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## **of Earthquake Magnitude and Sediment Thickness Correlation in Palu Region and Surrounding Areas**

Palu, Sigi and Donggala areas were devastated by a large earthquake on Friday September 28, 2018 at 10:02: 43,674 UTC. Information released by Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) shows the strength of the earthquake at magnitude 7.4 with a depth of 10 km, epicenter at coordinates of 0.22 S and 119.85 E. This earthquake is based on focal mechanism data is a strike-slip fault. The strength of the earthquake triggered an underwater landslide which generated a tsunami up to 11.31 meters and inundation 468.8 meters. The intensity of the earthquake on scale III-VIII MMI has resulted in massive liquefaction in several places, among them Balaroa, Petobo and Sidera-Jono Oge. Field measurements were conducted at 350 points throughout at the Palu area to determine rock conditions and sediment thickness. Morphology of the Palu area and its surroundings is in the form of plains where the cover of sediment layer is generally in sediment quarter consisting of fluviatile and alluvium sediment. Data analysis shows sediment thickness at some points even reaching more than 600 meters. The results of the research in the Palu area showed a positive correlation of sediment thickness with maps of earthquake damage patterns.

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