

Detailed depositional topography in the Toyama Trough revealed by the 7K13 Cruise

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Regional bathymetry and backscatter data were obtained by a multibeam echo sounder and a sub-bottom profiler in the Toyama Trough for estimation of shallow methane hydrate resources during the 7K13 Cruise of R/V Kaiyo-maru No. 7 (Matsumoto et al., 2014). This study reports detailed depositional topography imaged along the upper reach of the Toyama Deep-Sea Channel (TDSC).

Some kinds of bars and terraces were found on the bottom of the TDSC. Bars include point bars, longitudinal bars. Some terraces were formed with translation of the channel. Steps transverse to the channel were associated with pools down channel of the steps.

Large sediment waves develop on the levees on the outer banks of meander bends of the TDSC. Some sediment waves are associated with a large scour on the back slope of the levee, suggesting that they were formed as cyclic steps.

This study uses data obtained by the H25 fiscal year shallow methane hydrate exploration project of METI.

Matsumoto, R., Hiromatsu, M., Aoki, S., Yanagimoto, Y., Sato, M. and Nakajima T. (2014) Regional bathymetry and surface geology survey for gas chimney mapping, Shallow methane hydrate forum; Toward shallow methane hydrate as a resource, 3-1.