# The features of submarine landslides on northwest slope of Daini-Atsumi Knoll, and its cover sediments.

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Daini-Atsumi knoll is placed near northeast Nankai trough, where is 60km distance from Daioh-zaki at Shima peninsula of Mie prefecture, and 80km distance from Atsumi-peninsula of Aichi prefecture. The knoll is one of outer rises that were formed by subduction of Philippine sea plate, which is on Eurasia plate. We, JOGMEC, had been carried out detailed survey using Autonomous Underwater Vehicle (AUV), to obtain geological information of surface sediments, and to make high resolution-bathymetry map of northwest slope on Daini-Atsumi knoll. The AUV has a unique feature of positioning system using Ultra Short Base Line (USBL) combined with Global Positioning System (GPS) of ship. Therefore, after the survey and analysis, we have obtained high-resolution bathymetry map and information of sediments with their deformation structures from sub bottom profiler (SBP).
On the basis of the analysis, we divided northwest slope as three areas according to their features as following; i.e., (1)erosional area near the knoll top, (2)landslide area on northwest slope, and (3)re-depositional area at deeper part of northwest slope. The first area has strong reflector on SBP records would be interpreted as consolidated base sediments. The second area showed many structural features as like as steps and mounds formed by gravitational and tectonic stresses. The third area was described as layered sediments. In some area, acoustic blanking layers that showed intruded shape into upper layers were laid in the layered sediments, and more acoustic translucent layers covered them. These SBP features could be explained by the layered sediments upon the acoustic blanking layer were deposited after the submarine landslide had occurred, as re-depositional sediments. As the setting of the knoll, these clastic fragments could be supplied from upper slope regions around area(1) and area(2).
We would like to present these structures and features on northwest slope of Daini-Atsumi knoll, and consider its stability of sediments.

Keywords: submarine landslide, acoustical blanking, Daini-Atsumi Knoll

 