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Interactive comment on “Exploring the uncertainty associated with satellite-based estimates of premature mortality due to exposure to fine particulate matter” by B. Ford and C. L. Heald

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This is not a review of the paper, only a short comment about the MODIS aerosol data used.

In this study, the authors use MODIS Collection 6 data for MODIS Aqua, but MODIS Collection 5 data from MODIS Terra. The latest data version, which is expected to remain the standard for at least the next few years, is Collection 6; older versions should generally be considered obsolete and avoided where possible. In case the authors are unaware, I thought I should mention that Collection 6 data are also available for MODIS

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Terra. In the 'Dark Target' data set which it looks like the authors are using, there were several important bug fixes and updates going from Collection 5 to Collection 6 (see the Levy et al., 2013 paper cited in the manuscript).

It may therefore be advisable to repeat the Terra portion of the analysis with Collection 6 data, if this is practical. My expectation is that results for eastern North America may not change too much, but western North America and China may change more significantly. This is consistent with what the authors see in e.g. Figure 6 (Terra/Aqua differences are not consistent with diurnal sampling effects), and so using the latest data version for both platforms may simplify the analysis somewhat. I realise, though, that this may be quite a computational burden to update the data set use at this stage.

MODIS Collection 6 also includes Deep Blue aerosol data covering all land surfaces, and therefore may be of additional interest for this type of study. Our experience suggests that the two data sets are quite similar over North America, though, so it might be that not much is gained from using both Deep Blue and Dark Target as model constraints (they would probably have a similar effect on the model over North America).

As a minor unrelated point, I notice that C. A. Pope's surname is typeset as "Pope III" in the paper and reference list. The surname should just read "Pope". If the authors are using LaTeX/BibTeX then I think the correct formatting can be achieved by writing "Pope, III, C. A." rather than "Pope III, C. A."

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