

Effect of Post-earthquake Rainfall on Triggering Landslides



We have been experiencing many large magnitude earthquakes every year. Post-earthquake rainfall has caused a significant damage to our infrastructure and killed many people. For example, Oso landslide in Washington, recently, killed many people and caused a damage of millions of dollars of properties. Post-earthquake landslides have high potential in southern California. To evaluate how the ground loose stability after rainfall followed by an earthquake event, we will model representative fill slopes from southern California in a Plexiglas container and shake them in an earthquake simulator. After that, we will apply different intensities of rainfall and measure water seepage and deformation. Using available computer simulation software, the deformation pattern of the slope will be evaluated and compared with the results obtained from ground shaking experiment. Many undergraduate, graduate, community college and high school students have worked in this project for the past 6 summers and co-authored over 40 papers on their research findings.