

## Real-time offshore tsunami observation by the off-Sanriku cabled seafloor observation system

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Three OBSs (Ocean Bottom Seismographs) and two OBTMs (Ocean Bottom TsunamiMeter) of the off-Sanriku cabled seafloor observation system, which is put into use in 1995, have been providing us invaluable data relevant to faulting processes of interplate earthquakes in the Japan Trench subduction zone. The OBTMs of this system detected a small amplitude tsunami caused by the local interplate earthquake ( $M=6.8$ , off-Fukushima prefecture, Oct. 31, 2003) about 20 minutes earlier than the coastal tide station closest to the hypocenter, even the OBTMs are farther than the tide stations. This case indicates the advantage of the real-time observation of tsunami at deep sea for a tsunami early warning system. On the other hand, tsunami waveform data by the OBTMs data have proven to be very sensitive to the seafloor deformation above the tsunami sources, indicating that the OBTM data is useful for quantitative evaluation of heights of tsunamis from earthquakes before they arrive at the coast.