**Climate
of the Past**
Discussions

CPD

Interactive comment on "Does δ^{18}O of O$_2$ record meridional shifts in tropical rainfall?" *by* Alan M. Seltzer et al.

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We thank the reviewer for his or her helpful comments and positive review. Below are our specific responses/plans to revise according to this reviewer's feedback:

-Introduction: we plan to provide more background on DO and Heinrich Events in our revised introduction. We appreciate the suggestion.

-Page 3, lines 19-20: we will revise this sentence to more accurately reflect scope of Bender et al., 1994 by re-wording "Millennial-scale variability in the Dole Effect" to "Variability in the Dole Effect throughout the past glacial-interglacial cycle"

-Page 6, line 15: we will add "modern" here and thank the reviewer for pointing out this potential source of confusion.

-Page 6, line 24: the preceding sentence (lines 22-24) explains that GPP data (orig-

inally fluxes given in carbon mass per grid cell area) have been converted to total emissions in order to remove their latitude-dependence so that total oxygen production can be compared at different latitudes. The reviewer is correct in stating that equation 4 refers to terrestrial GPP-weighted mean $\delta^{18}O_p$ and equation 5 refers to the latitude at which half of all terrestrial GPP is produced to the north and half to the south.

-Page 9, line 20: we agree that the word "independently" is confusing here, and we will remove it in the revised paper. The intention was to point out that, independent of any change in $\delta^{18}O_p$, GPP-weighted mean $\delta^{18}O_p$ will change due to shifts in the location of oxygen production. This point is more clearly made later in the discussion.

-Page 10, line 20: we will define EASM in parentheses as suggested.

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Interactive comment on Clim. Past Discuss., https://doi.org/10.5194/cp-2017-83, 2017.