

Paper Title: Concepts of risk-based decision making with emphasis on geotechnical engineering and slope hazards

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Abstract:

Because of the heterogeneity and irregularity of geologic materials, inaccuracy in predicting field performance from geotechnical models, and changeable environmental conditions, dealing with uncertainty is a major factor in geotechnical engineering practice. Because of this uncertainty, risk-based methods of design and decision offer either qualitative or quantitative approaches to solution of many geotechnical problems. Within geotechnical practice, the use of risk-based analysis is particularly applicable to landslide problems, which commonly entail significant degrees of uncertainty in terms of potential triggering and process mechanisms, location and geometry of affected areas, timing of the process, interaction of multiple hazards (e.g., landslides and earthquakes or landslides and floods), and degree of damage.