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Expert based landslide susceptibility mapping for energy infrastructure planning

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Abstract

Landslides are a significant problem in the hilly region. Objective of this study is to prepare landslide susceptibility map of Almora district, India using expert weightage technique. The topography characteristics, geological characteristics and drainage characteristics of the region are considered as causative factors of landslides. The weightage to factors and sub-factors is assigned by expert opinion. Geographic information system is used to convert the causative factor maps in layers. The expert weightage are based on the judgment of expert and the historical landslide data. The weighted layers are overlaid in GIS environment and the final output map shows the landslide susceptibility in increasing order. The landslide susceptibility index varies from 7 to 45 in the region. Lower landslide susceptibility index (LSI) shows lower probability of occurrence of landslides and hence higher suitability for development of new infrastructure projects. The landslide susceptibility map can be used by planners and engineers.

🔍 **Subject Classification:** General 00A71

🔍 **Keywords:** Landslide susceptibility mapping   Geographic information system (GIS)   Expert opinion   Remote sensing

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