

# Categorization and surficial conditions of manganese deposits on the Takuyo Daigo Seamount

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Sea-floor manganese crust and nodule is having attention as rare metal resources. In recent marine exploration, due to the development of remote exploration robots, high resolution cameras, etc., detailed observation of the ocean floor is possible on the ship. Usually, the simple description of geomorphological characteristics with distribution of manganese deposits is briefly carried out while watching the monitor on the ship, but it is difficult to unify the stated criteria. Therefore, in this study, we set observation criteria for the ocean floor, and tried to describe the surface topography and distribution of manganese deposits on the Takuyo Daigo Seamount.

The video materials in this study were obtained at "Kairei" KR 16-13 cruise (October 8 - 23, 2016). In this cruise, nine diving operations were conducted from a depth of 1000 m to 5000 m, and samplings were attempted.

In this study, based on the topography of the ocean floor and developmental status of manganese oxides, the occurrences were classified into six types. We applied the categorization and clarified the surficial conditions of the seamount. As a result, manganese crust was observed on the steep slopes on the south slope of the Takuyo Daigo Seamount, and crusts covered with thin sediments layer and nodules were found on the gentle slope or flat plain.

Keywords: Takuyo-Daigo Seamount, manganese deposit, north-western Pacific