High-resolution mapping and segmentation analysis of the MTL submarine active fault system between Saganoseki and Iyo-nada, Japan

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Active fault system of the Median Tectonic Line (MTL) is one of the most active faults in southwest Japan. We investigated the subsurface structure between off Saganoseki and Iyo-nada by single channel acoustic survey. Active faults of the study area have NE-SW to NEN-SWS strike showing left-step echelon pattern and are divided into four segments such as Kaminada, Nagahama, Misaki and Saganoseki sediments distinguished from Beppu-wan active fault system. At Kaminada segment, feature of cumulative displacement on acoustic profiles suggests that the active faults have slipped at least three times during Holocene. However, there are no data about Holocene activity of another segments because strong tidal current from Bungo channel eroded Holocene sediments.