

Report #2

The manuscript has been greatly improved from the revision. Most of the questions have been addressed in my opinion. As stated in the previous review comments, the research could be valuable for presenting the changes of the city walls in China, and possibly helpful information for understanding the urban changes in the past centuries in China. I still have few concern regarding the current state of the manuscript.

Response: We thank the reviewer for valuing our work.

First, the authors claim the dataset to be about urban changes, but it is really about city walls. Although city wall could be an helpful indicator for representing the extent of cities, there are always gaps and latencies in both definitions and spatiotemporal changes between the city walls and urban extents. Most importantly, the urban dataset introduced by the manuscript is pretty much the same as the city wall dataset except presented differently. In this case, the value of the urban dataset over the city wall dataset would be very insignificant. Also, it does not make sense to have so many cities remain the exactly same urban extent over past 5 centuries. Overall, it seems misleading to claim the dataset to be an urban dataset.

Response: Thank you for your comments. As you pointed out, on the one hand city wall could be a helpful indicator for representing the urban extents, but on the other, there are many differences between them. We have discussed this issue in paragraphs 1-2 of section 5. Our main view is that “the city wall could be regarded as the urban boundary at least during the period when the city wall exerts its functional role; and the closer the time to the construction of the city wall, the more consistent the scope of city wall and the urban extent” (lines 280-282). Your comments remind us that this view is one-sided. This view illustrates the relationship between city wall and the urban extent of a single city on a small-scale, but on a national-scale, it is impossible for all cities in the country to build city walls at the same time. So as a national-scale dataset, the value of CUED seems to be insignificant. And the CCWAD is sufficient for the walls and urban extents of each city.

However, long-term and large-scale urban extent data are highly desirable for urban studies. Since city wall can be regarded as a helpful indicator of the extent of cities, we still hope to provide some acceptable large-scale urban extent data with long period. And the CUED is such a product. Users can certainly choose the years they need in CCWAD, such as 1400, 1500, 1600, 1700 and so on. But we try to reduce the gaps and latencies in spatiotemporal changes between the city walls and urban extents by selecting some appropriate representative years. It reduces the accuracy, but it does expand the scale. CUED attempt to find a balance between the scope of city walls, long-term and large-scale, so as to provide some acceptable and user-friendly urban extent data. And this is the meaning and value of CUED.

Thank you for your comments to make us realize that our clarification is not enough. We sincerely accept your comments that it seems misleading to claim the dataset to be an urban dataset. We have overemphasized the meaning of CUED, but in fact it is just a derivative of the city wall dataset. So it is necessary to make further improvement to the manuscript. Firstly, we consider changing the title of the manuscript and the dataset to “The dataset of walled cities and urban extent in late imperial China in 15th -19th centuries”. In addition, we will make a series of clarification in the abstract and main text of the revised manuscript. Please see the abstract and

lines 106-111, 145, 262-267, 284-291, 318-321, 324-325, 440-443, and 449 of the revised manuscript. It is hoped that the improved manuscript can better illustrate the significance and limitation of our dataset.

Second, accuracy is always the most important part of a data description paper. Although it is understandable that the difficulty for evaluating the accuracy of such an dataset is high, I am not sure it could be acceptable for publishing it without an accuracy evaluation. The authors did provide a ranking result and adopted it as accuracy assessment. However, it is only an internal quality flag, which can hardly be considered as an accuracy evaluation. If the authors claim the dataset described by the manuscript is about urban, then, in my opinion, it has to be properly accessed by referring to independent datasets that reflecting urban and its changes. If the authors cannot find historical urban records, other datasets, such as reliable population records available for certain regions, can also be considered for evaluating the results by examining their correlation.

Response: We thank the reviewer for the suggestion. We have found provincial urban land use area and urban population records in the Qing Dynasty to evaluate our results. Please see lines 322-323, 351-383 and figure 8-9 of the revised manuscript.

Third, the sub-region definitions are inconsistent between these in the main text (line 133-137) and caption of Figure 1.

Response: Thank you very much for pointing out this. We have corrected it and please see lines 132-140 of the revised manuscript.

Four, there are still grammar errors and wording issues. For example:

Line 25, change "earth" to "Earth".

Response: We have corrected it and please see line 25 of the revised manuscript.

Line 56, change He to Skinner.

Response: We have corrected it and please see line 56 of the revised manuscript.

Line 176, change "the amount of" to "information of".

Response: We have corrected it and please see line 175 of the revised manuscript.

Line 75, change "the scope city walls" to "the scope of city walls".

Response: We have corrected it and please see line 75 of the revised manuscript.

Line 177, "when they disappeared contributes"? Not sure why the word "contributes" is here.

Response: Thank you very much for pointing out this. This is a clerical error. We have corrected it and please see line 176 of the revised manuscript.

Line 195, what does "urban form space" refer to?

Response: Thank you very much for pointing out this. This is a clerical error. We have corrected it and please see line 194 of the revised manuscript.

Line 248-249, duplicated "the".

Response: Thank you very much for pointing out this. We have corrected it and please see line 247 of the revised manuscript.

Line 270, "increase of" change to "increase or".

Response: Thank you very much for pointing out this. Please see line 271 of the revised manuscript.

Line 349, Is it supposed to be 1368 instead of 1369?

Response: Thank you very much for pointing out this. Yes, it is. We have corrected it and please see line 391 of the revised manuscript.

The abbreviation CUED already has the word "dataset" in the name, it would be duplicated to mention it as "CUED dataset". For example, at line 398.

Response: Thank you very much for pointing out this. We have corrected it and please see line 440 of the revised manuscript.

Section 8, the authors mixed the citing of Appendix A and B.

Response: Thank you very much for pointing out this. We have corrected it and please see line 438 of the revised manuscript.