Li et al.: Gridded pollen-based Holocene regional plant cover in China

Response to Topic Editor Comments

Due to adverse formatting, reference very hard to read and check. For example, Githumbi et al. 2022, often cited in text, not included in reference list. Possible that these errors occur too many times. Please completely reformat reference list in clean useable version then carefully check all references.

Response: We apologize for the inconvenient format of our reference list. It is now reformatted and a line space between references was added. Githumbi et al., 2022 was indeed missing, we have added it and all citations are now crosschecked. Several other references were missing in the references list, and now added. Moreover, there are two different papers Githumbi et al. 2022 that are both referred to in our text. They are now 2022a and 2022b.

For copyright reasons, journal will need source information for every satellite image used a background (e.g. in Figure 1). Relevant to reviewer comment, Copernicus will accompany this publication with a disclaimer about territorial (Spratly Islands) claims.

Response: We have added the source information in the figure caption. We agree that Copernicus accompanies this publication with a disclaimer about territorial claims.

I predict Copernicus image experts will object to panel B of Figure 1. Colors (light grey, dark grey) and lines (thick vs thin) not obvious to this readers. Authors should build improved version.

Response: see response below under line 199.

What does the diagonal purple dashed line indicate?

Response: We have added the information in the figure caption.
“The diagonal pink dashed line indicates the modern Asian summer monsoon limit according to Chen et al. (2010)”

Line 163: “northern America” not a proper geographic reference. Northern USA? Canada?

Response: we have corrected into “Northern USA”.

Line 199: “emphasized in Figure 1” Unfortunately, not clear for this reader.

Response: we have changed the light grey into white and the dark grey into black. The thick black lines are now all similar circles. It should now be easier to distinguish the

lines thickness and colors (see revised Figure 1 B and its revised caption). Moreover we have rewritten lines191-204 to clarify all the section, as follows: ”Due to the low spatial density of the 94 selected pollen records in this study, the pollen records were grouped for the application of the REVEALS model within coherent regions with comparable biogeographical characteristics and similar vegetation histories (see Li et al. (2020) for details). It implies that, in these cases, the grid cells covered by a group of pollen sites (varies between 2 and 8 grid cells, Fig. 1) have the same REVEALS estimates, i.e. the same mean vegetation cover (Figures 2-4). This is a deviation from the standard protocol used in Europe for which pollen records were never grouped within more than a single 1˚×1˚ grid cell. The reason for grouping pollen records over more than one grid cell (18 groups of grid cells, 57 of 75 grid cells in total) was to increase the reliability of the REVEALS estimates in areas with sparse distribution of pollen records. The remaining 18 grid cells are isolated, i.e. no additional pollen record(s) were available in nearby grid cells, and the REVEALS application wasperformed for each grid cell separately. Eight of these grid cells include one or two large lakes and provide reliable REVEALS reconstructions of plant cover. The other 10 grid cells (emphasized by a thick black circle in Figure 1B) include one or two small site and represent therefore reconstructions that need to be considered with caution, of which five are based on one small site only and labelled as less reliable (black grid cells in Figure 1B).”

Line 202: How much “less reliable”? Are these uncertain data flagged somehow, somewhere?

Response: See revision above

Figures 2, 3 and 4: Circles, filled or unfilled, or other textures within small squares prove very obscure to these old eyes. Again, I suspect Copernicus image experts will object. Authors should consider alternate formats to convey same information?

Response: We have done the best we could with this and cannot think of a better way to visualize the standard errors of the REVEALS estimates of plant cover. Githumbi et al. (2022) also used this system to show the errors (and had blue circles as well) in a similar paper on gridded REVEALS reconstructions in Europe published in ESSD; this was obviously accepted by Copernicus. Moreover, we are of the opinion that such figures can be read on the computer where it is possible to zoom on the grid cells of interest and clearly see the circles, whether they fill the cell or are smaller.

NOTE:
Besides the revisions above, we have made a few other revisions (mainly language editing and clarifications) that are also emphasized in the revised manuscript.