



Tectonic Structures offshore Trabzon-Rize Area in the Eastern Black Sea

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Black Sea has attracted many researchers's attention due to the historical formation and geological structure and these are still under discussion. However general view suggest that Black Sea is a back arc basin model formed behind the Pontid volcanic arc. Even though there are many studies conducted by both Turkish and international researches and petroleum company, there are still unresolved scientific questions. To better understand the regional geology and investigate the geological formations and fault systems existing in the region, approximately 1700 km high resolution multi-channel seismic reflection data were collected in the Eastern Black Sea (around Rize and Trabzon) in 2010. This study was carried out within the scope of cooperation between Dokuz Eylül University Marine Science and Technology and Pukyong National University (PKNU). Collected lines include the continental slope and deep basin. After the data was processed by the data processing program, geological structures like slip structures, turbidity and sediment waves has attracted attention commonly seen in the Black Sea region. Location of the faults that exist in the region, their extension and characteristics were also investigated. Although the basin shows opening feature during the formation, many fold structures caused by compression structure was also observed around the continental slope. East-west trending fold belt observed by interpretation of the seismic lines was associated with Trabzon fault which is thought to exist in the region. In addition to these, mud volcanoes and volcanic dome structures were also observed in the study area.