

Relation between with distribution of liquefaction-fluidization phenomena at the 2011 off the Pacific coast of Tohoku Earthquake and distribution of the Holocene strata

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Liquefaction-fluidization phenomena distributed widely on the reclaimed land around northern Tokyo bay at the 2011 off the Pacific coast of Tohoku Earthquake. Sand-volcanoes by liquefaction-fluidization distributed on belts with 500m width in the reclaimed land from Ichikawa city to Chiba city. Continuous boring cores were taken and shear wave velocities were measured on Gyotoku high school in Mamagawa belt and Funabashi-Minato junior high school in Ebigawa belt. Sand-volcanoes distribute almost on paleo-valley at the last ice age around the survey sites.

Strong waves were simulated by SHAKE method on strong motion data in Shimosa Group at reclaimed land in Chiba city at the survey sites in the paleo-valley and out of the paleo-valley, neighbor sites. On Mamagawa belt, JMA intensity 6- in the paleo-valley and 5+ out the paleo-valley were calculated. On Ebigawa belt, JMA intensity 5+ in the paleo-valley and 5- out the paleo-valley were calculated.

Keywords: the 2011 off the Pacific coast of Tohoku Earthquake, liquefaction-fluidization, Tokyo bay reclaimed land, Man-made strata, Holocene strata