

Anomalous Changes in Groundwater and Soil-gas Radon Concentrations in Relation to Earthquake Activities in Garhwal Himalaya, India

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During the last three decades, research on earthquake related radon monitoring has received enormous attention. It has found to have a great potential as a reliable precursor for an impending earthquake. This paper presents some results of continuous monitoring of radon levels in soil-gas and spring water at Tehri (Garhwal Himalaya), India. Efforts have made to correlate the variation of radon concentration in spring water with seismic events in the study area. Sudden increases in radon concentration in soil-gas and spring water were observed before, during and after the earthquakes occurred in the area. The variations in radon concentrations in soil-gas and spring water have found to be correlated with the seismic activities in the Garhwal Himalaya. The significant correlation between radon anomalies and earthquake activities in Garhwal Himalaya shows that this noble technique may be exploited as an additional tool in earthquake prediction program in Himalayan region. To be useful as a precursor in an earthquake prediction program, the continuous measurements of radon along with other precursors at several sites in a grid pattern is necessary. The role and usefulness of radon in soil-gas and spring water as an earthquake precursor are discussed in this paper