

Decoding of historical/observational hazard potentially printed in the surface sediment of Beppu Bay

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Hazards such as floods or earthquakes often provide a large amount of influx of detrital material into the sedimentary basin. These features could be detected as event deposits or eventual increase in the composition of the detrital material in the sediment. Therefore, event deposits have a potential for resolving the history of hazards in the geologic time range. However, magnitude and category of each hazard event are hard to confirm only by the sediment. To resolve this problem, the correlation between the modern sediment and observed record of hazards can reveal the relationship between them. Beppu Bay is located in the northeast part of Kyushu island in Japan. It is known that this region has suffered from many kinds of hazards such as floods, earthquake and volcanic eruption, owing to its location. For revealing the mechanism of deposition of detrital material during each hazard event, we took samples of the surface sediment from 4 points of Beppu Bay in Jun. 2017. The sediment of Beppu Bay in the deepest area (deeper than ~60m) is finely laminated. If the lamination is annual, it might enable us to count the number of lamination to construct an age model in high resolution, combining with the age constraint based on Pb and Cs isotopes. Although event layers are rare in the top part of the sediment, ITRAX data shows spikes with high Ca ratio in detrital elements suggesting the change in the provenance of detrital material, which would be able to be correlated with observed and historical hazard record. In this presentation, preliminary result of correlation between the sediment and hazard records would be shown.

Keywords: Beppu Bay, Sediment, hazard, earthquake, flood