

## Quantify methane seeping flux from Ashizuri knoll, Nankai Trough

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The Ashizuri Knoll is located on the southern margin of Tosa Basin (ca. 1000 m depth) in the western Pacific Ocean. The top of the knoll is 534 m depth. The BSR have been detected around the knoll. Besides, seepage methane bubbles were found at top of the knoll. Extensive geochemical surveys on the water column around Ashizuri Knoll were done in September, 2013. The primary purpose of the study was to quantify the seeping flux of methane from the knoll by measuring the spatial distribution of methane around the knoll. Besides, we also tried to clarify the origin of methane by determining both  $\delta^{13}\text{C}$  and  $\delta\text{D}$  values.

Enrichment of thermogenic methane up to 145 nmol/L was detected just above the top of knoll. Besides, the methane enriched plume spread northeastward of the knoll at the water depth of 450- 660 m. The calculated methane flux was almost the same with that of off Joetsu hydrate area.