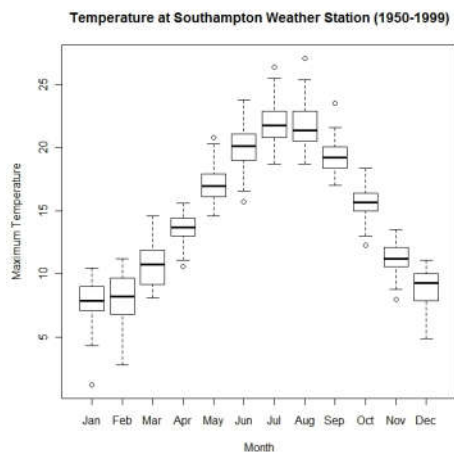


The authors have addressed most of my concerns. I still have one minor and one major concern.

1) Minor concern: Figure S1, as presented to me in the authors' response, is unreadable. I have not been able to check the supplemental document but if it looks the same the authors need to make it clearer. Just to be perfectly clear, this is what I think a box-whisker plot should look like (I took this random plot from the web):



2) Major concern: The authors' response to my comment on the CCN measurements does not give me great comfort that the authors have made a careful analysis of their data. While I am happy that the authors took the time to calculate kappa, I would argue two issues:

- (a) It is, in fact, quite common to estimate kappa based on bulk measurements of CCN concentrations and SMPS-derived size distributions. As the authors point out, an internal mixture must be assumed. While it's true that this may introduce uncertainties, it is still an important and in fact is an often utilized, method for estimating kappa. Just a quick literature search uncovered three studies where this was done [1-3], and I am sure there are dozens more.
- (b) If the authors feel that they have performed a correct calculation of kappa then they should clearly state their methods and result in their manuscript. It is OK if the value of kappa is unreasonable (and 1.18 is an unreasonable value!!). But it is not OK (in my opinion) to perform a good calculation that provides an unsatisfactory answer and then ignore the result.

References

1. Furutani, H., et al., *Assessment of the relative importance of atmospheric aging on CCN activity derived from field observations*. Atmospheric Environment, 2008. **42**(13): p. 3130-3142.
2. Chang, R.Y.W., et al., *Comparison between measured and predicted CCN concentrations at Egbert, Ontario: Focus on the organic aerosol fraction at a semi-rural site*. Atmospheric Environment, 2007. **41**(37): p. 8172-8182.
3. Jaatinen, A., et al., *The third Pallas Cloud Experiment: Consistency between the aerosol hygroscopic growth and CCN activity*. Boreal Environment Research, 2014. **19**: p. 368-382.