Aftershock distribution of the interplate earthquake off-Fukushima, M5.8, 2001

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On February 25, 2001,an earthquake of M5.8 occurred at the eastern edge of the active sesimogenic zone of Off-Fukushima. One ocean bottom seismometer is deployed at the active seismic region from May to July in order to clarify the change of seismicity. The hypocenter determination is carried out using the OBS and eight land seismic stations. In this study, traveltimes are calculated by a finite difference method using 3-D seismic velocity structure model. Though the epicenters located by the land data alone are uniformly distributed in an elongated area with about 60 km length in the direction perpendicular to the trench axis, this study shows that the epicenters are distributed in the eastern edge and the western edge of the aftershock area, but are sparse at the center. In this area, we made an OBS microseismicity study of this area in 1997. The observation result in 1997 seems to the seismicity was active also in 1997 at the location of the eastern cluster of the 2001 aftershock distribution, suggesting that this cluster containing the 2001 mainshock is always active. But many aftershocks were located to the south of the cluster location in 1997 and the cluster size of the 2001 aftershocks seems to be larger. The shallow intraplate earthquakes, located apart from the plate boundary in the 1997 observation, were not found in the 2001 aftershock observation.