



Monitoring of Geochemical and electromagnetic signals in seismic area of Himalaya in India.

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The analysis of the records of electromagnetic emission, Rn-222, gamma dose, He and He/CH₄ during some strong earthquakes, including pre-seismic disturbances of major Sumatra earthquake leading to Tsunami on December 26, 2004 is presented. The final stage of preparation of the impending earthquake is characterized by a substantial activation of the process while the strain rate is increasing by the order of values. That is favorable for identification of critical state in focal zone through the ground measurements of different parameters. The electromagnetic emission is arising due to the strain rate evolution of the rock in the subsurface layers of Earth's crust and geochemical disciplines mirror the effect of deformation processes occurring within the earth before the shock supplement each other. All these episodes are reasonably considered as the most effective disciplines for the studies of the precursory phenomena concerning major earthquakes. The simultaneous measurements of this somewhat complex and multi-parametric disciplines enables to combine the progress archived in both long investigated fields. The experimental facility for continuous monitoring involves an automated gas chromatograph and a radon monitor coupled with a dedicated internet connectivity. Some peculiarities of the creation of the joint experimental station with the installation of electromagnetic emission records and monitoring of geochemical parameters in one point located in the a seismically active region of the Himalayas are discussed.

