

## Field Survey of the Beppu Bay Tsunami accompanied by the 1596 Keicho Bungo Earthquake

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The Keicho Bungo earthquake (M6.9) broke out on 4th September, 1596 in the sea area of Beppu Bay, Oita Prefecture, north east Kyushu. This earthquake was accompanied with a large tsunami, and severe damage occurred on the coast of Beppu Bay. We conducted survey at four points where submergence limits were clearly recorded. The Chronicle of Saganoseki town mentions that at Saganoseki, Oita city at present, the stone gate of Seki Shrine was collapsed due to the tsunami and the main building was flooded above the floor. The master of the shrine testified that the location of the main building is not changed since the foundation of the shrine. The height of the ground was measured at 8.61 meter, and the floor surface is 2 meter higher above the ground, so it is estimated that sea water rose up to 10.6 meters above the mean sea level. In Funai 3 street in Oita city, where Oita central post office stands at present, there was a temple called Doji-ji and several buildings were swept away due to the tsunami. The ground height was measured at 3.53 meters, and the thickness of covered water was estimated 2 meters or more, so the tsunami inundation height is estimated at 5.5 meters above MSL there. There was a shrine called Nagahama Shrine on the Oita central police station, the 3rd street of Ootemachi square, and was carried to Kasuga Hill due to the

tsunami. The ground height is 3.13 meters, so tsunami inundation height is estimated at 5.1 meters above MSL. On the north coast of Beppu Bay, there is a shrine called Nata Hachiman Jinja in Kitsuki City. The Chronicle of Kitsuki city mentions that all buildings and stone gates were swept away due to the tsunami in 1596. The ground height of the shrine was surveyed at 6.4 meters, and so the tsunami inundation height was 8.4 meters or more there. The present authors wish to express their thanks to JNES for its financial support.

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