



3-D morphologic and stratigraphic characteristics of deep-water debris-flow deposits in the Ulleung Basin, East Sea (Japan Sea)

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3-D seismic data from the southern central part of the Ulleung Basin, East Sea (Japan Sea) reveal geomorphologic and stratigraphic characteristics of the debris-flow deposits that have retreated landward since the Latest Neogene. The debris-flow deposits form lens- or wedge-shaped seismic units with structureless or transparent to chaotic internal reflection. Over ten debris-flow deposit bodies were identified from the seafloor to the subsurface depth of about 300 m. The largest debris-flow deposit body exceeds the dimension of the 3D seismic data (16 km by 25 km) and its thickness reaches about 60 m. Some debris-flow deposit bodies appear to be amalgamated or coalesced, making it difficult to interpret the individual units. In plan view, the debris-flow deposits look elongate or lobate. The coherence attribute of the basal contact of some debris-flow deposits shows erosional scars and long grooves (< 300 m in width). The grooves, slightly diverging downslope, are inferred to be caused by large clasts imbedded at the base of debris-flow mass that were dragged across the seafloor.