

Interactive comment on “Isotope hydrology of dripwaters in a Scottish cave and implications for stalagmite palaeoclimate research” by L. Fuller et al.

L. Fuller et al.

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The point raised by this referee concerns the timescale of mixing of isotopes within the karstic aquifer and hence what is the limit on the isotopic shifts that could be recorded by the speleothems. Proctor et al. (2000) examined the phenomenon of autocorrelation of lamina thicknesses from stalagmite SU96-7 and, together with more recent unpublished modelling, it is clear that there is a decadal smoothing process. However, this may well relate to soil processes (e.g. slow recovery from cracking in peat) rather than aquifer mixing. Mean residence of the dominant stored component is hence likely to be in the range 1 to 10 years, but tracer testing would be needed to provide more information.

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