

## High-resolution sonic survey of the shallow structure of the southern extension of the Kochien fault, Hokkaido

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The Kochien fault, located at the southwestern edge of the Tokachi Plains, is a reverse fault characterized by an east-side upheaval. From two trench surveys, Hokkaido (2004) showed an apparent topography displacement on the lower terrace surface, and confirmed this fault to be a high-angle (about 30-60 degrees) reverse fault. A precise interpretation of the trench logs, together with carbon-14 dating results, showed that this reverse fault ruptured at least twice after the Late Pleistocene. An older event occurred at about  $17,700 \pm 70$  yBP-12 ka, and a younger event occurred after about  $2,160 \pm 60$  yBP. In contrast, the National Institute of Advanced Industrial Science and Technology (AIST) conducted a trench and drilling survey at two sites on this fault to supplement a former result. Based on the AIST surveys results, it was determined that the Kochien fault ruptured only once between 40 ka and 12 ka.

To clarify the distribution of the Kochien fault, we performed preliminary high-resolution sonic surveys using a parametric sub-bottom profiler across the possible active fault on an offshore area of the Tokachi Plains. We located our survey lines in the WSW-ENE direction at 500 m intervals, over a total survey track length of about 75 km.

Results from the high-resolution reflection profiles revealed flexural deformation of the shallow marine sediments. We will give a presentation on the results of this survey.

Keywords: Kochien fault, offshore, active structure, high-resolution sonic survey, Hokkaido