

SSS017-P18

Room: Convention Hall

Time: May 25 17:15-18:45

Recurrence of earthquakes along the Yoro fault system revealed from Holocene delta sequence in the Nobi plain

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Analyses of six drilling cores and 46 ¹⁴C ages from a lowland along the Yoro fault system fringing the Nobi plain suggest that five subsidence events occurred in the middle to late Holocene. The cores are represented by a prograding delta sequence that has formed on the footwall side of the Yoro fault system. Vertical changes of sedimentary facies, grain size distribution and electric conductivity (EC) value of sediment samples suggest that temporal relative sea-level rise occurred around 500, 1200, 1000 to 4300, 4000, and 4700 to 5600 years ago. These sea-level rise events do not match the general sea-level fall trend during the middle to late Holocene reflecting the eustasy and hydroisostasy. Probable cause of this mismatch is the coseismic subsidence of the lowland, which indicates the activity of the Yoro fault system.

Keywords: Nobi plain, Holocene sequence, Yoro fault system, coseismic subsidence, ¹⁴C ages