From: "Alan Jones" <AlanJones@stny.rr.com> | This is Spam | Add to Address Book
To: "Darrell Harrington" <daharri@cco.caltech.edu>, "Wanying Shou" <shouw@its.caltech.edu>, "Zhonghao Shou" <zhonghao_shou@yahoo.com>
Subject: Your paper on earthquake predictions
Date: Thu, 30 Jan 2003 18:19:53 -0500

Gentlemen,

Sue Hough has asked me to review your submission to the Seismological Research Letters. I have taken a quick look and am impressed with how well it is written and how well the method is explained.

I have analyzed earthquake predictions on and off for several years and have decided that earthquake predictions should be evaluated by someone other than the predictor. Therefore, I would like to offer my assistance to you. I would like you to send me each of your predictions before the opening of the time windows. Each prediction must be clearly stated in terms of magnitude range, location range, and time range. When I evaluate predictions, to have a "hit" an event must be within all three windows. If you want your predictions to extend slightly outside of the window, then you must make the window(s) larger.

When a prediction is sent to me, I use a technique very similar to yours to determine the probability of the prediction being satisfied by chance. That is, for example, if your prediction is for a 7-day period with specified magnitude and location, I see how many of the 7-day periods for those parameters had earthquakes since 1960. By dividing the number of time periods that had events by the total number of time periods, I compute the probability that your 7-day period will have an event by chance. In this way no assumption has to be made about the probability distribution. In fact, due to clustering, it can be shown that the distribution is non-Poissonian. In addition to the above method, if your prediction is in the region of a recent main shock, I use the Jones-Reasonberg formula to compute the probability of an aftershock of the specified size.

An example is the first prediction in your Table 1. That event was clearly an aftershock of the January 1994 Northridge earthquake and would have a very high probability of occuring by chance.

I look forward to hearing from you.

Alan Jones

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