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The attempt for assessment and mapping of the ground-failures hazards indused by the historical earthquakes of Armenia

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Destructive and devastating earthquakes repeatedly took place in the Republic of Armenia (RA) and adjacent countries in the past. The Republic of Armenia is a part of Caucasus, which is one of the most active segments of Alpine-Himalayan seismic junction. The high seismisity is conditioned by the location marked territories in the collision zone of Arabic and Eurazian plates. A scientific summary full paper has been formed based on supplimentary and corrected information about the historical destructive and devastating earthquakes taken place in Armenia in last quarter at the end of the 17th (1679 June, 4, Ms=6.9) and in the first half of the 19th (1840 July, 2, Ms= 7.4) centuries. Studying the historical earthquakes is immediately connected with long-term seismic hazard and with prognosis of the possible next strong seismic event. The evidences of the destructive consequences of past earthquakes are the ruins of the old cities, temples, fortresses and also numerous sacrifices mentioned in bibliographical and epigraphical sources. One of signs of unordinarity of Ararat earthquake 1840 is that it was accompanied by throwing out of gas and water stream, owing to its strength from the top of Great Ararat mountain the huge rocks were thrown out on the slope of the mountain (but an effusion of lava didn't take place). The macroseismic epicentral location and also surface projection of seismic source being argued only from macroseismic data of Garni historical earthquake 1679 are determined using the modern empirical methods elaborated by Italian scientists P.Gasperini and G.Valensise, G.Ferrari [Annaly di Geofisica, volume 43, N 4, August 2000/ Instituto Nazionale di Geofisica,

Roma, Italy]. In the result of the multidisciplinary research in the field of studying the historical destructive and devastating earthquakes the macroseismic and geological effects of above mentioned earthquakes are mapping applying GIS techniques. In the long run the isoseismal maps were also composed. Long-term experience in the field of studying the historical earthquakes will also allowed to systemize the lessons learned from disasters like earthquakes.