Interactive comment on “Brief Communication: Correlation of global earthquake rates with temperature and sunspot cycle” by R. Rajesh and R. K. Tiwari

J. J. Love

jlove@usgs.gov

Received and published: 5 May 2014

1. Only in recent decades have small earthquakes been accurately counted. When selection is made for large earthquakes, their timing is statistically indistinguishable from a Poisson random process. See the following reference:


2. Simply identifying, through retrospective analysis, a correlation is not a test of the significance of a correlation. The data must first have autocorrelation removed. See
the following references:


3. Then the probability that the observed correlation could have been realized by statistical accident must be estimated, this is done using a null hypothesis of no statistical relationship. See standard books on statistical analysis.

4. And, finally, statistical tests should be applied on data that were not used to establish the hypothesis being tested. Ideally, this would be data collected after the hypothesis has been clearly and quantitatively stated.


Feynman, R. P. 1998, The Meaning of It All: Thoughts of a Citizen-Scientist, 1–133 pp., Perseus Books, Reading, MA (specifically, see pages 80-81, which can be found by google search).


5. All of these issues are discussed in a context that is almost exactly like considered by these authors in Section 2 of the following reference:


Love and Thomas (2013) find NO statistically significant correlation between earthquakes and either of sunspot number, solar wind velocity, and geomagnetic activ-
The authors might consider how and why their work contradicts that of Love and Thomas (2013).

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 2851, 2014.