

## The tsunami caused by the volcanic eruption of Izu Ooshima Island on September 18<sup>th</sup>, 1684

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Volcano Izu-Ooshima island began to be active on March 31<sup>st</sup>, 1684, and it became the stage of climax in 9<sup>th</sup>, August of the same year. The volcanic activity stopped in 1690. Fifty nine years after the finishing of the volcanic activity, “Izu-Ooshima Sashidashi-cho (The geographical and historical report of Izu Ooshima Island)” was published. In this report, there is a description of a tsunami which had hit Niiijima Village (Motomachi Town at present) in August, 1684 as the following: “Niiijima Village in Ooshima Island, in August of 1684, more than sixty trading and fishing vessels were carried away by a tsunami, and in addition that four people and more than 60 houses were swept away.” The date of the tsunami is not mentioned explicitly, but it is recorded by another documents that the volcanic eruption became most active on 8<sup>th</sup> August, so, the tsunami was probably generated on the same day. The total number of houses in Ooshima village was 253 in 1749, and was 245 in 1793, so it was considerable to be about 250 also in the year of the tsunami, 1684.

The number of tsunami swept away houses was about 60, so about quarter of total houses were swept away in Niiijima village. We made ground height measurement in Motomachi town at a point on the contour line which separates about quarter part of the residential area of Motomachi Town, Izu-Ooshima. We found that the ground height at the point was 13.9 meters (above T.P. 0m). We estimated that the tsunami height was in minimum 13.9 meters, and it is possible, sea water rose up to the level of fifteen meters above the mean sea level.

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Keywords: Tsunami caused by a volcanic eruption, Izu Ooshima, Historical Tsunami, Cauchy-Poisson's waves

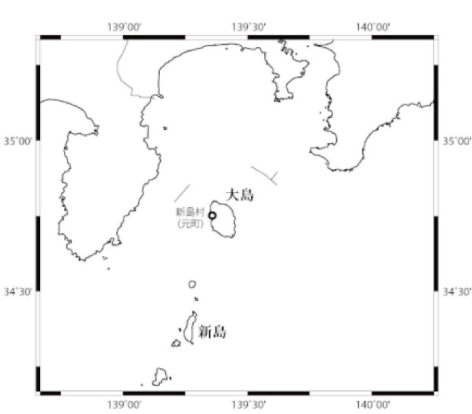


図1 新島村と新島は別の地名である

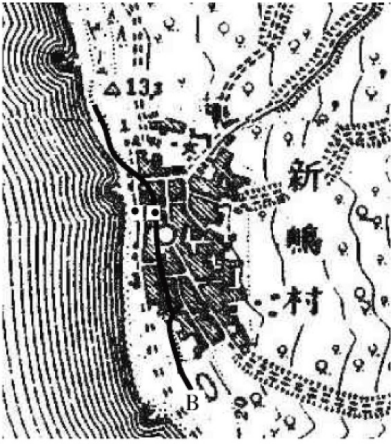


図2 大正3年(1914)の大島新島村の地形図  
太実線は流失家屋範囲限界



図3 現代の大島元町の地形図  
太実線は流失家屋範囲限界