

A possible biological mechanism of unusual animal behavior before earthquake

Sayoko Yokoi[1], Motoji Ikeya[2]

[1] Earth and Space Sci., Osaka Univ., [2] Earth and Space Sci. Osaka Univ.

Legends on unusual animal behavior before earthquakes have been inherited in Asian countries where frequent earthquakes have caused disasters. The world trend in the research funding from earthquake prediction to disaster prevention made scientists more skeptical of earthquake precursor phenomena. Records of unusual animal behavior from about 2 weeks before the Kobe earthquake in 1995 were obtained to study the biological clock at Institute for Protein Research, Osaka University. A hypothesis that preseismic electromagnetic fields cause disorders in the clock of the mouse led us to an experiment to reproduce disorders in the circadian rhythms by irradiating mice to electromagnetic pulses generated by electric discharges. The results of the study suggested suprachiasmatic nucleus and paraventricular nucleus were stimulated by electromagnetic pulses. The model of the nervous pathway for electromagnetic pulses stimulus will be proposed and the mechanism of preseismic unusual animal behavior will be discussed in this presentation.