

Interactive comment on “Regional and monthly and clear-sky aerosol direct radiative effect (and forcing) derived from the GlobAEROSOL-AATSR satellite aerosol product” by G. E. Thomas et al.

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Received and published: 22 December 2012

The authors thank Dr Zhao for his constructive comments. We have addressed each of his comments, as detailed below. Dr Zhao's original comments are included in *italics* before each response for reference.

Page 3, 1st Paragraph: Aside from the three factors limiting the accuracy of satellite aerosol measurements listed here, instrument uncertainty, such as calibration error, is another important factor that should be included.

The authors agree. This has been added to the list.

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2) Table 1: Why the match-up points of 550nm AOD and 870nm AOD are different for AL01, AL02, and AL11?

This is a result of an occasional AERONET measurement not providing valid AOD values at all wavelengths. This is now noted in the table caption.

3) Page 11, Section 6.2, 1st Paragraph: Work of Zhao et al. (2008) for global ocean had been extended to include global land in Zhao et al (2011; Zhao, T. X.-P., N. G. Loeb, I. Laszlo, and M. Zhou, Global Component Aerosol Direct Radiative Effect at the Top of Atmosphere, *Int. J. Rem. Sens.*, 32:3, 633-655). The revised annual global mean ARE value (ocean+land) is $6.8 \pm 1.7 \text{ Wm}^{-2}$, which is much closer to the value ($6.7 \pm 3.9 \text{ Wm}^{-2}$) obtained in this paper.

Thank you for the reference. The manuscript has been updated to reflect this information.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 18459, 2012.

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