Geophysical Research Abstracts, Vol. 8, 07125, 2006
SRef-ID: 1607-7962/gra/EGU06-A-07125

Heavy rainfall events associated with avalanches and landslide hazard in the Andes mountains

1 J. Vergara (1)

(1) Universidad Catolica de Chile, Santiago, Chile (drvergara@uc.cl / Phone: +56 2 6728040)

Heavy rainfall events produce avalanches (rain-on-snow) and landslide of different magnitude depending on the snowpack and soil properties, air temperatures and rain intensities. Winter storms in this mountain range typically have rain/snow levels between 1000 and 2200 m. above sea level, but warm storms with higher rain/snow of to 3000 m. above sea level. occur in extreme winters and have the potential to generate rain on snow floods and wet-snow avalanches. For example, the flood of June 29 of 2000 occurred after one of extremely wet June of the last 40 years were snowfall was 991cm in the Aconcagua Valley. Infrequently storms activity generated a huge snowfall and rainfall over the Andes mountains on June of 2000 (1525mm in El Maule Valley) and the end of the unusually period, the flood was triggered by rising temperatures on the mountains and heavy rain (199mm in 24 hours) fall over the fresh snow on the morning of June 29 and floods wave developed and moved down along of the all river located on Central part of Chile, the foods peak was 2970.5m3/s on the El Maule basin in the morning of June 29. This paper studies the characteristics of warm storms the had the potential to generate wet-snow avalanches, landslide and floods.