

Microearthquake activity around the junction of Japan and Kuril Trench by using LOBS network

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The long-term observation was conducted for eight months using 42 Long-term Ocean Bottom Seismometers (LOBSs) around the junction of Japan and Kuril Trench from November 2007 to June 2008. The LOBS network is considered to have high detectability for small events occurring near the trench area. We detect 579 events, which were not detected by land networks, from the data recorded by the LOBS network in the record obtained in December 2006. For determination of the hypocenters, we used an 1-D velocity structure simplified using 2-D P-wave velocity structures estimated by seismic refraction experiments (Nakahigashi et al., 2007, 2008). V_p/V_s ratio is assumed to be 1.73. We obtained the detailed hypocenter distribution of events, which were preliminarily determined by the JMA, in the whole observation period by the combined data of the LOBS network and land networks. The relocated hypocenter distribution shows low seismic activity near and around the trench axis. However many of small events are located in this area from the data of the LOBS network. This indicates that there are small seismic activities, which can not be detected from the data collected by land seismic networks, near the trench axis.