

Interactive comment on “Impacts of Tibetan Plateau uplift on atmospheric dynamics and associated precipitation $\delta^{18}\text{O}$ ” by S. Botsyun et al.

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We thank anonymous reviewer #1 for these comments. Indeed, we present simulations with two cases of the Tibetan Plateau elevation (a half of current topography and reduced to 250 m topography over the region) with a purpose of testing the sensitivity of $\delta^{18}\text{O}$ to the topography change. Zoomed experiments including the isotopes are very expensive in terms of computation time (about 700 days of single CPU core time per experiment) and it is technically difficult to test multiple elevation scenarios. We suggest that the end-members of elevation scenarios (MOD and LOW) and the middle case (INT) are good representative of the spectrum of altitude/ $\delta^{18}\text{O}$ relationships. We assume that any additional scenarios with more detailed steps of relief variations would provide more information regarding altitudinal values (and possible threshold) affecting atmospheric dynamics. Still it would not change our main conclusions, i.e. that the

isotopic composition of precipitation is very sensitive to climate changes related.

Best Regards,
Svetlana Botsyun, on behalf of all co-authors

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Interactive
comment