

# Slow slip preceding M7 earthquake doublet in 2004 offshore eastern Hokkaido Japan along the Kuril trench

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A crustal deformation to be attributed to a slow slip temporarily ahead of the M7 earthquake doublet in winter 2004 offshore eastern Hokkaido island Japan was registered by continuous GPS measurements. The data suggest a triggering mechanism of an earthquake by a preceding slow slip around a forthcoming rupture zone. This is the first reliable evidence detected before a large tectonic earthquake using the nationwide dense GPS network of Japan operating since 1994. This highlights a possibility of evaluating a relative change of probability of a certain kind of earthquake which is accompanied by preceding signals like this example.