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ESTIMATION OF SLIPRATE AND LOCKING DEPTH ON ACTIVE FAULT BASED ON GPS SURVEY IN ACEH PROVINCE

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The potential seismic hazard along the Sumatran fault after the Great Sumatra Earthquake of 2004 was influenced by the factors such as: distribution of coseismic and postseismic activity following the 2004 earthquake, and the coulomb stress change caused by postseismic and coseismic displacement. These factors have increased the likelihood of an earthquake of magnitude more than 5 Mw occurring in the north segment of Sumatra Fault.

Campaign and Continuous GPS observations were made to monitor the crustal deformation caused by the 2004 Aceh earthquake. Data processing results show that the postseismic deformation activity is still ongoing in Aceh. Displacement due to postseismic deformation is 0.6 m in the EW direction at the point of ACEH. Estimation of slip rate for the Aceh segment of the Sumatra Dault is 2 mm / year, that of the Seulimum segment is 2 mm / year, and of the Tripa Segment is 3.5 mm/year, with about 10 km of locking depth

Keywords: Postseismic deformation, active fault, slip rate