

# Holocene turbidites from the Tosabae Trough, a landward slope basin of Nankai Trough off Muroto

# Masao Iwai[1]

[1] Kochi Univ.

We investigated piston cores KR9705P1 from the Tosabae Trough and KR9911P1 from a slope basin on the landward slope of the Nankai Trough off Cape Muroto in order to detect seismoturbidites triggered by the great earthquakes occurred at the Nankai subduction zone and to determine those recurrence pattern. A total of 31 turbidite layers are found from Core KR9705P1 and 26 from Core KR9911P1. Foraminifera bearing silty sand beds show a typical sequence of the fine turbidite model, including a clear erosional base, lamination, upward fining sequence, and nongraded silt unit at the top of turbidite layer. The origin of turbidites in this isolated basin is considered to be turbidity currents triggered by great earthquakes repeated in the Nankai subduction zone. Eleven AMS radiocarbon analyses for seven horizons of Core KR9705P1 were utilized in the dating, which provided a calibrated time scale from AD 1600 to ca. 7150 cal BP. Two linear fitting lines of the age-depth profile give us the average sedimentation rate of hemipelagic mud as 109 cm/ky and 47 cm/ky for above and below 75 cmrd, respectively. Top nine turbidites can be directly correlated to such historic earthquakes in 1498 (Meiou), 1361 (Shouhei), 1233 (Tenpuku) and 1099 (Kouwa), and Archeological paleoseismic evidences in late AD 900's and between AD 300 and BC 300, although core record younger than AD 1600 is missing for the coring disturbance, and no turbidite correlated to the great earthquakes in 887 (Ninwa) and 684 (Tenmu) for unknown reason. The mean recurrence interval of the 31 turbidites, 215yrs (error=21yrs;median=186yrs), was consistent to the previous study in Muroto Trough, but two times larger than the average value, 114 years, of the recent historic earthquakes.