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How prediction statistics can help us cope when we are shaken, scared and irrational

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Nature is scary. You can be sitting at your home and next thing you know you are trapped under the rubble of your own house or sucked into a sinkhole. For millions of years we have been the figurines of this precarious scene and we have found our own ways of dealing with the anxiety. It is natural that we create and consume prophecies, conspiracies and false predictions. Information technologies amplify not only our rational but also irrational deeds. Social media algorithms, tuned to maximize attention, make sure that misinformation spreads much faster than its counterpart.

What can we do to minimize the adverse effects of misinformation, especially in the case of earthquakes? One option could be to designate one authoritative institute, set up a big surveillance network and cancel or ban every source of misinformation before it spreads. This might have worked a few centuries ago but not in this day and age. Instead we propose a more inclusive option: embrace all voices and channel them into an actual, prospective earthquake prediction platform (Kamer et al. 2020). The platform is powered by a global state-of-the-art statistical earthquake forecasting model that provides near real-time earthquake occurrence probabilities anywhere on the globe (Nandan et al. 2020). Using this model as a benchmark in statistical metrics specifically tailored to the prediction problem, we are able to distill all these voices and quantify the essence of predictive skill. This approach has several advantages. Rather than trying to silence or denounce, we listen and evaluate each claim and report the predictive skill of the source. We engage the public and allow them to take part in a scientific experiment that will increase their risk awareness. We effectively demonstrate that anybody with an internet connected device can make an earthquake prediction, but that it is not so trivial to achieve skillful predictive performance.

Here we shall present initial results from our global earthquake prediction experiment that we have been conducting on www.richterox.com for the past two years, yielding more than 10,000 predictions. These results will hopefully demystify the act of predicting an earthquake in the eyes of the public, and next time someone forwards a prediction message it would arouse more

scrutiny than panic or distaste.

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