

Topographic and ground condition for hazard mapping of liquefaction on natural levee

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The liquefaction hazard maps in Nakagawa Lowland and Kazo Lowland, east Saitama Prefecture, and Rokkou area, south east Ibaraki Prefecture were produced using the liquefaction criteria of Nakano et.al. (2015) based on landform classification of Land Condition Maps and 5m grid DEM. Next, the cross section of the histogram was made using boring dates, and the thickness of soft foundation was surveyed.

As a result of comparative study, the mud layer less than N value 10 accumulated more than 6m at all places that liquefaction occurred. This result supports a proposal of Koarai and Sato(2015). Therefore, it is thought that the thickness of soft foundation is effective for liquefaction criteria.

In addition, there were no natural levees with a relative height exceeding 5m. Furthermore, after calculating the relative height of the plural points that liquefaction occurred on the natural levee, the value turned out less than 2.5m at all points. The result suggests the need to change the criterion of Nakano et al(2015).

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