

Height Distribution of the Tsunami of the South Kanto Earthquake of February 3rd, 1605

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In the midnight of February 3rd, 1605, a large earthquake occurred in the south sea area of Honshu, Japan. Accompanied with this earthquake a huge tsunami was generated, and large damage took place on the coasts of Boso peninsula, and of Shikoku Island. This earthquake was considered as an Tokai-Nankai gigantic earthquake, or the twin earthquake consists of the source areas of Nankai and south Kanto Sea region. Large tsunami heights were recorded at the coasts of Hachijo-island, Boso peninsula, and Tokushima and Kochi prefectures, Shikoku. But, old document records of this tsunami were poor on the coast of Tokai district and Kii peninsula, and moreover earthquake shaking was not felt at Kyoto, the capital of Japan in those years. These facts suggests that the source area of this earthquake was not extended to the Tokai Sea area. Ishibashi & Harada(2013) proposed that the source of this earthquake is possible to be situated at Ogasawara trench area.

The damage of this earthquake tsunami is mentioned in the text of a "Boso Chiran-ki" ("the Chronological story of battles in Boso Peninsula"), in which 35 names of tsunami damaged villages were listed. The author was informed from a priest of the temple "Saitokuji" in Amazura village, which is one of the listed village. He showed me that several old documents were kept in this temple, and the main image of God was carried by the tsunami. I measured the level of the location of the main god and clarified that the tsunami height was 17.3m at this temple. On the other hand we collected detailed map in the scale of 2,500 to 1 for the damaged coastal villages. I checked the lowest height (above mean sea level, MSL) of each damaged village, and found out the lowest values of the inundated height can be estimated at five villages. Fig 1 shows the residential area of Yasashido village, and the lowest height of the ground of the houses is 7.7m above MSL, which shows sea water rose up to 9.7 meters there, because Koshimura(2002) showed that a house will be entirely collapsed in the case the thickness of water over 2.0 meters. We finally obtained the distribution of (the minimum estimated) tsunami heights as Fig 2.

Keywords: The 1605 Keicho south Kanto Earthquake-Tsunami, Boso peninsula, old documents kept in a temple



図1 千葉県いすみ市大原字矢指戸の2,500分の一住宅地図

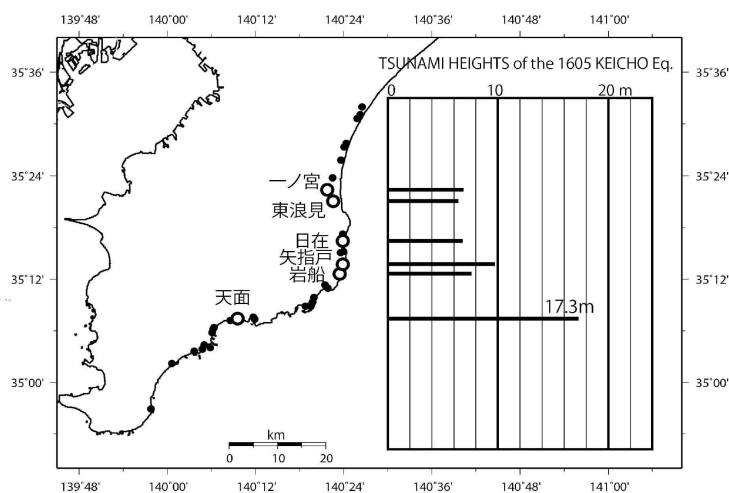


図2 『房総治乱記』に記載の35ヶ村(丸印)。白丸は津波浸水高さを推定しうる村で、右グラフは推定津波浸水高