

Groundwater level changes and crustal deformation before earthquake swarms off the east coast of the Izu Peninsula

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We have observed the groundwater level at Omuroyama-kita (OMR) well on the Izu Peninsula, Japan since October 1994. During the period from October 1994 to May 1998, there were four large earthquake swarms and we detected two preseismic groundwater level changes together with preseismic crustal deformation recorded at the other nearby stations. After May 1998, there were no earthquake swarms off the east coast of the Izu Peninsula until May 2002. In May 2002 small earthquake swarms occurred and we again observed preseismic groundwater level changes together with the preseismic crustal deformation. Therefore those preseismic groundwater level changes are considered to be caused by crustal deformation or volumetric strain changes. The crustal deformations are

inferred to be caused by the magmatic dike intrusion, which is a possible source of the earthquake swarms off the east coast of the Izu Peninsula.