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Palaeo-climatic information from isotopic signatures of fossil teeth in Late Pleistocene from Arkoudospilia Cave (Aridea, N. Greece)

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The O and C isotopic composition of enamel carbonate hydroxy-apatite in the teeth of certain animals reflects the oxygen isotope composition of the water they ingest. The isotopic composition of meteoric water is well-correlated with mean annual temperature so that there is potential for recovering palaeo-temperature of the regions where the animals lived. Analyses were made on enamel from fossil teeth of Ursus Ingressus from Arkoudospilia Cave in Northern Greece. Analyses were made also on modern teeth of Ursus from different areas in Greece. Oxygen and deuterium isotopic analyses of water were also made. Although the preservation of primary oxygen isotopic composition of enamel carbonate hydroxy-apatite was more difficult to assess, however the isotopic signals seem to have utility for the paleoenvironmental reconstructions of the studied area.