

Basement structure in the vicinity of the Western Margin fault system of the Aizu Basin

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We have carried out a microgravity survey to investigate the subsurface structure of the Western Margin fault system of the Aizu Basin, since 2003. It is known that fault planes migrate to other locations in time of active fault growing. The decrease in dip angle of fault plane makes the migration and appearance area of secondary faults larger. The result of the reflection survey conducted in 2002 represented that a new active fault migrated eastward by 5km from the main fault. The result of the microgravity survey indicated that the basements in the vicinity of the Western Margin fault system of the Aizu Basin are divided into several blocks with sizes of 2-4km. Gravity anomalies of the main fault are more than 20 mGal, on the other hand, anomalies caused by a new active fault are 1-2 mGal. In Bange area, the eastern side of the active fault has a low gravity anomaly because of the basin structure. However, in the Kitakata area, the eastern side of the active faults has a high anomaly in spite of the basin. This inverse distribution of gravity anomalies might be considered to be caused by a tectonic inverse of the active fault. The gravity data also show some east-west faults beneath the Aizu Basin. These block basement may affect the groundwater flow system.