

# A speleothem record of seasonality and moisture transport around the 8.2 ka event in Central Europe (Vacska Cave, Hungary)

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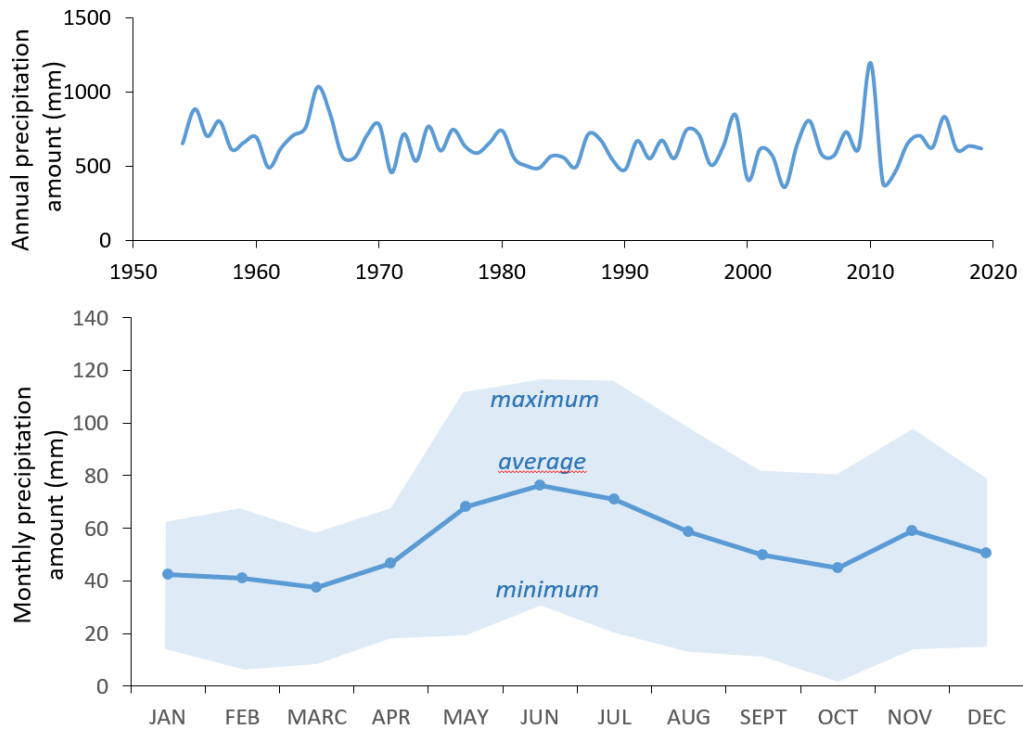
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## Supplementary material

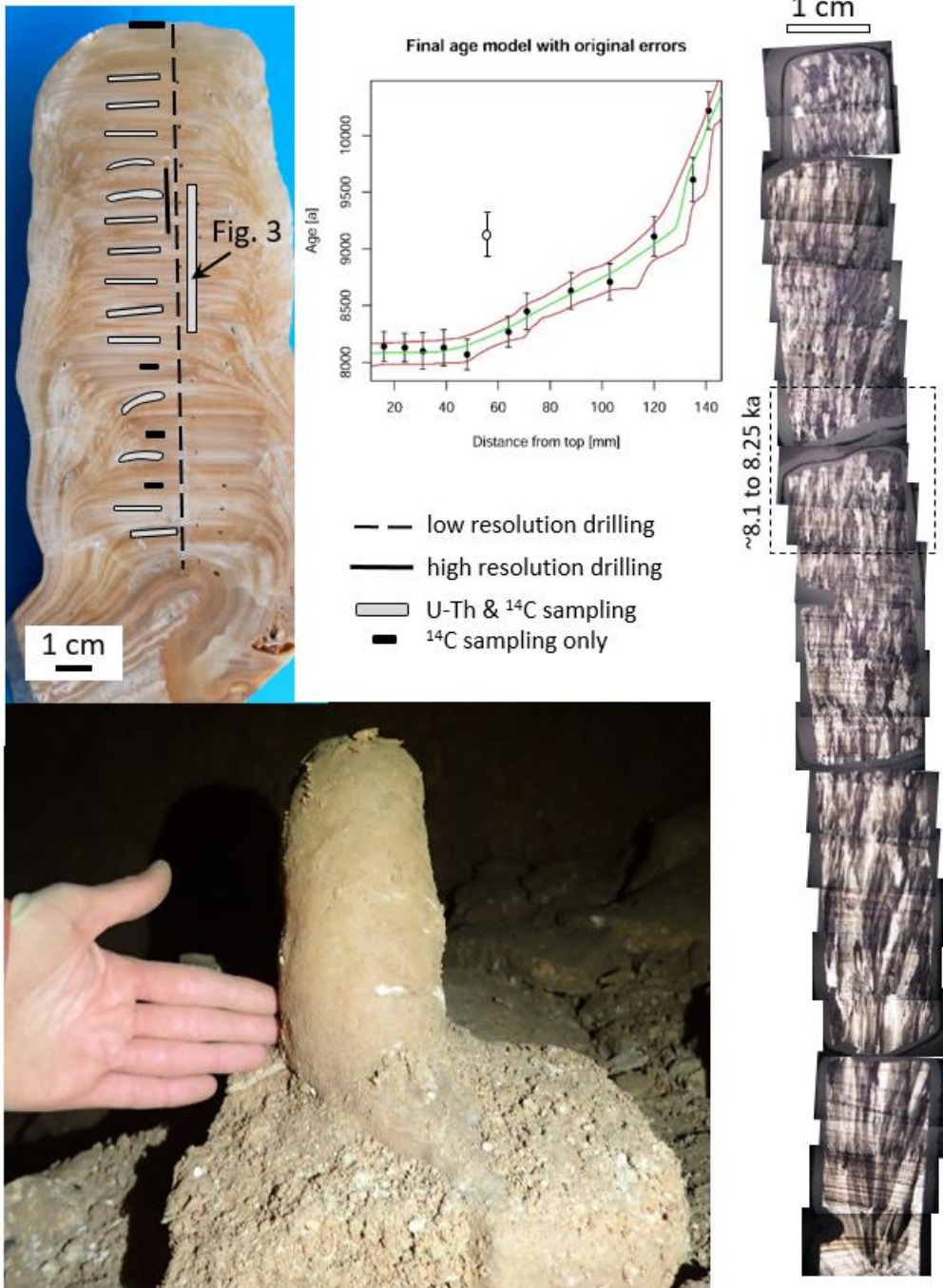
### Contents

- Supplementary Fig. 1. Annual and monthly precipitation amounts (mm) close to the Vacska cave. The precipitation was collected at Piliscsaba about 9 km far from Vacska Cave (Lat:47.6349; Long: 18.8373; elevation: 320m) using a Hellmann type collector. The precipitation was collected after every rainy day and the amount was measured. The monthly amount was calculated by adding all daily amounts obtained from the first day to the last day of month.
- Supplementary Fig. 2. On-site appearance, polished internal surface picture, optical microscopic fabrics (crossed nicols) and StalAge-based age-depth model of the V-03 stalagmite. Sampling tracks for stable C-O isotope analyses and sampling troughs for U-Th (white-filled) and <sup>14</sup>C (both grey and white filled) analyses are shown on the internal surface picture.
- Supplementary Fig. 3. Sr concentrations (in ppm) using hand-held XRF and LA ICP-MS analyses of two stalagmites (BAR-II L: Demény et al., 2017; Kiskőhát: Siklósy et al., 2009). The Sr concentration range of the V-03 stalagmite studied in this paper is shown by a dashed lined rectangle.

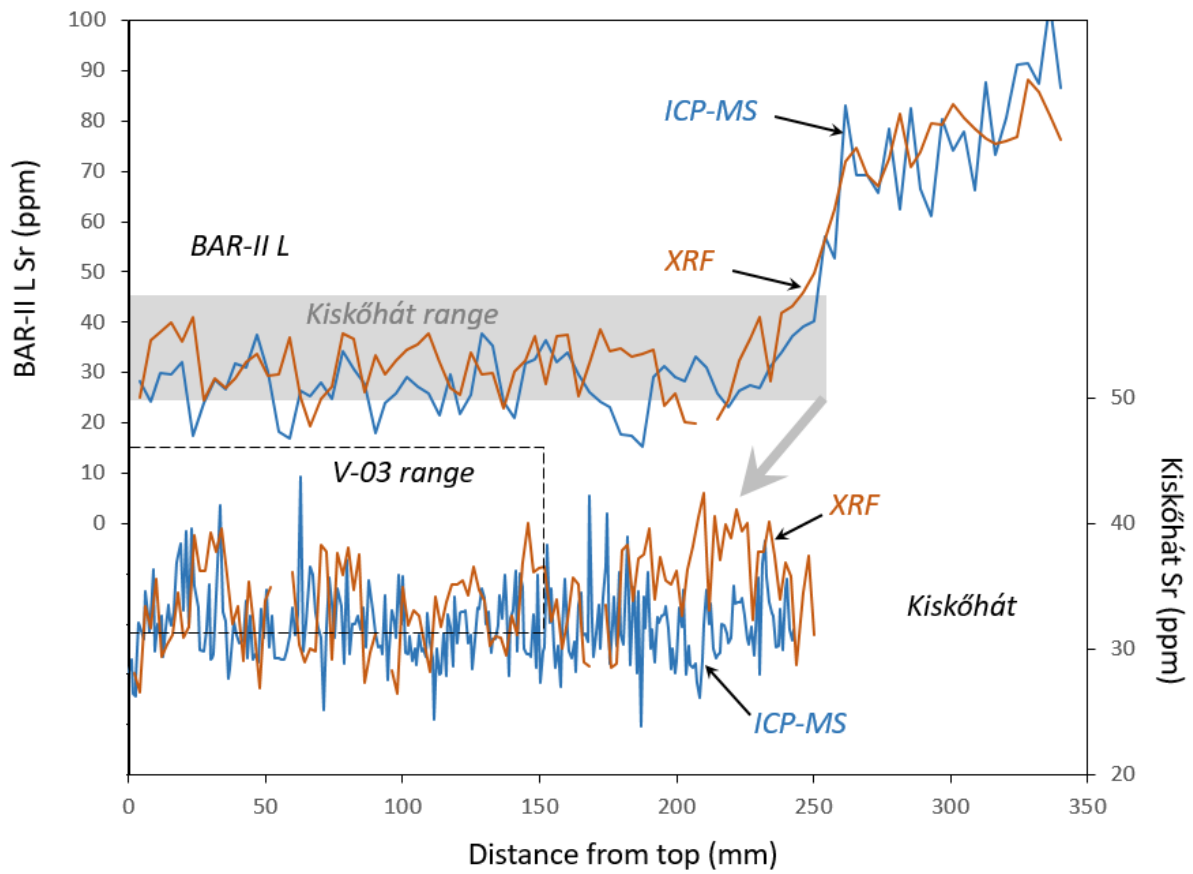
- Supplementary Fig. 4. High-resolution  $\delta^{13}\text{C}$ - $\delta^{18}\text{O}_{\text{cc}}$  records (in ‰, relative to V-PDB) and sampling resolution changes as a function of ages. Shaded bars indicate subsections with <0.5 year/sample.
- Supplementary Fig. 5.  $\delta^{18}\text{O}_{\text{cc}}$  records (in ‰, relative to V-PDB) gathered from the SISAL database (Atsawawaranunt et al., 2018) excepting the Kaite cave record (Domínguez-Villar et al., 2017) and the Vacska-03 record (this study). The numbers before cave names are SISAL entity codes. Shaded bars indicate the time interval of the 8.2 ka „whole event” of Thomas et al. (2007). Dashed lines indicate the section of the ~8.5 ka peak of the Vacska-03 record. For the sources of records see Fig. 9.



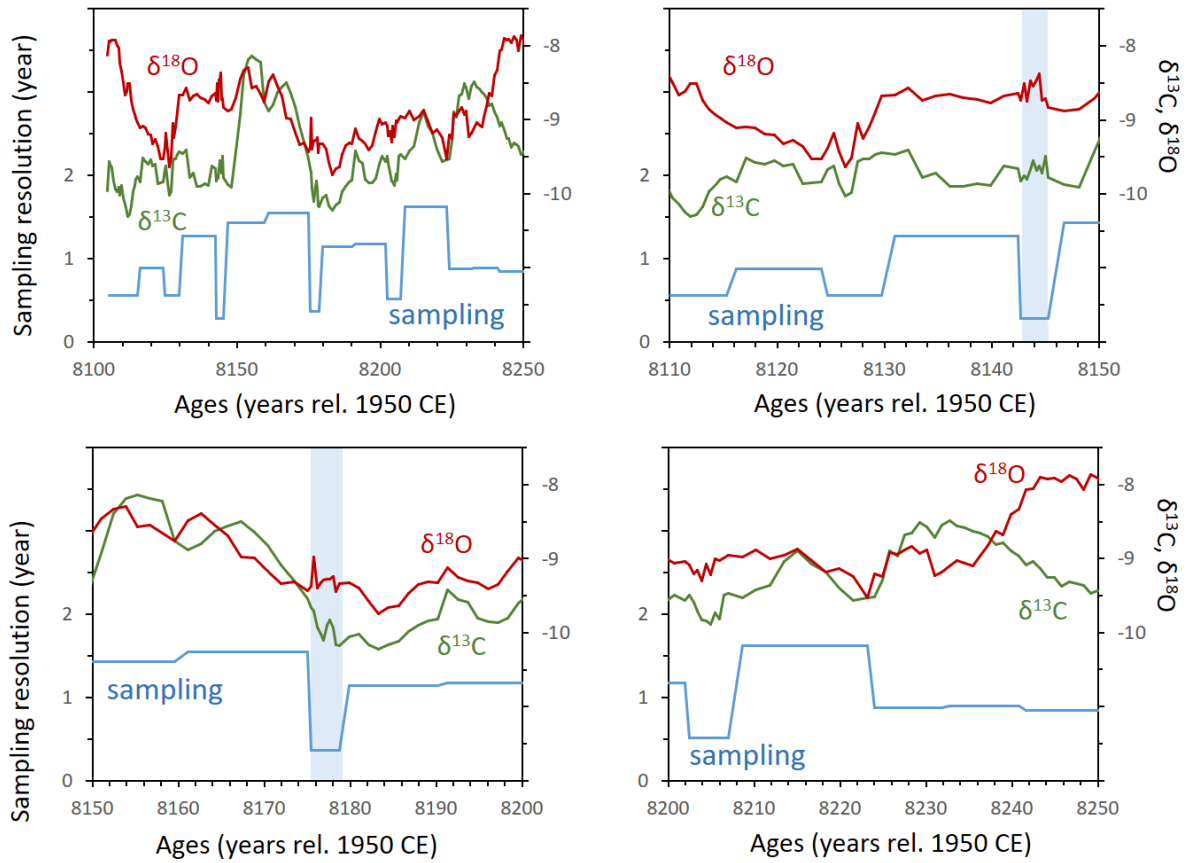
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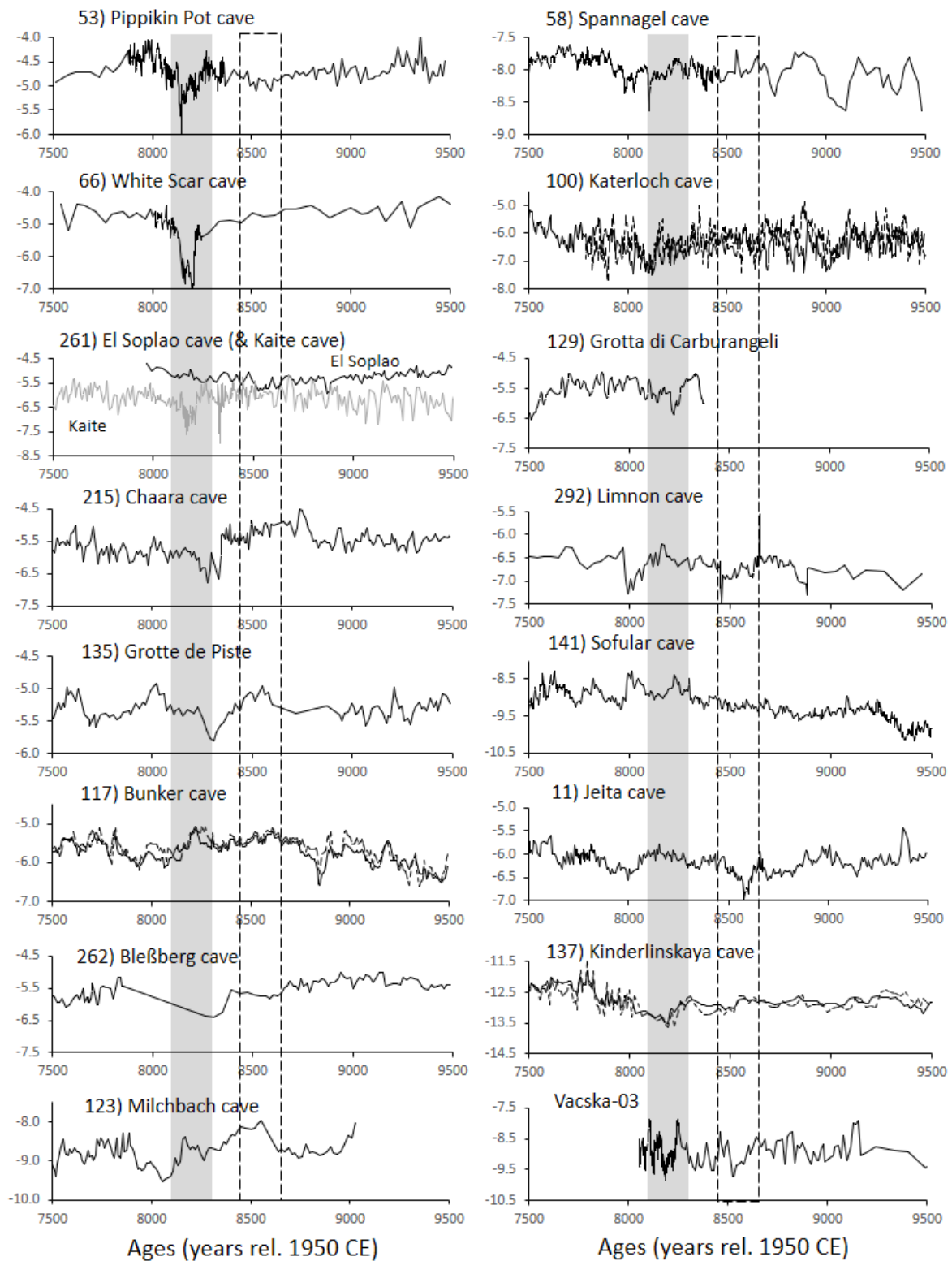
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Supplementary Fig. 4. High-resolution  $\delta^{13}\text{C}$ - $\delta^{18}\text{O}_{\text{cc}}$  records (in ‰, relative to V-PDB) and sampling resolution changes as a function of ages. Shaded bars indicate subsections with  $<0.5$  year/sample.

$\delta^{18}\text{O}$  (V-PDB) $\delta^{18}\text{O}$  (V-PDB)

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