

## Two historical tsunami deposits from the Otagawa-lowland, western Shizuoka Prefecture, Pacific coast of central Japan

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### Introduction

Two tsunami deposits formed in the last ~1500 years were found from the excavation sites of the Motojima ruins and river conservation work in the Ota-gawa lowland, on the Enshu-nada coast, near the Nankai trough. These excavation sites are located in the flood plain of the Ota-gawa river ~2.5-3.5km inland from the present coastline, and correspond to the former bay head which expanded along the Ota-gawa river. These tsunami deposits are attributed to the 1096 Eicho earthquake and an earthquake of the fourth to seventh century, respectively.

### Eicho tsunami deposit in the Motojima ruins

The tsunami deposit is intercalated in the silt beds covering the ruins ranging the first to fourth century in age. It is 20-30 cm in thickness and continuously traced along the artificial slope ~120 m in coast-normal direction and ~70 m in coast-parallel direction. The tsunami deposit consists of a fine alternation of ripple laminated fine to medium sand beds. Each of the sand bed shows a normal grading and is covered by a mud drape and shows the deposition from one sequence of tsunami run-up or backwash. We then inferred that the tsunami deposit recoded the repeated occurrence of the tsunami waves. Radiocarbon ages suggest that the tsunami occurred around the boundary of the 11th and 12th century.

### Tsunami deposit of the fourth to seventh century

The tsunami deposit was observed along the outcrop made by the river conservation work and continuously traced over 150 m in the coast-normal direction. It consists of stratified sand beds with ~70 cm thickness and shows a fining landward trend. It covers the tidal flat mud with an erosion surface, showing a fining upward sequence, and gradually covered by blackish silt beds (Sato et al., this meeting). Fine alternation of ripple laminated sand beds and mud drapes characterizes the tsunami deposit. Rock type and mineral composition of the tsunami deposit is similar to that of the beach sediments on the Enshu-nada coast and suggests that the deposit was mainly transported from the beach by tsunami run-up (Aoshima et al. this meeting).

Radiocarbon ages and fragments of the potteries included in the tsunami deposit suggest that the tsunami occurred at a period between the late of fourth century and end of the seventh century.

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