# Seismic activity in the crust of Saitama Prefecture

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Seismic activity in the crust in Saitama Prefecture is characterized as follows: (1) it is not associated with volcanoes, (2) a seismicity void is seen beneath the region from the upper surface of the Philippine Sea slab to the lower crust, (3) seismicity in the Philippine Sea slab is noticeably high near the downdip end of the void, and the lower limit of earthquakes in the crust is seen to become deeper there comparing to the surrounding area, (4) an aseismic zone in the WNW-ESE direction is observed on its northern side. The aseismic zone nearly corresponds to the Sanbagawa metamorphic belt and the Choshi-Kashiwazaki tectonic line runs through the zone. P axes obtained by mechanisms of earthquakes in the crust of Saitama Prefecture are in the WSW-ENE direction implying fault motion along the geologic structures. On the contrary P axes of earthquakes in the surrounding region are mostly in WNW-ESE or W-E direction. Depth of earthquakes in the crust of Saitama Prefecture is noticeably deep compared to that along the volcanic front in the Tohoku district.

We think all the above features of seismic activity in Saitama Prefecture can be explained if they are related to the uprise of water extracted from serpentine on the Philippine Sea slab through the crust beneath the region.