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Topographic features of gas hydrate distribution zone, Off Joetsu and near the Torigakubi

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Our study group had succeed in sampling gas hydrates by piston-core, and distribution of the beneath gas hydrates zone and gas plumes on the seafloor were cleared aboard the observations by the ROV "Hyper Dolphin", Off Joetsu, Japan Sea.
To clarify characteristics of micro topographic features such as pockmarks and mounds, bathymetric surveys were carried out by swath mapping on the Joetsu Knoll and the Umitaka Spur at the eastern margin of the Japan Sea. As a result, the mounds, which are distributed along the crest of the Umitaka Spur and the Joetsu knoll formed by uplift.
Micro topographies such as pockmarks and mounds were distributed too matched gas hydrate distribution zones or active gas seep sites. Then, in order to estimate gas hydrate distributed beneath sea floor, survey area was spread except for Umitaka Spur and Joetsu Knoll have similar geological features. As a result of surveys, to clear pockmarks and mounds like a Umitaka Spur and Joetsu Knoll is distributed distribution at the Eastern area of Torigakubi Spur.
Features of strong reflection zones are clearly around pockmarks and mounds from Side Scan Sonar images by SEABAT8160. There is discussions that relations of these strong reflection zones, topographic features, and gas hydrate distributions zone.

Keywords: Topographic, Gas Hydrate, Japan Sea, Off Jouetsu