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EARTHQUAKE RISK ANALYSIS FOR METRO MANILA

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Abstract

Gumbel's extreme value theory is applied to the estimation of probabilities of occurrence and return periods of large earthquake intensities in Metro Manila. The probability model of Epstein and Lomnitz is used. Methods of calculation follow those of E & L, as well as of Shakal and Willis. Two sets of data are analyzed, namely, from 1861 to 1940, and from 1952 to 1976. Results of regression analysis show very good agreement between the two sets, even though their time intervals differ considerably. This work for Metro Manila is a pilot project for a much larger undertaking, that is, the seismic zoning of the entire Philippines.