VEKTOR PERGESERAN DATA GPS PADA KEADAAN *PRASEISMIC, COSEISMIC* DAN *PASCASEISMIC* STUDI KASUS GEMPABUMI 30 SEPTEMBER 2009 DAN 25 OKTOBER 2010

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ABSTRAC

On September 30, 2009 and October 25, 2010, earthquakes Mw 7.6 and Mw 7.8 occurred off the coast of Sumatra. This earthquake caused deformation around the epicenter both before (Praseismic) Moment (Coseismic) and After the Earthquake (Pascaseismic). Surface deformation in the area around the epicenter was analyzed using GPS data from the SuGAr network (Sumatra GPS Array). The purpose of this study is to estimate the deformation changes due to these two earthquakes.

The SuGAr stations observed were TIKU, PSKI, PKRT, KTET and MSAI. Data processing using GAMIT / GLOBK software. GPS data were observed for 100 days before, shortly after and after the main earthquake. The measurement results show the praseismic, coseismic, and pascaseismic phases. The vector magnitude of the station shift at the center of the 30 September 2009 and 25 October 2010 earthquakes experienced praseismic deformation towards the southwest and has a value that varies from 1.85 - 25.8 cm. The coseismic phase is towards the southwest, has a variation value between 1.76-80.92 cm. The pascaseismic phase is in various directions and varies from 1.84 - 28.11 cm.

Based on the deformation value that occurred, this earthquake damaged West Sumatra and the surrounding Mentawai areas. Meanwhile, the praseismic and pascaseismic phases are not clearly visible because they can be seen from the very short ranges used.

Keyword : Earthquakes, Deformation, SuGAr, GAMIT/GLOBK, GPS