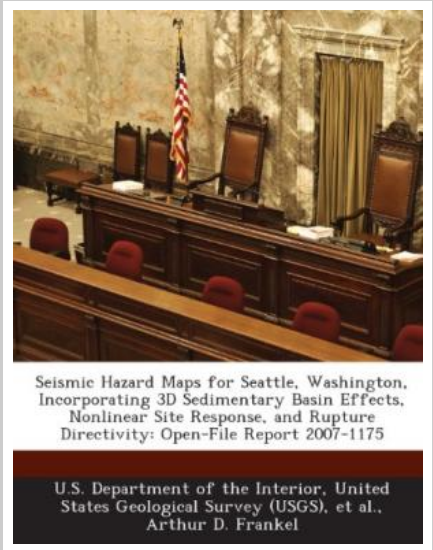

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Seismic Hazard Maps for Seattle, Washington, Incorporating 3D Sedimentary Basin Effects, Nonlinear Site Response, and Rupture Directivity: Open-File Report 2007-1175

By Arthur D Frankel

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.This report presents probabilistic seismic hazard maps for Seattle, Washington, based on over 500 3D simulations of ground motions from scenario earthquakes. These maps include 3D sedimentary basin effects and rupture directivity. Nonlinear site response for soft-soil sites of fill and alluvium was also applied in the maps. The report describes the methodology for incorporating source and site dependent amplification factors into a probabilistic seismic hazard calculation. 3D simulations were conducted for the various earthquake sources that can affect Seattle: Seattle fault zone, Cascadia subduction zone, South Whidbey Island fault, and background shallow and deep earthquakes. The maps presented in this document used essentially the same set of faults and distributed-earthquake sources as in the 2002 national seismic hazard maps. The 3D velocity model utilized in the simulations was validated by modeling the amplitudes and waveforms of observed seismograms from five earthquakes in the region, including the 2001 M6.8 Nisqually earthquake. The probabilistic seismic hazard maps presented here depict 1 Hz response spectral accelerations with 10 , 5 , and 2 probabilities of exceedance in 50 years. The...

Reviews

This publication could be worthy of a study, and superior to other. it was writtern extremely perfectly and beneficial. I am just easily could possibly get a delight of reading through a published pdf.

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