

Development of a Method for Extraction of Talus Slopes for Safe High Density Logging Road Network

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The purpose of this study is to develop a method for extraction of talus slopes to keep logging road off danger talus slopes. For this purpose topographic factors calculated from DEM and shapes defining talus slopes were used. The method searches deposited slopes made of fallen rocks first, and producing slopes making falling rocks in the direction of maximum incline second. The deposited slopes with producing slopes are decided as talus slopes. The mesh size of the DEM was varied in 0.5, 1, 2, 5, 10 and 25 m. Locations of actual talus slopes were found by reconnaissance. As a result, a ratio of extracted talus slopes in the actual talus slopes was almost 100 % when the mesh sizes were 0.5, 1 and 2 m, while the ratio was 15 % when the mesh size was 25 m. In contrast, over 90 % of meshes considered as talus slopes had no actual talus slopes regardless of mesh sizes.

Keywords: Talus slopes, DEM, Extraction method, Logging road