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(E-mail: Ahmadi@ut.ac.ir)

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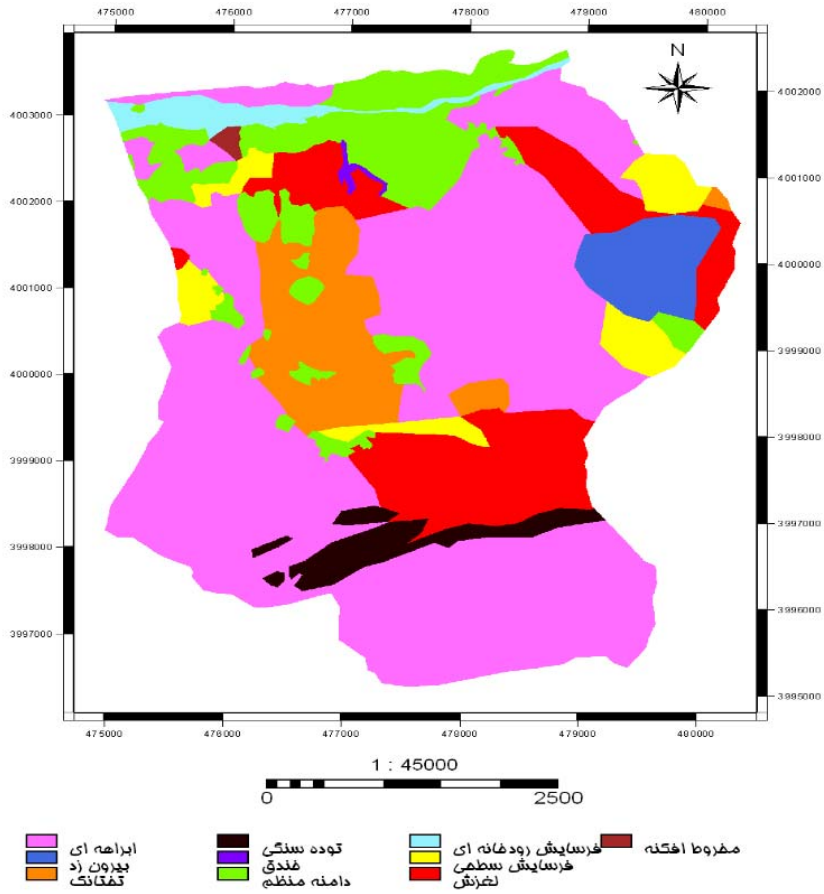
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نقشه رخساره های ژئومورفولوژی



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	$\frac{1}{4}$					
	$\frac{1}{5}$	$\frac{1}{6}$				
	$\frac{1}{6}$	$\frac{1}{6}$				
	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{4}$	$\frac{1}{4}$		
	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	

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$$1 + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7} + \frac{1}{8} + \frac{1}{9} = 1/77$$

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	$\frac{1}{4}$					
	$\frac{1}{7}$	$\frac{1}{6}$				
	$\frac{1}{7}$	$\frac{1}{6}$				
	$\frac{1}{8}$	$\frac{1}{7}$	$\frac{1}{4}$	$\frac{1}{4}$		
	$\frac{1}{9}$	$\frac{1}{8}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	
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: $i_{1,1}$

$i_{1,1} = 1 \div 1/77 = 0.5644$ ()

	سنگ شناسی					
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$\Omega = \frac{0.5644 + 0.7114 + 0.4531 + 0.4531 + 0.3265 + 0.3}{6} = 0.3834 \cong 0.4 \rightarrow$ وزن سنگ شناسی

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$$x_i = \frac{A_i}{A_{Ti}} \times \dots \quad ()$$

$\Omega_1 = /$
 $\Omega_2 = /$
 $\Omega_3 = /$
 $\Omega_4 = /$
 $\Omega_5 = /$
 $\Omega_6 = /$

X_i
 X_i
 $()$
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$$L = \frac{X_i}{X_{imax}} \times \dots \quad ()$$

X_i : X_{imax}
 L

H-R-A-S-U

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L(وزن شاخص‌های سنگ سناسی)		
	gy	
	Pr	
	gy2	
	Q2	
	Qaf-Ngc-Pck-gom-ekv	

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U (وزن شاخص کاربری اراضی)		

S ()		

A ()		

R (وزن شاخص های بارش)		

H (وزن شاخص های ارتفاع)	()	

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M=

($0 \leq M \leq 100$)

M=

$$M = \Omega_1 * L + \Omega_2 * U + \Omega_3 * S + \Omega_4 * A + \Omega_5 * R + \Omega_6 * H$$

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GIS

GIS, RS

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9-Davidson, k apustka, koch, 1991. The Role of Plant Root Distribution and Strenght in Moderating Erosion of Red Clay in the Lake Superior Watershed , Soil and Fertilizer.

10- Saaty, Thomas, A Scaling Method for Priorities in Hierarchial Journal of Athemactical Psychology.

11- Xilin in *et al.*, 2001. Influence of Geologic Factors on Landslides in Zhaotong,China Environ Geol Water Sci, Vol, 19, No 2.

A Modeling of Mass Movement Hazard, Case Study: Taleghan Drainage Catchment

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Sh. Mohammadkhan ²

S. Feiznia ³

J. Ghoddousi ⁴

Abstract

The aim in this research was to initially study and determine the factors affecting mass movement through literature review, then by further investigation find the specific factors that are most effective in mass movement in the study area. A time interval of years 1966 to 2000 was employed. A study of change in factors during this interval, area affected by mass movement, and field surveys to check for accuracy of data were carried out. The resulting tables and statistical results were used in a later phase of investigation.

In the latter phase, it was found that traditional statistical tests for structuring a simple model usable for landslide hazard are not applicable due to the fact that the effective factors used are qualitative. Therefore, another method, called systematic hierarchical analysis, was employed, and on the basis of oral as well as descriptive standards, coefficient Ω was obtained for each factor. Then for each factor, new values were obtained through multiplication by the factor coefficient. were added to reach a final value. By classifying this value; the ranges of mass movement hazard were obtained in four different classes in the region.

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