

The large scale landslides triggered by The 2018 Sulawesi Earthquake, Indonesia

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On 28 September 2018, a large earthquake occurred near Palu City, Sulawesi, Indonesia. The magnitude of the earthquake was 7.5. According to the information broadcast after the earthquake, the nearly flat terrain greatly moved laterally. The authors carried out a satellite imagery interpretation survey with using the post-earthquake imageries of Pleiades and SPOT-7. The survey revealed that there are at least three areas which seem to have moved laterally with long distance. It seems to be lateral spread in view of situations reported in the press information. Two large lateral spreads stand in the eastern side of the city and one in the western side. The two lateral spreads in the east side are 1.5 km wide and 2.5 km long and 1 km wide and 3.5 km long, respectively while the one in the western side is 0.4 km wide and 1 km long. In the upper part of the spreads, there is area of brown bare soil while there seems ropy in the lower part of the spreads. One of them seemed to be greatly fluidized and reached further in the down streams. These spreads seem to initiate from the knick point near lower edge of fluvial fans where a lot of subsurface flow is likely to return onto ground surface. A press says that local people call these phenomena as "nalodo", which means "get absorbed into mud". This implies that similar disasters repeated in the past.

Keywords: lateral spread, satellite imagery, earthquake, SPOT-7, Pleiades, Indonesia