Links on Landslide, Sediment Discharge and River Geochemistry Characteristics after Earthquake and Rainstorm Events in Lu-Ye River, Southeastern Taiwan

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We have investigated the changing face of landslides and river geochemistry characteristics after 2006 Bei-Nan earthquake (M_L= 6.2) and rainstorm events in Lu-Ye River of southeastern Taiwan. The experimental test shows that the results of particulate carbon and sediment discharge have a negative correlation and positive correlation between precipitation and suspended sediments. The particulate organic carbon from 0.44% increase to 0.53% in the wet season was due to plants decomposition around the catchment. The amount of sediment discharge from rainstorm events is controlled by river flow discharge and that sediment discharge tends to increase with seismic activity. The major dissolved ions (Na^+, K^+, and Mg^+) also increase after seismic activity. These observations clearly indicate that the sediments were found to be released long after the big earthquake event, with subsequent rainstorms reactivating landslides across the watershed.

Keywords: geochemistry; sediment; particulate organic carbon; earthquake; dissolved ions

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