

Seismicity at outer rise, off-Ibaragi, using long-term ocean bottom seismometers

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In Japan, many earthquakes occur at oceanic area, and ocean bottom seismometers (OBSs) are needed to investigate seismicity at oceanic area in details. Since normal OBSs can be operated only 2-3 months, we could not reveal seismic properties at low seismicity area such as outer rise. Recently, long-term (more than 1 yr) OBSs have been developed, then we can get enough data from oceanic low-seismicity areas.

We conducted seismicity survey at outer rise, off-Ibaragi, from Oct. 2005 to Sep. 2006 using 4 long-term OBSs. During the 11 months observation, 186 events were located within ± 2 degrees around OBSs. All events occurred in the oceanic plate. From the good precision hypocenter distribution (one standard error is within 10km), we can see 2 groups. One is located about 40km deep, the other is about 70km deep. This double seismic distribution suggests that these events resulted from bending of oceanic plate.