please provide more explanation on TCSV, PSS and PDF results. For example, what is the indication of ‘the PSS annual mean values of Case-ULSD deteriorated 2.7% in precipitation’ while ‘the annual mean values of the specified interval of the PDFD of Case-ULSD improved 2% in precipitation’?

(2) The surface temperature seems very important in the modelling as shown in the Figure 11. Could you provide more explanation of the ‘surface temperature’? In addition, is the ‘surface skin temperature’ in the MODIS/Aqua product the same as the ‘surface temperature’ from the WRF model? By the way, I really like your Figure 11, a very good presentation to show the interplay among different factors.

(3) Please add TCSV figures of land surface temperature, relative humidity, precipitation and wind speed in the supplementary material.

(4) Please provide more information for the model setting (e.g. model version, domain boundary) and data sources of input data.

(5) Based on your findings, what are your suggestions for modeling development, e.g. balancing incoming data quality and parameterization schemes for a better weather prediction?

Corrections: (1) Figure 4 and Figure 5: the plots and figure captions are not consistent.

(2) In the first paragraph of section 3.2, it should be ‘Figure 6’ instead of ‘Figure 5’.

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