

## **THE ASSESSMENT OF INSTABILITY RISK OF ROAD SLOPES BY VISUAL CRITERIA**

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This article presents the visual criteria used to classify the risk of instability of slopes at roads on South of Brazil. The risk of instability is associated to a variable named “criticity degree” which represents the probability of collapse and landslide severity. The criticity degree was used to determine the hierarchy of intervention works and repair design, considering safety aspects and economical possibilities. As the methodology was used to a management issue, visual and empirical diagnostics were privileged. Almost whole analyzed roads is on the Serra Geral formation, where occurs basalt and rhyodacite. Three methodologies were used considering different geological and geotechnical situations: rock mass, colluvium and residual soil or embankment slope. Each one was characterized by “causes” and “effects” variables. “Causes” variables of rock masses were characterized by weathering, water occurrence, joints dip, fractures concentration and preceding failures. Otherwise, “effects” variables like fall height, unstable mass volume and its distance to the road were adopted. In the case of colluvium, residual soil and embankment slopes as “cause” as “effects” variables were assessed by other particular parameters. A specific weight was attributed to each variable in accordance with its influence both in the “causes” as in the “effects” of a possible landslide. Finally, to evaluate the criticity degree the causes and effects variables values were inserted into a specific equation, summing 100% in the worst case. The values obtained along the road were divided in four criticity ranges that were used to guide the chronogram of stabilization interventions.