

## Recurrence History and Crustal Movement for Recent Four Times of Kanto Earthquakes at Southern Miura Peninsula

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The purpose is geologically to resolve the occurrence timing and the accumulation process of the crustal movement associated with the Kanto Earthquake repeated at the plate boundary along the Sagami Trough. Study site is the coastal lower land along Bishamon Bay which an estuary is formed in south Miura Peninsula. An evidence of four times of Kanto earthquake during approximately 1000 years was identified, and the crustal movement cycle caused by these earthquakes was estimated. (Figure 1).

In the low land, the Holocene flights of marine terrace with the low cliff of 1-2m in height were authorized (National Geography Survey, 1981) . In this study, moreover, the lowest terrace was classified in five terraces from the interpretation of the aerial photographs. We named these lower terraces L1, L2, L3, L4 and L5 in the old order.

The low land is raised for development now. From boring survey, the sediment mixed for abundant shell fragments and gravels in motley was founded below +2m above sea level. These deposits are estimated the tidal-flat deposits from such facies, those are uplifted clearly. The elevation of these tidal-flat deposits varies according to terraces; L2:0.6 - 2.0 m, L3:1.2 m, L4: 1.6 m, L5: 0.9 - 1.6 m. Moreover, the timing that these tidal-flat deposits were uplifted varies according to terraces from the radio carbon analysis of woods and shells and from the Cs137 and Pb210 analysis of the sediments; L2: between 1000 and 1210 cal. AD, L3: after 1260 cal.AD, L4: 1703AD, L5: 1923AD. These show that the terraces is a marine terraces formed with an uplifting of the tidal flat deposits.

It is inferred that the marine terraces are formed by a sudden upheaval caused by the Kanto earthquake, and it is recognized that the terrace formation of the L3, L4 and L5 are associated with 1293 Earthquake, 1703 Earthquake and 1923 Earthquake in historical documents. In addition, the generation of L2 is before 1210 cal. AD, but the earthquake during 1180 AD through 1210 AD is unknown in the AZUMAKAGAMI which is a history editing book of the Kamakura Shogunate Therefore, the earthquake corresponding to L2 is estimated after 1000 from the radiocarbon dating before 1180 from the AZUMAKAGAMI.

The recurrence interval of the Kanto earthquake varies; 113 to 293 years for before 1293 Earthquake during 1180 AD through 1210 AD, 410 years for between 1293 Earthquake and 1703 Earthquake, and 220 years for between 1703 Earthquake and 1923 Earthquake.

The elevation of lower terraces L2, L3, L4 and L5 is almost similar. Miura Peninsula greatly is uplifted during the earthquake occurred at the plate boundary along the Sagami Trough, but slowly is subsided between earthquakes. Through historical age, the uplift in associated with earthquake is returned in the period between a former earthquake and a next earthquake.

Keywords: Kanto Earthquake, Recurrence Interval, Residual Displacement, Paleo Seismology

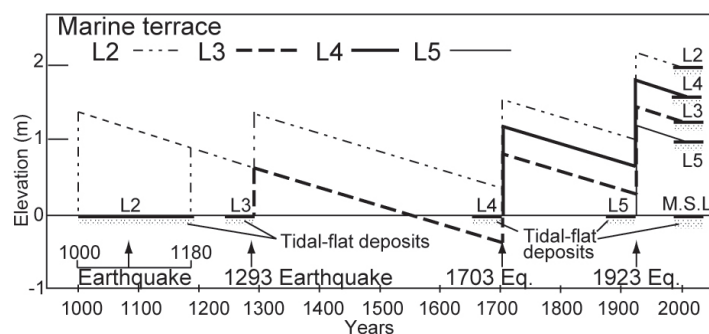


Figure1 Estimation of the Accumulation Process of Vertical Displacement associated with Recently Four times of Kanto Earthquake