

## The detailed structure of the deep seismic zone and focal mechanism solutions in the Kyushu district

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The microearthquake-observation network revealed the detail structure of the deep seismic zone in the Kyushu district. The shape of the deep seismic zone suggests that the Philippine-sea plate subducting beneath the Kyushu arc bends to the nearly vertical at the depth of 80 km and does not reach under the back arc.

The depth to the deep seismic zone just beneath the volcanic front is about 120 km in the southern Kyushu, whereas the slab may not reach beneath the volcanic front in the northern Kyushu.

The predominant mechanism for earthquakes shallower than about 40 km is low angle thrust and that deeper earthquakes is down dip extension.