

عنوان مقاله:

Miyandoab flood risk mapping using dematel and SAW methods and DPSIR model

محل انتشار:

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خلاصه مقاله:

It is essential to assess flood risk mapping for sustainable development. The present study aimed to identify the causes of flooding and predict the extent of damage caused in the area of Miyandoab, Iran. The Driver, Pressure, State, Impacts, response (DPSIR) conceptual framework model was used to analyze the factors affecting flooding in the region. DPSIR is a system approach that identifies key relationships between humans and the environment, and its combination with the simple additive weighting (SAW) model identifies a new strategy for achieving sustainable development. The DPSIR method for flood susceptibility analysis in the region, examined the social, economic, physical, and environmental factors as the driving force. The flood risk level was then determined for the region by preparing the driving force map and mapping the region. For this purpose, the decision-making trial and evaluation laboratory (Dematel) and SAW models were used to investigate the causal relationship between the factors and calculate the weight of layers; Matlab software was used to implement the models. Finally, based on the weights extracted from the SAW method, risk mapping was performed in the geographic information system (GIS) environment. The results showed that out of the total area of the study area, about ۷۸,۴۶۲ hectares have a high risk, ۹۱,۵۴۲ hectares have medium risk, and ۲,۹۵۲ hectares have a low risk of flood. The results from combining the models .of decision support systems and GIS indicated high efficiency in determining the areas with a high risk of flood

کلمات کلیدی:

Flood plain, Sustainable Development, Flood Risk Mapping, Matlab

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