



Anthropogenic sinkholes susceptibility and underground caves density of Naples (Southern Italy)

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A study of historical anthropogenic sinkholes, the underground caves and related susceptibility in the municipality of Naples is presented.

The goals of the research is to construct an inventory of historical sinkholes (events from 1960 to 2015), to identify and analyze their predisposing and triggering factors, and to evaluate the related susceptibility.

A fairly complete assessment of historical events occurred up to December 2015 has been carried out. The analysis related to the last sinkholes phenomena is presented, especially regarding those caused by the collapse of subterranean lapillus quarries. The genetic mechanisms of the surveyed sinkholes appear sufficiently clear; the knowledge of how the predisposing factors vary within the study area is adequate as far as the sewage system is considered, whereas it is still defective as concerns the role of the cavity network.

The obtained susceptibility map could be a useful contribution to further detailed zoning maps in a densely urbanized area, such as the city of Naples. In addition to the need of further increasing the knowledge on the subsoil of the Neapolitan area, a key issue remains the use of temporal information on historical events for the purposes of hazard evaluation; further studies in this regard are still in progress.