

This study uses 26 desert shrub-ring chronologies to reveal the differentiated impacts of the westerly-monsoon circulation system on the climate of the three deserts in Alxa Plateau, which is of great significance for understanding regional climate change, desertification processes, and the related driving mechanisms. This study is a series of works previously published in *Climate of the Past* (Xiao, et al., 2024). It is a broader expansion of research on the interaction of the two major circulations in the surrounding mountains to the core desert area of the Alxa Plateau. At the same time, dendroclimatology studies based on desert shrubs hold significant value in areas without tree distribution. I suggest that this manuscript can be accepted after minor revision.

Reply: Thanks very much to the reviewer.

Specific suggestions for the issue are as follows:

1. The full text must be uniformly labeled: such as Chen et al., 2019a; Chen et al., 2019b” should be as Chen et al., 2019a; b”, “Xiao et al., 2024a;b” as “Xiao et al., 2024a; b”, “Ren et al. 2026” as “Ren et al., 2026”, and so on.

Reply: It was checked and corrected.

2. The dashed lines should be consistent throughout the text: — as -, L92-93, these two circulation systems—the interior desert region of the Alxa Plateau—remains notably scarce. L128-131: 1957-2017, 1959-2017 should be as 1957 - 2017, 1959 - 2017.

Reply: It was checked and corrected.

3. L183: mean ± 1 standard deviation should be added the (δ).

Reply: It was added.

4. L 224–235: These two paragraphs should be merged into one paragraph.

Reply: It was corrected.

5. Fig.4: The dashed line between the two images of RW and RY should be removed.
6. Fig.5: The writing format of R and P should be consistent.

Reply: The Fig.4 and 5 were corrected.

7. The notation of the significance level (P) is inconsistent throughout the text: line 207 uses an uppercase "P", whereas line 241 uses a lowercase italic "p". Please unify to the latter (lowercase italic p) throughout.

Reply: It was corrected.

8. In Figure 1, the light blue and dark blue arrows represent the EASM and the Westerlies, respectively, but in Figure 6 the assignments are reversed. Please make them consistent. Figure 6 has too many arrows and looks very cluttered.

Reply: The two figures was redrawing and make them consistent. The arrows in Figure 6 were simplified.

9. There are some typos and grammar errors in the manuscript. The authors need do a thorough check on the writing of the paper.

Reply: The full text was checked and corrected thoroughly.

All of the corrected parts were colored with red. The details can be seen in the new version.