

Active tectonics of the crustal shortening zone in the central Hokkaido, Japan, analyzed by deformed fault-flexure geomorphology

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It thinks that the Hokkaido axis part is a boundary of the crash between the Eurasia plate and Ohotsoku plate. Here, it is the tectonic belt where the northeastern Japan Arc and the Chishima Arc conflicted and the protuberance of Teshio- Hidaka originated at middle of the Cenozoic period since then. Here, the level abridgment of the crust continues and is admitted as the conspicuous active tectonic zone the Teshio fault zone, the Ishikari fault zone and the Tokachi fault zone.

In this Study, it aimed to make the role which these tectonic zone have to the abridgment transformation and the landform forming of the Hokkaido axis part clear. The way reevaluated the position and the displacement rate of the active fault displacement landform, and used and considered a seismic reflection method profiling about the process of the growth of the transformation of the surface which derives from the abridgment transformation. As a result, the Tokachi fault zone and the Ishikari fault zone which underwent influence by proces of the west of the Chishima arc show the reverse fault zone which sense of displacement is eastern uplift. Thrust-front migration to the west with flexure was admitted in the activity front desk in the times. On the other hand, the Teshio fault zone in the northern part grows fold and thrust band over the 20 - 30 km width and the forefront reaches a Sea of Japan area. Because the vertical displacement average rate of Tokachi and Teshio is 0.1 - 0.6 m / ka, but main thrust stops underground at the Ishikari fault zone, it is a maximum of 0.1 m / ka. At the 3 fault zone, it is possible to read that there was hundreds-of meter abridgment in the transformation of the Quaternary layer from the seismic profile. As for the existence of such active tectonic zone it doesn't support the opinion to suppose that the plate boundary changed into the Sea of Japan east edge in the Quaternary. It is possible to conclude that the Hokkaido axis part fulfils an important function as the place of the release of the crust stress warp which accompanies plate crash movement still as the abridgment transformation band with wide width.