

Landslide hazard zoning of Noor city using network analysis model

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Abstract

The occurrence of landslides and the imposition of heavy human and financial losses, the identification and prioritization of sensitive areas, and the development of special spatial plans to reduce the occurrence and its damage in vulnerable areas have made it necessary. Therefore, due to the fact that landslides are more manageable than other natural disasters, so understanding this phenomenon is very important in order to prevent the damage caused by it. In this regard, the purpose of this study is landslide risk zoning in Noor city using a network analysis model. The method of the present research is research in terms of implementation because it achieves new findings according to the data and methods of analysis, and in this regard, the research procedure is advanced with a systemic perspective due to the interrelationship between spaces and urban development. The river is practical in terms of purpose. Is the analysis unit of Noor city and for preparing information layers, one of the effective risk criteria obtained by field visits and library studies (such as slope, altitude values, land use, etc.) from topographic maps 25000 1/100 and 1:50000, geological maps of 1:100000 were used. In the next step, the effective information layers that were obtained with the opinion of experts and field and library surveys were examined in the form of a network analysis model. For data analysis, the fuzzy ANP method was used to weight the research criteria and Arc Gis software was used to identify high-risk areas in terms of landslide risk. Findings show that the areas located in the north, northwest, and northeast have more landslides, which is 14.94% of the total area of the city. Also, the outskirts of Noor city are in the low probability and very low probability categories based on landslides, which can be attributed to low rainfall, low heights, and slopes, etc.

Keywords: Zoning, landslide, network analysis, model (ANP), Noor county.

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