

Highly concentrated methane hydrate bearing zones and seafloor manifestations in the eastern Nankai Trough

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Research Consortium for Methane Hydrate Resources in Japan (MH21) comprehensively analyses and interprets wide range of data which were acquired through high-resolution seismic surveys, exploratory drilling, geochemical surveys and precise formation temperature measurements in Tokai-Oki to Kumano-Nada, eastern Nankai Trough forearc area, Central Japan.

In the METI exploratory drilling program, 'Tokai-Oki to Kumano-Nada' in FY2003, highly concentrated methane hydrate bearing zones were recognized in detail. It is suggested that fluids through highly permeable layers or faults are related to the formation of highly concentrated methane hydrate bearing zones. It is indicated by the carbonate deposits and seepages on the seafloor near the exits of fluids which were advected through highly permeable layers or faults.

High-resolution side scan sonar surveys, seafloor observations and chemical analyses of fluid collected at seepages could contribute to interpret formation mechanism of highly-concentrated methane hydrate bearing zones and to explore methane hydrate as resources.