



The Hellenic Seismological Network Of Crete (HSNC): Validation and results of the 2013 aftershock sequences

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The number and quality of seismological networks in Europe has increased in the past decades. Nevertheless, the need for localized networks monitoring areas of great seismic and scientific interest is constant. Hellenic Seismological Network of Crete (HSNC) covers this need for the vicinity of the South Aegean Sea and Crete Island.

In the present work with the use of Z-map software (www.seismo.ethz.ch) the spatial variability of Magnitude of Completeness (M_c) is calculated from HSNC's manual analysis catalogue of events for the period 2011 until today, proving the good coverage of HSNC in the areas.

Furthermore the 2013, South Aegean seismicity where two large shallow earthquakes occurred in the vicinity of Crete Island, is discussed. The first event takes place on 15th June 2013 in the front of the Hellenic Arc, south from central Crete, while the second one on 12th October, 2013 on the western part of Crete. The two main shocks and their aftershock sequences have been relocated with the use of hypoinverse earthquake location software and an appropriate crust model. The HSNC identified more than 500 and 300 aftershocks respectively followed after the main events. The detailed construction of aftershocks catalogue permits the applicability of modern theories based on complexity sciences as described recently in the frame of non extensive statistical physics. In addition site effects in the stations locations are presented using event and noise recordings.

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