

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 #2

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In this work, the authors examined the influence of urban land surface data accuracy on the urban climate modeling quality. They compared the modeled results from simulations using the WRF ARW/Noah LSM/SLUCM model with and without a refinement by the urban land surface dataset. They clearly showed the high-quality land surface input data influence the modeling results that provide more distinct spatial details. They also proposed some explanation of how urban land surface data accuracy affected urban climate modeling accuracy. The paper is well written. I have given my comments

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below. Mostly minor.

Abstract, “The reliability of modeling results using the developed high resolution urban land surface datasets is significantly improved compared to modeling results using the original land surface dataset in this region.” I agree that the modeling results provide more distinct spatial details. Please elaborate what are the significant improvements in the reliability of the modeling results. This point is not clear in the abstract and main text.

Page 6, line 7, “As evidenced by Figure 5, both simulation results using the original and refined land surface data reproduced the diurnal and monthly patterns as the ones of observation.” Would it refer to Figure 6?

There are questions about the improvements in the model simulations

Page 6, Line 16, “Compared to Case-NCAR, the PSS annual mean values of Case-ULSD improved by 1.0%, 3.2%, and 5.5% in the 2-meters air temperature, surface temperature, and 10-meters wind speed, respectively. On the contrary, the PSS annual mean values of CaseULSD deteriorated 5.6% and 2.7% in relative humidity and precipitation, respectively, than the ones of Case-NCAR.”

Page 7, line 4, “Compared to Case5 NCAR, the annual mean values of the specified interval of the PDFD of Case-ULSD improved 2% in surface temperature and precipitation.”

For the annual mean values of these factors, could the authors further elaborate what are the improvements (e.g. reliability) in their modeling results?

Page 11, “From our findings, the IDQC indeed improved the modeling results at the spatial dimension, creating substantially more spatial details in simulation results.” I agree this work provide more spatial details in simulation results. However, did the authors compare their spatial results to the measurements?

C2

