

عنوان مقاله:

The Effect of Suffusion Phenomenon in the Increasing of Land Subsidence Rate

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خلاصه مقاله:

Land subsidence is defined as gradually ground surface settlement in an aquifer due to the compaction of unconsolidated sedimentary deposits. Since in an aquifer, deposits consist of cohesive or non-cohesive alluvial soil layers. The consolidation theory cannot be explained as the only reason for land subsidence. According to the susceptibility of alluvial soils to suffusion, internal erosion is also considerable to enhance the rate of the local settlement. Suffusion is explained as a process of soil particle movement in the soil body due to the effect of seepage flow on it. The subsidence rate in southwest and south of Tehran in Iran is very considerable whereby some structures have suffered significant damages due to this phenomenon. In this research, the contribution of suffusion and land subsidence was investigated in damaged building located at Ghale Morghi Street in southwest of Tehran, as a case history. Because of the incapability of available methods, in this article, a probability pattern is also proposed using statistical analysis for determination the likelihood of internal instability in alluvial soils in regard to soil cohesiveness

کلمات کلیدی:

Suffusion; Alluvial Soil; Land Subsidence; Statistical Analysis; Logistic Regression; Cohesiveness

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