



Two millennia of ice accumulation in Focul Viu ice cave, Romania

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The 8.26 m of ice core drilled in Focul Viu Ice Cave (Apuseni Mountains, Romania) represent one of the longest records from hypogean ice deposits. A set of 8 radiocarbon dates were done on organic materials found in the ice cores at different depth, and estimate of the age at 6.84 m depth is of 198 ± 66 A.D. (calibrated date). Some large nss-SO₄²⁻ (no-sea-salt sulphates) spikes were preliminary related with historical well known explosive volcanic events, with an improve of age/depth time scale. Using both ¹⁴C dates and volcanic spikes, were evaluate the variability of the accumulation rate of ice deposits, that show a mean values for the entire ice core of 34.8 cm/century of ice. Differences in accumulation rate will be related to change in snowfall, and especially the large increase during the Middle Age period (1100 to 1300 AD), probably related to an increase of the snowfall in the area. Interpolating the accumulation rate of for the deeper part of the ice core, were estimate the age of the bottom ice at 8.26 m depth of at around the V Century A.C..