



An analysis of the occurrence of fatal landslides in 2005

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Since September 2002 a database of fatal landslides occurring worldwide has been maintained at the International Landslide Centre at the University of Durham. This database has been created in order to better quantify the impact of landslide events globally, and to identify the spatial and temporal distribution of fatal landslides. The database is compiled on a daily basis using new agency reports, aid agency data, scientific papers, NGO information, government reports and personal communications. In this paper a first analysis is presented of the temporal and spatial distributions of fatal landslides during 2005. It is shown that the number of fatalities associated with landslides during the year was exceptionally high, with a current estimate of about 30 500 deaths worldwide. The large majority of these resulted from the Kashmir Earthquake disaster, in which landslides killed over 25 000 individuals. Notwithstanding this event, the number of fatal landslides triggered by rainfall events was also unusually high, with approximately 4 000 deaths resulting. Spatially, the rainfall-induced landslides were focussed in South Asia; Central America; South America; and South-East Asia, and were associated primarily with monsoon rainfall and tropical cyclone activity. However, the weakness of the Southwest Asian monsoon over the northern part of the Indian subcontinent meant that the number of landslide fatalities in this area was considerably below the long term mean.

Analysis of the data supports the notion that the number of rainfall-induced landslide fatalities is strongly correlated with the global temperature anomaly. 2005 is thought to have been the second warmest year in the historic temperature record, and the number of rainfall-induced landslide fatalities was correspondingly high. The linkage appears result from the increased occurrence of high intensity rainfall in warm years.