Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

SSS019-P02 Room: Convention Hall Time: May 23 17:15-18:45

ROV KAIKO watched geologic structures of "Chikyu" drill site C0007

Kiichiro Kawamura[1*], Arito Sakaguchi[2], Ryo Anma[3], Hiroshi Ikeda[1]

[1]Fukada Geological Institute, [2]JAMSTEC, [3]University of Tsukuba

In this paper, we present a preliminary report of dive survey 7K#459 by ROV Kaiko. This survey has done in Nankai trough cruise KR09-12 by JAMSTEC R/V Kairei from 26 Aug. to 3 Sep. 2009, where has conducted an upper part of a submarine landslide scarp on the Nankai accretionary prism. The purpose of this survey is to understand formation mechanism of submarine landslide on accretionary prism. In this survey, we revealed as following things: 1) open cracks and detailed topography related to submarine landslide, 2) geologic architectures of accretionary prism associated with factors of submarine landsliding, 3) cold seeps related to trigger of submarine landslide.
Submarine landslides are one of the important marine geohazards to damage coastal and submarine constructions (e.g. airport, cables and so on) and to make tsunami hazards. Particularly, size of submarine landslides is a key to understanding tsunami size and size of damage to constructions. However, it is necessary to understand size of submarine landslides on the basis of its formation process. For example, even if we recognized both shapes of a scarp and a moved mass below the scarp from bathymetric map, we would have to examine carefully whether the submarine landslide occurred by once or several times. Most of the submarine landslides may indicate that a scarp shape shows a size of a submarine landslide. But it needs definitely careful discussion. For example, Stregga slide at Norwegian Sea of the largest slide during Quaternary has occurred several times since 0.5 Ma, and then it is thought that the present topography was formed. We are thinking that the sliding manner or sliding style of each submarine landslide plays an important role in computer simulation, slope stability analysis or any other analyses.

Keywords: Nankai accretionary prism, Outcrop, Normal faults, Submarine landslides, Cold seeps, Bacterial mats