

Relationship between tide and great earthquakes

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Abstract

This research involves the investigation of the relationship between the tidal forces and the occurrences of the great earthquakes during the period from 1977 until 2007.

At the first stage, some 3475 large earthquakes were structured from the "Global CMT Catalogue" and then daily, monthly and yearly frequencies of these earthquakes as well as the tidal forces for the period of their occurrence were obtained.

At the second step the cross-correlation between different frequencies of the earthquakes with lunisolar tidal forces were calculated by means of MATLAB code.

The result shows a good correlation between the occurrence of the earthquakes and the lunisolar tidal forces.

Generally, it concluded with reservedness that the tidal forces could be considered as a trigger for seismic activities.

Keywords: Tidal forces, Trigger, Great earthquakes, correlation, Shallow earthquakes
