We inverted the slip deficit and fault slip distribution before and at the time of the 2011 Off the Pacific Coast of Tohoku Earthquake (Mw9.0) from 3-dimensional GPS positioning data. The deduced co-seismic slip showed segmentation into three regions from north to south. These three peaks should correspond to sequential slips of multiple asperities. The maximum slip area with 30 m slip, which located off the Oshika Peninsula, included at least four asperities of Mw 7 class earthquakes occurred in the past 70 years. The second peak of about 20 m slip was at the south side of the main area. Inversion of slip deficit before the earthquake revealed that a slow slip event (SSE) started in 2008 at this southern slip area, which was still ongoing at the time of the earthquake. Because this region did not behave as a barrier but led the slip, the rupture propagated toward south as well as the slip at the main area grown up to 30m. In addition, the slip deficit around the main area increased with the occurrence of the SSE. The huge earthquake may have triggered by the shear stress concentration to the main slip area due to the loss of the support by the SSE area.