

Simulation of the vertical crustal movements in the Tohoku district, Japan -The postseismic effect of the 1896 Riku-u earthquake-

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We constructed 3-D viscoelastic FEM model in the Tohoku district, northeast Japan, to reveal the crustal movements at island arc. The leveling results during the period of 1900-1975 by Kato (1979) include the effect of the subducting Pacific plate and the postseismic deformation due to the 1896 Riku-u earthquake. We first simulated the postseismic effect caused by this earthquake using 3-D FEM. Then we examined the effect of the subducting Pacific plate.

We confirmed that the subsidence region in the central part is due to the postseismic effect of the 1896 Riku-u earthquake. Our results show that backslip rate at Sanriku-Oki is 3-7cm/yr and varied with depth and latitude.