



Application of Ground Penetrating Radar Surveys and GPS Surveys for Monitoring the Condition of Levees and Dykes

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Abstract

This paper analyses the possibility of using integrated GPS (Global Positioning System) surveys and ground penetrating radar surveys to precisely locate damages to levees, particularly due to the activity of small fossorial mammals. The technology of intercommunication between ground penetrating radar (GPR) and an RTK (Real-Time Kinematic) survey unit, and the method of data combination, are presented. The errors which may appear during the survey work are also characterized. The procedure for processing the data so that the final results have a spatial character and are ready to be implemented in digital maps and geographic information systems (GIS) is also described.

Key words: Ground Penetrating Radar surveys, GPS, RTK, levees monitoring, data synchronization.