

## **DEBRIS FLOWS IN BRAZIL: GEOLOGICAL SETTING AND PARAMETERS.**

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This work describes briefly and analyses the registered cases in the bibliography of debris flows that occurred in Brazil in the last 50 years, some of them attaining large proportions and causing significant losses of lives and properties. About 15 different events are presented, covering from the northeastern to the southern parts of the country. However, they are more concentrated in southeastern part, on hillsides of the about 800m high mountain range that develops along the coast (Serra do Mar), constituted predominantly by Pre-Cambrian gnaisses and schists. The case in the south occurred on the slopes of a 1200m high and strongly inclined cuesta in basaltic flows. The main characteristics of the sites where these cases have developed are mentioned, as the corresponding geological settings, geomorphology, and climate. The main parameters of the debris flows are also presented, as the triggering rains, apparent friction angle, volume and velocity and of the transported mass, and the characteristics of the deposits, allowing an overall analysis and the definition of the most probable parameters that would be expected in similar events. The recurring character and catastrophic damages caused by this type of event show the need to interpret and understand the several factors involved, either the triggering ones or the mechanisms present in the dynamics of the flows, in an attempt to define the conditions that lead to the development of the event and to establish the degree of susceptibility of a region with respect to its occurrence.