

Interactive comment on “Modeling sensitivity study of the possible impact of snow and glaciers developing over Tibetan Plateau on Holocene African-Asian summer monsoon climate” by L. Jin et al.

L. Jin et al.

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We are grateful to Reviewer 2 for his/her comments and constructive suggestions of our submitted manuscript. Major revisions have been made in the revised version following Reviewer’s suggestion. Below we placed our reply to the questions in terms of Reviewer’s comments.

Reply is corresponded to Reviewer’s comments.

Major comments: 1. Two figures showing CLIMBER-2 ability to reproduce large-scale climatology were added in the revised manuscript as suggested by Reviewer. One is

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the simulated climatology of CLIMBER-2 control run (0 kyr BP) for boreal summer and winter surface air temperature, precipitation, sea level pressure and 850 hPa winds (Figure 1 in revised paper). The other is vegetation cover for 0 kyr BP in CLIMBER-2 (Figure 2 in revised paper). 2. We add one section (section 5 in the revised paper) to compare model simulation results with the proxy data and between the different scenario experiments. 3. We add two figures (Figure 6 and Figure 9) in the revised paper) for the changes in absorption of solar radiation, latent heat flux (evaporation) and albedo and have an additional analysis of their effects.

Minor comments: 1. A detailed description of CLIMBER-2 structure including the horizontal resolution of the atmosphere, ocean and vegetation model has been given in section 2 (2.1) in the revised paper.

Technical comments: 1. Line 24, p. 1267: corrected ("Megathemal" should be "Megathermal"). 2. p.1269, line 1: the phrase was rewritten in revised paper. 3. Line14, p. 1270: corrected ("vetical" should be "vertical") 4. p.1271, the lines "19-21" were rewritten in revised paper. 5. p.1273, corrected (Remove ICE0).

On behalf of all co-authors, Liya Jin

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