

Geomorphological characteristics of the section, Taiba plateau between Baliana and Esna and their risks on the western road (Cairo - Aswan)

Abstract

This research deals with the Geomorphological characteristics of the road section in Taiba plateau, and effect of these characteristics on the road.

The flash flood runoff form the most important risks, as the road passes in the bed of Wadi al Karnak, or at down slope of the edges of Taiba Plateau, also rock fall processes and Rock Creep on the slopes come in the second level of hazards affecting the road.

The study aims to: Morphometric Analysis of networks and drainage basins, in order to assess degrees of risks posed by these valleys on the road. Study the properties of the slopes on both sides of the road and its relationship to the movement of materials on the slopes, leading to determination sites of the material movement on the slopes. And study the effect of structural factors on the meanders of the road, in order to reduce these risks and minimize their destructive effects.

From studying the hydrological characteristics; it was found that the discharge rate ranged between (11.71: 38.18 m³/s), steep slopes is the most prevailing Category on both sides of the road, and the instability of the slopes. Calculating the speed of movement of the material on the slopes ranged from (21.7: 54.8 m/sec.), also we found that the presence of road meanders increase the effective length of the road more than 38 km.

In conclusion, the study is succeeded in determination of the types of Geomorphological hazards faced by the road, and put some suggestions to reduce these risks.