

ABSTRACT

Landslide In The Rio Minho Watershed

In Central Jamaica.

Aedan Hugo Earle

The systematic evaluation of landslides is important both in terms of obtaining a greater understanding of the phenomenon from a physical standpoint, and to also assess the hazard posed by landslide events and their impact on regional development.

The latter aspect of landslide occurrence is highlighted in this thesis, using the Rio Minho watershed as the unit of examination, as it provides an opportunity to evaluate an important geomorphic process and the effect of human activity. The nature of landslides occurring in the watershed are examined and mapped producing a regional landslide inventory map and an intermediate inventory map of landslides along the major roads. It is shown that the main type of landslides occurring naturally on hillslopes as well as along roads are relatively small, shallow debris-slides. Fewer and less significant rock-slides, rock-falls, and deep-seated slumps also occur.

The factors influencing their occurrence are evaluated indicating the prominent role of intense prolonged rainfall on the timing and distribution of landslides. The significant influence of bedrock lithology and slope inclination is also highlighted.

A preliminary regional landslide hazard zonation map is presented showing four degrees of susceptibility, prepared using manual cartographic overlapping techniques. The study involves the use of qualitative methodologies including standard cartographic and field techniques.