

Depositional environment and dead shell assemblage changes of Ariake Sound

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<http://geoslicer.com>

Depositional environment changes a great influence on animal's inhabiting. Recently, slump of fishery becomes a problem in Ariake Sound. So, we study a change in depositional environment and shell assemblage in Ariake Sound tidal flat.

We collect vertically section of tidal flat sediments using Geoslicer and the surface sediments, for analysis of shell assemblage and depositional environments.

We collected sediment samples at sand flat (Kawasoe area), mud flat (Higashiyoka area, Shiroishi area) and mixed flat (Arao area).

A large amount of *Ruditapes philippinarum* and *Macra veneriformis* live within sand flat (Kawasoe). As a result of Cv-Fr analysis of that shell assemblage, it was proved that the center of inhabiting in the surface was around crest of intertidal sandbar.

It found that information of degree of autochthonous is decrease in vertical section. Judging from sedimentary facies analysis, intertidal sandbar is formed caused by prograding of Chikugo River delta system.

In Kawasoe, Shimabara Catastrophe tsunami deposits which was found in Arao in 1792 was confirmed. And it found that the environment change was occurred in the past 200 years from the other examination (C14, Pb210, Cs137).

As a result of estimated deposition age, *Ruditapes philippinarum* hardly had been lived in Arao and Kawasoe for at least 200 years before. This suggests that depositional environment changed greatly. *Potamocorbula laevis* that seems it is introduced species have been dominated within mudflat (Higashiyoka). It is afraid of the influence on the native species.