Supplementary Material of paper acp-2012-925:

Spatio-temporal variability of global Hamburg Aerosol Climatology and evaluation against MODIS and CALIOP data

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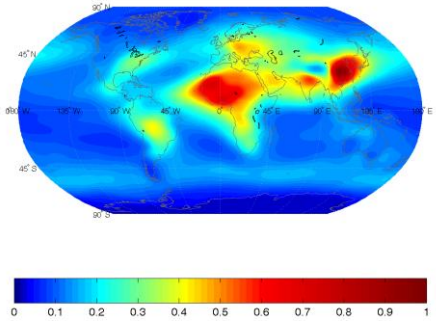
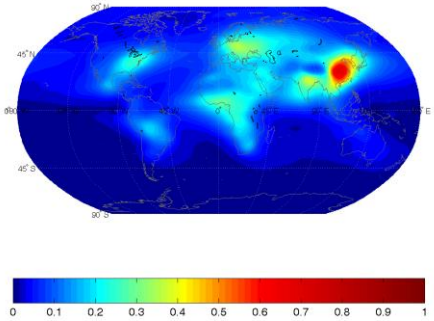
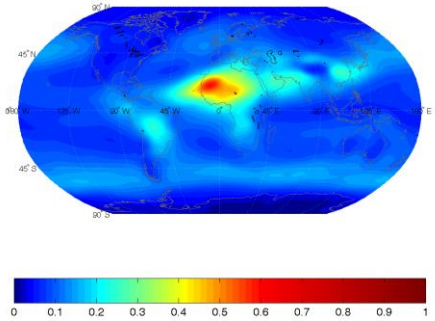
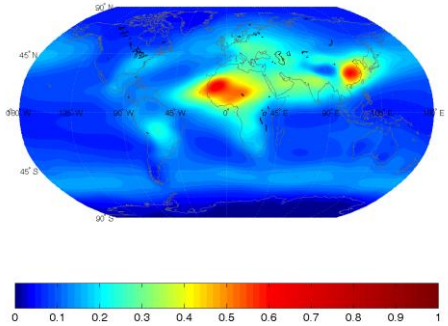
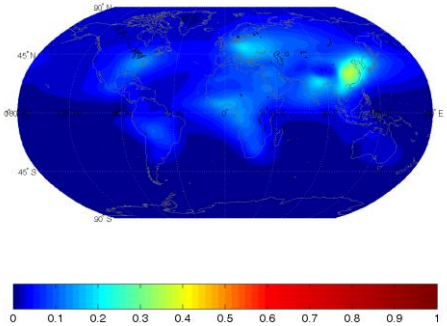
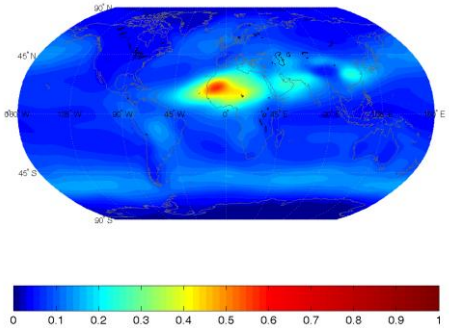
wavelength	(i) Total	(ii) Anthropogenic	(iii) Natural
400nm			
550nm			

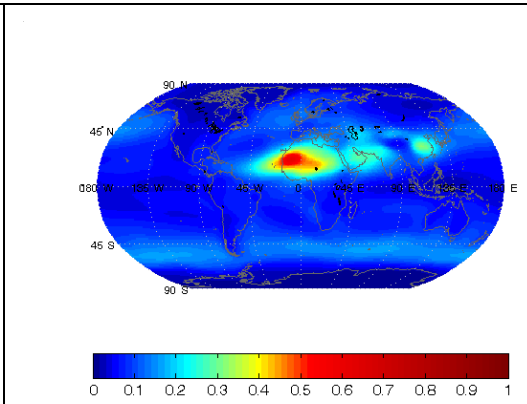
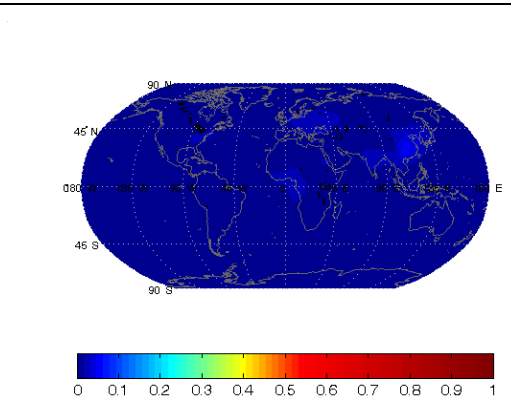
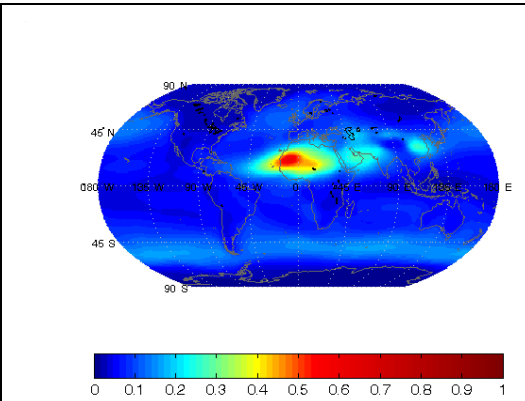
1460nm			

Figure S1. Hamburg Aerosol Climatology (HAC) global annual distribution of aerosol optical depth at 400 nm, 550 nm and 1460nm. Results are given for (i) total, (ii) anthropogenic(consisting of fine mode only), and (iii) natural (pre-industrial-fine mode +coarse) aerosol.

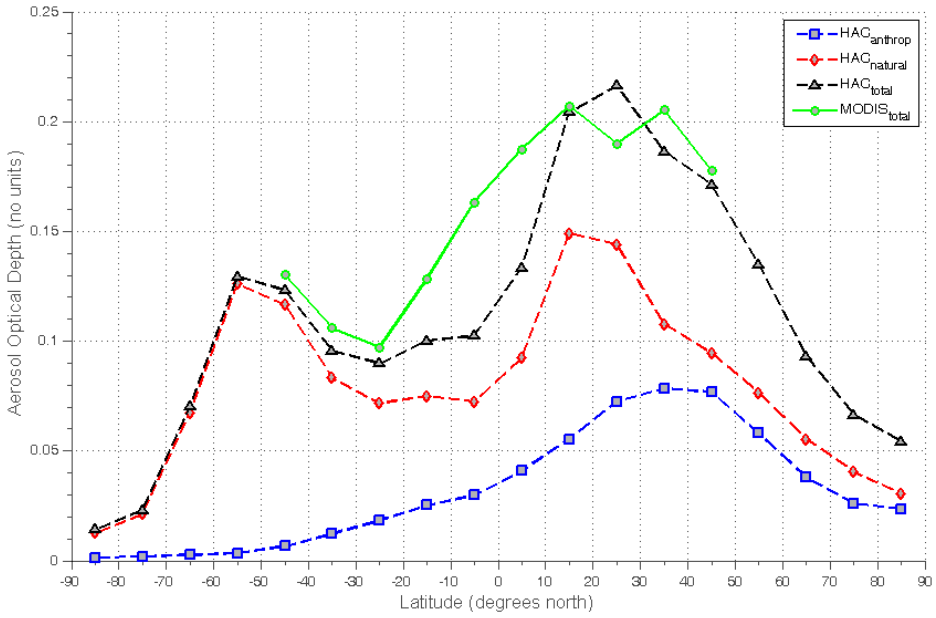


Figure S2. Zonal latitudinal variation of HAC AOD (550 nm) for natural (red line-diamonds), anthropogenic (blue line-rectangles) and total (black line-triangles) aerosol from all available grids. The corresponding variation is given for MODIS total AOD (solid green line-circles). The values are for the atmospheric column from the surface up to 20 km above mean sea level.

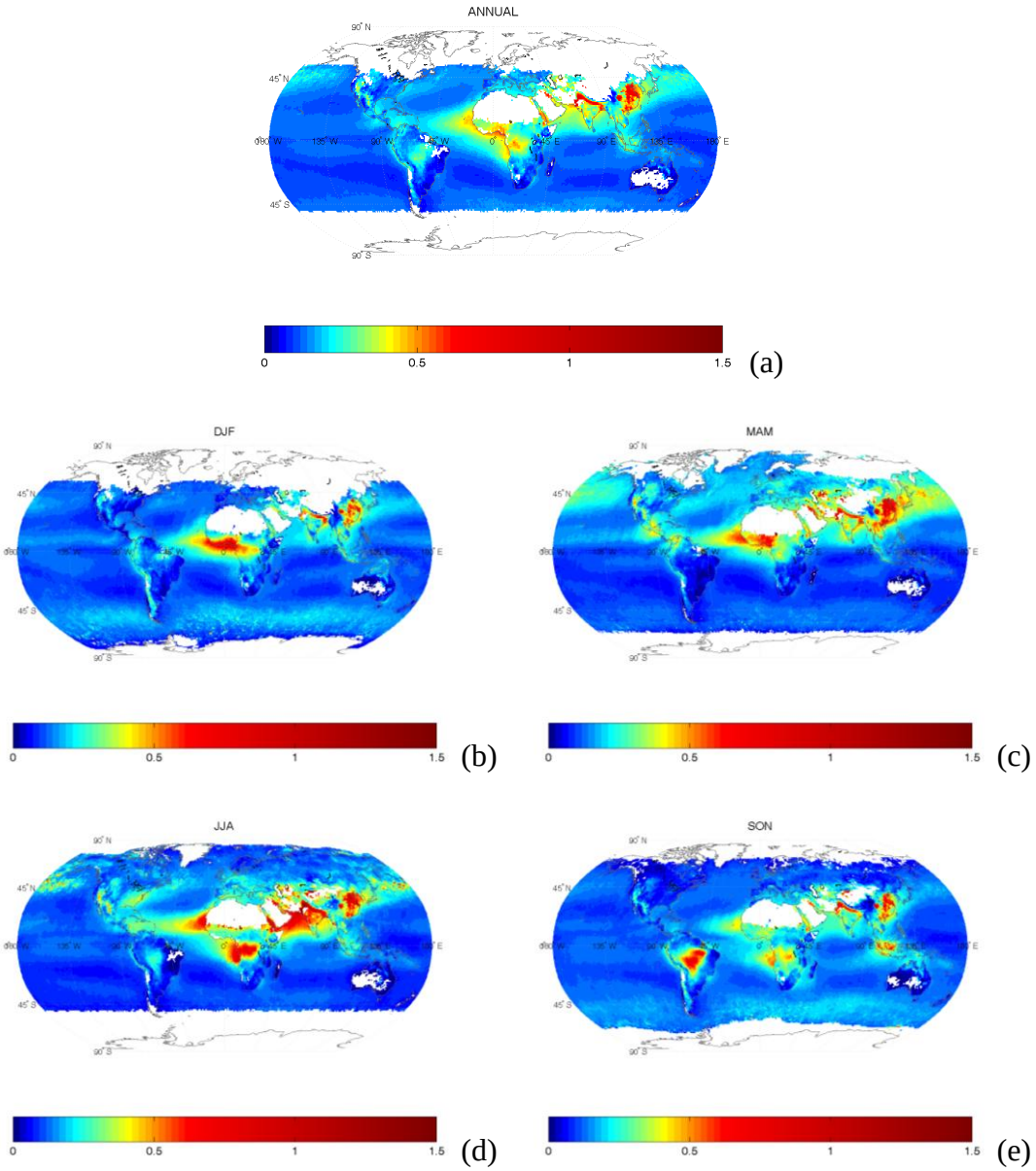
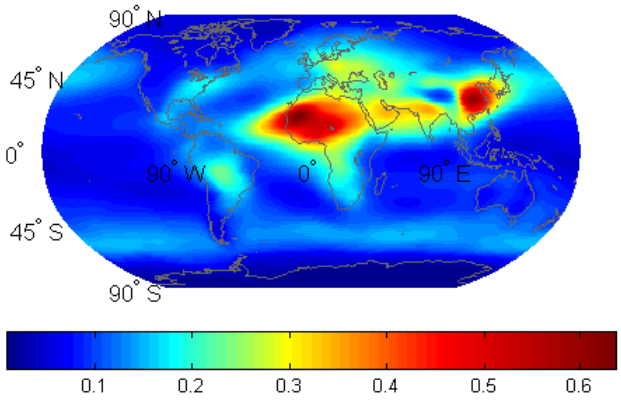
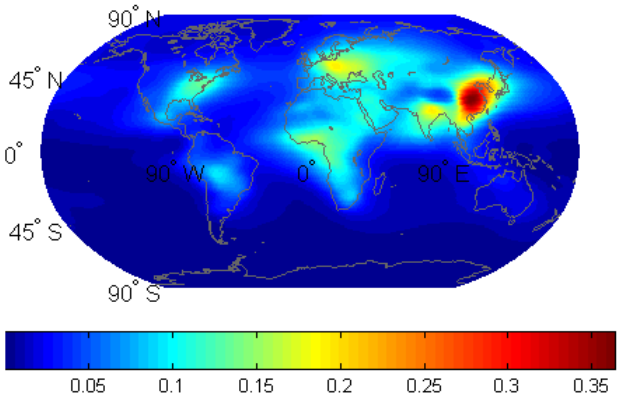


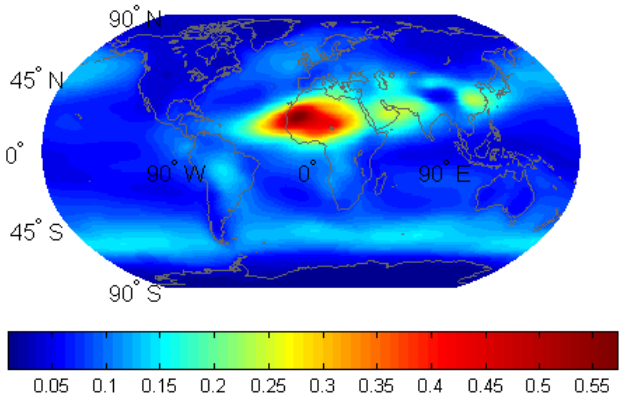
Figure S3. Global distribution of 7-year (2000-2007) mean annual (a) and seasonal means (winter-b, spring-c, summer-d, autumn-e) MODIS Collection 005 AOD at 550 nm.



(a)



(b)



(c)

Figure S4. Hamburg Aerosol Climatology (HAC) global distribution of mean annual aerosol optical depth at 550 nm. Results are given for (a) total, (b) anthropogenic (consisting of fine mode only), and (c) natural (pre-industrial-fine mode +coarse) aerosol. Beware of the different color scale.

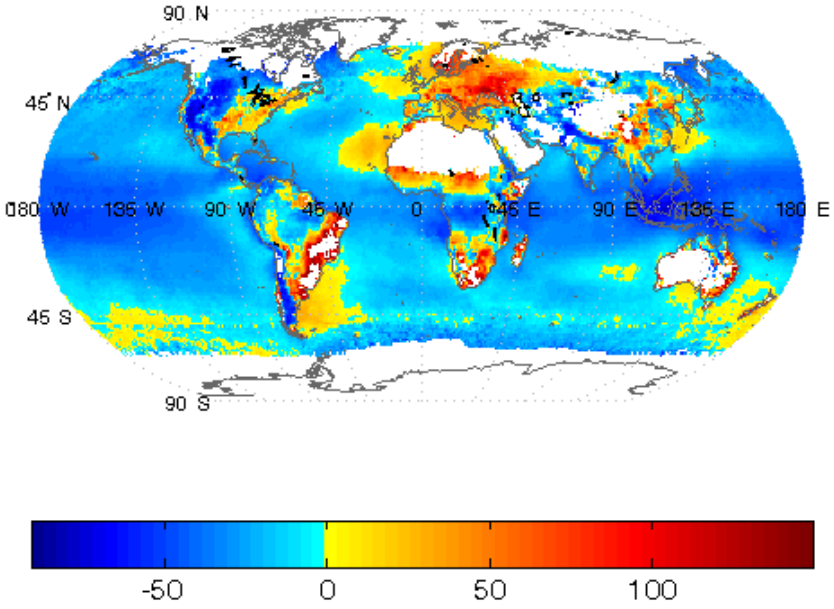


Figure S5. Comparison between HAC and MODIS (03/2000-02/2007) total aerosol optical depth at 550nm. Global annual distribution of relative percentage differences ((HAC-MODIS)/MODIS - %). White shaded areas correspond to cases for which MODIS AOD values are missing or do not qualify for the averaging threshold.