

## **DIGITAL GEOTECHNICAL CARTOGRAPHY – THE EXAMPLE OF VIÇOSA (MG), BRAZIL**

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A characterization of real geological urban risk in Viçosa city was carried out in order to obtain input data to develop a digital data bank and provide useful data for future urban planning. A simple software to store and graphically visualise the collected data was also developed. The field work comprises the characterization of 68 selected points accomplished in selected places, in order to allow the recovering of several neighbourhoods of Viçosa and its most common geological risk situations. The characterization of these points was based on the need of standardising the description of the points, the quality of data to create the database and to incorporate the specificity of the area in which Viçosa is located. A geographical information system was then used for the storage and spatial analysis of the information, either graphical or descriptive. Topographic and hydrographic data, the city street system and the location of the points were converted to digital format. The digital topographic information was used to obtain the terrain digital model and the slope charts. The software was developed using Borland Delphi (R) and two development packages: ESRI MapObjects (R) - for presentation and spatial query in screen, and Opus (R) - for management of the database implemented through Microsoft Access (R). Descriptive data present in the database contains information regarding: geological processes, field evidences, main geological conditioning, soil or rock type, layers thickness, occupation, predictable damages, geological risk, important observations, photos and sketches.