

## Correlation between liquefaction areas in Kanto region and the time-series changes of distribution of gravel pits

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Geomorphological condition and land history of liquefied sites in Kamisu and Kashima cities caused by the 2011 off the Pacific coast of Tohoku Earthquake were evaluated by means of aerial photos and old edition maps. Liquefied sites in this region were identified based on the field survey and Google Earth images interpretation. In this area, a large number of the liquefied sites were identified in reclaimed area of former pond and gravel pits. These gravel pits were developed since the late of 1960s, and many places of these gravel pits were reclaimed. In Kanto region, a large number of liquefied sites were identified in gravel pits in the basin of Kuji, Naka, Kokai and Kinu River. In Japan, a large number of man-made soil deposits are distributed in densely inhabited district. Therefore, the information of time-series changes of distribution of gravel pits is important for evaluate of a liquefaction potential.

Keywords: liquefaction, gravel pits, land history, aerial photo, liquefaction potential estimation, 2011 off the Pacific coast of Tohoku Earthquake