

Interactive comment on “Millennial meridional dynamics of Indo-Pacific Warm Pool during the last termination” by L. Lo et al.

Anonymous Referee #1

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The paper "Millennial meridional dynamics of Indo-Pacific Warm Pool during the last termination" by Lo et al. present new temperature and seawater d18O estimation data from a marine sediment core collected East of Papua-New Guinea. They put their results that encompass the last deglaciation in context with other such records from the northern and southern Indo-Pacific warm pool. They show that the anatomy of changes in temperature and regional precipitation in that region during the deglaciation were depending on the hemisphere.

The article is well written, straightforward and points to coherent regional differences in the sensitivity of SST and rainfall with respect to the timing of climate events occurring at high latitudes. Instead of adding another record to the pile of other datasets published in the region, the authors have wisely opted for trying to map the likely boundary

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of precipitation anomalies during the H1 and YD, which may be useful for others studying the region in the future.

I suggest the paper to be published after minor revisions that I list below.

Despite a clear N-S SST seesaw seen in the N- and S-IPWP stacks, the rainfall pattern of rainfall anomalies is clearly clearly different (compare Fig 2 and Fig.6). This is, to me, the most interesting result, and I suggest the authors to point to this dissymetry more clearly in the discussion and the conclusion – clearly mentioning the mismatch between the geographical patter of the N-S SST and d18Osw dipoles.

On such mismatch, would it be possible that the regional currents can dispatch high-salinity surface waters through the Indonesian throughflow, contrarily to SST changes? I just thought about such possibility after realizing the regions wetter for H1/YD – apart of the MD08 – are from continental archives. Also, the stalagmite from Borneo (Partin et al., 2007, Nature) show no particular dry anomalies during that time period.

Can the authors briefly comment on why they think other proxies may provide other stories? In particular, some records employing alkenoens point to cold anomalies during the YD/H1, in particular in South China Sea. Do the authors think we should deal with water column and/or seasons sampled by different proxies?

Figure 3: there seem to be a lower resolution in the d18Osw compared to G. ruber d18O and Mg/Ca between 14 and 16 ka. Is that because the samples of G. ruber d18O and Mg/Ca do not perfectly correspond to the same depth horizons?

Interactive comment on Clim. Past Discuss., 10, 3397, 2014.

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