



The effects and importance of anthropogenic changes on karst environment

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This paper describes a case study in the Murge karst (Apulia, southern Italy) in a site in which the role exerted by anthropogenic activity, in the course of the time, has caused significant damage to the natural landscape and environment, also in terms of loss of human life. Recently, in the night between 22 and 23 October, 2005, exceptional rainfalls (160 mm in a few hours, in an area where the mean annual rainfall is about 600 mm), hit the city of Bari and the neighbouring towns, belonging to the same catchment area. The heavy rainfall caused a flood event with disastrous results: six dead and the destruction of roads, railways and bridges.

The whole area is characterised by a low-relief karst very rich in natural cavities and slightly incised valleys, the latter locally called “lame”. These karst valleys act as water flow channels only during and immediately after heavy rainstorms and, in the coastal area, generally, reach the shoreline. Karst morphology is very well developed due to widespread outcrops of Cretaceous carbonate rocks of the Apulian foreland.

In recent years, urbanization, land use change and quarrying produced irreversible degradation and serious consequences for the the integrity of the fragile natural landscape.

Starting from medium-term in situ observations, detailed surface surveys, historic and bibliographic data (archival terrestrial photographs and scientific papers), and aerial photograph analysis, this study provides a description of the main factors influencing the geomorphologic processes affecting a typical karst area including hydrological, geological and anthropogenic control on landscape development.