

## ***Interactive comment on “On the spatial and temporal variability of ENSO precipitation and drought teleconnection in mainland Southeast Asia” by T. A. Räsänen et al.***

### **Anonymous Referee #1**

Received and published: 7 January 2016

I enjoyed reading this carefully written and highly relevant manuscript. The authors clearly state their objectives (improving the understanding of the ENSO-MSEA teleconnection by looking into proxy and instrumental record for a long time-span). Their methodology is well structured and they apply state-of-the-art techniques for detecting correlations, synchronized periodic behaviour or frequencies with significant coherence.

I have nonetheless a major comment regarding one of their conclusions and in general the way the authors refer to dry and wet "years". Most of the times they are referring to dry or wet MAM seasons. I explain my concerns below in detail.

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#### Major comment:

The authors state in the conclusions that "ENSO has affected the region's hydroclimate over the majority (96 %) of the 355 year study period". Though there is evidence of a recurring monsoon-ENSO link, this statement seems to be a bit abusive in the light of the results of your manuscript. It would seem that the MAM(1)-ENSO correlation is valid for the whole rainy season, which is not true, as you show in e.g. Figure 2. In fact, what would arguably define a year of drought in most part of MSEA is the failure of the monsoon in JJA, not whether it rained more or less in March-April-May. By looking at Figure 2, I would say that ENSO does not correlate strongly with JJA – meaning that it would be irrelevant for the bulk of the water supply to the Tonle Sap, for flooding the rice paddies in the Mekong delta, for bringing water to the flood plains of Laos or even irrigating the rain-fed agriculture of comparatively drier northeast Thailand. By saying that "ENSO has affected the region's hydroclimate over the majority (96 %) of the 355 year study period", you are extrapolating your results to the whole rainy season.

Another way how to put it is "how representative is MAM of the rainy season?"

I suggest carefully handling this issue throughout the paper before it being considered for publishing. In my view, the paper per se is worth publishing even if the results sound weaker (a dry MAM season vs. a dry year). A more moderate language concerning the results and conclusions won't be as appealing as the current version of the manuscript, but it will certainly be truer and still of great value. I encourage you to address this issue not only in the conclusions, but also in the "results" section (section 3).

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Interactive comment on Clim. Past Discuss., 11, 5307, 2015.

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