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First meteorological considerations about some underground systems of the Venetian Prealps (NE Italy)

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In the Venetian Prealps (NE Italy), some karst massifs (i.e. Mount Grappa and Asiago Plateau), comprise thousands of caves and derelict military tunnels. In this area, strong connections between karst phenomena and past military actions have been detected and require the elaboration of environmental research programs on a "karst-military" system. Specifically, this work focuses on a preliminary meteo-climatic definition of some underground sub-systems supposed for this area, also suggesting a work methodology that could be tested within other similar contexts. First of all, it is worth emphasizing the key role played by the "GEO CAI meteo-hydro database", elaborated by the GEO CAI Speleological Group of Bassano del Grappa. This archive contains both qualitative and quantitative meteo-hydrologic observations carried out by speleologists from 1992 and constantly enriched with new data. These observations define underground and external atmospheric variables (i.e. air fluxes dynamics, air temperature, barometric conditions) and snow conditions (several caves are characterized by snow/ice occlusions/mounds during all the year round) describing in many cases their seasonal or daily variability. First evaluations of this dataset allowed to elaborate new preliminary meteorological models and to program more detailed analysis addressed to define specific situations.