



## **Slope failures in Hong Kong**

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This paper reviews the nature and mechanics of landslides in weathered terrain in Hong Kong. The vast majority of landslides occur during intense rainstorms and a relationship is presented that relates severity of landsliding to 24- hour rainfall. Deeper seated landslides are often delayed in that they occur at some stage after intense rainstorms. The reasons for this are chiefly hydrogeological as explained in this paper. Susceptibility of terrain to landsliding has been studied as part of several extensive risk studies. The results are summarized here which demonstrate the importance of geomorphological factors such as slope curvature. Similar findings were found for failures occurring in the upper part of cut slopes from an intense study in Hong Kong in the 1980's (CHASE study) and those findings are reassessed here in the light of recent observations. The importance of gradual deterioration and internal erosion in the "ripening" of slopes prior to detachment have become better recognised which allows some realistic chance of hazard prediction in contrast with empirical relationships for susceptibility that are necessarily non site-specific in their predictive capabilities. In particular the growth of natural piping systems is taken to be important both in terms of hydrogeological development of landslides and as a possible indicator of imminent failure.

The conclusions are supported by case examples of numerous slope failures, the study of some of which have been taken to a forensic level.