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Title: Integrated risk assessment due to slope instabilities at the roadway network of Gipuzkoa, Basque Country

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General comments

The paper has been positively reviewed in many aspects; however, some critical issues already highlighted in the previous revision still remain.

The paper presents a model of evaluation of multirisk in selected points of the road network of Gipuzkoa, Basque Country. The proposed model is largely based on pre-existing monitoring equipment and techniques; it also draws on databases of significant events, but often scarce and/or inhomogeneous. The last circumstance, which is considered by Authors and can be considered as usually, due to the difference between technical and administrative documentations in wide extent networks, in fact makes difficult to evaluate return time and statistics of events, and therefore the temporal hazard.

The transformation of the inhomogeneous and scarce data in a quantitative score is made up with criteria driven by the judgement, so the model is mainly a heuristic one, currently not yet validated. The term heuristic is not dysphemistic and in our case means not statistic, not deterministic and not AI based.

The main problems relate to the low moving landslides. In this case, and unlike what is made in rockfalls, there is no information on the geological and geotechnical model of the PoR; the homogeneity of the PoR is therefore only "symptomatic". There is total lack of information on clay plasticity in slow moving landslides.

Local velocities, where used, are evaluated through the displacement of the head of inclinometers (which are referred to the toe). What about the overall velocity and the thickness of the moving layer? (do we analyze the correct one phenomenology, i.e. a shallow instead of a most dangerous and deeper incoming failure?).

Groundwater and their short term vs. long term variations are ignored; sensitivity to rainfall comes from the history of measured displacements. So the sensitivity to the rains, the triggering factor, requires a long historical data collection, which itself characterizes the level of hazard affecting the PoR.

The proposed model solves with accuracy the problems deriving from the scenarios and the quantity and type of data available, but with some approximation from a purely scientific point of view. The meticulous and complete care in the proposed model deserves great appreciation, but it ranges at max levels of a technical report. Modern and more performing monitoring techniques and a validation possible only with long historical series of measures significantly limit the usefulness of the model.

Technical corrections

In references, page 28 line 29 authors are cited twice.