



Application of digital hydrogeological mapping technology based on Global Positioning System

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ABSTRACT

In the hydrogeological survey work, comprehensive hydrogeological mapping is a very important working method in the traditional hydrogeology surveying and mapping work is often restricted by various natural factors, which affect the selection of information collection area, and even threaten the life of field personnel security. A detailed map is often needed to navigate in field hydrogeological mapping. The purpose is to promote the development of geological surveying and mapping, and expand the application scope of digital surveying and mapping technology. First, the method of Global Positioning System (GPS) and digital geological mapping are systematically expounded. Second, the digital mapping method of a geographic information system based on GPS is implemented on a campus in the northwest by using differential post-processing mode. Then, data acquisition and data processing are done after the working mode of GPS is selected. Finally, the experimental results are compared with the existing topographic map data. The experimental results show that GPS is feasible for digital geological mapping. The application of GPS technology can obtain accurate positioning information, and its internal data attributes meet the needs of data collection of geographic information system.

Keywords: Global Positioning System; Digital; Geological mapping
