

***Interactive comment on “Synchronous variations of precipitation and temperature at Lake Qinghai, NE Tibetan Plateau during the past 800 years and their relations to solar activity: evidence from Li/Ca ratios and  $\delta^{18}\text{O}$  values of ostracod shells” by Z. Zhu et al.***

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Core QH2 was dated based on alignment with another published core, which was dated using  $^{210}\text{Pb}$  and  $^{137}\text{Cs}$  (the alignment is not shown however). Whereas this can be a useful approach for dating the last c. 150 yr, if I understand the paper correctly, the authors use extrapolation (based on an assumed constant mass accumulation rate) to obtain their chronology down to c. AD 1200. This is extremely dangerous as there are

C270

no independent dating points (e.g., C14) to check/constrain the extrapolated chronology. How can we be sure that the site has accumulated linearly over such a long time? I am afraid that (a)synchronicity of core QH2 with other reconstructions (e.g. solar variability, section 4.5) over the period c. AD 1200-1850 is hard to either prove or disprove. The authors should either stick to the dated upper section of their core, or use e.g. C14 dating to provide at least some dates for the middle and lower part of their core.

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