

Depth estimation of the 2000 western Tottori earthquake

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Simultaneous determination of the velocity structure and hypocenter distribution was conducted for the source region of the 2000 western Tottori earthquake, using travel time data. Global search was adopted for estimate of the velocity structure while ordinary local search was conducted for the hypocentral determination. The velocity structure was assumed to consist of four layers including mantle. The model parameters of the global search are P-wave velocity of each layer and depths of layer boundaries. The P-wave velocities of the second layer and third layer are faster than those estimated near the source region. Most of the hypocenters are shallow and less than 10 km deep. The depth of the mainshock is estimated to be about 5 km.