

Interactive comment on “Comparing ECMWF AOD with AERONET observations at visible and UV wavelengths” by V. Cesnulyte et al.

Anonymous Referee #1

Received and published: 27 September 2013

This paper presents an evaluation of the ECMWF MACC aerosol reanalysis relative to AERONET. It is well written and there are no obvious errors, however I would state that I believe the analysis could have gone further than the current manuscript.

I will not make the objection that this is a validation paper and "has no scientific value" as some might criticize, however, I think validation papers, should be more comprehensive. Just simply comparing your model to AERONET – especially <only> 12 AERONET stations – is not particularly interesting. Why not consider other data - e.g. surface concentrations – or, many more AERONET sites? I understand that it is necessary to document model performance, but I think this should be done in a more comprehensive fashion. I do however, appreciate the author's attempt to summarize model performance in terms of broad categories (biomass burning sites, urban sites).

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In general, I felt that more description of the reanalysis process should be given in this paper. I do not feel that referring to previous works is enough; at least a brief presentation is warranted here. Do you do any corrections to the Level 2, collection 5 data set that you assimilate? For example, Zhang and Reid have shown that it is necessary to make corrections to the MODIS dataset before assimilation.

Finally, why do you evaluate UV AOD when your OC is non-absorbing? The strongest UV absorption is generally by OC (e.g. Kirchstetter et al.).

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 19853, 2013.