Deformation of Holocene marine terraces by the Seattle Fault and its subsidiary faults in the Seattle area

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Holocene marine terrace, dated at ca. 1000 yrBP Sherrod et al., 2000), fringes the hilly land of the Seattle area, Washington State. We have studied the height distribution of Holocene marine terrace in order to understand the relationship between the fault activity and terrace formation. Airphoto and LIDAR map are used for the identification of Holocene terrace. Height of the former shoreline angle was measured by handlevel and by reading LIDAR map. The height of Holocene marine terrace is up to ca. 12m. There is distinct height difference in the terrace across the Waterman Fault, and its subsidiary fault, as well as Toe Jam Fault. Some tilting is also observed in the Alki Point area. We conclude that the formation of the terrace predates the latest fault activity by the Seattle Fault and its subsidiary faults.