



Corrigendum to

“Large simulated radiative effects of smoke in the south-east Atlantic” published in *Atmos. Chem. Phys.*, 18, 15261–15289, 2018

Hamish Gordon¹, Paul R. Field^{1,2}, Steven J. Abel², Mohit Dalvi², Daniel P. Grosvenor¹, Adrian A. Hill², Ben T. Johnson², Annette K. Miltenberger¹, Masaru Yoshioka¹, and Ken S. Carslaw¹

¹School of Earth and Environment, University of Leeds, LS2 9JT, UK

²Met Office, Fitzroy Road, Exeter, EX1 3PB, UK

Correspondence: Hamish Gordon (hamish.gordon@cern.ch)

Published: 28 November 2018

In the paper “Large simulated radiative effects of smoke in the south-east Atlantic”, on page 15272 there are two incorrect statements in the paragraph commencing with “In Fig 8b”. First, we mistakenly stated that the OMI UV aerosol index (UVAI) is sometimes combined with a MODIS retrieval to calculate aerosol optical depth (AOD), and we referred to Torres et al. (2012). In fact, no MODIS retrieval is used in the inversion of Torres et al. (2012); the reflectance used alongside the UVAI, at 388 nm, is derived from OMI itself. Second, we said that the UVAI was expected to be better correlated with aerosol number concentration than AOD, which is not the case, unlike the other aerosol index (introduced by Nakajima et al., 2001, and used by Costantino and Bréon, 2013) that is defined as a product of the aerosol Angstrom exponent and optical depth determined at longer wavelengths. The UVAI is sensitive to the aerosol absorption optical depth and is also correlated with the height of the aerosols, but not with the number, except insofar as the number is correlated with the absorption optical depth. Our observation from Supplement Fig. S8 that the UVAI increases before AOD may also be at least partly explained by the imperfect co-location of the AOD and AI retrievals due to the swath widths, sun glint, and presence of underlying cloud, and by the influence of this cloud on the UVAI, as well as by the altitude of the aerosol layer (the explanation we gave in the paper).

These mistakes do not affect the rest of the paper, but we apologise for any confusion caused in this paragraph, and we are grateful to Omar Torres for pointing out the inaccuracies.

References

- Costantino, L. and Bréon, F.-M.: Aerosol indirect effect on warm clouds over South-East Atlantic, from co-located MODIS and CALIPSO observations, *Atmos. Chem. Phys.*, 13, 69–88, <https://doi.org/10.5194/acp-13-69-2013>, 2013.
- Nakajima, T., Higurashi, A., Kawamoto, K., and Penner, J. E.: A possible correlation between satellite-derived cloud and aerosol microphysical parameters, *Geophys. Res. Lett.*, 28, 1171–1174, <https://doi.org/10.1029/2000GL012186>, 2001.
- Torres, O., Jethva, H., and Bhartia, P. K.: Retrieval of Aerosol Optical Depth above Clouds from OMI Observations: Sensitivity Analysis and Case Studies, *J. Atmos. Sci.*, 69, 1037–1053, <https://doi.org/10.1175/JAS-D-11-0130.1>, 2012.