

Interactive comment on “Glacial–interglacial shifts in global and regional precipitation $\delta^{18}\text{O}$ ” by S. Jasechko et al.

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Jasechko et al. present a set of literature data regarding stable isotopes in different supports (groundwater, speleothems, ice...). They investigated the glacial-interglacial periods between 50-20ky and 5-0 ky. The compilation, even not fully complete but still impressive, will help using the stable isotopes as a supplementary constraint for investigating the climate and its evolution. The ms. is well written and do not need substantial changes. There is however a need for a more convincing demonstration by adding in the main text several items. Among this, the two mains are: - Define in the main text what is the D18O ice age (SS2 supplementary material for giving the readers the complete view of this parameter used in the discussion. - Add figure S2 in the main text and corresponding description. Some additional remarks: - p837, line 10 please

C294

be careful. Here it is stated that the study is conducted using groundwater, ground ice, glacial ice and cave calcite records while p835, line 0-5 it is said that this study focused primarily on groundwater. Clarify and/or homogenize. - P838, line 20 it is said that some studies/samples have been removed; a plot of the d2H-d18O would be useful for the reader. It may define the range between the different systems and would enable to view the variations related to the climatic period. - P840, line 7, the differences between the reconstructed and simulated must be pointed out more precisely. It is crucial for the rest of the reading. - P840, line16, undeniably no results in this ms, only a discussion of published results from the literature, delete results from §3 title. - P844, §3.3 I think Fig S3 would be useful in the main text to illustrate this §. May be this regional description can be compacted more. - P851, Conclusions. I would like to see a more consistent “perspectives” description to put ahead the results of this work in the wider context of studies on climate change.

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C295