



## **The Hellenic Seismological Network of Crete (HSNC): operation results and review of real time processing schemes. A contribution to seismic Hazard evaluation.**

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The Aegean region which comprises the Hellenic arc and the adjacent areas of the Greek mainland, the Aegean Sea and western Turkey, is one of the most seismically active zones of the world and the most active in western Eurasia due to the convergence between the African and Eurasian lithospheric plates. The seismicity of South Aegean is extremely high and is characterised by the frequent occurrence of large shallow and intermediate depth earthquakes. Crete marks the forearc high of the modern Hellenic subduction zone in the eastern Mediterranean (Telesca et al., 2007).

Towards to the direction of providing modern instrumental coverage of seismicity in the South Aegean, as well as some more insight into the stress and deformation fields, tectonics, structure and dynamics of the Hellenic Arc from which will be possible to retrieve information about the rupture process the Hellenic Seismological Network of Crete (HSNC) begin to operate in 2004. Today it consists of permanent seismological stations equipped with short period and broadband seismographs coupled with 3rd generation 24bit data loggers as well as from accelerographs (Vallianatos et al., 2006, Vallianatos et al., 2009). Data transmission and telemetry is implemented by a hybrid network consisting of dedicated wired ADSL links as well as VSAT links by using the private satellite hub. Data are delivered real time in collaborating networks (HT – AUTH, Department of Earth Science – UCL) and events are appended automatically to EMSC database. Additional value to the network is provided by means of a prototype system which deployed in order to acquire aftershock data in the minimum time after main event. This is a mobile seismological network called RaDeSeis (Rapid Deployment Seismological network) which consists of a central station acting also as the central communication hub and wifi coupled mobile stations (Hloupis et al., 2009). The development of dedicated hardware and software solutions gave RaDeSeis an installation time around 1 hour for each station which means that aftershock studies can be initiated after a few hours.

Apart from the above, the current study will present the results after six years of continuous operation and how this network increases the gained knowledge of seismic activity in South Aegean. Finally, an evaluation review of real time processing schemes that applied for rapid magnitude estimation (Hloupis et al., 2008) in aforementioned network, will be presented.

### References

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