Clim. Past Discuss.,
https://doi.org/10.5194/cp-2017-111-AC1, 2018

Climate of the Past Discussions

Interactive comment on "Comparison of Cenozoic surface uplift and glacial-interglacial cycles on Himalaya-Tibet paleo-climate: Insights from a regional climate model" *by* Heiko Paeth et al.

Heiko Paeth et al.

heiko.paeth@uni-wuerzburg.de

Received and published: 19 January 2018

We thank the reviewer for the competent and helpful comments. We have discussed these comments among all co-authors and suggest the following revisions in the manuscript:

1. The experimental design was state-of-the-art when the experiments were carried out. We admit that new geological evidence has been gained in the meantime. We will include a thorough and extensive discussion of alternative interpretations of uplift phases across Asia and compare our results more extensively to other studies using different experimental designs. We thank the reviewer for the listed additional refer-

Printer-friendly version

Discussion paper

ences that will be included in the manuscript.

2. We still think that we have made three important new contributions to the paleoclimatological assessment of Central Asia: (1) we have applied a regional climate model with a resolution beyond the current status. It is important to know whether such approaches lead to different paterns of climate anomalies (see also our reply to your point 3), (2) we have suggested new types of analysis, e.g. the cluster analysis or the analysis of variance which we have not seen yet in any other paper, and (3) we make a direct quantitative comparison of climate anomalies during different time slices with a consistent modeling system. We admit that this must be highlighted more clearly at the beginning of the manuscript.

3. We agree with the reviewer that our manuscript lacks a direct indication of the added value of regional downscaling. We haven‘t shown the patterns related to the driving ECHAM model because this is partly shown in another published paper and in order to reduce the number of figures. However, according to the reviewer‘s suggestion we will include the respective climatological and anomaly patterns in our manuscript and discuss the differences between REMO and ECHAM more explicitly.

4. We will re-phrase the respective parts of the manuscript in order to clarify our hypotheses and the relation to the Prell and Kutzbach paper. The novel point of our study is that we address the paleoclimatological climate states and changes in a quantitative and systematic way using the same assessment tool.

5. These statements and descriptions will be clarified and the conclusion section will be revised in order to avoid redundance with previous sections.

Interactive comment on Clim. Past Discuss., https://doi.org/10.5194/cp-2017-111, 2017.