



## **Monitoring climatic parameters in caves and canyons of the Mediterranean: the C6 program**

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The project goal is the acquisition of air temperature, relative humidity and carbon dioxide concentrations in caves and canyons, along a South-North transect in the Mediterranean area, in order to evaluate their role in the developing of biotic communities and their suitability for long term monitoring of climatic changes. Due to their capability to mitigate heavy climate conditions, canyons and caves have ever constitute an ideal site for the developing of biotic communities, including human settlements. This fact is especially true in arid or semi-arid region, like the south portion of the mediterranean area. In fact, due to the reduced insolation, air temperature and relative humidity values are respectively lower and higher then in the outer atmosphere during the warm season; in the cold months these features represent a repair from the wind and snow accumulation. Moreover, the relative segregation of the inner atmosphere acts as a low-pass filter respect to high-frequency variations of the abovementioned climatic parameters. The project C6, that means Climatic Changes and Carbon Cycle in Canyons and Caves, started on November 1999 and now includes five monitoring stations located in South Jordan (Wadi Dana reserve, Shager Dageleh canyon), Sicily (Carburangeli and Santa Ninfa caves, Rio Grande canyon) and Northern Appennines (Val Trebbia, Rio Grande canyon); the sites are very often characterized by meta-stable climatic equilibria strongly dependent on hydrological and carbon dioxide cycles. The project is being considered to be inserted into the Italian network of measuring sites for the participation to the ILTER program, which Italy is joining.