



## **Seismic landslide hazard maps of Anchorage, Alaska, USA**

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The devastating landslides that accompanied the great 1964 Alaska earthquake showed that seismically triggered landslides are one of the greatest geologic hazards in Anchorage. Maps quantifying seismic landslide hazards are therefore important for planning, zoning, and emergency-response preparation. Recently published maps portray seismic landslide hazards in Anchorage for the following conditions: (1) deep, translational landslides, which occur only during great subduction-zone earthquakes that have return periods of [U+E07E] 300-900 yr; (2) shallow landslides for a peak ground acceleration (PGA) of 0.69 g, which has a return period of 2,475 yr, or a 2 percent probability of exceedance in 50 yr; and (3) shallow landslides for a PGA of 0.43 g, which has a return period of 475 yr, or a 10 percent probability of exceedance in 50 yr. Deep, translational landslide hazard zones were delineated based on previous studies of such landslides, with some modifications based on field observations of locations of deep landslides. Shallow-landslide hazards were delineated using a Newmark-type displacement analysis for the two probabilistic ground motions modeled. These maps demonstrate a significant advance in seismic landslide hazard mapping by (1) simultaneously portraying two different types of seismic landslide hazards (deep and shallow) and (2) using probabilistic ground motions for seismic input.