A GIS - BASED LANDSLIDE MITIGATION SYSTEM FOR THE CARIBBEAN - PART 1: RATIONALE AND DATABASE REQUIREMENTS

Rogers, C.T.[1] and Opadeyi, J.[2]
[1]Department of Civil Engineering, University of the West Indies,
St. Augustine, Trinidad
[2]Department of Land Surveying, University of the West Indies,
St. Augustine, Trinidad

ABSTRACT

Ongoing studies of existing methods of preparation and use of landslide hazard information in the Caribbean have highlighted the problems of data unavailability and/or incompatability and the need for a structured, integrated approach to landslide mitigation, particularly with respect to the design and management of appropriate databases. The paper discusses current deficiencies associated with the generation and use of landslide hazard information in the Caribbean, and presents a rationale for the development and use of a Geographic Information Systems (GIS) - based landslide mitigation system for the region. The database requirements for such a system at a regional, national and local levels are outlined. Conceptual data models, for geomorphic, geologic, hydrologic and landslide occurrence databases, are developed for: (a) shallow seated debris flows in St. Lucia; and (b) deeper seated earth flows, debris slides and rock slides in the Northern and Central Ranges of Trinidad. Preliminary work has shown that the relevant data is either not available or is available in varied formats, and that some effort may be required to bring such data to a level for digital transformation.