We are thankful by the very kind and helpful positive suggestions from the editor. Please see the details of our implementation of the reviews below.

Points raised by editor and reviewers are shown in blue, Arial type, while our responses are shown in black, Times New Roman type.

Editor

Thank editor for his positive comments. We would like to present our deep appreciation for giving us very helpful suggestions.

> Overall, the referees comments have been addressed in the revised manuscript and reply to reviews. Unfortunately the line numbers for the revised text noted in the authors response are not the same as those in the uploaded manuscript, which has made cross-referencing a bit challenging.

Thank editor for helping us check these comments and our replies and revisions. We are deeply sorry for making this extra difficulty to the editor. We have addressed all points, including comments, questions, and suggestions given by the editor. Please refer to our reply and revisions shown below.

> Some items require some final correction/clarification:
> - referee 1 comments (R1.2.1) on the importance of the geographical mismatch between the temperature and precipitation patterns. In the revised manuscript, the text the authors added is only seen in lines 272-274 ('Geographical pattern mismatch...') and requires some additional explanation. How does a shift in the local convection branch lead to the N-S asymmetry in SST but different response in temperature? A line or two to expand this statement would be useful, perhaps bringing in the referees second comment (R.1.2.2) and the author response (that this is not a signal of currents impacting salinity patterns). There has been no text added to the conclusions, as the reviewer suggested would help to boost this finding.

Thank editor for asking detailed interpretation of this geographical mismatch. The geographical pattern mismatch that mentioned by reviewer 1 is between the SST and precipitation patterns. Major moisture of the local convection branches is mainly provided by the warm surface water; however, the $\delta^{18}O_{sw\text{-}ivc}$ could be affected by (1) complex mountain range configurations in the IPWP region, and (2) sea level controlled openings/connections among semi-closed seas. We also suggest that more studies should be required to clarify “local precipitation variations in response to the complicated sea level and convection change” (Lines 300-303).

> - Comment R1.2.3 notes cold anomalies during H1 in contrast to your warmer SSTs. I don't think that the reviewer is seeking a detailed discussion of individual proxy records here, but an acknowledgement that other proxies from the region don't give

the same trend/pattern across the deglaciation. Please consider whether this can be commented upon, briefly, in your revised manuscript.

Thank editor for this reminder. We have added one sentence on Lines 207-210. In the 2nd revised manuscript, we wrote "Records from the tropical South China Sea show inter-proxy ($U^{K'}_{37}$ and Mg/Ca) differences during the H1 and YD (Zhao et al.2006; Steinke et al., 2008), probably attributed to the intrinsic limitations of different proxies, such as seasonality and upwelling intensity". We also added Zhao et al. (2006) and Steinke et al. (2008) in references in revised manuscript (Lines 557-560, and 510-513, respectively).

- referee 2 (comment 2.2.2 - number 1) refers to 1*C gradient in the YD. The revised abstract still states <0.5*C during YD and instead inserts 1*C to describe the Bolling/Allerod.

Corrected (Line 40).

- referee 2 (comment 2.2.2 - number 6): this has not been corrected on the revised manuscript. Line 111 still does not include the text 'and data are reported with respect to...'

Corrected (Lines 111).

- referee 2 (comment 2.2.2 - number 19): this has not been corrected on the revised manuscript (line 203)

Corrected (Line 204).

- referee 2 (comment 2.2.2 - number 21): can you note which northern hemisphere events you are referring to, for example '...hemispheric events (including YD, Bolling/Allerod, H1)...'. It may clarify the tropical-high latitude links.

We have added "hemisphere climate events, including H1, B/A and YD" (Line 297).

Non-public comments to the Author:
Thank you for responding to most of the referees comments. Please ensure that when you submit a revised version of the manuscript the notes above are incorporated or responded to, and please also double-check that the line numbers in your revised document match those in the response to referees.

We do apologize again to the editor that the mistakes we made in our revised version. Thank editor for giving us this reminder. We have follow editor's instruction to prepare our 2nd revised manuscript.