Dear Reviewer,

We are grateful to you for your comments and constructive suggestions, which have significantly improved our manuscript. We have carefully revised our manuscript following the reviewer's comments and suggestion. Below is our point-by-point response (dark bule) to reviewer's comments and suggestions. Thank you very much again.

Comments and suggestions:

1. L66-68: "As one important water source in the upper reaches of large Lake Erhai, the lake water finally flows to Lake Erhai through Mici River, Lake Cibi, Fengyu River and Miju River." This sentence is not clear.

Thanks, we agree. We rewrote it into "As one important water source in the upper reaches of large Lake Erhai, the Lake Haixihai water flows into Lake Erhai through Mici River, Lake Cibi, Fengyu River and Miju River".

2. L74-76: "The mean annual temperature is 14.9℃" and "The mean annual temperature is 13.9 ℃". What is the difference compared to the previous sentence?

It was duplicated. It is our fault and it is deleted now.

3. L138: "pollen influx" PI=PCxSR； SR from age-depth model； Please explain this in Methods.

Thanks. We added this part into Methods. (Please see L139-140).

4. L204: On Fig.5b is on the left side. Why did you put positive on left? Are those data scores or loadings?

Many thanks. It is our fault. Now we put positive on right. Those data include variable loadings and sample scores.

5. L216: Why negative values of PCA 1 aren't on the left side?

Many thanks again. We plot this figure as normal now.

6. L246-253: Please reorder. It's better to start with oldest subzone III-3； Maybe to change name of the zone I and III? The oldest zone could be Zone I.

It is a great comment, thanks. Indeed, the oldest zone could be Zone I in general. However, we are analyzing more pollen samples from the low part of core HXH-1, so more pollen zones will be named. To facilitate the numbering of bottom samples, we named the latest zone as the first pollen zone.

7. L259: *Quercus* (E) is not so obvious.

Agree. However, overall change between zones still shows a decrease, especially when zone II is compared with zone III-2 and III-3, so we keep this description.

8. Line 266: *Quercus* (E) is not so obvious.

Agree. Although the increase of *Quercus* (E) percentage is not as large as other arboreal pollen, it is higher in zone I than zone II, so we keep this description.

9. L271: “Cruciferae” is not on Fig. 7

Yes. Fig. 7 only shows pollen types with average pollen percentage more than 1%, but Cruciferae’s average percentage is less than 1%, so it is not shown in Figure 7.

10. L293: “pollen zones” Maybe to plot zones in same color as on Fig. 5b. Easier to follow.

Agree. It is done. (Please see new Fig. 8)

L137: “tables” should be changed to “tablets”.

It is done.

L215: Add “scores” behind “PCA”

Figure 5b includes variable loadings and sample scores, so we did not add scores into the sentence.

L222-223: “weak” should be changed to “weaker”.

It is done.

L230: “evergreen *Quercus*” should be changed to “*Quercus* (E)”.

It is done.

L230: “deciduous *Quercus*” should be changed to “*Quercus* (D)”.

It is done.

L232: Insert “,” behind “Cyperaceae”

It is done.

L241: “Figure 3” should be changed to “Figure 6”.

Yes, it is done.

L245: “a^{-1}” should be changed to “$year^{-1}$” in the manuscript.

Yes, it is done.

L307: Insert “in” behind “divided”.

It is done.

L311: “III-1” should be changed to “III-2”, “III-2” should be changed to “III-1”

It is done, thanks.

L313, L314, : “2” should be changed to “III-2”. “1” should be changed to “III-1”

It is done.

L314: “low, high, and low frequent” maybe replace with "rare/sporadic, frequent/common, rare/sporadic".

We agree, thanks. We did it. (Please see L316-317).

L321: “Low frequent” should be changed to “Infrequent/Rare”.

We agree, thanks. We did it. (Please see L324).

L335: “I-1” should be changed to “I-2”.

Yes, it is done.

L349: “d-e” should be changed to “d”.

Many thanks. We did it.

L350: Insert “(e)” behind “and”.

Many thanks. We did it.

L364-365: “2140cal. yr. BP” should be changed to “BC-190”.

Many thanks. We did it.

L415: “III-1”and “III-2”reverse order.

Many thanks. We did it.

L416: “2” should be changed to “III-2”.

Many thanks. We did it.