J169-P005 Room: Poster Session Hall Time: May 23

Detailed bathymetric map in Tokai-oki area created using 3D high resolution seismic data

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Japan Oil, Gas and Metals National Corporation (JOGMEC), as a member of MH21 Research Consortium, takes charge of a study of the Research for Resources Assessment, and is pursuing a possibility that methane hydrate, which is presumed to be distributed around ocean area of Japan, will be energy resources. As part of the study, 3D seismic survey was conducted from Tokai-oki to Kumano-nada in the eastern Nankai Trough by METI (Ministry of Economy, Trade and Industry) in 2002 under the national program of assessment for methane hydrates as energy resources. Picking reflections from seafloor in seismic data of Tokai-oki area where is located in the eastern part of surveyed area, created the bathymetric map. Tokai-oki is located near the boundary of eastern margin where Philippine plate subducts under Southwest Honshu arc and the submarine topography in Tokai-oki area takes on complicated aspect. The detailed bathymetric map created using 3D high resolution seismic data shows various submarine landforms such as knolls, canyons, and other complicated structures. For its part, portion of the Tenryu canyon appears in the deep-sea area exceeding 1000 m water depth at the northwestern end in this area. Large-scaled ripple marks have been visible on the floor of the canyon in the bathymetric map.

The resolution of the bathymetric map obtained from seismic data is higher. After this, the bathymetric map will be expected to utilize for interpretation of submarine canyons, knolls, other rough terrain of seafloor, etc. This time, we introduce detailed bathymetric map in Tokai-oki area.