Geophysical Research Abstracts, Vol. 6, 07522, 2004 SRef-ID: 1607-7962/gra/EGU04-A-07522 © European Geosciences Union 2004



MULTIDISCIPLINARY METHODOLOGY FOR HAZARD ASSESSEMNT OF TRIGGERED LANDSLIDE. APPLICATION TO THE 2001 EARTHQUAKES IN EL SALVADOR

B.Benito, **M.J. Garcia**, C. Rodriguez E.U.I.T. Topografia. UPM. ma ben@euitto.upm.es

A rational methodology of analysis, aimed to hazard assessment of earthquaketriggered landslides is proposed in this paper. The method involves different aspects of the problem, such as the topography, geological and geotechnical characteristics of soil, the relative damp and the seismic charge. Some specific functions have been built in order to take into account all the factors with their corresponding weights in the evaluation of the hazard. This is quantified through a function H which integrates the slope geometry (G), the climate factor (C) and the seismic parameter (usually PGA). The estimation of each contribution to the hazard requires data and processing techniques in different areas, like digital cartography, remote sensing, krigging interpolation, strong ground motion, etc. These data must be introduced in a Geographical Information System and the necessary algorithm are programmed, in order to make easier the application and calibration of the method. An application has carried out in El Salvador, where the method has been validated using available data from the earthquakes of January and February of 2001. The database includes field observations of more than 600 landslides, together with digital cartography, geological maps and strong motion records from both earthquakes. The predicted hazard model is compared to real observations and the parameters have been subsequently calibrated in order to obtain a new model which fits better the observations. The final goal of this model is the development of a landslide hazard map in El Salvador.