

Submarine active fault system of the MTL on the coastal sea area of the eastern Iyo-nada, Seto Inland Sea, Southwest Japan

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Geographical Survey Institute(GSI) has carried out coastal marine survey in bay and inland sea areas since 1972, using echo sounding, single channel acoustic survey and bottom material sampling.

GSI reported unknown active faults (Kc, in Fig.) along the east coast of Iyo-nada in Seto Inland Sea in 1992. In 2000, we surveyed the fault system in western extension area. We studied about submarine active faults (Kc and Np) in relation to existent active fault system of the Median Tectonic Line(MTL).

The unknown active faults newly found by the coastal marine survey of the GSI were in the south to the existent active fault system of the MTL along the coastline from Konogawa to Nagahama. These faults are strike-slip faults. The active fault system of the MTL, which is one of most active among the active fault systems in Japan, consists of right lateral strike-slip faults. Therefore, the newly found active faults are supposed to have the same characteristics.

A geological cross-section, compiled from boring core data, across the fault (Np), shows that vertical displacement of volcanic ash (K-Ah, 6,300y.B.P) is up to 15m, which shows that vertical slip rate is 2.4m/1,000years.

Both Kc and Np are parallel right lateral strike-slip faults. It suggests that the area between these two faults be put under tensile stress. Depth of the basement of alluvium in this area is more than 55m below mean sea level i.e. deeper than area of its surroundings. It indicates this area is a pull-apart basin.

