

Spatial variation of sediment observed by reflecting surface and columnar core at Hirota bay

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The study of onshore features for tsunami impact is well researched, but offshore is only a few researches. In this presentation, we will show about characteristic of tsunami deposit left by 2011Tohoku earthquake and spatial change of sediment in Hirota bay using by Sub Bottom Profiler (SBP) and Vibration Core Sampler (VCS).

We took the columnar core at water depth from 8 to 30 m. The columnar cores were able to sectionalize into mainly two units by lithofacies, Unit-1(sand layer) and Unit-2(muddy layer) from the top. And, we sectionalize U2 into six more subunits, called U2-I to U2-VI from the top.

Therefore, layer of U2 is U2-I: sandy silt with shell piece, U2-II: silt with bioturbation, U2-III: sandy silt with wood chip, U2-IV: sandy silt with sand at the base, U2-V: silty sand with granule and very coarse sand at the base and U2-VI: silt layer. Sagayama et al. (2014) assume that U2-I have a possibility of paleo event unit by diatom analysis.

SBP data were able to sectionalize to some reflection surfaces (R1-R7). R1 and R6 distribute widely, but other reflection surfaces clear away toward offshore.

We estimate distribute of each unit using by comparison of lithofacies and reflection surface. Reflection surface accord with sedimentary units. Then, U1 distribute widely and number of U2 combination were decrease toward offshore from coastal area.

These data shows paleo event sediment mechanism and it also show spatial changes of sub bottom environment.

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