Clim. Past Discuss., 7, C730–C731, 2011
www.clim-past-discuss.net/7/C730/2011/

Climate of the Past Discussions

Interactive comment on "Sensitivity of Red Sea circulation to sea level and insolation forcing during the last interglacial" *by* G. Trommer et al.

Anonymous Referee #1

Received and published: 4 June 2011

This study reconstructs the conditions of the Red Sea during Termination II and the last interglacial, and compares them to Termination I and the Holocene. Because the last interglacial seems to be somewhat warmer than the Holocene, better understanding the last interglacial may help us to better anticipate future climate.

The paper presents a new set of records from the Red Sea, and uses various techniques to reconstruct the number of species, surface productivity, and SST. I cannot judge the analytical techniques and procedures as these are beyond my expertise. However, the age model seems reasonable and the data is new. The comparison between the periods is important and interesting. The authors attribute a lot to orbital forcing, and in most cases I agree with them that this is a likely explanation.

Although I have some comments regarding the interpretation, I think that the paper

should be published so the data becomes available to the community, and perhaps stimulate further discussion.

I don't think that the ITCZ can move too much northward, so changes in KL 9 cannot be directly forced by local changes in precipitation. As far as I know, no atmospheric GCMs produce a significant shift of the ITCZ. Herold and Lohmann also attribute most changes to zonal transport of moisture and not to northward migration of the ITCZ.

As for lack of sapropel layers during termination II: The deepest water in the Red Sea cannot form in the northern Red Sea because the stratification there is pretty stable even during winter. The deep water originates either from the Gulf of Suez or the Gulf of Aqaba. The Gulf of Suez is relatively shallow so better ventilation during Termination II is probably the result of higher exchange between the Red Sea and the Gulf of Aqaba.

Minor comment extra "of" in the caption of figure 3, 4th line

---

Interactive comment on Clim. Past Discuss., 7, 1195, 2011.