Geophysical Research Abstracts,
Vol. 10, EGU2008-A-05076, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-05076
EGU General Assembly 2008

Static stress changes due to the 1998 and 2004 Krn Mountain (Slovenia) earthquakes and implications for future seismicity

A. Ganas (1), A. Gosar (2) & G. Drakatos (1)

(1) Geodynamics Institute, National Observatory of Athens, Lofos Nymfon, 118 10 Athens, Greece. (E-mail: aganas@gein.noa.gr / Fax: +30-210-3490180) (2) Environmental Agency of the Republic of Slovenia, Seismology and Geology Office Dunajska 47, SI-1000 Ljubljana, Slovenia. (E-mail: andrej.gosar@gov.si)

In this paper we examine the Coulomb (static) stress pattern following the two moderate magnitude earthquakes in NW Slovenia during 1998 and 2004. These earthquakes ruptured patches of the NW-SE striking Ravne fault that crosses the Krn Mountain. The objective is to investigate the seismicity patterns for this area of Slovenia given that future earthquakes may be triggered as a result of stress changes along neighbouring faults. Our findings include: a) stress levels have increased along the active Ravne fault for all models discussed b) stress levels have decreased along the active, NW-SE striking Idria fault and c) stress levels throughout the crust have increased along the EW direction but have decreased in the N-S direction (stress shadow effect). We also mapped a better correlation of the off-fault aftershock locations with stress maps incorporating the regional stress field.