KIYOTA LAB.

Challenge of Geo-disaster Mitigation

Department of Fundamental Engineering

Geo-disaster Mitigation Engineering
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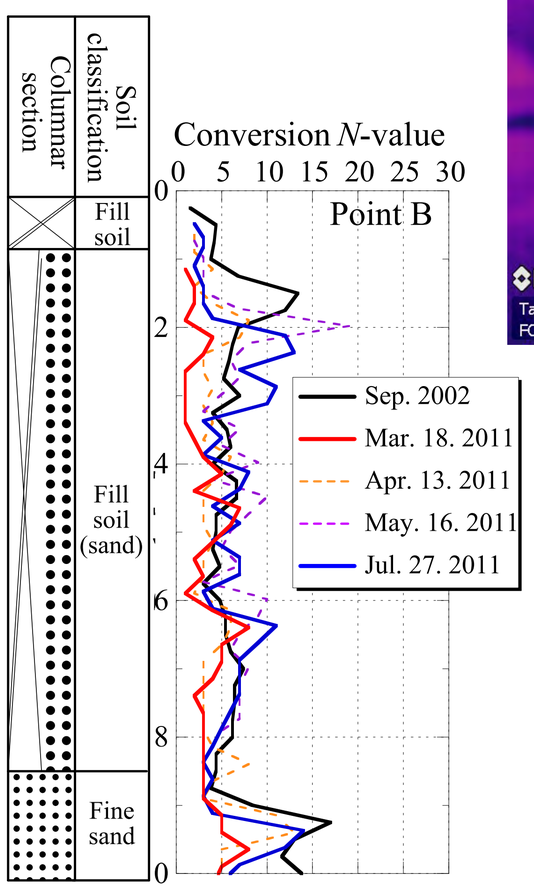
https://www.gdm.iis.u-tokyo.ac.jp/

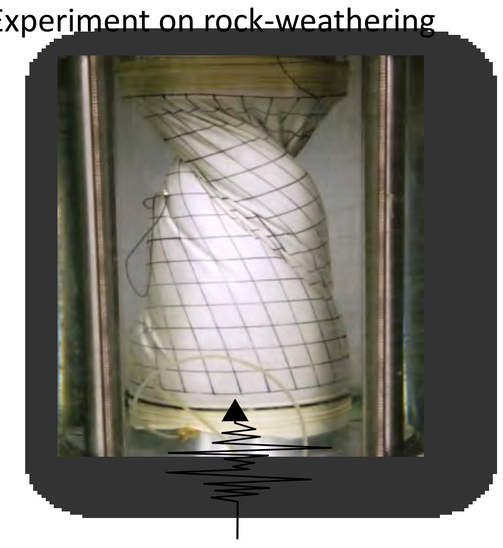
Earthquake-induced Geo-disaster

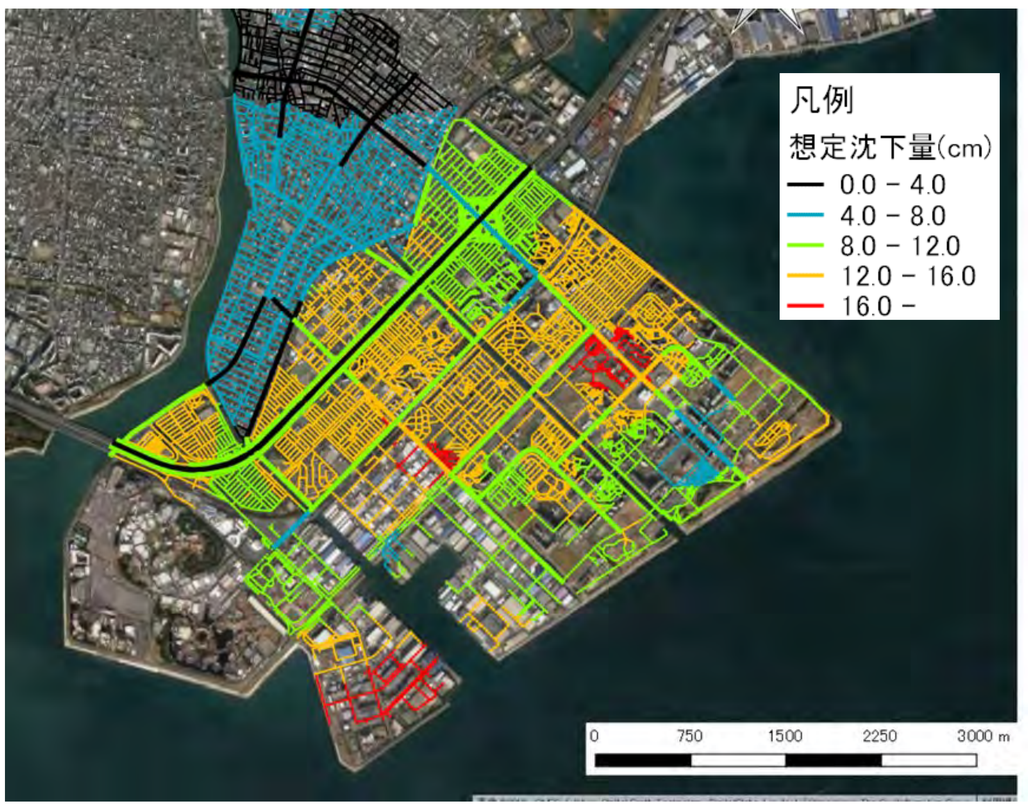
Earthquake-induced damage to infrastructure is closely related to geotechnical and geological factors. For example, massive tsunamis were generated by the 2011 Tohoku Earthquake, destroying many coastal levees constructed of geomaterials. The 2016 Kumamoto Earthquake caused 190 landslides over the area in Kyushu island, Japan. The 2018 Hokkaido Earthquake caused severe liquefaction-induced damage in several residential areas. Kiyota laboratory is working to mitigate such geo-disasters based on field surveys, in-situ and laboratory tests, and numerical simulations.



Field investigation and laboratory test on liquefaction problem

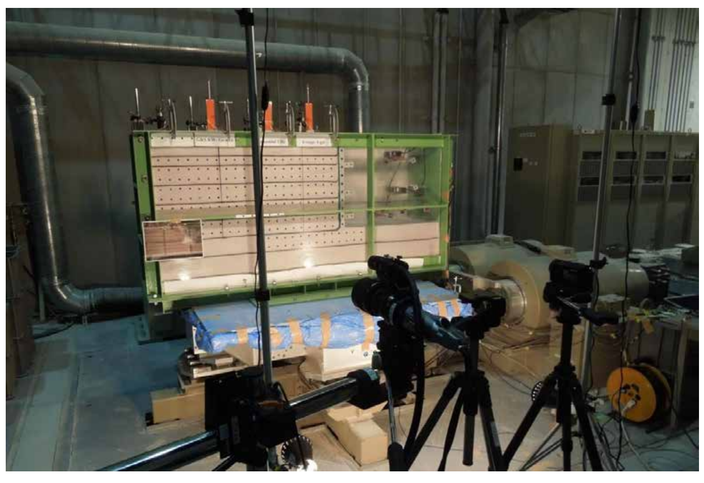
Experiment on rock-weathering





Newly-developed liquefaction hazard map for road network in Urayasu City

Field survey after geo-disaster



Pull-out test and shaking table model test on newly developed Geo-cell reinforced retaining wall