

Seafloor geodetic observation network around Japan

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Great earthquakes have occurred repeatedly in and around Japan islands. Many of them are classified into interplate earthquake that occurs between Japan island arc crust and two subducting oceanic crusts of Pacific and Philippine Sea plates. To monitor the subsea crustal deformation can be a key for better understanding of the processes of great interplate earthquakes occurring beneath the sea. IIS, University of Tokyo and Hydrographic Department, Japan Coast Guard are making effort to develop a seafloor geodetic observation system for the purpose. First trial of precise seafloor positioning at the Kumano trough using the seafloor geodetic observation system that we have been developing showed that the system could locate the horizontal position of the seafloor reference point within 4 cm standard deviation. The seafloor reference station network around Japan islands was expanded after the initial observation. Eleven seafloor geodetic reference stations had been established on the subsea forearc crust of Japan islands arc. The observation, that we visit the seafloor reference stations to make measurements two or three times a year, has just been started.