[EJ] Evening Poster | S (Solid Earth Sciences) | S-SS Seismology

[S-SS08]Active faults and paleoseismology

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Geologic and historic information on seismic cycles and on the magnitude and source faults of past earthquakes is essential information to understand future large earthquakes. The study of past faulting and seismicity is an important issue for an interdisciplinary community of seismologists, geologists, geomorphologists, archaeologists, and historians.

[SSS08-P09]Two emergent events recorded near the AD1703 Genroku shoreline in the southeast coast of Boso Peninsula, Central Japan

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Based on remarkable coastal uplifts by the 1923 Taisho Kanto earthquake (M 7.9) and the 1703 Genroku Kanto earthquake (M 8.1), Numa surface group of marine terrace (including small scale wave-cut benches) in the southern part of Boso Peninsula are considered to be formed by the accumulation of crustal deformation at the plate boundary earthquake in the Sagami trough and Holocene earthquake history was constructed. However, Sato et al. (2016) proposed that the uplift and subsidence at the time of the earthquake disappears gradually until the next earthquake, and that the remaining as crustal permanent deformation is only steady uplift from the viewpoint of the strain accumulation and release process between plates. This standpoint presents the reasonable understanding that marine terraces are not formed due to the accumulation of cosesimic uplifts but the combination steady uplift by plate convergence and the eustatic sea level fluctuation. Giving steady uplift rate of 3 to 4 mm/year, uplift-subsidence with earthquake cycle, wave erosion and deposition process, numerical simulation of coastal geopmorphology can reproduce relatively wide Numa surfaces. (Noda et al., 2017). This research focuses on the age-decided Genroku shoreline topography and its surrounding small scale wave-cut benches and notches and reexamined the contribution of eustasy and seismotectonics to the terrace formation, analyzing their distributions and altitudes, formative environments and 14C dating of calcareous fossil. We collected both in-situ fossils of boring shell and *nereidae Spirobranchus kraussii* attaching from the same position (altitude 6.8 m) just upper the retreat point of an emerged notch which has thought to be emerged at the 1703 Genroku earthquake. Each 14C calendar year is AD689-946 from the boring shell and after AD1680 from *nereidae Spirobranchus kraussii.* The latter is chronologically correlated with the 1703 Genroku earthquake, but the former is significantly more than 1000 years older than the latter. Considering the preservation process of boring shell fossils, these suggest that at least two emergence events (Event 1: AD689-946, Event 2: 1703 Genroku Kanto Earthquake) are recorded near the Genroku shoreline. Since the preservation of the dead boring shell and the notch is difficult during the eustatic sea level rising between 1329 and 1070 years (Siddall et al., 2003), we guessed that Event 1 is likely associated with intermittent coseimic coastal uplift. After Event 1, these wave-cut shoreline features

probably submerged into the tidal range by interseismic subsidence untill the Genroku earthquake. Depending on the recent paleoseismic study on Sagami trough-sourced earthquakes (Mannen et al., 2017), Event 1 is probably assigned to AD878 Gangyo Earthquake. Small scale wave-cut benches are also distributed at vertically spaced multiple levels higher than the Genroku shoreline. However, each altitude dispersion in correlative benches ranges in 2 to 3 m, vertically adjoining tidal zones are significantly overlapped. This indicates the difficulty of reconstruction of emergent events only by topographic features of small scale emergent wave-cut bench. We maintain the necessity that the paleo shoreline level is carefully recognized by the combination of abrasion shoreline topography and fossils precisely indicating the tidal zone, such as *nereidae Spirobranchus kraussii*.