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Recent developments in the setting up of the Malta Seismic Network

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Weak to moderate earthquakes in the Sicily Channel have until now been either poorly located or left undetected. The number of seismic stations operated by various networks: Italy (INGV), Tunisia (TT), and Libya (LNSN) have now improved considerably, however most of the seismicity occurs offshore, in the central part of the Channel, away from the mainland stations. Seismic data availability from island stations across the Channel has been limited or had intermittent transmission hindering proper real-time earthquake monitoring and hypocentre relocation.

In order to strengthen the seismic monitoring of the Sicily Channel, in particular the central parts of the Channel, the Seismic Monitoring and Research Unit (SMRU), University of Malta, has, in the last year, been installing a permanent seismic network across the Maltese archipelago: the Malta Seismic Network (ML). Furthermore the SMRU has upgraded its IT facilities to run a virtual regional seismic network composed of the stations on Pantelleria and Lampedusa, together with all the currently publicly available stations in the region. Selected distant seismic stations found elsewhere in the Mediterranean and across the globe have also been incorporated in the system in order to enhance the overall performance of the monitoring and to detect potentially damaging regional earthquakes. Data acquisition and processing of the seismic networks are run by SeisComP. The new installations are part of the project SIMIT (B1-2.19/11) funded by the Italia-Malta Operational Programme 2007–2013. The new system allows the SMRU to rapidly perform more accurate hypocentre locations in the region, and issue automatic SMS alert for potentially felt events in the Sicily Channel detected by the network and for strong earthquakes elsewhere. Within the SIMIT project, the alert system will include civil protection departments in Malta and Sicily.

We present the recent developments of the real and virtual seismic network, and discuss the performance of each of the new stations, the general operation of the SMRU, and the alert system. New web features soon available on the SMRU website will be presented.