LIMITATIONS OF USING PALEOSEISMOLOGICAL DATA IN EARTHQUAKE HAZARDS ASSESSMENT

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The paleoseismological method is based on direct and indirect data of historical earthquakes. The direct witnesses great historical seismic events are customary to assume near-surface fractures - paleoseismodislocations. It is commonly supposed that the extent of fractures are corresponded with the extent of historical earthquake. However, it is not always right, because the geological environment having the specific state of the earth crust has the property of a self-maintaining destruction by distinctive scenarios. The state of total loss of stability may occur after even with insignificant additional loads via 10-20 years, if the earth crust has been conditions suiting the long-term vitality, and only 3-5 month, if it is corresponded to the short-term vitality. One example of this phenomena is the X'ian city in China, Shaanxi province. There are 11 near-surface fractures in the city area. The fractures are absent beyond of boundary the city. The length of faults is approximately 10-13 km. Everyone were appeared after known Tan-Shan earthquake 28 July 1976 one by one during the 20 years. The X'ian city is located at any distance up to 1000 km away from the epicenter, because the intensity of earthquake in X'ian area had been only 4 balls (scale MSK). The faults superficially resemble seismodislocations, but in reality these are not ones. Possible genesis of the dislocations like this is discussed.