

Relationship between rainfall and debris flow occurrence in the Crocker Range of Sabah, Malaysia

ABSTRACT

Debris flow occurrences are quite common in mountainous areas such as those in the Crocker Range of Sabah, Malaysia especially during prolonged heavy rainfall. Despite the recurrence of debris flows in the area, not much information is known about the effect of rainfall on their occurrences. Based on the rainfall intensity-duration of two selected case studies at Jalan Penampang-Tambunan KM38.80 and Jalan Tamparuli-Ranau KM83.90, the debris flow threshold for the Crocker Range cases are approximate to that proposed by Montgomery et al. (2000) given by the equation of $I = 9.9D^{-0.52}$ which is generally low. This implies that low-intensity rainfall is sufficient to trigger debris flows due to high availability of loose material and weak geological condition.