Interactive comment on "PM2.5 / PM10 Ratio Prediction Based on a Long Short-term Memory Neural Network in Wuhan, China" *by* Xueling Wu et al.

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This paper is well organized and structured. Only a few places need to be addressed after the review. Please see the following comments.

#64 Add 2-3 references after this sentence to support this statement. #69 "better" is too general, pick a specific word (e.g., more precise, accurate, efficient, reliable) #73 The same, need to add 2-3 references after this sentence to support this statement. #82 Add one sentence to emphasize the importance/significance of your research, to tell why it's worth studying. Something like "In order to overcome/ improve ...from previous research, this paper utilize ..." #89 How's the prediction result compared to

other methods? Any effectiveness test to prove that your prediction is more accurate and more reliable? #105 (1) use different sizes of annotation to distinguish different administrative level (e.g., Hubei Province, Wuhan City). (2) why highlight Beijing as it is not your study area? If so, you should add one locational sentence mention that like "Wuhan is located on the south of Beijing, the capital of China....") #113 Add some general description for the data you used in the paper although you introduced the details in the following paragraph (e.g., time period) #118 Add extra sub-blocks for your flowchart by using dash line blocks (data preprocessing step, data analyzing step, data prediction step, validation step...) #134 change the font for "lookup table" #146 add more quantitative description of the data by comparing different periods to show the difference among seasons. For example, PM2.5, summer indicators only accounted for one-third or even one-fourth of the winter indicator values. The same for other indicators, you have to not only showing the data but also mining them. #162 Add Wuhan to the table name. #171 If possible, show why the methods you picked are better than others instead of repeating what is Kriging method. #247 Since you mentioned the LSTM model is good at dealing data with long intervals and long delays, please list a few application fields to show its advantages over RNN, HMM or other models. add more references here, one is not enough to support the statement. #268 Add one paragraph here to generally describe your LSTM model in order to smoothly connecting to the details in the following paragraphs. #294 Need to add a summary to your "Time pattern prediction" analysis. This sub-summary targets to explain/make clear this sub-section result. ps: this part is different from the conclusion, which is the sublimation of the entire paper. #308 the same, need to add a sub-summary to your Time Spatial pattern prediction. see my comments @ line 294 #317 the same, need to add a short summary to your Random pattern prediction. See my comments @ line 294 #327 Avoid using the word "hope", this is the conclusion part, you are done with the analysis, you have to tell the reader about your contribution and possible future work of related study.

Please also note the supplement to this comment:
https://www.geosci-model-dev-discuss.net/gmd-2019-180/gmd-2019-180-SC2-supplement.pdf

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