

## ***Interactive comment on “Root mean square error (RMSE) or mean absolute error (MAE)?” by T. Chai and R. R. Draxler***

**Anonymous Referee #2**

Received and published: 25 April 2014

Overall, I was a bit surprised to find that this is a debatable topic.

First, trying to argue that either MAE or RMSE is superior seems like a strange motivation for a paper. The former should be used when the data or model error is known (or suspected) to follow a Laplacian distribution. The latter should be used when the data or model error is known (or suspected) to follow a Gaussian distribution. This has been known for a long time (centuries?). So demonstrating that samples drawn from one distribution do not fit the other, while true, does not advance the state of knowledge regarding error statistics. Second, the demonstration of what is, or is not, a proper metric, is also rather basic undergraduate textbook material.

Overall, I do not feel this note warrants publication because the concepts being presented are very simplistic (definition of a metric), and the perspective is a bit incom-

C399

plete in that demonstrating that Gaussian errors do not fit a Laplacian distribution, or vice versa, is a straw-man argument, neglecting the more important point of correctly matching the metric used for evaluation with one's best estimate of the statistics. That being said, if there are indeed cases in the literature where this has been confused, it is perhaps worth pointing out. So I would encourage the authors to include their arguments as a sub-point within an actual research paper, and perhaps even demonstrate the consequences of mismatching the appropriate metric with the statistics of the model / data error on a forecast evaluation; it just doesn't seem to me like a substantial enough point to make on its own.

---

Interactive comment on Geosci. Model Dev. Discuss., 7, 1525, 2014.