Relationship of local precipitation on the landslides over Nepal

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Nepal is a mountainous country located between the Indian and Himalayan tectonic plates. In such a country, landslides represent a major constraint on development. Hence, various statistics related to the landslides are reported by local researchers as well as some international researchers. However, meteorological data over Nepal is not completely opened, so that relationship between local precipitation and the landslides are few. Since landslides occur by many factors in addition to precipitation (e.g. earthquake, soil wetness), it is important to clarify the background relationship between Nepali precipitation and landslides there.
We are investigating the relationship between precipitation, landslides and landslide fatalities using various sources. Regarding precipitation, we are developing APHRODITE-type rain-gauge based precipitation for the earthquake year 2015. While, here we show a preliminary result of APHRODITE precipitation over Nepal on 0.05 degree and landslide fatalities. Landslide and its fatalities data are based on Petley et al. (2007, Nat Hazards) and Disaster review (2014) issued by Ministry of Irrigation of Government of Nepal. The country-summed loss of lives by landslides are compared with APHRODITE's high-resolution gridded precipitation over Nepal.
The result shows Nepali's local monsoon precipitation (June- September) shows significant positive correlation over the western most part of Nepal, the central and eastern part of Nepal. On the contrary, a part of the western part of Nepal and the easternmost part of Nepal showed weak negative correlations. The Kathmandu area does not show a significant correlation. Since the disaster statistics are based on country-wide average, we need to further investigation between the local precipitation and the local landslides including floods. Further, after assembling the local precipitation data over 2015, we will show the precipitation condition before/after the earthquake in April 2015.

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