

海底地形および地磁気異常から推測される, 中琉球における火山フロントの西方移動

Detailed bathymetry and magnetic anomaly in Central Ryukyu: Implications on westward shift of volcanic front after 2.1Ma

佐藤 太一^{1*}; 小田 啓邦¹; 石塚 治¹; 荒井 晃作¹
SATO, Taichi^{1*}; ODA, Hirokuni¹; ISHIZUKA, Osamu¹; ARAI, Kohsaku¹

¹ 産業技術総合研究所

¹Institute of Geology and Geoinformation, Geological Survey of Japan, AIST

Detailed bathymetry and magnetic anomaly were obtained by GH12 cruise in 2012 using R/V Hakurei, in the southern part of Central Ryukyu. Volcanic structures such as caldera were observed on the southwestward extension of the present-day volcanic front, implying recent volcanic front of the Ryukyu arc. Furthermore, bathymetric highs which are sub-parallel to the recent volcanic front were observed and is located ~20 km east. These are accompanied by spotted magnetic anomalies, which continue to Kume-jima via Aguni-jima Islands to the south, suggesting an existence of an ancient volcanic front. The ages of volcanic rocks from these Islands suggest that the magmatic activity along the ancient volcanic front had been active at least until ~2.1 Ma. The magmatic anomalies connecting two volcanic fronts suggest that a volcanic front have moved gradually westward. This shift would be explained by the termination of asthenospheric upwelling and/or rapid retreat of Ryukyu Trench.

キーワード: 琉球弧, 火山フロント, 沖縄トラフ, 地磁気異常, 海底地形

Keywords: Ryukyu arc, Volcanic front, Okinawa Trough, magnetic anomaly, seafloor bathymetry