

The article requires substantial revision and clarification of the following:

1. The first reference to the altimetric point of the lake – the results of examination of the lake sediment core are presented in the article – is given in the chapter 5.3. (line 420). It would be more logical to move this reference under chapter 2 (Study area).

2. Further to the above, it is essential to consider the figure 3, where the stages of changes in vegetation around Wenhai Lake are presented. The figure would become more informative if supplemented with the altimetric and regular marks on the reference lines (axis and abscissa). This would give an opportunity to estimate the spatial changes of the vegetation zones. Yet, the current figure only demonstrates relative information about the spatial changes of the vegetation zones in question. As the target is located in the altitudinal zonality, the research data available from the Wenhai Lake core sample can be as well extended to reconstruction of change of the vegetation zones in the whole region. Therefore, the estimation of the altitude marks of the spatial changes of the vegetation zones is considered to be essential.

3. In addition to point 2: is it possible to map the spatial changes of the vegetation zones? This would give a notion of magnitude of climate changes in the past; it would also allow assessing the impact of the past climate changes over the territory and the spatial changes of the vegetation zones; this may become useful for evaluation of its impact over the human dispersal and migration areas in the past.

4. The chapter 2 "Study area" needs more detailed description of the following aspects: recent conditions of the lake sedimentation, indication of the catchment area, description of the lake's recharging regime, and estimation of the solid and liquid flows of the joining and out-streaming rivers. Does the lake run dry every season? This data is required to determine the features of the lake sedimentation, given that in chapter 4.1. "Chronology" the authors make conclusion about constant speed of sedimentation in the past, which is not likely to be the case, provided the temporary features of the lake and possible breaks in sedimentation.

5. It is crucial to mention the age-related model of the Wenhai Lake sediment core presented in the chapter 4.1. "Chronology" (lines 155-162). Only two AMS datings have been obtained after examination of the core sample: 19075(+/-)50 (22760-22380 cal. yr BP) at the depth of 320 cm and 14075 (+/-)40 (17150-16350 cal. yr BP) at the depth of 155 cm. The average speed of sedimentation – 0.28 mm per year – was determined at the depth of 320 cm to 155 cm. Application of interpolation method in order to define sedimentation speed is relevant only on condition of continuity and stability of sedimentation, which is not likely to be possible over the time span of more than 6,000 years, given the contemporary intermittent nature of the lake. Besides, the shift of the lithological composition in the sediment core indirectly proves the probable irregularity of sedimentation.

The sedimentation speed has also been determined for the upper section of the core sample – 0.1 mm per year. However, there is no direct determination of the age for this section of the core sample. The peat bottom interlayer dated 9,250 years back can be considered as insufficiently valid, because there is no reference to dating of exact sample of the interlayer in question. This circumstance makes the age-related model of the upper section of the Wenhai Lake core sample inaccurate. The conclusions about inaccurate assumptions on the constant nature of sedimentation speed, outlined for the lower section of the core sample, can also be applied to its upper section.

Provided the difficulties with the age-related model of the core sample, the determination of timing of the changes of the vegetation zones, require additional clarifications.