

Sedimentary process of event deposits along the southern Ryukyu forearc and the southern Ryukyu Trench

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We conducted piston coring with bathymetric and sub-bottom profiling surveys, along the southern Ryukyu forearc and the southern Ryukyu Trench, for understanding sedimentary process of event deposits in this area. Our final objective is to explore the recurrence record of large tsunami and earthquake archived as deep-sea event deposits along the Ryukyu arc.

Many event deposits considered as turbidites, including many biogenic carbonate-rich very fine-medium sand layers are identified in the piston cores, recovered from a submarine fan located in the southwest of Ishigaki Island. The averaged intervals of the turbidites from two cores recovered from different part of the fan are estimated to be 500-1000 years.

The cores obtained from the forearc basin are intercalated by turbidites including biogenic carbonate-rich very fine-coarse silt, and massive clay layers with gray color almost composed of lithic fragments. The latter sections are possibly originated from the Taiwan region. Lower part of one core recovered from the deepest part of the forearc basin in the south of Ishigaki Island is composed of carbonate-rich very coarse- very fine sand layers considered to be attributed to subaqueous debris-flow. The piston cores obtained from the Ryukyu Trench floor, the coring sites locate behind the natural levee of the channel, are composed of gray silty clay intercalated with numerous coarse silt layers. Most of the coarse layers are <1 cm in thickness.

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