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About the relationship of global seismicity with geomagnetic activity

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The intercoupling of strong earthquakes (SE) with magnetic storms (MS) was marked a long ago for a long time. However the heterogeneity of geomagnetic disturbances strongly hampers the exposure of signs to the display of which seismic activity (SA) is related. Many researchers try attempts, endeavours to get dependences between geomagnetic activity (GA) and basic characteristics of the SE (probability, magnitude and depth) with the purpose of possible their prognostication. In literature there are arctic opinions of researchers about possibility of prognostication of the SE on the basis of geomagnetic data – from the denial of principle possibility of prognostication to possibility of operative prognoses.

In the work on the basis of analysis of the Catalogue of SE of National Center of information about the earthquakes of Geological service of the USA (NEIS USGS) [<http://neic.usgs.gov>] the results of research of dependence of SA from GA in periods of 43 strong magnetic storms for two cycles of Solar activity from an interval 1974 – 2006 are given.

To investigate the dependence of SA from GA for the indicated temporal interval the search of correlation between the average monthlies values importances, meaning of index of geomagnetic activity A_p and monthly number of SE, NQ, was made. Moreover, for data for this period from Catalogue the everyday distributing of number of the SE was calculate. and and The correlation of the everyday values importances, meaning of number of SE, implemented NQ1, of different intensity and Solar activity indexes, A_p , was analysed.

The analysis was made for three selections: the rows of NQ1 -data were separately examined considered, including all registered of SE (N2), and also for SE with magnitude of $M > 5$ (N1) and $M > 7$. On the basis of these data the analysis of correlation of seismicity implemented with the periods of MS was also executed. For this purpose in the examined temporal interval there were selected 43 periods by duration of 20–50 days (in a few a little cases the strong MS took place in 15–25 days after as, for ex-

ample, in November 2001 , August-September 2005 r and etc). These periods included strong MS.

It was examined MS with the value of $A_p > 100$. There was analysed data of N1 and N2 during a few days before MS and during 15–30 days after MS. It was set, in particular, that with the probability of $P = 0,2-0,6$ in all considered cases there was the increase of common number of SE in 1,5–3 times (sometimes and anymore) and amounts of SE| with $M > 5$ in 1,5–4 times on 2-3, 4-5, 6-7, 8-9, 12-14, 16-18 and 24-25 days after MS.

Some features of global seismicity in periods after the strongest Solar flares

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It is known that the large Solar protons flares, what is going on approximately one times for three suns cycle, initiate the transition of the power processes into Earth in the boundary states, which are saved to the next strong | flares and is determined the size of the power flux at the earthquakes for this period. Noticed also, that seismic activity in the Solar activity cycle has the largest level in the period of minimum of 11-years Solar cycle and during the strong Solar flares what is going on in the period of the increased solar activity. However the detailed investigations, evidently, was not conducted.

In work on the basis of analysis of Catalogue of earthquakes of National Center of information about the earthquakes of Geological service of the USA (NEIS USGS) [<http://neic.usgs.gov>] the results of research of possible changes of global | seismic activity of the Earth in periods after 17 strong Solar flares of class X for two cycles of solar activity from an interval 1974–2006 are discussed. Among them the most strong and geoeffective Solar flares: 06.03.1989 X15.0/3b; 14.07.2000 X5.7/3b; 01, 04, 06, 09, 11 and 15.06.2001 X12.0/3b-4b; 28.10.2003 X17.2/4b; 04.11.2003 X17.4/3b (peak value| of X28.0); 07.11.2004 X2.0; 11.11.2004 X2.5/3b; 07.09.2005 X17.0.

To investigate of such changes for data|data| for these periods from the Catalogue the everyday distributing of number of earthquakes, NQ, is calculated in the temporal interval of 10 days before and 30 days after every