



Cave-ice interaction in Moncodeno ice cave (Italy)

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Ice deposits in caves represent a promising archive for environmental and climate information. Ice cave deposits can be found at low altitude, below the snow line, because of the very conservative hypogean environment. These deposits are usually located deep in karstic areas, widespread throughout the world, and under optimal conditions they allow collecting natural and anthropogenic information on stratified ice deposits. Glaciological, stratigraphical, climatic, and environmental studies were recently performed in Moncodeno area (Grigna Settentrionale, Lecco, Italy) ice caves, about 1800 m a.s.l., close to one of the most industrialized areas of the world (Lombardy). In the LCLO1650 ice cave, more than 20 m of stratified ice deposits originated from water dripping were found at 80 m depth in a vertical shaft without direct contact to surface (2330 m a.s.l.). Ice stratigraphy, stable isotope and major ions analyses from a shallow ice core were performed to understand the formation and evolution of this ice body and to compare it with data from ice core records of alpine glaciers.