



Revising the historical seismicity of the region of Van

P. Albini (1), M.B. Demircioglu (2), M. Locati (1), A. Rovida (1), K. Sesetyan (2), M. Stucchi (1), and D. Viganò (1)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Milano, Italy, (2) Kandilli Observatory and Earthquake Research Institute, Dep. of Earthquake Engineering, Bogazici University, Istanbul, Turkey

The Mw7.2 earthquake of October 23, 2011 struck an area with a long historical record and a long earthquake history. However, only three earthquakes of similar Mw are known in the instrumental period: one in 1976 in the Çaldıran area, some 50 km to the NE, one in 1930 in the Salmas area (Iran) and, possibly, one in 1903, north of Lake Van. In the past, only three other events with $Mw \geq 7.0$ are included in the catalogues: the 1275 earthquake, located on the northern bank of the lake Van, the 1696 one, in the Çaldıran area, and the 1840 one, in the Dogubayazit area.

This paper is devoted to review the catalogue of eastern Turkey, recently compiled as a common effort of the EMME (Earthquake Model of the Middle-East region) and SHARE (Seismic Hazard Harmonization in Europe) projects, merging the main current earthquake catalogues, based on traditional material.

We analyse the information supplied by recently published studies on the historical seismology of the area, whose content was so far not used for the compilation of the catalogues. We interpret it in macroseismic terms, assessing preliminary damage classes (HD = heavy damage; D = damage; SD = slight damage; SF = strongly felt; F = felt), adding our interpretation. When possible, we assess the new epicentres and offer preliminary assessments of magnitude and uncertainty estimates. The results show that: i) a few events are probably fake; ii) a few are mislocated iii) some show overestimated Mw; iv) a few could be underestimated.

One of the best described events turns out to be the one of 1646 (formerly 1648), for which the information deals with several places, although many of them are very small. The suggested location is similar to the one of the recent 9 November Mw 5.7 event, while Mw can range up to 7.0. On the other hand, no prominent candidate is available as a twin of the 23 October 2011 event, although many events could fit, should more information appear.