

Seismic reflection profiling survey across the eastern foot of Tsugaru Mountains

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Fault segmentation is an important issue in predicting the magnitude of an earthquake. To address the issue, we are conducting a comprehensive research in the Tsugaru Mountains and surrounding areas at the northernmost of Honshu. The Tsugaru Peninsula consists of the NS~NNW-SSE extending Tsugaru Mountains (about 50 km-long, 10 -15 km-wide) and the hills and lowlands. As a fault zone related to the formation of the Tsugaru Mountains, there are the Tsugaru fault, the Aomoriwan-Seigan Fault zone, the Tsugaru-Sanchi-Seien Fault zone. It is considered that asymmetric shape of the Tsugaru Mountains was formed due to uplift and shortening accompanying these fault activities. However, compared with the scale of the mountainous area, the range where the active fault is recognized is short, there is also the possibility of extending further north. On the other hand, on the southern side of the Tairadate Mountains, hills with constant height spread to Sotogahama and Yomogita. The Negishi-Seihou Fault existing eastern portion of Tairadate Mountains may also be continuous to the south (including the marine area). Thus, although there are few known active faults in Yomogita Town to Sotogahama Town in the eastern foot of the Tsugaru Mountains, considering the possibility that the active structure may be blind in the vicinity of Yomogita. Therefore, we conducted a seismic reflection profiling along the Amida River in Yomogita Town, about 7.6 km-long, to define the subsurface structure of the area. In seismic lines, the vibrator truck (IVI ENVIRO VIBE) is used as the seismic source. Source and geophone spacing are 10-m. Seismic reflection data was processed by using the standard CMP stacking method. In this presentation we demonstrate the subsurface structure revealed by the seismic reflection survey

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