Clim. Past Discuss., 9, C968–C969, 2013
www.clim-past-discuss.net/9/C968/2013/

Climate of the Past Discussions

Interactive comment on "Late Cenozoic continuous aridification in the western Qaidam Basin: evidence from sporopollen records" *by* Y. F. Miao et al.

Y. Godderis (Editor)

yves.godderis@get.obs-mip.fr

Received and published: 30 May 2013

Dear Dr Miao,

your ms has been seen by 3 reviewers with contrasted reports. Overall, I recommend the submission of a revised version, owing to the quality and interest of this work. However, you must account for all the comments made by the reviewers, which are constructive and will help to improve the ms. Additionally, I would like to stress the following points:

1) you should state more clearly that this is a review paper, with no new data. In agreement with the reviewers, I suggest that you remove the 'Materials and Methods'

section, and that you replace it by a new section describing all the aggregated data with enough details. This can be easily done.

2) I agree with rev 2 that the conclusions of this contribution are a bit frustrating. It would be extremely interesting to quantify the relative contributions of the global and regional climate changes, and of the tectonic uplift on the West Qaidam basin climate evolution. Your paper lacks some statistical analysis, that would help to discriminate between the various causes.

3) Fig 4 is a key figure of your paper. The arguments developed here are not fully convincing. Indeed, at first glance, all signals seems to be correlated with the d18O signal from benthic forams. However, (1) the d18O signal is a deep sea signal, tracing the temperatures of the deep sea, and not directly the climate. (2) The gap between 5 and 3 Ma is critical : is it a step or a continuous decrease ? The answer to this question will strongly impact the quality of the correlation between your signals and the d18O. This must be discussed. (3) I'm not fully convince by the existence of a strong correlation between the Qaidam signals and the d18O. Visually, the main trend is an overall decrease, but in details, many features are not correlated. These includes the gap between 5 and 3 Ma (see above), the wiggles between 14 and 5 Ma, and even after 3 Ma. You should explore mathematically the correlations, particularly since you have a lot of data.

Best regards

Interactive comment on Clim. Past Discuss., 9, 1485, 2013.