

GPS observation for the 2003 Tokachi-oki earthquake

Minoru Kasahara Japanese University Consortium of GPS Research for Tokachi-oki earthquake[1]

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To investigate the postseismic crustal deformation associated with the Tokachi-oki earthquake (MJMA=8.0) of 26 September 2003 in Japan Standard Time (JST), off southeastern Hokkaido, Japan, we newly established thirty GPS sites just after the mainshock in the eastern part of Hokkaido. Rapid data analysis for one month after the mainshock clearly indicated postseismic displacements only in the horizontal components. Observed maximum horizontal displacement was 6.6cm from 28 September to 24 October, 2003. Absence of the vertical suggests that afterslip occurred in and around the coseismic fault rather than at downdip extension. Time series of coordinates are characterized by logarithmic decay functions with 4-11 days relaxation times. This suggests that postseismic deformation was due to afterslip on the fault following the large earthquake.