

Tectonic relives and active submarine faults in the eastern marginal area of the Sado Basin

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We show some active submarine fault traces and investigate a fault structure in the eastern marginal area of the Sado Basin based on tectonic landforms and sounding profiles presented by Tokyo Electric Power Company.

The eastern-boundary fault A is an active reverse fault over 50-km long.

Plio-Pleistocene series are cumulatively deformed by the faulting.

Tectono-geomorphic features indicate that the eastern-boundary fault A branches into two faults at a certain depth with ramp and flat structure next to the focal area.

The Eastern-boundary fault B is a low-angle thrust merging into the southeastern half of the Eastern-boundary fault A extending into the swarm of the aftershocks associated to the earthquake.

The 2007 Chuetsu-oki earthquake has resulted from the reverse faulting in the southeastern half of the fault A.

Although this recent quake reached only magnitude 6.8, the Eastern-boundary fault A, over 50-km long reverse fault, is capable of generating a much greater earthquake.