The purpose of this study is to clarify sedimentary environment during the Holocene Transgression in the Shiribeshi-Toshibetsugawa Lowland, and to determine the ages by geological data, AMS 14C dating, molluscan assemblage and sulfur analysis. Holocene transgression deposits were found ranging from -2 m to -17 m a.s.l. in the lowest reaches of Toshibetugawa Lowland.

The upper horizon (-2m - -8m a.s.l) of the deposits includes mollusc shells living in the intertidal zone such as Crassostrea gigas, Trapezium liratum etc.. And the dated ages are 6.6ka BP (7.2ka cal BP; shell fossils of Crassostrea gigas) at -2.2m a.s.l., 7.2ka BP (7.9ka cal BP; Corbicula japonica Prime) at -7.76 - -7.26m a.s.l and 8.0ka BP (8.9ka cal BP; wood) at -17m a.s.l. by AMS 14C method.

Since ca. 8ka BP, warm Tsushima Current had strongly flowed into Japan Sea (Oba et al., 1991). At the same time, the sea began to enter into the Shiribeshi-toshibetsugawa Lowland. On the maximum of the Jomon transgression, the sea invaded into 6 km along the lowland from the present shoreline.