Geophysical Research Abstracts
Vol. 20, EGU2018-14405, 2018
EGU General Assembly 2018

Trace elements behaviour in a Mediterranean speleothem during Termination I; implications for paleohydrology reconstruction.

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Speleothems represent a first importance archive for high-resolution temporal reconstruction on continental climate variations. The Salam-3 stalagmite investigated here comes from the Salamandre Cave (SE France) located 80km far from the Mediterranean coast. 230Th/234U and 14C analysis permitted to evidence a growth period between 10.90 $\pm$ 1.10 and 13.40 $\pm$ 0.35 kyr BP and a very low proportion of dead carbon. This period includes the end of the last glacial period (Bolling-Allerod and Younger Dryas) and the beginning of the Holocene. This time span is poorly documented in European speleothems and hydrological reconstructions for this period vary from one site to another. The principal aim of this study is to improve understanding of sources (soil or bedrock), mobility or incorporation process of the poorly studied trace elements within speleothems like alkalis (Rb, Cs, Li) and Rare Earth Elements (REE). In our record, a strong correlation between Li, Cs and Rb is observed, suggesting common sources and/or common incorporation processes. Comparison with REE and Th contents suggest at least two sources or mobilization process of alkali elements and REE, driven by soil activity and humidity.