

1ST INTERNATIONAL CONFERENCE ON LANDSLIDES RISK REDUCTION AND RESILIENCE - 2019

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ABSTRACT VOLUME

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PROBABILISTIC ANALYSIS OF SLOPE STABILITY AND LANDSLIDE RISK ASSESSMENT

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ABSTRACT

Provision of social and economic safety is one of the main concerns during territory development with high risks of landslides activities. This issue requires geological risks assessments. Probability evaluation of landslides activity is one of the main parameter in quantitative evaluation of geological risk.

For performing risk assessment, an application of probability analysis for quantitative evaluation of slopes stability is suggested. This allows to characterize threats by the means of quantitative evaluation. The substantial idea of probability analysis is probability function determination of factor of safety (FOS) that depends on initial probabilistic physical and mechanical soil parameters of the analyzed slope, as well as other slope activity factors.

This article shows the results of slope stability probabilistic analysis. Also, at the next stage, for the researched construction site, the quantitative risk assessment of landslide activity was performed. For the implemented risk analysis, an assumption was made that economic losses depends primarily on the deformation level of the structure foundations.

Keywords: Slope Stability; Probabilistic Analysis; Landslide Risk Assessment