



## **Climatic significance of stable isotopes in precipitation from western Romania**

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The oxygen and deuterium ( $\delta^{18}\text{O}$  and  $\delta\text{D}$ ) isotopic composition of meteoric precipitation has been used as proxy to advance our understanding of past and present atmospheric circulation. Precipitation  $\delta^{18}\text{O}$  is a primary control on cave speleothem  $\delta^{18}\text{O}$  which is one of the main methods used to reconstruct past climatic variability on a variety of timescales. Here we present  $\delta^{18}\text{O}$  and  $\delta\text{D}$  in precipitation and cave drip waters from Urşilor Cave located in the Apuseni Mountains, western Romania in order to better understand the relationship between climate and speleothem  $\delta^{18}\text{O}$  at this site. Samples of weekly precipitation and cave drip water (4-day intervals) were collected between July 2010 and June 2011. In order to draw robust palaeoclimatic information from speleothems at Ursilor Cave we aim to establish the climatic controls on  $\delta^{18}\text{O}$  composition of precipitation in western Romania and determine the source of air masses delivering moisture at our site. Furthermore, we evaluate the extent to which any climatic signature is preserved in the drip waters from which the speleothem calcite precipitates.