عنوان مقاله:
Grid-Based Probabilistic Earthquake Forecast for Iran

محل انتشار:
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خلاصه مقاله:
In this paper, a model of earthquake forecast is presented to assess the long-term probabilities of future earthquakes with moderate magnitudes for a region including Iran (latitude ۲۵-۴۰° and longitude ۴۴-۶۲°). The model estimates a coupled rate of magnitude, space and time for future seismicity using a spatial-temporal Poisson process. The smoothed spatial distribution of seismicity is measured by an adaptive kernel using the locations of past M ³ ۴.۵ earthquakes listed in the ISC catalog in the period of ۱۹۸۰ to ۲۰۱۴. The retrospective area skill score test has been carried out to check the significant of the results, using a spatially uniform reference model. At ۹۵% confidence level, the model was not rejected by the test. Moreover, the results show a meaningful correlation between anomalies of the forecasted map and the epicenters of target events occurred from ۲۰۱۵ to ۲۰۱۶. Based on the results, it is concluded that the areas characterized by high forecasted rates of seismicity could be considered as the highly hazardous ones, .most likely to seismic activation in the Iranian plateau

کلمات کلیدی:
Earthquake forecast, Long-term probabilities of earthquakes, Isotropic adaptive kernel, Iran