

Reply to Anonymous Referee #2

We would like to thank both reviewers for their positive review. Point-by-point responses follow below, with the reviewer's comment repeated in blue and our response in black.

Suggestion: have more discussions on the limitations of the new data usage rules although they are already improved compared to the currently used ones, and try to give more suggestions on the future development of the SAGE II ozone data.

We added the following sentences to the end of the conclusion:

“The new SAGE II screening rules are still empirical rules based on our best scientific judgement and based on how the measurements were made. It is possible that applying these new rules are still throwing out data, particularly based on ozone anomalies, that are ‘good’ data and retaining ozone values that appear valid when they are ‘bad’. It is incumbent on the user of this approach to apply them in a way that is consistent with their own requirements potentially easing or tightening the new data usage rules, perhaps in the more extreme periods as exemplified by the Mt. Pinatubo eruption.”

As for a recommendation, we believe that based on the results presented in this paper, it would be valuable to re-examine the error calculations for ozone where 200% is recorded and used as a flag for anomalies. However, the SAGE II team is aware of this recommendation and therefore we decided not to include this as a recommendation in the paper.