

MIS001-P01

会場:コンベンションホール

時間:5月25日 10:30-13:00

かいこうが見た海底地すべりの詳細な地形・地質

Detailed observation of topography and geologic architecture on a submarine landslide scar in a toe of an accretionary p

川村 喜一郎^{1*}, 坂口 有人², 金松 敏也², 池田宏¹, 安間 了³, ミカエル・シュトラッサー⁴

Kiichiro Kawamura^{1*}, Arito Sakaguchi², Toshiya Kanamatsu², Hiroshi Ikeda¹, Ryo Anma³, Michael Strasser⁴

¹ 財団法人深田地質研究所, ² 海洋研究開発機構, ³ 筑波大学, ⁴ ブレーメン大学

¹Fukada Geological Institute, ²JAMSTEC, ³University of Tsukuba, ⁴University of Bremen

This paper deals with detailed geologic and topographic features of a recent three submarine landslides on a convergent margin. We surveyed a submarine landslide scar on a toe of the Nankai accretionary prism, SW Japan, using the remotely operated vehicle (ROV) KAIKO7000II (7K). The water depth is 3200-3800 m. The total volumes of moved masses are 3.3, 30.6 and 11.3 km³. During the dive survey, the 7K found debris blocks fractured by two directions of joints. These result from retrogressive small collapses at the landslide scar. Seeps being bacterial mats were observed at the top of the scar. These are related to be a formation of the slide.

キーワード: ROV KAIKO7000II, バクテリアマット, 南海トラフ, 付加体先端

Keywords: ROV KAIKO7000II, Bacterial mats, Nankai trough, prism toe

MIS001-P02

会場: コンベンションホール

時間: 5月25日 10:30-13:00

熊野沖南海トラフ付加体斜面の懸濁層とその堆積 High-turbidity layer and its settling in the Nankai accretionary prism off Kumano

芦 寿一郎^{1*}, 池原 研², 木下 正高³, KY04-11 乗船研究者¹, KH-10-3 乗船研究者¹

Juichiro Ashi^{1*}, Ken Ikehara², Masataka Kinoshita³, KY04-11 shipboard scientists¹, KH-10-3 shipboard scientists¹

¹ 東京大学大気海洋研究所, ² 産業技術総合研究所, ³ 海洋研究開発機構

¹ AORI, Univ. Tokyo, ² AIST, ³ JAMSTEC

Earthquake shaking is one of the major triggers for redistribution of slope sediments. Some seafloor observations suggest disturbances during large earthquakes. Core sample analyses also provide information about histories of gravity flows in sedimentary basins. A series of earthquakes of magnitude about 7 occurred southeast off the Kii peninsula in September 2004. We had a chance to obtain undersea video images just after and six years after earthquakes. The seafloor observation was conducted along the prism slope ranging from near the epicenter to 80 km southwest of it by ROV "NSS" during the KY04-11 cruise. The NSS consists of a pilot vehicle, tether cable, and a removable winch system. The pilot vehicle has four thrusters, two underwater TV cameras and hook for a heavy payload. TV observation indicated changes of turbidity with depth: cloudiness increased with depth and was relatively high within the bottom 200m irrespective of the distance from the epicenters. Such turbidity was found in the whole prism slope and was not recognized in the forearc basin. Moreover, extreme high-turbidity layer was observed at the bottom of the slope basin. Complete sinking of the weight of the heat flow probe within this layer suggested thickness of more than 2 meters. NSS revisited this site 6 years after the earthquakes during KH-10-3 cruise and confirmed the seafloor to be normal condition. The seafloor depth 2.4 m deeper than that measured just after the earthquakes using a depth meter (pressure) and an altimeter (acoustic) of the pilot vehicle suggests that the altimeter acoustically recognized the top of the extreme high-turbidity layer as a seafloor in 2004. Our seafloor observation revealed pervasive distributions of turbidity layers probably caused by slumping or sliding in the prism slope and accumulating process in the slope basin.

キーワード: 堆積物重力流, 地震動, 懸濁層, 自航式深海底サンプル採取システム

Keywords: gravity flow, Earthquake shaking, turbidity layer, NSS

MIS001-P03

会場:コンベンションホール

時間:5月25日 10:30-13:00

別府湾最深部のタービダイト（イベント堆積物）の特徴 Characteristics of turbidites at the deepest part of the Beppu Bay

池原 研^{1*}, 宇佐見 和子¹, 入野 智久², 加 三千宣³

Ken Ikehara^{1*}, Kazuko Usami¹, Tomohisa Irino², Michinobu Kuwae³

¹ 産業技術総合研究所地質情報研究部門, ² 北海道大学大学院地球環境科学院, ³ 愛媛大学

¹Geological Survey of Japan, AIST, ²Hokkaido University, ³Ehime University

別府湾最深部（高崎山沖）のコアには様々な厚さのタービダイトが挟在する。多くは厚さ 1 cm に満たないシルト質の薄層からなるが、まれに数十 cm の厚さをもつものも挟在する。厚いタービダイトでも最下部の砂質部の厚さは薄く、せいぜい数 cm であることが多い。このため、厚いタービダイト泥が砂質部を覆う。タービダイト泥は通常時に堆積する半遠洋性泥（岩相的には珪藻軟泥）に比べ、碎屑粒子に富み、淘汰を受けており、密度が高い。タービダイトの粒子は、大分川あるいは大野川側から供給されたものと推定される。これらのタービダイトの少なくとも一部は地震起源と考えられるが、洪水起源の可能性も否定できず、堆積年代も含めて、さらに検討を要する。

キーワード: タービダイト, 別府湾, 堆積構造, 地震, 斜面崩壊

Keywords: turbidite, Beppu Bay, sedimentary structure, earthquake, slope failure