

Cascading Hazards Along Tropical Orogenic Belts

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In recent years, understanding the effects of cascading hazards have been an important task for natural hazard assessment and prevention. Along tropical orogenic belts that occupy a large part of Asia-Oceania, many different types of surface processes work together, making cascading hazard a common phenomenon. For example, large earthquakes often trigger widespread co-seismic landslides, and several recent studies have pointed out the possible influences of sediment removal (by climatic induced erosion and/or mass wasting events) on seismicity. Although many of the cascading hazards occur in a timescale of days or months, some of the triggering effects may extend in time into annual or even decadal timescales. The 1999 Chi-Chi earthquake-2009 Morakot typhoon and landslides-2010 Jiashian earthquake hazard series in western Taiwan is probably an example showing hazard triggering that extends well into decadal timescales. Therefore, it is essential to further understand the triggering relationships between these hazard types through multidisciplinary approaches for future hazard assessments, especially along tropical orogenic belts.