



Abnormal animal behavior prior to the Vrancea (Romania) major subcrustal earthquakes

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The goal of this paper is to present some observations about abnormal animal behavior prior and during of some Romanian subcrustal earthquakes. The major Vrancea earthquakes of 4 March 1977 ($M_w = 7.4$, $I_{max} = IX-X$ MSK), 30 August 1986 ($M_w = 7.1$, $I_o = VIII-IX$ MSK) and 30 May 1990 ($M_w = 6.9$, $I_o = VIII$ MSK), were preceded by extensive occurrences of anomalous animal behavior. These data were collected immediately after the earthquakes from the areas affected by these. Some species of animals became excited, nervous and panicked before and during the earthquakes, such as: dogs (barking and running in panic), cats, snakes, mice and rats (came into the houses and have lost their fear), birds (hens, geese, parrots), horses, fishes etc. These strange manifestations of the animals were observed on the entire territory of country, especially in the extra-Carpathian area. This unusual behavior was noticed within a few hours to days before the seismic events, but for the most of cases the time of occurrence was within two hours of the quakes. We can hope that maybe one day the abnormal animal behavior will be used as a reliable seismic precursor for the intermediate depth earthquakes.