

Study for observation and analysis method in urgent seafloor geodetic observation

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Japan Hydrographic and Oceanographic Department (JHOD) and the Institute of Industrial Science, University of Tokyo, have been developing a system for precise seafloor geodetic observation with the GPS/Acoustic combination technique and carrying out campaign observations on the landward slope of the major trenches around Japan, such as the Japan Trench and the Nankai Trough.

When a large earthquake occurs near a seafloor reference point, JHOD has carried out seafloor geodetic observations urgently and reported seafloor movements to the Headquarters for Earthquake Research Promotion of Japan as soon as possible. However, it is sometimes difficult to secure sufficient observation time because the survey vessels of Japan Coast Guard have to do other works for the disaster response. Therefore, to make the most of every opportunity, we have to know the observation precision for a shorter observation time. In addition, it is desirable to analyze observation data and obtain preliminary results onboard although in present, we analyze observation data after the survey ship comes back because on-land GPS data is required in KGPS analysis.

In this presentation, we report the way of urgent observation and analysis to report preliminary result as soon as possible, in case that a large earthquake occurs near a seafloor reference point in the future.

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