Final Response to Pál Sümegi

The authors of the manuscript entitled „Changes in paleo-underground water levels revealed by water wells and their relationship with climate variations in imperial China" chose a very important topic and a journal suitable for publication. The method (paleo-underground water levels = PUWL) is suitable for clarifying the selected topic, and the well-documented 482 wells in 9 cities provided statistically interpretable data for the last 2200 years. The authors emphasized well the issue of the critical stage of social development in human history, and this issue was also well addressed, as they took into account the level of groundwater, that ancient civilizations could only disturb to a minimum degree. The obtained values were well evaluated and the selection of the sites was well solved, the cities with a very insignificant number of excavated wells and thus carrying statistical uncertainties were properly separated from their analyses. The most significant value of the manuscript is that, based on wells from different cities, both local and regional comparisons were made, as well as comparisons with written sources, and they concluded their results according to these factors on groundwater-level. It is of great importance that they compared their data with the temperature values of the area, with the arid-wet index. As these comparisons are also presented in figures, the figures are essential and necessary for an understanding of the presented results. The manuscript is an excellent source material that can be developed in many directions and is suitable for global comparison - it will receive a significant number of references if published. Congratulations to the authors. I accept the MS with minor revision.

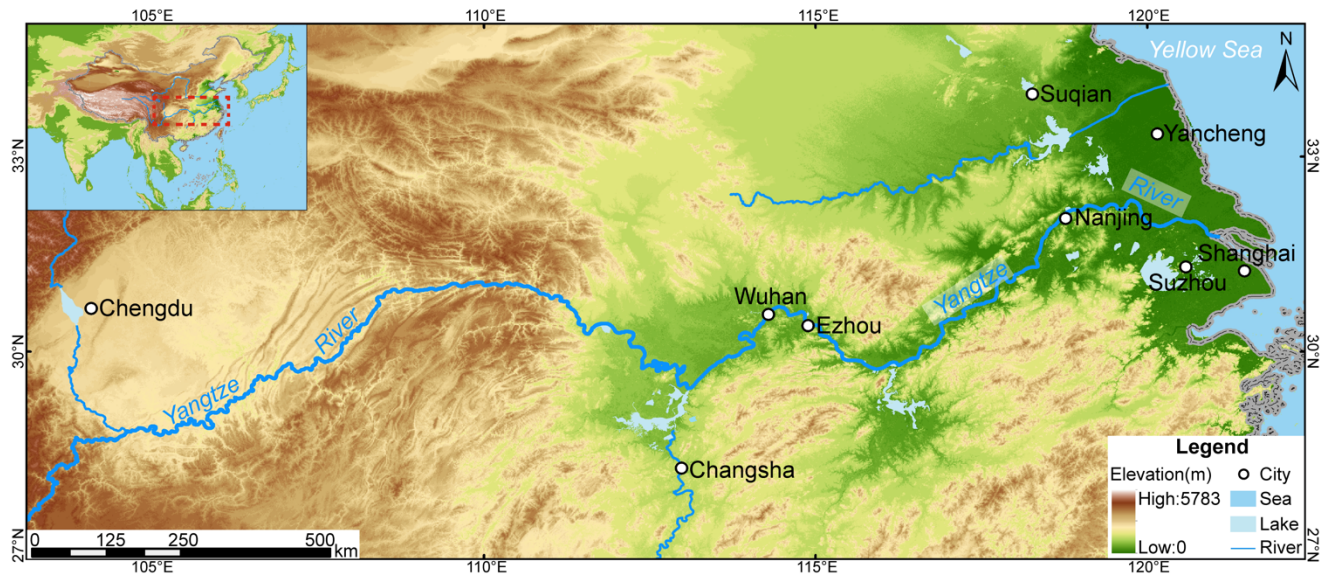
Response: Thank you very much for providing the comments and suggestions to our manuscript. We have carefully revised our manuscript, and our point-by-point responses are listed below:

Mistakes:

1. The reference in line 45 (Institute of Archaeology, CASS, 2003 and 2010) does not appear in the reference list, it has to be completed and the abbreviation must also be displayed.

Response: Thank you for pointing out this issue. Indeed, these references have been included in the reference list, but the abbreviation (CASS) is missing. We feel sorry about it. In the revised manuscript, we have addressed this issue by changing "Institute of Archaeology, CASS, 2003 and 2010" to "Institute of Archaeology, Chinese Academy of Social Science, 2003 and 2010" (line 45).

2. The legend of Figure 1 needs to be improved, as the colour of Yellow Sea and Chinese lakes is completely the same in my pdf version.

Response: Thank you very much for the suggestion. We have deepened the color of the sea to differentiate it from the lakes. Also, we have added a new symbol of the sea in the figure legend in Figure 1 (see below):

3. I marked the typographical errors in the pdf version of the manuscript, which I also enclose. These must be corrected.

Response: Thank you very much for editing the manuscript. We have corrected all of the typographical errors accordingly.