

Recent seismic activity off Nemuro-Kushiro, Hokkaido observed by ocean-bottom seismometers

Ichisuke Saito[1]; # Tetsuo Takanami[2]; Yoshio Murai[3]; Kei Katsumata[2]; Toshihiko Kanazawa[4]; Tomoaki Yamada[5]; Yuya Machida[1]; Yumi Makino[6]; Ryosuke Azuma[1]; Shinichiro Amamiya[7]; Teruhiro Yamaguchi[2]; Ryo Kimura[8]

[1] Earth and Planetary Sci., Hokkaido Univ; [2] ISV, Hokkaido Univ; [3] Institute of Seismology and Volcanology, Hokkaido Univ.; [4] ERI, Tokyo Univ; [5] ERI, Univ. of Tokyo; [6] EP,Sci,Hokkaido Univ; [7] ISV, Hokkaido University; [8] GODI

After the 2003 Tokachi-oki earthquake (M8.0) occurrence, the source region of the 1973 Nemuro-hannto oki earthquake (M7.4) becomes the center of attention from the point of view of earthquake prediction. On Nov. 29, 2004 the moderate earthquakes occurred off Kushiro, where is adjoining the source region of the 1973 Nemuro-hannto oki earthquake. So, we conducted the seismological observation by ocean bottom seismometers (OBS) network as reported by Sato et al.(2005). In the aftershock activity, a moderate earthquakes with similar size (M6.9) happened occurred a little to the land of the source region of the 1973 Nemuro-hannto oki earthquake. Such a phenomenon is very similar to the advance indication of the 1973 major earthquake. So we carried out the second seismological observation by 8 OBSs in the source region of the 1973 Nemuro-hanto-oki earthquake between the period from the first of April to 29th of May, 2005. The current results obtained is as follows: Many micro- and small earthquakes occurred along the subducting plate boundary of the Pacific ocean. Some of the events occurred off Kushiro indicate the focal mechanism of low-angle thrust type faulting. Second, a few of clustered events are found in the some plate boundary zone, including the 1973 Nemuro-hanto oki source region. Third, the depths of hypocenters for events show shallower than those of earthquakes obtained from landside observation. The tendency to shallow depth of about 20km is quite similar to the distribution of the aftershocks of the 2003 Tokachi oki earthquake. Final, in order to investigate an earthquake quiescence in the submarine area, it is demonstrated plainly that an on-site-observation using OBSs should be adopted aggressively.