

Interactive comment on “The invigoration of deep convective clouds over the Atlantic: aerosol effect, meteorology or retrieval artifact?” by I. Koren et al.

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Received and published: 3 March 2010

Review of “The invigoration of deep convective clouds over the Atlantic: aerosol effect, meteorology or retrieval artifact ?” by I Koren, G. Feingold and L.A. Remer

This paper discusses the correlation between atmospheric aerosol load and various cloud parameters. It is a subject of high importance as the interaction between aerosol and clouds is one of the main uncertainties regarding the anthropogenic impact on climate. I am very much impressed by the overall quality of this paper. It contains an excellent review of the recent literature on the subject; it does provide new methods and results, the method is clear and its conclusion are adequately presented. There is no doubt that it must be published as is or with very minor changes.

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P 3911: I believe that the delta-pressure that are found correspond to larger delta-height than the values indicated in the text. There is an extra comma on line 19 of page 3905 Caption of Figure 2: Should mention that the aerosol product depicted is at the 1° scale. Figure 4e and 4f. It would be somewhat better if the plot indicated the range of AOD for which the cloud top pressure is averaged (with an horizontal bar for instance). Also applies to Fig 5 and 6 Figure 7: I am surprised the results are so much different at the 1° resolution and the others for the geopotential height and temperature parameters as this parameter is expected to vary smoothly.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 3893, 2010.

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