



Recent network upgrades and the seismicity catalog of NOA, Greece.

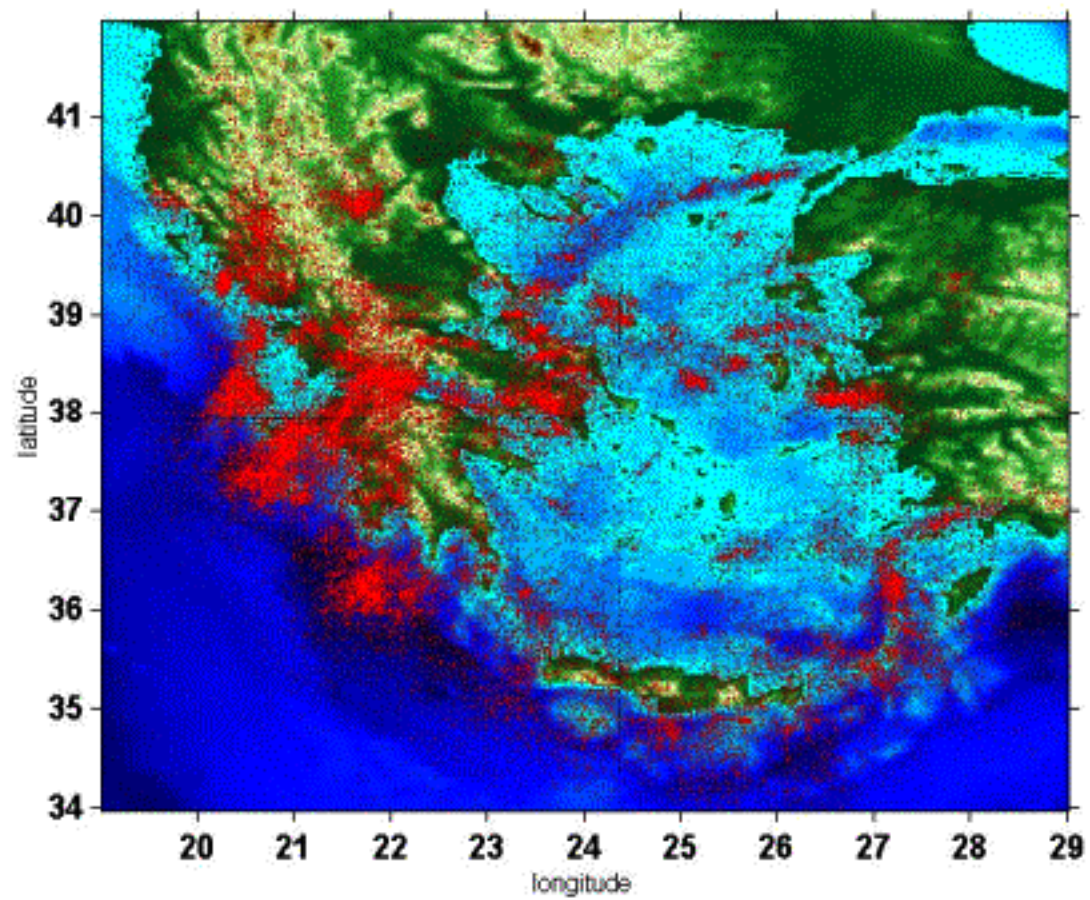
G. Chouliaras

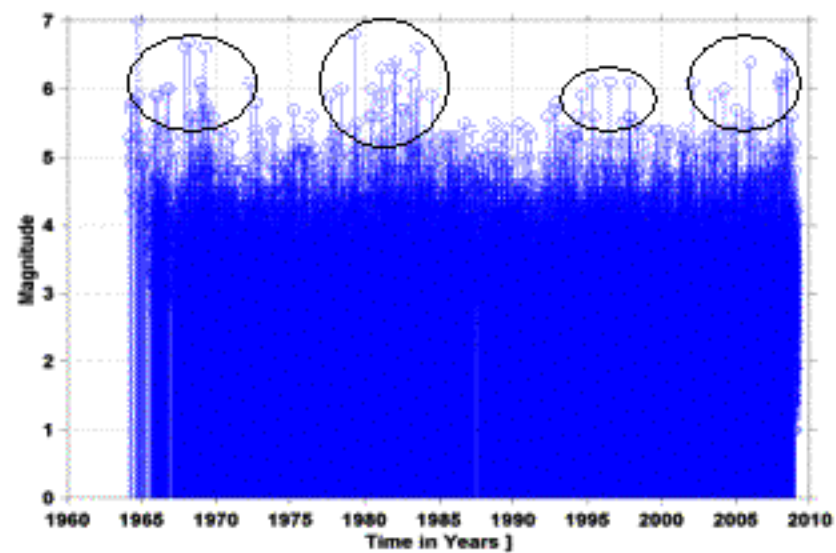
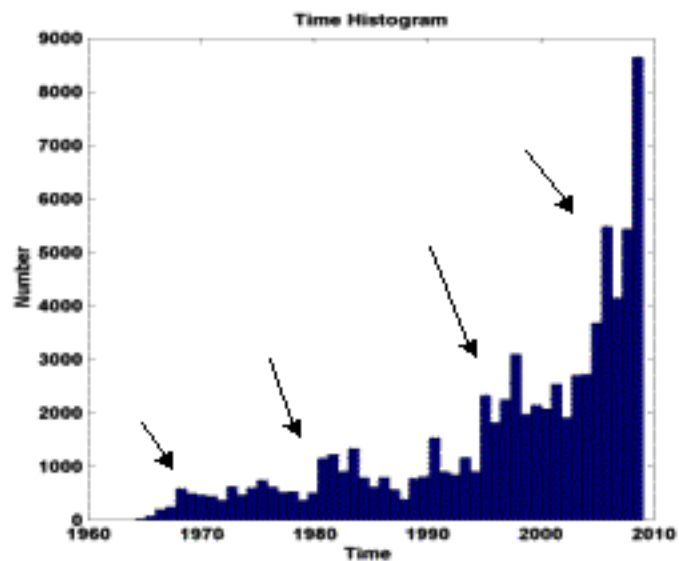
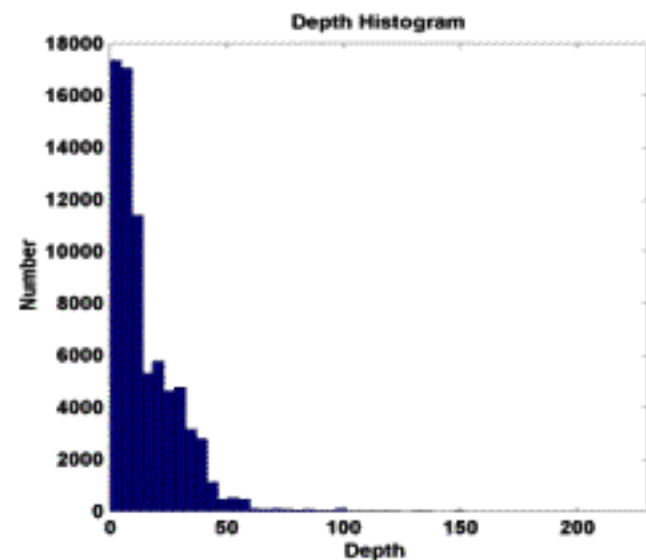
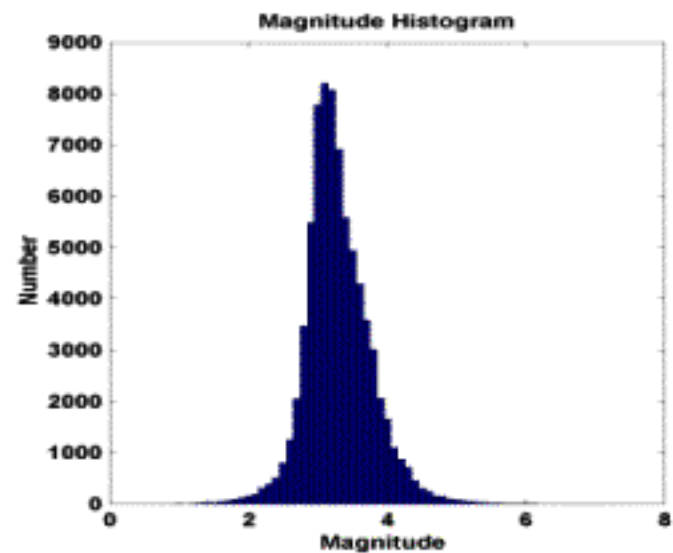
Institute of Geodynamics
National Observatory of Athens,
Greece

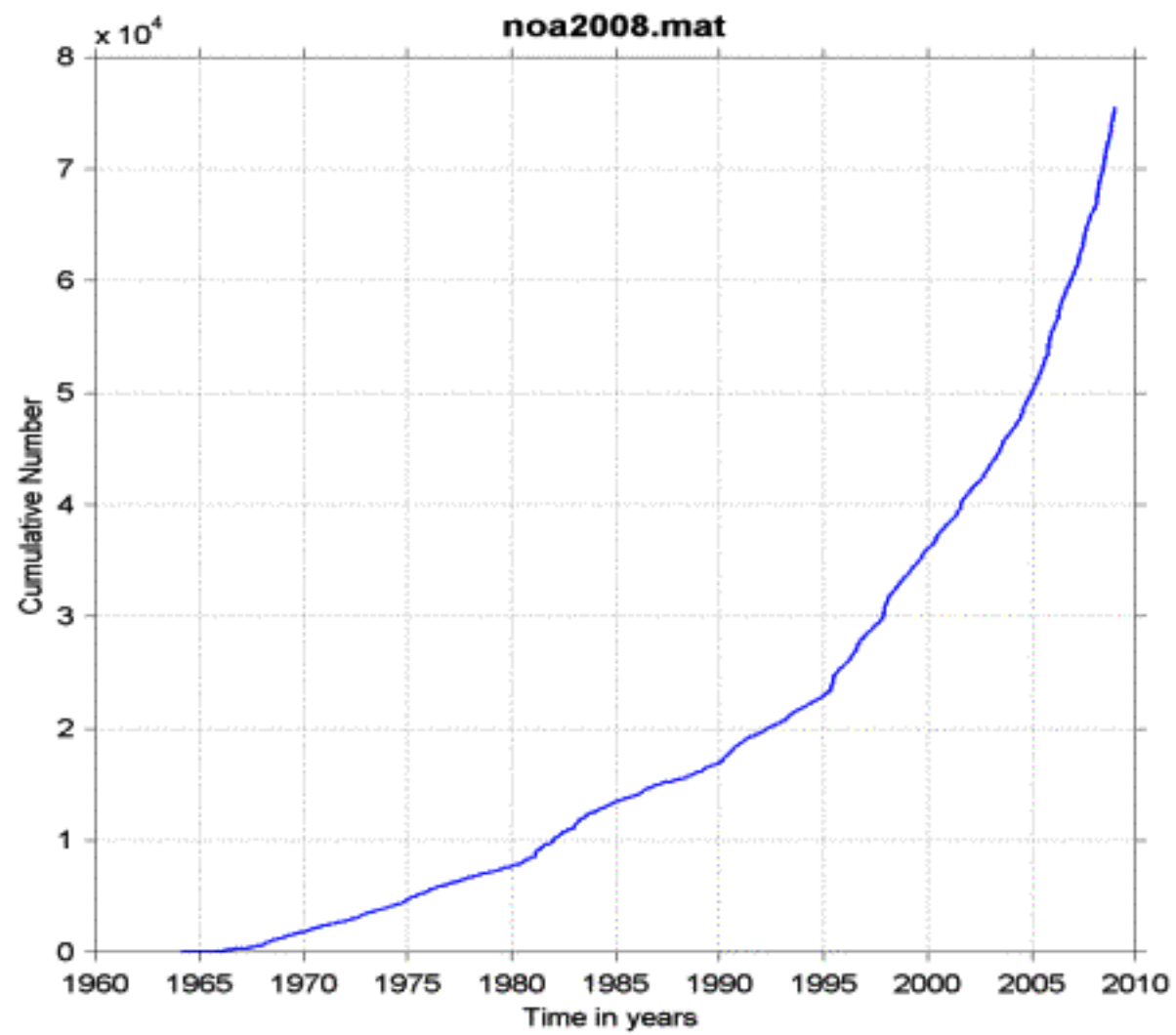
(g.choul@gein.noa.gr)

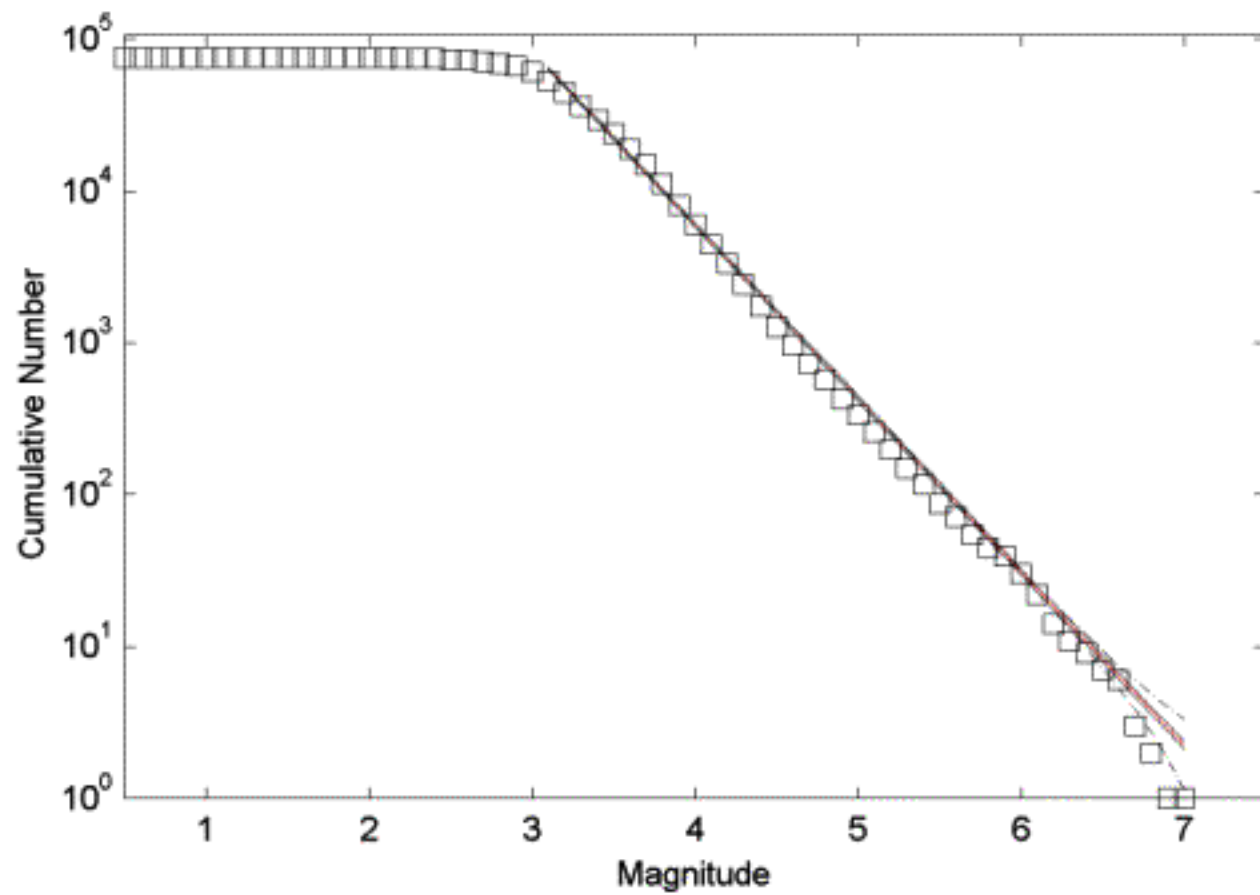
The Institute of Geodynamics of the National Observatory of Athens (NOA), operates the Greek seismological network since 1897 and its first instrumental earthquake catalog was published in 1950. In 1964, the operation of a network of electromagnetic type sensors and analog registration begun and the practice of a systematic data analysis, bulletin production and archiving routine, common to international seismological observatories was initiated. The first digital seismographs were installed in 1994 and by 1999 the vast majority of the stations provided digital broad band data.

After the catastrophic earthquake in Athens on September 7th, 1999, the digital network rapidly expanded in view of the preparations for the Athens 2004, Olympic Games. The digital network expansion period was accompanied with the analog to digital transition period in the observatory practice of data analysis and bulletin production with the introduction of modern digital signal processing and data analysis techniques and software. A plethora of investigators have used NOA's seismicity catalogue for earthquake hazard and risk assessment research and this study investigates the effects of the recent upgrades in instrumentation and station sitting as well as in the data analysis procedures, upon the catalog's homogeneity and completeness.

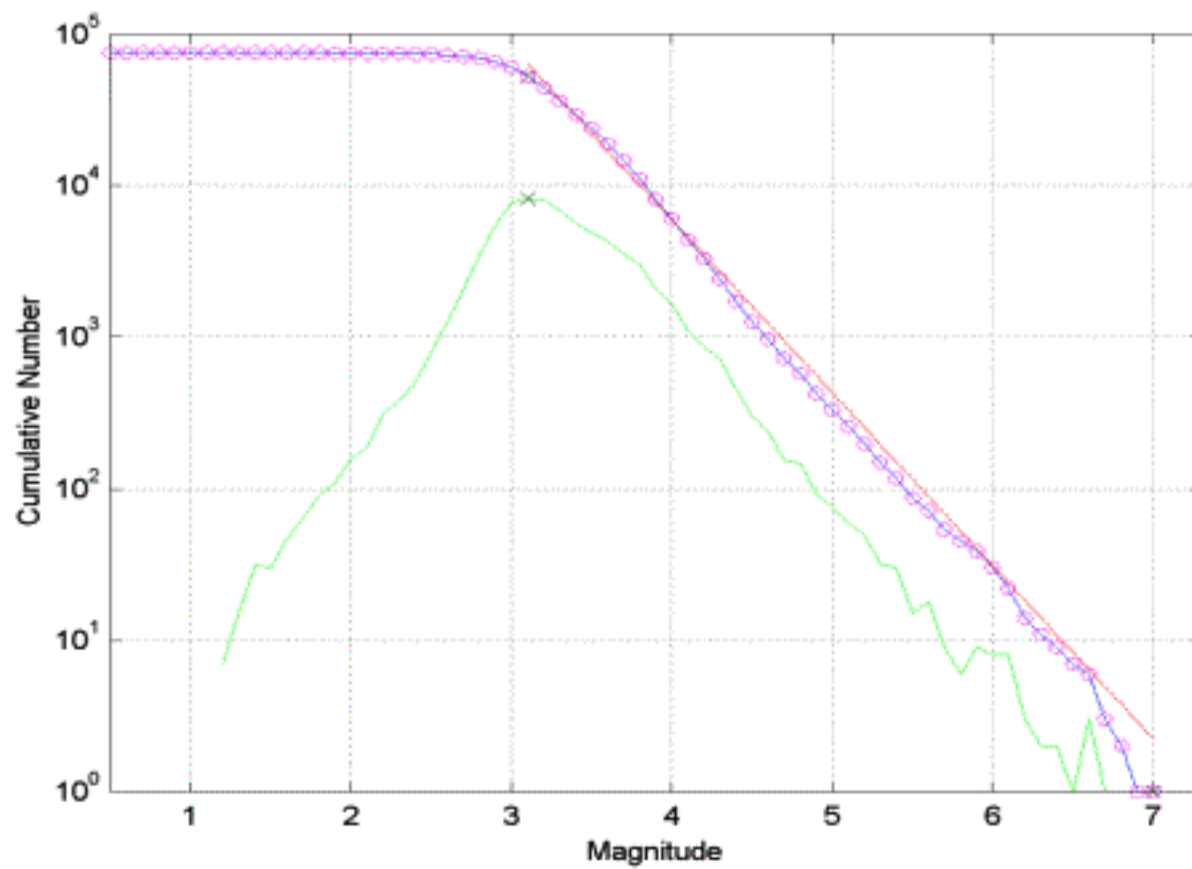






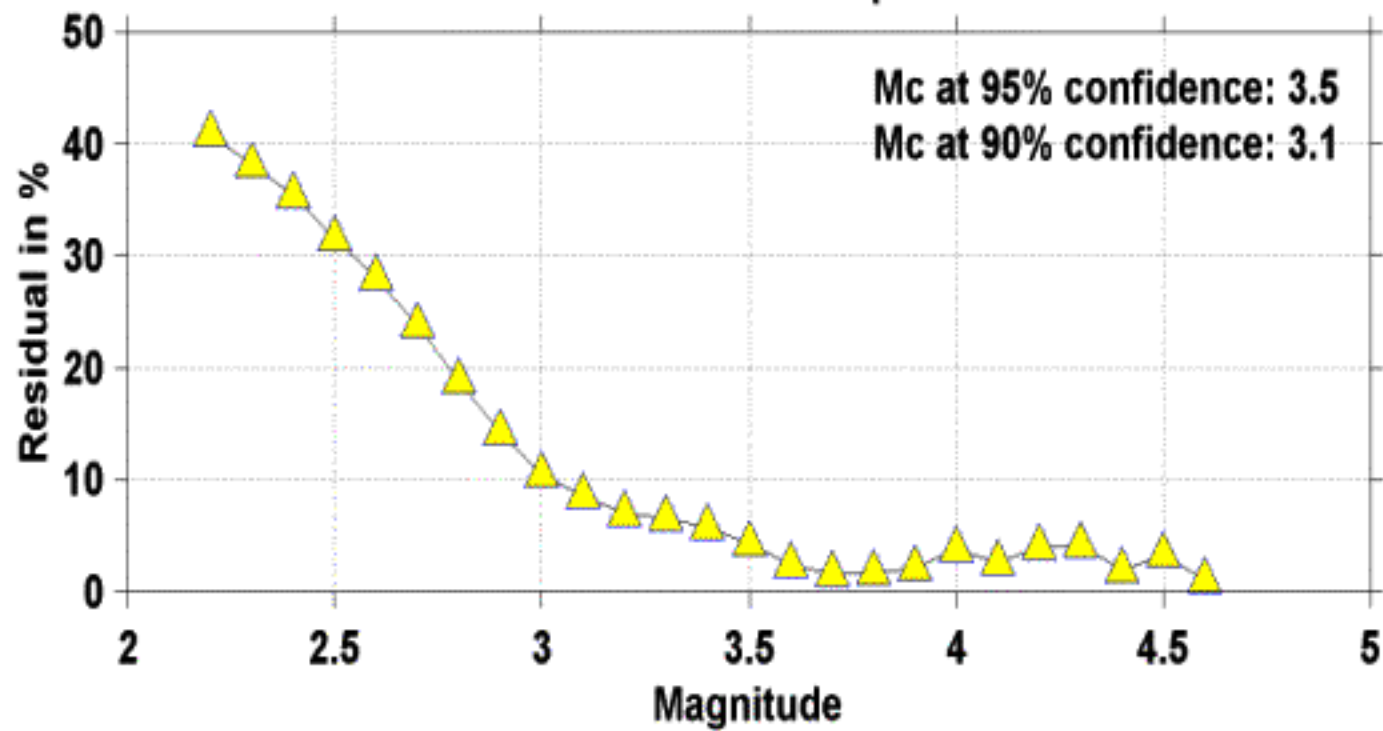


b-value (w LS, $M \geq 3.1$): -1.14 ± 0.03 , a-value = 8.3438

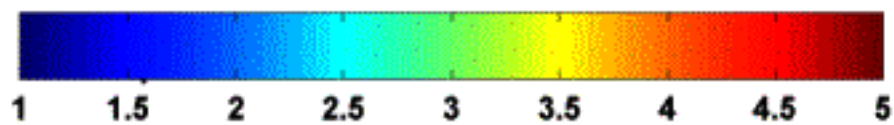
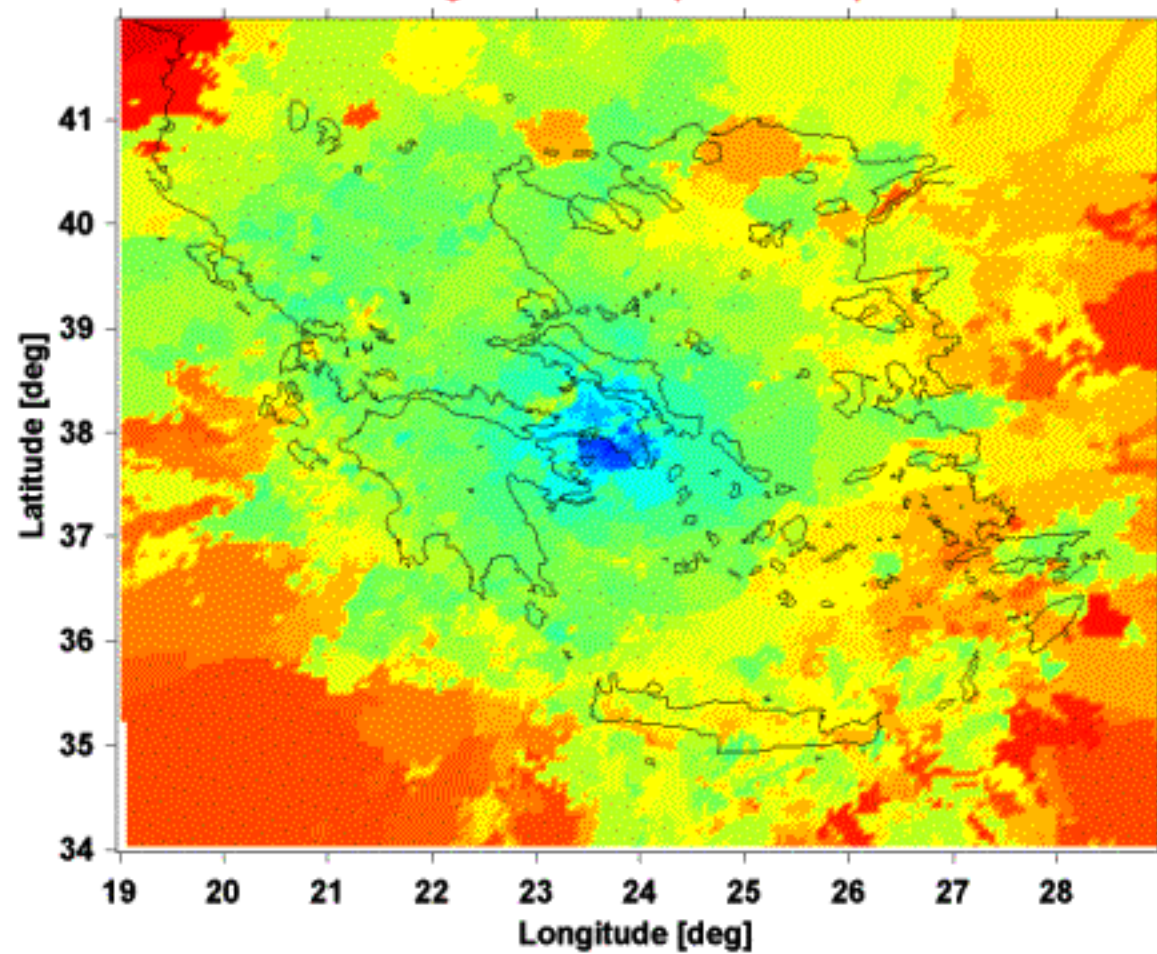


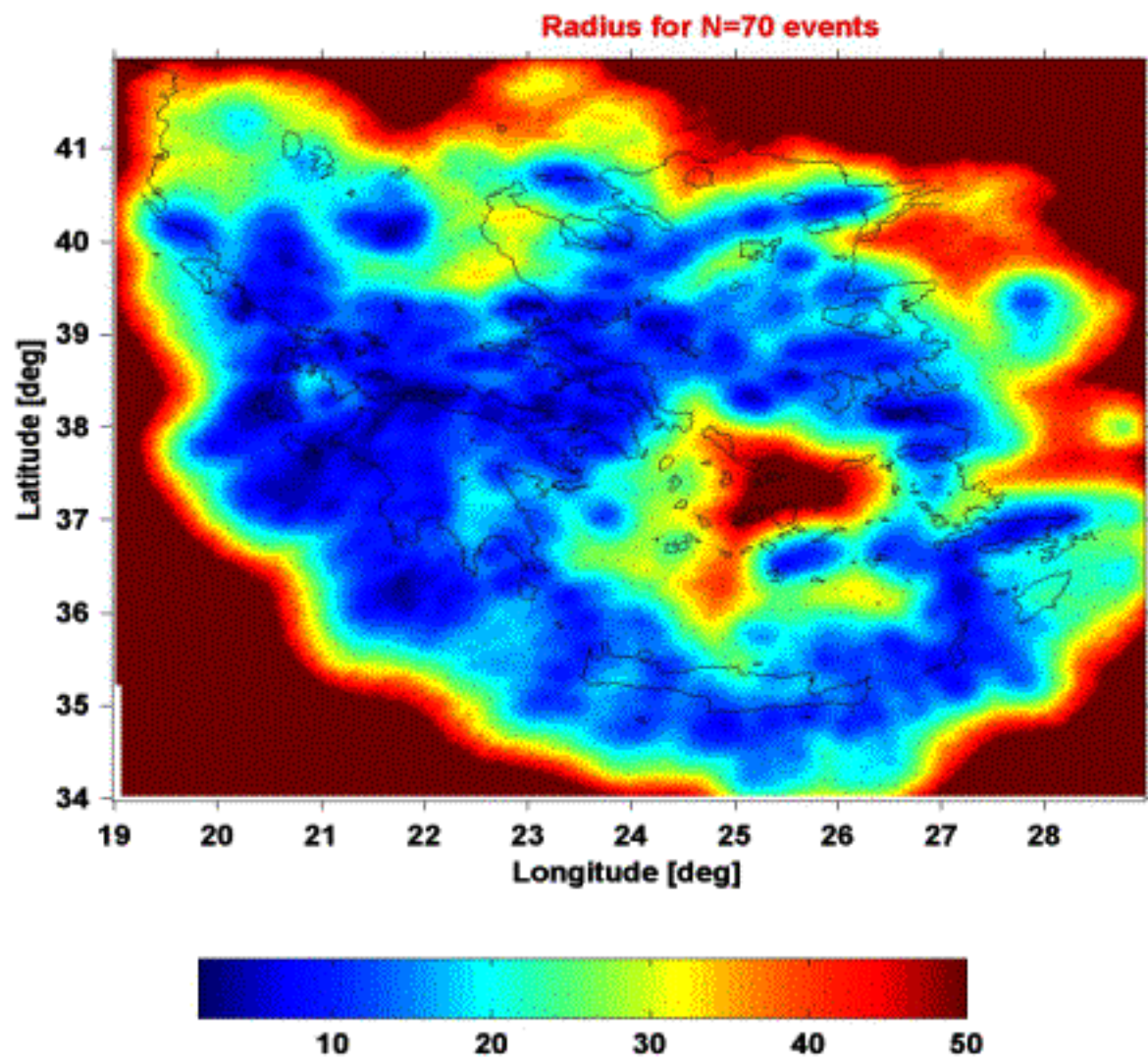
$b(wls, M > 3.1): 1.14 \pm 0.03$

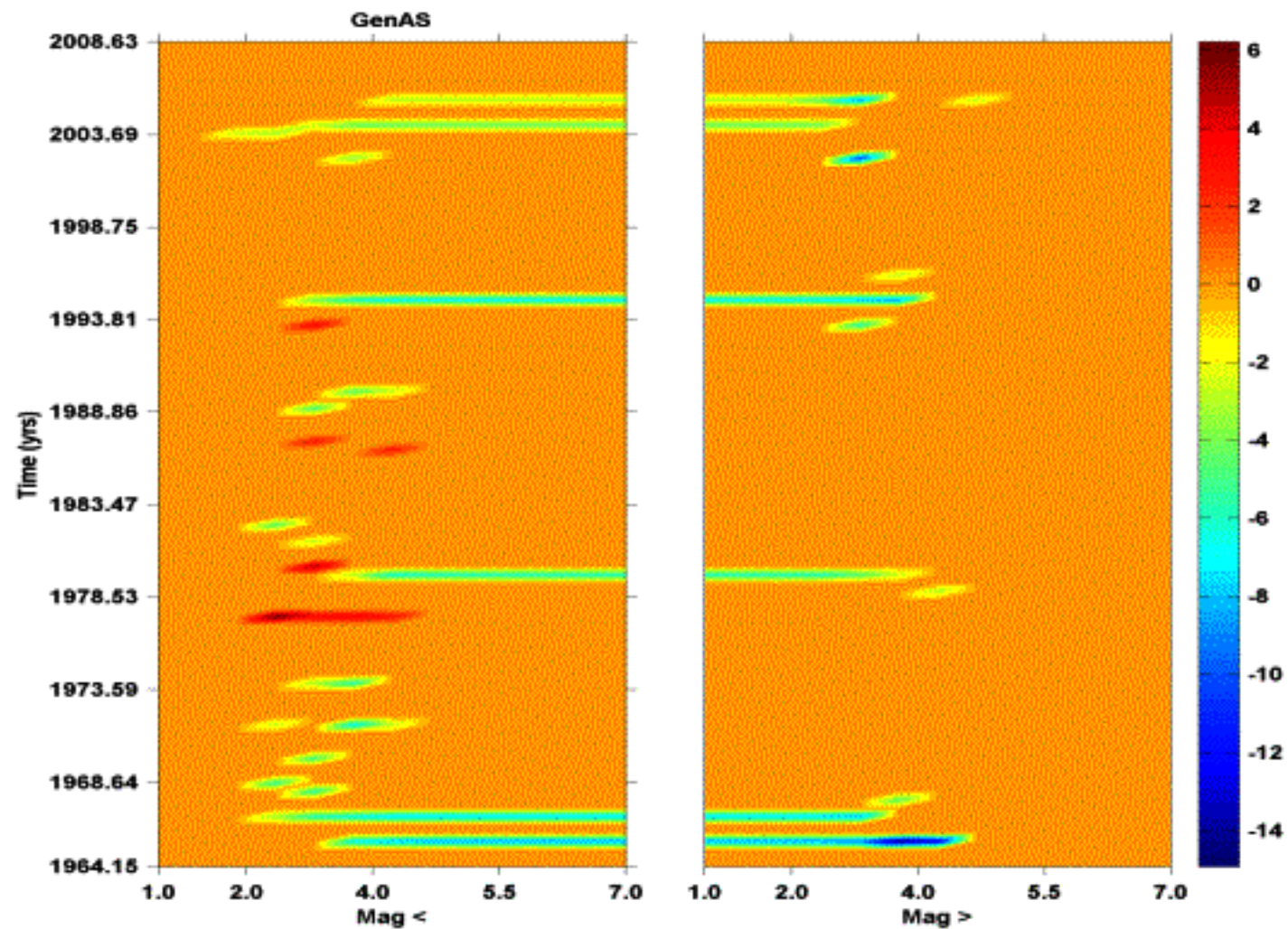
Goodness of FMD fit to power law

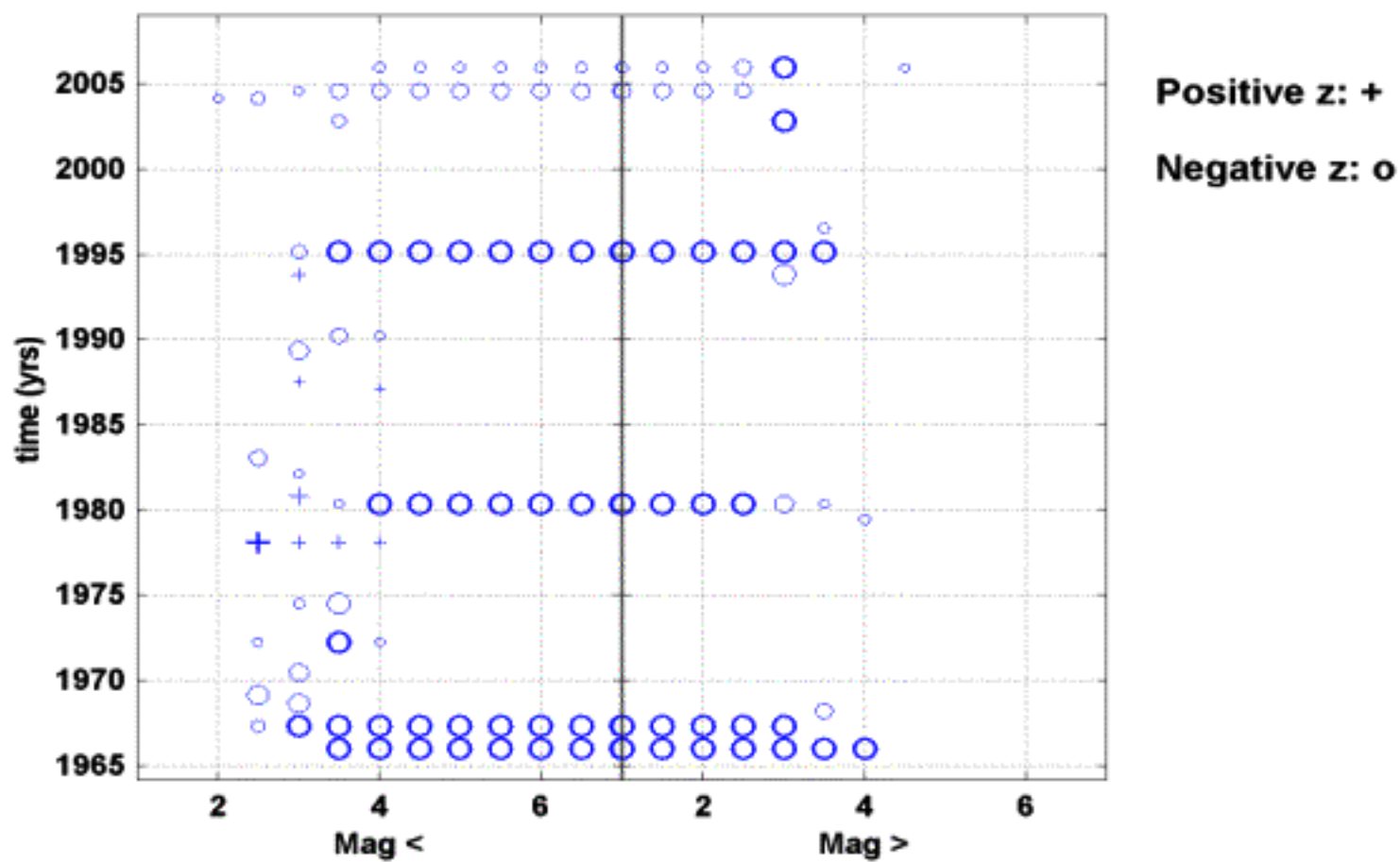


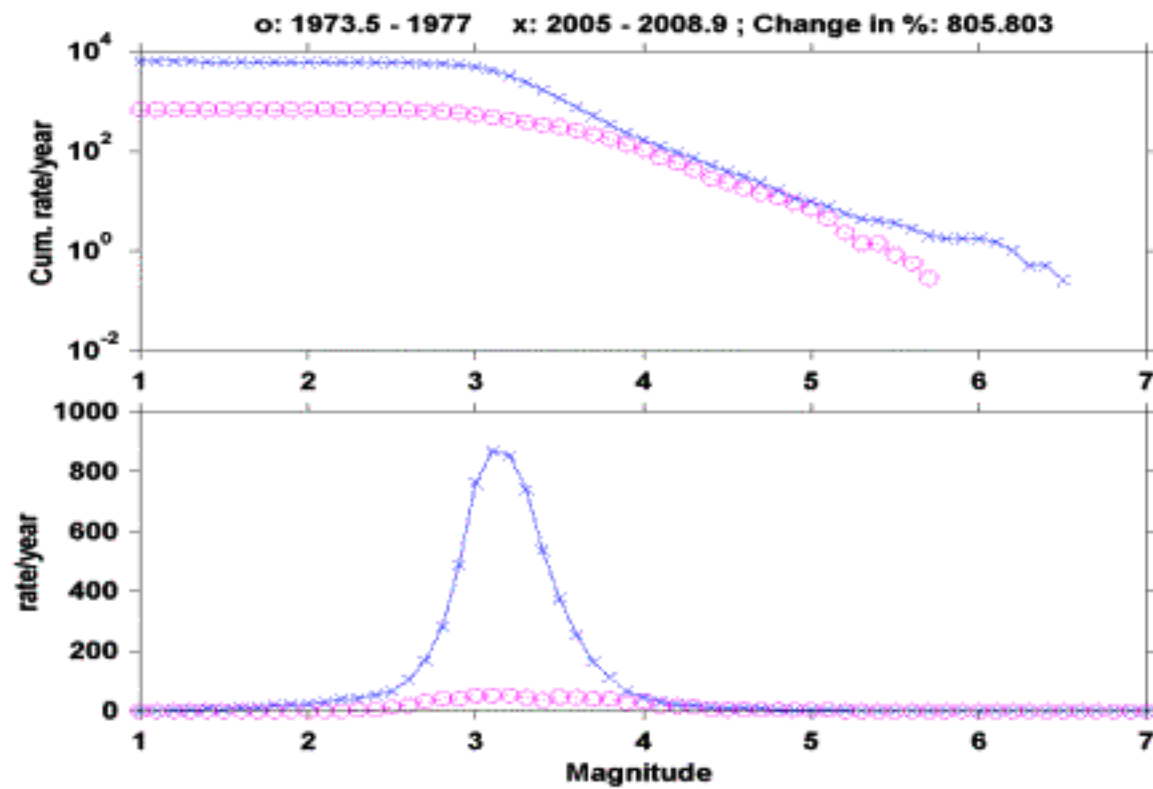
Magnitude of Completeness Map

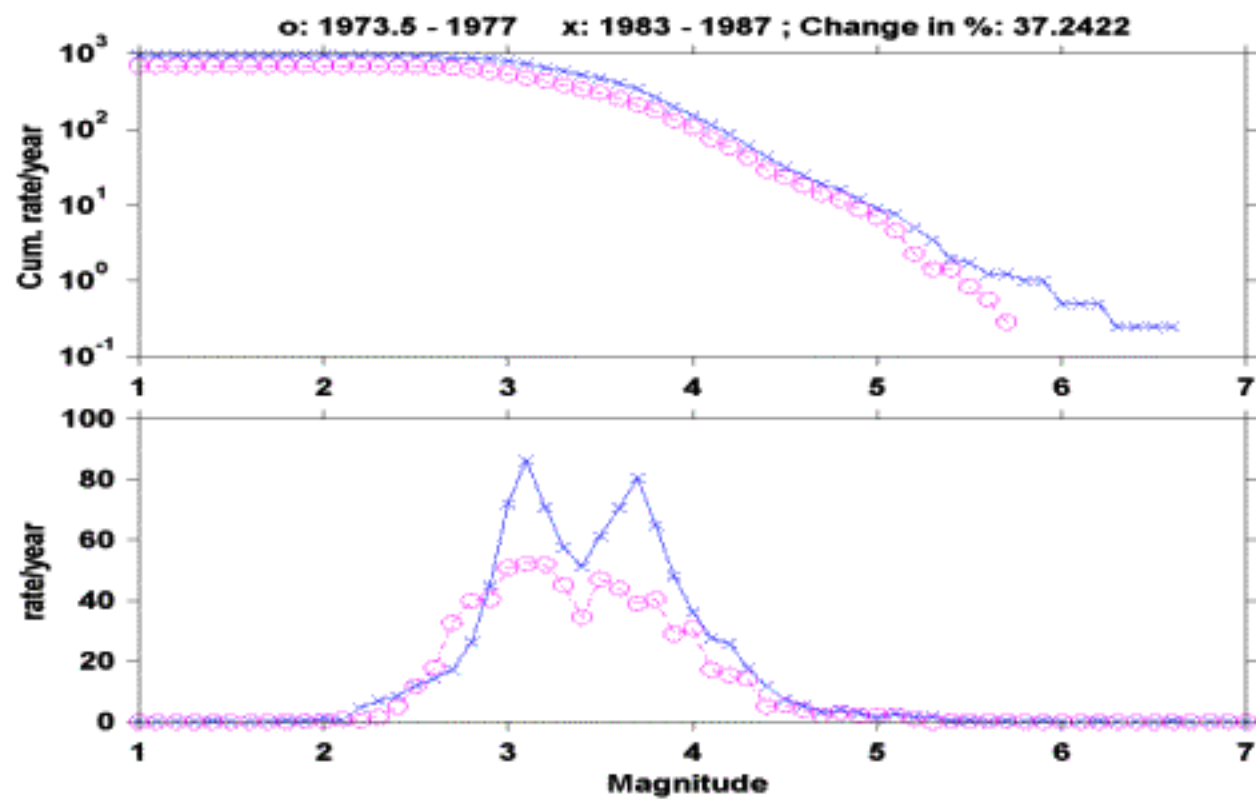


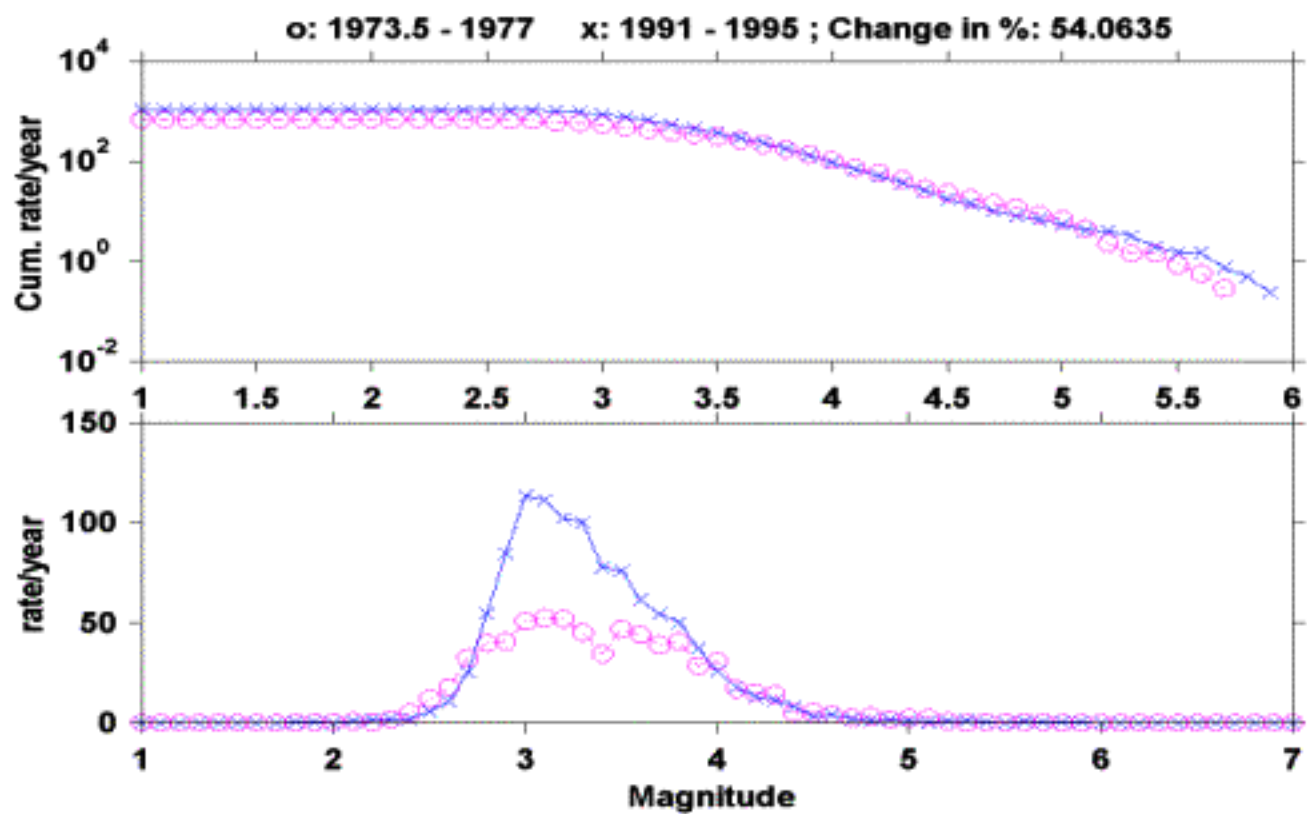


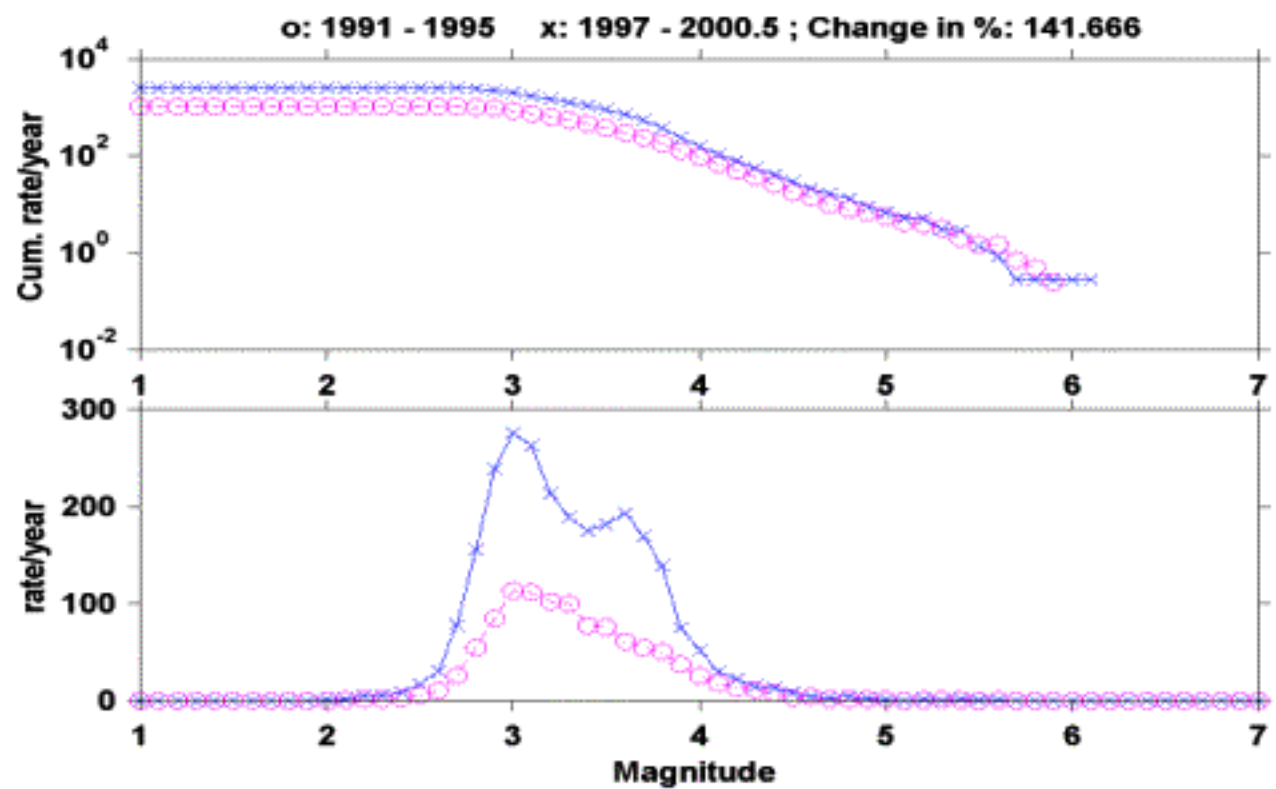


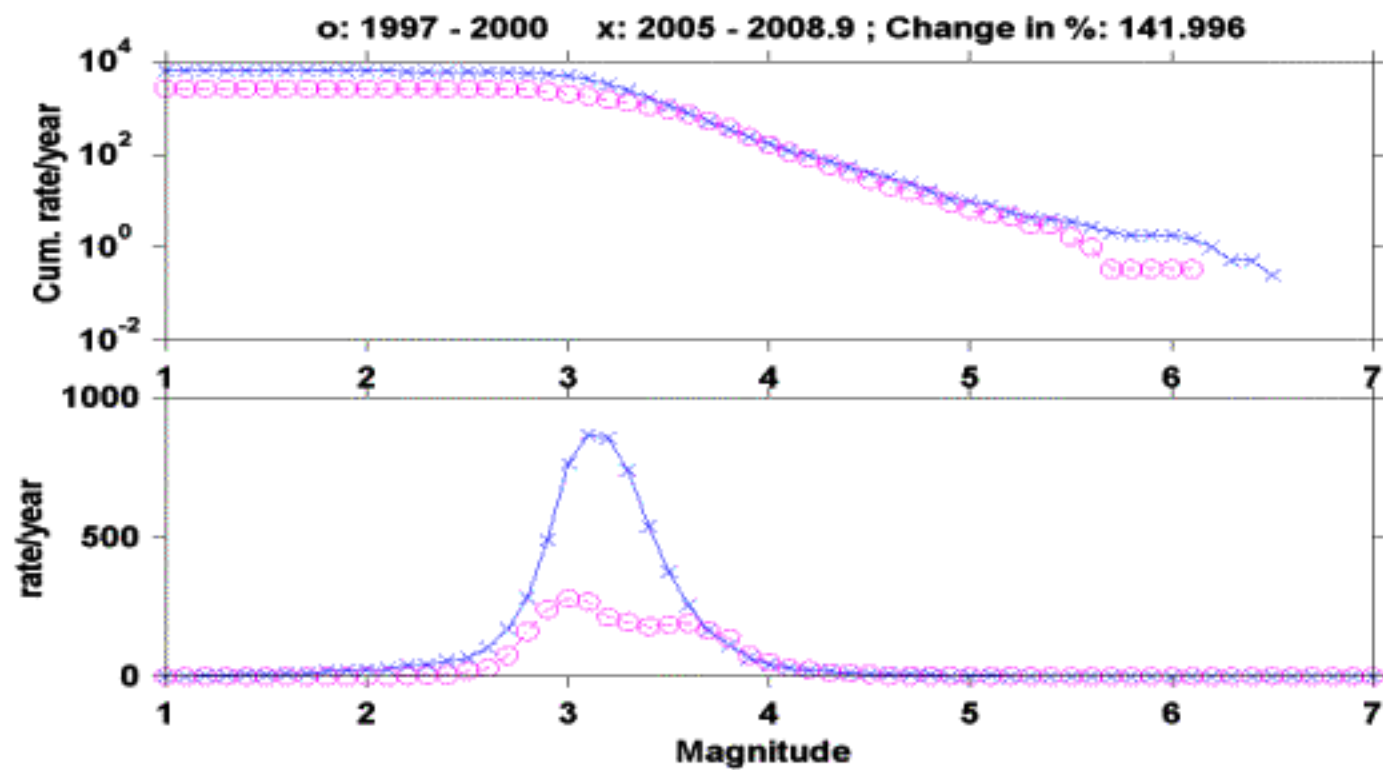


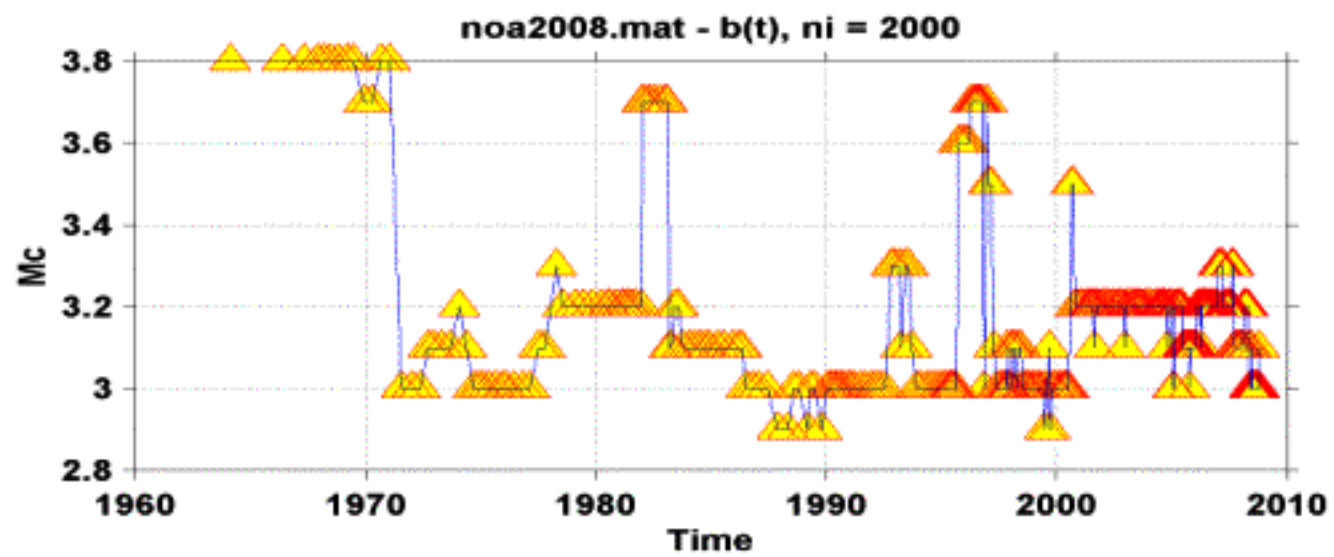


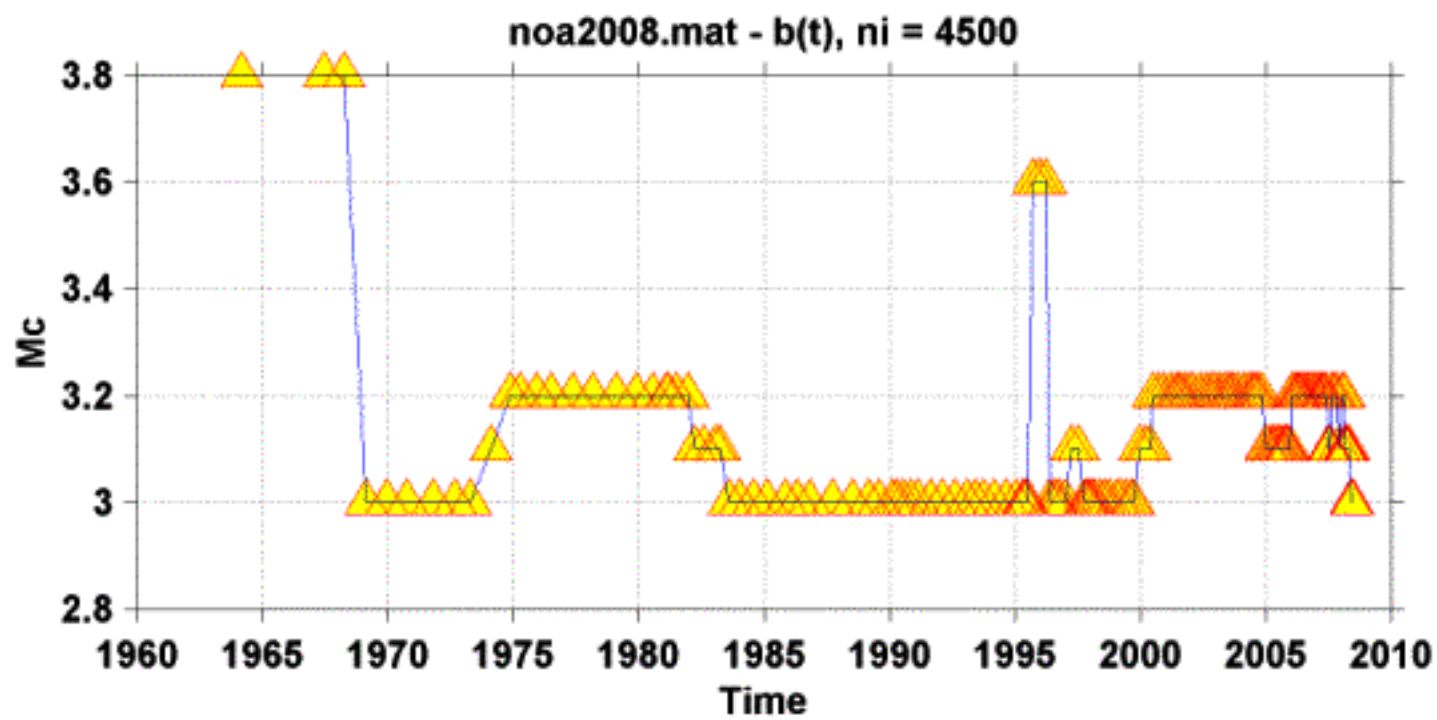


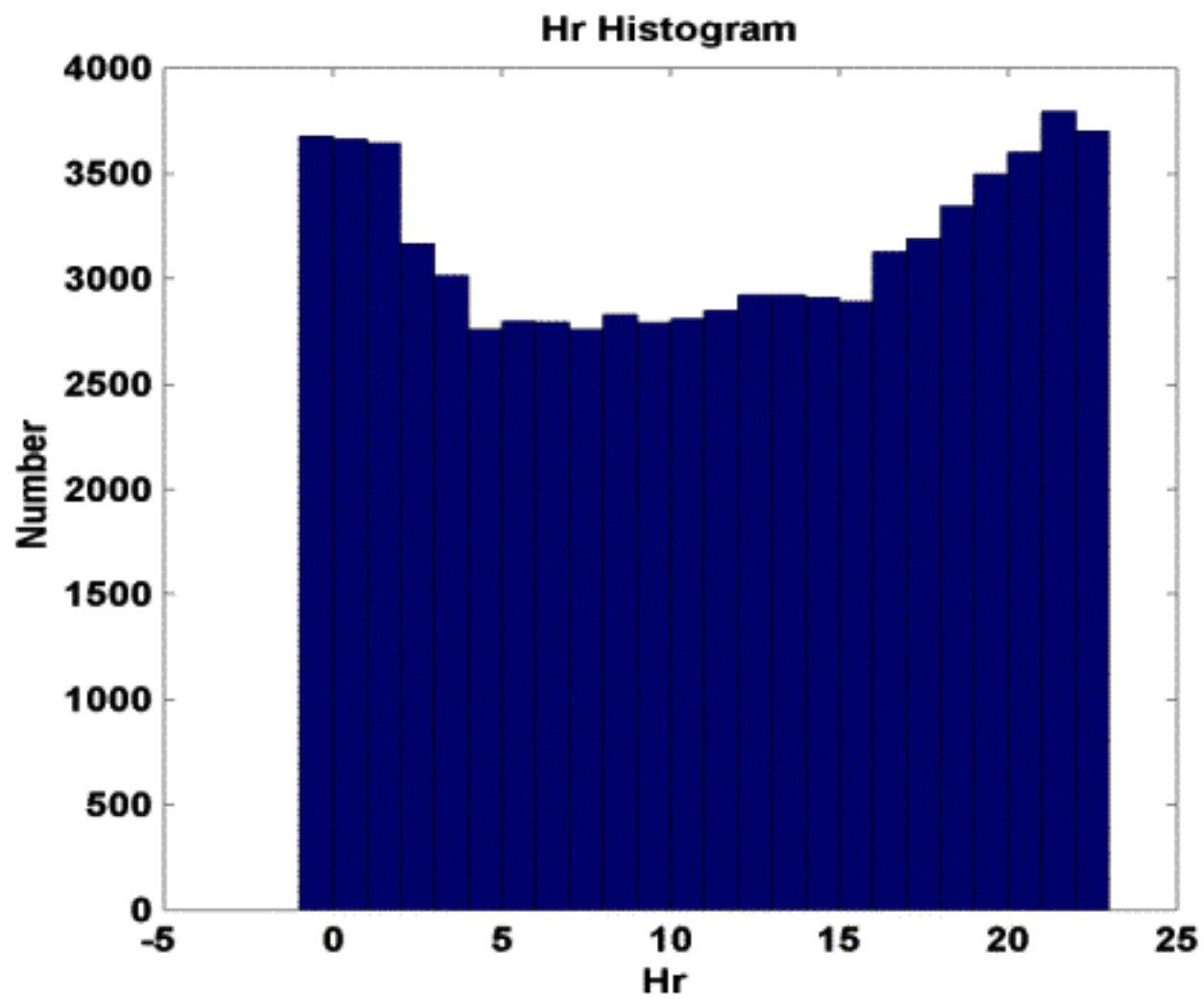


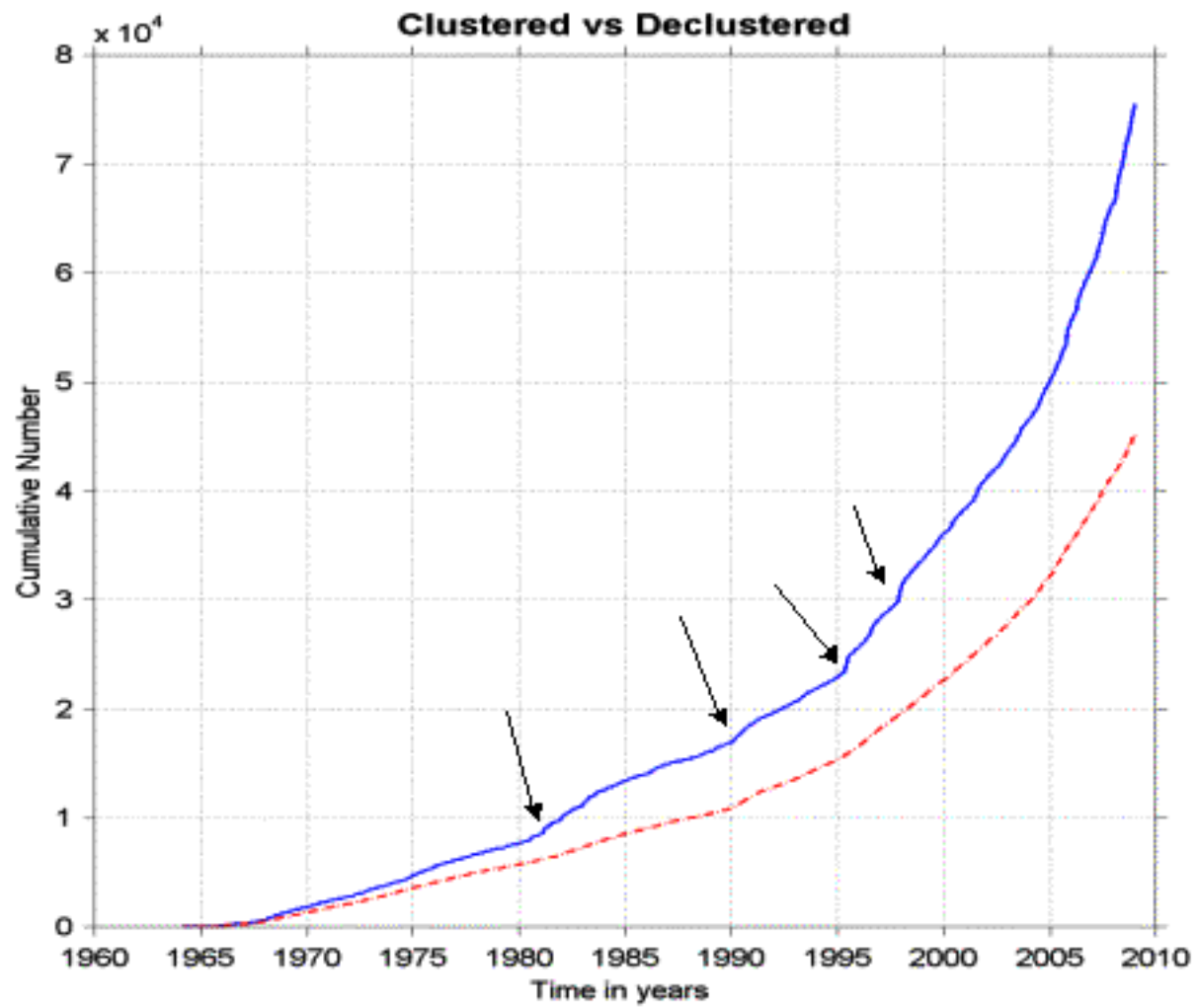


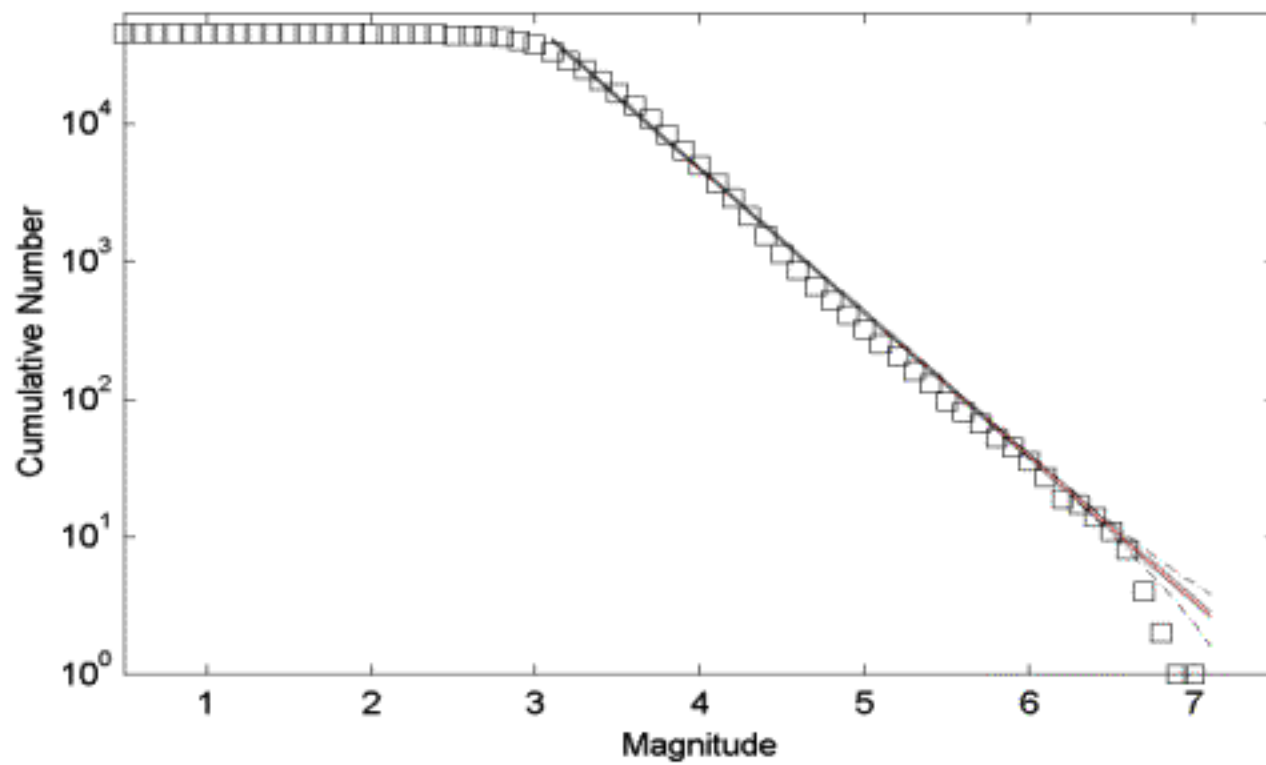




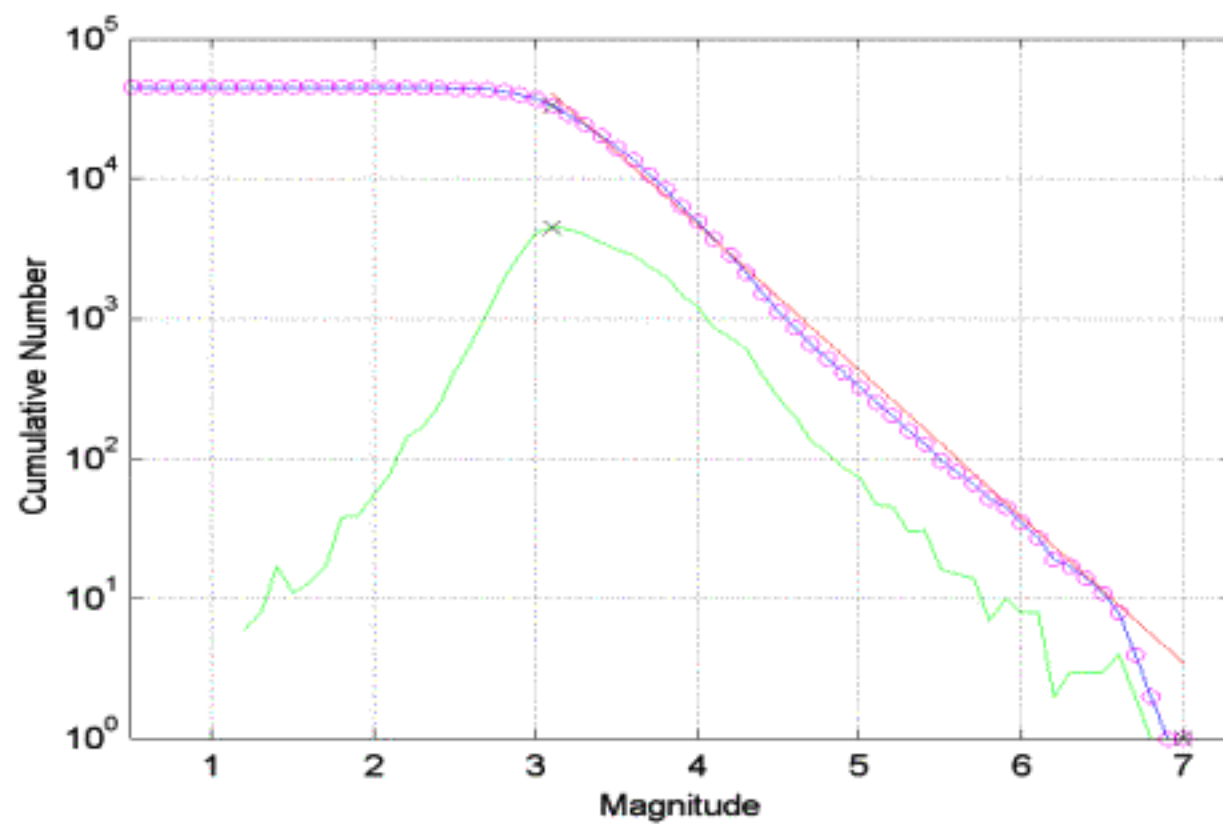




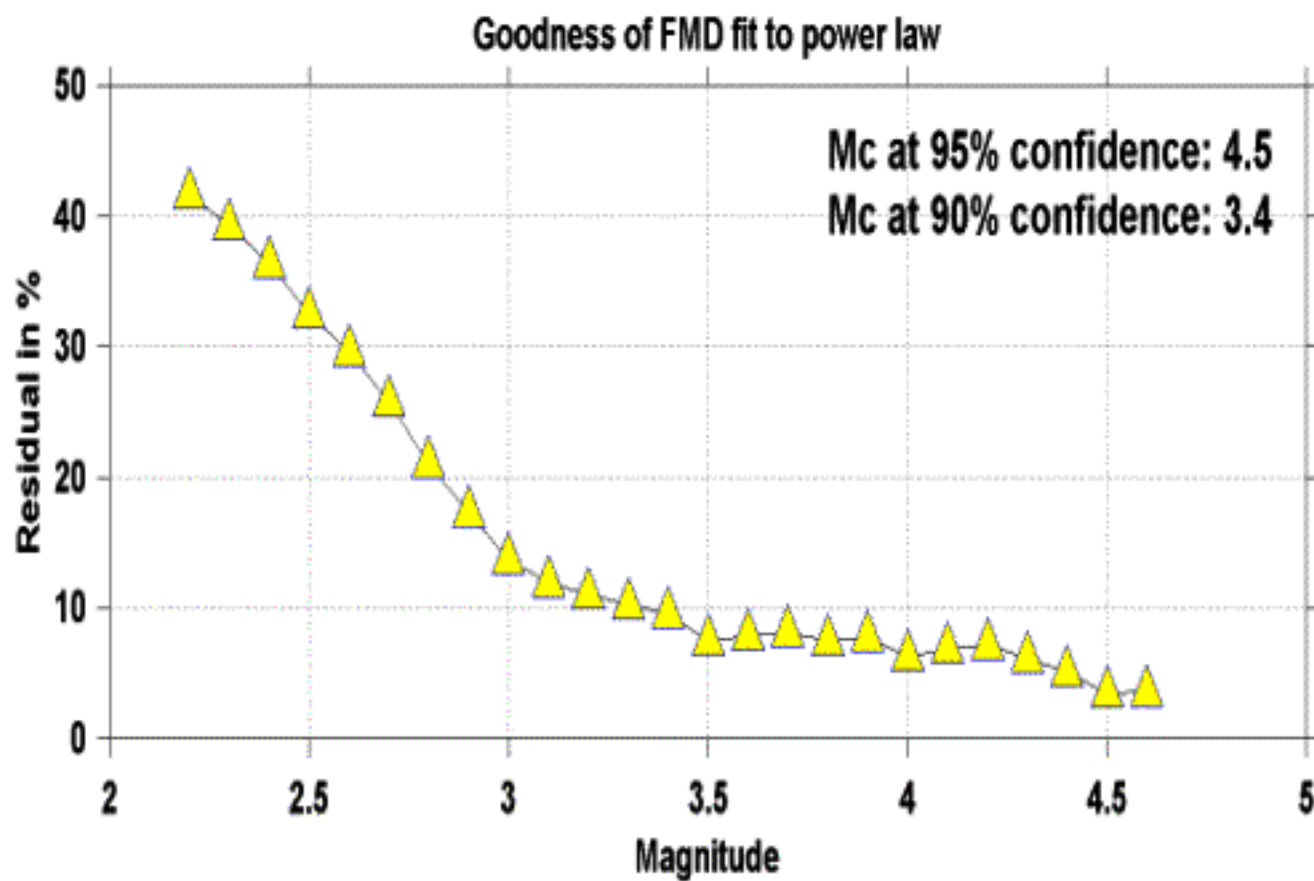




b-value (w LS, $M \geq 3.1$): -1.04 ± 0.04 , a-value = 7.8472



b(wls, $M > 3.1033$): 1.04 ± 0.04



GenAS - declustered

