Evaluation on sedimentary environment and sensitivity of consistency of the Holocene mud layer in the Osaka Plain

Yutaka Tsukada[1]; Muneki Mitamura[1]; Shusaku Yoshikawa[2]; Akihiko Oshima[3]; Naoko Kitada[4]; Eiji Sasao[5]; Yoshikazu Sampei[6]

[1] Geosci., Osaka City Univ.; [2] OCU; [3] Urban Eng., Osaka City Univ.; [4] GRI; [5] JAEA; [6] Geoscience, Shimane Univ

Sea level change after the last glacial period, mainly the Holocene transgression, had formed thick Holocene formation in the coastal Osaka Plain. Many studies on the alluvium that closely related to human activity investigated the features of the geotechnical engineering properties. For example, some studies have pointed out that the Holocene mud layer in the east side of the north-south oriented Uemachi Uplift in central Osaka(the eastern Osaka Plain) is more sensitive than that of the west side(the western Osaka Plain). But there is still no study on how the sensitive mud formed, and how the sensitivity and geological properties were related with each other.

Four alluvial sediment cores were taken at the eastern and the western Osaka Plain. In this study, so the sensitivity ratio and liquidity index of geotechnical engineering properties, CNS elemental contents, grain size distribution and sedimentary accumulation curve (based on radio carbon dates and widespread tephra) of geological properties were investigated. In this presentation, the differences of geological properties, which may take effect to the geotechnical engineering properties during the formation of sensitive mud in the eastern Osaka Plain, will be discussed.