

Interactive comment on “Interannual variability of isotopic composition in water vapor over West Africa and its relation to ENSO” by A. Okazaki et al.

Anonymous Referee #2

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In their manuscript on "Interannual variability of isotopic composition in water vapor over West Africa and its relation to ENSO", Okazaki et al. validate their model results with some observations and find an interesting relationship between vapor isotopes and ENSO for paleoclimate reconstruction. This work is particular of interest for isotope and paleoclimate communities because paleoclimate proxies have higher than annual resolution, recently. It is, therefore, necessary to understand how climate dynamics with shorter timescales, particularly the seasonal timescale like this work,

The manuscript is well written, referenced and clear to the reviewer. I recommend a publication of the manuscript. Some minor issues are listed below.

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1. The authors presented Fig. 1 and Fig. 2 to show validity of their model results compared to the remotely sensed data. Then, I would like them to show concentrations of water vapor itself on top of the isotopic composition of water vapor. By doing that, potential readers convince the model results better.
2. p24451, line 12-14, the authors connect their comparison results with global circulation, monsoon flow, and convective activity. Among them, convective activity can't be explained in this model results. Rephrase the sentence or explain more.
3. Please specify the definition of $d^{18}\text{O}$ and $d\text{D}$. In addition, need to be addressed why the authors use either $d\text{D}$ or $d^{18}\text{O}$ in each case.
4. In either introduction or conclusion and perspective, some paleoclimate studies over the Western Africa need to be addressed to introduce this study to potential readers.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 24441, 2014.

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