

A summary of the active fault investigation in the extension sea area of Kikugawa fault and the Nishiyama fault

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In this study, we carried out two sets of active fault investigation by the request from Ministry of Education, Culture, Sports, Science and Technology in the sea area of the extension of Kikugawa fault and the Nishiyama fault. We want to clarify the five following matters about both active faults based on those results. (1) Fault continuity of the land and the sea. (2) The length of the active fault. (3) The division of the segment. (4) Activity characteristics.

In this investigation, we carried out a digital single channel seismic reflection survey in the whole area of both active faults. In addition, a high-resolution multichannel seismic reflection survey was carried out to recognize the detailed structure of a shallow stratum. Furthermore, the sampling with the vibrocoreing to get information of the sedimentation age was carried out.

The reflection profile of both active faults was extremely clear. The characteristics of the lateral fault such as flower structure, the dispersion of the active fault were recognized. In addition, from analysis of the age of the stratum, it was recognized that the thickness of the sediment was extremely thin in Holocene epoch on the continental shelf in this sea area.

It was confirmed that the Kikugawa fault extended to the offing than the existing results of research by a result of this investigation. In addition, the width of the active fault seems to become wide toward the offing while dispersing. At present, we think that we can divide Kikugawa fault into some segments based on the distribution form of the segment.

About the Nishiyama fault, reflection profiles to show the existence of the active fault was acquired in the sea between Ooshima and Kyushu. From this result and topographical existing results of research in Ooshima, it is thought that Nishiyama fault and the Ooshima offing active fault are a series of structure. As for Ooshima offing active fault, the upheaval side changes, and a direction changes too. Therefore, we think that we can divide Nishiyama fault into some segments based on the distribution form of the segment like Kikugawa fault.

About both active faults, the length of the active fault, segment division, the activity characteristics of each segment are examining now.

Keywords: Kikugawa fault, Nishiyama fault, active fault, sea area, seismic reflection survey, lateral fault