

Surface deformation along the Nagamachi-Rifu fault and the Nigatake fault in the Sendai coastal plain

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This study aims to clarify detailed topographic features formed by the Nigatake fault, which runs parallel to the Nagamachi-Rifu fault across the central part of Sendai City, trending NE-SW direction.

According to the previous studies, the Nigatake fault was thought to be a blind thrust situated in front of the Nagamachi-Rifu fault toward the sea. Accordingly, they thought that adjacent east area of the Nagamachi-Rifu fault was subsided. But the present study, on the basis of interpretation of large-scale aerial photographic analysis and using precise contour maps, it revealed that the Nigatake fault deforms ground surfaces as a flexure from south side of the Nanakita River to north side of the Hirose River. This fact indicates that the area between the Nagamachi-Rifu fault and the Nigatake fault has been uplifted as about 15-20m above the present sea level due to the tectonic movement related to the Nigatake fault activity. Besides, the authors confess the deformation about the surroundings area of the Hirose River close to the Wakabayashi region is not recognized, because this area covered by the very recent flood plain sediments which have supplied by the Hirose river. But present study thought that the Nigatake fault might be prolonged up to the edge of the Natori River. Further investigation is needed to the relationship about the two faults activity as well as subsurface structures of them.