Geophysical Research Abstracts,
Vol. 11, EGU2009-1144, 2009
EGU General Assembly 2009

Geochemical Variations of Soil-gases as an Investigating Tool for the Study of Some Fault Traces in Taiwan

V. Walia (1), T.F. Yang (2), W.L. Hong (2), S.J. Lin (1), C.C. Fu (2), K.L. Wen (1), and C-H Chen (2)

(1) National Center For Resaerch on Earthquake Engineering, NARL, Taipei, Taiwan (vivekwalia@rediffmail.com), (2) Department of Geosciences, National Taiwan University, Taipei, Taiwan

Soil-gas variations are well documented due stress changes caused by seismotectonic activity and is used extensively for fault tracing and seismic surveillance as a precursor. Geochemical variations of soil-gas composition in the vicinity of geologic fault zone of Northeastern and Southwestern parts of Taiwan are studies time to time in recent time. For this study soil-gas surveys have been conducted across the buried fault, to find out the location and regional activities of these fault systems. During the surveys soil-gas samples were collected along the traverses crossing the observed structures. The collected soil-gas sample bags are analyzed for He, Rn, CO2, CH4, Ar, O2 and N2. From Spatial distributions of different gases the trace of faults and neotectonic features can be identified. The results highlight that, analyses of two/more than two gas species give more reliable information which is clearly seen from spatial distribution of the gas species used. Further it can be concluded from the studies that nitrogen shows its strong candidature as a possible carrier gas of helium some areas of Taiwan.