

GPS observation of postseismic deformation following the 26 December 2004 Great Sumatra-Andaman earthquake

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We use campaign and continuous GPS data to constrain post-seismic slip from the 26 December 2004 great Sumatra-Andaman earthquake. Three years after the mainshock the 1.8 m WSW coseismic displacement at Aceh, had increased by 67 cm. Post-seismic uplift has a constant velocity 4 cm/yr. By 2008 GPS observation point at Aceh had risen more than 12 cm. A model of frictional afterslip explains to first order the evolution of postseismic deformation. Although its spatial distribution is poorly resolved, afterslip seems to overlap slightly with the coseismic but most of the moment release is further downdip.