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摘要: 利用调查获得的滑坡数据资料, 结合野外实地考察, 对川西高原岷江、大渡河和安宁河流域滑坡发生的海拔高程、地形坡度和坡高等参数进行了统计分析, 并将这些统计结果与深切河谷地貌特征进行对比分析。结果表明, 岷江上游、安宁河流域的滑坡高程主要集中在1 500~2 000 m,大渡河流域滑坡主要发生在海拔高程1 000~1 500 m 和1 500~2 000 m。滑坡发生的地形坡度主要分布在15°~35°,岷江流域有45.21%滑坡发生在地形坡度35°~55°处; 大渡河和安宁河流域滑坡主要集中在地形坡度15°~45°之间。分析指出, 川西高原绝大部分滑坡主要发生在河流“V”型谷地中, 并受深切河谷地形地貌形态特征的控制。晚第四纪时期青藏高原快速隆升主导了河谷的深切作用, 成为青藏高原东缘群发性地质灾害发生和分布的主要内动力控制因素。

关键词: 滑坡; 岷江上游; 大渡河; 安宁河; 深切河谷

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Analysis of the spatial distribution of geohazards along the middle segment of the eastern margin of the Qinghai-Tibet Plateau

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Abstract: By using the existing data of landslides obtained in the survey, combined with the field observations, this paper presents the results of statistical analysis of such parameters as elevations, slopes and heights of the landslides documented along the upper reaches of the Minjiang, Dadu and Anning rivers on the western Sichuan Plateau and makes a comparative study of these statistical results and the geomorphological features of deep-cutting river valleys. Study shows that the majority of the landslides occurred at elevations of 1 500-2 000 m above sea level along the upper Minjiang River valley and the Anning River valley, while the landslides in the Dadu River valley mainly occurred at elevations of 1 000-1 500 m and 1 500-2 000 m. The slopes of the landslides in these areas range between 15° and 35° but 45.21% of the landslides in the Minjiang River valley took place on slopes of 35° - 55°. The landslides of the Dadu and Anning river valleys mainly occurred on slopes of 15° and 45°. It is pointed out that the great majority of the landslides on the western Sichuan Plateau occur in deep-incised "V"-shaped valleys and are mainly controlled by the morphological features of the river valleys. The Late Quaternary rapid uplift and deep incision of valleys are two main internal dynamic factors for controlling the occurrence and distribution of geohazards on the eastern margin of the eastern Qinghai-Tibet Plateau.

Key words: landslide; upper reaches of the Minjiang River; Dadu River; Anning River; deep-incised valley